Griffith & Chimaera Workshop Notes

Homepage Q&A

new indicates that a chapter contains one or more new items since the current zip file was built.

The Notes are lot easier to read on a 1048x762 screen if you reduce your browser window to about 3/4 of the screen width. Not a lot of people know that.

Griffith & Chimaera Workshop Notes

The TVR Griffith & Chimaera Workshop Notes are a collection of unofficial hints, tips and opinions from TVR owners. If you're not the sort who lusts after 120-piece socket sets, don't let the title put you off - the Notes aren't exclusively technical and there is, I hope, something in there for everyone.

- Browse — The on-line Workshop Notes with the latest additions.
- Download — A zip file containing all the files on this site. Browse the Introduction page for more information. The latest zip file revision is 4e, loaded on 12Oct99.
- Q&A — Go to this page to mail me a question, or to send in something you think other owners might like to know.
- Links — Looking for TVR links? Try this or the TVR Webring below.

Last updated 12th October 1999

This TVR webring site owned by Peter Beech.

TVR Griffith, Griffith TVR Chimaera, Chimaera TVR Chimeara, Chimeara Griffith and Chimaera Workshop Notes, Technical Tips, Technical Information

Questions & Answers

Browse Homepage Mail Me

Since I don't have a TVR now and I'm getting a bit out of touch with things, I can't really do justice to the idea of a Q&A service. However, I'm still happy to collect useful information that's mailed to me and to put it up on the site for other owners.

INTRODUCTION

Griffith & Chimaera Workshop Notes

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It would probably have been more accurate to call this the Griffith/Chimaera Scrapbook. It's no more than a collection of hints, tips and gossip which you might find interesting if you are buying, selling, driving or maintaining one of these models. It is **not** a workshop manual and most of the contributors (including myself) are amateurs where cars are concerned. If you can't decide whether the information and advice here is correct (and especially whether it is safe), please consult someone who can. There is no copyright and neither I nor the contributors make any claims for the accuracy of the contents.

Do bear in mind that the Workshop Notes were started some time ago and a lot of the problems they describe do not occur on current cars. There have been some significant design changes in recent years, eg. to the engine, transmission, brakes, instruments and alarm, on top of which dealers are much better at diagnosing and fixing things than they were when these models were first introduced. I mention this for two reasons. One is that anyone contemplating buying a new TVR should not be put off by reading these notes. The other is that anyone who is unlucky enough to have a problem with a new car shouldn't feel they ought to grin and bear it.

Thanks to everyone who has contributed (sometimes unwittingly) to the notes so far. Where I have been able to quote an individual accurately I have given their name after the item. If it is my recollection of what someone told me verbally, no credit is given. This is simply to avoid anyone who has been kind enough to supply information being made to look foolish because I've not understood what they said.

Downloads and Revisions
In case you want to download the full set of notes, I've put all the pages in a zip file. You'll need WinZip (you can get it from www.winzip.com) to unpack the files once they've been downloaded. Unpack the whole lot into one subdirectory on your PC, then open Homepage.htm in your web browser.

Here's they way revisions work:

1. The zip file has a revision number, eg. WSN04A.

2. I add new items to the on-line pages whenever I'm in the mood, and mark them with new. This means they aren't in the zip file yet.

3. When there have been enough changes to justify bundling them up, I build a new zip file and increment the revision number, eg. to WSN04B. The pages in this file include the new flag, ie, everything that has been added between 04A and 04B.

4. At the same time as the new zip file is loaded, I flush out all the new flags from the on-line pages and start again at 2.

5. The latest zip file revision is shown in the on-line Home Page, so if you bookmark your local copy of Homepage.htm you can flick to it next time you visit the site to see if a newer revision is available.

Formatting:
The Notes use Cascading Style Sheets to control the appearance of the pages. Instead of things like fonts and table sizes being defined in each page, the pages refer out to a file called WSNstyle.css. If this file is missing (eg. if you download one new page then try to view it locally) your browser will use its default settings.

Best regards

Peter Beech

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Boot

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Chimaera Boot Hinges

Internet Mailing List Aug 96
. . . I assume that anyone with a Chimaera will have already gone through the bootlid falling off stage or will have a model produced after the new, stronger hinges were introduced [sometime in 1994] . . .
Robert Pearson

Strap Down Your Loose Bits

Letter Sep 96
. . . Fed up with having to empty the boot of jack, jump leads, wheel brace, wheel lock key (and all the other bits I tend to accumulate) each time I wanted to stow or remove the roof panel, I wanted a way of storing them all out of the way. I discovered that the hook side of Velcro sticks beautifully to the boot liner. So, I now have all my junk stuck neatly to the panel just above the petrol tank - jump leads with straps of plain fabric Velco and other rigid items located with short strips of self-adhesive Velcro . . .
Simon Cockle (Griff 500

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Doors

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Doors Won't Lock?

Sprint Jun96
. . . Check that the tiny rubber pads on the bottom inside of the doors are still intact. Your dealer may have an irritating habit of steam cleaning them away. If missing, the door switches won't be pushed in far enough, the doors won't lock and the interior knob will not turn to open the offending door from the inside. Solution: cut 5mm off a BIC biro cap and place it over the door switch underneath the sill. Longer term you may wish to glue a new pad in place . . .
Chris Morgan & Judy Williams

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Adjusting Door Opening Cables

Sprint Jun96
. . . If there is no pressure when turning the interior knob then the cables have stretched. To resolve, loosen the door seal behind the seat of the affected side. Lift the triangle of trim which should be secured by Velcro (you're in trouble if it isn't). Beneath you should see something that resembles a Terminator's arm assembly. Twisting the release knob should indicate which cable requires tightening. Simply slacken the screw of the tensioner, pull the cable through, refasten and replace the trim and door seal. I understand a thicker cable is now fitted to avoid this problem
Chris Morgan & Judy Williams

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Road Dirt in Catches

Aug 96
Some problems in getting the doors to close are caused by road grit entering along the lower edge of the doors and getting lodged in the catch mechanism. I notice that 1996 Chimaeras have an extra rubber sealing strip along the base of each door to keep the muck out. I think it's self-adhesive so very easy to fit.

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Draughty Windows

Oct 96
If your door glass doesn't quite meet the rubber trim on the targa top and everything else seems to be properly adjusted, try threading some windscreen washer tubing through the O section of the trim. This will often plump the trim up enough to close the gap.

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Adjusting Glass Height

Sep 96
There is an adjusting screw for the door glass height about half an inch below the top of the door on the interior side of the glass and about halfway between the 'quarterlight' post and the back edge of the door. Unscrewing three or four turns raises the glass about 3mm. There is a limit to how high the glass can go, since it rises at an angle and eventually hits the buffer at the back of the door.

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Slow Windows

Apr 97
If a window rises very slowly, it may be that the glass has jumped out of the rubber in the guide channel. It doesn't come out completely, but gets pinched between the outside of the rubber moulding and the metal of the guide itself. The solution is to take off the door trim as described below, then remove the 14mm nut at the top of the rear channel (inside the door near the rubber buffer at the back) and the two 10mm nuts (box spanner job) at the bottom of it. With the window up, the channel can then be slid down off the glass and put back where it's supposed to be. Putting a packing washer behind the top stud to bring the channel forward a bit ought to stop it happening again.

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Removing Chimaera Door Trim

Sep 96
The Chimaera door trim is in two parts: a carpetted panel and a leather or vinyl surround. To take the surround off, first remove the ashtray and the speaker. The speaker mesh can be prised off with a penknife and the speaker is held in with three self-tapping screws. Take out the self tapper at the back of the ashtray recess. Next remove three 10mm nuts and washers inside the door cavity. These are attached to studs in the back of the surround panel, on the centre-line of the speaker hole. There is one forward of the speaker and the other two are aft of it, roughly in line with the fronts of the two pockets in the surround. The rearmost one will be quite difficult to reach and you have every chance of getting your elbow wedged in the speaker hole. If the door has a reflector on the trim, I think there is a self-tapper under this as well. The surround can now be tilted out at the base and lifted free of the door.

The carpetted panel is held in with six self tappers buried in the carpet pile. The only help I can offer in finding them is to say that most of mine were very close to the edges of the panel: one at the top/back of the door, one each side of the ashtray hole and the other three along the bottom.

Refitting is, as they say, the reverse of removal, apart from not being able to find any of the screw holes in the carpet.

If you've been at the driver's side door and had to unplug the electric mirror switch, you may now want to look at Mirror Switch Wiring Connections!

Door Alignment and Closure

Sep 96
The drop of the doors can be adjusted by slackening the hinge bolts behind the footwell carpet. The hinges are also shimmed for lateral fit, but I am told this is very tricky to get right. Door closure can be adjusted by slackening the two screws on the striker plate on the door and by adding/removing shims behind the plate. It is sometimes necessary to grind some metal off the striker itself to get a good shut. As with most open-topped GRP cars, there is a small amount of movement between the body and the chassis which can affect the fit of the doors over time, so periodic adjustments may be necessary.

Internet Mailing List Aug 98
After recent advice on the Griff Dropped Door syndrome and Door Panel removal, decided to take a look inside for myself. Found that the bottom vertical hinge pin had rotated loose and enabled the door to be lifted up and down a few mm. So:

Door panel off (15 mins), tighten bolt with socket and extension with supporting knee under door (5 mins), door panel back on (15 mins)

Seems like time well spent in my case and saved another trip to the dealer, so for any other suffering DIYers out there, give it a knock.
Mac Berrington

Internet Mailing List Aug 98
I have recently reseated the [Chimaera] internal knob, because it had worked loose. Now, the internal door knob needs nothing to open the passenger door, compared to the driver side (1/8 turn to the right). The previous car was owner by someone who never had passengers so the door/seat was little used, which might mean it has always been slightly out. Should I just lubricate the door mechanism? There appears to be nowhere that the door is rubbing on the internal frame. Any other thoughts?

About three months ago, I got my garage to put the passenger door flush with the body work. However, since that time the door has become slightly tempermental to close, i.e., the mechanism would not catch, even when closed from outside the car (probably 20% failure to close). This is got worse (70% failure to close). I wonder if the wire is actually too tight on the passenger side?
Simon Smollett

Internet Mailing List Aug 98
Check that the lock mechanisms in the door and pillar are not loose. The screws can come undone. Tighten up with a bit of Loctite. Apart from that, take the passenger side velcro cover off and see if the cable side needs any adjustment. It too might have stretched.
Steve Heath

Internet Mailing List Aug 98
If the activating cable is tight it might not be allowing the catch to go "over centre " fully. I would try loosening it a bit to see if that helps. I have had a similar problem a couple of times with my Griffith, when it happens you can't shut the door, the catch doesn't grab the little arm on the door and the door just bounces open. Both times that it has happened I have just waggled all the bits inside the inner wing and it works OK again - not very scientific!
Mike Jennings

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Removing and Adjusting Mirror Glass

Mar 97

The wing mirror glasses are stuck onto a plastic frame with double-sided foam tape. Sometimes a weak adhesive has allowed the glass to creep down until it is rubbing on the base of the mirror body. To restore it to the original postion (or replace a broken glass), you need to move a little tab on the mirror frame to rotate a plastic ring which engages in a circular channel on the gimbal that supports the mirror.

Got that? Here's what to do. Adjust the mirror so that it is elevated as far as possible, ie. to create the maximum gap at the bottom of the glass. Now peer in there with a torch and you will see a small black plastic tab roughly halfway along the glass. You have to push the tab across to the left (it's left on both mirrors and it needs to move about 5mm) and the glass will then come loose. The electric heating wires should stop it crashing to the floor if you don't manage to catch it. UHU Power-Stic seems to be pretty good for sticking the old tape back.

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Mirror Adjustment Relays

Internet Mailing List Feb 97
The relays for the mirror adjustment sub-system are not mounted on the relay and fuse panel, but 'float' in the wiring loom and are located in the battery compartment area.
Dave Peck

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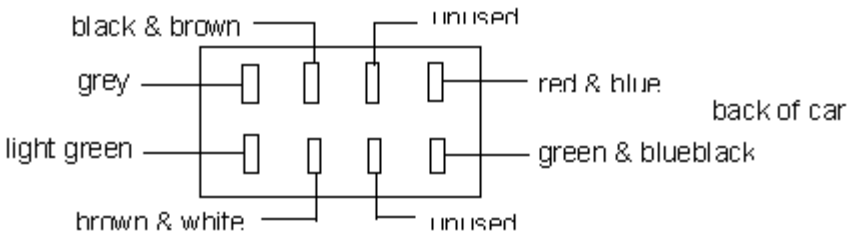
Mirror Switch Wiring Connections

Apr 97
The rocker switch that controls which mirror the little joystick is working on has a lot of spade connectors on the back, and they need to come off to remove the driver's door trim. Looking at the switch from inside the car with the door panel upside down and the pretty side away from you, this is where mine went back on. Yours may be the same, who knows?



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How the Heated Mirrors Work

Internet Mailing List Apr 97
Apparently, the heated mirrors come on for a few minutes after you start the car, but if you open a door, they turn off! As I usually put my belongings in the boot before I drive off, I was starting the engine with the door open, then opening the boot, then getting in the car and closing the door, with the result that the mirror heaters were not coming on. Quite what the logic behind this is, I don't know.
Chris Warne

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Paintwork

Stone Chipping

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Stone Chipping

Internet Mailing List Apr 97
I've been a bit disappointed by the ease with which the paintwork seems to get chipped. This is especially bad on the mirrors. In fact the car's in the body shop now to touch it up. Is this something that anyone else has experienced?
Andrew Bell

Internet Mailing List Apr 97
I think we've all got the same problem. I've put it down to modern paints being very hard and the GRP underneath being comparatively soft, but maybe someone else has a better explanation. I suppose one answer is to avoid dark colours so that it doesn't show so much, but has anyone got any tips on repairing stone chips? I've found a Rover metallic colour that matches mine pretty well, but I just end up with a load of warty splodges when I try to spot in the chipped bits.
Peter Beech

Internet Mailing List Apr 97
On the contrary. Modern paints (urethanes) are much more flexible than the oldies like laquer....that's why I can't understand why TVR doesn't use them....or perhaps they do use them and we don't know. I really don't believe TVR would use laquer nowadays. Build up the spots bit by bit and smooth off with fine sandpaper on an eraser pencil tip. It can take a few weeks to do them all though.
Marcus Tooze

Internet Mailing List Apr 97
I use a very fine paint brush (00 or finer bought from an art or modelling store) and either 1600 wet or dry paper or rubbing compound to smooth it off. It does take a long time - 15 coats is not uncommon in my experience with a large stone chip - especially when you have to leave each coat to harden. Often one or two coats is enough to remove the immediate visual impact so it is not absolutely necessary to do all 15 coats! Use the fine brush to put a thin layer of paint into the crack or chip. Let it harden and then gently rub it back to remove the rough edges. Try and keep the rubbing to the stonechip area. Repeat until the scratch/chip is filled and smooth with the surrounding body work. If you have never done this before, practice on the underneath of the bonnet nose first. There's bound to be a scratch or two to practice on and if you make a whoopsy, no-one will see it. This method works on scratches as well.
Steve Heath

Internet Mailing List Apr 97
Apparently Health and safety legislation has reduced the pressure allowed in spray guns. This is why most modern paint finishes suffer from orange peel effect. ICI has been working with TVR on a special lacquer. They only do this for TVR as they are the only company that has asked them.
Ian Collins

Internet Mailing List Apr 97
They **are** still using laquer? No wonder everybody is complaining about chipping paint!
Marcus Tooze

Internet Mailing List Mar 98
I was at Thames Valley Racing this morning - Steve showed me a cebera that had undergone the 'Chips Away' touch

up on the nose cone. The paint match was good, but where each chip was there was a still a pit in the paintwork (now coloured instead of white). The problem seems to be the process uses such a fine layer of paint to blend that it isn't thick enough to bring the depth of the hole back up. I'd say this was still visible from about 5-6 feet away (depending on your eyesight).

Conclusion: if you have a dark coloured car (like mine) where chips show up badly, and you want a cheap way of disguising the marks then this may be an option. If you want a finish that is invisible - you won't get it with this process.
Mark Elliot

Internet Mailing List Jun 98
I have done a number of body repairs and restorations over the years and have had great success using airbrushes (you know, the sort of thing that graphic artists and custom paint shops use). I have a small airbrush which I bought in the US but they are available in the UK from people like Machinemart. Usually these are supplied with a very small nozzle (know how it feels) suitable for inks but not for more viscous paints. You can buy larger nozzle assemblies for use with cellulose car paint etc.. They run off compressed air at about 40 PSI but the really nice thing is that because the flow is so small you can supply them from a well pumped up spare tyre. All you need to do is buy the appropriate adaptor that fits onto the tyre valve. They are easy to use but they put on a very thin layer of paint so expect to use more coats. The final benefit is that because the flow is so low, they create very little overspray so masking can be kept to a minimum. Don't try and respray a whole car with an airbrush it will take forever but for the majority of minor dings, chips and body mods they are very useful.
Richard Moore

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Interior

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Trim Colours

Internet Mailing List May 98
A quick question for those people on the list with Magnolia upholstery. Did you have the dash in Magnolia? If you did, do you get reflections on the inside of the windscreen? Advice would be welcome.
Richard Thorpe

Internet Mailing List May 98
I've got a Biscuit interior (a sort of light tan). Driving home this evening through Sussex lanes the reflections were REALLY annoying. If you're heading towards a black tunnel of foliage with the sun in your eyes the last thing you want is something like a net curtain flashing on and off in front of you, but I guess that's my fault for living where you're going in and out of woods every half minute.

On 'normal' open roads, the reflection's there but I think your brain filters it out after a while and you don't notice it. I wouldn't get another light dash if I planned to drive a lot in these parts.
Peter Beech

Internet Mailing List May 98
My S2 has a Magnolia dash front with Mulberry (wine coloured) top. The reflections are only noticed at night with the instrument lights on full: I normally turn them down to half and the reflections disappear. All in all, the reflections are not significant as to become annoying and I would definitely recommend this type of colour scheme.
Lyndon

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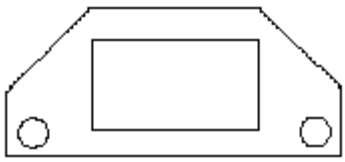
Griff Glovebox Catch

Letter Sep 96

. . . The glovebox catch has been a sore point [on the Griffith]. Basically the female part of the catch, which should reside in the dashboard, doesn't locate properly - slopping around in too large a hole and either misaligning itself or falling out completely. My solution was to knock up the following small adaptor plate from a piece of scrap plastic (perspex?).



The real knack was fitting it - I did it by clipping the catch to the plate then clipping this to the male part of the catch on the glove box lid, covering the whole thing with glue and gently closing the lid. Once the glue had set I opened it up, pilot drilled through the holes and secured with small self taping screws . . .

Simon Cockle

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Dashboard Removal - Griffith

Jan 98
Not sure about the dashboard top, but one of the Fernhurst mechanics told me that to remove the dashboard you should.

1. Remove radio and cage.
2. Remove left hand most air vent, and undo and remove wing-nut that is above grill opening.
3. Undo two cross head screws above steering column at bottom of dash. You may need to drop steering column to do this.
4. It should now come out.

Haven't tried it (yet).
Mike Jennings

Internet Mailing List Feb 98
I have a 1992 4.3 Griff that is in the middle of a "reworking". Currently the dash, instruments, switches etc. (including the large GRP sculpture) are scattered about the house, therefore I know how to take the dash out.

To remove the dash (from the factory):
1. remove steering wheel
2. remove 2 screws below speedo/tacho
3. remove radio
4. remove radio cage (the bit that normally stays in the dash)
5. insert small hand into gap where radio was
6. undo wing nut on back of dash located to the left of hazard switch (if the left end of your dash flaps about then this wing nut is probably loose or missing)
7. liberally grease leather to avoid scratching with dash panel (I use margarine for this)
8. gently ease out panel (radio end first) be careful not to bend panel too much as "walnut" may crack (£328 from TVR)
9. label and disconnect wiring
10. disconnect vent plumbing

The GRP shell is held in place by 10mm bolts that are now visible (the only tricky ones are behind the glove box)

To take off the transmission tunnel "T" piece you must raise up the car, crawl underneath, insert above-mentioned small hand around gearbox to slacken off the handbrake locating bolts. The easy bit is undoing the bolts that are sited behind each seat that hold the top of the "T" to the body shell. Then simply lift off. . .
Clive Reed

Internet Mailing List Feb 98
'. . . be careful not to bend panel too much as "walnut" may crack (£328 from TVR) . . .'

Only £205.00 from Wedge Automotive.

Sorry everyone I just had to get that in.

Richard Thorpe
(Wedge Automotive)

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Dashboard Removal - Chimaera

The top panel of the dash is held in by three 10mm nuts: two on the passenger side and one on the driver's side. To access the passenger side nuts, first take out the two cross-head screws at the front of the pocket that holds the owner's handbook. The panel carrying the pocket will then hinge down like a trap door. Both nuts are on the centre line of the trap opening. First nut: reach up into the trap opening in the direction of the seat and you will find a vertical stud that goes through the upper part of the roll section on which the top panel rests. Second nut: reach up in the direction of the windscreen and you will find a horizontal stud that goes through the roll section below the windscreen.

You can reach most things behind the dash (just about) by lifting the passenger end of the panel. If you do need to take it right off you can get to the driver's side nut by groping behind the box that holds the fresh air vent. It secures a horizontal stud that goes through the fascia panel of the dash roughly level with the bottom of the rev counter. You will need to remove the fresh air pipe first (it just pulls out but may need some encouragement from the front after removing the air vent itself). If you manage to remove the nut you will probably find it very difficult to ease the dash panel far enough forward to get the stud out of the hole, so it's not something to do unless you really have to.

Jan 99
Peter, Hope you don't mind me running this by you? You say there 3 10mm nuts to undo to remove the dash on a Chimaera. Two behind the flap on the passanger side and one in the drivers air vent. I have found 1 on the passangers side and 1 on the drivers side.

1. Reach straight up in to the flapped hole and it's on a vertical flat bit of GRP facing the front of the car. This comes out and the top section now has some movement.

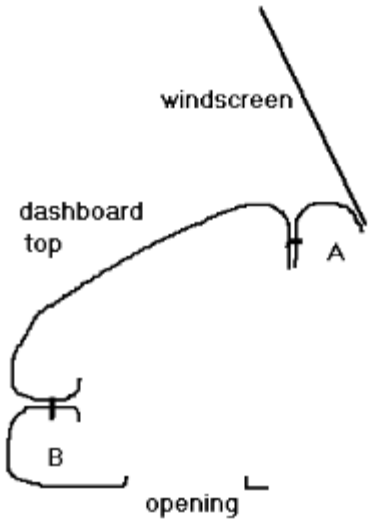
2. The second one on the passenger side I can't find. There are other bolts, larger than 10mm I think but they all have rounded of bolts on them so you can't get a spanner on them.

3. The 3rd bolt in the drivers air vent is no problem I've got that one out.

What exactly will come out. Is it just the top part of the dash allowing you to reach down behind the "wood" section with the instruments in.
Nick Hatch

Jan 99 Nick,

I now have a Griff so I can't pop out to the garage and remind myself where that Chimaera dashboard nut is. This is therefore from memory. The diagram below is a section through the dashboard along centreline of the passenger seat.



The bolt marked A is the one you've already found, that holds the dashboard top against the vertical face of the roll section at the base of the windscreen.

The one marked B holds the dashboard top down against the top of the roll section that runs across the car at radio-panel level. To get to it it you'll need to get your arm up through the opening and then reach back as if you're trying to grab your own belt buckle, if you see what I mean. Not the easiest thing to find and a swine to get a spanner on.

Once both bolts are off, you should be able to lift the lower edge of the dash and pull the top edge towards you until the studs come out of the holes. You should then be able to wriggle the whole top off, leaving the vertical "wood" panel in place.

My instructions didn't look nearly as helpful on re-reading them as when I first wrote them, for which I apologise. If there's anything you think I should add to make things clearer, please let me know.

Best of luck with it.
Peter

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Seats

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Seat Repairs

Internet Mailing List Feb 98
Does anyone know of a good seat restorer, preferably in the south-east?
Peter Beech

Internet Mailing List Feb 98
Try Cass Bros, 153 Hastings Rd, Bromley, Kent, 0181 462 2387. It cost me £430 to recover both seats in my S2.
Ian Priestly

Internet Mailing List Feb 98
There is a car upholsterer that shares Thames Valley Racing Services building. I don't know if they are any good, but when I was there last they were recovering the seats for a brand new 5 series BMW and they looked very nice.
Mike Jennings

Internet Mailing List Feb 98
Just a quick note to let people know that Omicron now has a trimmer . . . able to make new carpets, hoods for convertibles, make new cushions and can retrim seats and other interior panels in a wide choice of materials - eg Connolly Leather, Alcantara suede, vinyl or cloth.
Andrew Cliffe
Omicron

May 98
It's taken a while to find someone local, but I finally got the rip in my seat repaired by a company called Polyfacto in Hailsham (01323 841390). There is also a firm in Oxted that Redhill Ltd use occassionally and I'm sure they would be happy to put anyone in touch. Polyfacto made a good job of unpicking two of the panels on my seat and pinching them in a bit to hide the tear - practically invisible, cost £40 and turned the job round in two days.
Peter Beech

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Extra Seats?

Internet Mailing List Aug 96
Has anyone managed to squeeze a 3rd seat into the back of a 350i or S3 that you know of? I have a 1yr old daughter and it would be a pain if we couldn't all enjoy a blast through the country.
Ian Noble

Internet Mailing List Aug 96
Sorry Ian. It contravenes the Construction & Use Regulations! It's thus illegal & un-insurable.

John B Osborne

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Heated Seats

Internet Mailing List Oct 96
I have made a discovery which if you have a competent dealer you will know already! When I bought my Chimaera I was looking for a good price and ended up going to Mole Valley who had a better spec'd car for less money than HR Owen. I wasn't bothered that it had an ice detector or heated seats but if they are there and don't cost anything then fine. When I went to pick it up I said, "How do you switch on these 'ere heated seats then?"

"Well Sir," replied the incompetent** salesman, "The seats come on automatically when the ice detector says it is cold enough"

"Strange, what if I want them on at other times?"

"Ah well, that's TVRs for you".

Off I went, not too concerned about the workings of these devices.

Anyway as winter approached and following a good blast on a sunny but cold day, I thought it would be nice if I could get them to work. I had a quick look around to find a place to put in a manual switch, and discovered this switch very well hidden on the steering column on the RHS, at the very back. Same sort of switch that turns off the instrument lights. Hmmm, wonder what this does? Pressed it - nothing happened, although I could hear a click of a relay somewhere. It must be wired to something. A few minutes later - hey presto WARM BUM! The handbook I have makes no reference to this switch anywhere - ditto the ice detector. Maybe I have an old handbook....

*[** (In this case.) My hobby's cars, not litigation. PB.]*
David Leeming

Internet Mailing List Dec 96
With the coming of Santa Klaus and the white stuff, I thought to myself wouldn't heated seats and a nice warm backside make driving and travelling in the Griff a tad more pleasant. Especially with the top off!

Surprise, surprise, on checking both seats I discovered electrical cables running into the rear of them. Can only be heater elements I told myself, but how to switch them on, that was the problem. I remembered a recent post regarding the same problem with a Chimaera, so I searched high and low in the vicinity of the steering column, but there was no separate switch to be found.

Then whilst playing with the fan speed switch, hey presto it has a pull-out position (probably for a redundant HRW option), and yes the seats began to warm up. Great. True to form there is nothing in the Griff's Owner Handbook concerning this option (or the Ice Detector).
Dave Peck

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Sticking Seatbelts

Sep 96
Can sometimes be cured by carefully adjusting the angle of the top guide and the reel, both of which should align exactly with the run of the seatbelt between them.

Internet Mailing List Feb 98

From time to time the inertia reel on the driver's seatbelt on my Chimaera locks and the belt won't extend. This is usually easy to cure by retracting it a bit, then gently extending it again, when it unlocks. However, this time it has locked with the belt fully retracted and, no matter how gentle (or increasingly violent) I am, it will not unlock.

While not having a seatbelt probably makes me a safer driver, I'd quite like to have it back, so can anyone offer me any advice on how to unlock it please?
Nick North

Internet Mailing List Feb 98
Most inertia belts have a ball bearing rolling in a cup, at the edge of the cup is a plunger or lever which locks the belt-roller. When the ball hits the perimeter of the cup, the mechanism which allows the belt to wind/unwind is locked, but it also puts some pressure on the ball and can hold it in the locked position.

You need to dislodge the ball.
Chris Owen

Internet Mailing List Feb 98
Mine did this as I drove it away from the dealer. I hit it it with a hammer. It now works.
Will Errington

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Full Harness Belts

Internet Mailing List Feb 97
I have had full harness belts fitted [to my late 95 Griff 500]. The original plan was to use the existing belt fittings. This worked fine on the V8S and the positions were even better on the Griff. However, Team Central discovered that the rear mounting for it were already fitted to the chassis. It appears that the Factory are now fitting them as standard to allow owners to fit harnesses. The real beauty is that the original lap/shoulder belts are left untouched so that the car remains legal and available for use if needed. It costs about £60 for the special bolts to do both sides on top of the cost of the belts - I have Willans 3 point SuperSport harnesses (about £40 each from Demon Tweeks).
Steve Heath

Internet Mailing List Apr 97
I have just attempted a similar exercise with a pre-cat Griff (K-plate). However, so far, unsuccessfully. I purchased a Willans 3 point harness and asked my local TVR service dept. to fit it. After a number of days I was told no-can-do. The reason, as I understand it, is that after consulting with TVR Engineering, it was felt that a TVR endorsed fitting (which would require welding of a fixed mounting point to the chassis) would leave them open to additional liability in the event of failure, degradation of chassis, and so on. Coupled with mumblings about rules of homolagation only for Tuscans/Griff 500s and their harness fixing points. Incidently, Steve how central to your body is your harness's rear mounting point? . . .
Dave Peck

Internet Mailing List Apr 97
There are two mounting bolts at the back of the parcel shelf, one for each side. The rear harness strap attaches to these. The other two go down each side. Each rear bolt is more or less central to the back of the corresponding seat. The only other option is to use the shoulder lap belt point for the rear belt. This is what Team Central did for my V8S and it worked well. They also showed me this arrangement on a 5 litre Chimp when I first started discussing this with them. Their comment about welding plates was that it was very expensive as the body had to be lifted.

The Griff belts worked brilliantly at Brands and I find them comfortable and restraining. Once strapped in, you can feel the car so much better! If you are having problems call Team Central and ask them to do it. It's only about 1 hours labour. They might even be able to do it while you wait given enough notice. If you wear the belts on the road, you are strictly breaking the law because the harness is not approved for safety reasons (crazy I know) but I don't think Plod

are going to worry too much.
Steve Heath

Internet Mailing List May 97
Genuine harness eyebolts 7/16x2" long are £4.95 each from Merlin Engineering, Castle Combe (01249 782101). I've now fitted my harness to the existing lap belt fixings leaving the lap belt in place. The harness installation is not 100% as per the instructions since the distance between the rear fixing point and the back of the seat is too short for the harness's tail strap, but the end result is far better than the stock inertia reel belts (which work when they want to!).
Dave Peck

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Body Miscellaneous

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Car Cosmetics

Internet Mailing List May 98
I at last take delivery of my new Griffith next week, my first TVR. I would be interested to know if any of you chaps out there have any tips on how to retain a TVR's 'as new' look to its various parts, ie engine compartment (particularly ally castings) and also body and interior trim. It is a second car, will be garaged and will only get used for church on Sundays, etc. so high mileage shouldn't be too much of a problem.
Mac Berrington

Internet Mailing List May 98
I have to admit to being a bit of an underbonnet polisher (probably a hangover from my classic car days), so here are Beech's Top Tips:

- Jet washing's fine, including the hood. Might blow a wheel center badge off now and again.
- Don't scrub the hood fabric, it goes fluffy. Reproof with Fab-Sil from camping shops.
- Don't splosh water around the engine bay and never steam clean, the electrics don't like it at all.
- "Back to Black" brings dirty rubber hoses up nicely.
- Rubber trim and vinyl comes up well with "Son Of A Gun", especially the back window, and seems to keep it supple.
- "Wonder Wheels" gets the gunge off wheels better than anything else I've tried.
- Anything slightly acidic gets the oxidation off ally castings, eg. wheel cleaner, but do wipe it off afterwards.
- Solvol Autosol is still the best thing around for polishing ally.
- "Mr Sheen Dustguard" anti-static polish is bloody brilliant for keeping the side windows clean. Rainwater just balls up and falls off it, so you don't get a load of filth obscuring the door mirrors when it dries.
- I lubricate hinges etc with spay-on bike chain grease, 'cos I've got some, but it is good at getting into fiddly places and goes solid so it stays where you've put it. Excellent for holding the hair in place as well.
- When I got fed up with watching the cats go rusty, I soaked a rag in black Sperex high temp exhaust paint and wiped that on them (too idle to mask off and spray, and rags don't leave brush marks). Run the engine for a few minutes and splodge another coat on. Still looking good after 6,000 winter miles. Takes about three days to get the paint off your hands/arms/face.
- A squirt of WD40 around electrical connections will hold back corrosion. The Navy hose down chopper engines with the stuff on carriers, so it's got to be pretty good.
- Just in case, let your dealer know in the nicest possible way that you don't want his lads scratching/scuffing/spilling brake fluid on or otherwise treating your car like a second-hand tractor. There are

some right oiks out there, often in quite surprising places.

The best thing to keep the car working well is to drive it as often as you can, briskly.

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Lubrication

Sep 96

Bodywork areas that will benefit from regular lubrication between services are:

- Chimaera bonnet hinges.
- Chimaera boot hinges.
- Door hinges. They can be reached with a spray nozzle.
- Pedal boxes, particularly the clutch (yes, they all squeak).
- Throttle pedal. There is a lube hole in the pivot.

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Adhesives for Trim Repairs

Internet Mailing List Aug 96
Can anyone advise me on how to stick back the leather on my Chimaera? I have tried 'Evo Stick' which was recommended by my local dealer but it only stayed for about a week before it started peeling back again . . .

Steve Williams

Internet Mailing List Aug 96
. . . try Araldite Rapid.
Jason Jarvis

Internet Mailing List Aug 96
Copydex works well for vinyl trim, and it ought to be ok for leather. You paint it on both surfaces as a milky liquid (so you can see if you've missed bits), and it cures in about fifteen minutes into a clear contact adhesive. I tried two or three other things before this, and Copydex was the only one that had enough immediate grip to stop the vinyl creeping back after I'd stuck it down.

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Adhesive for Underbonnet Heatshield

Sep 98
I have a 95M Griff 500 and the heat shielding on the underside of the bonnet has become detached. It obviously requires a specialist adhesive due to the high under-bonnet temperatures. I established from my local dealer what adhesive the factory use, and then tracked down its supply. OK, maybe it's not the best solution or I wouldn't need it now, but I think I can cope with reattaching it every 3 years!

Dunlop S1358 - A high temperature contact adhesive, used in other automotive applications e.g. interior trim and headlinings. It's applied much like any other contact adhesive. i.e. coat both surfaces and join them when it's tacky. A litre tin should be enough for a whole bonnet or more, and cost me just under a tenner.

The manufacturer is Norcros Adhesives Ltd, Newstead Industrial Trading Estate, Longton Rd Trentham, Stoke-On-

Trent, Staffordshire, ST4 8JB, Tel: 01782 59110. They can tell you a local supplier. The only one in Surrey is Croma Industrial Supplies Ltd, Camberley, Tel: 01276 683776
Julian Bridle

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Water Ingress

Sep 96
Here are some suggested remedies:

- Door seals. Water can run down the groove between the hard and soft sections of the door seals and then into the footwells. Cut two 1/4 inch sections out of the soft part of the seals at the front of each cill and roughly in the middle, to let the water drain out. Run a bead of silcon sealer along the top of the door seal by the door hinge. If you don't like cutting bits out of the rubber you can inject some glue into the 'O' section and stick it flat.
- Behind the rear number plate, run sealer around the number plate lights and emergency lock.
- Inside the Chimaera boot, seal the bumper fixings.
- Underneath the car, seal around the seat belt mountings.

Apr 97
I have known earlier Chimaeras leak water due to missing silicon sealant over a plate in the engine bay directly over the pedals.
Geoff Cahalin

Internet Mailing List Jan98
How come the drivers side carpet in my Griff always gets wet when it rains? The passenger side is fine, when I'm in the car in the rain I can see no water getting in around the hood and the rest of the car is dry. If I take the carpet out to shove in the drier there is water left standing in the footwell.
David Donnan

The favourite place for water ingress into the drivers footwell is through the edge of the brake fluid reservoir according to my dealer. They strip and reseal this at every service as a matter of course. TVR used to use silicone which won't adhere properly to the reservoir which moves slightly everytime you press the brake pedal. Even if you look carefully the gap is sometimes difficult to see and the water runs down the bulkhead/inner wing behind the pedal box and appears magically on the floor. TVR have apparently now changed from silicone to Sikaflex (black incredibly sticky stuff used to bond in windscreens) and this cures the problem (allegedly). If someone would like to prove this by re-sealing and then never using their brakes.....maybe not.
Robert Morgan

I had to re-seal mine as I had the brake fluid cap split and deposit some brake fluid over the inner wing last July. Took the best part of a day to clean it up and repaint the wing. Silicone *will* stick: the trick is to get everything scroupiously (is that the right spelling?) clean and then layer the silicone so that the reservoir is wedged all round by sealant. When this is tacky, put another layer around to create the seal. Then smooth it off with a wet knife. The reservoir cannot move so the seal remains intact. This approach takes a couple of tubes of sealant but it hasn't leaked one bit. Having said that, it didn't leak before either but it was done with some black stuff which I think was Sikaflex. This was breaking away from the reservoir but the raised sealant hump meant that the water flowed away either side. A quick test with a watering can will prove it one way or the other.
Steve Heath

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Hood Waterproofing

Aug 96
Fabseal tent fabric waterproofer works well on the hood. A couple of coats will stop water soaking through the stitching and also covers up minor scuff marks. One Griff owner told me that this actually stopped water collecting in his footwells - presumably it had been getting in through the fabric and running down through a body cavity somewhere. Fabseal doesn't seem to harm the paintwork but it's a devil to clean off if you let it dry.

Apr 97
I have had it confirmed to me that the Factory use "FABSIL" to treat the roof material, so I would recommend that it should be applied once a year to maintain the waterproofing.
Geoff Cahalin

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Rattling Hood Struts

Internet Mailing List Mar 98
I noticed that the aluminium struts on the Chimp do rattle when the top is folded down. It was possible to waggle the strut and product the rattle. It seems that the pivots are not holding it still. I was thinking of putting a small amount a of clear mastick, to reduce the movement of sound of rattling. I suppose a clear nylon half washer (if such things existed) would be another approach - sliding it over the pivot and into the groove? What about my IKEA rubber hammer (plus block of wood) and trying to tighten the joint by squashing the aluminium pivot?
Simon Smollett

Internet Mailing List Mar 98
You've summed up the possibilities exactly. Squashing the pivot is usually the final and best outcome but can be hard to get right. Another solution is to tie a piece of elastic between the two struts!
Steve Heath

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Scratched Rear Window

Internet Mailing List Sep 97
I spilt some petrol onto the window on my Griff with the roof down and did not realise for several hours. The petrol marked the plastic quite badly, however several hours with various rubbing compounds removed most of the marks very successfully. I found that body rubbing compound is great for very heavy damage but be careful as it can be quite abrasive. T-Cut is good for medium work. Brasso or similar metal polish is great for finishing off or on light damage. I ended up using a mop polisher with the fine stuff which saved a lot of elbow grease.

Before you do it, make sure the fabric around the window is well sealed so that any surplus cleaner can easily be washed off. Fabsil is ideal for this. If this is not done, any spillage can take several goes with water and nail brush to get the stuff off the fabric. Don't forget to support the window from behind so that it does not get stretched. If all else fails, a replacement window typically costs about 100 pnds to have done.
Steve Heath

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Windscreen Damage and Repair

Internet Mailing List May 98
Whilst driving it home a crack started to steadily grow from the bottom of the windscreen, above the steering wheel. Now some 10 inches long, and with no obvious sign of impact damage, have the garage managed to do this whilst

jacking up the car carelessly? Any views/similar experiences appreciated before I get irate on the phone to them (a shame because they're normally pretty good)
Mike

Internet Mailing List May 98
Same thing happened to my Chimaera a couple of years ago. I'd parked at the South of England Show for about six hours in 90 degree temperatures and when I came back there were two cracks the full height of the windscreen. When Autoglass were taking the screen out they pointed out rips in the pillar fabric where it had obviously been replaced once before, and none too carefully by the look of it. The glass wasn't damaged in any way before this happened and I'm sure it was just the heat combined with a bad fit at some point that stopped the screen expanding in its surround (a bit of broken glass left under the rubber maybe?). Until Mike's posting I'd not heard of this happening to anyone else, and I did ask a couple of dealers at the time.
Peter Beech

Internet Mailing List May 98
My S2 had the lining on the internal windscreen pillars cut when the screen was replaced before I had it. Like most things, there are good fitters and there are bad ones. Unless you take care, the knife that is used can go through and slit the covering. I've had good and bad experiences with Autoglass. I had to replace the screen on the Wedge a few weeks ago (£420 quote from AutoGlass...) and arranged to have this done while it was down at Tower View Race Services. My insurers, Norwich Union, insisted on AutoGlass as well. The first problem was that they told me that I must have a 3000s and not a 390SE as the 3000s was the only one that came on screen. I told them to ring the factory and eventually they rang back to say that they had found one. The fitters turned up about three days later with a scratched and delaminated screen. Dave Wallis asked them a few question about installation and got some mumblings about it's like a Lotus. He eventually sent them packing as he didn't think that they could do the job or that the windscreen was acceptable. Autoglass promised to call back but didn't. The Wedge (and the Griff, Chimaera, Cerbie etc) can suffer the same problem. While the damage can be repaired with newer cars, some of the interior lining material is extremely hard to get and so the repair could involve a complete new interior... I rang AutoGlass and spoke to their manager, pointed this out, mentioned the cost of a new interior if they screwed up... surprise, surprise... he agreed to cancel the order and let someone else do the job. A quick call to the insurers and they said that in view of the specialised nature of the car, that they would let me choose the fitter and then reimburse me. Dave at Tower View fitted it for me and did an excellent job at about £50 less than AutoGlass... so everyone was happy! Norwich Union paid up in a few days with no problems. The moral is ask what experience the fitter has if you have to go outside TVR. If you don't feel comfortable, then use the "interior" reason to let you choose who you want. A damaged interior is one of the most expensive things to put right on a TVR.
Steve Heath

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Chimaera Grille Removal

Sep 97
Ealry Chimearas have a grille in the form of sheet of perforated metal with a rubber surround. The rubber is a sort of S shape in section, with one curve of the S fitting over a lip around the grille opening and the other curve holding the grille itself. The rubber is either glued to the lip or has a few small screws or rivets to keep it in place. All you need to do to get the grille off is work around the rubber surround easing the grille free with a penknife. You may need a hairdryer to soften the rubber in cold weather, and getting it back on neatly is a bit trickier.

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Number Plate and Airflow Through Grille

Internet Mailing List Sep 96
With the summer now upon us I was looking at the front of my Chimeara and thought that the front plate actually

covers 1/2 or 2/3 of the grill area. Whilst it hasn't yet overheated surely you would get much better air flow through the engine if you replaced it by one of those stick on plates on the bonnet like the Jag E-type had. Coincidently, I then saw a Chimeara in London with just this set-up. I think that they are technically illegal (and the E-type had special permission) but if it is visible from the front I doubt you would get stopped for it.
David Leeming

Internet Mailing List Sep 96
A good point, and one that has been mentioned a number of times at meetings in the past. According to one of my books on the E-Type there were no concessions for this particular car, the police just turned a blind eye . . . At least one dealer (Portfield) mounts the number plate with its horizontal centre line on the lip below the grille. It doesn't look so good though . . .
Steve Powell

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Chassis Frame

Repairs and Protection

up to contents

Repairs & Protection

Internet Mailing List May 97
Does anyone have any experience of rust on the chassis rails of their Griffith ? I'm trying to find out if it's common as mine has some and is just 2 years old.
Martin Redwood

Internet Mailing List May 97
Yup, I've got a 92 Griff, garaged all it's life (as far as I know) and has a nice layer of surface rust on most of the chasis arounf the wheels and under the sill. Engine bay is pretty clean as are areas around the drive shaft - probably protected by a layer of oil. The rust is not worrying, in fact I'd expect a little on a car this age.
Mark Elliott

Internet Mailing List Mar 97
. . . my latest experiences in chassis renovation of my 1988/116,000 mile old Wedge.

I have only had to have two weld repairs done on my car - the outboard rear outrigger plate (to which the body and seatbelt attach), and the rear subchassis which had holed at the front n/s corner. This was simply (and very economically) repaired by Wedge Automotives garage by plating over the hole, and then hammering it in slightly to clear the main chassis tube. The clearance is tight here, and I blame the dirt-trap for the corrosion, although the corresponding section of the main chassis has nothing worse than paint loss.

Richard Thorpe reckons that a lot of the corrosion was from within, and the bits which I shook out from the hole suggested same. The thinning of the tubes is such that I have been advised to replace the subchassis in the next year or two - cost indicated to be about £70 - £100. I am going to oil fill it prior to refitting - on this bit it is easy to drill holes in the flat end covers of the side tubes where they project from the channel section. This avoids the risk of welding fires and ensures complete oil cover of the welded bit. After emptying, the holes are plugged with grommits, stuck into position with silicon rubber external sealant.

On the paint front, I have used Miogard primer, which contains small iron particles and is used on commercial vehicle chassis. The iron particles give a fine surface roughness for the topcoat to key to. I use P-type enamel, black, which is really hard and glossy, such that dirt hardly sticks to it, and cleaning is easy. Both these materials are made in Derby by Joseph Mason Paints, and are also sold under the "Perfection" name through Tetrasill. I would recommend them, as the job is so labour intensive that it is worth using really good paint to maximise the time before having to do again!

My brother had used Hammerite (Smooth) on his kitcar chassis, and is very disappointed with how easily it chips - the P-type is very resistant to tool knocks and stonechips. The only area I don't use it is where I want Waxoyl to key (eg outriggers) - Waxoyl underbody seal is OK for this.

After removing all rust, I treat the tubes with Jenolite to stop further rusting, before priming. Care is needed with this as it is watery and drips, and burns skin and eyes, but a test on an exposed bolt with no further painting shows it works - no rust after two years on an exposed chassis location.

Sorry if this is a bit long-winded, but this is clearly an important subject for many of us!
Neil Porter

Internet Mailing List Mar 97

Have it shot blasted and repair any damage, then immediately prime with a good primer such as Corroless or an etch primer. Then paint with something tough. Hammerite is chipped easily - use Smoothrite or an exterior paint such as the type suitable for drainpipes. This is cheap and tough.

Andrew

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Suspension

Suspension Discussion

[I picked up this exchange part-way through, so it's a little disjointed. I've included it because it does answer a number of common queries about Griffith versus Chimaera suspension.]

Internet Mailing List June 98
. . . In my experience, the Chimaera is a softer handling car and the trade-off is reduced crisp turn in. It is one of the reasons that I prefered the Griffith. Your experiences could simply be a characteristic of a Chimaera or something wrong or incorrect in the suspension setup and I would include the rear setup as well as the front. If your Chimaera was not explicitly built with a Griff spec suspension, including shocks, springs, and roll bars, than I doubt if you will ever get the Chimaera to handle exactly as a Griff 500 does until all these components are replaced. They share the same chassis but have different shocks springs etc. . .
Steve Heath

Internet Mailing List June 98
. . . I ordered and purchased my 5.0 litre Chimaera (it is left hand drive by the way) directly from the factory. I have also owned a 4.0 litre Chimaera and I did not want the "soft" suspension on the new Chimaera. They assured me that the 5.0 litre Chimaeras and the Griffiths share the same suspension. I think I will have to test drive a P reg Griffith for a comparison. If there is a difference then I will have a serious discussion with the factory . . .
Minos Mantzavinos

Internet Mailing List June 98
To be absolutely fair to the factory there really is no such thing as a definitive Griffith suspension. If they say you have the current Griffith suspension, then you probably do have it, but this may well be different to the suspension that your early 500 had. I've looked at the spares list and it indicates that the current 500 parts are interchangeable between the 500, Griff 4.x and Chimaera but it also describes several other spring/damper combinations including sports versions. So it is possible that you have a Griff 500 suspension but that this is fundamentally different from the early Griff 500 suspension you liked. It could also be due to suspension settings as well.

It is clear that the Griff suspension has undergone some serious revisions in the past. In general, the Griff suspension has got softer over the years and it is this rather than any factory "plot" that may be causing the problem. The reason for this is that owners and reviewers did not like the very hard suspension and they reacted to the inputs. Nearly all of the reviews that I have of these cars complained about this aspect. So please bear this in mind if you talk to the factory.

Another factor to consider is that the tyres themselves have also changed over the years (RE71 to SO1 to SO2). This can also affect the handling feel, especially the turn in.

It is also possible that the L reg Griff 500 had been modified and was not typical of the Griff 500 so a methodical approach might be required to find out what the problem is and how to cure it. Driving some other cars to get a good feel would be a good start, especially if you can find one with the sports suspension pack which stiffens the suspension

and anti-roll bars.

If these Griff 500's handle the same as your Chimaera, then you will have to tune the handling. If they handle the way you want, at least you have a model to find out the suspension settings etc which will be a big help and will save a lot of time.

If the Chimaera has been curbed, this can knock the suspension out of alignment without realising it. If the suspension geometries and tyre pressures are not exactly the same on both sides, it can cause problems. Even if they are within the prescribed limits.

I know that Team Central have worked with their customers on suspension tuning so it may be worth talking to their service department to see what else can be done. I heard of one Griff 4.x owner who complained that his Griff 500 was too soft and ended up having the full sports pack suspension fitted and then they tweaked it further. The cost was several thousand pounds in total.
Steve Heath

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Damper Fault on 1994 Griffiths

Internet Mailing List Jan 98
The offside rear shock absorber on my Griff' 500 snapped of close to its upper mounting point the other day. Thankfully no crash ensued. I have since learnt that a number of '94 cars were recalled for a fault in the (Bilstein manufactured) shock absorbers which could result in breakage. It appears my car somehow slipped through the net and the factory have agreed to replace both rear shocks upon confirmation that they are from the defective run.
Roger Slee

More about this on FleetNet - choose "more" then "recall info".

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Factory Sports Pack and Related Topics

Feb 97
. . . Re [TVR Centre Redhill's] suspension modification kit, tell me more. I want to tighten up mine [a J reg 92 4.3 Griffith] but it seems the current dampers are not very adaptable.
John McIntosh

Feb 97
Has your car got the factory sports suspension pack (later Bilstein dampers, uprated springs, heavier anti-roll bars and whatnot)? If not this might be the best thing to go for. Costs about £1200, I think.

The TVR Centre's mods are a bit different, and aimed mainly at improving the anti-roll bars and stopping the wishbones from moving about (there's about 3mm of slop at each wheel apparently). They had hoped to produce this as a pack, but apparently it's very fiddly to do properly so they are keeping it in house for the foreseeable future. They've done a couple of cars so far and the cost is very roughly £1500-£2000.
Peter Beech

Feb 97
Thanks for the info on suspension. I have Koni dampers. I believe the suspension for the K registration was an improvement over the J but I have no supporting evidence, just hearsay. The Bilstiens, I believe, were fitted only to the 500 as standard. They do a good job at realistic rates. My Griff lacks a positive feel at the front and it could be a result of too much travel - aside from the roll.

I spoke with TVR Centre Redhill and it seems the simplest route is to go with the Sports Pack. Otherwise it is a custom job. Since suspension settings always take time to get right, customisation can cost an amount of money. What they didn't know was the standard spring ratings. If I have that I can get an idea of what to try first.

My view is that you can buy all the bits for about £700,plus VAT. A competent mechanic could install in about 4 hours. The harder part is the geometry which might require changes to the wishbone placing and making them more adjustable. Fairly expensive.
John McIntosh

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Alternative Dampers

Internet mailing List Apr 97
You might be interested in the fact that I upgraded my Chimaera from standard Bilstein shocks to Konis. Jens Bech, the technical guy at BV Nimag (dutch importer for TVR) and Koni developed a shock absorber specially suited to TVR. It's a completely adjustable absorber and gives big improvement on straight on stability (I mean if you are driving in a straight line) especially when there those heavy truck grooves in the road. They give you better predictability in corners as well. The bounce and rebound is completely adjustable as well as the riding height so you can adjust everything to your particular needs. In my setup the ride is a little stiffer than the Bilstein set-up but the whole roadhandling of the car is much improved. The shocks are made to order in the F1 and racing department of Koni in Oud Beyerland which is about 30 km from my home.
Paul J Schoenmakers

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Anti-Roll Bar Fitting

Internet Mailing List Sep 98
I don't know if this has been discussed before but for those who may not know I thought I would pass on this info.

Early Griff's did not have a rear anti-roll bar fitted (I don't know when this changed), this results in what could be described as twitchy back end on uneven roads. I have recently discovered that this is easily rectified, and was told from another Griff owner is a major improvement (thanks Jonathan).

All you need to do is purchase the rear roll bar parts from TVR and fit, on some cars the holes where the roll bar bracket mounts are pre-drilled so just bolt away. Some you will have to drill 4 holes. The AR Drop Link Brackets can be simply clamped to the bottom wishbones using U bolts of a suitable size, and are pre-drilled for this. They were welded in place on later Griff's so this could be done if you prefer.

Fernhurst rang TVR and asked how much the kit was, and £800 came back (could have been a mistake), I was told this was complete with templates and diagrams etc. However Darren (Fernhurst) remembered fitting one for about £350 all in. He checked this out and they had ordered all the parts individually and this totalled about £200 +VAT, quite a difference.

I have included the list of parts below. The only thing missing is the U clamps. The U Clamps (exhaust clamps) can be sourced from any car parts dealer, 35 mm width, and use Nylock locking nuts on them.

Part	**Qty**
ARB bush	4
Rear ARB drop link	2
ARB mounting plate (rear) RH	1

ARB mounting plate (rear) LH	1
Sport AR bracket	2
AR bush	2
Rear ARB	1
ARB drop link bracket	2
nuts, bolts & washers	

As far as I am concerned the £200 is money well worth spending. On uneven roads I am no longer constantly correcting the direction of the car as it bounces from bump to bump. The rear end is much more stable and if anything the ride is much more comfortable. I have driven a 500 Grif and it feels very similar. If anything the car is much more responsive when turning in, being more precise to wheel movements, something I like. I would say that it has eradicated a previous tendency to understeer. I haven't had the opportunity to push the car at high speed through a fast long bend yet, but I think it will be more stable. Also I am interested to see when the rear breaks away now, whether its more sudden or not.
Adrian Slade

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Wheels and Tyres

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Wheel Removal

Sep 96
Correct torque for wheel nuts is about 75 ft lbs (100Nm). Using the wheel brace in the toolkit, this means a good firm tug but without without leaning on it or getting veins popping out on your forehead. Wheel studs and the face of the hub should be smeared with Coppaslip to stop things seizing. If you have the seven-spoke wheels with a cover plate over the wheel nuts, Coppaslip the cover-plate retaining screw regularly - otherwise it can corrode into the wheel and snap off when you try to remove it.

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Wheel Alignment

Sep 96
If you trust anyone other than a TVR dealer to adjust your steering geometry, or are stuck and have no choice, the settings are given below. Don't let the tyre shop, or whoever, make adjustments without centering the steering rack.

Toe in: 1-3mm (20 min) front and rear.

Camber: 1/2-3/4 degrees negative front and rear. 3/4 degree best for road work, up to 1 degree for circuit work.

Letter Oct 97
I had lots of problems with this but the factory (TVR Malaysia) kept insisting it was OK. I was prompted more by the handling and feel rather than excessive tyre wear probably because I have not put in that much mileage, or they may have worn out in any case! I had it measured by a computerized 4-wheel alignment and it registered completely different readings to those given by TVRM's measurements (done by a manual jig). Not that manual jigs are a bad thing. In fact, in the right hands, I believe they are better and many Tuscan teams do that as does the Blackpool factory. Anyway, time passed with TVRM insisting it was OK and me insisting something was wrong. Things got ugly (in a friendly way!?) when the factory suggested that I was paranoid and that I didn't know what the handling of the car should be like.

This was resolved, as far as I am concerned, recently. I changed to SO-2s as a result of an off-road excursion (don't ask me about this!) which gashed my original rear SO-1s. Thankfully, this and a slightly out of round wheel were the only damage. TVRM replaced the wheel and all 4 tyres for me, as SO-1s were no longer available. They also did the alignment and of course when I got it back, did not feel right. Allowing for a bit of running in, things did not improve and I took it to my regular computerised 4-weel alignment shop (Hunter Equipment). Sure enough everything measured out of spec. In fact, both my LHS wheels were toe out! Having had enough, I took the liberty (in violation of warranty and other factory warnings!) of having it re-aligned there. The car was a revelation after that. The steering feel snapped into focus and the handling was much sharper and more predictable. I told the factory this and they just

shrugged it off!

My take from this? I would not trust the factory's or dealer's alignment skills or tools. I trust my regular alignment shop because I know they regularly calibrate the computerised set-up and the inherent skill of the mechanic doing it. He had no experience with TVRs (nobody here does) but does Ferrari's and Porsche's. However, I told him how to do it on the Griff (having seen it done at TVRM) and he learnt very quickly. One thing to note is that camber adjustments necessitate wheel removal. This has to be repeated many times per wheel to get right, as it is also very sensitive (small movement = many degrees). This means it takes time and therefore high labour charges. Also, it brings to mind that this is really only possible in a computerized alignment set-up, since the car can be raised on a hoist. The manual set-up jig as used by the factory, would have required re-setting of the instruments each time, and I doubt if even an enthusiastic mechanic would do this willingly! So, a reliable specialist garage with computerised 4-wheel alignment would seem the best bet.

As another point of reference, I had the same experience with an MX5. The dealer could never get it right whereas this specialist shop could.
Kenny Heng

Oct 97
Kenny,
Thanks for that. Very interesting, especially as my TVR dealer has warned me against letting anyone other than a TVR dealer get their hands on my steering geometry! The same dealer has been working on some mods of his own to stop the suspension components slopping about, but I think he's given the idea up as being too expensive to put into production. There are two other problems as I understand it, and I must admit I haven't had a really good look at the suspension to confirm this:

1. I believe the top wishbone bushes have some free movement on them which means the wishbones aren't located securely fore and aft. I think there is about 3mm of movement on each wheel. Most of the time they will settle into one position and stay there(possibly resulting in the wheelbase on one side being slightly less than the other), but under very heavy braking or hard corning the bushes can move which results in the castor angle changing in mid-manoever.

2. The camber angle is adjusted by pinch bolts that go through slotted holes (is that right?), so the camber angle depends entirely on friction to keep it where the mechanic has set it. In my case it seems not to have worked and I ended up with huge negative camber shortly after the service. Probably less noticeable to the driver on a Chimaera with higher profile tyres and softer suspension (well, that's my excuse) but enough to scrub a couple of mm off the inside edges of the tyres.

I guess if you wanted precision suspension components you wouldn't fabricate them out of welded tube, but at TVR production volumes you don't have much choice. I wonder whether the Tuscan boys have these problems. Probably they've solved the first with nylatron bushes which wouldn't be very nice on a road car, and I'd imagine the camber adjustment on a race car is a bit more robust.

One solution to the camber problem that occurs to me is to put a whacking great washer under the bolt then drill through when the adjustment's spot on and bash a dowel in. No doubt you'd have to weld the hole up and do it again every time the bushes were replaced, but it might work. Not sure how often you could get away with this before there was nothing but re-drilled weld holding the wheels on, though!
Peter Beech

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Griffith Tyre Alternatives

Internet Mailing List Aug 96
I need two tyres for my Griffith 4.0 1992. I have been informed that the tyre size (225 Expedia) has been uprated to a Bridgstone S01 size 235. The problem is this: the cost of an S01/235 is £240, whereas the cost of say RE71/ 225 is

£165 each. Also the cost of an S01//225 is £180. Do I have to change to size 235 when I have been happy with 225? Do I have to use Bridgestone? What about Pirelli or Michelin?
John Greenhalgh

Internet Mailing List Aug 96
. . . I've just been through the same loop for my S2, with local dealers saying RE71s are out of stock. General consensus was that short of going to S01, only Yokis have the grip but don't last long. RE71 availability is difficult but Elite do them mail order, next day delivery, and your local fitter will fit and balance for £5.50. This worked out cheaper than most alternatives and got me "proper" tyres.
Richard Eggleston

Internet Mailing List Aug 96
I thought that S01 and Expedia were one and the same, so there must be some confusion here. Don't rely on your TVR dealer as they are notoriously expensive for tyres (like any marque's main dealer) . . . Other makes are likely to last longer, but may have less grip. You can certainly get Pirelli P-Zeros and P6000s in the right size.
Steve Powell

Internet Mailing List Aug 96
I recently got a set of rear tyres for my Griff, Bridgestone Expedia SO1/225s. I shopped around and the best prices were from Elite and this was matched by TVR Brundle . . . The 225s do me OK. I know someone who uprated theirs to 235s - but they are quite mad.
Steve Marriott

Internet Mailing List Aug 96
The Expedia and the S01 are the same tyre. I bought a full set back in January for a shade under £600 (£138 front, £150 rear, including VAT, valves and balancing), and that's the cheapest I could find. I did think about getting a different make, but unfortunately nobody else seems to make the front tyre at a cheap enough rate. It seems like the 205/50x15 is a bit of an oddity. The only other tyre I've seen on a Griff was the Expedia S02, when I did a sprint at Three Sisters a few months back.
Sean J. Lennon

Mar 97
After wearing out the centres of his Griff's back tyres for the nth time, Jeremy Pace took his tyre shop's advice to try some Yokohama A411s as fitted to the Lexus. The problem with the Bridgestones is apparently that the tread area is not very rigid and it bulges at high speed, resulting in uneven wear across the tread width, especially if you spend a lot of time going fast on straight roads rather than sideways round twisty bits as god intended.

The Yokos have reinforced treads so are supposed not to suffer from this problem. Jeremy says that the ride is also less harsh and the back end skips around less. The Yokos are in plentiful supply at the moment because Lexus owners can opt for seventeen inch rear wheels and the standard sixteen inch tyres are simply returned by the dealers, to be flogged off by Yokohama at about £110 a throw. No report on how well they wear, but Jeremy promised to report back.

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Tyre Pressures

Sep 96
Handling is very sensitive to tyre pressures, so check carefully. The rims are not always 100% airtight and pressures may need to be checked every 1000 miles or so. For fast road work, an extra 2-3 lbs in the back is worth experimenting with - but bear in mind that wide radials wear more in the centre and this might exaggerate it under normal (ie. not going sideways) driving conditions.

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Griff vs Chimaera Tyres

Jan 97
Someone told me recently that the 500 Griff and 500 Chimaera now have identical suspension and tyres. I thought this was a bit odd so I checked with the factory. Apparently both models do now have the same tyres, but the Chimaera's suspension is still softer than the Griff's and it's still the 'touring' model.

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Tyreweld

Internet Mailing List Feb 97
I have heard that tyreweld can ruin the tyre and not to use it. Any comments?
Jon Stuart

Internet Mailing List Feb 97
I've heard this also, from memory the conclusion was that if it were used as a "get you home" solution (or better still get you to the tyre depot) it was OK. The tyre should then be washed out and a proper repair made. Personally I struggle to picture the Quickfit fitters washing tyres to make the repair. "Sorry mate it's knackered, you'll need a new one" seems more likely.
Mike Jennings

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Brakes

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Brake Fluid

Internet Mailing List Sep 96

For track use of your car, it's a good idea to renew the brake fluid before every track event. There are plenty of good brake fluids out there, but what's most important is that the fluid is not contaminated with water and solid particulates . . . If the brake fluid colour in your reservoir is much different, usually darker, than the colour that it came out of the container, then it certainly should be changed before going out on the track. If the car isn't used on the track, changing the fluid once a year is a good maintenance practice. The signal that your brake fluid is boiling is a pedal that travels easily to the floor without an attendant decrease in the car's rate of travel.
Steven Jackson

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Chimaera Disks & Pads

Letter Nov 97
. . . I had great difficulties in finding the right rear brake disks [for my late 1994 Chimaera]. In my TVR Owners Handbook on page 42 it says:' with 10.7" diameter rear discs.' So I ordered that size of discs off a Ford Sierra Cosworth. When I tried to mount them it showed that the size of the disc was too large. The real size of my rear disc was 251 mm that is about 9.9". The disc I needed is of an early type Siera Cosworth. For the brake lining I used Lucas/Girling pads, no. GDB472 (Holland coding?). The discs I ordered in the end are coming from QH (no.BDC3583) as they where able to deliver them immediately. I hope they don't fall off!
Arjen Wolters

Letter Aug 98
I took a pair of my front pads and showed them to a technician at my local dealer. He reckoned they were not original and advised me to fit a new set. The brakes fitted to my age of car are Ford XR3i/Cosworth so he suggested I went to a Ford dealer and saved myself some money. He showed me a set from the stores and they were boxed Motorcraft, i.e. straight from Ford.

I did this and the brakes are now 100% better. The pads cost £15 compared to £50 from a TVR dealer.
Prebble, Richard

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Pad and Disk Upgrades

Sep 96
Post-1994 models have larger front disks and calipers. Several owners have improved braking by fitting TAR.OX grooved front disks and Mintex 1144 pads.

Apr 97
[From telephone conversation with Raymond Chang, who has a 1994 Griff 500]

He has tracked down the source of his car's disks and calipers: the front assembly is from an Escort RS Turbo Mk 2, and the rear from an Escort Cosworth 4x4. Raymond doesn't rate TAR.OX disks much. He is now using grooved and ventilated disks from Diamond Motor Sport, which he says are much better than TAR.OX and cost about £110 a pair. Brembos are good but incredibly expensive. He has fitted the factory suspension sports pack and apart from a bit more bump-stear he says it's excellent.

Internet mailing List Feb 98
Have you had, or do you know of anyone who has upgraded griffith 4.3 brakes, specifically the disc's to grooved or cross drilled items? Most TVR dealers are recommeding upgrading to griffith 500 brakes, but this is proving a little too expensive (£500-£1200) not fitted!
Adrian Wallbridge

Internet Mailing List Feb 98
I don't know about 4.3 griff brakes, but I suspect (and no doubt someone on the list will be able to confirm or deny) they are the same as the 4.0L Chimaera brakes. I changed mine for TAROX pads & disks (grooved) after experiencing a bit of fade on the track. I have to emphasize though, never had a problem on the road. I did one session at brands with the new setup & found them excellent. Fernhurst (as seems normal on this list) did the mod.
David Leeming

Internet mailing List Feb 98
I was looking at the Demon Tweaks catalogue last night and I remember that AP Racing calipers (as used for the Cerbie) are £1300 a pair and Brembo disks (group N - not grooved) were about £70 a pair. This was for Ford Escort Cossie hubs - as used on the Griff? Seems like someone is adding on huge amounts of labour, surely it can't be more than a couple of hours to replace disks and calipers.
If you just want Tar-Ox discs and a set of fast-road pads it shouldn't set you back more than a couple of hundred quid. Changing a pair of disks really is a 30 minute job.
Andrew Guy

Internet mailing List Feb 98
. . . The brake balance is extremely important with these cars. Too much bias to the front and the back will lighten up and step out. This one of the reasons that the 500 has bigger rear disks than the front. The front stops but the back doesn't and tries to get in front. Result is one spinning car. If you want to simulate this, brake hard when going over a bump as the rear goes light. On second thoughts don't. Take it from me, the car will spin quicker than that. (This is what I did wrong at Castle Coombe, dear readers). The bias is about equal with a slight bias to the rear brakes. This means that any changes should be done to **both** front and rear to maintain the correct balance. Brake balance problems are only normally seen when the braking is extreme... like on track days and usually when you need it the most.

Braking performance is also greatly affected by other factors. My sprinting spec 390SE brakes are certainly enhanced due to the mods that I have made... The strange thing is that apart from changing to DOT5.1, the brakes are exactly the same. The changes to sticky Yokohama tyres, increasing the stiffness of the front shocks and adjusting the brake pedal height so that I could get more pressure on it have transformed the braking performance of the car. So much so, that I have dropped the idea of renewing the disks and pads as I can lock all four wheels almost at will now! The stopping power was there but these other factors prevented me from realising it. Again, it is worth checking these items as well.

The [Griffith 4.3] brakes are based on Ford Sierra Cosworth/Escort Cosworth etc. I stress the word based. Looking at the way the disks were drilled for 5 stud hubs as well as four, I suspect that the disks may be specials anyway. Some of the diameter sizes do not appear to match those cars. The only way to actually confirm which disk will fit is to take an original and physically match it to its replacement. Measuring its diameter and quoting the offset is a good start but a physical comparison before fitting is absolutely essential. You could end up fitting disks that would fit but are smaller than the originals. Not a good idea...

One final point, some companies quote disk prices for a single disk and not as a pair as would be expected. Always ask to prevent getting a hefty shock.
Steve Heath

Internet Mailing List May 98
I have just been quoted £1,600.00 + VAT by a TVR dealer to upgrade front and rear brakes on my K-reg Griffith! The replacement parts to be based on Grifith 500 units. Originally, I asked for a front brake conversion, but the factory advised against this as the front/rear brake bias would be adversely affected. So I declined, and instead have asked for the existing brakes to be attended to, new pads, fluid, cleaned disks, etc.

Now I know from mails past that some of you have had brake conversions, so any feedback would be appreciated. Incidentally, I mentioned having Tar-Ox disks and this elicited a sharp intake of breath (prone to buckling, cracking, etc.).

What I'm after is just a bit more bite at the front-end.
Dave Peck

Internet Mailing List May 98
Call Dave Wallis at Tower View Race Services. He has a complete range of brake upgrades for most TVRs, ranging from simple disks and pads to four pot calipers etc. They are either Tar-Ox or Brembo - I can't remember! Ted Riddick had Tar-Ox grooved disks added to his Chim 500 front brakes and said that they definitely had more bite and less fade so that may be a good route. It might even be worth considering doing both ends in the interest of balance.
The comments about buckling and cracking are interesting. The standard disks will do this if they are abused. If you overheat the brakes, there is a great risk of buckling and cracking through hot spots with any disk.
Don't go for the race pads otherwise you will find that they will require several applications before the pads get warm and work. Fast road are probably as far as you should go if the car is used on the road. The last thing you want is to get out from the garage and find that you can't stop.
Steve Heath

Internet Mailing List May 98
Whilst you may think you have Tar-Ox, the previous distributor had them copied elsewhere and sold them in Tar-Ox boxes with variable quality. Tar-Ox got wind of this, and now have a new UK agent and a bunch of lawyers. We deal with the new agent. TVR isn't listed in the catalogue, but if you let me know the Ford equivilent I'll look up prices.
Andrew Cliffe Omicron

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Chassis General

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Lubrication

Sep 96
Early Griffs have sealed steering racks. Later model racks have three grease nipples which benefit from regular lubing as the racks can wear quickly if neglected. Other suspension lube points are not easily accessible for DIY maintenance. Wishbone bushes have rubber inserts, so are inclined to rot if you put grease on them. See note on Wheel Removal elsewhere.

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Power Steering

Sep 96
Be careful not to overfill - strange whirring noises on full lock can result.

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Stiff Steering

Internet Mailing List Jan 98
When my car is cold there is quite a resistance to turning the steering wheel more than 30° to the left. The resistance can be overcome with a little extra force and then any further turning becomes normal. This happens once or twice and then the resistance dissapears, until that is, the car is left standing for some time. There is no problem in turning to the right, hot or cold. Has anybody got any bright ideas?
Cathy

Internet Mailing List Jan 98
I had this on both my Chimaera and Griffith which used to go round islands on their own once started. This was due to a partly seized steering Universal Joint in the front wheelarch. Great place to put it, right behind the front wheel with no protection from salt spray etc., it's difficult to think of a worse place. Free it with some WD40 or similar but to do a proper job you might have to remove it and if you're doing this you might as well replace it.
Robert Morgan

Internet Mailing List Jan 98
I read reports recently of someone making a leather sheath for these UJs, and packing them with grease, thus protecting them from the elements, as well as keeping them lubricated.
Den Lyon

May 98
I did try to find the source of the steering column UJs for someone recently, but without much success. The steering

column is Vauxhall and the later rack is TVR, although with the same size splines as the Rover rack they used to fit on the early Griffiths. As a consequence, the top UJ is a hybrid with Vauxhall sized splines one side and Rover sized ones the other. The bottom UJ is all Rover size. Both UJs appear to be specially made for TVR. They are probably based on stock forgings somewhere along the line, but there are no markings that indicate who the supplier is. The rods that link the UJs come in varying lengths, so all-in-all it looks like a job for a dealer.

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Torque Settings

The following settings are from a TVR Engineering information sheet for the Griffith circa 1993.

Component	ft lbs	Nm
Caliper to front upright	43-44	50-60
Track rod end to upright	30-35	40-47
Bottom balljoint to upright	60-65	81-88
Top balljoint to upright	60-65	81-88
Upper balljoint adapter pinch bolt	59-66	80-89
Top front wishbone to balljoint HSG	35-40	47-54
Bottom wishbone to balljoint HSG	12-15	16-20
Steering rack mountings	12-15	16-20
Steering UJ clamp bolts	12-15	16-20
Front & rear hub retaining nuts	229-258	310-350
Rear caliper to bearing carrier	40-45	54-61
Rear bearing carrier to upright	45-48	61-65
Differential front allen bolts	90-100	122-136*
Differential bushes to chassis	48-55	65-75
Rear diff carrier to diff (cap Hd)	33-36	45-52
Top rear diff bush pinch bolt	45-50	61-65
All front wishbones to chassis	45-50	61-65
All rear wishbones to chassis	45-50	61-65#
All rear wishbones to upright	45-50	61-65
All damper bolts	55-60	75-81
Roll bar mounting clamp to chassis	30-35	40-47

Drive shaft bolts to diff	32-35	38-40
Drive shaft bolts to axle shafts	32-35	38-40
Seat belt anchorage bolts	25-30	34-41
Wheel nuts	73-77	99-104
Brake master cyl to servo	15-20	20-27
Front crossmember	45-50	61-68
Gearbox crossmember	45-50	61-68

** Use Locktite, square section washer and locknut.*
 # Except top rear spring mounting which is 55-60 ft lbs.

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Engine Specifications

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A Short History of the Rover V8

Jan 98
The Rover V8 is based on an American 215 cubic inch (3.5 litre) engine which first went into production in 1961. The variant adopted by Rover was known as the Fireball V8 in Buick and Pontiac cars, and Oldsmobile used a slightly different version called the Rockette. The basic Fireball delivered 155 bhp at 4,800 rpm and produced 210lbs/ft torque. The engine was a bit of a damp squib in its homeland, where manufacturers soon reverted to conventional cast-iron blocks, and production there ceased after three years and about 750,000 units.

The Rover Car Company liked it, though, and bought the manufacturing rights from General Motors in 1965. In 1967 it made its first UK appearance in the Rover 3.5 Litre, followed by the Rover 3500 in 1968, the Range Rover in 1970, the MGB GT V8 in 1972 the Rover SD1and Land Rover V8 in 1979 and the (US only) Triumph TR8 about a year later.

The engine has been developed continuously by Rover since they first acquired it. The first incarnations put out between 140 and 160 bhp. Significant mainstream developments have been the fuel-injected SD1 Vitesse engine (improved head design), the 3.9 litre Range Rover/MG RV8 engine (increase to 94mm bore), the 1972 4.2 litre Range Rover LSE (77mm stroke), the 1994 Serpentine engine and the latest 4.5.

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Basic Engine Specs

Sep 96
The following standard engine specifications are taken from information sheets obtained from TVR Power in September 1996. The information sheets may not be completely up to date, so other sources have been used as well (see notes below the table).

	400	**400HC**	**4.3**	**4.5BV**	**500HC**
Capacity	3950	3950	4280	4441	4988
Bore mm	94	94	94	94	94
Stroke mm	71	71	77	80	90
Max rpm	6250 (1)	6250 (1)	-	6250 (6)	6000 (1)
BHP	240 (1&2) @ 5250 (2)	275	280 @ 5500 (2)	310 (6)	325@5500 (2)
Torque	270 (1&2) @	305 (1) @	305@4000 (2)	328 (6)	350(1&2)

ft.lbs	4000 (2)	4000 (2)			
CR	9.5:1 9.8:1 (1&2)	9.5:1 9.8:1 (1)	9.5:1 10:1 (2)	9.5:1 10:1 (1)	9.6:1
Crankshaft	-	-	TVR	TVR	TVR
Conrods	-	-	Land Rover balanced	Land Rover balanced	TVR
Pistons	-	-	TVR spec	TVR spec	TVR spec
Flywheel	-	-	TVR	TVR	TVR ribbed lightweight
Clutch	-	-	AP racing	AP racing	AP racing TVR 500
Crank Assy	-	-	Fully balanced	Fully balanced	Fully balanced
Camshaft	TVR 51	TVR 435R/M	TVR 214	TVR 234	TVR 435R/M
Cam drive	-	duplex	duplex	duplex	duplex
Cylinder heads	Balanced & polished	Balanced & polished	Ported balanced & polished	Ported balanced & polished	Ported balanced & polished
Inlet valves	-	-	4.3 Vitesse (BV as 4.5)	42.8mm Tuftrided SS	42.8mm Tuftrided SS
Exhaust valves	-	-	4.3 Vitesse (BV as 4.5)	36.8mm Tuftrided SS	36.8mm Tuftrided SS
Valve springs	TVR racing double	TVR racing double	TVR racing double	TVR racing double	TVR racing double
Inlet trumpets	-	-	-	-	TVR 44mm
Inlet manifold	-	-	Ported & polished	Ported & polished	Ported & polished 44mm
Ign timing (5)	32 deg	32 deg	32 deg	30 deg	28 deg
	400	**400HC**	**4.3**	**4.5BV**	**500HC**

Notes:
A blank entry implies standard Range Rover spec, although this is not stated explicitly in the TVR spec sheets.
1 Figure from 'TVR' customer magazine No. 1 Summer 1995.
2 Figure from 'TVRs Volume 2' by Graham Robson 1993. Thus may refer to earlier specs.
3 Crank assemblies balanced (where shown) to Gas Turbine Spec G 2.5 ISO 1940 or 14g per Kg rotor weight @ 6000 rpm.
4 Camshaft drive (where shown) has vernier adjustable sprockets and duplex racing chain.
5 Ignition timing at 3750 rpm with vacuum advance disconnected. May have changed since model started production to accommodate reducing octane rating of pump petrol.

6 4.5BV maximum rpm, BHP and torque provided by Steve Beresford (see item below).

The most recent change was Rover's introduction of the 'Serpentine' engine in about August 1994. This is very different at the front end of the block, with a self-adjusting belt driving a new alternator, the power steering pump and water pump. The engine also has a new oil pump and distributor drive. On TVRs, the engine also has some new plumbing which makes the offside spark plugs very difficult to get at but reduces the possiblity of inaccessible hoses springing leaks.

A note from Steve Heath:
[The engine has a] different water pump design, different fan belt and pulley arrangement using the polyvee wide single fanbelt. The first serpentine engines delivered to TVR had a slight problem with overheating. Apparently Rover changed the internal water circulation path without telling anyone and there was no bypass to allow circulation while the thermostat was closed. As a result, many TVR and Marcos owners suddenly found immense problems with the reliability. This was picked up early on and an external bypass was fitted. So all serpentine engines out there and currently used are fine.

Internet Mailing List Sep 96
Earlier 400SEs had 4.0 engines derived from the 3528cc block giving 275bhp. Sometime around 1990 the stock engine supplied by Rover became 3.9 litres, forcing a change in the engine. The result was a 4.0 engine giving 268bhp if I remember correctly. As well as the current 240bhp 4.0 litre in the Chimaera, there is an optional 4.0HC engine giving 275bhp. There was also a 4.0 litre with gas flowed heads giving 250bhp for a while.
Steve Powell

Oct 96
A footnote on engine specs. During a telephone conversation with John Eales Engineering at Coventry, JE mentioned that TVR are using the old Rover V8 engine as currently fitted in the Discovery. The Range Rovers use a newer version of the engine with more complicated engine management electronics. To service the new engine Rover supply a new diagnostic tool called Testbook which JE and Range Rover dealers have, but TVR dealers don't.

Internet Mailing List Feb 97
Today's Autocar has a 2 page article about a new 4.5-litre engine option for the Chimaera. It is a Rover derivative, not AJP, and claimed power output is marginally above the old 4.3-litre at 285 bhp (280bhp) and 310 lb/ft (305 lb/ft). It is intended to fill the gap between the current 4.0-litre and 5.0-litre engine choices, rather than replace either.
Steve Powell

Apr 97
The 4.5BV was built in 1992 to special order. Peter Wheeler would not build a 'regular' 5 litre then. He did produce one 5 litre Griffith special for a Cheshire man. It now resides in the south. It was awsome and probably too much unless you had race experience, and was nothing like the current Griff 500. It cost £45,000 in 1992, when the 4.3 was £26,000-29,000.

My own 4.5BV was one of 10-12 built. There was an article in the August 1993 Sprint about it. Others went to Shropshire, Leicester, Jersey, New Zealand and the Middle East. Team Central sold most of them. All are non-cat, put out about 310bhp at the wheels and will rev up to 6250-6500 rpm. Torque is around 328, measured on a dyno. The car is much more responsive than the 4.3 and 500. It feels much quicker, is harder to drive but is also better on a track - the ride is perfectly balanced and so is the engine, chassis and suspension. Dealers love it and so do mechanics. I paid about £2000 for the specification and it's damned good value. It goes out of tune easily and really needs servicing very 4,500 miles with constant oil changes. I run it on 4-star or super unleaded although I believe the latter causes stiction in the valves. My own car has already had a partial rebuild at only 36,000 mls as we found that the crank and bottom end was not really up to it [*is anything up to the way you drive it, Steve*]. The Cossie pistons and lightened flywheel are brilliant. The clutch was blown at 17,000 mls and then at 36,000, the latter **not** my fault [*uh-huh*]. We now use a Griff 500 clutch which is a pussycat compared to the first 4.5 one!

I would never sell this car. I've had 160mph on the speedo in 1996 and it was nowhere near the rev-limiter and there was a cross-wind. Most average TVR drivers would get 0-60 in 5 seconds out of it, and an experienced racer probably

4 seconds. Colin Blower set a production car lap record in it at Mallory in April '93.

There were quite a few 4.3BVs made, as well as the 4.5s.
Steve Beresford

Internet Mailing List Apr 97
TVR 134 X started life as a standard 4.0 Chimp. At the time (a year ago) I felt it was as much as I could handle as I had not driven any performance vehicle for 20 years. Several thousand miles and a couple of track days later and the 'bug' was back for good. Mole Valley said big valve, go for it. The general consensus was 4.3 as the 4.5 may push the other components a tad to far. After 1000 miles running in to say the difference is huge is almost an understatement. Cost almost £5000. Revs build very quickly, 6500 is top end.

Moved house late last year onto Team Central turf. Adrian (devil he is) takes the 'cats' off and fits what he refers to as 'sports suspension' and a roll cage. Now we really have arrived. Lower, firmer, faster and oh that exhaust. TVRs and 'cats' as Mammy said in Gone with the Wind "it just ain't fittin". Oil use is up, a litre every couple of thousand miles. And back tyres won't go much further than 10,000. Team Central have just carried out a service and the 'set up' is spot on .

I tried check the bhp & torque on a rolling road but to no avail. TVR power will not discuss the subject. All I can report is lightening response under acceleration and top speed will be explored on the Hanger Straight in May if its dry.
Bob Langley

Internet Mailing List Apr97
Browsing through some photo's I took at last years Tuscan race at Silverstone I chanced upon a nice shot of a Griff and a Chimp positioned in front of the TVR transporter. I then noticed that the Griff has Cerbera wheels with 5 stud hubs. Now correct me if I'm wrong but the pre 500 cars only had 4 stud hubs and this is definitely not a Griff 500, as the nose is the early type and a "J" reg.

So could this be the elusive Griffith 4.3BW (Big Wheels)...
Richard Branch

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Rev Limits

Internet Mailing List Sep 96
Having had the V8S for 10 days now, I tried a maximum welly today and found that the rev limiter came in at 5600 rpm in second which took me a bit by surprise! Is this normal action of the limiter? I thought 6000+ would be more appropriate. Do other V8s limit at the same point? Is this anything to do with the tank of plain unleaded that I'm using at the moment? Team Central warned me that unleaded would reduce power and the user handbook says that either will do. Everything else seems fine: no pinking, starts easy, idles at 1000 rpm, disturbs the neighbours - despite its cat. Any insights or comments would be appreciated.
Steve Heath

Internet Mailing List Sep 96
There probably isn't an electronic limiter as such - the hydraulic tappets stop opening the valves when maximum revs are reached, preventing the engine from turning any faster. I would say that around 6,000rpm would be normal, although I must confess that the last thing I am looking at on the occasions when I have hit maximum revs is the rev counter!

Without retarding the timing for lower octane fuel, it is unlikely that the engine could acheive maximum revs. In addition pre-ignition (pinking) can cause the plugs to break down at high rpm. Incorrect plug gaps can also have the same effect.

I am sure the handbook says that regular unleaded should be used in an emergency only. If it doesn't it should do. There is a big difference in octane rating between Super (98) and regular unleaded (95) fuel. The cars leave the factory set up to use Super Unleaded because this gives the highest power output, this is usually what TVR buyers are after! Unlike most mass-produced cars which have to work on any grade of fuel because they are sold in many countries, there is no automatic adjustment of the ignition timing. Unless the timing is retarded ordinary Unleaded will cause pre-ignition at large throttle openings, and prolonged pinking can damage the engine. It's not uncommon for Rover V8s to pink even on the correct grade of fuel, so it's almost guaranteed to happen on a lower grade (even if you can't hear it over the din from the exhaust).

There's no reason why you can't adjust the timing if you want to run the car on ordinary unleaded, you will see a loss of power in the order of 3-5% but in a car with a high power to weight ratio it probably won't matter too much. It's a personal choice which everyone will have a different opinion about, but if the savings seem attractive you should have the timing altered ASAP.
Steve Powell

Internet Mailing List Sep 96
After several phone calls to TVR and Team Central, I think I have an official answer. It seems that the later ECUs for the V8S - i.e. those with a cat - are programmed to limit at 5600 rpm and not at 6000+. The reason was that the addition of the cat required different engine mapping which moved the maximum power and torque slightly down the rev curve (the same thing happened with the S3 and S3C). As a result, my car is only doing what it was set up to do and thus has nothing wrong with it . In losing a few hundred revs, it gains a lot more lower down grunt, which for a road car is fine by me.

The problem is nothing to do with the plain unleaded although I will try with Super unleaded with the next tank to see if there is any difference. What is confusing is that the owner's manual indicates that the peak power is at 5750 and that the red line is at 6000/6250. This was probably based on the first no-cat cars that TVR produced. The published test reports for the V8S also support these figures. I also would not be surprised if TVR disabled the limiter on the test car! While on the topic of V8S revs, I found this is the Sprint archives.

The engine management system uses several sensors to determine idle speed (amongst other things) under all conditions. For whatever reason, choice and location of sensors, inability to spend sufficient time and effort for such a relative minute production, the only time the ECU always gets it right is under 'ideal' conditions. The practical solution is quite simple. 1-2 mls after start-up don't do anything other than turn the ignition off for 2 seconds and back on leaving the car in gear with the clutch engaged. This makes the 'little chips' in the ECU forget any data that they had and it thinks that the engine is now at optimum conditions. It works at treat on my V8'S'. It burbles on idle like something massive from Detroit, howls like an F1 above 3,500 rpm, cracks and flames out the back in between upward changes at high revs and masses of wellie, pops and bangs on the overrun, and is quiet and unobtrusive at 85mph (keep your licence) motorway cruise.

Has anyone tried it? Does it work? I tried it on mine and it didn't make any difference - it makes these sounds anyway!

Steve Heath

Internet Mailing List Sep 96
[TVR's explanation of different rev limits] is odd, because that is not the case with cat-equipped Griffiths and Chimaeras. The 4.0 Chimaera shares the same engine as the V8S, and revs to 6,000 rpm according to road tests. My 4.3 Chimaera did too, so it's still a bit mysterious why the V8S is different. Perhaps the cat installation is less efficient due to space limitiations.
Steve Powell

Internet Mailing List Sep 96
I have just received a phone call from TVR who say that they have been doing some further research and there were two ECU chips developed for the 4 litre V8S/Chimaera engine: one that limits at 5600 and another that goes up to 6250. The choice appears to be arbitary i.e. on a car to car basis. This would explain the difference in rev limits that

Steve Powell was talking about. They did not immediately know the differences between the two in terms of peak power and torque and whether it was possible to change the chip to give a higher rev limit, but they have my details and are going to come back to me with this information. They also said that problems with fuel grade appear much lower at about 4-4500 rpm and that both chip versions are capable of running unleaded unmodified but with a greater risk of pinking.

It is possible that the 5600 chip is more tolerant of unleaded fuel and was used on cars destined for export. My car spent its first three years in Guernsey where I suspect that super unleaded is unavailable and this may explain why it was fitted with the 5600 chip. This is only a guess mind you. If this is true, it would also explain why it appears to run OK on regular unleaded.
Steve Heath

Internet Mailing List Sep 96
I think I've worked it out! While digging into my collection of TVR trivia, I've discovered that there were two 4 litre V8 engines in use in the early 90's with different characteristics.

	A	B
Power	240 bhp @ 5750 rpm	240 bhp @ 5250 rpm
Torque	270 lbs/ft @ 4200 rpm	270 lbs/ft @ 4000 rpm
Compression Ratio	10.5:1	9.8:1

Bore, stroke and capacity were the same. Engine A is the one spec'd originally for the V8S. Engine B is the one spec'd for the Chimaera in 1993 and for the Griffith.

I suspect that the two ECUs were for these two slightly different engines, with the 6250 fitted to engine A and the 5600 ECU fitted to engine B. The adjustment in rev limit compliments the change in peak power and torque. If this is the case, then it is unlikely that the ECUs are interchangeable. However, engine B with it's lower compression ratio is possibly less susceptible to pinking. Engine B also had a softer cam than engine A to "improve the lower down torque for road use".

I'm wondering with the changeover to the Chimaera in 1993, that some engine Bs found their way into the last few V8S that they made. This would definitely explain my car. I'll have to wait and see what TVR say.
Steve Heath

Internet Mailing List Sep 96
I've just had it confirmed.

Yes - I have the Chimera spec 4.0 V8 in my V8S. It also matches the Chim wheels!

Yes - It does and should cut at 5600 (peak power is at 5250 rpm).

Yes - It does have more lower down torque than the pre-cat V8S engine (almost full torque at just 2000 rpm)

No - you can't change the ECU (well you can but you have to convert the engine as well!).

Yes - you can get the engine detuned to run on plain unleaded (just as Steve Powell said). Apparently Nigel Mansell SportsCars (as was) used to do this as a matter of course because there is virtually no Super Unleaded in Dorset. Sprint's editor Ralph Dodds ran his after the mod with no problems.
Steve Heath

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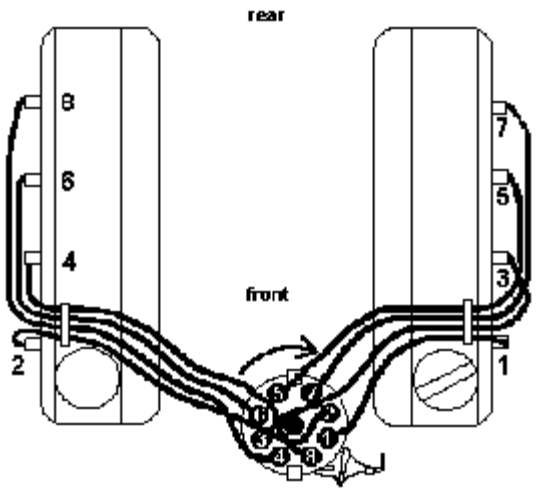
Ignition System

HT Lead Numbers & Firing Order

Jan 97
The firing order is 1 - 8 - 4 - 3 - 6 - 5 - 7 - 2. Looking from the front of the car, cylinders are numbered 1-3-5-7 from front to back on the right bank and 2-4-6-8 from front to back on the left bank. Distributor rotates clockwise.

Early BL workshop manuals for the V8 engine used to advise that leads 5 and 7 should not run next to each other because it can induce misfires. This may not apply with modern HT leads.



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HT Leads and Rough Idling

Nov 97
An area that can cause idling problems is marginally faulty ignition leads. If one cylinder is not firing properly at idling, the lamda sensors will tell the ECU that there is the wrong air/fuel ratio and all the others will be altered as a result. I had exactly this problem and found it only by accident; it didn't appear to affect high power running that much, but when it was fixed the exhaust boom at 2000rpm was significantly reduced (of course if you are only interested in clogging it at traffic lights, try running on seven). Test the resistance of each ignition lead from end to end with a digital multimeter. An open circuit indicates that the lead has a broken internal connection and is flashing over inside. Clumsy servicing can cause this. Also, some examples of lead have excessive resistance and it is worth selecting a reasonably matched set of leads bearing in mind that the resistance varies with length anyway. I would reject anything over 30kohm. The plug caps also have resistance, as do the plugs (plug resistance can also vary enormously). My original leads were 7mm which is obsolete and were replaced with the current 8mm standard after

openning up the slots in all the plastic retaining clips. Take care routing the leads around the engine.
Mike Gill

Nov 98
I have a 4 year old 4.0 Chim. And have also recently cut down on the milage that I have been doing. I have had it for a year and had little to no trouble.

But since I haven't been driving it daily, it started running rough, not quite a misfire but noticebly rough. I thought it might be the HT leads. Unbe-knownst to me the heat shields come as seperate. (D'oh) After looking closely at one of the Heat shields I noticed that It had perished inside. So It wasn't making very good contact to the spark plug. I wanted to replace all of them at once, But at 5£ each I didn't have enough cash at the time, so I only bought two. I replaced the dodgy one and one other. And It did the trick. It is now running sweet as anything.
Daniel Cukier

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Spares

Sep 96
The distributor is a standard Range Rover body with the standard advance curve. HT lead set is also a standard Range Rover part. Plugs are NGK B7ECS: 30-32 thou gap on non-cat cars and 35-40 thou on cat cars. Apparently it is very important to use the approved ignition coil.

Apr 97
My car is a standard Chimaera 4.0 which was built in June 1996 and which I have owned from new. I seem to have had my fair share of minor niggles which have mostly been quickly rectified by Broughtons at Cheltenham. The one disturbing problem was during the 1000 mile service. When changing the plugs, 3 out of 4 NGK plugs on one side sheared off just below the hexagon, leaving the threaded and cylindrical part of the plug stuck in the head. TVR's solution was to send a replacement head and they claimed to have received a faulty batch of NGK plugs. Incidentally, Broughtons have had the same happen on a Rolls Royce which they put down to the use of counterfeit NGK plugs at a previous service (not by them I hasten to add).
Steve Cooper

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A Timing Problem

Oct 96
You may have read some of my postings regarding re-chipping with Superchips for the Griff 500. You may like to include them in the workshop notes. [see Fuel Injection section].

However, we are increasingly desperate to get hold of tuning specs for the car, namely the tuning at idle, and other rpms other than the 28deg @ 3750rpm. I would appreciate if you could help me obtain this information or direct me to a person who could and their contact numbers. I hope you can understand as we are quite far away here in Singapore. Even though TVR Malaysia is nearby, they are not familiar with the 5.0HC engine.
Kenny Heng

Oct 96
I have had a telephone conversation with TVR Power about ignition timing and the answer may surprise you. The distributor used on all TVR engines is a completely standard Range Rover unit. Because it is a standard part, TVR have never felt it necessary to hold information on the exact characteristics of the advance curve, so they can't tell me anything. Any Range Rover dealer should be able to find out for you, if you give them the number on the distributor

body. Apparently the different advance figures given on the engine spec sheets I was sent are purely down to different static advance settings. All current cars (400s and 500s) are being delivered with this set to give 28 degrees at 3750 rpm so the figures in my table [above] are out of date. I think you will get 28 degrees at 3750 by setting the static advance to about 2 or 3 degrees, but a Range Rover dealer should be able to confirm this.

I have, by the way, also spoken to JE Engineering in Coventry. As well as producing performance conversions and big V8s for Range Rovers, JE also do engine development work for the Range Rover factory. They have a policy of not fitting aftermarket chips or modified distributors because of the problems customers have had getting their cars serviced at main dealers once this has been done. They guessed that this was why TVR had stuck with a standard distributor.
Peter Beech

Oct 96
We found the tuning specs from a Land Rover manual and for all their V8 engines, the static timing is 8 deg @ 700rpm. We took the car to a garage here, who specializes in British cars, to have it adjusted. Here's what we found;

1. It was difficult to make any absolute readings because of the pulleys and the position of the marker and its access with the strobe and viewing angle. However, we could make out that it was retarded rather than advanced! We could see the marker on the "AFTER" side of TDC.

2. We proceeded to advance it by rotating the distributor clockwise a fraction at a time until we were sure it was advanced (on "other side" of TDC ie BEFORE). Since we couldn't see any markings for position of distributor, this was done with eye-ball guesstimation and feel.

3. Further fine tuning was done by advancing further in minute increments, then driving the car repeatedly, to the point the engine began to knock. At that point we retarded by rotating anti-clockwise. We have no access to a rolling road, which would otherwise be ideal for this. Un-scientific as this was, it seemed to do the trick for now. The engine idled even better, and was able to pull much better (in terms of absolute acceleration and smoothness) from lower rpms. How much this is due to tuning, and how much attributed to Superchips is unknown. Sometime later, we will re-fit the original TVR chip and make a better comparative assessment. The car nonetheless is running better now than it ever did.

I still find it difficult to comprehend that a Griff 500 engine is still very much stock Land Rover. I would like to get hold of a book which describes the Land Rover V8s well. Do you know of any?

One other interesting observation was that after advancing to the point mentioned above, the engine seem to run about 2 degs cooler at 89 degs. Does advancing ignition timing usually result in lower engine temperatures?
Kenny Heng

Oct 96
Pleased to hear you've had some success. There are two books about Rover V8s that I think are very good, both written by David Hardcastle and published by Haynes (they cost about £15-20 each):

The Rover V8 Engine, 1990, ISBN 0-85429-629-1.
Tuning Rover V8 Engines, 1993, ISBN 0-85429-933-5.

Obviously they are a little out of date as far as the latest versions of the engine are concerned, but interesting reading all the same. Incidentally, neither of the above books have much to say about ignition timing, which rather suggests that engines in various stages of tune are pretty happy with the standard advance curve.

I believe very retarded ignition does cause overheating. If you think about it, the fuel is igniting later than it should and probably still burning when the piston has finished its combustion stroke and is on its way back up the cylinder on the exhaust stroke, thus some of the energy from each combustion is actually trying to make the engine go backwards! Another nasty effect is that the exhaust valves are partly open while the fuel is still burning, which can eventually burn the valves out.

Peter Beech

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Ignition Amplifier Failure

Letter Jul 98
Whilst driving my Griffith 500 in Finland the ignition light came on and the engine cut out completely, luckily I was next to a bus stop and could pull off the road. The problem turned out to be the ignition amplifier located on the external right hand side of the distributor cap which has three leads terminated with spade connectors. Upon inspection these were in a poor state and after replacing with standard spade connectors from work the car started no problem and has never cut out since.
Roy Boykew

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Valve Gear

V8 Tappet Noise

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Tappet Noise

Internet Mailing List Jun 96
My 350 has developed a tappet like noise over the last 100 miles or so. After careful listening and thought I believe the most likely explanation is worn camshaft followers/Ieaking hydraulic follower. It's only done 30,000 miles from new, but as it is also 12 years old and I recall reading articles claiming that TVR 350i cam shafts are prone to wear I'm prepared to believe it. So the question is has anyone had a similar experience? Is the camshaft a standard Rover bit or is it a TVR special? What about the followers etc? And how do I get the cam shaft out do I need to remove the engine, or leave it in situ and remove the rad? Does anyone know where I can get cheap cam shafts etc, or a garage to do it for me?
Crispin Hallam

Internet Mailing List Jun 96
A low mileage car can be more at risk from some elements of wear and tear than one used regularly. The V8 has a relatively low oil pressure of 30-40 psi in any case, but infrequent use can allow the oil to drain from the top of the engine. This accelerates valve gear and tappet wear out of all proportion to the mileage. The problem is made worse if a non-synthetic oil is used, or oil changes have not been carried out to the letter. The same problems will apply to any car with a Rover V8 derived engine, current models included.

As with most things prevention is easier than cure, so I always start the car once a week to circulate the fluids even if I don't drive it. After a week or so there is no increased mechanical noise when the engine first fires, but once when I had a fiat battery and didn't start the car for 3 weeks it was immediately apparent that there was initial oil starvation in the top of the engine - it was noisy for a couple of seconds.

Unless anyone else has good reason to believe otherwise you can be fairly sure that your 350i has a standard Rover engine in 3528cc tune (190-197 bhp depending on whether you believe Rover or TVR). The only differences are some anciliaries eg. the oil pump and remote oil filter. If you are going to do any work yourself I suggest you invest in a Haynes manual for the SSD1 Vitesse which should provide all the technical information that you need. Any parts needed should be easily obtainable from your local Rover dealer, although they may not keep them in stock.

It's quite likely at this low mileage that the wear is restricted to the valve gear and/or tappets, which in a simple ohv engine like the Rover should be reasonably easy and cheap to fix. I suggest you get two professional opinions on the state of the engine - dealer advice is tree even if nothing else Is. Another useful place to go might be your local Land Rover/Range Rover dealer since their mechanics are well acquainted with the engine as fitted to Land Rover/Range Rover/Discovery which is obviously very similar even if it produces less power. They will have seen examples of this engine at a range of mileages so they may be able to assess the origins of any noise immediately. If it is more serious than tappets/valves then the engine will probably have to come out, so keep your fingers crossed.
Steve Powell

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Engine Lubrication

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Oil Pressure & Grade

Internet Mailing List Jun 96
I bought an interesting book at the NEC about the Rover V8 in all its forms, including TVR and other specialist cars. I haven't had time to read it in detail yet, but here are a few points gleaned so far.

Apparently maximum power is achieved from the engine by running with the oil temperature at around 90C. To achieve this the water temperature should be no more than 80C. Most TVRs I have driven operate with a normal water temperature of 90C. I was wondering if anyone has any experience of the engine in other vehicles e.g. Range Rover and if so, what temperature they use.

The book claims that modern lightweight oils are unsuitable for the engine because since it is a relatively low pressure lubrication system at 30-40 psi, the pump can't deliver enough oil with a 5W50 oil. I have always thought that a modern synthetic oil such as Mobil 1 should be OK in any engine, but now I am not so sure, particularly with some tales of high camshaft wear at low mileages recently. The book says that a single grade SAE3O or 40 oil should be used. Also a standard engine e.g. Vitesse or Range Rover uses a pressure relief valve on the pump, limiting pressure to 35 psi. The oil pump drive is not very strong, it is perfectly OK for the standard pump at this pressure but not practical for an uprated pump without modifications

Another problem with the lubrication system is that at high cornering speeds on a race track oil surge occurs, causing oil starvation and wear in parts ofthe engine. To prevent this the Group A SD1s used a complex sump with baffles, compartments and trap doors. They were not allowed to dry sump the engine, which would also solve the problem, because of homologation reasons.

One real weakness in the engine is the distributor drive which wears exponentially with engine speed. Although there isn't too much information about this, it does say that at 5,500 rpm the wear rate is 'alarmingly high' - perhaps enough of a reason to restrict playtime to a limit of 5,000 rpm.

It is common knowledge that Rover had a lot of success with the engine in motorsport, particularly in the SD1 Group A saloon car, and of course the TVR 42OSEAC was so fast it was banned after a singIe season, but did you know that the Rover V8 block was used to win a Formula One world championship for Jack Brabham in the 1960s? If anyone has any knowledge of the technical points with regard to what TVR may have done to alleviate the problems, I would be very interested.
Steve Powell

Sep 96
TVR started by recommending Mobil 1 from new for the Griffith and Chimaera, but changed to using a mineral oil (mobil XHP 10W40) for the first 6000 miles. A lot of owners believe that something like Valvoline Racing 20W50 (developed in the US where hydraulic lifters are more common) is much better for this engine, but I wouldn't like to argue the point with TVR if I had a warranty claim. Respectable oil pressure is about 15lbs at tickover and 30-40lbs at normal running speeds. Oil consumption should, very roughly, be 1000 miles per litre on 400 and 430 engines and

perhaps 500 miles per litre on the 500.

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Oil Consumption

Internet Mailing List Jan 97
Having owned a succession of cars which consumed negligible quantities of oil I am a bit concerned to find my V8S getting through about a litre in 1000 miles. My local dealer says its not excessive for the model but I feel less than reassured. Can anyone confirm this? Strangely, there is no sign of oil smoke from the exhaust or of leaks at the engine. Someone suggested a blocked breather.
Roger Slee

Internet Mailing List Jan 97
My dealer says the same thing, but I think it depends a lot on how hard you drive the car. My Chimaera uses less than half a litre between services, and my old MGB V8 at 100,000 miles was doing about 2000 miles per litre, but most of my driving is pootering along motorways at under 90 mph. I don't trust the dipstick markings on V8s, and if you're putting too much oil in it will burn off very quickly. This normally produces clouds of smoke the first time you put your foot down, but it might be worth checking the dipstick reading after an oil change (when you know the engine has a measured amount of oil in it) just to eliminate this possibility. If the car's running ok I wouldn't worry too much about it. Bear in mind that this lump is 1950s technology and cars in that era did use a lot more oil.
Peter Beech

Internet Mailing List Jan 97
That's not bad really. When you get through a gallon in 100 miles you want to get worried! At your rate it's probably getting burnt when the engine is cold.

Blocked breathers cause the oil to leave via the crankshaft oil seals, it drips out of the front below the pulley, and the back out of the hole in the bellhousing. You can sustain quite a high rate of leakage with no problems. Stick a pin in the little breather hole in the rocker cover on the passenger side from time to time. The breaher on the drivers side unscrews and can be washed out with petrol, same with the hose. Occasionally the tube into the plenum that this hose joins gets blocked (try blowing through it). This is a right pain to clean out, as it has 2 corners. I managed it by blowing a cotton thread through it. To the thread was tied some string, and to the string some rag. Pour in petrol, and pull it back and forth a few times.
Adam

Internet Mailing List Jan 97
My 4.0 Litre Griff gets through about 1 litre per 1000 miles. My local dealer said that it still sounds 'sweet' and not to worry. The car has done 44k miles. The 450 SEACs tend to do about 1 litre per 500 miles or less. Dave Lobb used to spend most of his time filling it up!
Steve Marriott

Internet Mailing List Jan 97
Thanks for the response. I think what you're saying about the kind of driving is a probably a big factor. When I first drove the car up from Bath in December after buying it, at about 80mph to preserve my licence which has too many points on it already, it didn't seem to use much and its only really since I've thrown caution to the winds and been going out on high speed night time blasts with lots of full throttle work round the Edinburgh city bypass that I've noticed big consumption.
Roger Slee

Internet Mailing List Feb 98
Question:
I seem to be getting through large quantities (2 ltr / 400 miles) of Mobil 1, and my oil pressure seems to have dropped to an all-time low even when fully topped up. I know that the Rover engined Tivs use oil, but that much? I get no oil

puddle on the garage floor, and get no clouds of black smoke from the exhausts, so there is no major leak, although the underside has got fresh oil on it. I have been advised that it can be caused by a sticking oil pressure relief valve and failing oil pump base plate, on the underside of the front timing cover. I thought maybe someone could de-code it for me! A company called RPI Engineering supply a modified base plate for £45. Is this what I really need?

The oil pump base plate bolts onto the oil pump. Onto that bolts the remote oil filter coupling. The base plate is secured by about 6 (torx head I think) bolts. Not too hard to change with the engine in the car. The plate can get scored and/or dished and skimming can be done to correct this, cheaper than 45 quid. The pressure relief valve is in the baseplate and can get stuck, this will be apparent after you take it off 'cos it should be free-moving. The symptoms of a sticking valve are adequate pressure when the engine is cold and high revs, but very low pressure when warm on idle.

A far more usual cause of 'low pressure' is that the sender is dodgy and needs calibrating or replacing, because the pumps are high volume and if they are turning at all they give good pressure.

As for the leaks, start by checking the flame trap on the engine breather and the breather hose and inlet to the plenum are all free flowing, gunge here is the first cause of problems. If this is fine, the next likely culprits are the seals - rocker covers and sump gaskets are the easiest to fix, it might just be a case of tightening the fasteners especially around the sump. Finally it could be the front or rear crankshaft oil seal, on the latter the oil drips out of a hole near the clutch slave cylinder.

Let me say this again in case you missed it: the main cause of leaks is the engine breather. If the crankcase gets pressurised, oil will leave by every possible orifice!
Adam Quantrill

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Measuring Oil Temperature with Temperature Strips

Sprint Aug 96
As a follow-up to Steve Powell's comments in June's Sprint regarding engine oil temperatures, I had occasion to replace some hydraulic hose and quite by chance, I discovered . . . ' Think Automotive' at 292 Worton Road, Isleworth, Middlesex TW7 6EL Tel 0181 568 1172 . . . I have purchased from them a temperature strip for £1. I have fixed it to the filter and will be monitoring oil temperature of the V8 in my Chimaera. The self adhesive strips have an irreversible indicator showing the temperature reached. They claim to be accurate to within +/-1C and come in three ranges: 77-127C, 40-71C or 132-182C.
Martin D Payne

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Friction Reducers

Internet Mailing List Sep 96
I was wondering what, if any experience people have with friction reducing products as I was thinking about adding some to the Griff when it comes along. I once added Slick 50 to my old Fiat, which had done about 40000 miles at the time, the effects were: much smoother at idle, no more power, no better economy.

When I last had a session on a rolling road I was chatting to the guy about it as he had just been on a Slick 50 promo day at Snetterton. Basically the main thing they sell it on is that in the unlikely event that your oil should leave the sump the slick 50 will protect your engine for long enough for you to stop, they proved this by running two cars round the track, treating one then emptying the oil from both, needless to say the untreated car didn't last very long whilst the slick 50 one continued to lap.

As they also mentioned that he would get increased performance from the car he did some testing of his own. He dyno

tested an MGB, treated it then dyno tested it again. Although the car felt much smoother and ran cooler there was no increase in power.

So thats one option. The other option is to use a product which is an oil additive rather than a coating agent. I saw a test of a product called XP-1 which consisted of a motor turning a wheel in a bath of oil, then a metal rod with a newton gauge at the end which you pulled down on to apply pressure to the wheel. With standard Mobil 1 it would take say two seconds to stop the wheel, when they added the XP-1 it took over ten. I know they could have been using a footswitch to increase to torque on the motor but I doubt it. However if you lose your oil you also lose you additive, and your engine.
David Donnan

Internet Mailing List Sep 96
I bought some Slick 50 a couple of months ago, but I haven't got round to putting it into the Griff yet because the oil level hasn't dropped at all, never mind enough to put the whole bottle in. I would like to know if anyone knows a good reason why I shouldn't put it in.

The reason I want to use it is slightly different. Since the car is only started at one or two week intervals the oil drains out of the heads and the tappets are noisy for a couple of seconds when the engine fires. All this noise means wear, and so I thought it would be a good idea to use Slick 50 to limit engine wear on startup caused by temporary oil starvation.
Steve Powell

Internet Mailing List Sep 96
I use Molyslip, which (it is claimed) will coat bearing surfaces with a protective compound. My hope is that it will protect my engine against any oil surge. It also seems to have helped cold-starting but this could be psychological. There are two drawbacks to this theory.

Firstly, when I talk to anybody knowledgeable the immediate question is "how much of it gets through the filter?" Apparently the particle size is large enough to get trapped so all you do is clog your filter.

Secondly, good quality oils have additives which do the same job.

Despite this, I reckon it's worth the peace of mind to bung in a couple of quids' worth as insurance, it can't do any harm and might do some good. Incidently, I gather that oil surge is a major engine wrecker (even worse than cold starting or totally losing oil pump drive) because the oil pump forces air into the bearings so blowing out any oil that was clinging there. Having lost one engine this way, I've no intention of losing another.
Peter Humphries

Internet Mailing List Sep 96
As a matter of course I add Slic 50 to my V8, and Molyslip to the gearbox and diff. I haven't got any before and after rolling road figures, though. I clocked up 60k miles on my previous V8 on one application of Slic 50, and it was only slightly smokey at the end, but only when cold. That engine covered 140k in all, and I usually explore the entire rev range quite regularly. The gearbox was still going 40k after a rebuild with Molyslip in it, and was showing no signs of failure, which for me was quite good. The diff on the Tasmin probably needs no protection, but any friction reduction helps I guess. I also use moly grease in the propshaft and driveshaft UJ's. Oil pressure seems a bit lower while the Slic 50 is in the current oil, and is quite temperature dependent, but recovers when you change the oil. I usually use the Green Lucas 20W50 in mine - it's cheap (which means you can afford to change it twice as often) and maintains good pressure even with a high mileage engine. Obviously you shouldn't use Slic 50 in a new engine (<12k) so the piston rings can bed in, nor use Molyslip in an LSD.
Adam Quantrill

Internet Mailing List Sep 96
The merkins call these additives "snake oil" and if you point your browser at `http://www.tfb.com/sdmc/oil.html` there you will find a wealth of info about these products - Slick 50 is specifically mentioned (as one of the ones containing PTFE). The research was compiled from reports and studies by the University of Nevada Desert Research

Center, DuPont Chemical Company, Avco Lycoming (aircraft engine manufacturers), North Dakota State University, Briggs and Stratton (engine manufacturers), the University of Utah Engineering Experiment Station, California State Polytechnic College and the National Aeronautics and Space Administration's Lewis Research Center. - so they probably know what they are talking about. The general summary is that most oil additives make zero difference, some increase the standard oil specification and some actually **reduce** the standard oil's performance. The last line just says use the standard oil.
Andrew Guy

Internet Mailing List Sep 96
OK, I'm convinced after reading this lengthy article in full. If anyone still believes it works after reading the extensive and damning evidence to the contrary, do they want to buy some, or shall I put it in my lawnmower?
Steve Powell

Comment
I tried to find this page on the web in mid October and it wasn't there. The search did, however, locate a fascinating article about carving decoy pigs. Wonderful things, computers.
Peter Beech

Internet Mailing List Sep 96
As I remember it, the manufacturers claim that you run the engine up to temperature, pour in the Slick 50, then keep the engine running for a while. At the end of this process they claim that there will be a layer of PTFE inside your engine which will reduce friction. According to the 'experts' (I believe one of the guys worked for DuPont who trademark PTFE as Teflon) this is impossible. Primarily, it is very difficult to put PTFE onto anything (it is non-stick after all!). PTFE was around for a long time before it appeared in frying pans because no-one could figure out a way of getting it to stick to the metal.

The net effect of this is that (the experts claim) you're just putting a few litres of gunge into your engine which will settle in areas where oil moves slowly. I also seem to remember that the test where a car has its oil drained and then does 50 miles on just the Slick 50 is a con; believe it or not you could drain the oil out of most cars and do 50 miles. Of course, you might have a hot engine at the end of the 50 miles. After looking at both sides of the argument it just didn't seem worth the risk of using Slick 50. As an aside, the oil companies spend a fortune on hitting the correct formulation for engine oil, and despair when people put in a product that could totally screw up their work.
Gary Walsh

Internet Mailing List Oct 96
I think a while ago I reading a car mechanic's type magazine that Slick 50 caused slight pitting on the metal surfaces. I cannot remember much about what else the article said. If the pitting held the Slick 50 then that would be okay I imagine.
Ian Collins

Internet Mailing List Oct 96
I have used molyslip before, in a Nova 1.3SR, and found it gave about 2-3mph extra top speed (and you need every mph!). I also used the gearbox moly, which comes in a giant syringe. It quietened down the box well, which had tended to whine previously. My boss swears that Slick 50 saved his 110,000 Cavalier from seizing recently when a suspected sticking oil pump bypass resulted in no oil pressure (some would say it would have been a mercy killing).

I have recently put into my Wedge a Redex product which is molybdenum disulphide based, but with a "binder" so that it is not lost with the oil, and lasts 50,000 miles. I felt that as there is a good metallurgical reason for the low friction properties of moly., and that moly-grease has been around a long time, this was a better solution than the Teflon in Slick 50. Does anyone agree/disagree? Cost was £36 for enough to do the 3.5 engine, with enough left over for my hack car. I decided to put this in after seeing a fellow East Mids member run the big ends on his Vixen at a trackday, due to oil surge. I had also suffered an oil hose failure (350i has a remote oil filter), and lost a lot of oil, so felt that the additive was a wise insurance.
Neil Porter

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Engine Miscellaneous

See Fuel Injection System for items on injection problems.
See Exhaust for engine bay heat shielding.

Loss of Power at High RPM

Internet Mailing List Feb 97
I have recently bought a 92 Griff . . .

When switching on the side lights it makes the temperature gauge rise from the normal position to the red area, switch them off and it drops back down. If I turn the lights on, use the indicators or brakes the radio switches off momentarily. Maybe this is related.

The other weekend I took the car for a blast down to Devon. I was doing about 4,500rpm in 5th and the car spluttered and wouldn't go any faster as if I'd hit the rev limiter. I quickly resolved the situation by dropping down a gear. On another occasion operating the windows caused the car to splutter in similar manner.

Oh yes, and there's a noise coming from the fuel tank if I use the car shortly after a journey.
Adam Dyte

Internet Mailing List Feb 97
You stated that once when you used the windows the car sputtered, and also that dropping it down a gear made it clear up on another sputtering occasion. These could be voltage related, the electronic ignition may be affected by a low voltage state, you may want to check this by running a volt meter to the power source for the ignition (low volts of course), and monitor this rather than any dash instrument. Revving the car by dropping a gear may have increased you voltage, conversely using the window lowered the voltage. Check your alternator belt.

You also stated that a noise came from the fuel tank, if your venting on your tank is not working well you may not be able to feed the fuel pump adequately. Try running with the fuel tank cap off, and see if the sputtering goes away - this gives you very good venting, however be very careful, as you could imagine you may vent too well - particularly with a full tank in roundabouts!!
Robert Stewart.

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Loss of Power Somewhere Between Blackpool and Surrey

Internet Mailing List Feb 97
On the 14th June 1996 I ordered a new Chimaera 4.0HC from The TVR Centre in Redhill. The car was scheduled for delivery first week of October, it finally arrived two weeks later.

At the time of its first service I was told about the approved TVR factory performance conversions, consisting of brake mods @ £400, gas flowed inlet manifold @ £1500 and a de-cat @ £1600. I was told to expect the power to be on the good side of 300bhp. This was ordered and carried out. After receiving my fully run-in and converted car I was not happy with its performance. Because I had been running-in the vehicle I was not aware of its complete lack of power. I now believe that the engine was bad and lacking in power from day one. My car was taken down to Southern Carburettors in Wimbledon on the 26th November. The power output was measured at only 216bhp, Remember standard is 275bhp and we were looking for just over 300bhp with the fitted mods.

The engine was sent back to TVR Power in Coventry on 17th December 1996, (this is where the engines are built) and on the 3rd January was delivered backed to The TVR Centre. On inspecting the returned engine it was found to have different heads, marked 4.3. There was also swarf found in the engine (a sure sign of shoddy workmanship). When questioning TVR Power, we were told that they had done nothing special to the engine, and that they had only adjusted the cam timing.

The engine was fitted on Wednesday 8th January 1997 at the dealership. The engine was smoking badly and ran awfully. Then The TVR Centre sent my car complete with smoking engine back to TVR Power on Thursday 9th January 1997. The car to everybody's surprise was returned on the Friday 10th , late afternoon. My car seemed to run OK, but to be on the safe side, we decided to run the engine in again for at least 500 miles. After completing just over 600 miles I returned the car back to the dealership on Monday 3rd February 1997. The engine was found to losing coolant and leaking oil very badly.

The car was later taken back down to Southern Carburettors on Tuesday 4th February 1997 and was found to have only 230bhp. When we phoned TVR Power for an explanation, we were told that they had completed some major work to my engine, but were not prepared to say exactly what . . . I will let you know what happens next.
Matthew Rooke

Internet Mailing List Feb 97
. . . We had some postings about cam timings last year, which were to the effect that the timing marks are not always in the right place. Therefore the only way to be sure was to stick it on a rolling road (or dyno). So maybe they did this and the swarf came in somewhere else, remember the heads had been off.
David Donnan

Internet Mailing List Feb 97
The need for dialling-in of cams is due mainly to manufacturing tolerances. The cam is machined from a solid blank, and then has a sprocket bolted onto it, that is then driven by a chain, from another sprocket on a crankshaft, as you can imagine each of these processes builds in a little "margin for error". If the cam is designed to open the valves at, for example, 60 degrees before top dead centre, with the "margin for error" this may be perhaps 55-65 degrees, therefore straying from the optimum 60 degrees. To get back to the optimum accuracy, the sprocket has slots rather than holes machined into it (or off-set dowels) so that they can be minutely adjusted to give the exact (rather than approximate) set-up.

This is standard practice for racing engines and some "hot" road engines (it was done on my Caterham, and most small, high revving engines where owner want the maximum power - not that a V8 is small or high revving).

Hope this helps (if anyone is still awake).
Mike Jennings

Internet Mailing List Feb 97
My car was collected from The TVR Centre last Friday and is currently having the engine rebuilt (apparently to a much higher spec). I am due to get it back either tomorrow or Wednesday.

I hope that this will prove to be the end of the saga. However the factory did express a dislike of customers modifying and especially testing their cars on rolling roads. Even though the conversion parts were organised and supplied by TVR Power (Coventry). I now believe that this will no longer continue.

I would like to point out that the guys (Tim, Bruce and Mike) at the TVR Centre (Redhill) were at all times were very supportive and understanding.

I will write again when I have driven her.
Matthew Rooke

Internet Mailing List Feb 97
I have now had my Chimaera back a few days and managed to cover over 160 miles this weekend.

She is now running sweet, loads of power, how a TVR should be! I haven't had the chance to put her on a rolling road yet, but it must be right now, because she scares me.

Looking forward to the summer!
Matthew Rooke

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Hot Starting

Internet Mailing List Aug 96
. . . If I park up and the engine is at normal operating temp (90 degs), leave the car for 10-15 minutes, return and attempt start-up the battery seems to be very, very sluggish in giving sufficient amps. It's almost as if the battery is flat, and the engine only just manages to fire up. However, start-up from cold gives no problems. I've also had a new battery fitted, and the alternator is charging like a good 'un (13 -14 volts) so they seem not to be the problem.
Dave Peck

Internet Mailing List Aug 96
It's probably because of the higher compression achieved with the engine hot. If you've ever tried starting a car on a starting handle, it's easy to turn over when cold, but when it's hot everything is sealing properly and you have to put your back into it.
Adam Quantrill

Internet Mailing List Aug 96
I had a hot-start problem on a Nova GTE that occurred under exactly the same conditions as you describe, although there was not a problem with turning over the engine, just with getting it to fire. It always started immediately when cold or if I restarted it quickly when hot. It used the usual Bosch Jetronic EFi system and the problem was with the fuel pump relay. I believe there is a safety feature such that when the engine stops the fuel pump does likewise. When starting the relay switches on the pump before the engine gets running. Except that after a few years it didn't do this when hot. It would restart after a short stop (e.g. stalling) presumably because the fuel system was still primed. This is apparently a common fault on Novas/Astras/Cavaliers of that era as there was a faulty batch of relays.
Simon Tonks

Internet Mailing List Aug 96
I have had the very same problem on 2 cars; my 350i and my old Fiat X1/9. I never did get to the bottom of the fault with the Fiat, but the TVR turned out as follows:

Initially I thought the (very) sluggish turning over was a battery problem and I duly replaced it. Over the winter it didn't see much use, and managed to cool down between starts anyway, so the problem seemed to go away. Come this summer it did it again. I had a friend in the car, and he peered under the bonnet whilst I cranked it over at snail pace.

"Stop" he shrieked "its glowing red" and sure enough the braket near the alternator where there is an earth strap rapidly glowed a dull red. Inspection when it had cooled down showed the pivot bolt on the alternator (which also holds the afore-mentioned earth strap) had been welded to its washer! We thought about it for a bit and decided that the starter motor was at fault - the theory was that when hot the coil inculation broke down and the battery attempted to

discharge directly to earth. As the starter motor is mounted about 2 mm from the exhaust down pipe it does actually get very very hot. Starter off and refurbished, back on. No major problems discovered by the motor refurbisher, just slightly tired brushes.

I also cleaned up the earth path in the vicinity of the hinge bolt. I believe with hindsight that the real problem was the poor earth path in the first place: the bolt only glowed red because the resistance across it was relatively high. As it glowed red the resistance increased and less volts were available to crank the starter. It didn't do it from cold possibly because the differential expansion of the hinge bolt and its hole closed up when cold, and the problem only initiated once it was reasonably warm.

Moral: as with all GRP cars, check your wiring and especially check your earth path. A simple check is to run a beefy wire from the negative battery terminal to the casing of your starter (if it earths via the casing that is)
Crispin Hallam

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Performance Tuning

Internet Mailing List Jan 97
I would be interested to hear people's suggestions and views on performance improvements that can be made to the 4.0 Chimeara. I am aware that there is a big-valve upgrade that costs around £5k, but I am equally interested in more modest improvements.
Greg White

Internet Mailing List Jan 97
I know that TVR Power will do the HC conversion for around a grand. That's an extra 35bhp I think - speak to Paul Willis 01203 366177.
Paul

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Chimaera Air Filter

Apr 98
The K&N air filter number RU 2820 fits neatly as a replacement of the sticky foam filter. This particular K&N filter will take up to 260 HP, so don't use it on 4.0 HC or higher.
Tom Mogyorossy

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Exhaust System

up to contents

Spares

Internet Mailing List Apr 97
Trivia for those that enjoy this kind of thing, I was reading a copy of the Elite catalogue (a bit like Ripspeed) and noticed the text in the advert for Magnex exhausts.

"Recognition of Magnex quality is endorsed by Aston Martin and TVR Sports Cars who rely on Magnex expertise for their original equipment exhausts. If you have ever followed one of these machines, you will have heard enough already!"

So there you go - Magnex produce the exhausts for TVR according to the blurb. Another part identified - only a few hundred left!
Andrew Guy

Aug 98
Wedge Automotive can supply replacement exhaust systems for all Griffs and Chimaeras. They are made to order and cost a bit more than the factory ones, but WA claim to use better quality stainless steel and give a lifetime guarantee. Two common problems are cracking at the back of the centre box and gas leaks from the flexible section near the gearbox (Griff 500 only). The latter problem is caused by chaffing within the flexible section itself and since no-one has been able to tell me why the factory put it on the Griff in the first place it seems to be something you just have to live with. Wedge can make a replacement length of pipe including a new flexible section that can be bolted in after cutting out the worn part. The only other solution is to buy a piece of flexy pipe yourself and find someone who knows how to weld stainless steel.

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Heat Damage to GRP

Internet Mailing List Apr 97
. . . I was recently informed that the bodywork [on my K reg 4.3 Griff] immediately opposite both sets of exhaust manifolds was softening due to heat from the manifolds expanding the laminated layers, which as it cooks is the cause of the rather acrid smell (similar to urine) emanating from the footwells. TVR mount heat shielding to these areas, but this obviously degrads with time. TVR have subsequently designed a modification for the area adjoining the driver's footwell (a recess into the footwell increasing the air gap between body and manifold). These may be points worth checking when buying an earlier Griff (or any GRP bodied car for that manner).
Dave Peck

[More on this under 'exhaust fumes' below]

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Heat Shielding

Apr 99
The heat shielding under the offside manifold on my Griff started failing recently. Easy enough to spot if you peer down between the manifold and the inner wing, because the aluminium facing material breaks up and curls back like a bit of old kitchen foil.

I was told it would take three hours labour to get the manifold off and rivet on a new piece of mat, at a cost of around £200. Since the damage wasn't very advanced I decided to try patching it up with some Thermo-Shield tape instead. This is adhesive-backed aluminised glass fibre tape about two inches wide, intended mainly for wrapping fuel lines and hoses, and you can buy it from Agriemach in Copthorne, West Sussex (01342 713743). It was easy to push into position with the manifold still in place, has stayed firmly stuck for a couple of thousand miles now. Total cost £15, and fifteen minutes to fit.

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Exhaust Fumes

Apr 97
It may happen that after a ride, goods which are stored in the boot (jackets etc) will have an exhaust smell, especially if the car is a Non-Cat.

Cause:
When driving the car you will notice that road dirt will hit the back of the car despite the fact that it has to travel quicker than the car. This is a consequence of the (higher than atmospheric) pressure that is created at the back panel at speed. Since the pressure in the boot is normal (atmospheric) any opening in the back of the car will result in fumes entering the boot.

Solution:

- Seal off the space between the rear lights and the body WITHOUT removing the light unit. Use black silicon kit and smoothen it with your finger after dipping it into a soapy solution. Excess material can be removed from the body with a cloth and white spirit (do this quickly as white spirit may affect the paint). On later 500 models the factory is applying the same solution.
- Replace a damaged boot seal. When lifting the roof panel in and out the boot the lower RH corner of the seal may get damaged after a few years. If it is damaged it can easily be replaced (you can buy it per meter and this is not a special TVR part). When replacing make sure that:
- The open ends of the are at the centre of the top side of the boot opening
- Don't cut off too much material; the ends should meet tightly without a gap. Use some silicon kit if required.

Note: A gas leak through the seal does not have to result in a water leak.
Tom Mogyorossy

Internet Mailing List Apr 98
I've had the Griff for a couple of months now and I'm beginning to notice a nasty sulphurous pong when I accelerate hard. I don't think it's me, so it must be the car that's doing it.

I have heard about this on other Griffs. In my case the pong gets in with the hood on and is worse with a window open. I was under the impression that cats only smelled like that when they weren't working properly, eg. before they

warm up, but in my case it's worse when the engine's hot.

Any suggestions, anyone, before I start crawling around underneath and going off to the MOT station for an emission test?
Peter Beech

Internet Mailing List Apr 98
I'm probably not the only one who suffers this but it is rather worrying. If I am driving (especially noticeable if I am 'giving it the large one') with the roof up and the window down, the cabin fills with exhaust fumes and almost becomes unbearable at times. I am assuming that it is something to do with the airflow around the car sucking the exhaust fumes back into the car (down the side of the car, not in from the boot it seems as I don't have this problem with the window wound up). I don't have this problem when the roof is down, but that is probably because it all gets blown away again. Any thoughts/comments?
Nick White

Internet Mailing List Apr 98
I own a 92 Griff (pre-cat) and it too stinks of exhaust. The fumes seem to come into the car from the heating system but coats left in the boot do pick up the smell as well. On some days it's bad enough to make your eyes water and need to drive with the window down.
Doug Antill

Internet Mailing List Apr 98
Seems there are at least three of us with pongy Griffs but no-one with any answers.

I've shoved my head in the boot after a dose of sulphurous fumes and there's no smell in there, so I think that puts paid to one theory. Ergo it's either coming in through the vent system (which would be odd because bugger all else comes through it), or as Nick suggested it's being sucked forwards from outside and coming in through the window.

My bet goes on the latter. It's just possible that lengthening the tailpipes might get them out of the turbulence, so I'm thinking of slotting a couple of bean cans over them to see what happens. Expect report in due course, possibly re ballistic properties of bean cans.
Peter Beech

Internet Mailing List Apr 98
Make that four, because I also have a problem but at least I do know what the cause is. On pre-cat Griffiths, it seems that there can be insufficient space between the exhaust manifolds and the inner wings. Most cars seem to be unaffected by this but in some cars, once the engine is really hot, this can cause the inner wings to toast behind the heat shielding, generating a smell not unlike burning paint. It isn't a serious problem but I am going to have it sorted in the next few weeks. The manifolds have to come off anyway to replace the gaskets so it's an ideal time. I have heard that the factory has paid for a modification to the inner wings on some pre-cat cars, even as recently as last year, so I will be pursuing this initially. It isn't trivial because it requires the inner wings to be cut and a new curved piece of GRP inserted. The other option is to add some extra heat shielding but according to SHG this is not usually very successful.
Steve Powell

Internet Mailing List Apr 98
My non-smelly Griffith has some chrome "thingies" (sort of Carlos Fandango exhaust pipe extension bits - hi-tech baked bean tins) which may be causing it not to smell, but as previously mentioned I'm fairly certain that the air get sucked out - although thinking about it, when it's raining, rain gets sucked in . . .
Mike "not quite so sure any more" Jennings

Internet Mailing List Apr 98
Having claimed that my Griffith was not Nasally Challenged, I now have to admit defeat. After a run back from London last night with the hood up but windows open, my girlfriend felt sick and I had a headache, added to which my clothes smelt of exhaust fumes. This has not happened when just pottering about, nor did it happen on the way up

to London with the hood down. Did anyone get any further with trying to sort out this problem?
Mike Jennings

Internet Mailing List Jun 98
Have just been speaking to Brian at Fernhurst about this problem, he says he has a surefire solution.
The exhaust fumes, he says, are sucked up through the boot and then penetrate the cabin through the rear bulkhead.....(one of the trains of thought previously discussed on this list). Brian said that to cure this is to fill the void under/around the boot/bulkhead/inner wheel arch (not sure if it was all of these or just one) with a type of expanding foam, which, he says, definately stop the fumes getting into the cabin, quote " yes, have done quite a few and it has cured every one"

Apparently relatively cheap and takes about 30 mins to do. My Griff is booked into Fernhurst next weekend, so will report back when it's done.
Nick White

Internet Mailing List Jun 98
As one of the sufferers of the "Smelly Griff Syndrome", with my additional "Hot Legs" situation, I thought that a quick update might help some of the fellow sufferers.

The initial problems were that my girlfriend would often end up with a headache, and nauseous (not completely due to my conversation / driving), I would get a headache (occasionally) plus smell of exhaust fumes also. Additionally my legs would get hotter than a Vindaloo on a run.

The diagnosis was the that footwell sides (inner wings) had overheated and delaminated, and that the exhaust manifold had a "blow". So TVR Services (Hurst) started by chopping out the offending engine bay areas and "glassing in" some repairs. They also replaced the heat shields, and extended the area that they cover. They also repaired one of the manifolds, but gave me the sad news that they could not get to the offending split in the other (right in the middle of the nest of four pipes) - it would need replacing.

This first visit to Hurst Hospital cost me a fair bit, and made a good improvement to the heat level, but I couldn't tell if the exhaust smell had disappeared as it had been replaced by a fibre-glass smell.

My car went back again on Tuesday, and has had the new manifold fitted, plus Steve realised that my car was getting much hotter than it should have in the cockpit. Steve found that there was a gap, by the driver's side headlight pod (in the under-bonner area), that was letting hot air (and possibly exhaust fumes - leaking from the manifold) into the cabin. This gap led into the inner-wing duct that on the 500's is used for the cold-air blower. Steve glued a piece of leather over this hole to isolate this possible source of fumes / heat.

The end result is a massive improvement. The Hot Leg situation has now disappeared due to the leather "patch" - making driving with the hood up MUCH better. I haven't noticed the fumes recently - but the real test of that is whether or not my girlfriend is sick or not.

I'm off to Fernhurst tomorrow for their foam filling approach, and then my Griffith should be the most nasal-friendly car for miles aound. Any other early Griffith owners - I would check for that gap by the headlamp pod - it really has made a world of difference.
Mike Jennings

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Welding Manifolds

Internet Mailing List Oct 96
During a recent engine inspection at my local TVR dealers it was discovered that both exhaust manifolds on my Griffith 4.3 BV had developed cracks. The manifolds are cracked in the same place, I'm not sure how the cylinders are

numbered but the cracks are located close to the rear ports nearest the bulkhead. Has anybody had similar experiences, or know the best course of action. The options open to me are:

- remove existing manifolds and TIG weld the offending cracks and then plate the area (the cheapest option, but how long will the weld hold secure?).
- buy stock TVR replacement manifolds at 300 pounds each.
- upgrade to Stainless Steel at 600 pounds each, although I've read in Sprint that these are not supposed to crack, the TVR mechanic informed that in his experience SS manifolds are equally prone to cracking.

Dave Peck

Internet Mailing List Oct 96
Yes I've had manifold problems ranging from rusting, holes appearing and eventual replacement (350i). MIG/TIG welding works very well and the repair will outlast the manifold. I looked into stainless for mine, and I think it would be slightly more prone to cracking. The expense didn't justify the benefits, and that was at 300 quid each. You'd be better off Nickel plating mild steel ones.
Anon

Internet Mailing List Nov 96
Snap, my 4.3BV has just returned from servicing with the same problem. I intend getting my local garage to have a go at welding it . . . From what I've read this is a common occurrence in 4.3 Griffs, it's obviously a design fault, perhaps we ought to ask TVR to come clean and pay for the repairs!!
Nic Collins

Apr 97
Manifolds can develop hairline cracks, usually after 3 years on Griffiths. Weld them until you can afford a new exhaust. Welds should stay secure for three to six months.
Steve Beresford

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Manifold Gasket Leaks

Internet Mailing List Nov 96

Dave Donnan wrote:
"Sometimes when I lift of the throttle in the griff, I can hear a very faint ticking noise, I did wonder if this could be the tappets, but I have been told that it could be the injectors, any ideas."

This may not be of any help but I have the opposite problem. I hear this ticking noise (which is not pinking) when I open the throttle, and goes away when I lift off. My dealer says it is apparently caused by a leak in the exhaust manifold, which has yet been found on my car and corrected.
Kenny Heng

Internet Mailing List Nov 96
I recently had the same problem as Kenny, the problem being a split gasket manifold. Although the part was pretty cheap, the microscopic grooves caused by the escaping gases meant it had to go in for a second time so that a wierd and wonderful machine (allegedly) could smooth out the metal. That cost more than the part, so I'd recommend getting it fixed sooner rather than later. The gasket is between engine and manifold. If your problem turns out to be the same, it's very easy to spot and fix. The downside is the engine sounds even better with a hole in it.
Rick Eirew

Aug 98
TVR Centre Redhill tell me that the best way to get the manifold off is simply to undo the band clamp that holds the

manifold onto the cat, undo the top manifold bolts then reach down from above and undo the lower ones with a short open-ended spanner. Once they are a little bit loose you should be able to rock the manifold up and down to get a bit more of a turn on the spanner. You don't need to remove anything else. It's very fiddly on the passenger side and you'll almost certainly lose bits of finger in the process, but going in from under the car is even more difficult.

From other sources I gather that recurring gasket leaks can be caused by a manifold that has been made with one or more of the flanges slightly out of line so that they will never seat square against the head. The only solution is the get them machined to the correct angle. There has been one report of an owner finding his manifolds didn't match the port sizes on the head, so it's never a good idea to take anything for granted!

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Removing the cat

Internet Mailing List Nov 96
Having spent several long phone conversations with TVR Power and Team Central discussing a strategy for more BHP including removing the cat.. Here are my conclusions.

1. As Steve Powell said, it's illegal and invalidates the warranty. In Milton Keynes, there have been reports of "smell police" pulling over cars for on the spot emission checks, so removing the cat is a bit of risk for me.

2. Some of the cat fittings are cartridges that are dropped into the big wide pipes from the manifold and it's easy to remove the canister. The later versions had the cannister built into the pipework so removal requires that piece of the manifold to be replaced. Team Central reckoned it would cost about £100 to remove if it was the cannister type and "open to negotiation" for the other type.

3. With the cat removed, you should be able to use 4 star but this will deposit lead in the engine. When the cat is replaced, this lead *could* - I stress could - contaminate the cat and destroy it, making it useless. The possible result would be a failed MOT and a big bill for a new one. Needless to say, I've decided to keep my V8S kosher and keep the cat.

4. Changing the ECU chip etc also invalidates any warrenty and any insurance unless they agree to the mod in writing. It may result in poor performance through mismatching the maps to the engine. The ECUs are programmed/configured for different engines and therefore it is a bit of a lottery if you simply change the chip. Most mods have to be done effectively on a rolling road to ensure that they give the best results.

In terms of changing the cat, I'm not going to touch it. I am planning to get Team Central/TVR Power to enlarge/gas flow the plenum and reprogram the ECU at the next service in Feb'97 when it comes out of winter hibernation. The plenum mods are necessary to maintain the correct mixture to meet the emmission levels but get more fuel into the cylinders to give the additional power. They reckon I'll get 4.0 HC power from my straight 4.0 e.g. 275-280 BHP and 310lb torque and a few hundred extra revs (changes the limit from 5600 to 6000/6250) - so it may not sound as good/loud as a pre-cat but it'll go much quicker! They will warranty the engine and the insurance company (Pearts) won't change my premium - anymore power and it would be a 25-50% loading!
Steve Heath

Internet Mailing List May 97
Technically the cat regulations apply to all cars first registered after 1st January 1993, but this would have been impractical to achieve, because with most manufacturers some cars being registered after that date would have been manufactured some time previously and sat in a field, or on a boat. Such strict legislation would have meant that either manufacturers would have been forced to adopt the future legislation some months in advance, or else be faced with unregistered cars at dealers which couldn't be legally sold. For practical reasons therefore, the legislation allowed for a percentage of a manufacturers cars to be registered after that date without cats. What percentage, for how long, I can't remember. Despite this exception, if any car registered after 1st January 1993 had cats when first registered then they must remain on the vehicle in working order.

I discovered all this when working the club's stand at the NEC last year when I met someone who works in this field and knows the legislation inside out. This led me to think that maybe, since my Chimaera was registered in May '93, I could take the cats off and tell MOT inspectors that it never had one. Of course *I* knew that all Chimaeras have cats, but did the MOT testers? Immediately I phoned the factory to be told that the work involved was very expensive and not to be undertaken lightly, and they wouldn't recommend it. I gave up the idea and bought a pre-cat Griffith instead shortly afterwards. I agree with Steve Heath, it's an expensive thing to do when you are making the car illegal and it can only cause more problems that it solves in the long run. Besides which, if you lot keep your cats on, it's very good for the resale value of my Griff.

I was told at Blackpool that JS Cars in Jersey exploit some sort of legal loophole and if you buy a new Griffith 500 from them, and pay them an extra £500, you can have a completely legal non-cat Griffith 500. Not sure how this works, but I suspect it goes something like: cats not required by law in Jersey, used cars can be registered in any EC country if they were legal when first registered in another EC country (Jersey is technically part of the UK), but only if the owner has already owned the car for 6 months. So I reckon your £500 probably covers storing the brand new beast for 6 months, at which point you can rumble with a clear conscience onto the ferry, and look forward to years of jealous looks from other Griffith 500 owners at club events.
Steve Powell

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Exhaust Wrapping

Jan 98
Before you wrap your exhaust you should consider the following. Some time ago I was experimenting with heat wrap on our development car. We took a brand new mild steel manifold and heat wrapped it. We did this to try to reduce the under bonnet temperature. Although the heat was reduced it unfortunately did not make that much difference. You will experience a increase in radiated heat at the point the heat wrap stops, so be aware of this. However the massive drawback or heat wrap on a road car was that the brand new manifold was totally shot through with rust after only 8 months. The material will contain moisture next to the manifold in a very hot humid atmosphere, throw in a bit of road salt and very soon all you have is rusty fragments. If you intend to use heat wrap only use it on a stainless manifold.
Richard Thorpe

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Cheating

Internet Mailing List Jan 98
If your exhaust is failing noise test but just by 1db or so, try the following;-

Take 2-3 baked bean cans, peel off paper and take both ends off with a can opener. Now use tin snips to cut down one edge of the can, and open it out onto a block of wood. Drill lots of small holes (5mm ish) in the can across its whole area. Now take two jubilee clips for each can, and attach to the exhaust pipes under the car, keeping the cans as far apart from each other as possible. Ensure the jubilee clips are attached very tightly indeed. This has resulted in approx 1-2db noise reduction on my rally cars, enabling me to compete where I would otherwise have failed noise check.

Another extreme method is to take some loosely compacted wire wool, and jam it up the exhaust pipe with a complex bit of coat hanger engineering! Done properly, the wool will stay up there long enough to pass noise test at 5000 rpm, but will almost certainly catapult through the trees at SS1 start line....
Peter Nixon

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Overheating

1997 Overheating Survey Results

July 97
This is based on a questionnaire which I sent to Sprint in April. The accompanying letter said that the second issue of the Workshop Notes was available, and anyone who returned the questionnaire could have a copy. The main reason for doing this was that I'd been wondering how to encourage people who were asking for the notes to contribute something themselves. Offers to 'send something in' generally didn't materialise and all this one-way traffic wasn't quite what I had in mind when I started. I picked overheating as a topic because there had been a long exchange of emails on the internet about it, a few of which are included below. I am extremely grateful to those who did send the questionnaire in, a number of whom didn't want the Workshop Notes and were simply being helpful.

Profile of the Survey Sample

Sample size: 31, of which:
Griffiths: 17
Chimaeras: 14
400s: 12
4.3s: 11 (including two BVs and one 1994 4.3 HC)
500s: 8 (all 1994 or later)

Average mileage: 20,000
Average time with current owner: 18 months
Average mileage with current owner: 11,000
Bought new: 12
Fitted with cats: 21 (one with cat removed)
Fitted with aircon: 3 (one 500, one 4.3 and one 400)

All years were represented, but biased towards the older ones (ten 1992 cars down to three 1996 cars). I had intended to speak to a number of dealers, but after the first one confirmed most of the survey results I decided to stop at that point. The dealer's comments are included below.

Definition and Incidence of Overheating

People's idea of what was a normal running temperature for their car varied between 75 degrees and 95 degrees, the average being 85. The dealer I spoke to told me that they check temperatures off the ECU sensor and this should normally indicate 90 degrees, but that the temperature gauge (with a differently sited sensor) may be showing between 80 and 90.

I also asked what the temperature gauge was saying when owners felt their car was overheating. The answer varied between 95 degrees and 'off the dial', but the average was 100. The dealer's opinion was that the fans should cut in at 100 degrees on the ECU sensor. The fan otter switch (again in a different location) should cut the fans in at 98 degrees

and switch them off again when the temperature drops to 93 degrees, but this may not be exactly what the temperature gauge is showing.

Twenty four of the owners' cars had overheated at some time, the other seven hadn't. Fourteen of the 'overheaters' didn't report any signs of the car being too hot apart from the reading on the temperature gauge. The dealer I spoke to services about 300 cars on a regular basis, and he guessed that up to a quarter of them had reported an overheating problem at some time. This really was a guess and needs to be interpreted in the light of other comments below.

With a couple of exceptions, overheating in the owner survey had been confined to hard driving or heavy traffic in hot or mild weather. The dealer reported a similar experience, with overheating confined mostly to town driving.

Classification of Causes
Thirty one faults were reported on the twenty four cars that had overheated. These are broken down by type below.

Maintenance Problems

I've used this term to include anything that wouldn't have happened if the car had been properly maintained. No offence intended to the owners here. Unless you've been told how often to check the coolant level and where to top it up to, how should you know? And you can't be held responsible for what the previous owner got up to.

There were thirteen faults of this type (40% of the total).

- Five incidents of overheating caused by the wrong pattern thermostat or fan otter switch.

- Eight incidents of low coolant level or airlocks.

The dealer believed that at least 80% of overheating problems fell into this category, the rest being spread fairly evenly over the other categories below.

Tips
- Check the coolant level every week (yes, really - if something's on the blink the sooner you find out the better).

- At the same time, look around for visible signs of leaks, particularly at hose junctions, and check for frayed or perished hoses and loose or pinched hose clips.

- Don't top up with plain water. The antifreeze in an aluminium engine prevents corrosion and things can silt up pretty quickly if you let the concentration drop.

- Get the system pressure tested if you suspect there is a leak but can't find it.

- If the heater isn't working well, one or more hoses feel cool or soft when the engine's warm, or you hear a gurgling/wooshing in the passenger footwell, you may have an airlock in the system. Bleeding it is not difficult, but be **very** careful when putting the brass plug back in the rad as it's easy to cross the thread and it's a real pain to repair.

Minor Component Failures

This refers to things that don't have a very long service life, like drive belts and hoses, or are easy to repair or replace.

Owners reported nine faults of this type (30% of total).

- One pressure cap leak.

- Five cases of faulty fan otter switches (mostly on 4.3s and/or cars over three years old)

- Three cases of faulty thermostats.

This doesn't quite agree with the dealer's experience, who said that faulty thermostats were extremely rare.

Tips
- The correct thermostat is an 82 degree unit with a large orifice. This is not a standard Range Rover part. The opening temperature should be stamped on the thermostat. You can test it in a saucepan with a thermometer to see when/whether it actually opens.

- If the fans don't cut in above about 90 degrees, try the following:

- Sound the horn. If it doesn't work this may mean the fan fuse has blown, although not all cars have the fan and horn on the same fuse.

- Take the wires off the fan switch at the bottom of the swirl pot and connect the terminals together. If the fans don't start when you turn the ignition on, there is a fault in the fan fuse, the relay (which is on the main panel in the passenger footwell) or the switch itself.

- Wiring faults are very unlikely unless someone has been messing about with things.

- The fan (otter) switch is easy to replace but make sure you get the correct 98/93 degree unit and don't try to do it when the engine's hot!

Major Component Failures

This means things that shouldn't need to be replaced or repaired until the engine needs a major overhaul. Only one fault of this type was reported - a leaking radiator.

Tips
- A shrieking drive belt may only mean it needs adjusting, but it may also mean the pump bearings are on their way out.

- Radiator leaks are not always detectable in a pressure test, but you should see the signs if you take the grille off as coolant collects there.

- The radiator, by the way, is a standard range Rover part with a modifed bottom hose elbow.

Design Faults and Undiagnosed Faults

This means the car still overheats when everything is as specified by the factory, adjusted properly and in good repair. Owners reported five cases of fan fuses blowing repeatedly (four on 1994/5 500s).

- One of these was solved by the owner fitting a fuse for each fan.

- One was solved with factory mod to stagger the two fans starting up.

- The other three cars were still overheating.

One car's overheating was solved by fitting a bigger radiator.

One was solved with a manual fan override switch.

Tips
- The cooling system has been modified in small ways more or less continuously since the Griffith was launched in 1992. By mid 1994 when the serpentine engine came in, there was more than enough 'margin' to cope with the worst UK driving conditions. Attention since then has focussed mainly on tropicalising the cars for the far east market, where

sitting in a traffic jam in mid 30s temperatures with the aircon running full blast places much greater demands on the system. Changes made for the Malaysian cars have been incorporated in the UK models as well.

- If your fan fuses keep blowing, ask a dealer what can be done about it. More powerful fans (with 40 amp slow-blow fuses) were fitted around late 1994 to early 1995, and twin fuses in 1996. It's possible your car has acquired one without the other.

- 1997 cars have a shroud around the fan (otter) switch to protect it from exhaust heat. Otter switches aren't that reliable at the best of times, and maybe this would solve the problems owners have reported here.

- The factory did offer a twin relay wiring harness for the fans a year or so ago, which cut the fans in one after the other to reduce the load on the fuses. Later modifications may have made this unnecessary, but I would imagine it is still available.

Conclusions

According to the club, Sprint is read by close to 1,000 owners of Chimaeras and Griffiths. Although the questionnaire was linked to an offer of the Workshop Notes, I've already mentioned that a number of owners who didn't want the notes sent the form in anyway. I'm pretty sure that anyone with a serious overheating problem would have taken the opportunity to tell me about it, whether they wanted the notes or not. On this basis I think it is reasonable to conclude that an extremely small proportion of the 1,000 owners who read Sprint have ever experienced overheating problems.

This is certainly inconsistent with the amount of discussion about overheating that takes place within the internet mailing list, and with the perception a lot of potential buyers seem to have about problems they might expect with their first TVR. I can only assume that we are dealing with a prejudice carried over from earlier TVR models. Prejudice being what it is, people tend to look for things that support what they believe and ignore things that don't.

From the responses received, I can find very little evidence that a well maintained car with the correct parts fitted should suffer from overheating. If it does, it is most likely to be the sort of problem that would be picked up during a routine service.

There are some pointers towards 4.3s being a little more prone to overheating, but this may be as much to do with their age as anything else. Common sense suggests that the first versions of any car might not be as well sorted as later ones, and that the more highly tuned versions might be a bit less forgiving in heavy traffic or if their cooling system isn't in top-notch condition. The survey doesn't provide any information on the effects of air conditioning, but it seems obvious to me that the stess imposed by this is not going to be kind to a cooling system that's a bit below par.

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Overheating Generally

Internet Mailing List Oct 96
We seem to be getting another round of questions about overheating, so I thought I'd pitch in with some observations. I don't have a problem with my Chim, but my MGB V8 was a real pig in this respect and no sooner was one cause identified than another one developed.

1. Is the car really overheating, or just displaying a high temperature on the gauge? It's worth getting a garage to check this, because I've had a faulty gauge in the past and got all upset about nothing. We'll assume that the gauge is accurate.

2. If the fans are not cutting in until the gauge is into the red, but the temperature does go down once they are running, this suggests that the otter switch is operating at too high a temperature. There could be two reasons for this:

a. The switch is faulty. In this case replace it with one of the original pattern.

b. The switch is operating within spec but the spec. is no longer appropriate. On the Chimaera the otter switch is in the swirl pot (millimeters from the exhaust) while the gauge sensor is in the block. Something may have happened to change the relationship between the temperature at these two locations, so that the poor old otter switch is doing its job properly but it no longer has the desired effect. There are some thoughts on this possibility below. In this case you will need an otter switch with a different temperature range.

3. If the fans are cutting in when they should but they don't pull the temperature down, then you have a cooling system which can't dissipate the heat being produced by the engine. Getting the fans to cut in at a lower temperature isn't going to cure this. Again, it could be because the system is malfunctioning, or because a different system is needed for current conditions.

a. The cooling system could be under-performing for a variety of reasons, all of which should be fairly easy for a garage to diagnose and remedy. The most obvious ones are:

i. Tired fan motors not shifting enough air. The motors themselves may be worn out, or there could be poor electrical connections. Try a direct connection to the fans from the battery and see if they run faster. See if someone else's fans run faster than yours.

ii. Leaves or similar obstructing the air flow through the radiator.

iv. Gunge in the radiator core, cylinder block or hoses. Get it flushed. If still unsure, get the radiator dismantled, as blocked rads are very common.

iii. Minor leaks (hose clips, radiator cap, radiator itself) causing a drop in coolant pressure. This allows the water to boil and froth can't carry the heat away properly. Might not be enough to produce noticeable coolant loss. Get it pressure tested.

iv. Clapped out water pump or drive belt slipping. Listen for squeals and rumbles.

v. Thermostat stuck closed. Shouldn't be possible, but test it in pan of water.

vi. Too little antifreeze (lowers the boiling point again). Get it checked.

vii. Air locks in the cooling system. Bleed it.

b. Different conditions could have occured because:

i. Modern fuels produce more heat. A lot of classic cars have overheating problems for this reason. The result might be general overheating, or localised hot-spots in the cooling system (eg. near the heads and exhausts) which the otter-switch can't pick up.

ii. Driving conditions have changed. New cars (even TVRs) are designed with long traffic jams in mind, but earlier models might not have been.

iii. The engine is not running properly (timing wrong, weak mixture, head gasket leak, etc., etc.). Serves you right.

There is no point in fitting non-standard components in an attempt to mask a fault in the cooling system, so the first step is to check the items in 3a. If (and only if) the system is performing as is was designed to, you may have to consider modifying it. The easiest mod is to replace the coolant with the pre-mixed stuff that racers sometimes use, as this will conduct more heat to the radiator. The next easiest is to get more airflow through the radiator, by moving obstructions or by fitting bigger fans. Bear in mind that the airways to a radiator are sometimes designed with constrictions to speed up the airflow, and removing these might make things worse. The third option is to fit a high capacity radiator. Once the cooling system is capable of dissipating the heat under all conditions, you can start fiddling with thermostats and otter switches to RESTRICT the operation of the system.
Peter Beech

Internet Mailing List Oct 96
I am getting paranoid about how hot my S3 apparently gets in traffic before the cooling fan cuts in. It doesn't get above the white line and never into the red, but I'm sure I read an article some time ago saying the Ford V6's prefer running cool. Also the engine feels a bit "woofly" when it is this hot. Does anyone know if there is a different fan switch that I can use? Reading the Chimaera/Griffith notes that Peter Beech produced it is apparently called an Otter switch and alternatives are available for the V8 engine - is it the same switch on the S3?
Mike Jennings

Internet Mailing List Apr 97
Is the otter switch next to the weasel filter or the stoat flange?
Andrew Cliffe

Internet Mailing List Oct 96
It sounds that your S3 is running fine if it stays at the 90 degree temperature level and does not move into the red. Both the S1 and S2, I had stayed at 90 degrees religiously with the fan coming in and out every few minutes.

I fitted an override switch to my S1 as an insurance policy and found that switching the fan in earlier did not make that much difference. The reason was that the temperature that the dial measures is that of the water circulating in the block and not the radiator. The thermostat essentially controls this temperature and only allows water through the radiator at about 85 degrees (this is off the top of my head). Having the fan switch in earlier will reduce the water temperature in the rad but not necessarily in the engine block. The cooler rad will help when the thermostat opens but the benefit may not be worth it. If you want to run your engine cooler, you will need to change the switch and the engine thermostat as well.

The best solution is to use one of the variable thermocouple type stats. Lotus used them on the Elan and I got one several years ago for about £25. These allow you to change the on off temperature and are pretty reliable. The cheapest option is to put an override switch and light inside the car so that you can see when the fan has switched in and switch it on at any point. By using piggyback connectors, the original wiring can be left as it is. The Sprint article I wrote gave the details. You can then play at being a human thermostat and work out if you need to change the stat.

By the way, you don't have to change the thermal switch. You could wire a second in parallel - the first one to reach the opening temp will start the fan. If this then fails the second one will kick in at a higher temperature. And if you have the switch as well then you can override everything. Just because I'm not paranoid doesn't mean they aren't out to get me . . .
Steve Heath

Internet Mailing List Oct 96
Thanks for your thorough and very helpful response! I agree that my cooling system seems to be working to spec., it's just that horrible feeling in the back of your mind when you glance down and see the temperature gauge is higher than you thought. I fitted a supplementary fan switch to my Caterham as this used to run slightly hot (Caterham subsequently doubled the depth of the rad, so I think they were admitting that it was marginal). I also found that a shroud between the radiator and the nosecone (rather than big gaps) directed the flow of air through rather than around the rad. I guess the above is a bit of a divergence from the TVR, but perhaps it explains my concerns - I would rather have a "safety margin". Also, are there lower temp thermostats available, and who from?
Mike Jennings

Internet Mailing List Oct 96
As for changing the stat, a good motor factor should have a selection . . . but I am really not sure that it is worth considering to give you the safety margin . . . The reason is that the thermostat will already be fully open and therefore the running temperature will be set by the thermal equilibrium - as Peter Beech said in his contribution - and will continue to be 90 degrees. The only real way of gaining some benefit would be to increase the efficiency of the radiator by increasing its size, cleaning it and pushing more air through it - i.e. fit a second and/or bigger fan. Kenlowe do make bigger and faster fans by the way.

The most important aspect is to ensure that the whole system is in A1 condition and fit the override switch and fan light to give the safety margin and the feedback that the fan is actually working. If the temp starts to go up over 90 degrees and the fan has not come on, then you have a problem and a few minutes to do something about it . . .By the way, the V8S runs cooler at about 70-80 degrees but still goes up to 90 degrees when stationary in traffic despite having bigger air intakes in the bonnet, a bigger radiator, a bigger fan and pints more coolant
Steve Heath

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Griffs in Hot Countries

Oct 96
This is an exchange between Kenny Heng in Singapore and Ken Dobson in Cyprus about their 1994 Griff 500s. Ken Dobson's comments are in italics.

Glad to hear from you and its nice to be able to share information with someone with the identical car (at least as far as manufacturer and model are concerned!). I'm also copying this to Peter as it does contain information that will be helpful to update the Workshop Notes. My experiences here are based on two cars in Singapore both 1994 Griff 500s and therefore pre-serpentine, and also some from TVR Malaysia's (TVRM) development of the Chimaera, including a Chim 500HC. You should know that the owners of all 3 cars are the best of friends (still!) and we therefore share a lot of information.

Cyprus shares a similarly hot climate to Singapore i.e. up to 40 deg.C in summer & down to 10 deg.C in winter (except this year; actually down to 0 for first time in about 40 years).

We officially have 28 deg C all year round but the fluctuations within a day can be from 16 to 38 deg C.

My main ongoing problem is overheating though I should explain that it rarely expels water from the relief valve but there is clearly too much heat to be healthy for the car as the temp. gauges (yes, I fitted a second opinion one which actually goes crazy after 100 deg. C) go from 90 deg. in traffic to just in to the red with the A/C off and past the red 110+ with the A/C. on. Obviously the time when I need A/C is the time I cannot run it! I have tested the temperature accurately with a digital probe and the TVR gauge is only a few degrees lower.

It is a good idea to fit that second gauge. Its interesting to note that our cars behaved exactly like yours when we first got them. The first thing TVRM did was to monitor the temperature using a thermocouple and we found surprisingly that the gauge was accurate. That is except when the a/c fan and/or the lights are switched on, when it reads a good 5 deg more (we joked about this being a safety feature). There is an inherent electrical wiring fault in the earlier Griff 500s like ours which causes this which has since been fixed.

Are you able to run your A/C. without overheating problems and if so, what year & month is your car and do you have the one large belt driving the water pump and the A/C.? Mine has separate belts which according TVR's design dept. makes a difference).

Both cars we have here are one chassis number apart and the date of manufacture is circa July 1994. Separate belts run the a/c and the water pump. I have eventually got my car to run cooler with a/c on, which is 85 deg C on the motorway, a shade below 90 deg in slow traffic, and 100 deg in bumper-to-bumper crawling. Without the a/c, I run at 75 deg, 85 deg, and 90 deg respectively. Amazingly, without a/c, I can actually see the temperature being brought down from about 80 deg (when the fans come on) to 75 degs! In order of what I can deduce made the most difference (bear in mind this is difficult as some were done separately, and some at the same time) here is what I did:

1. Coolant mixture and additive: have a mixture of 80% water and 20% glycol, and add a bottle of Red Line's WaterWetter. This is amazing stuff that works and its explained at http://www.redlineoil.com/wwti.htm . Actually, if you read the theory of it, there is no need for glycol at all. However, since it raises the boiling point and lowers the freezing point of the coolant, it's worth the 20% for a safety margin.

2. Coolant circuit: goes without saying but cannot be emphasized enough. Check hoses, radiator, caps, gaskets (oil in coolant?), water pump, otter switch etc to ensure that the system does not leak and is holding the pressure. I had a loose hose, a damaged O-ring seal on the aerator tank cap, and a defective header tank cap on separate occasions and the resultant loss in pressure each time meant that the boiling point of coolant was lower and hence loss of heat transfer properties. On the last occasion, a hairline crack on the header tank was the culprit and bravo to TVRM who found it (may have been there since day one). Air pockets do develop and so bleeding the system occasionally is important and essential when the system is flushed and refilled. I have a simple way of doing this but with caution please (insulate hands with a cloth). After a drive and with the engine off for about half-an-hour (still warm but not hot), unscrew the header tank cap slowly to release pressure which you can hear. This may be intimidating to do but so far I have yet to see any coolant come up through the top. Just a lot of noise and the odd sprinkle as is bubbles. Leave it overnight without tightening the cap. The next morning you will be surprised to find a lot of the water sucked back into the aerator tank. Fill up the header tank with water and tighten the cap. You may need to repeat this for as many as 3 more times. I am satisfied when I don't hear any bubbling and the level does not drop too much the next morning. It means that there are no more air pockets in the system.

3. Installed Cerbera fans (2 of them) which are of higher rating and of a different blade design, and they sure move some air!. They fit very well into the existing shrouds (which are also essential and presume you have them - earlier Griff's did not). The reason this does not rank higher on this list is that when it was installed, it did not stop the car overheating. It just took longer to get there. This was what led us to conclude it was something more fundamental. In fact the other cars have not bothered and they are running fine too. What is important is to make sure that the fans are running well. This has necessitated re-wiring of the fans' electrical circuits and utilising individual fuses instead of the original one. I believe this is a standard factory/dealer mod to solve cars which blow their fan fuses repeatedly,and therefore fans stop working and engine overheats. This has happenned to almost all cars here and therefore will have this mod as standard. Strange thing is that they can't manufacture it this way because it is not an approved manufacturing process by TVR Enginering!

4. Oil cooler: I have a 16 row element fitted. This did not actually lower the running temperature but it was thought to provide good insurance for engine longevity by keeping the cylinder head temperatures cooler. The Rover V8 was not exactly well designed for cooling in this area and more so with the TVR Power modifications. So, this is more to supplement the cooling rather than for cooling oil itself to keep it stable(not needed in this day and age of super-synthetics). The engine did feel heathier with this.

5. Air-flow: some improvements were obtained by removing the front number plate (and having painted ones at the nose). However, this was only helpful with car on the move which is not when we have this problem. A chin spoiler, located under the car just in front of the axis of the front wheels, helped likewise. I have slots drilled at the back edge of the bonnet to allow fow of air out of the engine bay. None of these can be said to reduce running temperatures but helped bring it down when on the move. I have since replaced the number plates at the front because of the legal requirement and also the painted one (actually decal stick ons) spoilt the cars flowing lines.

Since I got this sorted out, I have been confident enough to drive it daily to work and that I could arrive in a decent state with the a/c working. By the way, it happens that way. Solve the engine cooling problem and the a/c starts to work too. Reason is that R134a gas (a/c coolant) boils at 90 deg. If your radiator ever gets beyond that, R134a in the adjacent condenser is rendered useless for cooling.

The other Griff runs equally well now, with all of above except 3. For reference, the Chim 500HC runs at similar temperature too, but does take longer in traffic to get from 90 to 100 deg. This can be down to the fact that it has its radiator and condenser in the conventional vertical position, and that it is a serpentine. The Chim 400 runs at 90 deg or below, regardless, with a/c on.

I would be anxious to hear of anything you have tried. I would still like to see improvements as it still does run hot. Not likely to cause defection to a Suzuki Cappuccino, but nonetheless with too little margin. The Chim 400 just about has it right at 90 deg and I understand many normal cars like Mercedes Benz and BMW design their cooling systems to hold the engine at 90 deg.

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Manual Over-Ride for Fans

Sep 96
The standard fan otter switch (at the bottom of the swirl tank) seems to cut the fans in when the ECU is reporting an engine temperature (taken from a sensor in the block) of 100C. At the same time (on the car I was watching) the dashboard gauge was showing only 90C. I am told that the dashboard gauge is not only inaccurate but also slow to react, and engine temperature may have reached critical levels before it goes into the red. Advice is to stop the car if the fans have been running continuously during normal driving, and let it cool down.

Otter switches are generally unreliable and if they pack up the fans won't come on at all. A get-you-home fix is to unplug the connector and join the two spade terminals together with a short piece of wire. This fools the fan relay into thinking that the otter switch is on, and the fans will run continuously. It might be worth doing this for a whole journey if the weather is exceptionally hot. V8 MGB owners routinely run longer versions of this wire to a manual over-ride switch on the dashboard and flick it on at the first sign of a rise in temperature. The reasoning behind this is that a marginally effective cooling system can often stop the temperature going up any further but may not be able to actually bring it down. The driver can react to the rate of change in temperature (and predict overheating) whereas a 'stat can only react to what has already happened.

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Air Conditioning System

Griffith 500 System - 1994 pre-Serpentine

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Griffith 500 System - 1994 pre-Serpentine

Jan 98
I understand that installations vary according to manufacturing date. So the descriptions I am giving are specific to my car ('94 pre-serpentine Griff 500) which was installed post-delivery by the Malaysian factory (car itself was imported from Blackpool). However, the Chimaera's is almost identical. I am no expert on air-con systems and am sharing what I have observed and experienced.

Components of air-con system:

1. Condensor - essentially a heat exchanger like the engine cooling radiator.

2. Compressor - a mechanically driven pump which drives the coolant R134a gas around the a/c cooling circuit.

3. Fan coil - located in fan box to cool air circulated by ventilation system.

4. Reservoir/valve - not sure of correct name, serves to prevent coolant from freezing by regulating flow rate.

5. A/c thermostat.

6. Fuel line cooler.

Electrical circuit description:
A/c thermostat switch provides on/off signals to the compressor and cooling fan relay(s), according to set and measured cabin temperatures. Whenever a/c is switched on the cooling fans are activated, independent of engine temperature. The compressor is engaged if thermostat determines cabin cooling is required. The rotary compressor is driven by power from the engine via a belt, and drive is engaged by an electromagnetic clutch to circulate R134a coolant around a/c cooling circuit.

Coolant circuit description:
R134a coolant is enclosed in its own independent circuit under high pressure connected between components by rubber hoses and seals. From the compressor the gas flows into the condensor, which is placed immediately in front of the radiator separated by a 25cm gap. Radiator and condensor are thermally insulated from each other as far as possible. Gas from the condensor passes through a reservoir/valve which has a small window to observe flow of R134a which is a liquid after cooling. The valve stops flow when there is insufficient flow rate (i.e. if R134a freezes which is catastrophic in this high pressure system). R134a is environmentally friendlier than Freon, but it is still poisonous to humans! From the valve, gas flows through fan coil which provides heat exchange unit to cool cabin. Gas returning to the compressor passes through a fixture attached around the fuel line located near the RHS cam cover.

Mechanical drive:
Drive from flywheel is connected via one belt to the water pump. From the pulleys at the water pump, one belt drives the alternator and the other the a/c compressor.

Important points:
1. R134a fluid has a boiling point of approximately 90C at the system pressure. Therefore, for the a/c system to work,

this temperature must not be reached or exceeded. This is not easy within the engine bay where most of the hoses are, especially around the radiator and condensor area unless there is good airflow. Unfortunately, this is not the case when the car is in slow traffic in warm weather, exactly when the a/c is most useful! Therefore, when in slow traffic in summer where engine bay temperatures are often in the 100C range, the effectiveness of the a/c diminishes. Heat soak compounds the problem. Apart from the obvious, it raises the ambient temperature of the fan coil.

2. The cooling of the fuel line makes use of the cooling circuit to prevent fuel from vapourizing before it goes to the injectors. This is known to happen occassionally in warm weather causing engine misfires.

3. The a/c system is fairly unstable in the Griff/Chimaera. A slight loss of pressure in the coolant circuit, and the fact that engine compartment temperatures are very near the R134a's boiling point, any slight changes to these parameters would render the a/c system useless. I have experienced this situation particularly often in the climate where I live. Looking for presence of liquid flow in the window of the reservoir valve helps determine what's happenning in the system.
Kenny Heng

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Cooling System Generally

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Specification

Early models (up to mid 1994) have a combined swirl pot and expansion tank sited at the front of the engine. Later models with Serpentine engines have a separate expansion tank sited near the radiator.

Apr 97
My current car [1995 Chimaera] compared to my previous 1993 Chimaera looks like there have been some changes around the cooling of the radiator:

- The air filter is lifted out of the direct airflow path through the radiator.
- The radiator is now "boxed in" to ensure that all the airflow goes through it.
- The front grille has now gone and the bonnet has better vent holes. The number plate is still mounted in front of the radiator.

Geoff Cahalin

Topping Up and Bleeding

Antifreeze spec is given in the Owner's Handbook. Dilution should be 33%.

Procedure for topping up the earlier models is:

- Remove blue cap on swirl pot (that's the 'tower' in front of the engine).
- Fill to top of threads (ie. overflowing).
- Slacken bleed screw on offside top of radiator.
- When level in swirl pot drops, tighten radiator screw.
- Top up swirl pot to 1.5" below screw thread and replace cap.

For the later (Serpentine) models:

- Remove cap on swirl pot.
- Remove expansion tank cap, half-fill with coolant and replace cap.
- Fill swirl pot to top of threads.
- Slacken bleed screw on radiator.
- When level in swirl pot drops, tighten radiator screw.

Top up swirl pot to top of screw thread and replace cap.

Do the above with the engine cold. There should be no need to top up again after running the engine.

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Griffith Fan Sensors

Sprint Aug 96
The first ride in my recently purchased K-reg Griffith in heavy traffic was a boiling experience as the coolling fans only started to function AFTER the pressure cap released a cloud of steam. The temperature gauge was in the red area when this happened, indicating a genuine overheating.

As a temporary measure I bridged the two 2 wires on the cooling fan sensor and this brought down the temperature to an acceptable level . . . I rushed off to the Land Rover dealer and bought a new fan switch and fitted it the same evening. To my surprise this did not improve the situation and a further examination revealed that the genuine cooling fan switch had a switch on/off temperature of 100/94C which which seems far too high . . . I have now fitted a cooling fan sensor with on/off temperature of 92/87C and the needle of the gauge just slightly increases now under severe circumstances. I think the actual Land Rover switch is used for disconnecting the air-conditioning clutch just when the engine nearly overheats and therefore it is not suitable to engage cooling fans as these are required long BEFORE the engine will overheat. The cooling fan sensor that I used is a part that can be bought in all car parts shops. The diameter of the thread is 22 x 1.5 and it is used on some Volkswagens. The one I used is a C1 EXFS20. If you are quick you can do the job without losing too much coolant so you just need to top it up. Bleeding is not required. Make sure the engine is fully cooled before removing the sensor.
Tom Mogyorossy

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Fitting a Fan Override Switch

Internet Mailing List Sep 98
As I'm about to spend a week in the Griff I thought it would be nice to stick a radiator fan override switch. I've traced the fans from the switch on the swirl tank (purple and black I think) however I'm not entirely sure where they end up. Are they the purple and black wires that go into a relay which is set behind the Radio ??

If so am I safe to splice these and stick a switch somewhere?
David Donnan

Internet Mailing List Sep 98
Leave the current wiring alone. These colours are often re-used. Don't take the risk as you may do more damage than you think. Simply run a two core cable from the switch through the bulkhead with two lucar piggyback connectors to the otter *[this is all getting a bit zoological, isn't it?]* switch at the bottom of the swirl tank. Put the switch in parallel with the otter switch using the piggy back connectors. The switch current is not high - the main power is taken by the relay. It is removeable and you have not damaged any of the wiring.

The wire can be fed through an existing gromit used by the wiring loom but seal it with silicone sealant afterwards. A few cable ties keeps the cable neatly attached under the bonnet. I usually put the switch on the underneath indicator cover. A black one from Maplins.
Steve Heath

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Footwell Gurgles

Internet Mailing List Nov 96
... While we are on the subject of strange noises from my griff. There is also the sound of water moving in the passenger footwell, it is not wet, and the noise is intermittent, is it the heater?
David Donnan

Internet Mailing List Nov 96
The water noise is indeed the heater pipes and/or the water valve for the heater. The noise gets better if you keep the water level topped up and get the heater valve replaced every couple of months (bitter, moi?). Unfortunately, if you mess around with the pipes too much you're likely to get water leaking into the relays/fuses.
Gary Walsh

Internet Mailing List Nov 96
The heater pipes run through the footwell above and to the right of the battery, the noises may be due to air in the system so I suggest you turn the heater on and run the engine (from cold) with the filler cap off for a few minutes.
Nick Collins

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Screeching Pump Pulley

Internet Mailing List May 97
My Chimaera 4.3 has just developed a horrible worrying metallic screeching noise (sounds a bit like drilling through sheet metal) which manifests itself when you put your foot down a little from idle.

[and a couple of weeks later . . .]

Time to relax - the metallic screeching noise was due to a knackered water pump idler pulley and a knackered water pump belt. So, if you hear such a noise, it might not be the big end and you can heave a sigh of relief...
Andrew Derodra

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Griffith Heating and Ventilation System

Jan 98
The ventilation system of the 92 J and K reg. is not the most sophisticated one so here's a description of function/design & repair. It's based on the experiences I had with my own Griffith only, but I assume others may benefit from it.

Function and Design
The ventilation system described here is based on a RHD car without air-conditioning. On left hand drive (LHD) cars the complete system is in mirror view if compared with the right hand drive (RHD) cars.

The fresh air intake is the same air intake where the engine cooling radiator has its intake; under the front licence plate. Just underneath the radiator a hole has been made in the left hand radiator side panel where the air is being drawn into the compartment under the left hand head lamp. This hole is also used to replace the front indicator bulb.

A three speed Vauxhall Cavalier/Opel Vectra fan/motor unit is positioned in the middle of that space on 2 brackets.

There is no conventional air duct from the fan unit to the interior of the car; instead the inner and outer wing functions as the actual duct. Around the fan unit a leather flap separates the fan unit from the air intake and the 'duct'. The airflow will be directed to the space in the wing behind the front wheel.

In the left hand interior side panel (under the dash board) some openings are cut for various purposes:

- One elongated opening to direct the air to the heater box. The elongated opening is the inlet to the heater box and the air distribution flap. The heater box is fitted directly in front of this opening and sealed off with self-adhesive sponge. The air distribution flap which is electrically controlled by the switch on the centre panel will distribute the warm air to either windscreen or foot well. This flap is located inside the heater box.

- One small round hole directing the air to the two ventilation jets on the dash through plastic tubes and junctions (a genuine house plumbing article). Since these two jets (passenger side and the one located under the hazard warning switch) are NOT connected with the heater box they will provide fresh air only.

- The 3rd opening in the panel (big round opening) is sealed off with the carpet and is used for access to the side repeater in the wing.

When the air is directed to the windscreen, an extra bypass will also provide warm air to the ventilation jet closest to the driver.

When the air is directed to the foot well, the ventilation jet in the heater box will provide warm air directly for the passenger. The driver will be provided with warm air via a duct running through the engine compartment (visible from the engine compartment) with the ventilation jet fitted to the side of the centre console.

The heater temperature is controlled by an electrically controlled valve which is fitted to the inlet water hose. A small diameter by-pass tube fitted between the heater inlet and return hose ensures proper coolant flow through the cylinder head of the engine when the valve is in the closed position. As a consequence these hoses will always feel warm even when the heater is closed.

Because the temperature and airflow controls do not have any indication in which position they are, it is not possible to detect in which position temperature and airflow valves are from the interior.

Repair
Although the system seems quite simple some repair hints may be of help. If there is any problem with the fan unit it may be required to remove the head lamp unit. Of course the fuse, the wiring and the switch have to be checked first before removing the fan unit.

- Carefully cut the silicon sealant surrounding the head lamp with a sharp knife (the blade has to be about 2 inches (5 cm) long). Needless to say you should not cut into the body or the head lamp cover.

- When the lamp unit is cut loose, remove the small service panel inside the wheel arch (the one which is used to replace the head lamp bulb).

- Remove the bracket that holds the lamp unit and disconnect the wiring. Most likely the lamp unit will stay in position - you now have to press the unit down from the outside with you knee. If too much force is needed it may indicate that the silicon sealant has not been fully removed.

- When the head lamp has come loose it can be removed by rotating it slightly.

- You have now access to the fan unit.

- Due to the positioning of the fan it is very likely that the motor and the connector are attacked by water and/or road salt. It is recommended to replace the connector with a weatherproof connector which is available through specialised company's. (Vehicle Wiring Products in Ilkeston, Derbys, UK, supplies these connectors. Phone No. 0115 9305454; Part number 1x WP5, 5 pin). The fan unit itself is a Vauxhall/Opel unit.
-

- When replacing the connector it is recommended to replace the head lamp, indicator lamp, and spot lamp

connectors with weatherproof connectors too, as they will also be corroded. (Part numbers 2x WP5, 4x WP3).

- The leather flap that seals off the fan unit may have come loose from the wing and radiator side panel. It is easy to replace it by one that's made from thin aluminium sheet and to seal it with off with Poly Urethane kit (PU kit has better adhesive properties that silicon kit). Also check if the seal between the radiator side panel and the body front panel is still in its correct position.

- Every leak in the space between inner and outer wing will reduce the capacity of the fan; seal every hole or gap before replacing the head lamp. The best way to check for air leaks is by switching on the fan to position 3 and to close all interior vent jets.

- Before refitting the head lamp unit remove all silicon kit remains from both lamp unit and body.

- Position the head lamp in such way that the gap is equal on all sides and fit the bracket. When the lamp is in its correct position it should the be sealed off with black silicon kit (don't use PU kit here as is will make removal of the lamp at a next accession very difficult)

- The silicon seal is also part of the sealing of the duct compartment.

- The left hand side interior panel as described above can also be a source of air leaks.

- The hole that gives access to the side repeater may need to be sealed off properly with an aluminium panel and silicon kit or sticky tape.

- The knee joints (plumbing) also have to be fitted properly and may need additional sealing.

- The self adhesive sponge fitted between the heater box and the elongated opening may be deteriorated. With the heater box in position it is only possible to apply new sponge at the side and the bottom of the heater box. If the upper sponge has also deteriorated the best way to seal the unit is by stuffing the hole area on top of the heater box with bits of upholstery fillings (available from the local furniture shops) rather than removing the heater box.

- The hoses and junctions to all 3 dashboard vent jets may've come apart. Removal of the glove box compartment and the radio will give access to these hoses. Use tape and/or kit to seal of all hoses and junctions.

When this is all done the heater and ventilation system should function properly. The following design features however will give restriction to the system:

- The fresh air intake at the front of the car is very close to the engine radiator. Due to this the air will be pre-heated in some cases.
- By taking in fresh air so close to street level exhaust fumes from cars in front of you may be soaked up and forced into the interior(Carbon monoxide is heavier than air and 'sits' on the streets)

- The ducting of the air from fan to interior (Inner/outer wing) has a fairly high resistance. In combination with slight leaks it is not so efficient.

- Both the inner wing and the hose that runs through the engine compartment will absorb engine heat and transfer it to the intake air, again resulting in an increase of air temperature.

- The dashboard jets have a low capacity even when the system is quite leak free. Most likely the diameter of the hoses is too small and restrict the airflow. The two lower heater jets are better in this respect.

Tom Mogyoróssy

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Griffith Heater Control

Internet Mailing List Sep 97
Does anybody know how the heater hot water flow is controlled on a Griff 500? The heater is on full heat all the time. Is it an electrically controlled valve, as the dash control doesn't seem to be linked by a normal metal cable.
Steve Jenkins

Internet Mailing List Sep 97
It's a motorised valve in the passenger footwell on the right hand side above the battery compartment. Check that it's not snagged on a cable or a bit of carpet.
Nic Collins

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Griffith Radiator Replacement

Letter Sep 97
I wonder if you can help me? My Griffith 4.3 has had a bit of a coolant leak by the top hose connection to the radiator. I thought I'd fixed it at the weekend when I put two jubilee clips on it to make sure it never leaked again! However after taking it for a test run the radiator split on the join near where the hose is. My first thought was maybe that was where it was leaking all along then I thought maybe the pressure had built up to cause it to happen but then I would have thought the pressure cap would go first (this is what the man at Brooklands said). I was worried that the headgasket had gone but then there's no evidence of oil in the coolant system so I may be being a bit too pessimistic.

Anyway, in any case I need to fit a new radiator and therefore I am asking you whether you have any tips or notes on a smooth removal and refitting of a radiator on a Griffith before I start. It looks fairly straightforward but would appreciate any advice. Also do you know anywhere that does Griffith radiators (I believe they are slightly modified Range Rover radiators) cheap ? Brooklands is the cheapest I've found so far but will still cost £220 incl VAT. At least I'll save the labour!

Any help or pointers would be greatly appreciated.
Dave Wardle

Dave,
I'm afraid no-one with a Griff has felt moved to send me any detailed instructions on removing the radiator, but I think you're right and it is pretty straightforward. I've been told that the only difference between a Griff radiator and a Range Rover one is the bottom hose connection, so that should be fairly simple as well. I would imagine the rad on a 4.3 is getting to an age when it's starting to silt up a bit, so I wouldn't personally bother trying to repair it. Best bet is probably to find a local radiator specialist and see whether they can modify a new or refurbished Range Rover item for you.

Sorry I can't be more helpful, but if you do get it done please let me know how you get on.
Peter

Peter,
I got my new radiator (from Brooklands) and fitted it this weekend. Everything appears to have gone OK and no leaks so far! It was fairly straight- forward but time consuming.
Dave

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Fuel Injection System Description

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General Description

Sep 96

My apologies if this is a bit noddy, bit it's intended for people who (like me) got left behind when cars acquired injection systems and who need to be told the basics. I've based it on a description of the Bosch L-Jetronic system (which I gather is very similar to the TVR/Range Rover 14 CUX system) in the Haynes book on injector systems, on Lucas diagnostic notes for the TVR 14-CUX, conversations with a couple of people and by poking about under the bonnet.

The system on the TVR uses multi-point injection. It is essentially just a high-pressure fuel pipe carrying an electrically-operated injector nozzle for each cylinder. This looks after metering the amount of fuel that goes into the engine. The amount of air is controlled by your foot via the throttle pedal. The injector nozzles open to allow the pressurised fuel to spray into the inlet manifold very close to each inlet port, where it mixes with incoming air and is drawn into the combustion chamber. The amount of fuel added to the airflow during each engine revolution is determined by the duration of the injector pulses, and this is controlled by an Engine Control Unit (ECU). The injector pulses are not timed to coincide with the opening of each inlet valve - all the injectors fire at the same time, twice for each engine revolution. The ECU takes readings from sensors located around the engine, and uses a lookup table built into a microchip to calculate how long each pulse should last. Because an ignition rev-limiter would damage the catalytic converters (by filling them with unburnt fuel), rev-limiting is achieved by programming the ECU with an upper limit on the frequency of the injector pulses.

Now for a brief tour under the bonnet:

A long flexible duct running along the nearside of the engine compartment draws air from the front of the car and leads to a cast alloy box on top of the engine (the Plenum Chamber). The Plenum contains eight little trumpets which feed air through an inlet manifold to each inlet port on the cylinder heads. Part way along the duct is a box with a large multi-plug attached to it. This is the Airflow Meter. It measures the amount of air flowing through the duct and passes this information to the ECU. The sensor is of the "hot wire" type. It works by diverting some of the air flowing through the duct into a bypass which contains two wires - a Sensing Wire and a Compensating Wire. The Sensing Wire is heated and the Compensating Wire isn't. Without going into a lot of detail, the electrical resistance in a wire varies with its temperature, and if you pass air over the wire it will cool down. How much it cools down depends on the amount of air passing over it and how cold the air is. These two things are very closely related to the amount of oxygen in the air flow, and it is oxygen that determines how much petrol you need to add to get a nice healthy bang. So the Air Flow Meter uses some internal electonics to send a signal to the ECU which, although not a direct measure of the oxygen supply, is for all practical purposes close enough.

Where the duct joins the plenum, there is an alloy box containing a Disk Valve which is attached to the throttle cable. Opening the thottle rotates the disk and creates a larger aperture for the air to flow through. There is a Throttle Position Sensor plugged into the side of the Throttle Valve (it works like the volume control on a radio), to tell the

ECU how far the disk has rotated and therefore how much welly you are applying. The ECU also makes a note of how fast the sensor position is changing and in which direction. If the throttle is opening, the ECU lengthens the injector pulses to enrich the fuel/air mixture (for better acceleration). If the throttle is closing it shortens the pulse to weaken the mixture (because you're slowing down and need less power). You can often feel the latter effect after being on overrun for a few seconds, when the engine braking suddenly increases a little. At full throttle the ECU also enriches the mixture for maximum power, and at minimum throttle it weakens it or switches in an idle speed control depending on the circumstances.

The injectors can be seen nestling in the V of the engine, attached to the manifold at the base and to a metal pipe (the Fuel Rail) at the top. A high pressure (60 psi) Fuel Pump delivers petrol to the Fuel Rail. A Pressure Regulator (just visible below the Plenum towards the back of the engine) maintains the pressure in the Fuel Rail at a constant 35-40 psi, by bleeding fuel into a pipe that circulates it back to the petrol tank. As a further refinement there is an air tube attached to the Plenum that changes the Pressure Regulator's spring weight as the manifold vacuum alters (rather like the vacuum advance on the distributor), so that the Fuel Rail pressure is always constant relative to that in the manifold. The fuel pump operates only when the engine is running or the starter motor is engaged (and the car is not upside down - there is a cutoff switch to cater for this!).

For cold starting there is a Starting Valve in the centre of the manifold (hidden under the Plenum). This is a spray nozzle that operates for about 30 seconds if the starter motor is engaged when the engine temperature is below about 15C.

At the back of the plenum is another little gizmo called a Stepper Motor. This sits at the end of a rubber tube that bypasses the throttle valve and bleeds air into the plenum when the throttle is shut or almost shut. The stepper motor responds to a Roadspeed Sensor which is sited on the speedo cable in the engine bay on early cars and at the back of the gearbox on later ones (obviating the need for a speedo cable since it feeds the speedo as well). On over-run or at low speeds the steeper motor lets in just enough air to prevent an excessive vacuum in the manifold. The motor is also activated by the coolant temperature sensor to give a fast idle speed when the engine is cold. Erratic idle speed control can be a result of a faulty Roadspeed Sensor as well as a faulty or dirty Stepper Motor.

There are a few more sensors dotted around which also feed information to the ECU. The fuel rail has a Fuel Temperature Sensor attached to it (once fuel starts flowing through the injectors it gets cold like the body of an aerosol can, but on start-up the fuel can be quite hot and the ECU needs to know that and compensate for it). There is also a Coolant Temperature Sensor attached to the front of the engine block, which tells the ECU if the engine is cold so that it can richen the mixture until it warms up. Engine speed is monitored through the ignition coil. Each catalytic converter has a Lambda Sensor attached to it, which measures the amount of unburt fuel and oxygen in the exhaust gases. The Lambda Sensors are electrically heated so that they work properly while the cats are still cold.

You would think with all this metering and measuring going on that the emissions would be as fresh as a fairy's fart, but no, there is still the dread possibility of raw petrol vapour escaping into the atmosphere. This is a Bad Thing, so another lot of pipework runs across the engine bay to the offside wing, and carries any surplus fuel vapour from the mainfold to a Purge Valve and a Carbon Filter.

As you can imagine, there are an awful lot of electrical connections involved, inlcuding a power supply to the ECU from the battery. If any of these comes loose, or the battery voltage is low, the ECU won't work properly.

What's a Road Speed Sensor For?

Sep 98

There was a query about this on the mailing list a couple of months ago, and I finally got round to asking Mark Adams (the club's fuel injection specialist) what the answer was. This is a somewhat simplified version of what he told me, as I can't remember complicated things.

Not all injection sytems have road speed sensors, although they are becoming more common. The Range Rover system

has one, and on Range Rovers it serves two purposes. One is to limit the car's top speed to the speed rating of the tyres - useful on a Range Rover but not something your average TVR owner would appreciate, so that function is disabled. The other purpose is to stop the idle control operating when the car is still moving.

So now the question is, "what's an idle control for?". It's there because getting an engine to run well at high speed is fairly simple, but getting it to run smoothly at tickover is a lot more difficult. At a few hundred rpm the engine is producing very little power, in fact just enough to keep all the gubbins going round. Small changes like the engine getting hotter or an electrical load making the alternator work harder, are significant at these low power levels and can affect the idle speed. One solution is to increase the idle speed so that these factors become proportionally less significant, but that uses a lot more fuel which is not what the world wants you to be doing in city traffic. The solution takes the form of an idle control system - a separate throttle with its own air supply that opens and closes to keep the engine speed steady. The air supply consists of a rubber tube that by-passes the normal throttle valve (the one you control with the throttle pedal) and instead feeds air through its own valve which the ECU controls with a stepper motor. The stepper motor moves in response to changes in engine speed, which the ECU monitors through signals coming from the ignition coil.

Obviously you don't want the idle control dithering about when you're trying to drive, so it only operates when the normal throttle is fully closed. That sounds fine, but imagine the situation when you approach a road junction and lift off the pedal. The throttle is now closed, but the engine is still revving because the inertia of the car keeps it turning. In fact under heavy engine braking the fuel supply can be cut off completely without any risk of stalling. If the idle control tried to take over at this point it would be incapable of pulling the engine speed down, even with the stepper motor valve fully closed. Two things would then happen. Firstly, the ECU would be getting (to its simple mind) two pieces of information that could not both be true - high rpm and a fully closed throttle. It would assume there must be a fault in the throttle position sensor, and switch into a 'fault condition' mode that allowed it to muddle along without it. Secondly, when the car did eventually stop, both the normal and idle air supplies would be fully closed and the ECU would be unable to catch up in time to stop the engine stalling.

These conditions can be prevented if the ECU knows whether the car is still moving when the throttle is closed, and that's where the road speed sensor comes in. As long as the car is moving at more than 3 mph, the idle control will not activate, and the ECU will know that the throttle position and rpm readings do not mean there is a fault.

The road speed sensor also helps to improve low-speed driveability. During slow gear changes, if the ECU does not know the car is moving it will activate the idle control as soon as you lift off the throttle. As you let the clutch in the motion of the car will increase the engine speed, the idle valve will close in an atttempt to reduce it and you will feel a momentary thump until you push the pedal down again and the idle control cuts out.

On cars fitted with catalytic converters, the absence of a signal from the road speed sensor has a slightly different effect. On cat cars the lambda (oxygen) sensors in the cats are ignored when the throttle is closed (the engine is running on open-loop control). The ECU is programmed to operate in a way that will avoid any possibility of damaging the cats, so when it detects what it thinks is a fault in the throttle position sensor it will either increase the idle speed to a safe level or cut the engine completely.

All of this means that a faulty road speed sensor can make the car stall at junctions, stall or over-rev when stationary, and lurch during gear changes. On later cars it will also produce incorrect speedo readings, as the sensor provides signals to the speedo as well. There are no home remedies for this, so take the car to a dealer and get it checked. The only thing you might try yourself, if you have a later car with the sensor on the diff, is to clean the glass on the sensor.

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Fuel Injection Generally

Superchips

Internet mailing list Oct 96
I thought there might be some interest in the outcome of re-chipping the Griff 500 with Superchips' program data. Some necessary background information:

1. The program that Superchips use depends on the type of MCU used in the ECU and the serial number of the ECU itself for a particular car.

2. For the installation we did, Superchips advised that our ECU and MCU, and the corresponding TVR program data, was specifically for a car in tropical conditions and probably also to meet local legislative requirements.

3. Our Superchips program was therefore a remapped version under those conditions. A 15 HP increase is claimed (rpm not quoted), and no figures yet from them on torque.

The noticeable changes after re-chipping are:

1. A more stable idle, resulting in less "rocking" of the car.

2. Pulls more cleanly from low rpm.

3. Noticeably less transmission snatch although not eliminated.

4. Exhaust sounds different; more regular pulsing and sounding more burble (than rumble) at idle, which works up to a very nice roar.

5. The engine also runs hotter; 92deg instead of this car's usual of 89deg, but this could be due to other reasons.

6. There was no noticeable change in power or torque. However, I suspect this is hard to feel subjectively since the HP increase only represents 4.4% of the Griff 500's standard output @ 5500rpm. Such a change may even occur with ambient temperature/humidity fluctuations. I believe Superchips base their claims on rolling road tests.

In summary, it made the car more driveable, especially under urban conditions, and enjoyable in part due to the exhaust noises. With that, we thought its well worth £165. I have to make a qualifying statement that these observations were made after re-chipping a car which was not well tuned in the first place [see Timing Problem under Engine section], hence my posting on the list for tuning specs. We would like to sort this out within the next few days, depending when we get specs, and perhaps I'll give an update then, which will be a more conclusive one, hopefully.
Kenny Heng

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Injection Tuning and Rolling Roads

Background
The following letter from Jack Acres appeared in the February 1997 issue of Sprint and prompted one of the first letters to the magazine from the factory in a very long time. The factory letter is reproduced below Jack's piece. The same issue of Sprint carried a response to the factory letter from Mark Adams who is the club's Helpines contact on injection systems, and this is reproduced here as well.

Sprint Feb 97
I have covered 4000 miles in 1996 in my 400, with few problems, the exception being that the car often stalled. Apparently many of the ECUs are from Range Rovers and think that the TVR is an automatic. Mark Adams, the ECU guru, carried out various adjustments and although tick-over became better you were constantly braking and the idle speed was very slow to die down. Mark decided the sensible way to do any adjustments was to carry these out on a rolling road. He suggested Power Engineering in Uxbridge who have carried out this service on many TVRs and 400s in particular, and so have a good benchmark to go by.

Steve Haggen of Power Engineering appeared very competent. The car was well tied down and connected to various computers. A check was made on the state of the car's tune ie. plugs, timing etc., to check no immediate obvious problems. Then various runs were made with adjustments being made to the ECU, timing etc. It is an interesting experience to listen to your own car at 6000 rpm and be on the outside.

The rolling road used by Power Engineering is a modern one and only loads the car at maximum revs for a few seconds. During this operation every measurement is being taken ie. torque, CO2 levels, BHP etc. 400s should have 275hhp but they don't. Most have 230-240 at flywheel. Mine had 218 bhp at the beginning. After 15 runs and many adjustments the conclusion on my car was that the engine was not normal. Mark suggested that I have special heads and cam, although TVR Power say not, I have been unable to contact the first owner to verify further and as the car had only done a genuine 8000 miles when I bought it owner mods seem unlikely.

As my car is in theory more powerful than the norm, the ECU problem was even more exaggerated ie the ECU thinks the car is a Range Rover! And then does not wish to give sufiicient fuel at much over 4000 rpm. In my case at over 4000 rpm it needs even more fuel. Therefore the mixture was very weak on full throttle - pinking! Mark estimated my car to be 4-5% short of fuel at high revs. By re-profiling the ECU to give more fuel at over 4000 rpm the mixture becomes richer and the engine can run with advanced ignition settings. As a consequence my car obtained an extra 41 bhp, although it is fair to say that this is unusual.

I finally ended up with 261 bhp and 280 lbs torque at 4300 rpm. The car was a revelation drive, much quicker yet with power throughout therange. Costs were £300+ for the correct chip for my car and £150 for the rolling road (£60 per hour) which included the technician. Marks Adams now normally only ever runs his ECU modifications in conjunction with the roling road as this is the only way to accurately compare minor changes.
Jack Acres

Sprint April 97
Following Jack Acres letter in last month's issue of Sprint, I feel that a few myths about ECUs and power outputs need to be dispelled before they fester into "facts". The following notes appertain to Rover based engines using the 14 CUX fuel injection system as used by all later TVR Rover V8 models.

1. Large power increases can be achieved by modifying the ECUs for most modern turbo charged engines. This is possible because the boost pressure is controlled electronically, and to put it simply more boost equals more power. Obviously this is not possible with a normally aspirated engine**,** all that you can alter is the quantity of fuel injected and the ignition timing. So there is very little scope for power increasing. To make matters worse only the quantity of fuel injected is controlled by the ECU on the Rover V8. The ignition timing, which is more critical, is controlled by the traditional distributor.

2. No TVR left the factory with a standard Range Rover ECU. The amount of modification depended on the state of tune and intended application. Most had the following modifications:

a) Removal of the speed limiter which prevents Range Rovers exceeding their tyre speed rating of 112mph.

b) Increasing of the rev limiter in line with the camshaft and valve train capabilities.

c) Adjusting the idle speed control to achieve the best compromise of emission levels and smooth running.

d) Re-calibration of the main fuel maps (including cold start and accel/decel maps) to achieve the best power output, fuel economy and smooth running consistent with low exhaust emissions.

e) Modification of the closed loop control strategies and overrun fuel cutoff for improved driveability and emissions performance (cat cars only).

f) Re-calibration of the air flow meter input to cope with high air flows (5 litre engines only).

3. No TVR thinks that it is an automatic. There is an input on pin 34 of the ECU consisting of a 510 ohm resistor connected to ground to enable 'manual' mode. If this is not present idle speed may be low or erratic.

4. If your engine is unmodified, running the correct ECU, and everything is working correctly, it will not be short of fuel at high rpm. If you suspect that your engine is running lean then check the following:

a) Idle speed mixture: Adjust to give 1.5% CO (2.0%.will give better throttle response but poorer fuel economy). Non cat cars only.

b) Full throttle operation: The throttle must be held up against the stop to enable full throttle enrichment, corresponding to a voltage of 4.6V on the throttle potentiometer, otherwise the engine will run lean by 5-10% depending on rpm. NB. A few engines were produced, or converted, to run with large throttle diameters (usually 4.3 to 5.O litre). It is very important that these engines run the correct ECU which will enable full load enrichment at 3.6V.

c) Tune resistor: The ECU contains several "tunes" for different applications. It is essential that you are using the correct tune resistor for your engine. TVR only use two tunes, one of 470 ohms for non cat cars and one of 3900 ohms for cat cars. If the tune resistor is missing then the ECU will run in default mode.

d) Fuel supply and pressure: Check that the correct fuel pressure is maintained under full load conditions. If it is low check: regulator, fuel pipes for damage or kinks and both fuel filters (before and after the fuel pump).

5. Road speed input: This is required for correct idle speed control on all cars and it enables full load enrichment on cat cars. (check with an oscilloscope on pin 6 of ECU).

6. Improvements were made on a continuous basis. Serpentine engines benefited from improved idle speed control. Late model 400s, V8S, early Griffiths and Chimaeras may benefit from this change.

7. All TVR ECUs have a socketed EPROM holder to allow the chip to be changed easily. Standard Range Rover ECUs do not.

Ignition, Horsepower, and Detonation
Most TVR Rover V8 engines give maximum horsepower with an ignition timing of 30 to 33 deg. total advance. However due to the gradual decline in fuel octane ratings many early cars can no longer run on their optimum settings due to detonation. In order to prevent detonation and consequential serious engine damage, the ignition timing will need to be retarded a few degrees. This can be minimised by the following:

1. Ensure your engine is running the correct fuel mixture as above.

2. Ensure your engine is drawing the coldest air possible. High air inlet temperatures are a major contributing factor to

power loss and detonation.

3. Check that your engine has an 82 deg. thermostat with a large orifice (This is a standard TVR part but is not commonly available from other outlets).

4. Check that the heater matrix bypass hose has not been removed. This is necessary to ensure correct coolant flow around the cylinder heads when the heater is turned off.

5. Use the later retracted nose spark plugs.

6. Use the latest distributor which has a more suitable advance curve for lower octane fuels, or better still find someone who can re-tailor your distributor to give less mid range advance but 33 deg total advance. (A mapped ignition system would be the best but most expensive solution).

7. Do not use an engine oil with a relatively high phosphorous content as this leaves combustion chamber deposits that can promote detonation.

8. Use a high quality fuel and alternate between four star and super unleaded if you have a non cat car.

9. Avoid chip tuning companies unless you are 100% confident they know what they are doing Chip changes are only necessary if you have modified your engine. Unless done correctly, chip changes will be diagnosed as faults on TVR or Rover diagnostic equipment. Genuine TVR chips are available for all TVR engine variants for £16.37+vat from the factory.

Rolling Road tuning
If your car is unmodified, has been correctly serviced and is in good condition a rolling road tune will achieve little other than relieve you of a large amount of cash. If you have modified your car it is well worth your while in order to get the best from your modifications unless your engine has been set up on a bench dynamorneter. A bench dyno is the most accurate, repeatable and safe way to test and develop a high output engine. It is probably also the most cost effective in the long run. Points to bear in mind if you take your car to a rolling road:

1. How good is the operator. The most expensive high tech equipment is worse than useless unless the guy using it **knows** what he is doing.

2. Be very careful not to overheat your engine as very few rolling roads can keep water, oil and air temperatures stable to those you actually see on the road. This is essential if any meaningful data is to be gathered and to prevent engine damage. Inertia type dynos are better in this respect as they only load the engine for a short time. Watch out for wheelspin which is sometimes difficult to detect

3. Wheelspin can overheat your tyres so can strapping down too hard to prevent it. It is quite possible to wreck a good set of tyres!

4. Ensure copious cooling air flows around the engine and exhaust to prevent bodywork from overheating, removing the bonnet often helps.

5. Who pay's if something goes wrong? It's usually YOU

6. Don't waste your time and money if you think you have more than 3OObhp. Use a bench dyno.

7. When was the rolling road last calibrated? And by whom?

8. What is the output given as?

- Actual measured horse power (at the wheels)
- horse power at the flywheel
- std corrected horsepower

- SAE corrected horsepower
- DIN corrected horsepower
- ISO corrected horsepower

You may be forgiven for thinking that all of the above would be the same. They are not! The first is the easiest to understand as it is the power in bhp which is actually measured at the rollers as you do the test. This power will be considerably less than you have at the flywheel and it is what is left to drive your car forward after you have removed all the losses due to friction in the whole of the drive line including the tyres. If you have measured the power whilst accelerating the engine you will have additional losses as power is required to accelerate the engine internals, the whole of the drive line and the rollers.

Some dynos estimate flywheel horsepower by performing a coast-down run which attempts to measure the drive line frictional and inertia losses. These power losses can then be added to the measured power to give you an estimate of the flywheel horsepower. This is much nearer to your engine's real horsepower but still does not account for the power used to accelerate the engine itself or the difference in friction between a lightly loaded transmission in a coast down and that of a lightly loaded one during a power run.

The other four corrected horsepowers are an estimate of what the power would be if it were measured at the temperature, pressure and humidity required by the relevant SAE, DIN or ISO standard. All of which are different, thus give quite different power figures! This correction process is fraught with assumptions and inaccuracies. The only accurate way to obtain values of DIN or SAE horsepower is to measure it on a bench dyno at the required air temperature humidity and pressure. This is both difficult and expensive.

This may lead you to believe that actual measured horse power is the only meaningful number obtained from the rolling road; well think again as this number will change as the air temperature, pressure and humidity changes. "Your power output literally changes with the weather!"

I hope that this has demonstrated some of the difficulties in measuring and quoting (or misquoting) horsepowers. However the actual number is not important unless you are a very sad individual, all that matters is how well your car actually performs.
John Ravenscroft

TVR Engineering Ltd

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More on Injection Tuning

Sprint April 97
Having read Jack Acres' letter "Rolling Roads" in the February 1997 issue of Sprint, I felt it necessary to write and clarify a few of the points raised in his letter. Hopefully this will help TVR owners understand what TVR do to modify their cars, and also remove any unrealistic expectations that people may have about the benefits of tuning and modification of the Fuel Injection system.

Firstly, let me make my own position clear in this, for those who do not know me. I have been a specialist purely in Rover V8 Fuel Injection and Ignition systems for approximately six years - I do not deal with any other engines.

My work centres around modified cars, and those with particularly difficult injection problems. Over the years I have modified and fixed over three hundred vehicles. The work covers a large range of variants from Rover Vitesse, Range Rover, TVR, Morgan, and assorted competition and other specials. I can modify, test, and diagnose all Lucas systems from the ACU flap type injection system, through l4CUX "Hotwire" to the latest Range Rover GEMS management system. My background is in High Performance Real Time Aerospace computing found on Tornado and Eurofighter aircraft. The Lucas systems are simple by comparison, but the lack of processing power presents its own special challenges.

Generally I work with specialists such as John Eales (JE Developments 01203 639 647 - NOT to be confused with JE Engineering), V8 Developments (formerly Rovertec 0116 240 4344), Power Engineering (01895 255 699) and Wedge Automotive (0114 281 7507). I also have good relationships with many TVR and Land Rover dealers. I do not work with TVR themselves, for the simple reason that they are doing perfectly well without my help. My service is complementary to, and not a replacement for, the engineering work they do.

Jack Acres is a very active and enthusiastic member of the TVR Car Club, owner of one of the most beautiful and carefully maintained 400SE wedges you're ever likely to see, and a jolly nice chap too! However upon reading Jack's letter, it is open to misinterpretation - one possible view is that 14CUX Hotwire cars are fitted with bog standard Range Rover ECUs. This is definitely not the case and I'm certain that Jack (and TVR for that matter) would wish me to set the record straight. My failure to do this would malign the effort that TVR put into engineering their cars, as they always use the best and most innovative current technology available.

When any Hotwire car is presented for a rolling road session, the first step is always to plug in the laptop PC and perform full diagnostics on the Injection system - the software I use allows me to check those parts of the system beyond the reach of the more normal Fault Code Reader. There's no point in proceeding with a faulty car.

It soon became apparent that Jack's car had a fault. The l4CUX ECU contains several different tune options to cope with different end markets for the host vehicle, and this includes Cat or Non-Cat, Automatic, Manual, and Air Conditioned models to name but a few! The ECU works out that it is in a Manual gearbox vehicle by looking for a particular resistor (which TVR mount below the Fuse Box). In Jack's case this was broken, however I have seen other vehicles where it has been missing altogether (although it certainly left the factory with one there). This causes a fault code to be set in the ECU because it cannot determine the type of transmission fitted, and this in turn affects idle speed behaviour. As standard, a TVR does not think it is an automatic Range Rover.

Having fixed the fault and done some power runs, it soon became apparent that Jack's car was not standard. This showed up as massive under fuelling. Also the profile of the torque and power curves was quite unlike that of many other 400s I have cared for. Since the fuel pressure was not dropping off then the ECU needed attention.

Tailoring the ignition timing, fuel map and overall fuelling level released the 41 bhp quoted in Jack's letter, together with a massive increase in mid range torque.

Two points need to be made here. The first is that unless your car is modified, there is no way you will see such a massive gain on a standard car by tailoring the fuelling. However, it was believed that Jack's car was indeed standard - the truth was only revealed by the rolling road test. He may never have known otherwise. Several non-standard cars have been revealed in this way. A rolling road session will soon show up any problems, and if the car is standard and well maintained then it will not require a new chip unless there is something else you wish to alter.

The power and torque figures for the bulk of the cars I have run on this dyno are stored on the computer. This makes it very easy to determine the results of any modifications, and also to compare the results for similar cars to see whether they are on the pace or not.

When TVR modify the ECU they pay attention to many areas of its behaviour. Just some of these things are removal of the road speed limit (oh yes!), a sensible rev limit, idle speed, etc. As time moved on they made continuous improvements which affected other areas such as warm-up fuel, acceleration fuel, etc. Larger engined models (450 and above, and latterly 430HC models) received further modifications including scaling of the airflow meter input which is vital to achieving good driveability, overrun engine braking, full throttle enrichment point, etc. As later versions of the software and ECU itself became available they used those too. The best technology is seen in their latest Serpentine Cat cars.

All of the above things I can alter as required to suit modified engines. Standard cars can be tailored to suit the owner's preferences and to accommodate the inevitable slight variations between production engines. Any power increase here will be limited to no more than 10-15BHP at best, but may be nothing. This is your decision as the owner. Obviously early cars derive benefit from being upgraded to the latest compatible software with all the latest

modifications. Please note that I do not lift the rev limit set by the engine builder for obvious reasons.

On the subject of rev limits, did you know that Land Rover use two settings - for Cat cars it is 5200rpm, and for Non Cat they use the incredible figure of 8500rpm! If any standard Range Rover hat ever achieved this then I expect the pistons are still orbiting Pluto!

It is important not to set too much store by the actual value of the power figures obtained from any dyno - chassis (in car) or engine (out of car). Both types of dyno feature advantages and disadvantages, but at least with a chassis dyno you don't have to take the engine out of the car. There are so many different ways of calibrating and compensating for the figures obtained, that actual figures may vary between dynos by as much as 30 bhp in this power class.

Personally I always use John Eales for Engine dyno, and Power Engineering for Chassis dyno work. Both these use calibrated dynos, both give realistic figures, and both largely agree with each other. However what is important is the differences obtained by any modification process which is one reason why I always use the same installations.

Power Engineering are best known for their work as Cosworth and Ford RS specialists (excellent people to talk to if you have Ford V6 power). They regularly feature in leading magazines, and build many championship winning vehicles (Vectra Ford, Eurosaloons, etc) - the list is too long to put down here. Their facility is a fully computerised, regularly calibrated, state of the art rolling road. This means that a brief single pass is all that is required to record full load figures. This is kinder to the engine, transmission, and tyres, and is unlikely to provoke overheating. It is able to read power at the wheels and also estimate flywheel figures.

One major point comes across from the standard TVR engines I have tested. The absolute power figures do not actually reveal the best part of the story. If there is one thing that marks out a quality engine build, it is consistency. As an example, all the STANDARD 390 engines, and 400 engines, I have tested have produced the same power to within plus or minus 2BHP - which is a spectacular achievement. Also they all serve up a more than generous wad of mid range torque, which after all is what gives you your acceleration. TVR do not promote these two outstanding features enough, although it is difficult since most people like to blah about BHP instead!

I hope this clarifies things, but if you want more details you can find my number in Helplines.
Mark Adams

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Tune Resistor

Internet Mailing List Nov 96
Can anyone help by telling me what value the Tune Resistor for a Griff 500 with Catalytic Converter is? This item is found amongst the harness near, but external to, the ECU, attached via a connector. It is a parameter that allows the ECU to control the right fuel/air mixture. I need to check it against mine which is suspiciously incorrect.
Kenny Heng

Internet Mailing List Nov 96
According to the Land Rover specs for their big Rover V8 engines which form the basis of the TVR units, the tune resistor value should be:

Cat models - 3700 to 4100 ohms
Non-cat models - 446 to 494 ohms
Source: Haynes Range Rover manual page 263 para 107

I would guess that TVR have not modified these and these are the right values although in a couple of other books I have on tuning Rover V8s, talk about replacing the tune resistor with a variable one and thus fooling the ECU into thinking the engine temp is colder than it really is and dumping more fuel in and giving more power.
Steve Heath

Internet Mailing List Nov 96
On my 500, I measured the resistance at 600 ohms which is rather odd and perhaps confirms my suspicions about it being wrong. I felt it was too rich and my engine kept stalling at idle under normal running temperature. My car is equipped with a variable tune resistor, which I presume is for tuning to meet emission regulations here. I turned it up to 1900 K-ohms and found that it cured the stalling problem but noticeably more drive train shunting, apparently typical of cat-equipped cars having to run lean. I'm waiting for more feedback before I do anything further. I would like to sort this and a leaky manifold problem out before continuing my evaluation of Superchips.
Kenny Heng

Internet Mailing List Nov 96
I have called the factory and they have advised me, having consulted with TVR Power, that the tune resistor value for the Griff 500 (which has a cat converter) should be 3900 ohms. This value is exactly in the middle of the Land Rover specs.

I have adjusted the variable resistor on my car to 3900 ohms, from 1900 ohms that was set before, and noted stronger exhaust pulses. Now, the car does not stall at idle (normal running temperature), the problem which started me on this. This leads me to conclude that the reason for stalling was too rich a mixture. The idling remains rough, rocking the car quite a bit. Subjectively, the engine felt more eager than before to pull from about 3000 rpm onwards. However, shunting at below 2000 rpm is more pronounced. I am still curious as to whether the rough idling and shunting are normal characteristics of the 500. Appreciate comments.
Kenny Heng

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Fuel Injection Problems

See Ignition for idling problems caused by faulty HT leads

Stalling and Erratic Idling

Internet Mailing List Aug 96
. . . My [Chimaera] engine cuts out on decelerating. This seems to be a common problem and has variously been described as being caused by either a broken relay or broken stepper-motor governing the idle. TVR Centre (Redhill) diagnosed the latter, replaced the faulty part and cured the problem for almost a whole month. Now it's back to it's old ways . . .
Robert Pearson

Internet Mailing List Feb 97
Has anyone had experience of their 5.0 Chimaera continually stalling on them? My 18 month old 12,000 miler has a habit of dying on me on downshifts - going into roundabouts etc. It usually won't start again for about 5 minutes. Sometimes the engine fires but dies immediately, at other times it refuses to fire at all. My dealer can't find the cause.
Philip Morland

Internet Mailing List Feb 97
Yes, I have had the problem you described on my Griff 500 when I got the car. All or a combination of the following were done and it solved the problem:

1. If it has been happening since you got the car, check to make sure that the chip in the ECU is the correct one for the 500HC engine. Mine was incorrect when a replacement unit was sent despite specifying the car it was for (came with Griffith 500 written on labels). ECU is stock Land Rover/Lucas part but mapping chip is TVR proprietary. We suspect someone forgot to change the chip at the factory.

2. The tune resistor value used should be 3900 ohms, and is standard Land Rover part. We found a variable resistor in my car which is not factory standard, and was probably installed by my dealer here to pass emission tests. Adjustment is for biasing ECU's fuel/air mixture, and if the engine runs too rich when engine is up to running temperatures, causes stalling at low rpm in my car. You did not mention whether your problem is related to engine temperature, but may be why you can't fire it up when warmed up. oo lean and drive train snatch is more pronounced. Suggest sticking to 3900 ohms since it offered the best driveability, and is the factory setting for good reasons. ther settings may cause damage to catalytic converter.

3. Have stepper motor and valve cleaned with wire brush. Check that stepper motor itself is functioning. There is a

allen key screw on the plenum at side of air inlet which is redundant for this version but make sure someone has not inadvertently screwed it all the way in. The factory setting for it is two and a half turns starting from bottom.

4. Basic tuning such as cleaning/replacing plugs, ignition cables (these deteriorated very quickly in my car, probably due to climate and heat from manifolds), and ignition timing. Another possibility to check is the fuel pump.

Please be aware that I am sharing these as my experiences of a problem similar to what you describe. Without a more detailed assessment its difficult to diagnose. Hopefully, this information would be useful in suggesting places for your dealer to look.
Kenny Heng

Oct 96
I had a minor problem with the Griff, and also previously with the Chimaera, where when the ambient temperature was very high e.g. 30C the engine would stall when depressing the clutch at a junction, instead of dropping to idle speed. I had a similar problem last year with the Golf that I was running, and it was caused by a plunger sticking in a cylinder due to a combination of dirt buildup, misalignment and/or and thermal expansion. I understand that the TVR problem is very similar, and I know it is also widespread. The main reason I would like a definitive answer is that I am regularly communicating with a soon-to-be owner in Singapore and the car he is buying is afflicted with the problem due to the higher ambient temperatures. I also know it's a simple problem to fix, as SHG cured mine in about 5 minutes. Have you got anything on this one?
Steve Powell

Oct 96
I've asked my dealer about the stalling problem you described and he has two suggestions.

The most likely cause is carbon build-up on the stepper-motor valve, which will make it stick shut. This can be checked by removing the stepper-motor unit (at the back of the plenum chamber on the end of the air by-pass hose) and cleaning the seat of the valve with a wire brush. I've never had this apart myself but I'm told it's pretty obvious what to do once the unit is off the car. This sounds like the problem you described with your Golf. A TVR or Range Rover dealer can check the operation of the motor by using their diagnostic equipment to trigger it in the same way that the ECU does. I don't think you can do it any other way, but a bodger might try whipping one end of the by-pass hose off and seeing if they can feel any suction on tickover. If the motor itself has to be replaced, the Lucas part number for all models is 73312.

Another possibility is that the fuel filler cap is on too tight. The cap is supposed to allow just enough air in to prevent a partial vaccuum developing in the tank, while not actually venting petrol fumes to the atmosphere. I'm told that it doesn't aways work as it should, especially in hot weather (maybe because the seals in the cap expand). A clue is if the tank goes whoosh when you take the cap off at a filling station. Try loosening it a fraction and see if the problem goes away. No doubt it would be illegal to drill a small hole in the cap . . .
Peter Beech

Internet Mailing List Dec 96
After not having the Griff for a week it now seems to be sitting at idle at between 400 and 800 rpm. Is this normal as it has taken to stalling in traffic unless I keep the revs up?
David Donnan

Internet Mailing List Dec 96
Around 1,000 rpm or above is the usual idle speed. Stalling in traffic usually indicates a mis-adjustment or other problem with the stepper motor, which prevents the engine from idling properly. I'd have it looked at by a dealer if I were you, as it's a common and easily rectified problem.
Steve Powell

Internet Mailing List Dec 96
Mine did that when I first got it and I have yet to completely cure it. I cleaned the stepper motor valve which improved matters a little. This requires its removal from the back of the plenum but is relatively simple to do. I have been told

that replacing the motor itself may be necessary, and I have just received the part and will try this out soon. Another adjustment is the allen bolt at the side of the plenum on the passenger side nearest to air hose. I am told by the factory to have this set 2.5 turns starting from fully screwed in. Mine stalled too and this was cured by removing the variable tune resistor (installed by dealer and running too rich) and replacing it with a fixed resistor (Land Rover part, 3900ohms for Griff 500). This is found in your harness leading to the ECU in the passenger footwell. I doubt however that this would be your problem, but is simple to check.
Kenny Heng

Internet Mailing List Dec 96
So how does this thing effect idle speed?
Paul (engine Illiterate)

Internet Mailing List Dec 96
It doesn't... but the jet it controls does. The V8 engine sets the idle speed by bleeding a small amount of air from the air intake into the plenum chamber. It's the equivalent of opening the throttle slightly without having to touch the accelerator. This is controlled by a jet which is controlled by the stepper motor which in turn is controlled by the engine mangement system. If the jet gets stuck or the stepper fails, the idle speed goes out of the window. This used to be done by adjusting a metal screw - which is still there but does very little now its function is done by the stepper motor.
Steve Heath

Internet Mailing List Dec 96
. . . Apart from for keeping the engine idling, I understand it is also used to keep revs up during gear changes (the moment when throttle is closed) so that they are smoother. The ECU controls the stepper motor based on inputs such as engine temperature, engine speed, and vehicle speed.
Kenny Heng

Internet Mailing List May 96
. . . My Chimaera initially idles at just over 2000 rpm for no apparent reason. If you start it from cold or warm it either jumps to 2000 revs or shoots up and down between 1-2000 revs. Strange thing is when you let it idle for about 2 minutes it settles down to a much more reasonable 98Oish revs but if you should restart the engine for any reason its straight back up to 2000.
Tony Orr

Internet Mailing List May 96
My S3C has the same 'feature' in normal use and also a very similar problem relating to a faulty component. My solution is the following:

1. Start the car using no throttle

2. Let engine settle down to it's start-up revs (usually 1,500-2,000)

3. The battery light is still on.

4. Rev the engine to turn off the battery light.

5. Immediately let the engine revs settle down.

Simple as that! . . . obvious really?!

A very similar problem also occurs when there is a faulty throttle regulator. This gets steadily worse especially in summer when it is hot. What happens is that when you are braking (!) or when stopping at lights the car can inadvertently go to 2,000 (or more) revs - which is obviously dangerous. The solution is to get a new one.
Mark Gee

Apr 97
In my experience, if the idle speed is searching between say 1500 and 2000 rpm it is usually a stepper motor problem.
Steve Beresford

Internet Mailing List Jun 97
The stepper motor is a black plastic unit about 1.5 inches across with an electrical lead plugged into the back. It screws into the rear of the plenum chamber at the back of the engine on the driver's (RHD) side. To remove it, disconnect the lead and gently with a large spanner unscrew the unti. If it is gummed up, clean it and put it back. Do not over torque it or it will break. Some people recommend using some ptfe tape - as used by plumbers - around the thread to ensure a good seal. If it not gummed up, then it could still be faulty in which case it will need testing and replacing i.e. a trip to your friendly dealer. This is best done when the engine is cold. Not only is there no hot metal work waiting to burn you, but the stepper is often easier to remove.
Steve Heath

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Low Speed Misfires

Sep 96
Problems with missing and holding back on light throttle could be caused by a bad connection on the earth strap from the battery to the chassis under the centre console or one from the engine to the chassis. Try tightening the bolts before looking for problems elsewhere.

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Stalling and Loss of Power

Letter Sep 96
The TVR Club gave me your name as someone who might be able to give me some advice on some of the problems I have been having with my Chimera, a 4.0 June 94 model . . . I bought the car last April with about 4,000 miles on the clock in perfect condition and a complete service history from the TVR centre in High Barnet. The manufacturers' warranty still had two months to run, and after that I purchased a two year TVR approved warranty.

In the Summer/Autumn of last year the car developed an intermittent problem where it would stall and prove impossible to re-start unless left for several hours. The problem seemed to occur mostly when damp, and after many hours at the TVR Centre was traced to a badly soldered transistor in the ECU. This was re-soldered and the car ran trouble free for about six months.

Then at the beginning of the summer the car, on occasion, would seem to lose a considerable amount of power. If the car was idling, it would stall. If moving, there would be a momentary loss of power. These were the same symptoms as described in the above problem, except this time the car would always re-start. Again, the problem occured sporadically. I assumed that there was yet another issue with the ECU, and insisted that it be sent away to be checked (the TVR Centre computer had failed to pick up the earlier fault).

The TVR Centre says that the ECU is fine and that the problem is carbon build up in the cylinder head valves. Their solution is a de-coking of the cylinders for £1,300. Now I admittedly do most of my driving in London, but after only 9,500 miles in total there is no way that this can be ordinary wear and tear. If a carbon build up is the problem then surely there must be something else wrong. I haven't heard of anyone de-coking a car (although my father has, but twenty years ago and then only after about 50,000 miles).

Do you have any thoughts/suggestions? If it is a carbon build up should I try "blowing it off" e.g. driving it for some long motorway stretches? Are there any products that one can put through the fuel?. . .
Michael Hewett

Comment
I have a lot of respect for the people at the TVR Centre in Redhill [Redhill Ltd] and often ask them for help with queries I get from other owners, but I've no idea what the Barnet branch is like. So I rather mischievously asked Redhill to comment on Michael's letter. If you are a cynic you will ignore what follows, but it seemed to make some sense to me so I thought it was worth passing on.

Redhill have had problems with several cars that are used a lot in London, and they believe it is because the ECU has been set up for 'sports' driving (oddly enough) and not for sitting in traffic jams. In stop-start conditions the messages going to the ECU could be so far outside its normal parameters that it starts assuming fault conditions and ignores them completely. The engine will still run under these circumstances, but not with anything like the correct mixture. If this is the only type of driving the car is used for, it is possible that it could have got as badly coked up as Barnet were suggesting. I gather from other sources that carbon build-up on the valves is much more common with unleaded fuel.

In this particular case one wonders whether the previous owner had also spent all their time chugging round London, and whether the duff ECU had made matters even worse. As for giving it a good thrashing, I would have thought the car would be ever so grateful even if it didn't cure the problem. An RAC man once told me that he regularly 'decoked' his own cars with a good dose of Red-X straight into the carbs, but I'm not too sure how modern engines (or cats) would react to this.

(There is a reference to this in a discussion about city driving under the Impressions section).
Peter Beech

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Ticking Injectors

Internet Mailing List Nov 96
Sometimes when I lifted off the throttle in the Griff, I could hear a very faint ticking noise, I did wonder if this could be the tappets, but I was told that it could be the injectors. The Griff went in on Saturday and it was the injectors, it seems to be at it's loudest at a constant 2500 rpm in third, and even then it is very, very faint (and I'm very, very picky !).
David Donnan

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Ticking Injectors

Feb 98
If you hear a whistling noise that changes in tone as you apply and lift off the throttle, it may be an air leak around the plenum chamber. It may come and go as the engine warms up and differential expansion opens or closes the gap.

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Recurring Stepper Motor Faults

Sep 98
A few owners of 4.3 litre cars with cats have reported having stepper motors replaced repeatedly in an attempt to cure idling problems. There are two other possible causes which are worth investigating.

The early cars used a Range Rover Discovery ECU chip, which was programmed to set a fault code if the lambda sensors on the cats gave an oxygen reading that was about 20% over or under the 'ideal' level. Outside this range the ECU would increase the engine idle speed to prevent possible damage to the cats. The problem is that this band is

really too narrow for the 4.3 engine, and as a result the ECU can be operating in a fault mode when there is nothing actually wrong. The only solution is to change the chip. Mark Adams on the car club's Helpline can explain whether this problem might apply to your car and what to do about it.

The second problem is that some early cars had a range of throttle movement that could, under some circumstances, run off the end of the throttle potentiometer which tells the ECU how far the throttle is open. This will also trigger a fault condition and the ECU will not function properly until the fault code is cleared.

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ECU Fault Codes

Dec 97
This information is included for general interest, or for those who know how to make use of it and have access to the correct diagnostic equipment. The test module supplied to TVR dealers can detect 22 fault codes from the ECU. Note that pre-cat cars will display certain fault codes when there is no actual fault (they are noted in the list). Fault codes are stored in the ECU until its live feed is disconnected, and this must be done after a fault has been rectified otherwise the ECU will continue to ignore the supposedly faulty sensor(s).

Code	Meaning	Comments
02	Live feed to ECU has been interrupted	Normal if ECU has been disconnected to clear old fault codes. Code 02 will clear if ignition turned off for 30 secs then on again.
03	Stored data corrupted since last trip	No useful information available. Test drive and try again.
12	Airflow meter out of range	Possible air leak or wiring fault.
14	Coolant thermistor out of range	Faulty sensor or wiring.
15	Fuel thermistor out of range	Faulty sensor or wiring.
17	Throttle sensor out of range	Sensor needs adjustment or is faulty or has wiring fault. This can cause low speed misfires
18	Throttle sensor output too high when air flow low	Large air leak between throttle butterfly and A/F meter or faulty throttle sensor or A/F meter.
19	Throttle sensor output too low when airflow high	Faulty A/F meter or throttle sensor.
21	Tune resistor out of range	Check tune resistor resistance.
23	Low fuel pressure	Blocked fuel filter or faulty pump or pressure regulator. Valid for cat cars only.
25	Misfire at full load	Faulty plugs, leads, electronic ignition unit, distributor or coil, low fuel pressure or valve or head gasket leak. See 40 and 50. Valid for cat cars only.

28	Air leak	Leak in A/F meter hoses, injector seals, inlet manifold gasket, plenum gasket, servo or crankcase vent hoses or Lambda sensors. Valid for cat cars only.
29	Checksum error	The ECU is f****d.
34	Fuelling fault in nearside injector bank	Injector or Lambda sensor wiring fault, faulty injectors, air leak at injector seals or inlet mainfold, blocked injectors. Valid for cat cars only.
36	Fuelling fault in offside injector bank	As above but for cylinders 2-4-6-8 only. Valid for cat cars only.
40	Misfire on nearside bank	As 25 but for cyclinders 1-3-5-7 only. Valid for cat cars only.
44	Nearside Lambda sensor out of range	Faulty or lead-poisoned sensor or sensor wiring fault. Valid for cat cars only.
45	Offside Lambda sensor out of range	As above. Valid for cat cars only.
48	Stepper motor fully open above 500 rpm or fully closed above 750 rpm	Sticking stepper valve, incorrect base idle speed adjustment, air leak on non-cat cars, incorrect stepper motor adjustment, incorrect throttle butterfly adjustment, rough running because of fuel or ignition or mechanical faults.
50	Misfire on offside bank	A 25 but for cylinders 2-4-6-8 only. Valid for cat cars only.
59	ECU unable to distinguish between faults 23 and 28	Fault occured for insufficient time for ECU to diagnose.
68	Road speed sensor output too low at medium rpm and high air flow	Possible sensor or wiring fault (will also cause wrong speedo readings on electrical speedo cars). Valid for cat cars only.
88	Power-up check	Not a fault. Sometimes displayed on first connecting test module.

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ECU Sensor Checks

Jan98

To carry out these tests you will need a multimeter and access to the back of the 40-way plug that connects the ECU harness to the ECU. Access is obtained by removing the ECU plug and rolling back the plug's shroud to expose the pin connections. Some tests require the plug to be re-connected to the ECU and some are done with it disconnected. There are a few pin numbers on the back of the plug, but in case you can't make them out, the pin numbering (looking at the back of the plug with the harness coming in from the right) is thus:

```
  28 29 30 31 32 33 34 35 36 37 38 39 40
27 26 25 24 23 22 21 20 19 19 17 16 15 14
 01 02 03 04 05 06 07 08 09 10 11 12 13
```

Don't blame me if tinkering about here produces a puff of smoke and a large bill!

Power Supply to ECU
ECU plug connected. Ignition off. Voltage between pin 15 and ground should be same as battery voltage and at least 10V.

Airflow Sensor
ECU plug connected. Ignition on. Should be 0.3V-0.6V between pin 35 and ground.

Coolant Sensor
ECU plug disconnected. Ignition on. Should be 2400-2600 ohms between pins 7 and 25 when coolant at 20C, 300-400 ohms at 80C.

Fuel Temperature Sensor
ECU plug disconnected. Ignition off. Resistance as for coolant sensor but between pins 25 and 32.

Throttle Potentiometer
ECU plug disconnected. Ignition off. Should be 5000 ohms between pins 3 and 25.
ECU plug connected. Ignition on. Voltage between pin 20 and earth should swing smoothly from 0.26V-0.36V to 4.6V-5.0V as throttle is moved from fully closed to fully open.

Tune Resistor
ECU plug disconnected. Ignition off. Resistance between pins 5 and 27 should be 446-494 ohms on non-cat cars (green wire resistor), and 2700-4100 ohms for cat cars (white wire resistor).

Injectors and Lambda Sensors
Injectors for cylinders 1-3-5-7 should be connected to pin 13 via yellow and blue wires.
Injectors for 2-4-6-8 should be connected to pin 11 via yellow and white wires.
Lambda sensor for 1-3-5-7 should be connected to pin 23 via a blue wire.
Lambda sensor for 2-4-6-8 should be connected to pin 24 via a blue wire.

ECU plug disconnected. Ignition off. Resistance between pins 2 and 13 and between 2 and 11 should be 4-5 ohms.
ECU plug connected. Ignition off. 12V between sensor earth connections and ground.

Engine running at 1000 rpm. Fluctuating 0.5-1.0V between pins 4 and 23 (sensor for 1-3-5-7) and between pins 4 and 24 (sensor for 2-4-6-8). Low voltage indicates faulty sensor or air leak, low fuel pressure or faulty injectors. Steady 1.0V indicates faulty sensor or high fuel pressure, leaking injectors or saturated carbon canister.

Stepper Motor
ECU plug disconnected. Ignition off. Should be 48-58 ohms between pins 1 and 26 and 48-58 ohms between pins 28 and 29.

Road Speed Sensor
ECU plug disconnected. Ignition on. Should be either a fluctuating voltage from 0 and 12V or from 0.5 and 5V between pin 6 and ground when car is rolled forward slowly (depends on type of sensor fitted).

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Fuel System Miscellaneous

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See Instruments for Fuel Gauge

Noises from Petrol Tanks

Sprint Jun96
. . . Almost from new we have experienced a noise from the rear of the car when cornering at speed. This got progressively worse and was eventually diagnosed as loose baffle plates in the petrol tank. The only cure for it was to have a new tank fitted. Being of a nasty suspicious nature I was pleasantly surprised to detect no smell petrol in the boot when the car came back.

This was not to last. The seal used on the sender unit was either a reused or wrong part and the pressurisation of the fuel tank caused it to blow, filling the boot with Messrs Tesco's Finest Unleaded. Added to this, the trim used in the Chimaera's boot is a man made material which is now showing signs of melt down where it has been soaked in fuel.

Another interesting noise we have experienced is a loud, sudden thump from the rear of the car, usually after driving for an hour or so (but not always). I assumed that this was a sudden expansion of the fibreglass base of the boot caused by heat from the exhausts. Our dealer reckoned it was the fuel tank pressurising and causing the sides of the tank to pop out slightly. Another theory is that water from condensation is getting trapped in a carbon filter where the breather from the tank routes back to the front of the car. If this filter is cleared the noise stops. The Griffith appears to suffer from this too. Can anyone else shed any light on the subject?
Chris Morgan & Judy Williams

Internet Mailing List Oct 96
As I put the Griff in the Garage last night after a blast through the countryside, I heard a slight hissing coming from the boot. Knowing that there were various poisonous snakes at large at the moment I opened the boot with some trepidation, to find the petrol cap was making the noise. I opened the cap, it sucked some air in and stopped hissing. Is this normal? If it is not where is the breather pipe?
David Donnan

Internet Mailing List Oct 96
I think the fuel piping layout in the Griff is the same as in the Chimaera. I had the same problem some time ago. At the back of the filler pipe runs a small hose. You can find that by carefully removing some of the carpeting on top of the tank. This hose runs down to a so called purge valve (black round thing). This valve opens at a certain rpm to release some or all of the petrol vapour into a carbon filled container in front of the car. This is to meet emission regulations. So either the valve does not open or the carbon tank is filled with water. Another possibility is that some of the hosing is obstructed (a tight bend or something like that). The result is that the fuel pressure is building up in the tank with the hissing sound as a result.
Paul Schoenmakers

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Petrol Fumes

Oct 93
Some cars built between January and October 1993 had a breather pipe on the fuel filler neck fitted incorrectly, which could leak petrol fumes into the cabin. This should have been rectified at the next dealer service, and it's easy to check whether it's been done. The pipe is a rubber hose from the filler neck to the rollover valve, and it should bend up into the boot hinge recess before going down to the valve behind the tank. If there is no upward bend it is wrong and a new longer hose is needed.

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Fuel Pump

Internet Mailing List Jan 97

I have recently purchased a 1996 Chimeara which is an insurance total loss. The plan is to repair it and put it back on the road.

I have sorted out some electrical problems that the car had, but one remains. There is no power going to the fuel pump. I have assumed that the immobiliser is not causing this because I have obtained a new transmitter unit and successfully set it up so that the engine is willing to crank over and start if I apply power directly to the pump. I considered that it could be something as straightforward as a fuse, but I don't know which one. Can anyone tell me the exact location of the fuse in the fuse box (so I don't have to check every one) and offer other advice as to what the cause could be.
Matthew Johanson

Internet Mailing List Jan 97
Don't know if you have similar laws over there, but in US we have a rollover law that cuts power to the fuel pump to prevent fires in case of a rollover. There is a reset device located somewhere on the car, usually in the trunk, which must be reset to energize the fuel pump after it has been shutoff by the rollover. Maybe this is the problem? This is usually called out in the owners manual over here, if you got one with the car?
Anon, Detroit

Internet Mailing List Jan 97
This is quite likely to be the cause, particularly if the car has been involved in an accident. It mentions the fuel cut-off device in the owners manual.
Steve Powell

Internet Mailing List Sep 97
Seems like my fuel pump packed up over the weekend. Went to start the car, it turned over no problem, but wasn't firing. Tried again and noticed that I couldn't hear the fuel pump when switching on the ignition. I can't see any reference in the handbook to any fuse which might have blown, causing the failure and because of a CD multichanger installed above the tank, I couldn't get to the tank to check the wiring and connections. Does anyone know if there is something obvious and easily rectified which is causing this failure or do I need to arrange transport to the workshop to have this looked at?

The MIL light doesn't come on and I can't find the reset switch anyway (it's not on the inside of the passenger side wing like it says in the handbook, then again, a lot of things aren't like it says in the handbook). I do have a suspiscion that it might be related to the alarm (the alarm immobilises the fuel pump) since I've had a couple of alarm control boxes in as many months and am getting a sneaky feeling that they might not be that reliable!
Robert Pearson

Internet Mailing List Sep 97
The fuel pump is usually outside of the body strapped to the chassis where it can remain relatively cool. It is worth checking that the electrical connections are still OK. I believe that the unit is *normally* fused through the ignition/ECU fuse. It is worth checking all the fuses just in case. The fuel pump is controlled from the ECU, judging from the V8S circuits I have. While you are checking the connections, make sure that you are getting +12 volts from the car with the ignition etc on. If not, this does point the finger elsewhere! The fuel pump is also inhibited by the alarm and if this has been playing up, then I would be very suspicious indeed. You could try using the alarm key to disable the unit to see if that makes any difference. If not, it could involve tracing through the wiring with a multimeter to find out where the problem lies. The reset switch could be in the battery space in the footwell as well.
Steve Heath

Internet Mailing List Sep 97
Robert, it could be the fuel pump relay switches and not the pump itself, or it could even be that one of the leads has fallen out of the ECU. The former happened to my Chimaera, the latter to the Griff.
Andrew Derodra

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Pinking

Intenet Mailing List Sep 97
With the run-in period just completed, I've only now started harder acceleration, and...

Has anybody had any experiences with Griff500's pinking under acceleration? Mine has done about 2,700 miles, and uses super unleaded from the nearby Esso. Yet with a heavy right foot, it can start pinking at 3,500-4000 rpm. I've run out of road before I can see if it stops when I get to higher revs. And I've never gone past 5000rpm yet. The garage says this is fairly normal and can make a small adjustment.

Any clues out there?
Andrew Derodra

Intenet Mailing List Sep 97

I am having similar experiences with my Griff 500. In this part of the world, the best grade fuel in Malaysia assures 96 RON, and it pinks. However, the best we can get at home in Singapore is 98 RON, and the engine runs beautifully. In my experience therefore, the fuel grade makes a difference to how much ignition advance is tuned in. The higher RON fuel used, the more advance, and hence more power.
Kenny Heng

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Transmission

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Specification and General Maintenance

Sep 96
Up to late 1994 the gearbox was a Rover unit as fitted to the SD1. Later models have a Borg Warner box. The Rover box is a bit fragile in this application and prone to rapid wear if the oil isn't changed regularly. Consider changing the gearbox oil at 12,000 miles instead of the recommended 24,000 miles. There are two or three grease points on the prop shaft, if you like that sort of thing.

Internet Mailing List Feb 98
Borg Warner T5 boxes are very common in the states...used on Camaros, Fireturds and Mustangs. 'Mustangs Unlimited' sell a standard new T5 for about $1000 (600 quid) and an uprated one for $1300 (800 quid). I think it's rated for a godawful amount of horsepower (well above 500) . . .
Marcus Tooze

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Graunchy Reverse

Letter Sep 96
. . . Most Griffs and Chimis seem to suffer embarrassing graunching noises from the gearbox when you select reverse which I'm told is also suffered by owners of Sierra Cosworths whose box is used. The answer is to go into 3rd or 5th briefly first and it will slip in perfectly . . .
Simon Cockle

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Hand-Controlled Clutch Modification

Sep 96
I know it doesn't have a wide scope of interest but I have had my Griff (4.3 BV) hand-controlled. The clutch is controlled by a Guidosimplex hydraulic system which is based on a very clever box of electro-mechanical-hydraulic tricks that I don't know an awful lot about. The normal action of gripping the gear change knob (this activates a micro-switch in the knob) disengages the clutch, which is subsequently engaged when the gear is selected and the knob released. If you do get any enquiries from people with a requirement for such a system, I'm very willing to describe it, and demo it if necessary. I can also put them in touch with the system installer.
Dave Peck

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Differential Noise

Internet Mailing List Feb 97
I got my first TVR (new Griff 500) in September last year and had problems with the diff. It was making a clunking noise when coming on and off the power. The diff was subsequently replaced and things where looking up for the next 1,200 miles. The new diff has now started making a high pitched wining noise (at 3,000 miles) again coming off and on the power. It even makes a similar noise when rolling along in neutral. Noise level is louder than the engine from the inside of the cockpit. I have asked the people at HR Owen in London to have a look/listen. In anticipation of the news, can somebody provide a frame of reference of how much noise you would expect out of the diff on a Griff made in mid 1996.
Lars Ljungwaldh

Internet Mailing List Feb 97
It is quite normal for Limited Slip Diffs to make some noise, although it should not be excessive. My Chimp has a gentle whine when cold and it becomes more apparent the harder the car gets driven. I am always aware of the diff noise when cruising on motorways, but it gets lost with the engine roar when I am having some fun. When I bought the car the diff was almost silent. I have now done 20,000 miles and have had the noise since about 5,000 miles, but it has not got any better or worse since then.
Steve Williams

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Replacing the Clutch Slave Cylinder

Apr 99
Symptom: Clutch fluid level drop, the clutch failing to release unless pressed right to the floor.

On the Griffiths with the Rover 5 Speed box (reverse up and to the left), the slave cylinder can easily be removed from underneath the car.

The slave cylinder is accessible from underneath the car on the drivers side of the bell housing. The rear of the cylinder points towards the front of the car. Loosen the bleed screw and drain off the Hydralic fluid into a suitable container. Loosen the hydraulic pipe. Undo both 13mm bolts holding the cylinder to the bell housing. Replace the cylinder and bleed.

Cylinder Part number is AP Lockheed 99364 (The 4 could possibly be an A). It cost me about £40. Fernhurst sell this part for less than my local Motor Factors. The whole job took about 1/2 hour.
John Wild

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Battery

Griffith Battery Replacement

Internet Mailing List Mar 97
I will qualify this with a few points. Firstly, I spoke to the factory and got instructions (they really are very helpful you know!), secondly I supervised while a very nice RAC man did the job for me, and thirdly there may be some difference in build dependent on date. Anyhow, it goes something like this:

1. Remove the piece of carpet with the rubber pad on. The edge tucks under the floor carpet. It isn't glued.

2. Carefully pull the bunch of wires and relays which rest on top of the battery out of the way.

3. Remove the L-shaped piece of carpet material which covers the battery box.

4. If the ECU is slotted into the space between the fibre glass battery box and the transmission tunnel, slide it forward. If not, it too will be sitting on the battery and should be moved out of the way.

5. Grovel underneath the car and remove two bolts securing the GRP battery box to the floor.

6. Disconnect the battery terminals.

7. The battery box will now slide forward and can be removed from the car.

8. According to the factory there may be a plate riveted to the top of the battery box to stop the battery 'falling out if you turn the car over'. If the battery has been replaced before, then there is every chance it isn't there anymore, but if it is, you need to drill the rivets out to remove the plate.

9. Battery now lifts out of the GRP box and can be swapped with a new one (type 072 - Range Rover).

10. Reassembly is obviously the reverse. You can decide whether or not to re-rivet the plate back on top of the box. You should be very careful that the carpet material that covers the battery is securely in place before replacing the bunch of wires/relays, since a short might be disastrous. Judging from the language coming from under the car I would say that replacement of the bolts securing the battery box to the floor can be a bit tricky.

It is essential to fit the correct battery, because a smaller one will not last long since it will be overcharged by the alternator and in any case won't much care for turning over a V8 engine when it is designed for an Escort. When mine failed this winter I discovered the previous owner had fitted a smaller battery and put some foam underneath so the terminals were level with the top of the battery box. No wonder it failed. Some people seem to be under the impression that a battery is a battery, but it does matter what sort if you don't want to be doing the same job again next year. There really isn't any excuse for cheating on cost grounds, because a good quality zero-maintenance battery with a five year unconditional guarantee is only £66 including VAT from CAFCO or a similar motor factor. I dare say it's a bit more from a dealer, but if you can do the job yourself you don't need to pay dealer rates. One thing to bear in mind is that it isn't an off-the-shelf battery at KwikFit and the like, they would have to order one and ask around £90 for the same battery. Motor factors do stock them though. The point is, get the battery before taking the car apart.

Steve Powell

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Chimaera Battery Replacement

Mar 97
To remove the Chimaera battery:

1. Take out the carpetted panel at the end of the passenger footwell.

2. Remove the fuse/relay panel, which should be held in place with one bolt but is often just flopping about loose. Move the ECU box out of the way.

3. You will now be looking at the face of the battery box - an unpainted fibreglass cover with its lower edge about nine inches off the floor of the footwell. This is held in with four (possibly five) bolts around the edge. They are quite diffficult to get at because there are heater pipes and air ducts in the way. A tube or box spanner is essential and a six inch or longer extension makes things a lot easier.

4. Once the cover is off you can slide the battery out. The best technique if you are to avoid pulled muscles is to lay upside down in the seat and lift the box out over your head.

While you are putting things back together check that none of the relays in the fuse/relay panel have been knocked loose during the struggle, otherwise all sorts of mysterious electrical problems will occur. Nervous passengers have been known to kick relays loose, by the way, so the sudden failure of your wipers after a track day may have a simple explanation.

Internet Mailing List Aug 96
. . . I would be interested to hear from anyone who has modified their battery box such that the battery can be removed or replaced without a good half day's work and a double hernia. I think this is a major design fault, given how often the battery is likely to go flat and need recharging when the car is left unused for any more than a few weeks . . .
Robert Pearson

Sep 96
Apparently, early Chimaeras and Griffith 500s can be fitted with the later battery box which has external terminals for charging and jump starting.

Letter Dec 97
Another bit for you on batterys for Chimaera's (mine's a 1994 4.0). I was told it should be a type 72 (630 amp) - bloody thing wouldn't fit so I had to get a smaller type 75 (590 amp) and even then I had to cut off the clamping flange to make it fit. By clamping flange, I mean the extra bit of plastic that allows you to clamp the thing down in a normal car.
Nic Conway

top

Charging

Internet Mailing List Aug 96
Roop wrote:

"Recharge your battery by connecting the negative of your charger onto the engine block or chassis under the bonnet somewhere, and the positive onto the alternator." My question is: Anywhere in particular on the alternator? A positive terminal maybe!

Dave Peck

Internet Mailing List Aug 96
Problem is alternator leads are generally attached to small terminals and battery chargers have big croc clips, which slip off small terminals and short to the main body. Is the starter motor solenoid accessible on the Chim? This has a nice fat positive terminal post with a fat cable which cannot be confused with anything else, running right back to the battery.
Richard Eggleston

Mar 97
I keep my bike battery charged during winter lay-ups with an Optimate. This monitors the battery voltage and only charges when necessary. It 's also supposed to be able to recover badly discharged batteries. Costs £40, stocked by a lot of bike dealers and also available mail order from MPS (01626 835835).

Apr 97
There are a lot of references [in the Workshop Notes] to cars that have flat batteries, due to the car left for a number of weeks. Several months ago I did an article for Sprint that showed how the problem was easily removed. Henley Heritage, can supply and fit an intelligent charger in the boot. This will provide information on battery condition and maintain the charge as and when needed. I have it fitted to my late '96 Chimaera and know several other people who have had it done. The installation is very tidy, and regardless of how long the car stands it always fires up straight away.
Geoff Cahalin

Internet Mailing List Jun 97
I will, unfortunately, be leaving the side of my Griffith for two weeks. Has anyone tried to keep battery topped up by connecting a battery charger through the cig lighter. If so I would like to know if it works, or if anyone has any better ideas.
JohnGreenhalgh

Internet Mailing List Jun 97
A trickle charger feeding the battery through the cigarette lighter works just fine. I have done this as a standard procedure everytime I park the car in the garage for the last year and a half. The very small charge keeps the battery topped up as long as you wish.
Paul Schoenmakers

Internet Mailing List Feb 98
Ring Carol at the TVRCC 01952 770635 and ask for the under bonnet battery connector thingy (technical terms). It provides an underbonnet connection for the battery so there is no govelling in the footwell. Fits the Griff as well. Highly recommended.
Steve Heath

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Jump Starting

Sep 96
My dealer advised me to be careful with this, as it's possible to 'spike' the ECU and wreck it. Connect the positive terminal first, then the negative terminal, taking care not to cause a spark when you are attaching it. The alternative of bump starting (if the battery has any life at all) is not recommended for catted cars, but is probably no more risky.

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Earthing

Internet Mailing List Apr 97
A couple of months ago I mailed the list asking for ideas about problems I was having with my Griff - mainly faulty readings on the instruments. I have found the problem to be a faulty "tunnel" earth. To get at this you must:-

- Remove the roof
- Move both front seats forward.
- Undo four 10mm nuts behind the seats that hold down the panel that surrounds the gear stick handbrake etc.
- Loosen off the handbrake cable underneath the car so as to allow the handbrake to be pulled up into a vertical position.

The centre section can then be lifted from the rear over the gearstick and handbrake exposing two earthing points - 17mm bolts. I found one of the bolts to be completely free. This has fixed a lot of problems I was having with the alarm, instruments and idling.
Adam Dyte

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Alarm

up to contents

See Battery for trickle charging

Description of Gemini Alarms

Griffith 4.0 & 4.3 litre
The system on these models was developed before insurance companies required any special features, and does not meet current insurance standards. It is based on a Gemini remote control module for locking and unlocking the doors, which can also immobilise two circuits when the doors are locked: the fuel pump and the fuel gauge. The latter is to give the impression that the car has run out of fuel if a thief hot wires the ignition [what planet do these people live on?]. You can use the fuel gauge immobilisation circuit to immobilise a different circuit such as the starter, which should meet requirements set by several insurance companies. The immobiliser circuits activate when the remote hand set is used to lock the car. They cannot be activated if the ignition is on, or by hot wiring the ignition circuit. A microwave alarm can be installed by plugging the appropriate units into the existing wiring. The alarm unit is the Gemini 1002 and the sensor is the Gemini 1059.

Chimaera 4.0 & 4.3 litre
This is based on a TVR-designed control module which controls locking and unlocking of the doors and the internal door release mechanisms. This effectively dead locks the car's doors. There is no remote control facility (but one can be fitted), the control unit is activated via the external door locks (source - Vauxhall). When the unit is triggered it either locks or unlocks both doors. On locking, it arms the alarm system and immobilises three circuits: the fuel pump, engine-management system and fuel gauge. You can use the fuel gauge immobilisation circuit to immobilise a different circuit but it must be under 5 Amps. This is a true two circuit immobiliser which meets [met] several insurance companies' requirements. The circuits cannot be activated if the ignition is on, or de-activated by hot wiring the ignition. A microwave alarm is used in conjunction with the system. The alarm unit is the Gemini 1002 and the sensor is the Gemini 1059.

Griffith 500
This is similar to the Griffith 4.0 and 4.3 system, but immobilises the ECU and the starter motor. This creates a true two circuit immobiliser which meets the standards required by many insurance companies. The immobiliser is activated when the remote handset is used to lock the car. It cannot be activated if the ignition is on, or de-activated by hot wiring the ignition circuit. A microwave alarm is used in conjunction with the locking. The alarm unit is the Gemini 1002 and the sensor is the Gemini 1059.

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Remote Control Conversion for Gemini Alarms

Sep 96
This can be done using a Gemini 2339 remote control unit, rewired and T-ed into the existing control module. Every time the remote is operated a pulse is sent to the control unit as if it were one of the door locks being operated. The control unit operates all the locks, the alarm, LED and other functions so the same control logic applies whether the system is armed via the handset or the door locks themselves. The remote controls operate the same as a door lock so the system can be armed with one and disarmed with the other.

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Re-Synchronising Foxguard Alarms

Mar 96
Foxguard have found that a large proportion of returned F1-11 units are not actually faulty but simply out of synchronisation with the Radio Key. The F1-11 uses a random encryption antiscan grabcoding system. If the Radio Key is operated out of range of the car the key wilI transmit a coding signal but the receiver in the alarm will not recieve it. If this happens the coding in the Radio Key moves on but the unit will not. This will cause problems if the Radio Key is regularly pressed and released while out of range.

If the Radio Key no longer operates the alarm systern, try the spare one. If the system is operating correctly this indicates the first remote is simply out of synchronisation. It is possible to resynchronise the Radio Key:

1. Stand next to the car.
2. Press the left hand button on the Radio Key, the LED on the Radio Key will become solid.
3. Keep the button depressed for at least 3-4 seconds.
4. Release the button and immediately press the button again for 1-2 seconds.

The Radio Key is now back in synchronisation with the alarm. You may have to try a few times before the system will respond correctly, if you don't do step 4 quickly enough - the button need only be released for a split second.

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Alarm Causing Flat Battery

Sprint Dec95
We left our TVR locked and alarmed in our garage while we were away for four weeks and came back to find that the battery had been drained by the alarm being on, and was so flat as to need replacing. Is there a way to avoid this, other than leaving the car unlocked and therefore unalarmed, but in a locked garage? This does seem rather risky to us.
Linda Gould

Ass'istant Ed's Comment: One complete discharge shouldn't render the battery useless. Perhaps it was on its way out anyway? If the alarm draws so much power, one solution might be to leave a trickle charger charger connected whilst away. I'm sure the experts will come to your aid with a better solution though
John Osborne

Sprint May96
I experienced similar problems to Linda with my Chimaera when it was only about 5 months old. We went on holiday, left it locked and alarmed and on return the battery was flat. The doors being locked of course one becomes very adept at breaking and entry - try to charge the battery but no luck it's dead and needs replacing, and as John O comments it shouldn't happen unless the battery is on its way out - but with a new car?

So we fit a new battery only to find the electrical locking system and the mechanical system are out of synch - much clattering of relays which takes good luck and a little magic to reset. The solution I have come up with is as suggested,

to trickle charge and the easy way to do this is to buy a plug that fits the cigarette lighter socket, connect a long lead (not too thick) to the trickle charger and close the car door on the leads so that the car is left locked and alarmed while you are away. A bit of a pain and I'm sure not TVR approved, but it works.
Mike Penery

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Ineffective Alarm

Internet Mailing List
My Chim was victim to a thug with a knife Sunday night who slashed the back hood and stole the stereo. The alarm didn't go off and served its last day as I've decided to have it ripped out. The stereo was worthless but unfortunately my poor old Chim is now parked in the TVR garage and will probably remain in there until the end of next week. I'm currently driving around in an Escort cursing this glorious weather and feeling deflated. Can I raise a discussion on alarms and call upon yourselves to share experiences of type and makes as I need to buy one. I'm thinking of one with a pager system. Sounds good theoretically but what are they like practically? Any help would be greatly appreciated.
Jas.

Internet Mailing List
The standard Gemini alarm fitted to our Chimi seems to be quite good, although a light tap on the hood or back windows will set it off, cats and other warm-bonnet seeking animals don't.

Why did this geezer bother to slash the back window of your car? I managed to break into our Chim in sub 30 secs by forcing my hand between the Velcro bits at the back of the hood and knocking the supports away. I had to do this as the battery was dead and the doofa didn't work. Scratched my arm a bit, but given a couple more minutes and a booster battery and I could probably have driven it away as when I plugged the battery charger on the alarm wasn't active so presumably it's default state is off from a new connection - odd that one.

Anyone knowing the battery position in Chimis (and Griffs I suppose) could quite easily disconnect it for a couple of seconds, reconnect, knacker the ignition key barrel and pinch your car within a few minutes if my amateur break-in effort is anything to go by. Just a thought - don't have nightmares!
Rupert Kent

Internet Mailing List
The only way to go is Clifford, Jas. I have had a Clifford Concept 50 on my TVR and my last Peugeot . . . The Concept 50 is an alarm Immobiliser, with glass tamper, microwave and door and bonnet sensors. Thatcham 1 approved too. You can also add any of the following: perimeter detection, talking module etc etc at a later date. As for a pager it is okay (300 yards away I believe they work), but prevention is better than curing a problem I would say. Also I would not like to be faced with the sort of car thief you get in Brum. 470 quid I believe for the concept 50. If you want to know more please mail me (Oh yes I also have nice wooden key fobs too). If you want one please let me know as I know quite a good place to get it done, just mail me for their phone number.
Ian Collins

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Adjusting Chimaera Microwave Sensitivity

Aug 96
No need to take your car to the dealer for this, provided your neighbours don't mind the noise. At the back of the centre transmission tunnel console there is a small tray. Lever out the base and remove the two long self-tapping screws. The console can now be tilted forwards to expose the microve unit - a black box stuck on a bit of foam. There is a small hole on the top (early Gemini units) or at one end (later Marconi units), with an adjusting screw lurking at the bottom of it. You'll need a watchmaker's screwdriver (preferably plastic) to turn it. After each adjustment, set the

alarm and step well back from the car while it has a little think, which seems to take about ten seconds. Approach from various angles with hand extended, pausing for three or four seconds to give the alarm time to react. This should tell you where the boundary of the field is, and if you don't like it, twiddle the screw some more. Do this in the open if possible - large lumps of metal close by (like garage doors) or confined spaces might give misleading results.

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Alarm Not Setting Properly

Internet Mailing List Aug 96
. . . One or other of the indicator lights occassionally remains illuminated after arming or dis-arming the alarm. Only way to cure it is to repeatedly arm and dis-arm the alarm until both lights go out. Not ideal - can be embarrassing and frustrating . . .
Robert Pearson

Internet Mailing List Apr 97
My Gemini alarm has started to play up. The central locking enables and the engine immobiliser engages when I press the clicker but the alarm emits two short blips and fails to activate. If I trigger the alarm (by banging the rear window) I get another short blip noise instead of the alarm siren going off.

I noticed a series of posts indicating poor earthing could affect the alarm system, could this be the problem ? Anyone got any suggestions before I ask for it to be checked at the next service ?
Mark Elliott

Internet Mailing List Apr 97
If I remember correctly... two short blips means that one or more of the detection circuits is not complete and that the alarm will not arm correctly. I would check the earths but also the interior light door switches and a bonnet switch if one has been fitted. It has also been known for the lead(s) to come loose from the alarm unit itself. With the alarm in this state, your insurance company could construe that it is faulty and invalidate any theft cover. So I would get it checked ASAP. Use a local Gemini alarm dealer if necessary.

Power and/or earth for the alarm is usually taken from the headlamp connections. Most alarms do not drive these lights directly but tap into the standard switches and use the normal relays. Again, it all depends...

The door switches normally make an earth connection and this can be used to trigger the alarm by simply piggy-backing onto the two connections. The problems with current drain for the doors is that if the interior lights are switched off, then the drain through the relay may not be enough to set off the alarm.

If you only have one clicker, get a spare. It can take up to a week to get one as they are not usually available off the shelf. If the code number is not inside the clicker, then the clicker will need to be sent away to extract the correct code as well!

The TVR alarm systems were until a couple of years ago (1994) quite varied and effectively fitted after the car was built. Later cars have the alarm incorporated into the electrics.
Steve Heath

Internet Mailing List Apr 97
With most Gemini alarms if you press the blipper once then again quickly afterwards the alarm will set but the sensors will be not be activated. This is so you can lock the door etc. in an area where the sensor could create a false alarm. You will hear two short bleeps to let you know this has happened. When you then set the alarm off you will hear a bleep instead of the full alarm (for testing?). Maybe the button on your blipper is getting stuck making it look like two presses. Maybe the sensors are defective and the alarm is shutting them down to stop false alarms.
Nick Hatch

Internet Mailing List Apr 97
After a long weekend of ripping the Chimaera's dash apart, I have finally found out why one side of the car's indicators don't always go off when they are supposed too. As many people suggested, it was a faulty relay but it is one inside the central locking module that controls the indicators.

For all of you who wanted to know how I fixed the alarm, read on. In my Chimaera the central locking module was located under the passenger side dash next to the heater control. The remote control module was stuck to the top of this central locking box and they both have multi-plug connectors which I disconnected and I could remove both modules as they were velcro'd down. (Underneath which you might find a witty TVR engineers remarks!) Inside my central locking box, there were 5 clear relays that control the central locking - 2 to lock and 2 to unlock (why another?). The one that controls the indicators was at the top of the PCB if you are looking down on it and you have the multi-plug connector on your left. It was coloured blue & had loads of numbers/designators/specifications on the side.

I managed to lever off the cover (I think it just clips on) and there are two sides to the contacts (ie left & right which controls the appropriate side of the car). The offending one was arcing when activated and there seemed to be a small lump of metal on one side of the contacts. I scraped it away using a fine knife and tried to bend the centre moveable contact to give it more room to 'disconnect'. (hope you understand all this!). Unfortunately, I bent it too much (typical) and the bloody thing wouldn't go on. A bit of bending (!) later and the thing now works as advertised.

The central locking module was a 'TVR Issue 1' not that it makes any difference I'm sure. I tried unsoldering the relay to have a closer look or replace and although I removed all the solder, it wouldn't budge - perhaps it was glued to the pcb? Who knows.

Hope that has put all of your minds at rest - any further questions or if I didn't explain it clearly then contact me.
Nic Conway
e-mail address : nic@nicon.demon.co.uk

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Microwaves and Rain

Internet Mailing List Aug 96
I have managed to get the alarm working reasonably well in my wedge. It's a Maystar main alarm coupled with a Serpi Star microwave intrusion unit. I was tempted to adjust the sensitivity of the microwave unit to cover just past the back window, but this resulted in the alarm going off when you walked past the doors! I have the microwave unit installed just in front of the gearstick beneath the leather. However I still have one problem: when there is a sudden shower of rain, the alarm goes off! I think the arrival of a film of water all over the car is setting off the microwave unit. Anyone else experienced this, or better still, have a cure? What's even more annoying is that it doesn't do this with the roof down (and remind me to put it up!)
Adam Quantrill

Internet Mailing List Aug 96
Bit of a problem, I know. I have set mine to cover the largest area WITHIN the car. If you adjust it so it measures the interior (just inside the roof) then the rain should not effect it. The doors are okay as it should have either voltage drop (interior light works okay?) or door switches. The problem I have found is that when it is in the garage the microwave gets pretty sensitive so I have turned it down so it only covers a small area within the car. Mine is a Clifford by the way.
Ian Collins

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Alarms and GSM Cellphones

Internet Mailing List Apr 97
This is one area where there is a lot of mis-information and a lot of (new) legislation. Your GSM phone is a fairly nasty device, operating around 900MHz, and using a digital (ie on/off) modulation. It certainly has the possibility to wreak havoc in unprotected electronic circuits. However, don't let dealers, manufacturers etc fob you off with excuses.

Current legislation (since 1992) is that ALL electronic equipment "shall not cause unwanted interference to radio" and "shall not suffer undue interference from radio". If you wish to know whether the equipment that you buy (alarms etc) comply with this, look for a "ce" mark on the unit or packaging. A lot of dealers are probably still selling (or clearing) old stock that does not comply. (quite illegally).

Current legislation (since 1996) is also that vehicles must comply to very similar rules. In this case it is the familiar "e" mark that is used. Coming legislation will require ALL electronic equipment intended for fitting in a vehicle must also comply with the same rules as the complete vehicle. Furthermore if you have someone install the alarm etc in the vehicle for you then they are responsable under the law that the complete installation complies with the above rules. I would suggest that if you are having problems with recent vehicles, recent installations etc that you have very good reason to go back to the dealer/installer and tell them to sort it out.

For those of you with less recent vehicles and installations, here are a few ideas:

- Immunity to interference such as a GSM requires screening (inside a metallic box etc) and filtering (like your suppression capacitors etc). No doubt you're ahead of me here, Tivs, metal etc....
- If the unit in question (alarm etc) is "ce" marked then probably it is the installation that is a fault. Recheck the cabling etc, try screening the cables (you can buy metallic adhesive tape for this). Remember that for a GSM, a cable only 3 inches long represents a good "receiving antenna".
- Immunity also depends on how strong (or close) the GSM (or other transmitter) is to the unit in question.
- A portable type GSM has lower power than a mobile type so the required immunity will be easier to obtain. But a portable could be placed closer to the unit in question and you're back in trouble again.
- Unless you are prepared to get involved in a little radio engineering technology to cure the problem on your Tiv, try not to use a GSM. Or stop and get out, walk a few metres away before using it.

If you really have to use a GSM then:

If the ehicle is very recent you should check with TVR for possible recommendations. They should be aware of all the new regulations and should give you advice on the best (or accepted) installation.

If the vehicle is older and TVR can offer no particular advice then:

- Use a mobile type
- Fit the antenna on a rear wing (ie far away)
- Get the installer to fit some real metallic screening (or ground plane) under the antenna
- Get the installer to check that the GSM operation does not cause ANY strange phenomena.
- Use of a "fixed position" antenna will make it much easier to fault-find any resulting problems

Old technology cellular phones, ie "analogue" types probably would not cause any of these problems. But hey, that's progress!
Pete Hizzy

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Electrics Miscellaneous

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See Doors for door mirrors

Corrosion Proofing

Sprint Jun 98
Whilst working on a friend's Mazda recently, I noticed that the electrical sockets on the lighting circuits were greased.

Having various friends with TVRs as well as my own, a rucurring problem has been corrosion of the electrical terminals in the engine bay, especially low down at the front for the lighting. With this in mind I visited a local electronics component supplier and purchased "Electrolube" for £1.40 and have coated all the connector terminals. Hopefully this will solve one lot of problems.

Available from Maplins, tel. 0172 554000, part no. FM80B.
Neil Lepley

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Removing Chimaera Headlamps

April 97
I've managed to remove the headlight surrounds - they are just bolted on with 2 x 10mm nuts at the bottom. One of my headlights has got a hole in (as well as a resident fly) and once the surround was removed, the headlight pulled through the sealant quite easily. I ordered another from Christopher Neil & they said they would chuck in some more sealant!
Nic Conway

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Removing Griffith Headlamps

Letter Oct 97
Noticed you had a query about headlight removal on your homepage. Here's what I know.

The Griffith headlight pods appear to be sealed into the car at manufacture. However, it is possible to access the interior arrangement for bulb replacement and alignment. To access the headlight fixtures, you will need a jack, wheel brace, stanley knife, phillips screwdriver, a tube of black mastic (can get this from any hardware outlet), masking tape and a torch.

- Loosen wheel nuts on front wheel behind offending headlight

- Jack up car and remove wheel

- Look inside wheel arch at the back of the headlight for a small inspection hatch sealed with black rubber

- Run knife around the edge of the rubber to break seal

- Unscrew 4 screws and lever the fibreglass hatch cover off

- This will reveal the rear of the headlight assembly

- The rubber boot can be removed to access the bulb fixings, remove the cable connector first.

Note the three wing nuts. These can be used to alter the alignment of the headlight. This is a trial and error game, best done at dusk in front of a barn door *[is this a TVR special tool?]*. Position the car about 10-20 yards from the door, switch on the dipped lights and fiddle with the wing nuts until the alignment appears correct. There are legal guidelines for the height and spread of dipped headlights - check local garage for details.

If the pod has come loose within the body of the Griffith nose, check the single nut at the bottom of the fixing strut. A strip of aluminium has been fashioned (in typical TVR style) to hold the whole pod arrangement in place. This strip can be found directly below the inspection boot at the rear of the headlight. The headlight pod is also kept in postion by the sealant between itself and the recess in the nose.

If the sealant has perished or the pod has shaken loose it will need re-sealing. This is a time consuming job (about 45 mins per light), but is ncessary if the pod is moving around as headlight re-alignment is impossible otherwise.

Loosten the single nut mentioned above to allow greater movement of the pod and scrape out the existing sealant. Use something soft (like the handle of an artists paint brush) so you don't scratch the paintwork or the pod. It is better to remove all the old sealant as it is not easy to merge old with new. Re-position the pod by hand and tighten the nut at the rear to hold the unit in place. Unless your arms are 5 foot long you might seek some assistance here!

Tear off strips of masking tape and work your way around the outside edge of the pod recess. Position each strip of tape to cover all of the paintwork up to the lip of the hole. Then repeat the exercise with a line of masking tape on the edge of the pod (about 3-4mm from the other circle of tape). Ensure the pod hasn't moved since you set the position correctly last, then load the mastic tube into one of those gun frames that can be found on the shelf below at B&Q.

Shape the nossle of the mastic tube to offer the smallest aperture and fill the gap between the two circles of tape. Try to get as much into the gap as possible as the sealant is used to hold the pod in place, not to just act as a water seal. When finished, run your finger lightly around the whole edge to give a smooth finish. Leave for 1-2 hours, then peel off the tape. To finish, replace the inspection hatch and re-seal the edge of this with sealant also.
Mark Elliott

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Headlamp Wiring Fault

Letter Aug 97
. . . The night time problem relates to the lights. The problem is:

1. On main beam the grille mounted main beam lights only are on.

2. On dipped position the main beam and faired in driving lights are on. It is not possible to just have only the dipped beam on.

3. With the side lights only on, and pull the headlamp flash stalk, with the ignition off, the ignition lights and gauges come on as long as the flash position is maintained!

I had suspected an earth fault for the front lights and found a bunch of earth wires grounded to one of the steering rack mounting bolts. I checked the earth with an ohm meter betweem the chassis and piercing the insulation of one of the earth wires with a probe needle. resitance was less than 10 ohms, so I assume no problem there. I have also removed and refitted the relays for the headlights, the terminals all seemed free of corrosion etc.

I have noticed one other thing, when the lights are flashed, with all light switches off, the main beam blue dash indicator lamp does light up. However when the lights are on, it does not work in either dippped or main beam stalk positions.

All other lights and electrics are working fine, which I am sure is a novelty in itself! I suspect backfeeding due to a poor earth as the most likely cause but do not know where to look next. I have checked the resitance between the neg terminal of the battery and the chassis, again less than 10 ohms. Could it be a faulty indicator/light stalk switch assy? Could it be that one of the relays is faulty or has been replaced with an incorrect type? I do not really want to contemplate a loom fault/damage, as it is so inaccessible!
Peter Faulkner (1992 4.3 Griffith)

Peter,
I am utterly USELESS with electrics! However, I do have a slightly spotty photocopy of the 1992 Griff 4.0/4.3 wiring diagram which I can send you if it helps. Failing that, if you need to test particular circuits I can look them up for you and email a description of the route and colours. The diagram is a bit schematic and looks sort of vague about relays. I believe the whole column assembly is from Vauxhall, so maybe one of their dealers could give you some help on fault finding in that area.

If it's any help at this stage, the heater fans, horn, radiator fans, washer pump and all front lights seem to share the same earthing point. Main beam wiring is:

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Brown feed from dashboard panel pin 79 to pin 56 on main/dip switch.
Brown/red feed from dashboard panel pin 28 to:
   pin 56b (I think - photocopy is bad here) on dip switch and
   pin 86n on fuse panel block G, which goes to a diode then brown/white wires to:
      pin 85m on fuseboard block A and
      pin 30 on dashboard panel and
      pin 56a (I think) on dip switch
Brown/white wires from pin 87m on fuseboard block A to driving lamps.
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Green wire from dip switch pin 30 goes to wash/wipe switch and to fuseboard block M whereyou will also find a red to the ignition switch, a green to the brake light switch, a purple to block A and the courtesy light and (nearby if not on it) browns from the battery.
Peter Beech

(not every story has a neat ending - I've no idea how Peter got on with this)

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Griffith Headlamp Bulbs

Internet Mailing List Apr 97
To get to the headlamp bulb under the Griff perspex cover, first Jack the car up and take the front wheel off. You can probably access the unit without doing this but it is a lot easier with the wheel out of the way. There is an inspection hatch in front of the wheel which is (usually) held in

place by some self tappers and loads of sealant. Undo the screws and you can remove the panel and get access to the headlamp unit. The bulb is held in place by a spring clip and a rubber gaiter/boot.

I would strongly advice using some sealent when replacing the panel to make sure that no water or spray from the wheel can get into the compartment.
Steve Heath

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Blue Headlamps

Internet Mailing List Jun 98
Related to a scam in the US, remembering seeing in alt.autos.tech a few months ago. Hope it's of interest...

[I've edited this to reduce the length: PB]

Various companies are selling halogen bulbs that have a coating that makes them light up with a bluish color. Drivers have been confused by marketing claims which falsely equate their performance with the very expensive arc-discharge headlamps found on top-line luxury cars.

Genuine arc-discharge headlamps run with a very purplish-white character that will remind you exactly of the color of the electronic flash on your camera. That is because the same technology is at work. HiD headlamps are legal because they're not actually blue, they just appear more blue than the halogen lamps surrounding them.

The tinted blue bulbs give headlamps a bizarre turquoise-blue-green coloring.

These blue bulbs have a filter coating on them that allows only the blue frequencies through the filter. Because very little light is produced by a halogen bulb in this range in the first place, it is only this very small amount that ever reaches the road.

Headlamp illumination of the roadway and road hazards is dramatically reduced.

Glare for oncoming traffic is sharply increased.

Because blue is the shortest wavelength of visible light, it scatters the most readily. When it strikes water (rain, fog, snow) it scatters in all directions and makes on-road vision very difficult.

In no case are blue-tinted bulbs legal for use in any European, Canadian or American headlamp on any non-emergency vehicle.

There are other new headlamp bulbs on the market, meant for use in regular halogen headlamp assemblies. They produce yellow-tinted white light rather than plain white light. These bulbs do not have the dangerous effects of the blue bulbs discussed above, and have been proven (and approved) to improve bad-weather visibility and reduce glare. They look unusual, but they are actually OK.
Daniel Stern (Automotive Lighting Specialist)

Danny-Luhde-Thompson

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Griffith Driving Lamps

Internet Mailing List
I've just discovered that the cracked Driving Lamp I've had on my Griff for two years has finally given up the ghost and has now fallen to bits. Does anyone know where I can get a lens for this lamp (Cibie make them), because I've been quoted £61.50 + vat + p&p for the whole unit. The existing unit still works, so I don't see any point in completely replacing it unless I have to.
Sean Lennon

Internet Mailing List
The lights are the same as those used as driving lights on the E30 series BMW (the old shape 318 etc.). Strangely the local BMW dealer is only asking £35 and not £78 as Kerridges are.
Steve Marriot

Letter Sep 96
. . . Having heard of the prices quoted for replacement driving lights on Griffs I have fitted mine with a pair of rather neat plastic protectors from Carnoisseur (01582 471700) £21.95 a pair, part number 3100830. These are unobtrusive, removable for cleaning and don't interfere with the light

output.
Simon Cockle

Letter Sep 97
Having smashed four headlights in under two years, I was keen to get hold of the protective covers mentioned. I contacted the company mentioned *[above]* and the covers arrived the next day. As both headlights were cracked, I tried to get hold of the suggested BMW substitutes. However, these don't fit mine. My car is now 22 months old by the way. I seem to have "Cibie SC" lights fitted. The number on the glass is 0488047. It also says E2 & 30, & HR. I've tried to contact Cibie UK, but have had no luck. Has anyone any ideas? By the way I'm not being tight, just resentful at having to pay through the nose. Given the vulnerable position of these lights, I reckon TVR should fit protectors as standard.
Tony Miller

Internet Mailing List Oct 96
When I switch to main beam on the Griff the driving lamps come on but the main headlamps stay on dip, is this normal ? If so why, and is it possible to change this so the main headlamps give main beam also ?
David Donnan

Internet Mailing List Oct 96
As far as I know the driving lights are the main beam on the Griff. When I got mine the garage said that since the lights are faired in they would get too hot on main beam and hence the driving lights. The chim' and cerb' lights are not faired in, hence no supplemental lamps.
Andrew

top

Courtesy Light and Battery Drain

Sep 96
Even when the courtesy lights are switched off, if a door is left open the relay coil still operates resulting in a continuous drain. Over a several days this can be enough to drain the battery.

top

Footwell Light

Internet Mailing List Apr 97
Grovel in the passenger footwell and just under the glove box compartment and near the ventilation hole is a flat surface. It's close to the transmission tunnel. That's where my light is.

It's connected to the interior light circuit. In my case, it was switched off so that was why I didn't notice it. Maybe it was an optional extra... mne's a late '95 Griff... if that makes any difference.
Steve Heath

Internet Mailing List Apr 97
There is a light in my [K Reg Giffith] footwell - same place. I discovered it about a year after getting the car - not in the manual at all(no surprise there). My passenger was grovelling about trying to turn on the warm air (for what it's worth). It is useful 'cos you can then see the fuses - assuming you have some power.
Steve Marriott

top

Mucky Horn Slipring

Aug 96
If your horn doesn't work in some steering wheel positions, the most likely cause is factory-applied dirt on the slip ring. Fortunately you can get at this in five minutes by removing a couple of screws in the steering column cowl, so it's worth looking at before bothering a dealer. The offending gook looks like fibreglass dust to me, polished into a nice non-conductive laquer after a few thousand miles.

top

Intermittent Wipe & Park Problems

Aug 96
There is a relay in the Chimaera passenger footwell that controls wiper parking and intermittent wipe, and either may stop working work if the relay works loose. The one to look at is in the centre of the fuse panel (behind the carpet). It is a large relay and usually blue. The Owner's Handbook contains a fusbox/relay layout if in doubt.

If this does not fix the problem, the fault may be in the park switch on the wiper motor. This is located under the motor unit next to the multi-plug on the wiring harness and can be reached by taking off the motor bracket and twisting it upwards. The park switch is held on by a spring clip and is a standard Lucas part. The switch and the multi-plug are prone to corrosion, and an occassional squirt of WD40 should prevent this problem occurring.

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Indicators

Mar 97
Should you ever need to get at it, the flasher unit is not on the fuseboard/relay panel, but under the top of the dashboard.

top

Rear Speakers and Air Vents

Internet Mailing List
I have noticed that quite a few Griffiths and Chimaeras have speakers mounted in the panel separating the boot from the passenger compartment. In most cases the speakers are where the two original air vents were. Is this a good idea? Perhaps they don't do anything anyway, but I am sure a speaker does not make a good air vent!
Steve Powell

Internet Mailing List
The reason for the air vents in the rear bulkhead of Griffs is to allow airflow through the car. Without them, when you turn the fan on to blow air in, the car gets pressurised, not much air comes in or goes out, and what does go out is forced out through the gaps at the tops of the windows and makes a whistling noise sometimes. That's why TVR put the vents there. They are slightly less conspicuous in the Chimaera, a slight protrusion of the leather on the upper lip of the bulkhead giving away the fact that vents are there. You can shove speakers in here, but then your airflow is disturbed and won't work well with the windows up. Fan never was any good anyway so I don't suppose it matters.

What I reckon you should do with regards to fitting a stereo is this. Get a custom made box for the boot that houses your 18-disc multichanger and 400W amp and doubles up as an acoustically tuned box for a couple of 15" subs. Then, up front, mount tweeters in the side pods of the doors (where the ashtrays are) and your midrangers in the doors. Simply port the acoustic box in the boot through one of the air vents (if you have a Griff) or bash a hole through the bulkhead and port it in if you have a Chimi. If you have a Cerb, you're lucky - you can take up the whole of the back seats for amps and subs too because they're damn all use for anything else!
Rupert Kent

top

Radio Reception

Letter Sep 96
Given the levels of cabin noise on a Griffith 500 and the musical note of the engine I've always thought a stereo to be a rather unnecessary accessory. I presume TVR think the same so have never bothered to sort out how to fit them properly! There seem to be two basic problems - a very weak radio signal (due to a lack of a decent aerial) and an excess of electrical noise (due to inadequate supression and poor shielding given by the GRP bodyshell).

After numerous complaints to my dealer, they made a significant improvement by enhancing the earthing with heavy straps to the chassis and direct to the battery terminal. They also suggested fitting an aerial laying horizontally across the recess in the boot by the petrol cap. I baulked at this as they wanted £50 for correcting what I see as a basic design fault and opted instead to get a car audio specialist to check it out. So, a visit to Milton Keynes Car Alarm and Radio produced an amplified sceen aerial (Radiornobile) fitted not on the screen, but tucked away behind the dashboard. They also fitted a suppressor to the second live power feed as TVR see fit to only put one on the switched feed. This has fixed 95% of the problem and the remaining interference will probably succumb to libral application of suppressors to all fans, wiper motors and the alternator, but that will need a second visit. Meanwhile a big thanks to MK Alarms (01908220337) and a total bill of £20.
Simon Cockle

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Ice Detector

Internet Mailing List Dec 96
. . . Does anyone know where the ice detector sender unit is ?
David Donnan

Internet Mailing List Dec 96
Yes! Just shows how much I have been under the car already. It is a little 2-terminal device that looks like a ceramic capacitor attached at the end of a wiring harness, which I found hanging inside the left-front of the car near the front indicator lights. Its not attached to anything in particular but just hangs in the lower part of the bodyshell. If you put your head under the car from the front, and look around you should find it. I found the device by accident and was not really looking for it. I also don't know if it works because it never gets lower than 21 deg here, so its a superfluous feature for me!
Kenny Heng

top

Mirror Control Unit Location

Internet mailing List Nov 98
I have an 8 week old Chimaera 500. While driving along an electronic control box fell between my legs! I have now found this is the door mirror control unit. It had two plastic straps covered in Velcro type hooks, they were pressed into a carpet off cut. The carpet had glue on the back an had obviously been stuck up somewhere behind the dash.

Talking to my dealer it seems this is a recent modification, the box used to be in the drivers door. This caused problems with water getting into the unit, so TVR moved it inside the cabin. The dealer has spoken to the factory and it seems the carpet idea isn't working very well. My dealer has now built a bracket for the unit.
Stephen Sutton

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Instruments

Speedo

Internet Mailing List Jan 97
I've got one of those analogue speedos that makes a loud 'tick' every 10th of a mile. I am told that they were from a dodgy batch of BL stock that TVR bought and refaced - the tick being caused by the fact that the trip meter was blanked off, but the mechanism tries to push against a non existent cog every few seconds. The later instruments don't match, so I would have to swap at least the speedo and tacho together (if they fit the holes in the dash). All in all, it's a bit like driving a very fast grandfather clock.
John Langford

Letter Oct 97
On my car (1994 4.0HC Chimaera) the the mileometer is an electromechanical device that increments every 1/10th mile when a solenoid is pulsed to click a pawl mechanism. Hence the click. I was told on good authority that this particular instrument originated from a tractor. There is no trip mileage facility, blanked off or otherwise, and my reason for discovering all this was to add an LCD trip with a small reset button which works well.

The 1/10 mile pulses are derived from a custom electronic box within the dash. This box converts the output from a gear tooth speed sensor in the diff, and incidentally also provides a simulated speed sensor signal to the ECU to tell it whether the car is moving or not. I believe this is used by the ECU to determine whether to adjust the idling speed or not, via the stepper valve. The simulated signal is not very much like the Rover sensor signal and I suspect that the idling control is unduly inhibited by by the slightest movement of the car. This may explain idle speed problems; try keeping the car totally stopped for a while and you should notice the idle speed suddenly correcting itself. If you keep moving, no matter how slowly, it won't.

I suspect that this arrangement was derived for Borg Warner gearboxes and that the earlier Rover units may have the proper speed sensor and may not have the same idling problems . . .
Mike Gill

Letter Feb 98
Mike's opinion about the cause of the speedo ticking is quite right. If it is ticking, all is okay. In my 94 Griffith the speedo was working intermittedly and the ticking was not heard. I opened the instrument and found that the solenoid got regular electric pulses but the small metal plate which is magnetically attracted by the solenoid (this makes the noise) was glueing to it and could not get loose. There was not enough space between the two parts. I loosened the fixing screws of the solenoid and rearranged it and the problem was solved.
Thomas Hopf

Internet Mailing List Jun 98
The speedo in my Chimaera has had a mind of its own lately. First it was coming on and off every few miles, and has now completely given up. Assuming the 'Sorry Mr Plod but you see my speedo don't work' excuse doesn't go down too well, I'll have to get it fixed.

Is there anything I can check myself to find out where the fault lies, other than take the top of the dash and see if a wire has become loose?

Around the same time, the timing went out a bit, and it often stalls when you put the clutch down to change gear, even at high speeds. Bit dangerous when it happens changing down for a tight turn as the PAS stops too. Idle at rest is OK though.

Could these too problems be connected, i.e. the computer doesn't know the speed of the car, so isn't adjusting the timing to compensate?
Graham Hay

Internet Mailing List Jun 98
The problem could be a faulty transducer. They get quite hot. Speedos have been known to fail too. Often they are replaced as a pair no matter which one is faulty, to ensure they are matched.

Exactly the same thing happened to my Griff when the transducer failed. I was told by the dealer that there was some sort of speed related input to the ECU to stop the revs falling back so much when you change gear on the move, and once this lost the input from the transducer it got confused. Other people have disputed the existence of this mechanism since. However, all I can say is that, like your car, my car developed the stalling problem at exactly the same time as the transducer failed, and this problem went away as soon as the transducer was replaced. The timing was unaffected as far as I could make out though. The problem hasn't re-occurred in the last two years.
Steve Powell

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Fuel Gauge

Internet Mailing List Apr 97
My Chim's petrol gauge keeps dropping to zero (thats not because of the way I drive it) and going back up/down in spasms. Also when the tank is full it stays at zero for a while (15 miles).
Paul Bland

Internet Mailing List Apr 97
That is symptomatic of a faulty fuel gauge sender where the sender goes off the resistence track when full - hence the zero reading until you have used about a gallon of fuel and contact is re-made. The ups and downs are caused by this contact making and re-making. Replacement or adjustment is often the cure.
Steve Heath

Letter Feb 98
My fuel gauge showed empty when there were about 8 gallons in the tank. If the tank was full, it showed 3/4 only. Here is my solution, but be aware that it is an awkward and dangerous procedure:

1. Open the boot. Loosen the trim on the right upper side of the tank. Unscrew the fuel sender and take it out. Close the open hole with something! Re-connect the cables and turn the ignition on. Move the white float up and down and look at the fuel gauge.

2. If the needle goes from empty to full then you have to adjust the sender by bending the wire up or down. Hold the sender outside the tank in the same level that it is buit in and arrange the wire so that the float is in its lowest position about 2-3 inches above the lower edge of the tank. You must be sure that you only bend it up or down, not in another direction, to avoid the float rubbing on the front ofr back wall of the tank. In most cases that's it and you will have enough petrol for 20 miles when the warning light goes on.

3. If the needle does not reach "empty" or "full" by this procedure, then it's a little bit tricky. You must remove the fuel gauge from the dashboard and open it. Remove the black or chrome ring and remove the screws at the back. Inside, the pointer is connected to a small coil, which moves in a cage. You can turn this cage to adjust the position of the pointer on the scale. Turn it so that the needle reaches "zero" if the float is completely down and "full" if it is in the

highest position. Secure the position of the cage with a drop of glue and repeat No. 2.

Don't smoke during this procedure!
Thomas Hopf

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Extra Gauges for Chimaera

Jan 98
The dashboard of the Chimaera models can quite easily be converted to accept extra instruments: a voltmeter and/or an oil temperature meter.

The voltmeter as fitted in the later Griffith 500 models has exactly the same style as the other instruments in the Chimaera but there are different colours for dials (magnolia, mint green, yellow black etc.) and for bezzles (black or aluminium). This gauge can be fitted without any modification and it is available at your local TVR dealer (the supplieris Caerbont Automotive Instruments).

The oil temperature gauge is not available as such but if you order a water temperature gauge and a water temperature sender as already fitted to the Chimaera you can have the gauge converted. Speedy Cables in London specialise in converting and repairing all kinds of gauges and they can modify the TVR gauge for about 20 pounds (Phone 0171 2269228). Since the oil temperature seldom goes above 120 degrees (that is in the area of the sump plug where you fit the temp. sender) the scale as such does not have to be changed but the little water thermometer symbol has to be replaced by an oil temperature symbol (oil-can with smaller thermometer). For the functioning of the gauge you don't have to do this of course but it looks very neat.

Where to fit the gauges
First step is to drill the holes in the dash panel. Because the 'wooden' dash panel is in fact a steel plate with a polyester front with wood motive (indeed, you don't need to be afraid of wood worm attack) you need a special drill to make the holes.

A 2 inch metal drill with adapter is required to drill these holes: you can NOT use a wood circle drill from a DIY shops.

First remove the dashboard top (described else where in the workshop notes) and than determine the position the new gauges. The best position to drill the holes is left from the speed meter and right from the rev counter.

Make sure to drill the holes on the same level as the existing instruments in the lower level (clock). Before you drill the holes remove the two upright brackets behind the panel. Most likely the brackets can be left off.

Make sure to position the holes in a way that there is 4 to 6 mm room left between the bezzles and the dashboard upholstery. The holes must be visible THROUGH the steering wheel.

Use high drill speed to get through the polyester layer without chipping it; reduce the drill speed to get through the metal plate.

The hole pattern of the four centre instrument will now look very much like that of the Griffith instrument panel.

When fitting the instruments in to the holes you may need to enlarge them a bit because the TVR gauges are slightly bigger than the standard drill. The right hand instruments will NOT interfere with the dash top cover when the holes are drilled correctly.

Before fitting the new instruments it may be worth to reconsider the location of the various gauges. In order to stay in line with the gauge positions in the Griffith, the WATER temperature gauge should be moved over to the new position

next to the Rev counter and the oil pressure gauge to the new position next to the speedometer.

Wiring up
All connections you need are already present at one of the other gauges except the oil temperature signal wire.

The earth, feed and illumination wires can be extended from any other gauge. The volt gauge does only need these 3 wires. The water temperature signal wire needs to be extended if the gauge is moved over to the right hand side.

The oil temperature gauge needs a 4th wire which has to be routed to the oil sump plug.

The new water temperature sender unit has to be fitted IN the sump plug. A metalworkshop can drill the plug and cut the correct thread in it. Use a new plug and prepare the complete unit so it can be easily be swapped with the original plug (at the next oil change for example)

Make sure the wiring to the sump will not run too close to the exhaust and secure it to the body/chassis with enough straps.

Read out
The benefit of the voltmeter is that it will tell you when the voltage gets too low and your battery may get flat. When the ignition is switched on it will read approx. 12 volts. Once the engine is running it will read approx 13 to 13.5 volts and it should not drop below 12 for longer periods.

The oil temperature will not increase as quickly as the water temperature so it gives you a much better indication when the engine is at the correct operation temperature, ready to accept full load (above 60-80 degrees). The maximum temperature can however become higher than the water temperature (according to the experts about 10 degrees higher under normal operation conditions). It should not get higher than 120 degrees measured at the sump plug. There may be some places in the engine where the temperature will be higher but considering the fact that the sump content is pumped across the engine several times per minute, you will have a good warning indication when the oil temperature does get too hot. Bear in mind that this gauge is not replacing the water temperature gauge; the engine may still overheat when the oil temperature is still relatively low. In general you have to focus on oil temperature when using much engine performance (on the track) In contrary to the water temperature gauge; this gauge has to be checked more frequently.

Griffith 500
The oil temperature gauge as mentioned above may also be a useful instrument for the Griffith 500 models. Since there is not so much room in the panel for extra holes it is easier to fit it instead of the clock. In order to obtain access behind the panel both radio and glove box have to be removed.

Note
Griffith 400/430 and early 500 models have a different supplier (Stewart Warner) for the instruments; they are not available anymore, neither from TVR nor from SW. These early type instruments can be recognised by the fact that the are fitted IN the instrument panel rather than ON the panel and have horizontal pointer rather than vertical. You can of course fit any other 52 mm oil temperature gauge but it will never match the rest of the instruments.
Tom Mogyorossy

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BUYING AND SELLING

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Buying & Running a Griffith/Chimaera

Sprint - May 96

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Background

At the beginning of December I wrote to Sprint asking for advice on buying a Griff or Chimaera. The letter was published in the February issue, and in the meantime I had actually found a 4.0 Chimeara I liked and bought it. Anyone who knows me would not be surprised by this, as I do tend to be a bit impulsive once I get an idea in my head. That said, the appeal wasn't wasted because I had a number of letters as a result, with enough information to produce the article I had promised to write.

In total, I had fourteen letters describing fifteen cars - not enough for any meaningful statistics, but enough I think to give prospective buyers some tips on what to look out for. I have included myself as number sixteen, since my car had a service history with it. A few of the more general comments are based on conversations with my dealer and other owners.

I don't know what makes someone respond to an appeal for information from a total stranger, but from the percentage of members who did this you have to conclude they aren't normal. This shouldn't therefore be taken as any sort of representative survey - simply one person's interpretation of things that a few other people felt like telling him.

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Overall Impressions

Did my correspondents like their cars? Well, eight gave the impression of being very happy overall, four pretty satisfied, one not too impressed and two downright disgusted. I have excluded myself from this as I'm still too in love to be sensible about it.

Two of the unhappy owners had new Griffith 500s. Both cars developed a major fault, but this wasn't the main reason for dissatisfaction: they also had a large number of relatively minor problems which the owners felt were unacceptable in a £35,000 car. The third owner bought a used 4.3 Chimaera that broke down repeatedly with fuel system and electrical faults. This really did sound like a rogue car, or possibly a rogue garage, and the owner eventually gave up on it.

The twelve satisfied owners had their share of problems as well, but nothing that seemed to outweigh the fun they were having. Four of them had so little trouble that I would have been impressed if they were talking about mass-produced cars, let alone hand-built ones.

Even the unhappy owners said their cars went like greased weasel poo, handled beautifully and looked terrific. The only complaint about driveability was snatchiness at low speeds, and I gather this is particularly bad on early 500 Griffs. However, you can tell all that from a test drive, and this is supposed to be about the things you can't.

Moving on to one of those aspects then, what do they cost to run? Fuel consumption is about 23 mpg. Oil is expensive but only one car was using much of it. One owner had kept his car for over 45,000 miles and reported average 6,000 mile service costs of about £500. Insurance seems to cost most people about £500 a year. Tyres last around 15,000 miles and cost £700-800 a set. Doing 12,000 miles over two years is therefore likely to cost about £1500 in petrol, £1000 in servicing, £1200 in tax and insurance and £600 in tyres. That adds up to £4300, or about 36p a mile.

The other major cost is depreciation. From a quick scan of dealer adverts for twenty-odd 4.0 Chimaeras it seems that prices fall by about £1,200 to £1,500 a year at the sort of mileage I'm using as an example. This isn't the whole story of course, because most of us buy and sell through a dealer, and his margin will be £2-3k, bringing the total depreciation over two years to about £5k. On this basis two years ownership is going to cost about £9-10k, plus anything awful that goes wrong. What surprised me most was that every time you put £10 worth of petrol in the tank you'll have scuffed off about £4 worth of rubber as well.

Other aspects are dealt with below. The way I approached this was simply to reduce each letter to a series of comments, type them all into a big list (about 150 in all) coded by things like model, year, mileage, owner and topic, then sort and sift in various ways looking for points that seemed worth bringing out in a summary. Not very scientific I admit, but neither was the sample. I have included some quirks that you shouldn't worry about as well as faults that you should, in the hope that knowing "they all do that" might save some unnecessary distress about your particular car.

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Bodywork

Several owners said the heating and ventilation were rather feeble. Three cars had problems with boot mechanisms, five with door mechanisms and two with seat belts that kept jamming. Griffith glove box catches don't, as a rule, catch - solved on the Chimaera by not having a glove box.

Chimaera boot hinges can corrode and/or break. One owner had heard of faulty paint batches on some 1992/3 cars. The nose and cills pick up quite a lot of stone chips, so signs of respraying don't necessarily mean anything sinister. There were only three cars that leaked, with one case of flooded footwells cured by putting fabric waterproofer on the hood.

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Chassis and Steering

Peeling paint and surface rust on the chassis is not unusual. Tyres seem to last between 10-18k miles. One member had heard of very high rear tyre wear (less than 4k miles) on some Chimaeras, with no obvious reason for it. No reports of steering or suspension problems apart from one new Chimaera with a leaking rack and play in the column. One used car was sold with the camber set wrongly, spoiling two good tyres before it was corrected. Owners who had power steering were very impressed with it. If it makes strange whirring noises on full lock, it's probably just an over-filled fluid reservoir.

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Engine, Exhaust, Cooling and Fuel Systems

I've lumped these together because not much was said. There was a crankshaft fault on some 1993/4 500 Griffiths, leading to a recall. Chimaera starter motors are reputed to be giving problems, and one car here had needed a new one. There were two cases of fractured exhaust manifolds on 1992 4.3 Griffs, costing £400 a side to replace (stainless steel ones at £600 are supposed not to crack). Apart from that, one faulty distributor, one fuel pump relay, one fan otter switch and a couple of minor oil and coolant leaks. One owner did have a lot of trouble with intermittent misfires which were only sorted in the end by taking the car to the factory. Surprisingly, no reports of overheating.

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Transmission

One gearbox failure on a new 1993 Griffith 500, one differential failure on a 1992 4.0 Griffith and a couple of oil leaks reported. A suggestion that some Chimaeras are suffering early clutch wear but no specific cases. Expect gears (especially second) to be difficult to engage until the oil warms up.

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Electrical Systems

Five cars had alarm faults, and one of them had three different faults. The microwave sensitivity is very variable (some won't go off unless you wave your hand under the dashboard and others are upset by a gust of wind), but it can be adjusted. Warnings about not leaving the alarm armed for long periods were common - it flattens the battery, then sets itself off and locks you out. The alarm is behind the front grille (for all you car thieves out there) and very exposed to the elements, so reports of problems when it rains were hardly surprising. In fact a lot of the wiring seems to get a good drenching in bad weather and is a potential source of trouble.

Electric windows are slow and sometimes stick, as do the electric mirrors (the glass rubs on the casing). Reversing light switches are temperamental and horn buttons don't always work. One owner pointed out that the Griffith driving lamps are well sited to pick up flying stones and he gets through one every 5000 miles or so at £70 a throw.

The battery is an absolute pig to get at, and should only be attempted by potholers. The correct method, so I'm told, is to lay on your back with your head in the footwell, bum on the seat and feet in the air, then reach back and grope. Two new cars had batteries replaced within three thousand miles.

A good proportion of the problems that drove the disgruntled owners to distraction were electrical, and many of the others were to do with . . .

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Instruments

Eight cars had instruments that went wrong. Three of these were speedos, but a clock, rev counter, oil gauge and tank sender unit also feature in the list. My fuel gauge reads empty when it's half full, and I understand that's fairly typical. I don't know who is making TVR's dials, but they clearly need a good talking to.

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Conclusion

The weak areas should be fairly obvious. Out of seventy actual failures I recorded, half were to do with electrics, instruments or the mechanisms in doors, boots and seatbelts. Over a quarter of all faults were electrical, and half of those involved the alarm.

Four of the owners who bought new cars had only one or two warranty repairs they thought were worth mentioning, and one of them had done 30k miles. Three others had about ten each. The average was five. Used cars varied between one and nine, with an average of five again. A lot of this variablity is no doubt down to what people felt was worth telling me, but I think some of it is real. The factory is obviously capable of making very reliable cars, but not consistently. It also appears that a used one is no more likely to go wrong than a new one, which speaks well for their basic ruggedness.

From the letters I received, I got the strong impression that the least happy owners had not been looked after very well by their dealers. The owners tended to blame the factory, which would be fair if you had a BMW because they've engineered the craftsmanship out of maintaining their cars. TVR haven't, and the dealer knows they haven't, so he shouldn't be selling them if he can't cope. I was horrified by the inconvenience some owners suffered because their dealer seemed incapable of diagnosing faults. Sorry, I'm ranting, but I do feel strongly about this.

Anyway, if you are contemplating buying a new TVR, check out the dealer's reputation and be prepared to be patient while he shakes the bugs out. If the nearest good dealer is a long way away, consider moving house as a precaution. The good news is that, having prepared yourself for trouble, it may never happen. If you are looking for a used one, though, bear in mind that it may have been a bad-un and it may not have been sorted out yet.

So there we have it. Not so much a survey as a straw poll, and not something to take too seriously. I'm not closing the books on this, so if anyone else wants to phone or write I'd love to hear from you and I might offer an update if the picture changes with a larger response. By the way, I'm thoroughly enjoying my Chimaera and liking it more by the day, so none of the above has put me off in the least.

[I've just run the spelling-checker on this and it changed Griff to Grief. A bit unfair, I thought.]

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Or You Might Prefer a BMW

Oct 96
As a footnote to the above, I spotted the following item in the October 23rd issue of Autocar.

. . . John Davies was far from satisfied with his approved used K-reg BMW 320i coupe. He said "You are paying a premium for a car that's supposed to be checked thoroughly, but I don't think that's happening. After 20,000 miles I had had three new clutches, two new gearboxes, a new catalytic converter, alternator, rear exhaust and six new ignition coils. . ."

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Financing

Internet Mailing List Sep 96
A friend of mine in London is thinking of opting out of his company car scheme and getting a Chimeara for everyday use. He was thinking of an S, but now due to finance deals he is thinking of a Chimeara. Basically the finance deal on a 24 grand car would go like this: He has a loan over 3 years for 12 grand and has the car, then after 3 years he either pays the dealer 12 grand and keeps the car, or the dealer sells the car, and he has the difference. Has anyone any advice on such scheme's . . .
Ian Collins

Internet Mailing List Sep 96
I did a similar deal to get the V8S but put a small deposit on the car to get the best price although you can get zero deposit deals if you look around, as you have found out. The scheme probably works as follows:

The finance company lends the 24 grand. You pay the interest on the 24 grand and payback the 12 grand as well over the three years. This will be a lot less than a loan for 24 grand but more than for a simple 12 grand loan. I found that a small deposit dramatically reduced the costs - less perceived risk by the finance company, I suspect. To get a quote, you specify an initial deposit, the monthly rate you want to pay and they would work out the residual payment. It's worth getting different quotes for deposit and residuals - it is not linear or consistent! Key points to watch out for:

1. Cost. Check with companies such as Lombard for a competitive quote.

2. Who owns the car? With a lease purchase, the finance company retains ownership. This is not necessarily a problem but read the small print to find out exactly what the situation is.

3. In which name the car is registered (this, for some reason, can affect the insurance!)?

4. Any penalties to get out of the deal early? This is important if you change jobs or heaven forbid don't like the Chimp or want that V16 version that will be announced in October (!).

5. Check what mileage rate you get for business miles. Some opt-out schemes assume 30+mpg and if you do a lot of business miles, you end up subsidising the company.

There are some amazing schemes going on at the moment. Team Central were doing contract hire on a new Chimp for 308 pnds + VAT a month for a 12 month contract including maintainance. Lease-purchase may be a cheaper option as I found it effectively had a lower interest rate and the payments are tax deductable if the car is a company owned one or your friend has a self-employed interest. The other thing to do is get some tax advice because your friend may find that the time he uses the car on business may be tax deductable anyway i.e. if he does 8000 personal miles and 8000 business miles, half the costs are deductable. It depends on the small print but it would be worth getting some advice before proceeding. It may dramatically affect the sums.

The other point is that he will probably need business insurance which can dramatically increase the costs depending on your friend's job and the mileage. Peart Associates were pretty good and I swapped a 15% limited mileage discount for business cover and unlimited mileage. If your friend is field based, expect a hefty hike though.
Steve Heath

Internet Mailing List Sep 96
Those of us in the UK who are in permanent employment may be interested to know that for the first time this year, as part of the new self-assessment scheme, it is possible to claim a tax rebate where your employer pays less per mile than the Inland Revenue decides is fair. The IR figures are a simple scale based on engine size bands, but TVR V8s all fall into the highest category at 60p per mile. What this means is if your employer only pays 40p per mile, you can claim a tax rebate on 40% of the 20p per mile difference (for a higher rate tax payer). This lessens the effect of

employers paying too little.

These so called balloon payments where you pay half on credit and worry about the other half later are usually bad news. For instance, if you buy a new Ford or Vauxhall on this scheme you pay half over two years, then discover that you have nothing to put down on the next car, and no car unless you pay the other half, which is of course all it is worth after two years. In effect what you are paying for on credit is purely the depreciation. It's slightly different with a TVR (or any low depreciating car) because after the credit period the car is still worth a lot more than half, therefore you at least have some equity. Not my cup of tea though. When initially giving up a company car, surely it's better to set your sights a bit lower for a couple of years so that after two years you have something which you own outright, to offset the cost of the next (better) car, and build up to something good over a few years.
Steve Powell

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HPI

Sprint Dec95
. . . The HPI Service is not just limited to the trade, you can contact them, they offer a wide range of services and have done since 1938, whilst HPI makes every effort to record and relay information accurately, it cannot guarantee that the information is true, accurate or complete. HPI's computerised registers list millions of vehicles reported stolen, accident write-offs, those subject to outstanding finance deals together with plate change and identity details. HPI offer the following services, Vehicle Identity, Plate Transfer, Security Watch, Stolen Vehicles, Condition Inspected, Condition Alert, Outstanding Finance, First Registration and Vehicle Identification Number (VIN) Match.

One call to HPI will provide all the above information in seconds, the call will cost you £25.00 and all you need to give them is the vehicle registration number, the VIN (chassis no.) and your credit card details for instant access to their database. HPI is open 7 days a week, 365 days a year from 8.00am to 8.OOpm Monday to Saturday and l0.O0am to 5.OOpm on Sundays. Call 01722 - 422422 and they will tell you if the vehicle is on one or more of their registers. Within 24 hours you will also be sent written confirmation of the enquiry including details of any register the vehicle may be on . . .
Stewart McZuillian

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Autolign Inspections

Sprint Jan96
I am writing this letter in reply to the HPI or Bust article in the December edition of Sprint. Whilst I agree it is advisable to check a car on the HPI register prior to buying it, I disagree that just because a car has been 'written off' it is not worth buying. To give readers a better insight to the way the HPI registers work in relation to write-offs I shall explain. There are basically two registers for written off vehicles, the Vehicle Condition Alert Register (VCAR) and the Condition Inspected Register (CIR). A vehicle will appear on the VCAR when it is notified to HPI that a 'Total Loss' or 'Write Off' pay out has been made. If this vehicle is subsequently repaired it will remain on the VCAR until it is inspected at an AUTOLIGN test centre. If the vehicle passes the inspection it will be reclassified into the CIR, if this test was carried out prior to January 1995 the vehicle would have been removed totally from the HPI process as the CIR did not exist. Some insurance companies now insist that vehicles that they write off are tested at AUTOLIGN before they will release any documents for the vehicle.

The AUTOLIGN inspection is carried out in one of their purpose built centres, these are equipped with some of the most up to date equipment available, which includes computerised four-wheel alignment, brake testers, etc., and even instruments for detecting filler and paint thickness. Believe me, the test is thorough. After the test a full report is provided detailing the quality of the repair, thedata from the alignment checks, the results of the road test and whether the car passed or if it failed, why it failed. Apparently only 75% pass first time. The cost of the test goes from £150 for

a small hatchback to £250 for something more exotic like a TVR . . .

. . . What I would like to advocate is, if you are offered a car which has been damaged, check it over thoroghly as you would if you were buying an old car which had been restored. Check the quality of the repairs and if it has not been through an AUTOLIGN inspection ask the seller if they would be prepared to take it for one before you purchase it.

Just because an insurance company has written off a car it doesn't mean it is scrap, it means that when they have added up the cost of labour, parts and paint it isn't worth them having it repaired because the cost is close to or above the car's market value. It may be well worth someone having the car repaired using seconhand parts and carrying out some of the labour themselves. This 'stigma' is not attached to older cars which have been stripped and rebuilt due to rust or general deterioration, so why should a damaged car which has been rebuilt be any different? It's the only way I can afford to run a TVR in addition to my normal everyday car and I'm sure other enthusiasts/readrers will agree with my comments.
Phil Robinson

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What's an Average Mileage?

Feb 99
Based on about 40 dealer ads for Griffiths and Chimaeras in the January 1996 issue of Top Marques, the average car was covering about 6000 miles a year.

The January 1999 issue contains about 150 cars, and the average annual mileage is now about 7000.

There is very little difference in the milage covered by Chimaeras and Griffs. The figures were calculated by converting the registration year and letter into an age in months at the date the magazine was published, so that in January 1996 for example 95 N-reg cars (ie. registered between 1st August and 31st December 1995) were assumed to be three months old on average, 95 M-reg nine months old, and so on.

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Resale Values

Aug 97
Click here for January 99 update.

I've been keeping an eye on used TVR prices over the last couple of years. The results are interesting.

I haven't gone into a huge amount of detail with this, just bought occasional copies of *Great Cars* and *Top Marques* and checked the prices being asked by TVR main dealers for different years and models. Obviously this approach is not very accurate - specifications and mileages differ and deciding what an 'average' example might cost involves quite a lot of guesswork. It is also possible to find several examples of a particular model/year one month and none at all a few months later. As an example, this month's *Great Cars* had fifty Griffith/Chimaeras advertised. Spread that across eight engine variants (I'm counting on my fingers here), twelve year/registration bands, plus different trim options and mileage variations, and you can see the problem. Despite all this, I'm pretty confident that the general trend described here is correct.

And that is? Well, if you'd bought a 1993 K Reg 4.0 Chimaera in January 1996 you would probably have paid a dealer £25,000 for it. Fourteen months later, in March 1997, you could find the same car (with a few more miles on the clock) in the showroom for . . . um . . . £25,000. By August '97, nineteen months on, the price would be - guess what - £25,000. It's the same story more or less right across the range, for every model-year. 1993 pre-cat 4.3s seem to have gone up by about £500 over the period, and all 500s seemed to have dropped by a couple of thousand. The latter may

have something to do with new 500 prices having staying pretty much the same for a year or so while the other models went up a bit. If you want a little more detail, here it is:

Chimeara 4.0	**Jan-96**	**Mar-97**	**Aug-97**
93K	24,800	24,800	25,000
93L	25,600	25,400	25,500
94L	26,750	26,333	26,500
94M	27,750	27,400	28,000
95M	28,650	28,100	29,000
95N	29,500	29,000	29,000
96N	30,200	29,800	30,000
96P*	30,650	30,700	31,500
Griffith 4.3	**Jan-96**	**Mar-97**	**Aug-97**
92J	25,500	25,000	no samples
92K	24,357	25,450	25,000
Griffith 5.0	**Jan-96**	**Mar-97**	**Aug-97**
93L	30,200	27,625	29,000
94L	31,500	28,900	28,000
94M	32,500	30,200	28,500
95M	33,450	31,500	30,333
95N	34,300	32,500	32,000
96N	35,100	33,450	33,500
96P*	35,800	34,300	34,500

* The 96P line in the Jan96 column is the new price on the road then. I've added £1,200 to the list price for miscellaneous extras to arrive at the price of a 'typical' spec level.

Glitches in the figures like 95M & N Chims both averaging £29,000 in August 97 happen because of the small number of samples. I couldn't decide which might be correct by trying to smooth the values (using polynomial regression analysis if you want the posh term for it), so I left them as they were. This emphasises that you shouldn't wave these figures under a dealer's nose in an attempt to prove something.

If you are selling, bear in mind that these figures are what dealers were advertising the cars for, not what you can expect to be offered. A dealer mark-up of about 10% when you trade in seems fairly typical, so if a dealer offers you £25,000 you can expect to see your car in his showroom for about £27,000 to £28,000. This will obviously depend a lot on circumstances, eg. how much stock the dealer is carrying, whether he thinks he can move your particular car

quickly, whether you are trading in for a new or used one.

Footnote: In January 1998 I traded in my 1993 Chimaera 4.0 for a touch over £22,500 against a Griff. Not bad for something I bought two years and 20,000 miles ago for £25,000.

Resale Values - January 1999 Update

In case anyone comes across these notes in ten years time and can't remember much about 1998:

1. We had a miserably wet spring when hardly anyone was in the mood the go shopping for a sportscar.
2. There was a vicious recession in the far-east. Concerns that the UK economy might be hit as well rumbled on through the year.
3. Car manufacturers were 're-aligning' their inflated UK prices in response to competition from direct imports and ominous noises about price-fixing from the EU commissioners.
4. It was the last year of annual August registration letter changes.

The climate (literally and economically) wasn't too good for selling flashy sportscars and by the autumn there was plenty of stock clogging up dealers' forecourts. Interestingly, this wasn't really reflected in the prices in Top Marques during October. At that time the price of a given model-year Chimaera 4.0 was only 4 or 5% less than the previous October. For a Griff 5.0 the drop was about 6 to 8%. By January dealers seem to have lopped another 5% off their October asking prices, but this could, I suppose be put down to routine winter discounting (you'd think by this time I'd **know** whether dealers reduce their prices in the winter, but I don't). Here is the same table as above, extended to include October 97, October 98 and January 99.

Chimaera 4.0	**Jan-96**	**Mar-97**	**Aug-97**	**Oct-97**	**Oct-98**	**Jan-99**
93K	24,800	24,800	25,000	25,000	23,500	none
93L	25,600	25,400	25,500	25,000	24,000	23,800
94L	26,750	26,333	26,500	25,125	24,600	24,375
94M	27,750	27,400	28,000	26,600	26,500	25,500
95M	28,650	28,100	29,000	28,167	27,000	26,318
95N	29,500	29,000	29,000	28,929	28,286	26,500
96N	30,200	29,800	30,000	29,667	28,205	27,143
96P	30,650	30,700	31,500	31,091	29,000	28,750
97P	-	32,667	none	32,050	31,562	30,350
97R	-	31,850	none	none	31,083	31,250
98R	-	-	-	-	31,667	31,375
98S	-	-	-	-	none	33,375
Griffith 4.3	**Jan-96**	**Mar-97**	**Aug-97**	**Oct-97**	**Oct-98**	**Jan-99**
92J	25,500	25,000	none	26,000	none	23,500
92K	24,357	25,450	25,000	none	24,000	none

Griffith 5.0	Jan-96	Mar-97	Aug-97	Oct-97	Oct-98	Jan-99
93L	30,200	27,625	29,000	28,125	26,333	25,600
94L	31,500	28,900	28,000	29,667	26,000	26,000
94M	32,500	30,200	28,500	29,500	30,000	27,375
95M	33,450	31,500	30,333	31,000	29,200	28,250
95N	34,300	32,500	32,000	33,417	30,840	28,667
96N	35,100	33,450	33,500	33,000	30,462	30,692
96P	35,800	34,300	34,500	34,250	none	32,000
97P	-	35,100	36,000	none	33,250	30,667
97R	-	-	-	-	35,500	34,000
98R	-	-	-	none	35,750	34,800
98S	-	-	-	-	none	36,500

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Warranty

June 98
The other day I was talking to a relative who used to work for Cornhill Insurance. The topic of the TVR '5 Star Gold Cover' warranty came up because Cornhill underwrites part of the policy, and I'd been trying to help with a query about warranty cover that came up on the internet mailing list a few days earlier. I learned a few interesting things from this conversation which may be worth passing on.

Warranty Holdings, who run the scheme, are not an insurance company. All they do is to identify a market, draft a policy and then hawk it around insurance companies until they find one who will underwrite it. The underwriters (in this case NIG Skandia for the mechanical cover and Cornhill for the optional accident cover) provide the actual insurance in return for a percentage of the premiums Warranty Holdings collect from dealers (and from owners if they elect to continue the cover after the dealer period has expired).

This means that if your car develops a fault NIG Skandia pays, not Warranty Holdings. Warranty Holdings process the claim and attempt to negotiate a settlement with you. I gather that insurance companies don't really like this sort of business much, for two reasons. One is that they don't know who their policyholders are so they can't market other services to them. The other is that scheme operators (not Warranty Holdings particularly) have a different culture to the insurance industry at large, which doesn't endear them to the staff in the insurance firms.

This is a bit subtle, but it seems to boil down to the fact that most insurance companies have been around a long time and have a long term view of developing their business. At the root of this is the concept of 'utmost good faith' and maintaining public confidence in the industry. Profits come, not from wriggling out of borderline claims but from assessing a risk properly in the first place. Scheme operators are new on the scene, don't have this geological view of business development and want to keep the level of claims low so that they can do a good deal with the underwiters next year.

What this means in practice is that, if Warranty Holdings reject a claim, remember they aren't the insurers. You are likely to get a more sympathetic hearing from NIG Skandia and they do have the power to instruct Warranty Holdings to pay. You do not have to appeal to the Warranty Holdings Claims Manager then the Society of Motor Manufacturers and Traders, as the policy document says. Of course if you do go straight to NIG Scandia without giving Warranty Holdings a fair chance to reconsider, this might make you look like the unreasonable party.

Whilst on the subject of the TVR warranty, it really is a good idea to read it. It's short and in plain English, so re-phrasing clauses isn't going to make anything clearer than it already is. However, in case you have an incredibly low boredom threshold, here are a few 'bullet points' (my interpretation of the 1998 policy):

- Covered:
  - Any mechanical or electrical component.
  - *'Loss resulting from'* a fault. This is not a parts-only warranty.
  - A contribution towards tow-in, car hire, train home or hotel accommodation.
- Not covered:
  - Static things like bodywork, paint, trim and the cat.
  - Radio, wear & tear and routine maintenance items.
  - Result of failure of non-covered part (engine damage after oil-hose failure?)
  - 'Pressing on' if a fault (eg. overheating) is apparent.
  - Cars *'used for any kind of timed competition'*. Note, not *'failures caused by'* but *'cars used for'*.
- Procedure:
  - Report a fault within 14 days.
  - Keep all service bills with the date and mileage recorded on them.
  - Tell them in writing if the speedo is replaced, and don't drive without one.

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Impressions

up to contents

See Engine Specs for a bit about Steve Beresford's 4.5 BV

Steve Powell's 4.3 Griffith

Internet Mailing List Jul 96
Well the Chimaera has gone, and I now have a non-cat Griffith in its place. It's LOUD, and spits flames on the overrun once fully warmed up. The engine is so responsive great care is needed at junctions and roundabouts! The body colour is not quite as bright as the Macau Yellow of the Chimaera - it's Ocean Haze which looks pretty good on the Griff. Even though the engine has the same power and torque (according to TVR at least) it has a totally different character without the cat - touch the throttle at low revs and pickup is instant. You can even hear the induction roar - it's great!

You do need a sense of humour with TVRs though. The speedometer broke on the way home from collecting it! Good job it's under warranty . . .
Steve Powell

Internet Mailing List Aug 96
No problems so far other than the speedometer which I think I already mentioned, which only works about half the time on longer journeys. That is due to be fixed shortly but since the gearing is the same as the Chimaera I haven't found it to be a problem, even when passing speed cameras, as I know the speeds from the rev counter.

It is different in a number of areas to the Chimaera. The ride is worse as you would expect with lower profile tyres, and rear wheel control on bumpy roads isn't as good either. On the plus side, the steering is more accurate and turn-in is sharper, and on smoother roads the levels of grip are huge.

Although the boot is smaller there is more room inside the car, and not so much heat soak either. The battery is differently located and there is more legroom on the passenger side as a result. The roof folds down a bit further too which is welcome.

The car runs at 80C which is the ideal temperature for the engine, and never exceeds the white line at 90C even in heavy traffic and high temperatures, as we found out in a one hour traffic jam on the M25 going to Brands.

The engine is much more tractable and driving the car even in traffic is a more rewarding experience - third gear is about as low as you need to go in town unless you actually stop. When the engine really gets into its stride at about 3,000 rpm you even get a nice induction roar as well - it's so different to the same engine with the cat and other emissions measures. That was all or nothing below 2,000 rpm, otherwise the lean mixture caused the engine to stutter. The Griff seems to be using maybe 5-10% more fuel as a result, but it's worth it and at least it's only four star. Another major benefit is that when I get it out of the garage it doesn't fill my house with the sickly smell of super unleaded!
Steve Powell

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City Driving

Internet Mailing List Sep 96
. . . What would a Chimmy be like using it every day, considering it is only a 3 mile drive in London to work . . . Average running costs for a 12,000 mile year would be good too.
Ian Collins

Internet Mailing List Sep 96
I've never driven a TVR in the City before, but I would expect it to be frustrating. The car isn't meant to stand still in the heat of traffic and will tend to get a bit hot (earlier Griff/Chimis will). The gearstick will get hot, the door opener thingy on the Chim will, the air vents will blow hot air even when the selector is cool and other niggly things. A TVR to use in the city is okay if you stretch its legs every so often on an open road or track day. If not, I suspect the cylinders will get all choked with carbon etc. If you're going to use the performance of the car then go ahead, but if it's just going to be sat in the city and therefore used as an image promotion tool only then buy something else coz they're not great in the centres of towns clogged up in traffic. Heavy clutches and steering on non PAS models is a bugger when you park too.
Rupert Kent

Internet Mailing List Sep 96
I've just had someone on the phone who bought a used Chimaera at 5,000 miles and has run it for 4,500 miles around London. It's been intermittently losing power and cutting out and his dealer now says it needs a decoke! I've spoken to another dealer about it, and they said it was not impossible for a Chim to get in this state if used a lot in heavy traffic. Others may have had different experiences, but my guess is that if your friend used a Chim exclusively for town driving he'd end up hating it - a bit like keeping a greyhound in a flat.
Peter Beech

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''More like a Trabant''

Internet Mailing List Jul 96
I plan to order my first TVR, a new Chimaera, in September of this year. However, I was stunned to read the article in the Times on Saturday July 27th ("TVR went more like a Trabant"). Coincidentally, I have also noticed the high number of low mileage, one year old, examples on the marketplace. For me, reliability is a key requirement. I would be grateful for any feedback from Chimaera owners. Is the Times article representative?
Anon

Internet Mailing List Jul 96
I can't comment on the Times article as I haven't read it, however the high number of low mileage/1year old Tivs in the marketplace is likely to be the "Morgan effect". The Morgan effect typically occurs when a prospective car owner sees a Morgan +4 or +8 and decides it would be a lovely car to own, puts the deposit down, waits 6 years for delivery and then finds its not as comfortable/fast/safe/driveable/maintenance free as their BMW/Mercedes/Escort/Fiesta and sells it in the first year. This can and does happen with TVR's, good news for people like me - I'd far rather let someone else take the steep depreciation curve and I'll buy after the "Morgan effect".
Andrew Guy

Internet Mailing List Jul 96
I can't comment on the article which you are referring to because I missed it (can anyone scan it and post it to the mailing list?), but while there are undoubtedly some highly publicised rogue cars, this is not typical in my experience. Don't forget it's only the really problematic cars which get into the national press, and usually you only get the owner's

side of the story. It is perfectly true to say that they are more prone to problems than say most Japanese or German cars, but when you are getting F40 performance for the price of a mid-range Mercedes saloon you can't have everything. I am sure if TVR doubled the price the cars could be 100% reliable, but how many of us would like to pay twice as much for that? I had a Chimaera for 18 months with only one minor problem - a speedometer failure. No breakdowns, leaks or electrical problems whatsoever. I personally know quite a few Griffith and Chimaera owners who could tell you the same story - although there are others on the mailing list who did report some problems earlier this year.

If you are buying new you have the advantage in that the car cannot have been mistreated by its first owner. If there are any teething troubles (and there may well be with a hand-built car, even Astons and McLaren F1s are not immune) they should be sorted immediately by the dealer at no cost to yourself. It will pay you to buy the car from a dealer with a good reputation, rather than just the cheapest, as they are the most understanding if things go wrong. Don't expect another TVR as a loan car if you need one - it doesn't happen! And the reason why the cars are often only kept for a year or so is simple - very low depreciation means you don't have to save for very long to get the next one. I'm on my third TVR in four and a half years.
Steve Powell

Internet Mailing List Jul 96
I just read the same article and some of the points sounded far too familiar. My personal experience was with a Griff 500 that I bought as an ex-demo when it was about 9 months old (and under the skin it's pretty much the same as a Chimaera). To cut a long story short it was a pain in the arse to own and it was not reliable. I'm sure you'll get a lot of replies from people who have had no reliability problems, but I can only state my personal experiences (and I'm not alone!). If you'd like more details drop me some mail; I sold it after 5 months because I need a car I can rely on.
Gary Walsh

Internet Mailing List Jul 96
I have had my Chimp for 2 years and I have taken it to France as well as all over Scotland, in total it has only let me down twice in 20,000 miles, once when the gear linkage broke (I obviously slam it pretty hard through the gears!) and once when a prat at an airport car park left the door ajar after parking it, flattening the battery. Personally I have friends and acquaintances queuing up for me to take them for a spin and I have never had anyone make any negative comments about the car. Actually the most common comment is "F-----g Hell!" (normally heard when proving that the published acceleration figures are correct). Take the Times article with a pinch of salt and join the ranks of Chimp owners who always have broad grins on their faces as they blast around the countryside.
Steve Williams

Internet Mailing List Aug 96
It's taken me a couple of weeks to get hold of this article. To avoid any problems over copyright infringement I'm not posting the original text, but I've written this short 'review' instead.

Review of Article in The Times "Car 96" Section, July 27 1996:-

The article described a new Chimaera bought by Jeremy Moore in February 1995 from the TVR Centre in Arkley, Hertfordshire. Although the specification wasn't given, the price was quoted as £32,000, including air conditioning (about £1,875 extra) and a radio that cost an extra £1,200. This makes me think it was probably a 'cooking' 4.0. The article doesn't say specifically how long Mr Moore owned the car, but it does refer to "fifteen months of misery", from which I suppose we can hazard a guess. The car was apparently off the road for four months during 1995, and was recovered five times by AA Relay. Problems mentioned were:

1. Engine overheating.
2. Unspecified electrical failures.
3. Faulty air conditioning.
4. Faulty wipers.
5. Rattling exhaust.
6. Rear suspension' needed replacing.

7. Rain coming in between windows and top, into boot and into driver's footwell.
8. Speedo packed up.
9. Radio reception very poor.
10. Doors locked themselves once while the car was left with the engine running. Phoned factory who advised breaking a window. Owner got in by opening hood with a broom handle.
11.Three occasions when windows suddenly steamed up while driving.
12.Engine repeatly stalling and not re-starting for two or three minutes. Happened 32 times (sic) on one journey into the West End (presumably from owner's home near Watford).

The owner took his complaints to TVR Engineering (presumably after taking them to the dealer, although the article didn't actually say this), wasn't satisfied with the response and wrote to Peter Wheeler asking for "the courtesy of a reply". The article quoted Wheeler's reply as saying "I am convinced you do not know the meaning of the word". At one stage (it did not say whether this was before or after writing to Wheeler), Mr Moore went into the TVR Centre "shouting and waving my arms around and saying the car was rubbish". He was threatened with an injunction banning him from the premises.

The TVR Centre agreed to sell the car for Mr Moore and got £28,450 for it. The article implied hat the dealer was reluctant to do this. They also asked him to agree that "neither he nor any associate of his shall at any time in the future purchase a new TVR", which he refused to do. At some stage in all this the owner contacted The Times who made their own approach to TVR Engineering. They received a response from solicitors acting for the TVR Centre who said that there were numerous inaccuracies in Mr Moore's story. The case had also been taken up by the Legal Protection Group at some point, who said that Mr Moore had been "tolerance personified" and that they had received ten similar stories about TVRs breaking down.

That, more or less, is it.

Now, since this is a review I'll indulge myself by making some comments.

1. I don't understand why the TVR Centre were reluctant to sell the car for Mr Moore. This is, after all, what dealers do for a living. I am guessing that the settlement they reached involved giving up their sales margin, but the article is silent on this.

2. If you'd been writing the Times article, wouldn't you have tracked down the new owner of the car and found out whether they were having problems with it too? [Rumour has it that the TVR Centre got a letter from the new owner saying they were completely happy with the car, but the Times wouldn't publish it.]

3. Wouldn't you have commented on the fact that any car had managed to retain 89% of its value after fifteen (ish) months? Sounds pretty good for a hunk of junk.

4. What happened about the problems? Did the dealer fix any/some/all of them? Why was the car off the road for four months and what the hell was going on during this time?

5. Was the factory really as offhand as the article implies? If anyone reading this has found it necessary to take a complaint to the factory, it would be interesting to know what sort of treatment they got.
Peter Beech

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General Comments on Reliability

Internet Form Aug 96
I am in the process of ordering the build on my Cerbera, I am a bit dubious in doing so as my current experience with a TVR (Griff 500) has not been good. My first TVR was a 4.0 Griffith, she went and sounded like a dream - fault free!

W.Ramsay

Internet Mailing List Aug 96
Your experience of Griff 500 vs Griff 4.0 concurs with a long held view of TVR reliability, namely that the more TVR mess with things, the worse they get. This will no doubt be controversial, and I expect I will receive much abuse through these pages, however as a totally unbiased S2 owner, (who commutes 25 miles each way by Tiv), it appears to me that there are generally fewer problems with these cars (certainly 2.9 onwards) and that this is probably due to the high percentage of "straight from the box" components, including engine and gearbox. Moving to V8 cars, as an observer, it seems that the further TVR move away from the original Rover unit the more unreliable it gets and the more oil it burns. OK so maybe there is no gain without pain, and poor reliability may be acceptable to those of you who want max power for a Sunday afternoon blast. But I have read quite a few messages lately from contributors who have sold Griffs and returned to tin-tops because they need a reliable car. Maybe a Tiv using closer to standard components would be a compromise (eg S, V8S, 350i etc). Going to the logical conclusion of the Cerbie with so many "special to type" components? Time will tell, but I know where my money lies.
Richard Eggleston

Letter Aug 97
Peter
Many thanks for your time and effort in putting together the workshop notes, they are most useful. Regarding the overheating survey.. well I suppose all I can say is.. yes it overheats to the point where the fluid boils when I stop the car. No the garage can't find it, and anyway my TVR is the most unreliable car I have ever had. I have come to expect that I only share my car with the dealership, it literally has spent twice as much time at the dealers than I have spent drivng it,

I purchased it with 1800 miles on the clock from Brooklands at Exeter, and rejected it within a few weeks as the car was full of water, leaking oil, and suffering electrical problems. Despite lots of letters, the dealers refused to refund my money and sent the car to Blackpool, where the body shell was found to be porous. It was sealed with gell and the car returned to me. It still leaked although not as badly. In fact it still leaks.

Engine problems abound. Water consumption when the engine is behaving is about a pint a week, when its not behaving it dumps the lot on the road! Problems so far include:

- Electrical problems... new half wiring loom
- Water leaks into passenger area
- Wing mirror failure
- Engine missfiring.. new Lambda sensor
- Starter motor failure
- Fuel pump failure
- More leaks
- Oil gauge failed
- Temperature gauge failed, new sensor
- Speedometer failed, new sensor
- Oil consumption ... uses 1 ltr on a 300 mile motorway trip... I'm told thats OK
- Engine missfiring again.... another Lambda sensor
- Overheating..... garage changes "Valley gasket"
- PAS noisy... new seals fitted and fluid replaced

Currently the car is at Broughtons in Bristol, where they are attempting to find an intermittant overheating problem, despite the fans working, the indicated engine temperature goes off the scale and the fluid boils when I stop the car. So far they have had two attempts to correct this, and I have driven the car 25 miles in the last two weeks. Currently the car has 19000 miles on the clock and is two years old.... I can't wait to get rid of it!

It seems amazing to me that NOBODY talks about TVRs in this manner. If the facts were known more widely no-one would purchase them. Isn't your decision not to publish the overheating survey contibuting to the problem?

Denis Lomax

Denis,
Bloody hell! That is absolutely disgusting. I honestly don't think this is common, otherwise I'm sure I'd hear about it more often, but if I was in your position I'd be wheeling the big guns out right now - solictor, trading standards officer, small claims court, AA/RAC inspector, the lot. The main finding of the overheating survey from your point of view is that I can find no evidence of inherent design features that make TVRs overheat. If your car does overheat then it is, by this definition, defective.

I'm slightly hurt by your last sentence because I had every intention of sending the survey results to Sprint until the editor told me about TVR's reaction to it. Do remember that I'm not a club official, just an ordinary member. I don't speak for the club and I've no interest in getting involved in club policy or politics. I don't think Sprint would have published the survey results after the ear-bending they got from TVR over the questionnaire, and I'm not going to submit things if there is any possibility of them being sanitised before they get into print. I think it's a great shame that the club has to choose between its racing & social activities (which need the factory's cooperation) and giving technical and consumer support to owners but it's not the first time a car club has faced this dilemma and in their position I'd probably make the same decision. If you do want a club that offers cheap parts, legal support, dealer satisfaction surveys and all that good stuff, you're going to have to start your own.
Peter

Peter,
Many appologies for "getting at you" in my reply, your previous email arrived just after my car vomited over the main road, after collecting it from the dealers.. all of 5 miles and 30 mins driving. (it's still there today!). I really appreciate your work on the notes, being an engineering type myself I find them really helpful.

The car has been a total disaster, trouble is .. every time I start to get solicitors involved, the dealer takes it back and promises a full repair job. Seems hard to argue with that, however there is always something else within a few weeks, and I have to start again.

What I find hurtful are glowing reports on Top Gear and the like, that just hint at unreliablilty or other probs, that is if you can hear the commentary under the "Guns and Roses" music.

Looking at your survey results makes me wonder if it would be worth pressing for a different vehicle, it looks as if the others are more reliable. For your information, I keep the car in a garage, and at most do 10 miles a day in it on my way to work. It really is a gorgous and totally stunning car, when it works.... so that's the problem!
Denis Lomax

Letter Sep 97
. . . Regarding some people's problems with reliability, perehaps TVR have improved things with the Griffith recently. I've done 22,000 miles in just under two years. My engine uses about half a litre of oil between services. Rear tyres still have about four thousand miles left in them. Only problem was a failed fuel guage within the first thousand miles, and a leaking clutch hydraulic pipe at twenty thousand. Else the car has been totally reliable, and seems to do 25 to the gallon when reasonably gently driven. I love it!
Tony Miller

Letter Dec 97
Faults on a Griff 500 in Cyprus, since new in July 94.

Windows whistling. Adjusted using vertical screw inside door

Fuel gauge stuck at max for a while then needle moved erratically. Cured itself.

Fuel Gauge drops too quickly from full then empty means it really has 1/3 tank. Nice quirk so kept it as a large reserve facility.

Clicking odometer eventually stopped working. (Just like all the hire cars in Cyprus!) Replaced same but colour had changed so TVR sent a whole new set of clocks which were great fun to fit! Unfortunately 1 week after, oil pressure gauge needle fell off! Same nice job taking dashboard front out to fit old colour one.

Battery flattened quickly & replaced twice. Also, ignition light flickering indicating alternator not performing. TVR supplied new 90amp alternator FOC which we had to machine the shaft to fit. Solved flickering but battery still prone to failure. Problem worsened until battery died a death then out of warranty period. After trying many suggestions by Paul Arab, our autoelectricians spent countless hours of exhaustive diagnosis and finally traced the problem to an insufficiently sized elec. cable supplying the battery/ECU from the alternator. This was replaced with higher amperage capacity cable and with a new battery I have never has a problem (even starts after 2 weeks non-use). Note, TVR would only reimburse cost of same as credit against a new car purchase!

Door seal falling off. Fix on with contact adhesive several times.

Door close sensor for alarm/courtesy lights etc. clicking in & out when door closed. Glued small piece of rubber inside base of door to push sensor pin in further when door closes and makes contact with same.

Top of range Pioneer CD/cassette/radio cuts out on left hand bends, whistles with interference, jumps on bumpy surfaces. Secured connections and eventually went away. Took to hi-fi specialist who tried suppressors but didn't work. Have been told by people incl. TVR that this problem exists. End of story but disappointment for £1K worth of system.

A/C dripping water into car. Dave Bateman confirmed nearly 1 year later that the system still in development stage but kindly assisted in resolving when over here on hols. Firstly a/c. compressor gave up. TVR supplied new one. Many attempts per TVR instructions to re-silicone seal the cover under the bonnet housing the expansion valve to avoid air coming in. This did nothing as was gaping hole inside by heater box / electrics. Nearly 1 year later, replaced heater box with fully air sealed one with cork tape (air causes condensation which was dripping everywhere incl. on electrics). Repiped same with new pipes & exp. valve and recharged a/c. system. Worked well.

Also, fitted improved ducting to vents in dashboard. (approx. 12 hours work in total). If any old models exist and wish to fix problem, I have rough guidelines (14 points) for the job by Dave Bateman which look easier than in practice. Now a/c. works fine but can't use because aggravates overheating problem.

Under bonnet heat starting to take effect on components so prevention measures were required. Received great help & advice from Mark Mini in Holland. TVR supplied 2 rolls of Demon Tweeks Turbotec 11002 insulation banding for exhausts which were professionally fitted overlapping & held firm using stainless steel wire. Hasn't moved after 2 years. Also, Land Rover remote ignition module STC1856 kit to site away from heat. No ignition problems now except when overheating and ECU goes crazy.

Drilled small holes in lip of bonnet where hidden below windscreen.

Reversing light intermittent then eventually 100% inoperative. TVR thought it was a positioning problem but after spending time like a gynecologist squeezing fingers above exhaust into small gap trying to reposition which worked for about 10 minutes each time, we ended up replacing it and which solved the problem.

Door mirror hanging loose after heavy handed car wash attendant moved it (the only time I didn't wash the car myself). Very tricky one to remove using sawn off allen key. Eventually fastened down in permanent fixed position after much trial & error. Can explain further upon request.

Intermittent Horn. Probably faulty through high temp. Fitted new one & is fine.

Headlight silicone wearing away leaving a gap between lens and bodywork. Only silicon holding the whole unit in place. Was a hell of a job trying to hold headlight in place to seal it and eventually had to make metal fixing to hold it. Other one needs sealing soon.

Ticking noise from engine. Was found to be near-side exhaust manifold gasket leaking. Very awkward to replace but used semi-metal type rather than weak type original.

Water Pump leaking. Had to replace same and modify to fit.

Coolant overheating problem. Problem was strangely almost non existent when car was new (rarely reaching into the red). But gradually worsened until even in winter temperatures would reach past the red to maximum needle travel (140?) and would not fall below the red even at speed.

- Fitted lower temp. cut in stat.
- Drilled holes in bonnet as mentioned above.
- Re-tubed radiator giving 30% more capacity which made quite a difference. The difference in temp. of coolant going in & out of rad. Is 30 deg. C.
- Fitted exhaust insulation as mentioned above.
- Fitted extra temp. gauge for comparison as original suspected pessimistic (but only by 5-10 deg.).
- Fitted 2 Demon Tweeks high power fans (which both now have seized bearings) in addition to the originals which we fitted outside/below the rad.
- Many bleeding methods used including jacking the car up to bring the rad. Into a vertical position (old Grifs like mine had rad. on angle and there is no room for shrouds).

In August this year, Perry (mechanic) spent 3 days checking the whole coolant system top to bottom and rewired all fans to achieve better performance. Also used aforementioned bleeding method and at this time only, the car maintained 90deg.C at all times even on tickover for 15 mins. in ambient temps. of 100deg. C. only reaching toward the red (but not into) when using the a/c. It even dropped towards 80 deg. when at speed.

However, the situation over the following weeks reverted back to overheating when the fan bearings eventually gave up, blowing fuses and the coolant actually boiled over several times. It is my hope that if I can fit 2 reliable high performance fans that all will be well.

I am running at the moment with 1 dragging Demon Tweek fan plus testing an old Merc.190E fan which has a broken plastic bearing housing and the blade catches the frame of the fan making a racket. You can hear such a big increase in air movement with the Merc. fan and it is amazingly managing to keep the temperature at 90 deg. until stuck in traffic when it slowly rises into the red.
Ken Dobson

Internet mailing List Feb 98
Can't resist passing this on:

Got a call at 9:00am at work the other day from my business partner (the guy with the Carrera 4 that was off the road for a week a while back because the ABS decided to turn the brakes off). He was sitting at home waiting for the AA to turn up and work out why his car wouldn't start. "This'll just give you more ammunition you bastard" he commented in a calm and collected manner.

I also found out that the car leaks so badly he often has to take the mats inside and let them dry out on the radiator - and his car isn't even a targa, let alone a cabriolet.

Its interesting that the attitude of Porsche owners to these problems is exactly the same as that of TVR owners - that the cars are worth it. However why is it that Porsches have the reputation of being quite literally perfect and TVR have the reputation of being total dogs? Is it because Porsche UK take journalists out to more expensive restaurants than TVR?
Patrick Buckland

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Alternative Parts List

I am filling this in as informaton becomes available, hence some cells in the tables are blank. Many thanks to Ian Cleveden of Cleveden Auto Spares, Bristol (01275 872355), who identified a lot of the parts listed here (and quoted some very competitive prices as well). Also to Chris Martin who has been rebuilding a fire-damaged Griff and learning all sorts of useful things in the process. Please **always** take the old part to someone who can identify it before buying a new one - the information given here is to point you in the right direction and is not definitive.

Wedge Automotive have an on-line catalogue with a good range of Griffith and Chimaera parts, including small service items, suspension components and complete exhaust systems.

Parts listed here are for 4 litre models up to 1994 unless otherwise stated.

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Electrics

Part	Griffith	Chimaera
Alternator	Magneti Marelli Type A127-65	as Griffith
Alternator drive belt (pre-serpentine)	ERC5836 / 2333	as Griffith
Headlamps	Later model dip beam lamps Valeo part no 984191 Valeo UK tel: 0181 297 1439	-
Driving lamps	Early models BMW E30 series (eg. 318) Later models Cibie SC, Valeo part no 082348	not applicable
Tail lights	Vauxhall Cavalier Mk 3	Ford Fiesta Mk 3
Front indicators	-	-

Wing indicators (round type)	Fiat Tipo/Cinquecento	Fiat Tipo/Cinquecento
Wing indicators (oval type)	Ford Fiesta Mk 3	Ford Fiesta Mk 3
Interior light	Ford escort	as Griffith
Number plate lights	-	-
Fuel pump & injection relays	Bosch 0732014112	Bosch 0732014112
Ignition switch barrel	Vauxhall	Vauxhall

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Wipers

Part	Griffith	Chimaera
Wiper arms	early arms were labelled Bosch (listed for TVR) later arms are unlabelled and from TVR only (and don't split)	as Griffith
Wiper blades	Lucas WEB160	Lucas WEB160
Washer tank	-	Ford
Washer pump	Cortina Mk5	Cortina Mk5
Wiper motor	Lucas	Lucas

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Doors, Boot & Bonnet

Part	Griffith	Chimaera
Wing mirrors	Citroen CX (late) [Jaguar XJ220 if you like to shop posh]	Citroen CX (late)
Wing mirror switches	Vauxhall	Vauxhall
Window winder motors	-	-
Window register mechanism	-	-
Window winder switches	-	-
Door locks	Vauxhall	Vauxhall
Ashtrays	Austin Allegro or Austin Maxi	Austin Allegro or Austin Maxi
Boot lock	-	-

Door rubber trim	-	-
Boot rubber trim	-	-
Bonnet catch	Ford Escort	-

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Interior

Part	Griffith	Chimaera
Steering wheel console	Vauxhall	Vauxhall
Heater fan control	Vauxhall	Vauxhall
Dashboard pushbutton switches	Radio Spares RS319/354 (momentary). RS319/360 (latching). Buttons available in several colours.	as Griffith
Instruments (early)	OEM Motive Power. Now available from ETB Instruments, Bexhill, Sussex (01702 711127)	as Griffith
Rear view mirror	Peugot 205	Peugot 205
Sun visors	TVR	TVR
Dash windscreen air vents	Cavalier Mk 3	-
Hardtop rubber trim	-	-
Seats	TVR	TVR
Glove box catch	Do It All loft catch (allegedly). Later models, something automotive.	not applicable
Central locking switch	-	-

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Cooling System

Part	Griffith	Chimaera
Radiator	Range Rover with modified bottom hose connection	Range Rover with modified bottom hose connection
Fans	-	-

Fan otter switch	-	-
Heater unit	-	-
Heater Fan Switch	Early models: Vauxhall Cavalier (1982-88) Vauxhall part number 90 103289	-
Thermostat	Not standard Range Rover - use an 82deg stat with large orifice	as Griffith

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Fuel System and Engine Lubrication

Part	Griffith	Chimaera
Fuel pump	-	-
Stepper Motor	Lucas 73312	as Griffith
Purge valve	Lucas 84926a / 25526954 / 0852B	as Griffith
Carbon filter	Land Rover ESR0374 / 138600-4460 Denso	as Griffith
Fuel filters	G3829	as Griffith
Tank sender	-	-
Pump inertia cutoff switch	-	-
Oil Filter	PH2821	PH2821

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Ignition

Part	Griffith	Chimaera
Spark plugs	NGK B7ECS	NGK B7ECS
HT leads with metal shrouds	Range Rover	Range Rover
Distributor body	Range Rover (unmodified)	Range Rover (unmodified)
Distributor cap	Lucas 44870	Lucas 44870
Rotor arm	Lucas	Lucas
Ignition coil	-	-

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Brakes and Steering

Part	Griffith	Chimaera
Brake master cyclinder	-	-
Front calipers	400:Ford Sierra (Cosworth?) 500: Escort Cosworth Turbo Mk2	400:Ford Sierra (Cosworth?) 500: Escort Cosworth Turbo Mk2
Front pads	EDB206	
Front disks	400: Lucas Girling DF1649 500: Lucas Girling DF1655	400: Lucas Girling DF1649 500: Lucas Girling DF1655
Front hubs	Ford Sierra	Ford Sierra
Rear calipers	400: Ford Sierra (Cosworth?) 500: Escort Cosworth 4x4	400: Ford Sierra (Cosworth?) 500: Escort Cosworth 4x4
Rear pads	EDB398	-
Rear disks	400: Ford Sierra (Cosworth?) 500: Escort Cosworth 4x4	400: Ford Sierra (Cosworth?) 500: Escort Cosworth 4x4
Rear hubs	Ford Sierra	Ford Sierra
Steering rack (early)	Range Rover	Range Rover
Steering rack (late)	TVR	TVR
Steering column UJs	TVR	TVR
Trackrod ends	-	-
Wishbone bushes	-	-
Handbrake	-	-
Coil springs (early)	-	-
Coil springs (late)	-	-
Dampers (early)	-	-
Dampers (late)	-	-

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Transmission

Part	Griffith	Chimaera
Clutch	-	-
Clutch master cylinder	Girling 64066117 (kit SP2102)	Girling 64066117 (kit SP2102)
Clutch slave	Lockheed 99364	Lockheed 99364
Early gearbox	Rover SD1	Rover SD1
Late gearbox	Borg Warner T5 (Chrysler)	Borg Warner T5 (Chrysler)
Differential	-	-
Prop shaft	-	-
Drive shafts	-	-
Drive shaft CV joints	Ford Grenada	Ford Grenada

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Miscellaneous

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Service Item Checklist

Jan 98
Every 6000 miles also means every 12 months, whichever is earlier. This list was in use in July 96 and was dated 1994. I don't know whether it has changed since then.

Item	Operation	Interval
1	Check condition & security of seats, belts and mountings	6,000
2	Check footbrake & clutch operation	6,000
3	Check lights horn & indicators	6,000
4	Check wipers, washers & blades	6,000
5	Check handbrake	6,000
6	Clean & grease battery connectons	6,000
7	Check & adjust headlamp and driving lamp alignment	6,000
8	Check front & rear wheel alignment	6,000
9	Remove wheels	6,000
10	Check tyres	6,000
11	Check brake pads calipers & disks	6,000
12	Refit wheels to original hub position	6,000
13	Check operation of doors, bonnet & boot locks	6,000
14	Lubricate hinges, door catches & bonnet catches	6,000
15	Check cooling and heater systems for leaks etc	6,000
16	Check brake servo hose condition	6,000
17	Check HT lead condition	6,000
18	Clean & check condition of distributor cap	6,000

19	Check operation of alarm system	6,000
20	Clean & adjust spark plugs	1st 1,000 mile service only
21	Renew spark plugs	6,000
22	Renew fuel filter element	12,000
23	Check crankcase breathing system for leaks & condition of hoses	6,000
24	Renew air cleaner element	12000
25	Check & adjust driving belts	6,000
26	Check throttle operation	6,000
27	Check & top up cooling system	6,000
28	Check & top up power steering fuid	6,000
29	Check & top up clutch fluid	at 6,000 then every 12,000
30	Renew clutch fluid	at 12000 then every 12000
31	Check & top up brake fluid	at 6,000 then every 12000
32	Renew brake fluid	at 12,000 then every 12,000
33	Check & top washer fluid	6,000
34	Lubricate throttle linkages & pedal pivot	6,000
35	Check & adjust ignition timing	6,000
36	Check & adjust engine idle speed & fuel mixture settings	6,000
37	Check & adjust steering	6,000
38	Renew engine oil & filter	6,000
39	Check & top up gearbox oil	6,000
40	Renew gearbox oil	at 24,000 and 48,000
41	Renew differential oil	at 24,000 and 48,000
42	Check & top up differential oil	6,000
43	Lubricate prop shaft sliding joints	6,000
44	Lunbricate prop shaft UJs	6,000

45	Lubricate handbrake linkage	6,000
46	Check visually brake, fuel & clutch pipes & unions	6,000
47	Check exhaust system for leaks security & damage	6,000
48	Check for fluid leaks from steering & suspension	6,000
49	Check & tighten steering unit & check ball joints and covers	6,000
50	Check tightness of prop shaft coupling bolts	6,000
51	Check & tighten front & rear axle suspension link fitting & check condition of mounting rubbers	6,000
52	Check condition of engine mounting rubbers	6,000
53	Adjust handbrake	6,000
54	Check cambers	6,000
55	Check window heights and wind noise	6,000
56	Carry out road test	6,000

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Building a TVR

Mar 98
The information below is taken from TVR's 1996 factory visit information pack. If you want the full story, pay them a visit!

Chassis Fabrication

Chassis components are cut on site from mild steel tubing, jig formed and welded. The chassis is then de-greased, etch primed, and hung on an electrically charged conveyor where it is sprayed with polyester-epoxy powder. After powder-coating it passes through a 200°C oven for twenty minutes.

Chassis assembly is completed by fitting the wishbones, uprights, springs, dampers, steering rack and fuel and brake lines.

Body Construction

The body is initially built up in about eight different moulds made from epoxy resin (for good release properties) and triaxial glass matting (for strength). The production moulds were taken more or less directly from the original polyurethane foam buck produced by the designers.

The body panels are laid up by hand using polyester resin and chopped stand matting. Biaxial matting is used on stressed areas such as seat belt mountings, and a layer of coremat incorporated in large panel areas to stop them resonating. When it is sufficiently cured each panel is trimmed in its mould and the moulds for the top half of the body are bolted together so that they can be joined with more chopped strand matting. The complete top mould assembly is then inverted onto the floor pan mould and joined, and the whole thing left to cure overnight.

When the body has been broken out of the mould the flash is removed by angle grinding and generally cleaned up, before being bolted to the chassis and cured in a low-temperature oven for eight hours. The final step before painting is to finish flatting the shell and trial-fit and prepare the bonnet, boot and doors.

Painting

The shell receives four coats of primer with a 30 minute bake between each coat. This is then flatted by hand ready for the colour coats. Before going on to assembly the paintwork is buffed and polished and sprayed with a protective coat of Transeal.

Assembly

This proceeds in eight stages:

1. Fitting small parts such as the tail lights, petrol tank, pedal box and radiator.

2. Doors and boot lid, door wiring and boot wiring.

3. Main wiring loom, heater box and hoses, fuel sender and wiper motor.

4. Interior trim.

5. Steering column, seat belts, door seals and windscreen.

6. Engine, gearbox, gear linkage and gear lever.

7. Battery and cables, alarm, door electrics and dashboard.

8. Onto ramp for propshaft, exhaust and airflow meter, tighten suspension bushes, adjust geometry, add fluids and check over.

The final step is to start and adjust the engine prior to a 30 mile test drive, then the Transeal is pealed off and the car got ready for the transporter.

How Long and How Much?

The whole build process takes about four weeks and 450 manhours. By far the largest single item is 160 manhours spent on making the bodyshell.

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Pure Speculation

May 98
As a result of the Far Eastern economic crisis, the spanking new TVR plant in Malaysia has found itself with a lot of spare capacity and an exchange rate that makes its output extremely cheap compared to the UK. Although the standard of assembly and trim on the Malaysian cars didn't impress anyone who saw early examples (a few found their way into the UK as dealers' courtesy cars), the chassis coating line and the body moulds are reputed to be more modern than the UK ones and producing very high quality parts.

Now if you had a full order book in the UK and a partner in the Far East who could supply you with truckloads of cheap high-quality components, you'd tell them you weren't interested, wouldn't you?

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Cat Fish

Aug 98
Adapted from a recipe by Hugh Fearnley-Whittingstall.

Brush a sheet of cooking foil with oil (not Mobil 1) and wrap around a whole fish seasoned with fennel, salt and pepper, a clove of garlic and a little lemon juice or white wine. Wrap in a second layer of foil and seal tightly.

Use wire to fix the foil parcel securely to the catalytic converter and bake for twenty minutes at 40-50 mph.

When you arrive at your destination, remove the parcel, unwrap and serve immediately.

It should be possible to create a very acceptable tandoori meal by placing pieces of chicken and nan dough directly on the cats. Do not try boiling rice in the swirl pot as it will be very difficult to get out and will taste of glycol.

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Questions & Answers

Browse Homepage Mail Me

Since I don't have a TVR now and I'm getting a bit out of touch with things, I can't really do justice to the idea of a Q&A service. However, I'm still happy to collect useful information that's mailed to me and to put it up on the site for other owners.

Griffith & Chimaera Workshop Notes

Homepage Q&A

new indicates that a chapter contains one or more new items since the current zip file was built.

The Notes are lot easier to read on a 1048x762 screen if you reduce your browser window to about 3/4 of the screen width. Not a lot of people know that.

Fuel Injection Generally

Superchips

Internet mailing list Oct 96
I thought there might be some interest in the outcome of re-chipping the Griff 500 with Superchips' program data. Some necessary background information:

1. The program that Superchips use depends on the type of MCU used in the ECU and the serial number of the ECU itself for a particular car.

2. For the installation we did, Superchips advised that our ECU and MCU, and the corresponding TVR program data, was specifically for a car in tropical conditions and probably also to meet local legislative requirements.

3. Our Superchips program was therefore a remapped version under those conditions. A 15 HP increase is claimed (rpm not quoted), and no figures yet from them on torque.

The noticeable changes after re-chipping are:

1. A more stable idle, resulting in less "rocking" of the car.

2. Pulls more cleanly from low rpm.

3. Noticeably less transmission snatch although not eliminated.

4. Exhaust sounds different; more regular pulsing and sounding more burble (than rumble) at idle, which works up to a very nice roar.

5. The engine also runs hotter; 92deg instead of this car's usual of 89deg, but this could be due to other reasons.

6. There was no noticeable change in power or torque. However, I suspect this is hard to feel subjectively since the HP increase only represents 4.4% of the Griff 500's standard output @ 5500rpm. Such a change may even occur with ambient temperature/humidity fluctuations. I believe Superchips base their claims on rolling road tests.

In summary, it made the car more driveable, especially under urban conditions, and enjoyable in part due to the exhaust noises. With that, we thought its well worth £165. I have to make a qualifying statement that these observations were made after re-chipping a car which was not well tuned in the first place [see Timing Problem under Engine section], hence my posting on the list for tuning specs. We would like to sort this out within the next few days, depending when we get specs, and perhaps I'll give an update then, which will be a more conclusive one, hopefully.
Kenny Heng

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Injection Tuning and Rolling Roads

Background
The following letter from Jack Acres appeared in the February 1997 issue of Sprint and prompted one of the first letters to the magazine from the factory in a very long time. The factory letter is reproduced below Jack's piece. The same issue of Sprint carried a response to the factory letter from Mark Adams who is the club's Helpines contact on injection systems, and this is reproduced here as well.

Sprint Feb 97
I have covered 4000 miles in 1996 in my 400, with few problems, the exception being that the car often stalled. Apparently many of the ECUs are from Range Rovers and think that the TVR is an automatic. Mark Adams, the ECU guru, carried out various adjustments and although tick-over became better you were constantly braking and the idle speed was very slow to die down. Mark decided the sensible way to do any adjustments was to carry these out on a rolling road. He suggested Power Engineering in Uxbridge who have carried out this service on many TVRs and 400s in particular, and so have a good benchmark to go by.

Steve Haggen of Power Engineering appeared very competent. The car was well tied down and connected to various computers. A check was made on the state of the car's tune ie. plugs, timing etc., to check no immediate obvious problems. Then various runs were made with adjustments being made to the ECU, timing etc. It is an interesting experience to listen to your own car at 6000 rpm and be on the outside.

The rolling road used by Power Engineering is a modern one and only loads the car at maximum revs for a few seconds. During this operation every measurement is being taken ie. torque, CO2 levels, BHP etc. 400s should have 275hhp but they don't. Most have 230-240 at flywheel. Mine had 218 bhp at the beginning. After 15 runs and many adjustments the conclusion on my car was that the engine was not normal. Mark suggested that I have special heads and cam, although TVR Power say not, I have been unable to contact the first owner to verify further and as the car had only done a genuine 8000 miles when I bought it owner mods seem unlikely.

As my car is in theory more powerful than the norm, the ECU problem was even more exaggerated ie the ECU thinks the car is a Range Rover! And then does not wish to give sufiicient fuel at much over 4000 rpm. In my case at over 4000 rpm it needs even more fuel. Therefore the mixture was very weak on full throttle - pinking! Mark estimated my car to be 4-5% short of fuel at high revs. By re-profiling the ECU to give more fuel at over 4000 rpm the mixture becomes richer and the engine can run with advanced ignition settings. As a consequence my car obtained an extra 41 bhp, although it is fair to say that this is unusual.

I finally ended up with 261 bhp and 280 lbs torque at 4300 rpm. The car was a revelation drive, much quicker yet with power throughout therange. Costs were £300+ for the correct chip for my car and £150 for the rolling road (£60 per hour) which included the technician. Marks Adams now normally only ever runs his ECU modifications in conjunction with the roling road as this is the only way to accurately compare minor changes.
Jack Acres

Sprint April 97
Following Jack Acres letter in last month's issue of Sprint, I feel that a few myths about ECUs and power outputs need to be dispelled before they fester into "facts". The following notes appertain to Rover based engines using the 14 CUX fuel injection system as used by all later TVR Rover V8 models.

1. Large power increases can be achieved by modifying the ECUs for most modern turbo charged engines. This is possible because the boost pressure is controlled electronically, and to put it simply more boost equals more power. Obviously this is not possible with a normally aspirated engine**,** all that you can alter is the quantity of fuel injected and the ignition timing. So there is very little scope for power increasing. To make matters worse only the quantity of fuel injected is controlled by the ECU on the Rover V8. The ignition timing, which is more critical, is controlled by the traditional distributor.

2. No TVR left the factory with a standard Range Rover ECU. The amount of modification depended on the state of tune and intended application. Most had the following modifications:

a) Removal of the speed limiter which prevents Range Rovers exceeding their tyre speed rating of 112mph.

b) Increasing of the rev limiter in line with the camshaft and valve train capabilities.

c) Adjusting the idle speed control to achieve the best compromise of emission levels and smooth running.

d) Re-calibration of the main fuel maps (including cold start and accel/decel maps) to achieve the best power output, fuel economy and smooth running consistent with low exhaust emissions.

e) Modification of the closed loop control strategies and overrun fuel cutoff for improved driveability and emissions performance (cat cars only).

f) Re-calibration of the air flow meter input to cope with high air flows (5 litre engines only).

3. No TVR thinks that it is an automatic. There is an input on pin 34 of the ECU consisting of a 510 ohm resistor connected to ground to enable 'manual' mode. If this is not present idle speed may be low or erratic.

4. If your engine is unmodified, running the correct ECU, and everything is working correctly, it will not be short of fuel at high rpm. If you suspect that your engine is running lean then check the following:

a) Idle speed mixture: Adjust to give 1.5% CO (2.0%.will give better throttle response but poorer fuel economy). Non cat cars only.

b) Full throttle operation: The throttle must be held up against the stop to enable full throttle enrichment, corresponding to a voltage of 4.6V on the throttle potentiometer, otherwise the engine will run lean by 5-10% depending on rpm. NB. A few engines were produced, or converted, to run with large throttle diameters (usually 4.3 to 5.O litre). It is very important that these engines run the correct ECU which will enable full load enrichment at 3.6V.

c) Tune resistor: The ECU contains several "tunes" for different applications. It is essential that you are using the correct tune resistor for your engine. TVR only use two tunes, one of 470 ohms for non cat cars and one of 3900 ohms for cat cars. If the tune resistor is missing then the ECU will run in default mode.

d) Fuel supply and pressure: Check that the correct fuel pressure is maintained under full load conditions. If it is low check: regulator, fuel pipes for damage or kinks and both fuel filters (before and after the fuel pump).

5. Road speed input: This is required for correct idle speed control on all cars and it enables full load enrichment on cat cars. (check with an oscilloscope on pin 6 of ECU).

6. Improvements were made on a continuous basis. Serpentine engines benefited from improved idle speed control. Late model 400s, V8S, early Griffiths and Chimaeras may benefit from this change.

7. All TVR ECUs have a socketed EPROM holder to allow the chip to be changed easily. Standard Range Rover ECUs do not.

Ignition, Horsepower, and Detonation
Most TVR Rover V8 engines give maximum horsepower with an ignition timing of 30 to 33 deg. total advance. However due to the gradual decline in fuel octane ratings many early cars can no longer run on their optimum settings due to detonation. In order to prevent detonation and consequential serious engine damage, the ignition timing will need to be retarded a few degrees. This can be minimised by the following:

1. Ensure your engine is running the correct fuel mixture as above.

2. Ensure your engine is drawing the coldest air possible. High air inlet temperatures are a major contributing factor to

power loss and detonation.

3. Check that your engine has an 82 deg. thermostat with a large orifice (This is a standard TVR part but is not commonly available from other outlets).

4. Check that the heater matrix bypass hose has not been removed. This is necessary to ensure correct coolant flow around the cylinder heads when the heater is turned off.

5. Use the later retracted nose spark plugs.

6. Use the latest distributor which has a more suitable advance curve for lower octane fuels, or better still find someone who can re-tailor your distributor to give less mid range advance but 33 deg total advance. (A mapped ignition system would be the best but most expensive solution).

7. Do not use an engine oil with a relatively high phosphorous content as this leaves combustion chamber deposits that can promote detonation.

8. Use a high quality fuel and alternate between four star and super unleaded if you have a non cat car.

9. Avoid chip tuning companies unless you are 100% confident they know what they are doing Chip changes are only necessary if you have modified your engine. Unless done correctly, chip changes will be diagnosed as faults on TVR or Rover diagnostic equipment. Genuine TVR chips are available for all TVR engine variants for £16.37+vat from the factory.

Rolling Road tuning
If your car is unmodified, has been correctly serviced and is in good condition a rolling road tune will achieve little other than relieve you of a large amount of cash. If you have modified your car it is well worth your while in order to get the best from your modifications unless your engine has been set up on a bench dynamorneter. A bench dyno is the most accurate, repeatable and safe way to test and develop a high output engine. It is probably also the most cost effective in the long run. Points to bear in mind if you take your car to a rolling road:

1. How good is the operator. The most expensive high tech equipment is worse than useless unless the guy using it **knows** what he is doing.

2. Be very careful not to overheat your engine as very few rolling roads can keep water, oil and air temperatures stable to those you actually see on the road. This is essential if any meaningful data is to be gathered and to prevent engine damage. Inertia type dynos are better in this respect as they only load the engine for a short time. Watch out for wheelspin which is sometimes difficult to detect

3. Wheelspin can overheat your tyres so can strapping down too hard to prevent it. It is quite possible to wreck a good set of tyres!

4. Ensure copious cooling air flows around the engine and exhaust to prevent bodywork from overheating, removing the bonnet often helps.

5. Who pay's if something goes wrong? It's usually YOU

6. Don't waste your time and money if you think you have more than 3OObhp. Use a bench dyno.

7. When was the rolling road last calibrated? And by whom?

8. What is the output given as?

- Actual measured horse power (at the wheels)
- horse power at the flywheel
- std corrected horsepower

- SAE corrected horsepower
- DIN corrected horsepower
- ISO corrected horsepower

You may be forgiven for thinking that all of the above would be the same. They are not! The first is the easiest to understand as it is the power in bhp which is actually measured at the rollers as you do the test. This power will be considerably less than you have at the flywheel and it is what is left to drive your car forward after you have removed all the losses due to friction in the whole of the drive line including the tyres. If you have measured the power whilst accelerating the engine you will have additional losses as power is required to accelerate the engine internals, the whole of the drive line and the rollers.

Some dynos estimate flywheel horsepower by performing a coast-down run which attempts to measure the drive line frictional and inertia losses. These power losses can then be added to the measured power to give you an estimate of the flywheel horsepower. This is much nearer to your engine's real horsepower but still does not account for the power used to accelerate the engine itself or the difference in friction between a lightly loaded transmission in a coast down and that of a lightly loaded one during a power run.

The other four corrected horsepowers are an estimate of what the power would be if it were measured at the temperature, pressure and humidity required by the relevant SAE, DIN or ISO standard. All of which are different, thus give quite different power figures! This correction process is fraught with assumptions and inaccuracies. The only accurate way to obtain values of DIN or SAE horsepower is to measure it on a bench dyno at the required air temperature humidity and pressure. This is both difficult and expensive.

This may lead you to believe that actual measured horse power is the only meaningful number obtained from the rolling road; well think again as this number will change as the air temperature, pressure and humidity changes. "Your power output literally changes with the weather!"

I hope that this has demonstrated some of the difficulties in measuring and quoting (or misquoting) horsepowers. However the actual number is not important unless you are a very sad individual, all that matters is how well your car actually performs.
John Ravenscroft

TVR Engineering Ltd

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More on Injection Tuning

Sprint April 97
Having read Jack Acres' letter "Rolling Roads" in the February 1997 issue of Sprint, I felt it necessary to write and clarify a few of the points raised in his letter. Hopefully this will help TVR owners understand what TVR do to modify their cars, and also remove any unrealistic expectations that people may have about the benefits of tuning and modification of the Fuel Injection system.

Firstly, let me make my own position clear in this, for those who do not know me. I have been a specialist purely in Rover V8 Fuel Injection and Ignition systems for approximately six years - I do not deal with any other engines.

My work centres around modified cars, and those with particularly difficult injection problems. Over the years I have modified and fixed over three hundred vehicles. The work covers a large range of variants from Rover Vitesse, Range Rover, TVR, Morgan, and assorted competition and other specials. I can modify, test, and diagnose all Lucas systems from the ACU flap type injection system, through l4CUX "Hotwire" to the latest Range Rover GEMS management system. My background is in High Performance Real Time Aerospace computing found on Tornado and Eurofighter aircraft. The Lucas systems are simple by comparison, but the lack of processing power presents its own special challenges.

Generally I work with specialists such as John Eales (JE Developments 01203 639 647 - NOT to be confused with JE Engineering), V8 Developments (formerly Rovertec 0116 240 4344), Power Engineering (01895 255 699) and Wedge Automotive (0114 281 7507). I also have good relationships with many TVR and Land Rover dealers. I do not work with TVR themselves, for the simple reason that they are doing perfectly well without my help. My service is complementary to, and not a replacement for, the engineering work they do.

Jack Acres is a very active and enthusiastic member of the TVR Car Club, owner of one of the most beautiful and carefully maintained 400SE wedges you're ever likely to see, and a jolly nice chap too! However upon reading Jack's letter, it is open to misinterpretation - one possible view is that 14CUX Hotwire cars are fitted with bog standard Range Rover ECUs. This is definitely not the case and I'm certain that Jack (and TVR for that matter) would wish me to set the record straight. My failure to do this would malign the effort that TVR put into engineering their cars, as they always use the best and most innovative current technology available.

When any Hotwire car is presented for a rolling road session, the first step is always to plug in the laptop PC and perform full diagnostics on the Injection system - the software I use allows me to check those parts of the system beyond the reach of the more normal Fault Code Reader. There's no point in proceeding with a faulty car.

It soon became apparent that Jack's car had a fault. The l4CUX ECU contains several different tune options to cope with different end markets for the host vehicle, and this includes Cat or Non-Cat, Automatic, Manual, and Air Conditioned models to name but a few! The ECU works out that it is in a Manual gearbox vehicle by looking for a particular resistor (which TVR mount below the Fuse Box). In Jack's case this was broken, however I have seen other vehicles where it has been missing altogether (although it certainly left the factory with one there). This causes a fault code to be set in the ECU because it cannot determine the type of transmission fitted, and this in turn affects idle speed behaviour. As standard, a TVR does not think it is an automatic Range Rover.

Having fixed the fault and done some power runs, it soon became apparent that Jack's car was not standard. This showed up as massive under fuelling. Also the profile of the torque and power curves was quite unlike that of many other 400s I have cared for. Since the fuel pressure was not dropping off then the ECU needed attention.

Tailoring the ignition timing, fuel map and overall fuelling level released the 41 bhp quoted in Jack's letter, together with a massive increase in mid range torque.

Two points need to be made here. The first is that unless your car is modified, there is no way you will see such a massive gain on a standard car by tailoring the fuelling. However, it was believed that Jack's car was indeed standard - the truth was only revealed by the rolling road test. He may never have known otherwise. Several non-standard cars have been revealed in this way. A rolling road session will soon show up any problems, and if the car is standard and well maintained then it will not require a new chip unless there is something else you wish to alter.

The power and torque figures for the bulk of the cars I have run on this dyno are stored on the computer. This makes it very easy to determine the results of any modifications, and also to compare the results for similar cars to see whether they are on the pace or not.

When TVR modify the ECU they pay attention to many areas of its behaviour. Just some of these things are removal of the road speed limit (oh yes!), a sensible rev limit, idle speed, etc. As time moved on they made continuous improvements which affected other areas such as warm-up fuel, acceleration fuel, etc. Larger engined models (450 and above, and latterly 430HC models) received further modifications including scaling of the airflow meter input which is vital to achieving good driveability, overrun engine braking, full throttle enrichment point, etc. As later versions of the software and ECU itself became available they used those too. The best technology is seen in their latest Serpentine Cat cars.

All of the above things I can alter as required to suit modified engines. Standard cars can be tailored to suit the owner's preferences and to accommodate the inevitable slight variations between production engines. Any power increase here will be limited to no more than 10-15BHP at best, but may be nothing. This is your decision as the owner. Obviously early cars derive benefit from being upgraded to the latest compatible software with all the latest

modifications. Please note that I do not lift the rev limit set by the engine builder for obvious reasons.

On the subject of rev limits, did you know that Land Rover use two settings - for Cat cars it is 5200rpm, and for Non Cat they use the incredible figure of 8500rpm! If any standard Range Rover hat ever achieved this then I expect the pistons are still orbiting Pluto!

It is important not to set too much store by the actual value of the power figures obtained from any dyno - chassis (in car) or engine (out of car). Both types of dyno feature advantages and disadvantages, but at least with a chassis dyno you don't have to take the engine out of the car. There are so many different ways of calibrating and compensating for the figures obtained, that actual figures may vary between dynos by as much as 30 bhp in this power class.

Personally I always use John Eales for Engine dyno, and Power Engineering for Chassis dyno work. Both these use calibrated dynos, both give realistic figures, and both largely agree with each other. However what is important is the differences obtained by any modification process which is one reason why I always use the same installations.

Power Engineering are best known for their work as Cosworth and Ford RS specialists (excellent people to talk to if you have Ford V6 power). They regularly feature in leading magazines, and build many championship winning vehicles (Vectra Ford, Eurosaloons, etc) - the list is too long to put down here. Their facility is a fully computerised, regularly calibrated, state of the art rolling road. This means that a brief single pass is all that is required to record full load figures. This is kinder to the engine, transmission, and tyres, and is unlikely to provoke overheating. It is able to read power at the wheels and also estimate flywheel figures.

One major point comes across from the standard TVR engines I have tested. The absolute power figures do not actually reveal the best part of the story. If there is one thing that marks out a quality engine build, it is consistency. As an example, all the STANDARD 390 engines, and 400 engines, I have tested have produced the same power to within plus or minus 2BHP - which is a spectacular achievement. Also they all serve up a more than generous wad of mid range torque, which after all is what gives you your acceleration. TVR do not promote these two outstanding features enough, although it is difficult since most people like to blah about BHP instead!

I hope this clarifies things, but if you want more details you can find my number in Helplines.
Mark Adams

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Tune Resistor

Internet Mailing List Nov 96
Can anyone help by telling me what value the Tune Resistor for a Griff 500 with Catalytic Converter is? This item is found amongst the harness near, but external to, the ECU, attached via a connector. It is a parameter that allows the ECU to control the right fuel/air mixture. I need to check it against mine which is suspiciously incorrect.
Kenny Heng

Internet Mailing List Nov 96
According to the Land Rover specs for their big Rover V8 engines which form the basis of the TVR units, the tune resistor value should be:

Cat models - 3700 to 4100 ohms
Non-cat models - 446 to 494 ohms
Source: Haynes Range Rover manual page 263 para 107

I would guess that TVR have not modified these and these are the right values although in a couple of other books I have on tuning Rover V8s, talk about replacing the tune resistor with a variable one and thus fooling the ECU into thinking the engine temp is colder than it really is and dumping more fuel in and giving more power.
Steve Heath

Internet Mailing List Nov 96
On my 500, I measured the resistance at 600 ohms which is rather odd and perhaps confirms my suspicions about it being wrong. I felt it was too rich and my engine kept stalling at idle under normal running temperature. My car is equipped with a variable tune resistor, which I presume is for tuning to meet emission regulations here. I turned it up to 1900 K-ohms and found that it cured the stalling problem but noticeably more drive train shunting, apparently typical of cat-equipped cars having to run lean. I'm waiting for more feedback before I do anything further. I would like to sort this and a leaky manifold problem out before continuing my evaluation of Superchips.
Kenny Heng

Internet Mailing List Nov 96
I have called the factory and they have advised me, having consulted with TVR Power, that the tune resistor value for the Griff 500 (which has a cat converter) should be 3900 ohms. This value is exactly in the middle of the Land Rover specs.

I have adjusted the variable resistor on my car to 3900 ohms, from 1900 ohms that was set before, and noted stronger exhaust pulses. Now, the car does not stall at idle (normal running temperature), the problem which started me on this. This leads me to conclude that the reason for stalling was too rich a mixture. The idling remains rough, rocking the car quite a bit. Subjectively, the engine felt more eager than before to pull from about 3000 rpm onwards. However, shunting at below 2000 rpm is more pronounced. I am still curious as to whether the rough idling and shunting are normal characteristics of the 500. Appreciate comments.
Kenny Heng

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FOR PUBLICATION

back to lubrication page

Mobil 1 Myth and Reality

Covering note from the author to TVR Mailing List:
Mobil 1 Motorsport has worked well on those cars that consume oil i.e. Cosworth Escorts, Lotus Elise 4cyl turbo, Porsche old models and RenaultGT5 turbos. It is also used by TVR Tuscans and MGs in their one make serie's along with an exclusive recommendation on the 190bhp Elise. Its the same price as Mobil 1 and available fron AI Performance centres and CAR motorist centres. Alternatively use a grade called Mobil 1 Racing 4T from your Yamaha dealer or Halfords. This is sold as a bike oil but is Mobil 1 15W-50.

Over the last year our technical department has been questioned on numerous occasions by enthusiasts of not only this marque but others in the same category. That is: High performance, Turbo charged, Race/Rally etc etc . The sort of vehicles that readers of this journal will own and cherish. There appears to have been many Myths reported so I would like to add a touch of Reality.

Mobil 1 attained a well earned loyalty from those who used the Mobil 1 5w-50 engine oil. It was after all, the ONLY oil that could be used in the original high performance Escort Cosworth until they made it more driveable! Its reputation grew and with our marketing department working hard, the Mobil 1 name is seen everywhere.

However Mobil appeared to have made a big mistake in late 1996, it changed the viscosity to a thin 0w-40 from the thick 5w-50 ?

The reasoning for this was quite simply to stay the "Worlds Most Advanced Engine Oil" in the current and future production arena. Manufacturers latest models now have higher power output with better fuel economy, with smaller sumps and better streamlining making oil temperatures higher. Mobil 1 as it was, could have achieved this but we felt that we needed to take the "next step" in technology. Hence the lower viscosity Tri-synthetic for wider spectrum of performance and utilising friction additives for fuel economy amongst other things.

The view from the laboratories was that because this oil is less volatile, more stable, has better anti wear and is still an SAE 40 at high temperatures then it would not present a problem to any vehicle that used it. This is basically true of all modern design vehicles including high performance turbo models. We have some tremendous good news stories of where the new 0w-40 is being used and all our sponsored cars use the new "off the shelf" Mobil 1 0w-40 (with the exception of Formula 1). Porsche, MercedesBenz AMG, Dodge Viper, AC, Corvette use it as initial fill and Lotus Esprit, BMW and TVR as the preferred fill .

What we have found through experience, is that there are many vehicles out there that are certainly non production, are of higher mileage, that have engines with larger clearances either through design or wear in bearings, pumps and piston areas. **The difficulties experienced by some owners are not caused by Mobil 1, it is a specific engine problem in respect to new technology low viscosity oils.** These models, predominantly of around 1987 design and 1990 release often need to have a more viscous lubricant regardless of the oils performance profile. Mobil states "For whatever car you drive" on the Mobil 1 0W-40 label, but the owner must ask the question about the requirements of his car. After all do "one size" socks fit everyone comfortably ? If you have a specific requirement you buy the product that is designed for the specific task not the product designed for the mass market. Having said this most are more than happy and have excellent results with Mobil 1 0W-40.

Great you say ! But this has excluded some of the very people that gave Mobil 1 its reputation.

To address this specific need we recommend a newly released product called Mobil 1 Motorsport. Aimed squarely at the enthusiast and race car driver, this oil is Mobil 1 but in a 15w-50 viscosity. The product is the nearest you can get to the oil used in Formula 1 and the Indy car series. The viscosity spread of 15w to 50 is naturally achieved so the

product cannot shear down with excessive use (this is why bikes with integral gearboxes and clutches like it) and we are back to the loved SAE 50 at the top end. You may argue that 15w is too thick for hydraulic tappets but this grade still flows down to minus 50 degrees Centigrade and flows far better than conventional 10w oils at start up. Additionally the users of this oil are not concerned with Fuel economy or ice cold starts as the cars are usually under wraps. Current users of this grade such as Power + in Uxbridge and Brooklyn Ford in the Midlands use and sell Mobil 1 Motorsport to a growing clientele. So if your cherished car has high oil consumption, smokes on turbo overrun, has hydraulic tappets that clatter or has a flickering oil light on Mobil 1 0W-40 or other lower viscosity oils then this may just be the answer to your problems. If you have a query or want to know your nearest stockist phone free on: 0800 040111

Two other areas of concern are transmission oils and greases. Using the same technology as Mobil 1 with fully synthetic base oils we can offer fantastic protection and durability by comparison to conventional lubricants.

Mobilube 1 SHC is a gearoil with good synchromesh performance and it gives great performance in rear hypoid axles. It has an API GL4 and GL5 classification. This is used by McLaren F 1 race team

Mobil ATF SHC is a fully synthetic ATF with Mercon, Dexron and ZF approval. This has shown to give 5 to 6 times product life in severe applications and is used by both TVR and Viper for race transmissions.

Mobilith SHC 220 Grease is a fully synthetic heavy duty product with a base oil of a good viscosity to lubricate highly loaded and high temperature bearings. It is of a thickness which is suitable for wheel bearing application and has other attributes such as tackiness and water repellence which also class it as a good candidate for automotive applications. Think of grease as a "sponge" which holds the oil which lubricates the bearings. The sponge must stay absorbent to release and retain the oil . If the sponge breaks down or an inferior oil is used the component will fail ! This particular grade is used in BTCC and many other race arenas. To give an indication of its performance it is also used in bearings which roll molten steel billets and is used as a bearing grease for continental 44 tonne truck wheel bearings. A grease is not just about a single high load test otherwise we would just use Copperslip with loads of metallic anti seize addition . A grease must be judged by how durable it is in extended life, How it reacts with water, How it affects the seals, The quality of the base oil used and the working performance of the soap which holds the oil.

Mike Frost

Mobil / Duckhams Automotive Technical Manager

What should you look for in a Can of Oil ?

Who makes the oil you are using ?

Reputable manufacturers have control of the whole production process for their lubes. They know what base oils are being used, whey know the performance of the additive package and most important of all they test their own product and can produce the data to back up any claim they make. The majors also spend many years developing grades and work closely with the manufacturers. Cheap and cheerfull grades may stop the engine from seizing up but just can’t compete with the performance of major oil company grades, even though the brochures sometimes glow by comparison.

Specifications ?

These nearly all read the same to the untrained eye and will probably difficult to interpret. Basically there are three to

be concerned with :

SAE (Society of Automotive Engineers) International standard of Viscosity

API (Association of Petroleum Engineers) Quality level

ACEA (Association of Constructors of European Automobiles) European quality level

SAE is alphabetically rated. SG is OK, SH is most common and of a good level, SJ is latest spec which preferred grades will be accredited to.

API is viscosity, I could write an article on this alone ! Basically the first number is cold start viscosity and the "W" means winter rating. The high number is the hot viscosity.

The trend is to lower viscosities for both the cold and hot temperatures. The most common grade at this time is 10w-40. This gives reasonable cold starts in the British climate and offers good protection at the hot end of the scale.

ACEA: A is Petrol B is Diesel and E is truck. The A category goes from 1 to 3.

1=Fuel economy 2= same performance as 1 with no fuel economy 3=higher viscosity at higher temperature for performance.

The VITAL consideration is the Base oil. This is the ingredient that determines the main quality of the lubricant and some of its major qualities i.e. sustained high temperature, cold temperature performance, volatility (evaporative loss),and resistance to degradation.

Mineral oil is made to a base performance at an acceptable price.

Semi-synthetic is mineral oil with some re-worked mineral or a synthetic component added to improve performance of one or some of the above. There are no industry standards as to what the makeup of a semi-synthetic should be. So beware, are you getting value for all the hype that surrounds this middle grade oil. In fact many synthetic oils are just Semi-synthetic with spurious wording.

Fully Synthetic, usually means just that and the price is usually a good indicator of the quality of the synthetic element. Yes there are different synthetics with varying attributes. The most respected are PAO (Polyalphaolefin) with Ester, but lets not confuse you.

Right, what oil do I want for my high performance car ? *:*

Base Oil : **Fully Synthetic** for high temperature and high performance

SAE: They don’t like low viscosity so **10w or 15w** at cold and **50** when hot

API: **SJ**

ACEA: **A3-96**

SOUNDS A LOT LIKE MOBIL 1 MOTORSPORT !

Mike Frost

Mobil / Duckhams Automotive Technical Manager.

PS for your Mobil products you can try A1 Performance Centres and C.A.R. Performance Centres.

For Technical advise 0800 040111

Hgfh

For Direct order advice Telephone: 0800 243413 Fax: 0800 214532

Instruments

Speedo

Internet Mailing List Jan 97
I've got one of those analogue speedos that makes a loud 'tick' every 10th of a mile. I am told that they were from a dodgy batch of BL stock that TVR bought and refaced - the tick being caused by the fact that the trip meter was blanked off, but the mechanism tries to push against a non existent cog every few seconds. The later instruments don't match, so I would have to swap at least the speedo and tacho together (if they fit the holes in the dash). All in all, it's a bit like driving a very fast grandfather clock.
John Langford

Letter Oct 97
On my car (1994 4.0HC Chimaera) the the mileometer is an electromechanical device that increments every 1/10th mile when a solenoid is pulsed to click a pawl mechanism. Hence the click. I was told on good authority that this particular instrument originated from a tractor. There is no trip mileage facility, blanked off or otherwise, and my reason for discovering all this was to add an LCD trip with a small reset button which works well.

The 1/10 mile pulses are derived from a custom electronic box within the dash. This box converts the output from a gear tooth speed sensor in the diff, and incidentally also provides a simulated speed sensor signal to the ECU to tell it whether the car is moving or not. I believe this is used by the ECU to determine whether to adjust the idling speed or not, via the stepper valve. The simulated signal is not very much like the Rover sensor signal and I suspect that the idling control is unduly inhibited by by the slightest movement of the car. This may explain idle speed problems; try keeping the car totally stopped for a while and you should notice the idle speed suddenly correcting itself. If you keep moving, no matter how slowly, it won't.

I suspect that this arrangement was derived for Borg Warner gearboxes and that the earlier Rover units may have the proper speed sensor and may not have the same idling problems . . .
Mike Gill

Letter Feb 98
Mike's opinion about the cause of the speedo ticking is quite right. If it is ticking, all is okay. In my 94 Griffith the speedo was working intermittedly and the ticking was not heard. I opened the instrument and found that the solenoid got regular electric pulses but the small metal plate which is magnetically attracted by the solenoid (this makes the noise) was glueing to it and could not get loose. There was not enough space between the two parts. I loosened the fixing screws of the solenoid and rearranged it and the problem was solved.
Thomas Hopf

Internet Mailing List Jun 98
The speedo in my Chimaera has had a mind of its own lately. First it was coming on and off every few miles, and has now completely given up. Assuming the 'Sorry Mr Plod but you see my speedo don't work' excuse doesn't go down too well, I'll have to get it fixed.

Is there anything I can check myself to find out where the fault lies, other than take the top of the dash and see if a wire has become loose?

Around the same time, the timing went out a bit, and it often stalls when you put the clutch down to change gear, even at high speeds. Bit dangerous when it happens changing down for a tight turn as the PAS stops too. Idle at rest is OK though.

Could these too problems be connected, i.e. the computer doesn't know the speed of the car, so isn't adjusting the timing to compensate?
Graham Hay

Internet Mailing List Jun 98
The problem could be a faulty transducer. They get quite hot. Speedos have been known to fail too. Often they are replaced as a pair no matter which one is faulty, to ensure they are matched.

Exactly the same thing happened to my Griff when the transducer failed. I was told by the dealer that there was some sort of speed related input to the ECU to stop the revs falling back so much when you change gear on the move, and once this lost the input from the transducer it got confused. Other people have disputed the existence of this mechanism since. However, all I can say is that, like your car, my car developed the stalling problem at exactly the same time as the transducer failed, and this problem went away as soon as the transducer was replaced. The timing was unaffected as far as I could make out though. The problem hasn't re-occurred in the last two years.
Steve Powell

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Fuel Gauge

Internet Mailing List Apr 97
My Chim's petrol gauge keeps dropping to zero (thats not because of the way I drive it) and going back up/down in spasms. Also when the tank is full it stays at zero for a while (15 miles).
Paul Bland

Internet Mailing List Apr 97
That is symptomatic of a faulty fuel gauge sender where the sender goes off the resistence track when full - hence the zero reading until you have used about a gallon of fuel and contact is re-made. The ups and downs are caused by this contact making and re-making. Replacement or adjustment is often the cure.
Steve Heath

Letter Feb 98
My fuel gauge showed empty when there were about 8 gallons in the tank. If the tank was full, it showed 3/4 only. Here is my solution, but be aware that it is an awkward and dangerous procedure:

1. Open the boot. Loosen the trim on the right upper side of the tank. Unscrew the fuel sender and take it out. Close the open hole with something! Re-connect the cables and turn the ignition on. Move the white float up and down and look at the fuel gauge.

2. If the needle goes from empty to full then you have to adjust the sender by bending the wire up or down. Hold the sender outside the tank in the same level that it is buit in and arrange the wire so that the float is in its lowest position about 2-3 inches above the lower edge of the tank. You must be sure that you only bend it up or down, not in another direction, to avoid the float rubbing on the front ofr back wall of the tank. In most cases that's it and you will have enough petrol for 20 miles when the warning light goes on.

3. If the needle does not reach "empty" or "full" by this procedure, then it's a little bit tricky. You must remove the fuel gauge from the dashboard and open it. Remove the black or chrome ring and remove the screws at the back. Inside, the pointer is connected to a small coil, which moves in a cage. You can turn this cage to adjust the position of the pointer on the scale. Turn it so that the needle reaches "zero" if the float is completely down and "full" if it is in the

highest position. Secure the position of the cage with a drop of glue and repeat No. 2.

Don't smoke during this procedure!
Thomas Hopf

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Extra Gauges for Chimaera

Jan 98
The dashboard of the Chimaera models can quite easily be converted to accept extra instruments: a voltmeter and/or an oil temperature meter.

The voltmeter as fitted in the later Griffith 500 models has exactly the same style as the other instruments in the Chimaera but there are different colours for dials (magnolia, mint green, yellow black etc.) and for bezzles (black or aluminium). This gauge can be fitted without any modification and it is available at your local TVR dealer (the supplieris Caerbont Automotive Instruments).

The oil temperature gauge is not available as such but if you order a water temperature gauge and a water temperature sender as already fitted to the Chimaera you can have the gauge converted. Speedy Cables in London specialise in converting and repairing all kinds of gauges and they can modify the TVR gauge for about 20 pounds (Phone 0171 2269228). Since the oil temperature seldom goes above 120 degrees (that is in the area of the sump plug where you fit the temp. sender) the scale as such does not have to be changed but the little water thermometer symbol has to be replaced by an oil temperature symbol (oil-can with smaller thermometer). For the functioning of the gauge you don't have to do this of course but it looks very neat.

Where to fit the gauges
First step is to drill the holes in the dash panel. Because the 'wooden' dash panel is in fact a steel plate with a polyester front with wood motive (indeed, you don't need to be afraid of wood worm attack) you need a special drill to make the holes.

A 2 inch metal drill with adapter is required to drill these holes: you can NOT use a wood circle drill from a DIY shops.

First remove the dashboard top (described else where in the workshop notes) and than determine the position the new gauges. The best position to drill the holes is left from the speed meter and right from the rev counter.

Make sure to drill the holes on the same level as the existing instruments in the lower level (clock). Before you drill the holes remove the two upright brackets behind the panel. Most likely the brackets can be left off.

Make sure to position the holes in a way that there is 4 to 6 mm room left between the bezzles and the dashboard upholstery. The holes must be visible THROUGH the steering wheel.

Use high drill speed to get through the polyester layer without chipping it; reduce the drill speed to get through the metal plate.

The hole pattern of the four centre instrument will now look very much like that of the Griffith instrument panel.

When fitting the instruments in to the holes you may need to enlarge them a bit because the TVR gauges are slightly bigger than the standard drill. The right hand instruments will NOT interfere with the dash top cover when the holes are drilled correctly.

Before fitting the new instruments it may be worth to reconsider the location of the various gauges. In order to stay in line with the gauge positions in the Griffith, the WATER temperature gauge should be moved over to the new position

next to the Rev counter and the oil pressure gauge to the new position next to the speedometer.

Wiring up
All connections you need are already present at one of the other gauges except the oil temperature signal wire.

The earth, feed and illumination wires can be extended from any other gauge. The volt gauge does only need these 3 wires. The water temperature signal wire needs to be extended if the gauge is moved over to the right hand side.

The oil temperature gauge needs a 4th wire which has to be routed to the oil sump plug.

The new water temperature sender unit has to be fitted IN the sump plug. A metalworkshop can drill the plug and cut the correct thread in it. Use a new plug and prepare the complete unit so it can be easily be swapped with the original plug (at the next oil change for example)

Make sure the wiring to the sump will not run too close to the exhaust and secure it to the body/chassis with enough straps.

Read out
The benefit of the voltmeter is that it will tell you when the voltage gets too low and your battery may get flat. When the ignition is switched on it will read approx. 12 volts. Once the engine is running it will read approx 13 to 13.5 volts and it should not drop below 12 for longer periods.

The oil temperature will not increase as quickly as the water temperature so it gives you a much better indication when the engine is at the correct operation temperature, ready to accept full load (above 60-80 degrees). The maximum temperature can however become higher than the water temperature (according to the experts about 10 degrees higher under normal operation conditions). It should not get higher than 120 degrees measured at the sump plug. There may be some places in the engine where the temperature will be higher but considering the fact that the sump content is pumped across the engine several times per minute, you will have a good warning indication when the oil temperature does get too hot. Bear in mind that this gauge is not replacing the water temperature gauge; the engine may still overheat when the oil temperature is still relatively low. In general you have to focus on oil temperature when using much engine performance (on the track) In contrary to the water temperature gauge; this gauge has to be checked more frequently.

Griffith 500
The oil temperature gauge as mentioned above may also be a useful instrument for the Griffith 500 models. Since there is not so much room in the panel for extra holes it is easier to fit it instead of the clock. In order to obtain access behind the panel both radio and glove box have to be removed.

Note
Griffith 400/430 and early 500 models have a different supplier (Stewart Warner) for the instruments; they are not available anymore, neither from TVR nor from SW. These early type instruments can be recognised by the fact that the are fitted IN the instrument panel rather than ON the panel and have horizontal pointer rather than vertical. You can of course fit any other 52 mm oil temperature gauge but it will never match the rest of the instruments.
Tom Mogyorossy

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Impressions 2

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Quirks, Strangeness and Charm

In this note from a new owner (John Langford) I've pasted in some of the responses. They are in italics and come from mailing list subscribers David Leeming, Andrew Smith, Steve Powell and Dave Peck

Internet Mailing List Nov 96

I am a new, first time, TVR owner (L reg, 4.0, 12k miles). Funny how this statement seems to evoke such sentiments of pity and concern from those who hear it? Anyhow, I've spent the last 2 weeks learning just what a quirky beast I've got hold of and I would really appreciate some feedback on what constitutes normality in a TVR. Still for an old grease fingers like me that thought that the days of tinkering with your car without the assistance of a computer diagnostics kit was gone, it's nice to see that the 1970's is alive and well and living under the bonnet of TVRs everywhere.

1. Oil Pressure

Cold the oil pressure is up to Alaskan pipeline standards (50-60 lbs) and seems to be fine on normal operations. However at hot tickover (1100rpm) it drops to 15 lbs on the guage. This is a lot lower than I've been used to and makes me have a funny feeling in my tummy, although it may be perfectly normal on big V8s.

Yep, they all do that.

Exactly the same as mine (N reg 4.0)..

It's perfectly normal for a Rover engine, as it's a low pressure system. In Rover applications it had an oil pressure relief valve which restricted oil pressure to 35psi, but this is not the case with TVR engines. This is why you have a gauge which reads up to 100psi, but once the oil is fully warm the needle lives in the bottom half of the gauge.

2. Engine Temperature

Gosh, they do like to run hot don't they? Damn thing went off like a Capuccino machine the first time it got in a London traffic jam. Traced problem to a faulty thermocouple and voila, a few quid later it only slightly worries me when it gets up to 100 degrees. This is November, what do you do in the middle of an August heatwave and a Bank holiday traffic jam? Throw buckets of water on the engine every couple of miles?

Yep, they all do that. (In the summer, take the roof off and blow some heat into the cabin.)

London traffic and TVRs don't mix - I try to avoid it at all costs but living in West London as well, you sometimes have to grin and bear it. I get very nervous when stuck on the Embankment and realise I have another 10 miles of 5mph traffic to go..... Listen out for the fans and make sure they are running - Mine seem to run continuously. Once it gets hot it never seems to cool down.... I take it you missed the massive debate we had on hot and cold running. One thing I don't understand is why it should overheat at all. You don't see every Range Rover stuck on the Kings Road 'cos of overheating....

I was the victim of my Griff overheating in Kingston last summer. Blew the cooling fan fuse (twice) and then it was clouds of steam all over the place as I exited the queue I was in and dived up a side road trying to get some cool air over it. To be fair it only worried me again in a queue on the M25 going to a Tuscan race at brands. Once bitten, I

suppose.

Most do, some don't. Mine used to go right up to the red line, but never boiled. It used to worry me though. Another Chimaera which was identical to mine (registered same day) was modified in some way by SHG in Farnham, and I am told it runs much cooler. I think all they did was change the thermostat and the sensor for the electric fans. Your dealer should be able to advise..

I've had a manual push-switch mounted in the dash board of my Griff that brings the fans in when ever they are needed. This is usually around town or in traffic jams.

3. What's that Bloody Ticking Noise?

I understand this is an old chesnut. The non existent trip odometer 'ticks' every tenth of a mile. I have now heard the 'Oh they all do that' story twice. What is the truth? It sounds like I've got a dwarf with a hammer in there. I've started carrying a 5lb mallet with me. At some point I will lose control and hit it back.

Yep, they all do that. (until the newer ones which have different instruments.)

What ticking noise?

The first demo I drove did this, it drove me up the wall as well. Thankfully when my Chim arrived (Oct. 94) they had changed the odo to an analogue one. My sympathy.

You get used to it after a while. When it stops ticking, that's when you start worrying and get out your warranty.

My Griff doesn't do this. But the same dwarf does switch-off the speedo occasionally. Also he moves the indicator to some arbitary position other than rest when I switch the ignition off, and does the same to the rev counter needle as well.

4. I Am a Fuel Gauge - I Lie Abominably

Nuff said really.

Yep, that too. (as above - 3.)

Never had a problem with mine - maybe they fixed this later on.

Mine have always been pretty consistent. Possibly not right, but consistent.

5. You Traded a Merc SL for a TVR - Are You Mad?

If anyone has a good piece of repartee for this one I'm collecting one line put downs.

Yes, probably. But but least you've got a car with character, and not just presence.

I don't want to get started on the German cars one as I've got a deutsch tin top and I like the glass house how it is, ta.

"I decided to buy a sports car instead"

P.S. Should I join the TVR owners club, or is that too wierd?

Yeah go for it.

The club is excellent for track days, getting into the Tuscan events (discounts, parking, etc), and nearly stuffing it on

parade laps at Brands.

If you want to meet other owners on a social basis, take your car on the track or get reduced entry at Tuscan Challenge races then certainly you should. Only some of the members are weird!

By way of example here's a TVR anecdote for you. This occurred at a recent Castle Combe track day. A guy had been waiting patiently in line for some hours (and probably months beforehand) for his turn to start lapping in his pride-and-joy (a spotless TVR Vixen - I think). But the moment he attempted to respond to the marshall waving him onto the track, the car emitted clouds of smoke and the most awful 'something major and mechanical' noise. Now you may think that the onlookers would gasp in collective shock horror, or offer up sincere condolences before looking the other way. But no, everyone cheered, laughed and clapped in unison. However, the very second the jovialities had subsided, two, three, or more 'Vixen' experts had enveloped the car and were freely offering their assistance.

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General Comments on Driveability

Internet Mailing List Nov 96
This is a two part question so please bear with it!

With winter now approaching, frosty/rainy days I'm getting bucket loads of condensation inside the Tiv (1990 S2) - the heater seems to make things worse - not better. It chucked it down last night and I had to have the windows partly wound down to get some air circulating to clear the screens, which isn't fun at 11.30pm @ 85mph on the M25. I know that condensation usually indicates a poor seal on the door/window/hood etc - but before I do any investigation, is this an inherent feature of the S ?

On another note, I use the TVR (1990 S2) as a second car and it serves its purpose well, however I may have to rationalise my vehicles and sell all 3 and content myself with 1 car. (An possible move into London means I won't have the garage space). Therefore I am looking at either a Chimi/Griff (most likely a J/K plate Griff) as a replacement. Is this sensible? The problems with the S as an everyday car are reasonably obvious:

-low ride height (grounds out regularly)

-doors don't open wide enough

-dislikes *any* bumpy road

-bugger all use wing mirrors - which means London traffic is a hit/miss affair - really!

-heavy steering for town driving - although not a big problem.

I know that most of these things are rectified with the Chimi/Griff but does anyone use their TVR as their daily transport - and how good/bad is it? And do the new ones get condensation problems when it rains!
Andrew Guy

Internet Mailing List Nov 96
I use a 92 Griff 4.3BV as my only car and I'm really happy with it. I wouldn't recommend driving one in London though as the heavy clutch, steering and gearshift will soon piss you off in all those traffic jams. The Griff really needs to be driven on fast B roads to get the best out of it and yes you'll still have problems with condensation because the ventilation system is crap.
Nic Collins

Internet Mailing List Nov 96
I get very little condensation in my Griff, but then the only time it sees rain is when moving, as it is kept in a nice dry

garage. Don't forget the old trick of opening the window a fraction when on the move, as this draws air out of the car to make life easier for the fairly low-powered fan. I used to have to do this with the 350i and it really does make a difference. I'm surprised no-one has mentioned the traditional TVR trait of instruments steaming up on the inside. This happens even (perhaps only?) to cars that live in garages. Perhaps you're all too busy trying to see out to notice!
Steve Powell

Internet Mailing List Nov 96
My sensible car is a Griff, I don't use it everyday as I catch a train to work but saying that I've done over 2000 miles in it in the five weeks I've had it. Yes it has low ground clearance, the doors don't open very wide, but it is docile(ish) in traffic and is more practical than you may think. There is a reasonable amount of room in the back and the boot can swallow lots of shopping! I must admit that I was a bit worried about having one as my only car when I bought it, but it really is very good. However I will be in the market to buy another car next year sometime, but thats because at the rate I'm going I'll be doing 20,000 miles a year in the Griff, and thats a lot of Super Unleaded.
David Donnan

Internet Mailing List Nov 96
I have had my Chimaera for nearly three years now. I have used it to get to work, but could not recommend it as a commuting car if you expect to crawl along in traffic for an hour. It's just too heavy with the clutch, and gets unbearably hot in the cabin (unless the roof's off). Other than that, it's fine. Plenty of luggage space (even with the lid in the boot), good visibility including mirrors, comfortable ride, it has NEVER grounded, and only leaks in extreme circumstances (e.g. 80 mph in a heavy rainstorm - it survives a jet-wash no problem).

I keep mine in a garage, so I don't usually get misting problems. It's OK in the wet if you take it easy, but a nightmare in the snow. I think the car just doesn't put enough weight down on the back tyres to move the snow right to the edges.

Paul Carpenter

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Track Day Tips

Internet Mailing List Aug 96
For those who are going on a Track day in the near future i.e. Silverstone, here are a list of the things that you might want to prepare before turning up! It's a question that came up at the Northants Region get together outside the Rose and Crown last night. It's based on the list that the factory send out for their Performance Technique days and my own limited experience. So here are my TOP TEN TRACK TIPS:

1. Make sure that the oil is filled to the top of dip stick mark. "The centrifugal forces experienced while cornering can cause a temporary lack of oil pressure if only a minimum of oil is present". I would go one stage further and consider doing an oil and filter change. The engine does get hammered on a track day...

2. Make sure that the cooling system is in A1 condition. i.e. coolant level topped up, fanbelt tight, and there are no leaks. Make sure that the air vents are clear. I normally carry a spare fanbelt just in case.

3. Type pressures should be 2-3 lbs/sq inch higher than for normal road use. Don't assume that there will be an airline available. Do it just before you get to the track. Don't forget to set them to normal again after you leave. A five pound foot pump is a good idea - you can rent it out to the other drivers who didn't adjust their tyre pressures.

4. Make sure that there is plenty of brake pad and tyre tread. Obvious really, but I was surprised at how much tread I took off a pair of Yokohama AVS in one day at Oulton Park(2 mm), and the amount of brake dust that suddenly appeared (very strange that one...). This was quite common judging from the debris on a lot of the cars at the end of the day.

5. Make sure that everything is tied down and not loose. Things to consider in particular are:

Wedge the roof panels in the boot with foam blocks.

Put heavy duty cable ties around the battery just in case.

Take cassettes etc out of the glove compartment - its fun when it flies open and the contents fly out just when you concentrating on doing a Schumacher out of the chicane!

6. Put tape on the external lights just in case they break. They also look good and macho in photos.

7. Be prepared for a lousy MPG. I reckon I did about 10-12 mpg in my S2 at Oulton Park.

8. You will need an ACU improved Crash Helmet. It is possible to borrow them sometimes at the track but if you are going to do several track days, its worth investing in a helmet. I got mine in a sale reduced from £160 to £65 because it looked awful - black full face with dayglo pink and green lightening bolts. But I can't see it when I'm wearing it, so who cares!

9. Check your insurance. In most cases, you have no cover but some companies will cover you albeit with an increased excess.

10. Adjust the accelerator pedal so that it is level or even slightly higher than the brake. This makes heel and toe easier especially on S's.

The factory organises monthly Performance Technique days from April to October which usually co-incide with Tuscan testing. These cost about £175 to drive for the day with additional drivers for the same car at about £40 and spectators can attend for about £20 (This includes lunch). During the sign on and briefing, and during lunch, you can watch the Tuscans try and destroy each other and during the rest of the time, normal TIVs hurtle around the track. You do not have to be a member of the club, and if you buy a new TVR, you usually get invited to participate free of charge by the dealer... The main contact is Vicki Swift at the factory.

The TVRCC also organises track days but you have to be a member of the club to attend so that you are covered by the club's insurance.

I believe the main difference between the two is in the level of instruction that you get with the Performance Technique days where you are continually assessed and tested at least three times during the day. It is normally organised so that you can pick up an instructor from the pit lane without waiting (they have a team of about 15-20 instructors). I found this level of instruction extremely beneficial and worth the higher cost compared to the club day. The track time was great and I did about 45-50 laps of the track through the day - half with instruction. It is recommended that you do about 4 laps and then come in to allow the brakes to cool down and thus prevent them from seizing. Add this to the lunch and stops to watch Tuscans go sideways and you have a very full day. You can also get a photo of you driving round the circuit. Mine shows me on three wheels with daylight under the inside front kerbing the chicane and a *VERY BIG GRIN*!

The best thing about track days is not having to worry about blue lights and GATSOs... although taking a blind brow of a hill on the wrong side of the road with your foot to the floor is a little daunting at first.
Steve Heath

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Seats

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Seat Repairs

Internet Mailing List Feb 98
Does anyone know of a good seat restorer, preferably in the south-east?
Peter Beech

Internet Mailing List Feb 98
Try Cass Bros, 153 Hastings Rd, Bromley, Kent, 0181 462 2387. It cost me £430 to recover both seats in my S2.
Ian Priestly

Internet Mailing List Feb 98
There is a car upholsterer that shares Thames Valley Racing Services building. I don't know if they are any good, but when I was there last they were recovering the seats for a brand new 5 series BMW and they looked very nice.
Mike Jennings

Internet Mailing List Feb 98
Just a quick note to let people know that Omicron now has a trimmer . . . able to make new carpets, hoods for convertibles, make new cushions and can retrim seats and other interior panels in a wide choice of materials - eg Connolly Leather, Alcantara suede, vinyl or cloth.
Andrew Cliffe
Omicron

May 98
It's taken a while to find someone local, but I finally got the rip in my seat repaired by a company called Polyfacto in Hailsham (01323 841390). There is also a firm in Oxted that Redhill Ltd use occassionally and I'm sure they would be happy to put anyone in touch. Polyfacto made a good job of unpicking two of the panels on my seat and pinching them in a bit to hide the tear - practically invisible, cost £40 and turned the job round in two days.
Peter Beech

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Extra Seats?

Internet Mailing List Aug 96
Has anyone managed to squeeze a 3rd seat into the back of a 350i or S3 that you know of? I have a 1yr old daughter and it would be a pain if we couldn't all enjoy a blast through the country.
Ian Noble

Internet Mailing List Aug 96
Sorry Ian. It contravenes the Construction & Use Regulations! It's thus illegal & un-insurable.

John B Osborne

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Heated Seats

Internet Mailing List Oct 96
I have made a discovery which if you have a competent dealer you will know already! When I bought my Chimaera I was looking for a good price and ended up going to Mole Valley who had a better spec'd car for less money than HR Owen. I wasn't bothered that it had an ice detector or heated seats but if they are there and don't cost anything then fine. When I went to pick it up I said, "How do you switch on these 'ere heated seats then?"

"Well Sir," replied the incompetent** salesman, "The seats come on automatically when the ice detector says it is cold enough"

"Strange, what if I want them on at other times?"

"Ah well, that's TVRs for you".

Off I went, not too concerned about the workings of these devices.

Anyway as winter approached and following a good blast on a sunny but cold day, I thought it would be nice if I could get them to work. I had a quick look around to find a place to put in a manual switch, and discovered this switch very well hidden on the steering column on the RHS, at the very back. Same sort of switch that turns off the instrument lights. Hmmm, wonder what this does? Pressed it - nothing happened, although I could hear a click of a relay somewhere. It must be wired to something. A few minutes later - hey presto WARM BUM! The handbook I have makes no reference to this switch anywhere - ditto the ice detector. Maybe I have an old handbook....

*[** (In this case.) My hobby's cars, not litigation. PB.]*
David Leeming

Internet Mailing List Dec 96
With the coming of Santa Klaus and the white stuff, I thought to myself wouldn't heated seats and a nice warm backside make driving and travelling in the Griff a tad more pleasant. Especially with the top off!

Surprise, surprise, on checking both seats I discovered electrical cables running into the rear of them. Can only be heater elements I told myself, but how to switch them on, that was the problem. I remembered a recent post regarding the same problem with a Chimaera, so I searched high and low in the vicinity of the steering column, but there was no separate switch to be found.

Then whilst playing with the fan speed switch, hey presto it has a pull-out position (probably for a redundant HRW option), and yes the seats began to warm up. Great. True to form there is nothing in the Griff's Owner Handbook concerning this option (or the Ice Detector).
Dave Peck

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Sticking Seatbelts

Sep 96
Can sometimes be cured by carefully adjusting the angle of the top guide and the reel, both of which should align exactly with the run of the seatbelt between them.

Internet Mailing List Feb 98

From time to time the inertia reel on the driver's seatbelt on my Chimaera locks and the belt won't extend. This is usually easy to cure by retracting it a bit, then gently extending it again, when it unlocks. However, this time it has locked with the belt fully retracted and, no matter how gentle (or increasingly violent) I am, it will not unlock.

While not having a seatbelt probably makes me a safer driver, I'd quite like to have it back, so can anyone offer me any advice on how to unlock it please?
Nick North

Internet Mailing List Feb 98
Most inertia belts have a ball bearing rolling in a cup, at the edge of the cup is a plunger or lever which locks the belt-roller. When the ball hits the perimeter of the cup, the mechanism which allows the belt to wind/unwind is locked, but it also puts some pressure on the ball and can hold it in the locked position.

You need to dislodge the ball.
Chris Owen

Internet Mailing List Feb 98
Mine did this as I drove it away from the dealer. I hit it it with a hammer. It now works.
Will Errington

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Full Harness Belts

Internet Mailing List Feb 97
I have had full harness belts fitted [to my late 95 Griff 500]. The original plan was to use the existing belt fittings. This worked fine on the V8S and the positions were even better on the Griff. However, Team Central discovered that the rear mounting for it were already fitted to the chassis. It appears that the Factory are now fitting them as standard to allow owners to fit harnesses. The real beauty is that the original lap/shoulder belts are left untouched so that the car remains legal and available for use if needed. It costs about £60 for the special bolts to do both sides on top of the cost of the belts - I have Willans 3 point SuperSport harnesses (about £40 each from Demon Tweeks).
Steve Heath

Internet Mailing List Apr 97
I have just attempted a similar exercise with a pre-cat Griff (K-plate). However, so far, unsuccessfully. I purchased a Willans 3 point harness and asked my local TVR service dept. to fit it. After a number of days I was told no-can-do. The reason, as I understand it, is that after consulting with TVR Engineering, it was felt that a TVR endorsed fitting (which would require welding of a fixed mounting point to the chassis) would leave them open to additional liability in the event of failure, degradation of chassis, and so on. Coupled with mumblings about rules of homolagation only for Tuscans/Griff 500s and their harness fixing points. Incidently, Steve how central to your body is your harness's rear mounting point? . . .
Dave Peck

Internet Mailing List Apr 97
There are two mounting bolts at the back of the parcel shelf, one for each side. The rear harness strap attaches to these. The other two go down each side. Each rear bolt is more or less central to the back of the corresponding seat. The only other option is to use the shoulder lap belt point for the rear belt. This is what Team Central did for my V8S and it worked well. They also showed me this arrangement on a 5 litre Chimp when I first started discussing this with them. Their comment about welding plates was that it was very expensive as the body had to be lifted.

The Griff belts worked brilliantly at Brands and I find them comfortable and restraining. Once strapped in, you can feel the car so much better! If you are having problems call Team Central and ask them to do it. It's only about 1 hours labour. They might even be able to do it while you wait given enough notice. If you wear the belts on the road, you are strictly breaking the law because the harness is not approved for safety reasons (crazy I know) but I don't think Plod

are going to worry too much.
Steve Heath

Internet Mailing List May 97
Genuine harness eyebolts 7/16x2" long are £4.95 each from Merlin Engineering, Castle Combe (01249 782101). I've now fitted my harness to the existing lap belt fixings leaving the lap belt in place. The harness installation is not 100% as per the instructions since the distance between the rear fixing point and the back of the seat is too short for the harness's tail strap, but the end result is far better than the stock inertia reel belts (which work when they want to!).
Dave Peck

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Electrics Miscellaneous

up to contents

See Doors for door mirrors

Corrosion Proofing

Sprint Jun 98
Whilst working on a friend's Mazda recently, I noticed that the electrical sockets on the lighting circuits were greased.

Having various friends with TVRs as well as my own, a rucurring problem has been corrosion of the electrical terminals in the engine bay, especially low down at the front for the lighting. With this in mind I visited a local electronics component supplier and purchased "Electrolube" for £1.40 and have coated all the connector terminals. Hopefully this will solve one lot of problems.

Available from Maplins, tel. 0172 554000, part no. FM80B.
Neil Lepley

top

Removing Chimaera Headlamps

April 97
I've managed to remove the headlight surrounds - they are just bolted on with 2 x 10mm nuts at the bottom. One of my headlights has got a hole in (as well as a resident fly) and once the surround was removed, the headlight pulled through the sealant quite easily. I ordered another from Christopher Neil & they said they would chuck in some more sealant!
Nic Conway

top

Removing Griffith Headlamps

Letter Oct 97
Noticed you had a query about headlight removal on your homepage. Here's what I know.

The Griffith headlight pods appear to be sealed into the car at manufacture. However, it is possible to access the interior arrangement for bulb replacement and alignment. To access the headlight fixtures, you will need a jack, wheel brace, stanley knife, phillips screwdriver, a tube of black mastic (can get this from any hardware outlet), masking tape and a torch.

- Loosen wheel nuts on front wheel behind offending headlight

- Jack up car and remove wheel

- Look inside wheel arch at the back of the headlight for a small inspection hatch sealed with black rubber

- Run knife around the edge of the rubber to break seal

- Unscrew 4 screws and lever the fibreglass hatch cover off

- This will reveal the rear of the headlight assembly

- The rubber boot can be removed to access the bulb fixings, remove the cable connector first.

Note the three wing nuts. These can be used to alter the alignment of the headlight. This is a trial and error game, best done at dusk in front of a barn door *[is this a TVR special tool?]*. Position the car about 10-20 yards from the door, switch on the dipped lights and fiddle with the wing nuts until the alignment appears correct. There are legal guidelines for the height and spread of dipped headlights - check local garage for details.

If the pod has come loose within the body of the Griffith nose, check the single nut at the bottom of the fixing strut. A strip of aluminium has been fashioned (in typical TVR style) to hold the whole pod arrangement in place. This strip can be found directly below the inspection boot at the rear of the headlight. The headlight pod is also kept in postion by the sealant between itself and the recess in the nose.

If the sealant has perished or the pod has shaken loose it will need re-sealing. This is a time consuming job (about 45 mins per light), but is ncessary if the pod is moving around as headlight re-alignment is impossible otherwise.

Loosten the single nut mentioned above to allow greater movement of the pod and scrape out the existing sealant. Use something soft (like the handle of an artists paint brush) so you don't scratch the paintwork or the pod. It is better to remove all the old sealant as it is not easy to merge old with new. Re-position the pod by hand and tighten the nut at the rear to hold the unit in place. Unless your arms are 5 foot long you might seek some assistance here!

Tear off strips of masking tape and work your way around the outside edge of the pod recess. Position each strip of tape to cover all of the paintwork up to the lip of the hole. Then repeat the exercise with a line of masking tape on the edge of the pod (about 3-4mm from the other circle of tape). Ensure the pod hasn't moved since you set the position correctly last, then load the mastic tube into one of those gun frames that can be found on the shelf below at B&Q.

Shape the nossle of the mastic tube to offer the smallest aperture and fill the gap between the two circles of tape. Try to get as much into the gap as possible as the sealant is used to hold the pod in place, not to just act as a water seal. When finished, run your finger lightly around the whole edge to give a smooth finish. Leave for 1-2 hours, then peel off the tape. To finish, replace the inspection hatch and re-seal the edge of this with sealant also.
Mark Elliott

top

Headlamp Wiring Fault

Letter Aug 97
. . . The night time problem relates to the lights. The problem is:

1. On main beam the grille mounted main beam lights only are on.

2. On dipped position the main beam and faired in driving lights are on. It is not possible to just have only the dipped beam on.

3. With the side lights only on, and pull the headlamp flash stalk, with the ignition off, the ignition lights and gauges come on as long as the flash position is maintained!

I had suspected an earth fault for the front lights and found a bunch of earth wires grounded to one of the steering rack mounting bolts. I checked the earth with an ohm meter betweem the chassis and piercing the insulation of one of the earth wires with a probe needle. resitance was less than 10 ohms, so I assume no problem there. I have also removed and refitted the relays for the headlights, the terminals all seemed free of corrosion etc.

I have noticed one other thing, when the lights are flashed, with all light switches off, the main beam blue dash indicator lamp does light up. However when the lights are on, it does not work in either dippped or main beam stalk positions.

All other lights and electrics are working fine, which I am sure is a novelty in itself! I suspect backfeeding due to a poor earth as the most likely cause but do not know where to look next. I have checked the resitance between the neg terminal of the battery and the chassis, again less than 10 ohms. Could it be a faulty indicator/light stalk switch assy? Could it be that one of the relays is faulty or has been replaced with an incorrect type? I do not really want to contemplate a loom fault/damage, as it is so inaccessible!
Peter Faulkner (1992 4.3 Griffith)

Peter,
I am utterly USELESS with electrics! However, I do have a slightly spotty photocopy of the 1992 Griff 4.0/4.3 wiring diagram which I can send you if it helps. Failing that, if you need to test particular circuits I can look them up for you and email a description of the route and colours. The diagram is a bit schematic and looks sort of vague about relays. I believe the whole column assembly is from Vauxhall, so maybe one of their dealers could give you some help on fault finding in that area.

If it's any help at this stage, the heater fans, horn, radiator fans, washer pump and all front lights seem to share the same earthing point. Main beam wiring is:

```
Brown feed from dashboard panel pin 79 to pin 56 on main/dip switch.
Brown/red feed from dashboard panel pin 28 to:
   pin 56b (I think - photocopy is bad here) on dip switch and
   pin 86n on fuse panel block G, which goes to a diode then brown/white wires to:
      pin 85m on fuseboard block A and
      pin 30 on dashboard panel and
      pin 56a (I think) on dip switch
Brown/white wires from pin 87m on fuseboard block A to driving lamps.
```

Green wire from dip switch pin 30 goes to wash/wipe switch and to fuseboard block M whereyou will also find a red to the ignition switch, a green to the brake light switch, a purple to block A and the courtesy light and (nearby if not on it) browns from the battery.
Peter Beech

(not every story has a neat ending - I've no idea how Peter got on with this)

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Griffith Headlamp Bulbs

Internet Mailing List Apr 97
To get to the headlamp bulb under the Griff perspex cover, first Jack the car up and take the front wheel off. You can probably access the unit without doing this but it is a lot easier with the wheel out of the way. There is an inspection hatch in front of the wheel which is (usually) held in

place by some self tappers and loads of sealant. Undo the screws and you can remove the panel and get access to the headlamp unit. The bulb is held in place by a spring clip and a rubber gaiter/boot.

I would strongly advice using some sealent when replacing the panel to make sure that no water or spray from the wheel can get into the compartment.
Steve Heath

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Blue Headlamps

Internet Mailing List Jun 98
Related to a scam in the US, remembering seeing in alt.autos.tech a few months ago. Hope it's of interest...

[I've edited this to reduce the length: PB]

Various companies are selling halogen bulbs that have a coating that makes them light up with a bluish color. Drivers have been confused by marketing claims which falsely equate their performance with the very expensive arc-discharge headlamps found on top-line luxury cars.

Genuine arc-discharge headlamps run with a very purplish-white character that will remind you exactly of the color of the electronic flash on your camera. That is because the same technology is at work. HiD headlamps are legal because they're not actually blue, they just appear more blue than the halogen lamps surrounding them.

The tinted blue bulbs give headlamps a bizarre turquoise-blue-green coloring.

These blue bulbs have a filter coating on them that allows only the blue frequencies through the filter. Because very little light is produced by a halogen bulb in this range in the first place, it is only this very small amount that ever reaches the road.

Headlamp illumination of the roadway and road hazards is dramatically reduced.

Glare for oncoming traffic is sharply increased.

Because blue is the shortest wavelength of visible light, it scatters the most readily. When it strikes water (rain, fog, snow) it scatters in all directions and makes on-road vision very difficult.

In no case are blue-tinted bulbs legal for use in any European, Canadian or American headlamp on any non-emergency vehicle.

There are other new headlamp bulbs on the market, meant for use in regular halogen headlamp assemblies. They produce yellow-tinted white light rather than plain white light. These bulbs do not have the dangerous effects of the blue bulbs discussed above, and have been proven (and approved) to improve bad-weather visibility and reduce glare. They look unusual, but they are actually OK.
Daniel Stern (Automotive Lighting Specialist)

Danny-Luhde-Thompson

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Griffith Driving Lamps

Internet Mailing List
I've just discovered that the cracked Driving Lamp I've had on my Griff for two years has finally given up the ghost and has now fallen to bits. Does anyone know where I can get a lens for this lamp (Cibie make them), because I've been quoted £61.50 + vat + p&p for the whole unit. The existing unit still works, so I don't see any point in completely replacing it unless I have to.
Sean Lennon

Internet Mailing List
The lights are the same as those used as driving lights on the E30 series BMW (the old shape 318 etc.). Strangely the local BMW dealer is only asking £35 and not £78 as Kerridges are.
Steve Marriot

Letter Sep 96
. . . Having heard of the prices quoted for replacement driving lights on Griffs I have fitted mine with a pair of rather neat plastic protectors from Carnoisseur (01582 471700) £21.95 a pair, part number 3100830. These are unobtrusive, removable for cleaning and don't interfere with the light

output.
Simon Cockle

Letter Sep 97
Having smashed four headlights in under two years, I was keen to get hold of the protective covers mentioned. I contacted the company mentioned *[above]* and the covers arrived the next day. As both headlights were cracked, I tried to get hold of the suggested BMW substitutes. However, these don't fit mine. My car is now 22 months old by the way. I seem to have "Cibie SC" lights fitted. The number on the glass is 0488047. It also says E2 & 30, & HR. I've tried to contact Cibie UK, but have had no luck. Has anyone any ideas? By the way I'm not being tight, just resentful at having to pay through the nose. Given the vulnerable position of these lights, I reckon TVR should fit protectors as standard.
Tony Miller

Internet Mailing List Oct 96
When I switch to main beam on the Griff the driving lamps come on but the main headlamps stay on dip, is this normal ? If so why, and is it possible to change this so the main headlamps give main beam also ?
David Donnan

Internet Mailing List Oct 96
As far as I know the driving lights are the main beam on the Griff. When I got mine the garage said that since the lights are faired in they would get too hot on main beam and hence the driving lights. The chim' and cerb' lights are not faired in, hence no supplemental lamps.
Andrew

top

Courtesy Light and Battery Drain

Sep 96
Even when the courtesy lights are switched off, if a door is left open the relay coil still operates resulting in a continuous drain. Over a several days this can be enough to drain the battery.

top

Footwell Light

Internet Mailing List Apr 97
Grovel in the passenger footwell and just under the glove box compartment and near the ventilation hole is a flat surface. It's close to the transmission tunnel. That's where my light is.

It's connected to the interior light circuit. In my case, it was switched off so that was why I didn't notice it. Maybe it was an optional extra... mne's a late '95 Griff... if that makes any difference.
Steve Heath

Internet Mailing List Apr 97
There is a light in my [K Reg Giffith] footwell - same place. I discovered it about a year after getting the car - not in the manual at all(no surprise there). My passenger was grovelling about trying to turn on the warm air (for what it's worth). It is useful 'cos you can then see the fuses - assuming you have some power.
Steve Marriott

top

Mucky Horn Slipring

Aug 96
If your horn doesn't work in some steering wheel positions, the most likely cause is factory-applied dirt on the slip ring. Fortunately you can get at this in five minutes by removing a couple of screws in the steering column cowl, so it's worth looking at before bothering a dealer. The offending gook looks like fibreglass dust to me, polished into a nice non-conductive laquer after a few thousand miles.

top

Intermittent Wipe & Park Problems

Aug 96
There is a relay in the Chimaera passenger footwell that controls wiper parking and intermittent wipe, and either may stop working work if the relay works loose. The one to look at is in the centre of the fuse panel (behind the carpet). It is a large relay and usually blue. The Owner's Handbook contains a fusbox/relay layout if in doubt.

If this does not fix the problem, the fault may be in the park switch on the wiper motor. This is located under the motor unit next to the multi-plug on the wiring harness and can be reached by taking off the motor bracket and twisting it upwards. The park switch is held on by a spring clip and is a standard Lucas part. The switch and the multi-plug are prone to corrosion, and an occassional squirt of WD40 should prevent this problem occurring.

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Indicators

Mar 97
Should you ever need to get at it, the flasher unit is not on the fuseboard/relay panel, but under the top of the dashboard.

top

Rear Speakers and Air Vents

Internet Mailing List
I have noticed that quite a few Griffiths and Chimaeras have speakers mounted in the panel separating the boot from the passenger compartment. In most cases the speakers are where the two original air vents were. Is this a good idea? Perhaps they don't do anything anyway, but I am sure a speaker does not make a good air vent!
Steve Powell

Internet Mailing List
The reason for the air vents in the rear bulkhead of Griffs is to allow airflow through the car. Without them, when you turn the fan on to blow air in, the car gets pressurised, not much air comes in or goes out, and what does go out is forced out through the gaps at the tops of the windows and makes a whistling noise sometimes. That's why TVR put the vents there. They are slightly less conspicuous in the Chimaera, a slight protrusion of the leather on the upper lip of the bulkhead giving away the fact that vents are there. You can shove speakers in here, but then your airflow is disturbed and won't work well with the windows up. Fan never was any good anyway so I don't suppose it matters.

What I reckon you should do with regards to fitting a stereo is this. Get a custom made box for the boot that houses your 18-disc multichanger and 400W amp and doubles up as an acoustically tuned box for a couple of 15" subs. Then, up front, mount tweeters in the side pods of the doors (where the ashtrays are) and your midrangers in the doors. Simply port the acoustic box in the boot through one of the air vents (if you have a Griff) or bash a hole through the bulkhead and port it in if you have a Chimi. If you have a Cerb, you're lucky - you can take up the whole of the back seats for amps and subs too because they're damn all use for anything else!
Rupert Kent

top

Radio Reception

Letter Sep 96
Given the levels of cabin noise on a Griffith 500 and the musical note of the engine I've always thought a stereo to be a rather unnecessary accessory. I presume TVR think the same so have never bothered to sort out how to fit them properly! There seem to be two basic problems - a very weak radio signal (due to a lack of a decent aerial) and an excess of electrical noise (due to inadequate supression and poor shielding given by the GRP bodyshell).

After numerous complaints to my dealer, they made a significant improvement by enhancing the earthing with heavy straps to the chassis and direct to the battery terminal. They also suggested fitting an aerial laying horizontally across the recess in the boot by the petrol cap. I baulked at this as they wanted £50 for correcting what I see as a basic design fault and opted instead to get a car audio specialist to check it out. So, a visit to Milton Keynes Car Alarm and Radio produced an amplified sceen aerial (Radiornobile) fitted not on the screen, but tucked away behind the dashboard. They also fitted a suppressor to the second live power feed as TVR see fit to only put one on the switched feed. This has fixed 95% of the problem and the remaining interference will probably succumb to libral application of suppressors to all fans, wiper motors and the alternator, but that will need a second visit. Meanwhile a big thanks to MK Alarms (01908220337) and a total bill of £20.
Simon Cockle

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Ice Detector

Internet Mailing List Dec 96
. . . Does anyone know where the ice detector sender unit is ?
David Donnan

Internet Mailing List Dec 96
Yes! Just shows how much I have been under the car already. It is a little 2-terminal device that looks like a ceramic capacitor attached at the end of a wiring harness, which I found hanging inside the left-front of the car near the front indicator lights. Its not attached to anything in particular but just hangs in the lower part of the bodyshell. If you put your head under the car from the front, and look around you should find it. I found the device by accident and was not really looking for it. I also don't know if it works because it never gets lower than 21 deg here, so its a superfluous feature for me!
Kenny Heng

top

Mirror Control Unit Location

Internet mailing List Nov 98
I have an 8 week old Chimaera 500. While driving along an electronic control box fell between my legs! I have now found this is the door mirror control unit. It had two plastic straps covered in Velcro type hooks, they were pressed into a carpet off cut. The carpet had glue on the back an had obviously been stuck up somewhere behind the dash.

Talking to my dealer it seems this is a recent modification, the box used to be in the drivers door. This caused problems with water getting into the unit, so TVR moved it inside the cabin. The dealer has spoken to the factory and it seems the carpet idea isn't working very well. My dealer has now built a bracket for the unit.
Stephen Sutton

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Battery

Griffith Battery Replacement

Internet Mailing List Mar 97
I will qualify this with a few points. Firstly, I spoke to the factory and got instructions (they really are very helpful you know!), secondly I supervised while a very nice RAC man did the job for me, and thirdly there may be some difference in build dependent on date. Anyhow, it goes something like this:

1. Remove the piece of carpet with the rubber pad on. The edge tucks under the floor carpet. It isn't glued.

2. Carefully pull the bunch of wires and relays which rest on top of the battery out of the way.

3. Remove the L-shaped piece of carpet material which covers the battery box.

4. If the ECU is slotted into the space between the fibre glass battery box and the transmission tunnel, slide it forward. If not, it too will be sitting on the battery and should be moved out of the way.

5. Grovel underneath the car and remove two bolts securing the GRP battery box to the floor.

6. Disconnect the battery terminals.

7. The battery box will now slide forward and can be removed from the car.

8. According to the factory there may be a plate riveted to the top of the battery box to stop the battery 'falling out if you turn the car over'. If the battery has been replaced before, then there is every chance it isn't there anymore, but if it is, you need to drill the rivets out to remove the plate.

9. Battery now lifts out of the GRP box and can be swapped with a new one (type 072 - Range Rover).

10. Reassembly is obviously the reverse. You can decide whether or not to re-rivet the plate back on top of the box. You should be very careful that the carpet material that covers the battery is securely in place before replacing the bunch of wires/relays, since a short might be disastrous. Judging from the language coming from under the car I would say that replacement of the bolts securing the battery box to the floor can be a bit tricky.

It is essential to fit the correct battery, because a smaller one will not last long since it will be overcharged by the alternator and in any case won't much care for turning over a V8 engine when it is designed for an Escort. When mine failed this winter I discovered the previous owner had fitted a smaller battery and put some foam underneath so the terminals were level with the top of the battery box. No wonder it failed. Some people seem to be under the impression that a battery is a battery, but it does matter what sort if you don't want to be doing the same job again next year. There really isn't any excuse for cheating on cost grounds, because a good quality zero-maintenance battery with a five year unconditional guarantee is only £66 including VAT from CAFCO or a similar motor factor. I dare say it's a bit more from a dealer, but if you can do the job yourself you don't need to pay dealer rates. One thing to bear in mind is that it isn't an off-the-shelf battery at KwikFit and the like, they would have to order one and ask around £90 for the same battery. Motor factors do stock them though. The point is, get the battery before taking the car apart.

Steve Powell

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Chimaera Battery Replacement

Mar 97
To remove the Chimaera battery:

1. Take out the carpetted panel at the end of the passenger footwell.

2. Remove the fuse/relay panel, which should be held in place with one bolt but is often just flopping about loose. Move the ECU box out of the way.

3. You will now be looking at the face of the battery box - an unpainted fibreglass cover with its lower edge about nine inches off the floor of the footwell. This is held in with four (possibly five) bolts around the edge. They are quite diffficult to get at because there are heater pipes and air ducts in the way. A tube or box spanner is essential and a six inch or longer extension makes things a lot easier.

4. Once the cover is off you can slide the battery out. The best technique if you are to avoid pulled muscles is to lay upside down in the seat and lift the box out over your head.

While you are putting things back together check that none of the relays in the fuse/relay panel have been knocked loose during the struggle, otherwise all sorts of mysterious electrical problems will occur. Nervous passengers have been known to kick relays loose, by the way, so the sudden failure of your wipers after a track day may have a simple explanation.

Internet Mailing List Aug 96
. . . I would be interested to hear from anyone who has modified their battery box such that the battery can be removed or replaced without a good half day's work and a double hernia. I think this is a major design fault, given how often the battery is likely to go flat and need recharging when the car is left unused for any more than a few weeks . . .
Robert Pearson

Sep 96
Apparently, early Chimaeras and Griffith 500s can be fitted with the later battery box which has external terminals for charging and jump starting.

Letter Dec 97
Another bit for you on batterys for Chimaera's (mine's a 1994 4.0). I was told it should be a type 72 (630 amp) - bloody thing wouldn't fit so I had to get a smaller type 75 (590 amp) and even then I had to cut off the clamping flange to make it fit. By clamping flange, I mean the extra bit of plastic that allows you to clamp the thing down in a normal car.
Nic Conway

top

Charging

Internet Mailing List Aug 96
Roop wrote:

"Recharge your battery by connecting the negative of your charger onto the engine block or chassis under the bonnet somewhere, and the positive onto the alternator." My question is: Anywhere in particular on the alternator? A positive terminal maybe!

Dave Peck

Internet Mailing List Aug 96
Problem is alternator leads are generally attached to small terminals and battery chargers have big croc clips, which slip off small terminals and short to the main body. Is the starter motor solenoid accessible on the Chim? This has a nice fat positive terminal post with a fat cable which cannot be confused with anything else, running right back to the battery.
Richard Eggleston

Mar 97
I keep my bike battery charged during winter lay-ups with an Optimate. This monitors the battery voltage and only charges when necessary. It 's also supposed to be able to recover badly discharged batteries. Costs £40, stocked by a lot of bike dealers and also available mail order from MPS (01626 835835).

Apr 97
There are a lot of references [in the Workshop Notes] to cars that have flat batteries, due to the car left for a number of weeks. Several months ago I did an article for Sprint that showed how the problem was easily removed. Henley Heritage, can supply and fit an intelligent charger in the boot. This will provide information on battery condition and maintain the charge as and when needed. I have it fitted to my late '96 Chimaera and know several other people who have had it done. The installation is very tidy, and regardless of how long the car stands it always fires up straight away.
Geoff Cahalin

Internet Mailing List Jun 97
I will, unfortunately, be leaving the side of my Griffith for two weeks. Has anyone tried to keep battery topped up by connecting a battery charger through the cig lighter. If so I would like to know if it works, or if anyone has any better ideas.
JohnGreenhalgh

Internet Mailing List Jun 97
A trickle charger feeding the battery through the cigarette lighter works just fine. I have done this as a standard procedure everytime I park the car in the garage for the last year and a half. The very small charge keeps the battery topped up as long as you wish.
Paul Schoenmakers

Internet Mailing List Feb 98
Ring Carol at the TVRCC 01952 770635 and ask for the under bonnet battery connector thingy (technical terms). It provides an underbonnet connection for the battery so there is no govelling in the footwell. Fits the Griff as well. Highly recommended.
Steve Heath

top

Jump Starting

Sep 96
My dealer advised me to be careful with this, as it's possible to 'spike' the ECU and wreck it. Connect the positive terminal first, then the negative terminal, taking care not to cause a spark when you are attaching it. The alternative of bump starting (if the battery has any life at all) is not recommended for catted cars, but is probably no more risky.

top

Earthing

Internet Mailing List Apr 97
A couple of months ago I mailed the list asking for ideas about problems I was having with my Griff - mainly faulty readings on the instruments. I have found the problem to be a faulty "tunnel" earth. To get at this you must:-

- Remove the roof
- Move both front seats forward.
- Undo four 10mm nuts behind the seats that hold down the panel that surrounds the gear stick handbrake etc.
- Loosen off the handbrake cable underneath the car so as to allow the handbrake to be pulled up into a vertical position.

The centre section can then be lifted from the rear over the gearstick and handbrake exposing two earthing points - 17mm bolts. I found one of the bolts to be completely free. This has fixed a lot of problems I was having with the alarm, instruments and idling.
Adam Dyte

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Wheels and Tyres

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Wheel Removal

Sep 96
Correct torque for wheel nuts is about 75 ft lbs (100Nm). Using the wheel brace in the toolkit, this means a good firm tug but without without leaning on it or getting veins popping out on your forehead. Wheel studs and the face of the hub should be smeared with Coppaslip to stop things seizing. If you have the seven-spoke wheels with a cover plate over the wheel nuts, Coppaslip the cover-plate retaining screw regularly - otherwise it can corrode into the wheel and snap off when you try to remove it.

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Wheel Alignment

Sep 96
If you trust anyone other than a TVR dealer to adjust your steering geometry, or are stuck and have no choice, the settings are given below. Don't let the tyre shop, or whoever, make adjustments without centering the steering rack.

Toe in: 1-3mm (20 min) front and rear.

Camber: 1/2-3/4 degrees negative front and rear. 3/4 degree best for road work, up to 1 degree for circuit work.

Letter Oct 97
I had lots of problems with this but the factory (TVR Malaysia) kept insisting it was OK. I was prompted more by the handling and feel rather than excessive tyre wear probably because I have not put in that much mileage, or they may have worn out in any case! I had it measured by a computerized 4-wheel alignment and it registered completely different readings to those given by TVRM's measurements (done by a manual jig). Not that manual jigs are a bad thing. In fact, in the right hands, I believe they are better and many Tuscan teams do that as does the Blackpool factory. Anyway, time passed with TVRM insisting it was OK and me insisting something was wrong. Things got ugly (in a friendly way!?) when the factory suggested that I was paranoid and that I didn't know what the handling of the car should be like.

This was resolved, as far as I am concerned, recently. I changed to SO-2s as a result of an off-road excursion (don't ask me about this!) which gashed my original rear SO-1s. Thankfully, this and a slightly out of round wheel were the only damage. TVRM replaced the wheel and all 4 tyres for me, as SO-1s were no longer available. They also did the alignment and of course when I got it back, did not feel right. Allowing for a bit of running in, things did not improve and I took it to my regular computerised 4-weel alignment shop (Hunter Equipment). Sure enough everything measured out of spec. In fact, both my LHS wheels were toe out! Having had enough, I took the liberty (in violation of warranty and other factory warnings!) of having it re-aligned there. The car was a revelation after that. The steering feel snapped into focus and the handling was much sharper and more predictable. I told the factory this and they just

shrugged it off!

My take from this? I would not trust the factory's or dealer's alignment skills or tools. I trust my regular alignment shop because I know they regularly calibrate the computerised set-up and the inherent skill of the mechanic doing it. He had no experience with TVRs (nobody here does) but does Ferrari's and Porsche's. However, I told him how to do it on the Griff (having seen it done at TVRM) and he learnt very quickly. One thing to note is that camber adjustments necessitate wheel removal. This has to be repeated many times per wheel to get right, as it is also very sensitive (small movement = many degrees). This means it takes time and therefore high labour charges. Also, it brings to mind that this is really only possible in a computerized alignment set-up, since the car can be raised on a hoist. The manual set-up jig as used by the factory, would have required re-setting of the instruments each time, and I doubt if even an enthusiastic mechanic would do this willingly! So, a reliable specialist garage with computerised 4-wheel alignment would seem the best bet.

As another point of reference, I had the same experience with an MX5. The dealer could never get it right whereas this specialist shop could.
Kenny Heng

Oct 97
Kenny,
Thanks for that. Very interesting, especially as my TVR dealer has warned me against letting anyone other than a TVR dealer get their hands on my steering geometry! The same dealer has been working on some mods of his own to stop the suspension components slopping about, but I think he's given the idea up as being too expensive to put into production. There are two other problems as I understand it, and I must admit I haven't had a really good look at the suspension to confirm this:

1. I believe the top wishbone bushes have some free movement on them which means the wishbones aren't located securely fore and aft. I think there is about 3mm of movement on each wheel. Most of the time they will settle into one position and stay there(possibly resulting in the wheelbase on one side being slightly less than the other), but under very heavy braking or hard corning the bushes can move which results in the castor angle changing in mid-manoever.

2. The camber angle is adjusted by pinch bolts that go through slotted holes (is that right?), so the camber angle depends entirely on friction to keep it where the mechanic has set it. In my case it seems not to have worked and I ended up with huge negative camber shortly after the service. Probably less noticeable to the driver on a Chimaera with higher profile tyres and softer suspension (well, that's my excuse) but enough to scrub a couple of mm off the inside edges of the tyres.

I guess if you wanted precision suspension components you wouldn't fabricate them out of welded tube, but at TVR production volumes you don't have much choice. I wonder whether the Tuscan boys have these problems. Probably they've solved the first with nylatron bushes which wouldn't be very nice on a road car, and I'd imagine the camber adjustment on a race car is a bit more robust.

One solution to the camber problem that occurs to me is to put a whacking great washer under the bolt then drill through when the adjustment's spot on and bash a dowel in. No doubt you'd have to weld the hole up and do it again every time the bushes were replaced, but it might work. Not sure how often you could get away with this before there was nothing but re-drilled weld holding the wheels on, though!
Peter Beech

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Griffith Tyre Alternatives

Internet Mailing List Aug 96
I need two tyres for my Griffith 4.0 1992. I have been informed that the tyre size (225 Expedia) has been uprated to a Bridgstone S01 size 235. The problem is this: the cost of an S01/235 is £240, whereas the cost of say RE71/ 225 is

£165 each. Also the cost of an S01//225 is £180. Do I have to change to size 235 when I have been happy with 225? Do I have to use Bridgestone? What about Pirelli or Michelin?
John Greenhalgh

Internet Mailing List Aug 96
. . . I've just been through the same loop for my S2, with local dealers saying RE71s are out of stock. General consensus was that short of going to S01, only Yokis have the grip but don't last long. RE71 availability is difficult but Elite do them mail order, next day delivery, and your local fitter will fit and balance for £5.50. This worked out cheaper than most alternatives and got me "proper" tyres.
Richard Eggleston

Internet Mailing List Aug 96
I thought that S01 and Expedia were one and the same, so there must be some confusion here. Don't rely on your TVR dealer as they are notoriously expensive for tyres (like any marque's main dealer) . . . Other makes are likely to last longer, but may have less grip. You can certainly get Pirelli P-Zeros and P6000s in the right size.
Steve Powell

Internet Mailing List Aug 96
I recently got a set of rear tyres for my Griff, Bridgestone Expedia SO1/225s. I shopped around and the best prices were from Elite and this was matched by TVR Brundle . . . The 225s do me OK. I know someone who uprated theirs to 235s - but they are quite mad.
Steve Marriott

Internet Mailing List Aug 96
The Expedia and the S01 are the same tyre. I bought a full set back in January for a shade under £600 (£138 front, £150 rear, including VAT, valves and balancing), and that's the cheapest I could find. I did think about getting a different make, but unfortunately nobody else seems to make the front tyre at a cheap enough rate. It seems like the 205/50x15 is a bit of an oddity. The only other tyre I've seen on a Griff was the Expedia S02, when I did a sprint at Three Sisters a few months back.
Sean J. Lennon

Mar 97
After wearing out the centres of his Griff's back tyres for the nth time, Jeremy Pace took his tyre shop's advice to try some Yokohama A411s as fitted to the Lexus. The problem with the Bridgestones is apparently that the tread area is not very rigid and it bulges at high speed, resulting in uneven wear across the tread width, especially if you spend a lot of time going fast on straight roads rather than sideways round twisty bits as god intended.

The Yokos have reinforced treads so are supposed not to suffer from this problem. Jeremy says that the ride is also less harsh and the back end skips around less. The Yokos are in plentiful supply at the moment because Lexus owners can opt for seventeen inch rear wheels and the standard sixteen inch tyres are simply returned by the dealers, to be flogged off by Yokohama at about £110 a throw. No report on how well they wear, but Jeremy promised to report back.

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Tyre Pressures

Sep 96
Handling is very sensitive to tyre pressures, so check carefully. The rims are not always 100% airtight and pressures may need to be checked every 1000 miles or so. For fast road work, an extra 2-3 lbs in the back is worth experimenting with - but bear in mind that wide radials wear more in the centre and this might exaggerate it under normal (ie. not going sideways) driving conditions.

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Griff vs Chimaera Tyres

Jan 97
Someone told me recently that the 500 Griff and 500 Chimaera now have identical suspension and tyres. I thought this was a bit odd so I checked with the factory. Apparently both models do now have the same tyres, but the Chimaera's suspension is still softer than the Griff's and it's still the 'touring' model.

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Tyreweld

Internet Mailing List Feb 97
I have heard that tyreweld can ruin the tyre and not to use it. Any comments?
Jon Stuart

Internet Mailing List Feb 97
I've heard this also, from memory the conclusion was that if it were used as a "get you home" solution (or better still get you to the tyre depot) it was OK. The tyre should then be washed out and a proper repair made. Personally I struggle to picture the Quickfit fitters washing tyres to make the repair. "Sorry mate it's knackered, you'll need a new one" seems more likely.
Mike Jennings

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Doors

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Doors Won't Lock?

Sprint Jun96
. . . Check that the tiny rubber pads on the bottom inside of the doors are still intact. Your dealer may have an irritating habit of steam cleaning them away. If missing, the door switches won't be pushed in far enough, the doors won't lock and the interior knob will not turn to open the offending door from the inside. Solution: cut 5mm off a BIC biro cap and place it over the door switch underneath the sill. Longer term you may wish to glue a new pad in place . . .
Chris Morgan & Judy Williams

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Adjusting Door Opening Cables

Sprint Jun96
. . . If there is no pressure when turning the interior knob then the cables have stretched. To resolve, loosen the door seal behind the seat of the affected side. Lift the triangle of trim which should be secured by Velcro (you're in trouble if it isn't). Beneath you should see something that resembles a Terminator's arm assembly. Twisting the release knob should indicate which cable requires tightening. Simply slacken the screw of the tensioner, pull the cable through, refasten and replace the trim and door seal. I understand a thicker cable is now fitted to avoid this problem
Chris Morgan & Judy Williams

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Road Dirt in Catches

Aug 96
Some problems in getting the doors to close are caused by road grit entering along the lower edge of the doors and getting lodged in the catch mechanism. I notice that 1996 Chimaeras have an extra rubber sealing strip along the base of each door to keep the muck out. I think it's self-adhesive so very easy to fit.

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Draughty Windows

Oct 96
If your door glass doesn't quite meet the rubber trim on the targa top and everything else seems to be properly adjusted, try threading some windscreen washer tubing through the O section of the trim. This will often plump the trim up enough to close the gap.

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Adjusting Glass Height

Sep 96
There is an adjusting screw for the door glass height about half an inch below the top of the door on the interior side of the glass and about halfway between the 'quarterlight' post and the back edge of the door. Unscrewing three or four turns raises the glass about 3mm. There is a limit to how high the glass can go, since it rises at an angle and eventually hits the buffer at the back of the door.

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Slow Windows

Apr 97
If a window rises very slowly, it may be that the glass has jumped out of the rubber in the guide channel. It doesn't come out completely, but gets pinched between the outside of the rubber moulding and the metal of the guide itself. The solution is to take off the door trim as described below, then remove the 14mm nut at the top of the rear channel (inside the door near the rubber buffer at the back) and the two 10mm nuts (box spanner job) at the bottom of it. With the window up, the channel can then be slid down off the glass and put back where it's supposed to be. Putting a packing washer behind the top stud to bring the channel forward a bit ought to stop it happening again.

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Removing Chimaera Door Trim

Sep 96
The Chimaera door trim is in two parts: a carpetted panel and a leather or vinyl surround. To take the surround off, first remove the ashtray and the speaker. The speaker mesh can be prised off with a penknife and the speaker is held in with three self-tapping screws. Take out the self tapper at the back of the ashtray recess. Next remove three 10mm nuts and washers inside the door cavity. These are attached to studs in the back of the surround panel, on the centre-line of the speaker hole. There is one forward of the speaker and the other two are aft of it, roughly in line with the fronts of the two pockets in the surround. The rearmost one will be quite difficult to reach and you have every chance of getting your elbow wedged in the speaker hole. If the door has a reflector on the trim, I think there is a self-tapper under this as well. The surround can now be tilted out at the base and lifted free of the door.

The carpetted panel is held in with six self tappers buried in the carpet pile. The only help I can offer in finding them is to say that most of mine were very close to the edges of the panel: one at the top/back of the door, one each side of the ashtray hole and the other three along the bottom.

Refitting is, as they say, the reverse of removal, apart from not being able to find any of the screw holes in the carpet.

If you've been at the driver's side door and had to unplug the electric mirror switch, you may now want to look at Mirror Switch Wiring Connections!

Door Alignment and Closure

Sep 96
The drop of the doors can be adjusted by slackening the hinge bolts behind the footwell carpet. The hinges are also shimmed for lateral fit, but I am told this is very tricky to get right. Door closure can be adjusted by slackening the two screws on the striker plate on the door and by adding/removing shims behind the plate. It is sometimes necessary to grind some metal off the striker itself to get a good shut. As with most open-topped GRP cars, there is a small amount of movement between the body and the chassis which can affect the fit of the doors over time, so periodic adjustments may be necessary.

Internet Mailing List Aug 98
After recent advice on the Griff Dropped Door syndrome and Door Panel removal, decided to take a look inside for myself. Found that the bottom vertical hinge pin had rotated loose and enabled the door to be lifted up and down a few mm. So:

Door panel off (15 mins), tighten bolt with socket and extension with supporting knee under door (5 mins), door panel back on (15 mins)

Seems like time well spent in my case and saved another trip to the dealer, so for any other suffering DIYers out there, give it a knock.
Mac Berrington

Internet Mailing List Aug 98
I have recently reseated the [Chimaera] internal knob, because it had worked loose. Now, the internal door knob needs nothing to open the passenger door, compared to the driver side (1/8 turn to the right). The previous car was owner by someone who never had passengers so the door/seat was little used, which might mean it has always been slightly out. Should I just lubricate the door mechanism? There appears to be nowhere that the door is rubbing on the internal frame. Any other thoughts?

About three months ago, I got my garage to put the passenger door flush with the body work. However, since that time the door has become slightly tempermental to close, i.e., the mechanism would not catch, even when closed from outside the car (probably 20% failure to close). This is got worse (70% failure to close). I wonder if the wire is actually too tight on the passenger side?
Simon Smollett

Internet Mailing List Aug 98
Check that the lock mechanisms in the door and pillar are not loose. The screws can come undone. Tighten up with a bit of Loctite. Apart from that, take the passenger side velcro cover off and see if the cable side needs any adjustment. It too might have stretched.
Steve Heath

Internet Mailing List Aug 98
If the activating cable is tight it might not be allowing the catch to go "over centre " fully. I would try loosening it a bit to see if that helps. I have had a similar problem a couple of times with my Griffith, when it happens you can't shut the door, the catch doesn't grab the little arm on the door and the door just bounces open. Both times that it has happened I have just waggled all the bits inside the inner wing and it works OK again - not very scientific!
Mike Jennings

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Removing and Adjusting Mirror Glass

Mar 97

The wing mirror glasses are stuck onto a plastic frame with double-sided foam tape. Sometimes a weak adhesive has allowed the glass to creep down until it is rubbing on the base of the mirror body. To restore it to the original postion (or replace a broken glass), you need to move a little tab on the mirror frame to rotate a plastic ring which engages in a circular channel on the gimbal that supports the mirror.

Got that? Here's what to do. Adjust the mirror so that it is elevated as far as possible, ie. to create the maximum gap at the bottom of the glass. Now peer in there with a torch and you will see a small black plastic tab roughly halfway along the glass. You have to push the tab across to the left (it's left on both mirrors and it needs to move about 5mm) and the glass will then come loose. The electric heating wires should stop it crashing to the floor if you don't manage to catch it. UHU Power-Stic seems to be pretty good for sticking the old tape back.

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Mirror Adjustment Relays

Internet Mailing List Feb 97
The relays for the mirror adjustment sub-system are not mounted on the relay and fuse panel, but 'float' in the wiring loom and are located in the battery compartment area.
Dave Peck

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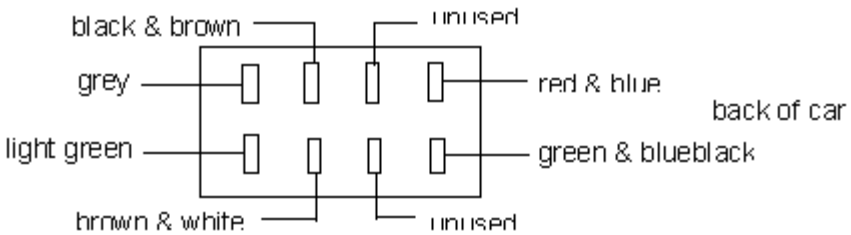
Mirror Switch Wiring Connections

Apr 97
The rocker switch that controls which mirror the little joystick is working on has a lot of spade connectors on the back, and they need to come off to remove the driver's door trim. Looking at the switch from inside the car with the door panel upside down and the pretty side away from you, this is where mine went back on. Yours may be the same, who knows?



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How the Heated Mirrors Work

Internet Mailing List Apr 97
Apparently, the heated mirrors come on for a few minutes after you start the car, but if you open a door, they turn off! As I usually put my belongings in the boot before I drive off, I was starting the engine with the door open, then opening the boot, then getting in the car and closing the door, with the result that the mirror heaters were not coming on. Quite what the logic behind this is, I don't know.
Chris Warne

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Ignition System

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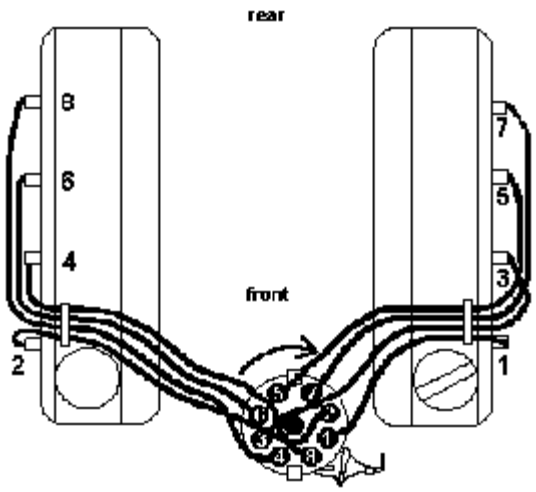
HT Lead Numbers & Firing Order

Jan 97
The firing order is 1 - 8 - 4 - 3 - 6 - 5 - 7 - 2. Looking from the front of the car, cylinders are numbered 1-3-5-7 from front to back on the right bank and 2-4-6-8 from front to back on the left bank. Distributor rotates clockwise.

Early BL workshop manuals for the V8 engine used to advise that leads 5 and 7 should not run next to each other because it can induce misfires. This may not apply with modern HT leads.



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HT Leads and Rough Idling

Nov 97
An area that can cause idling problems is marginally faulty ignition leads. If one cylinder is not firing properly at idling, the lamda sensors will tell the ECU that there is the wrong air/fuel ratio and all the others will be altered as a result. I had exactly this problem and found it only by accident; it didn't appear to affect high power running that much, but when it was fixed the exhaust boom at 2000rpm was significantly reduced (of course if you are only interested in clogging it at traffic lights, try running on seven). Test the resistance of each ignition lead from end to end with a digital multimeter. An open circuit indicates that the lead has a broken internal connection and is flashing over inside. Clumsy servicing can cause this. Also, some examples of lead have excessive resistance and it is worth selecting a reasonably matched set of leads bearing in mind that the resistance varies with length anyway. I would reject anything over 30kohm. The plug caps also have resistance, as do the plugs (plug resistance can also vary enormously). My original leads were 7mm which is obsolete and were replaced with the current 8mm standard after

openning up the slots in all the plastic retaining clips. Take care routing the leads around the engine.
Mike Gill

Nov 98
I have a 4 year old 4.0 Chim. And have also recently cut down on the milage that I have been doing. I have had it for a year and had little to no trouble.

But since I haven't been driving it daily, it started running rough, not quite a misfire but noticebly rough. I thought it might be the HT leads. Unbe-knownst to me the heat shields come as seperate. (D'oh) After looking closely at one of the Heat shields I noticed that It had perished inside. So It wasn't making very good contact to the spark plug. I wanted to replace all of them at once, But at 5£ each I didn't have enough cash at the time, so I only bought two. I replaced the dodgy one and one other. And It did the trick. It is now running sweet as anything.
Daniel Cukier

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Spares

Sep 96
The distributor is a standard Range Rover body with the standard advance curve. HT lead set is also a standard Range Rover part. Plugs are NGK B7ECS: 30-32 thou gap on non-cat cars and 35-40 thou on cat cars. Apparently it is very important to use the approved ignition coil.

Apr 97
My car is a standard Chimaera 4.0 which was built in June 1996 and which I have owned from new. I seem to have had my fair share of minor niggles which have mostly been quickly rectified by Broughtons at Cheltenham. The one disturbing problem was during the 1000 mile service. When changing the plugs, 3 out of 4 NGK plugs on one side sheared off just below the hexagon, leaving the threaded and cylindrical part of the plug stuck in the head. TVR's solution was to send a replacement head and they claimed to have received a faulty batch of NGK plugs. Incidentally, Broughtons have had the same happen on a Rolls Royce which they put down to the use of counterfeit NGK plugs at a previous service (not by them I hasten to add).
Steve Cooper

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A Timing Problem

Oct 96
You may have read some of my postings regarding re-chipping with Superchips for the Griff 500. You may like to include them in the workshop notes. [see Fuel Injection section].

However, we are increasingly desperate to get hold of tuning specs for the car, namely the tuning at idle, and other rpms other than the 28deg @ 3750rpm. I would appreciate if you could help me obtain this information or direct me to a person who could and their contact numbers. I hope you can understand as we are quite far away here in Singapore. Even though TVR Malaysia is nearby, they are not familiar with the 5.0HC engine.
Kenny Heng

Oct 96
I have had a telephone conversation with TVR Power about ignition timing and the answer may surprise you. The distributor used on all TVR engines is a completely standard Range Rover unit. Because it is a standard part, TVR have never felt it necessary to hold information on the exact characteristics of the advance curve, so they can't tell me anything. Any Range Rover dealer should be able to find out for you, if you give them the number on the distributor

body. Apparently the different advance figures given on the engine spec sheets I was sent are purely down to different static advance settings. All current cars (400s and 500s) are being delivered with this set to give 28 degrees at 3750 rpm so the figures in my table [above] are out of date. I think you will get 28 degrees at 3750 by setting the static advance to about 2 or 3 degrees, but a Range Rover dealer should be able to confirm this.

I have, by the way, also spoken to JE Engineering in Coventry. As well as producing performance conversions and big V8s for Range Rovers, JE also do engine development work for the Range Rover factory. They have a policy of not fitting aftermarket chips or modified distributors because of the problems customers have had getting their cars serviced at main dealers once this has been done. They guessed that this was why TVR had stuck with a standard distributor.
Peter Beech

Oct 96
We found the tuning specs from a Land Rover manual and for all their V8 engines, the static timing is 8 deg @ 700rpm. We took the car to a garage here, who specializes in British cars, to have it adjusted. Here's what we found;

1. It was difficult to make any absolute readings because of the pulleys and the position of the marker and its access with the strobe and viewing angle. However, we could make out that it was retarded rather than advanced! We could see the marker on the "AFTER" side of TDC.

2. We proceeded to advance it by rotating the distributor clockwise a fraction at a time until we were sure it was advanced (on "other side" of TDC ie BEFORE). Since we couldn't see any markings for position of distributor, this was done with eye-ball guesstimation and feel.

3. Further fine tuning was done by advancing further in minute increments, then driving the car repeatedly, to the point the engine began to knock. At that point we retarded by rotating anti-clockwise. We have no access to a rolling road, which would otherwise be ideal for this. Un-scientific as this was, it seemed to do the trick for now. The engine idled even better, and was able to pull much better (in terms of absolute acceleration and smoothness) from lower rpms. How much this is due to tuning, and how much attributed to Superchips is unknown. Sometime later, we will re-fit the original TVR chip and make a better comparative assessment. The car nonetheless is running better now than it ever did.

I still find it difficult to comprehend that a Griff 500 engine is still very much stock Land Rover. I would like to get hold of a book which describes the Land Rover V8s well. Do you know of any?

One other interesting observation was that after advancing to the point mentioned above, the engine seem to run about 2 degs cooler at 89 degs. Does advancing ignition timing usually result in lower engine temperatures?
Kenny Heng

Oct 96
Pleased to hear you've had some success. There are two books about Rover V8s that I think are very good, both written by David Hardcastle and published by Haynes (they cost about £15-20 each):

The Rover V8 Engine, 1990, ISBN 0-85429-629-1.
Tuning Rover V8 Engines, 1993, ISBN 0-85429-933-5.

Obviously they are a little out of date as far as the latest versions of the engine are concerned, but interesting reading all the same. Incidentally, neither of the above books have much to say about ignition timing, which rather suggests that engines in various stages of tune are pretty happy with the standard advance curve.

I believe very retarded ignition does cause overheating. If you think about it, the fuel is igniting later than it should and probably still burning when the piston has finished its combustion stroke and is on its way back up the cylinder on the exhaust stroke, thus some of the energy from each combustion is actually trying to make the engine go backwards! Another nasty effect is that the exhaust valves are partly open while the fuel is still burning, which can eventually burn the valves out.

Peter Beech

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Ignition Amplifier Failure

Letter Jul 98
Whilst driving my Griffith 500 in Finland the ignition light came on and the engine cut out completely, luckily I was next to a bus stop and could pull off the road. The problem turned out to be the ignition amplifier located on the external right hand side of the distributor cap which has three leads terminated with spade connectors. Upon inspection these were in a poor state and after replacing with standard spade connectors from work the car started no problem and has never cut out since.
Roy Boykew

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Alarm

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See Battery for trickle charging

Description of Gemini Alarms

Griffith 4.0 & 4.3 litre
The system on these models was developed before insurance companies required any special features, and does not meet current insurance standards. It is based on a Gemini remote control module for locking and unlocking the doors, which can also immobilise two circuits when the doors are locked: the fuel pump and the fuel gauge. The latter is to give the impression that the car has run out of fuel if a thief hot wires the ignition [what planet do these people live on?]. You can use the fuel gauge immobilisation circuit to immobilise a different circuit such as the starter, which should meet requirements set by several insurance companies. The immobiliser circuits activate when the remote hand set is used to lock the car. They cannot be activated if the ignition is on, or by hot wiring the ignition circuit. A microwave alarm can be installed by plugging the appropriate units into the existing wiring. The alarm unit is the Gemini 1002 and the sensor is the Gemini 1059.

Chimaera 4.0 & 4.3 litre
This is based on a TVR-designed control module which controls locking and unlocking of the doors and the internal door release mechanisms. This effectively dead locks the car's doors. There is no remote control facility (but one can be fitted), the control unit is activated via the external door locks (source - Vauxhall). When the unit is triggered it either locks or unlocks both doors. On locking, it arms the alarm system and immobilises three circuits: the fuel pump, engine-management system and fuel gauge. You can use the fuel gauge immobilisation circuit to immobilise a different circuit but it must be under 5 Amps. This is a true two circuit immobiliser which meets [met] several insurance companies' requirements. The circuits cannot be activated if the ignition is on, or de-activated by hot wiring the ignition. A microwave alarm is used in conjunction with the system. The alarm unit is the Gemini 1002 and the sensor is the Gemini 1059.

Griffith 500
This is similar to the Griffith 4.0 and 4.3 system, but immobilises the ECU and the starter motor. This creates a true two circuit immobiliser which meets the standards required by many insurance companies. The immobiliser is activated when the remote handset is used to lock the car. It cannot be activated if the ignition is on, or de-activated by hot wiring the ignition circuit. A microwave alarm is used in conjunction with the locking. The alarm unit is the Gemini 1002 and the sensor is the Gemini 1059.

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Remote Control Conversion for Gemini Alarms

Sep 96
This can be done using a Gemini 2339 remote control unit, rewired and T-ed into the existing control module. Every time the remote is operated a pulse is sent to the control unit as if it were one of the door locks being operated. The control unit operates all the locks, the alarm, LED and other functions so the same control logic applies whether the system is armed via the handset or the door locks themselves. The remote controls operate the same as a door lock so the system can be armed with one and disarmed with the other.

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Re-Synchronising Foxguard Alarms

Mar 96
Foxguard have found that a large proportion of returned F1-11 units are not actually faulty but simply out of synchronisation with the Radio Key. The F1-11 uses a random encryption antiscan grabcoding system. If the Radio Key is operated out of range of the car the key wilI transmit a coding signal but the receiver in the alarm will not recieve it. If this happens the coding in the Radio Key moves on but the unit will not. This will cause problems if the Radio Key is regularly pressed and released while out of range.

If the Radio Key no longer operates the alarm systern, try the spare one. If the system is operating correctly this indicates the first remote is simply out of synchronisation. It is possible to resynchronise the Radio Key:

1. Stand next to the car.
2. Press the left hand button on the Radio Key, the LED on the Radio Key will become solid.
3. Keep the button depressed for at least 3-4 seconds.
4. Release the button and immediately press the button again for 1-2 seconds.

The Radio Key is now back in synchronisation with the alarm. You may have to try a few times before the system will respond correctly, if you don't do step 4 quickly enough - the button need only be released for a split second.

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Alarm Causing Flat Battery

Sprint Dec95
We left our TVR locked and alarmed in our garage while we were away for four weeks and came back to find that the battery had been drained by the alarm being on, and was so flat as to need replacing. Is there a way to avoid this, other than leaving the car unlocked and therefore unalarmed, but in a locked garage? This does seem rather risky to us.
Linda Gould

Ass'istant Ed's Comment: One complete discharge shouldn't render the battery useless. Perhaps it was on its way out anyway? If the alarm draws so much power, one solution might be to leave a trickle charger charger connected whilst away. I'm sure the experts will come to your aid with a better solution though
John Osborne

Sprint May96
I experienced similar problems to Linda with my Chimaera when it was only about 5 months old. We went on holiday, left it locked and alarmed and on return the battery was flat. The doors being locked of course one becomes very adept at breaking and entry - try to charge the battery but no luck it's dead and needs replacing, and as John O comments it shouldn't happen unless the battery is on its way out - but with a new car?

So we fit a new battery only to find the electrical locking system and the mechanical system are out of synch - much clattering of relays which takes good luck and a little magic to reset. The solution I have come up with is as suggested,

to trickle charge and the easy way to do this is to buy a plug that fits the cigarette lighter socket, connect a long lead (not too thick) to the trickle charger and close the car door on the leads so that the car is left locked and alarmed while you are away. A bit of a pain and I'm sure not TVR approved, but it works.
Mike Penery

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Ineffective Alarm

Internet Mailing List
My Chim was victim to a thug with a knife Sunday night who slashed the back hood and stole the stereo. The alarm didn't go off and served its last day as I've decided to have it ripped out. The stereo was worthless but unfortunately my poor old Chim is now parked in the TVR garage and will probably remain in there until the end of next week. I'm currently driving around in an Escort cursing this glorious weather and feeling deflated. Can I raise a discussion on alarms and call upon yourselves to share experiences of type and makes as I need to buy one. I'm thinking of one with a pager system. Sounds good theoretically but what are they like practically? Any help would be greatly appreciated.
Jas.

Internet Mailing List
The standard Gemini alarm fitted to our Chimi seems to be quite good, although a light tap on the hood or back windows will set it off, cats and other warm-bonnet seeking animals don't.

Why did this geezer bother to slash the back window of your car? I managed to break into our Chim in sub 30 secs by forcing my hand between the Velcro bits at the back of the hood and knocking the supports away. I had to do this as the battery was dead and the doofa didn't work. Scratched my arm a bit, but given a couple more minutes and a booster battery and I could probably have driven it away as when I plugged the battery charger on the alarm wasn't active so presumably it's default state is off from a new connection - odd that one.

Anyone knowing the battery position in Chimis (and Griffs I suppose) could quite easily disconnect it for a couple of seconds, reconnect, knacker the ignition key barrel and pinch your car within a few minutes if my amateur break-in effort is anything to go by. Just a thought - don't have nightmares!
Rupert Kent

Internet Mailing List
The only way to go is Clifford, Jas. I have had a Clifford Concept 50 on my TVR and my last Peugeot . . . The Concept 50 is an alarm Immobiliser, with glass tamper, microwave and door and bonnet sensors. Thatcham 1 approved too. You can also add any of the following: perimeter detection, talking module etc etc at a later date. As for a pager it is okay (300 yards away I believe they work), but prevention is better than curing a problem I would say. Also I would not like to be faced with the sort of car thief you get in Brum. 470 quid I believe for the concept 50. If you want to know more please mail me (Oh yes I also have nice wooden key fobs too). If you want one please let me know as I know quite a good place to get it done, just mail me for their phone number.
Ian Collins

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Adjusting Chimaera Microwave Sensitivity

Aug 96
No need to take your car to the dealer for this, provided your neighbours don't mind the noise. At the back of the centre transmission tunnel console there is a small tray. Lever out the base and remove the two long self-tapping screws. The console can now be tilted forwards to expose the microve unit - a black box stuck on a bit of foam. There is a small hole on the top (early Gemini units) or at one end (later Marconi units), with an adjusting screw lurking at the bottom of it. You'll need a watchmaker's screwdriver (preferably plastic) to turn it. After each adjustment, set the

alarm and step well back from the car while it has a little think, which seems to take about ten seconds. Approach from various angles with hand extended, pausing for three or four seconds to give the alarm time to react. This should tell you where the boundary of the field is, and if you don't like it, twiddle the screw some more. Do this in the open if possible - large lumps of metal close by (like garage doors) or confined spaces might give misleading results.

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Alarm Not Setting Properly

Internet Mailing List Aug 96
. . . One or other of the indicator lights occassionally remains illuminated after arming or dis-arming the alarm. Only way to cure it is to repeatedly arm and dis-arm the alarm until both lights go out. Not ideal - can be embarrassing and frustrating . . .
Robert Pearson

Internet Mailing List Apr 97
My Gemini alarm has started to play up. The central locking enables and the engine immobiliser engages when I press the clicker but the alarm emits two short blips and fails to activate. If I trigger the alarm (by banging the rear window) I get another short blip noise instead of the alarm siren going off.

I noticed a series of posts indicating poor earthing could affect the alarm system, could this be the problem ? Anyone got any suggestions before I ask for it to be checked at the next service ?
Mark Elliott

Internet Mailing List Apr 97
If I remember correctly... two short blips means that one or more of the detection circuits is not complete and that the alarm will not arm correctly. I would check the earths but also the interior light door switches and a bonnet switch if one has been fitted. It has also been known for the lead(s) to come loose from the alarm unit itself. With the alarm in this state, your insurance company could construe that it is faulty and invalidate any theft cover. So I would get it checked ASAP. Use a local Gemini alarm dealer if necessary.

Power and/or earth for the alarm is usually taken from the headlamp connections. Most alarms do not drive these lights directly but tap into the standard switches and use the normal relays. Again, it all depends...

The door switches normally make an earth connection and this can be used to trigger the alarm by simply piggy-backing onto the two connections. The problems with current drain for the doors is that if the interior lights are switched off, then the drain through the relay may not be enough to set off the alarm.

If you only have one clicker, get a spare. It can take up to a week to get one as they are not usually available off the shelf. If the code number is not inside the clicker, then the clicker will need to be sent away to extract the correct code as well!

The TVR alarm systems were until a couple of years ago (1994) quite varied and effectively fitted after the car was built. Later cars have the alarm incorporated into the electrics.
Steve Heath

Internet Mailing List Apr 97
With most Gemini alarms if you press the blipper once then again quickly afterwards the alarm will set but the sensors will be not be activated. This is so you can lock the door etc. in an area where the sensor could create a false alarm. You will hear two short bleeps to let you know this has happened. When you then set the alarm off you will hear a bleep instead of the full alarm (for testing?). Maybe the button on your blipper is getting stuck making it look like two presses. Maybe the sensors are defective and the alarm is shutting them down to stop false alarms.
Nick Hatch

Internet Mailing List Apr 97
After a long weekend of ripping the Chimaera's dash apart, I have finally found out why one side of the car's indicators don't always go off when they are supposed too. As many people suggested, it was a faulty relay but it is one inside the central locking module that controls the indicators.

For all of you who wanted to know how I fixed the alarm, read on. In my Chimaera the central locking module was located under the passenger side dash next to the heater control. The remote control module was stuck to the top of this central locking box and they both have multi-plug connectors which I disconnected and I could remove both modules as they were velcro'd down. (Underneath which you might find a witty TVR engineers remarks!) Inside my central locking box, there were 5 clear relays that control the central locking - 2 to lock and 2 to unlock (why another?). The one that controls the indicators was at the top of the PCB if you are looking down on it and you have the multi-plug connector on your left. It was coloured blue & had loads of numbers/designators/specifications on the side.

I managed to lever off the cover (I think it just clips on) and there are two sides to the contacts (ie left & right which controls the appropriate side of the car). The offending one was arcing when activated and there seemed to be a small lump of metal on one side of the contacts. I scraped it away using a fine knife and tried to bend the centre moveable contact to give it more room to 'disconnect'. (hope you understand all this!). Unfortunately, I bent it too much (typical) and the bloody thing wouldn't go on. A bit of bending (!) later and the thing now works as advertised.

The central locking module was a 'TVR Issue 1' not that it makes any difference I'm sure. I tried unsoldering the relay to have a closer look or replace and although I removed all the solder, it wouldn't budge - perhaps it was glued to the pcb? Who knows.

Hope that has put all of your minds at rest - any further questions or if I didn't explain it clearly then contact me.
Nic Conway
e-mail address : nic@nicon.demon.co.uk

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Microwaves and Rain

Internet Mailing List Aug 96
I have managed to get the alarm working reasonably well in my wedge. It's a Maystar main alarm coupled with a Serpi Star microwave intrusion unit. I was tempted to adjust the sensitivity of the microwave unit to cover just past the back window, but this resulted in the alarm going off when you walked past the doors! I have the microwave unit installed just in front of the gearstick beneath the leather. However I still have one problem: when there is a sudden shower of rain, the alarm goes off! I think the arrival of a film of water all over the car is setting off the microwave unit. Anyone else experienced this, or better still, have a cure? What's even more annoying is that it doesn't do this with the roof down (and remind me to put it up!)
Adam Quantrill

Internet Mailing List Aug 96
Bit of a problem, I know. I have set mine to cover the largest area WITHIN the car. If you adjust it so it measures the interior (just inside the roof) then the rain should not effect it. The doors are okay as it should have either voltage drop (interior light works okay?) or door switches. The problem I have found is that when it is in the garage the microwave gets pretty sensitive so I have turned it down so it only covers a small area within the car. Mine is a Clifford by the way.
Ian Collins

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Alarms and GSM Cellphones

Internet Mailing List Apr 97
This is one area where there is a lot of mis-information and a lot of (new) legislation. Your GSM phone is a fairly nasty device, operating around 900MHz, and using a digital (ie on/off) modulation. It certainly has the possibility to wreak havoc in unprotected electronic circuits. However, don't let dealers, manufacturers etc fob you off with excuses.

Current legislation (since 1992) is that ALL electronic equipment "shall not cause unwanted interference to radio" and "shall not suffer undue interference from radio". If you wish to know whether the equipment that you buy (alarms etc) comply with this, look for a "ce" mark on the unit or packaging. A lot of dealers are probably still selling (or clearing) old stock that does not comply. (quite illegally).

Current legislation (since 1996) is also that vehicles must comply to very similar rules. In this case it is the familiar "e" mark that is used. Coming legislation will require ALL electronic equipment intended for fitting in a vehicle must also comply with the same rules as the complete vehicle. Furthermore if you have someone install the alarm etc in the vehicle for you then they are responsable under the law that the complete installation complies with the above rules. I would suggest that if you are having problems with recent vehicles, recent installations etc that you have very good reason to go back to the dealer/installer and tell them to sort it out.

For those of you with less recent vehicles and installations, here are a few ideas:

- Immunity to interference such as a GSM requires screening (inside a metallic box etc) and filtering (like your suppression capacitors etc). No doubt you're ahead of me here, Tivs, metal etc....
- If the unit in question (alarm etc) is "ce" marked then probably it is the installation that is a fault. Recheck the cabling etc, try screening the cables (you can buy metallic adhesive tape for this). Remember that for a GSM, a cable only 3 inches long represents a good "receiving antenna".
- Immunity also depends on how strong (or close) the GSM (or other transmitter) is to the unit in question.
- A portable type GSM has lower power than a mobile type so the required immunity will be easier to obtain. But a portable could be placed closer to the unit in question and you're back in trouble again.
- Unless you are prepared to get involved in a little radio engineering technology to cure the problem on your Tiv, try not to use a GSM. Or stop and get out, walk a few metres away before using it.

If you really have to use a GSM then:

If the ehicle is very recent you should check with TVR for possible recommendations. They should be aware of all the new regulations and should give you advice on the best (or accepted) installation.

If the vehicle is older and TVR can offer no particular advice then:

- Use a mobile type
- Fit the antenna on a rear wing (ie far away)
- Get the installer to fit some real metallic screening (or ground plane) under the antenna
- Get the installer to check that the GSM operation does not cause ANY strange phenomena.
- Use of a "fixed position" antenna will make it much easier to fault-find any resulting problems

Old technology cellular phones, ie "analogue" types probably would not cause any of these problems. But hey, that's progress!
Pete Hizzy

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Engine Lubrication

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Oil Pressure & Grade

Internet Mailing List Jun 96
I bought an interesting book at the NEC about the Rover V8 in all its forms, including TVR and other specialist cars. I haven't had time to read it in detail yet, but here are a few points gleaned so far.

Apparently maximum power is achieved from the engine by running with the oil temperature at around 90C. To achieve this the water temperature should be no more than 80C. Most TVRs I have driven operate with a normal water temperature of 90C. I was wondering if anyone has any experience of the engine in other vehicles e.g. Range Rover and if so, what temperature they use.

The book claims that modern lightweight oils are unsuitable for the engine because since it is a relatively low pressure lubrication system at 30-40 psi, the pump can't deliver enough oil with a 5W50 oil. I have always thought that a modern synthetic oil such as Mobil 1 should be OK in any engine, but now I am not so sure, particularly with some tales of high camshaft wear at low mileages recently. The book says that a single grade SAE3O or 40 oil should be used. Also a standard engine e.g. Vitesse or Range Rover uses a pressure relief valve on the pump, limiting pressure to 35 psi. The oil pump drive is not very strong, it is perfectly OK for the standard pump at this pressure but not practical for an uprated pump without modifications

Another problem with the lubrication system is that at high cornering speeds on a race track oil surge occurs, causing oil starvation and wear in parts ofthe engine. To prevent this the Group A SD1s used a complex sump with baffles, compartments and trap doors. They were not allowed to dry sump the engine, which would also solve the problem, because of homologation reasons.

One real weakness in the engine is the distributor drive which wears exponentially with engine speed. Although there isn't too much information about this, it does say that at 5,500 rpm the wear rate is 'alarmingly high' - perhaps enough of a reason to restrict playtime to a limit of 5,000 rpm.

It is common knowledge that Rover had a lot of success with the engine in motorsport, particularly in the SD1 Group A saloon car, and of course the TVR 42OSEAC was so fast it was banned after a singIe season, but did you know that the Rover V8 block was used to win a Formula One world championship for Jack Brabham in the 1960s? If anyone has any knowledge of the technical points with regard to what TVR may have done to alleviate the problems, I would be very interested.
Steve Powell

Sep 96
TVR started by recommending Mobil 1 from new for the Griffith and Chimaera, but changed to using a mineral oil (mobil XHP 10W40) for the first 6000 miles. A lot of owners believe that something like Valvoline Racing 20W50 (developed in the US where hydraulic lifters are more common) is much better for this engine, but I wouldn't like to argue the point with TVR if I had a warranty claim. Respectable oil pressure is about 15lbs at tickover and 30-40lbs at normal running speeds. Oil consumption should, very roughly, be 1000 miles per litre on 400 and 430 engines and

perhaps 500 miles per litre on the 500.

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Oil Consumption

Internet Mailing List Jan 97
Having owned a succession of cars which consumed negligible quantities of oil I am a bit concerned to find my V8S getting through about a litre in 1000 miles. My local dealer says its not excessive for the model but I feel less than reassured. Can anyone confirm this? Strangely, there is no sign of oil smoke from the exhaust or of leaks at the engine. Someone suggested a blocked breather.
Roger Slee

Internet Mailing List Jan 97
My dealer says the same thing, but I think it depends a lot on how hard you drive the car. My Chimaera uses less than half a litre between services, and my old MGB V8 at 100,000 miles was doing about 2000 miles per litre, but most of my driving is pootering along motorways at under 90 mph. I don't trust the dipstick markings on V8s, and if you're putting too much oil in it will burn off very quickly. This normally produces clouds of smoke the first time you put your foot down, but it might be worth checking the dipstick reading after an oil change (when you know the engine has a measured amount of oil in it) just to eliminate this possibility. If the car's running ok I wouldn't worry too much about it. Bear in mind that this lump is 1950s technology and cars in that era did use a lot more oil.
Peter Beech

Internet Mailing List Jan 97
That's not bad really. When you get through a gallon in 100 miles you want to get worried! At your rate it's probably getting burnt when the engine is cold.

Blocked breathers cause the oil to leave via the crankshaft oil seals, it drips out of the front below the pulley, and the back out of the hole in the bellhousing. You can sustain quite a high rate of leakage with no problems. Stick a pin in the little breather hole in the rocker cover on the passenger side from time to time. The breaher on the drivers side unscrews and can be washed out with petrol, same with the hose. Occasionally the tube into the plenum that this hose joins gets blocked (try blowing through it). This is a right pain to clean out, as it has 2 corners. I managed it by blowing a cotton thread through it. To the thread was tied some string, and to the string some rag. Pour in petrol, and pull it back and forth a few times.
Adam

Internet Mailing List Jan 97
My 4.0 Litre Griff gets through about 1 litre per 1000 miles. My local dealer said that it still sounds 'sweet' and not to worry. The car has done 44k miles. The 450 SEACs tend to do about 1 litre per 500 miles or less. Dave Lobb used to spend most of his time filling it up!
Steve Marriott

Internet Mailing List Jan 97
Thanks for the response. I think what you're saying about the kind of driving is a probably a big factor. When I first drove the car up from Bath in December after buying it, at about 80mph to preserve my licence which has too many points on it already, it didn't seem to use much and its only really since I've thrown caution to the winds and been going out on high speed night time blasts with lots of full throttle work round the Edinburgh city bypass that I've noticed big consumption.
Roger Slee

Internet Mailing List Feb 98
Question:
I seem to be getting through large quantities (2 ltr / 400 miles) of Mobil 1, and my oil pressure seems to have dropped to an all-time low even when fully topped up. I know that the Rover engined Tivs use oil, but that much? I get no oil

puddle on the garage floor, and get no clouds of black smoke from the exhausts, so there is no major leak, although the underside has got fresh oil on it. I have been advised that it can be caused by a sticking oil pressure relief valve and failing oil pump base plate, on the underside of the front timing cover. I thought maybe someone could de-code it for me! A company called RPI Engineering supply a modified base plate for £45. Is this what I really need?

The oil pump base plate bolts onto the oil pump. Onto that bolts the remote oil filter coupling. The base plate is secured by about 6 (torx head I think) bolts. Not too hard to change with the engine in the car. The plate can get scored and/or dished and skimming can be done to correct this, cheaper than 45 quid. The pressure relief valve is in the baseplate and can get stuck, this will be apparent after you take it off 'cos it should be free-moving. The symptoms of a sticking valve are adequate pressure when the engine is cold and high revs, but very low pressure when warm on idle.

A far more usual cause of 'low pressure' is that the sender is dodgy and needs calibrating or replacing, because the pumps are high volume and if they are turning at all they give good pressure.

As for the leaks, start by checking the flame trap on the engine breather and the breather hose and inlet to the plenum are all free flowing, gunge here is the first cause of problems. If this is fine, the next likely culprits are the seals - rocker covers and sump gaskets are the easiest to fix, it might just be a case of tightening the fasteners especially around the sump. Finally it could be the front or rear crankshaft oil seal, on the latter the oil drips out of a hole near the clutch slave cylinder.

Let me say this again in case you missed it: the main cause of leaks is the engine breather. If the crankcase gets pressurised, oil will leave by every possible orifice!
Adam Quantrill

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Measuring Oil Temperature with Temperature Strips

Sprint Aug 96
As a follow-up to Steve Powell's comments in June's Sprint regarding engine oil temperatures, I had occasion to replace some hydraulic hose and quite by chance, I discovered . . . ' Think Automotive' at 292 Worton Road, Isleworth, Middlesex TW7 6EL Tel 0181 568 1172 . . . I have purchased from them a temperature strip for £1. I have fixed it to the filter and will be monitoring oil temperature of the V8 in my Chimaera. The self adhesive strips have an irreversible indicator showing the temperature reached. They claim to be accurate to within +/-1C and come in three ranges: 77-127C, 40-71C or 132-182C.
Martin D Payne

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Friction Reducers

Internet Mailing List Sep 96
I was wondering what, if any experience people have with friction reducing products as I was thinking about adding some to the Griff when it comes along. I once added Slick 50 to my old Fiat, which had done about 40000 miles at the time, the effects were: much smoother at idle, no more power, no better economy.

When I last had a session on a rolling road I was chatting to the guy about it as he had just been on a Slick 50 promo day at Snetterton. Basically the main thing they sell it on is that in the unlikely event that your oil should leave the sump the slick 50 will protect your engine for long enough for you to stop, they proved this by running two cars round the track, treating one then emptying the oil from both, needless to say the untreated car didn't last very long whilst the slick 50 one continued to lap.

As they also mentioned that he would get increased performance from the car he did some testing of his own. He dyno

tested an MGB, treated it then dyno tested it again. Although the car felt much smoother and ran cooler there was no increase in power.

So thats one option. The other option is to use a product which is an oil additive rather than a coating agent. I saw a test of a product called XP-1 which consisted of a motor turning a wheel in a bath of oil, then a metal rod with a newton gauge at the end which you pulled down on to apply pressure to the wheel. With standard Mobil 1 it would take say two seconds to stop the wheel, when they added the XP-1 it took over ten. I know they could have been using a footswitch to increase to torque on the motor but I doubt it. However if you lose your oil you also lose you additive, and your engine.
David Donnan

Internet Mailing List Sep 96
I bought some Slick 50 a couple of months ago, but I haven't got round to putting it into the Griff yet because the oil level hasn't dropped at all, never mind enough to put the whole bottle in. I would like to know if anyone knows a good reason why I shouldn't put it in.

The reason I want to use it is slightly different. Since the car is only started at one or two week intervals the oil drains out of the heads and the tappets are noisy for a couple of seconds when the engine fires. All this noise means wear, and so I thought it would be a good idea to use Slick 50 to limit engine wear on startup caused by temporary oil starvation.
Steve Powell

Internet Mailing List Sep 96
I use Molyslip, which (it is claimed) will coat bearing surfaces with a protective compound. My hope is that it will protect my engine against any oil surge. It also seems to have helped cold-starting but this could be psychological. There are two drawbacks to this theory.

Firstly, when I talk to anybody knowledgeable the immediate question is "how much of it gets through the filter?" Apparently the particle size is large enough to get trapped so all you do is clog your filter.

Secondly, good quality oils have additives which do the same job.

Despite this, I reckon it's worth the peace of mind to bung in a couple of quids' worth as insurance, it can't do any harm and might do some good. Incidently, I gather that oil surge is a major engine wrecker (even worse than cold starting or totally losing oil pump drive) because the oil pump forces air into the bearings so blowing out any oil that was clinging there. Having lost one engine this way, I've no intention of losing another.
Peter Humphries

Internet Mailing List Sep 96
As a matter of course I add Slic 50 to my V8, and Molyslip to the gearbox and diff. I haven't got any before and after rolling road figures, though. I clocked up 60k miles on my previous V8 on one application of Slic 50, and it was only slightly smokey at the end, but only when cold. That engine covered 140k in all, and I usually explore the entire rev range quite regularly. The gearbox was still going 40k after a rebuild with Molyslip in it, and was showing no signs of failure, which for me was quite good. The diff on the Tasmin probably needs no protection, but any friction reduction helps I guess. I also use moly grease in the propshaft and driveshaft UJ's. Oil pressure seems a bit lower while the Slic 50 is in the current oil, and is quite temperature dependent, but recovers when you change the oil. I usually use the Green Lucas 20W50 in mine - it's cheap (which means you can afford to change it twice as often) and maintains good pressure even with a high mileage engine. Obviously you shouldn't use Slic 50 in a new engine (<12k) so the piston rings can bed in, nor use Molyslip in an LSD.
Adam Quantrill

Internet Mailing List Sep 96
The merkins call these additives "snake oil" and if you point your browser at `http://www.tfb.com/sdmc/oil.html` there you will find a wealth of info about these products - Slick 50 is specifically mentioned (as one of the ones containing PTFE). The research was compiled from reports and studies by the University of Nevada Desert Research

Center, DuPont Chemical Company, Avco Lycoming (aircraft engine manufacturers), North Dakota State University, Briggs and Stratton (engine manufacturers), the University of Utah Engineering Experiment Station, California State Polytechnic College and the National Aeronautics and Space Administration's Lewis Research Center. - so they probably know what they are talking about. The general summary is that most oil additives make zero difference, some increase the standard oil specification and some actually **reduce** the standard oil's performance. The last line just says use the standard oil.
Andrew Guy

Internet Mailing List Sep 96
OK, I'm convinced after reading this lengthy article in full. If anyone still believes it works after reading the extensive and damning evidence to the contrary, do they want to buy some, or shall I put it in my lawnmower?
Steve Powell

Comment
I tried to find this page on the web in mid October and it wasn't there. The search did, however, locate a fascinating article about carving decoy pigs. Wonderful things, computers.
Peter Beech

Internet Mailing List Sep 96
As I remember it, the manufacturers claim that you run the engine up to temperature, pour in the Slick 50, then keep the engine running for a while. At the end of this process they claim that there will be a layer of PTFE inside your engine which will reduce friction. According to the 'experts' (I believe one of the guys worked for DuPont who trademark PTFE as Teflon) this is impossible. Primarily, it is very difficult to put PTFE onto anything (it is non-stick after all!). PTFE was around for a long time before it appeared in frying pans because no-one could figure out a way of getting it to stick to the metal.

The net effect of this is that (the experts claim) you're just putting a few litres of gunge into your engine which will settle in areas where oil moves slowly. I also seem to remember that the test where a car has its oil drained and then does 50 miles on just the Slick 50 is a con; believe it or not you could drain the oil out of most cars and do 50 miles. Of course, you might have a hot engine at the end of the 50 miles. After looking at both sides of the argument it just didn't seem worth the risk of using Slick 50. As an aside, the oil companies spend a fortune on hitting the correct formulation for engine oil, and despair when people put in a product that could totally screw up their work.
Gary Walsh

Internet Mailing List Oct 96
I think a while ago I reading a car mechanic's type magazine that Slick 50 caused slight pitting on the metal surfaces. I cannot remember much about what else the article said. If the pitting held the Slick 50 then that would be okay I imagine.
Ian Collins

Internet Mailing List Oct 96
I have used molyslip before, in a Nova 1.3SR, and found it gave about 2-3mph extra top speed (and you need every mph!). I also used the gearbox moly, which comes in a giant syringe. It quietened down the box well, which had tended to whine previously. My boss swears that Slick 50 saved his 110,000 Cavalier from seizing recently when a suspected sticking oil pump bypass resulted in no oil pressure (some would say it would have been a mercy killing).

I have recently put into my Wedge a Redex product which is molybdenum disulphide based, but with a "binder" so that it is not lost with the oil, and lasts 50,000 miles. I felt that as there is a good metallurgical reason for the low friction properties of moly., and that moly-grease has been around a long time, this was a better solution than the Teflon in Slick 50. Does anyone agree/disagree? Cost was £36 for enough to do the 3.5 engine, with enough left over for my hack car. I decided to put this in after seeing a fellow East Mids member run the big ends on his Vixen at a trackday, due to oil surge. I had also suffered an oil hose failure (350i has a remote oil filter), and lost a lot of oil, so felt that the additive was a wise insurance.
Neil Porter

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Chassis General

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Lubrication

Sep 96
Early Griffs have sealed steering racks. Later model racks have three grease nipples which benefit from regular lubing as the racks can wear quickly if neglected. Other suspension lube points are not easily accessible for DIY maintenance. Wishbone bushes have rubber inserts, so are inclined to rot if you put grease on them. See note on Wheel Removal elsewhere.

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Power Steering

Sep 96
Be careful not to overfill - strange whirring noises on full lock can result.

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Stiff Steering

Internet Mailing List Jan 98
When my car is cold there is quite a resistance to turning the steering wheel more than 30° to the left. The resistance can be overcome with a little extra force and then any further turning becomes normal. This happens once or twice and then the resistance dissapears, until that is, the car is left standing for some time. There is no problem in turning to the right, hot or cold. Has anybody got any bright ideas?
Cathy

Internet Mailing List Jan 98
I had this on both my Chimaera and Griffith which used to go round islands on their own once started. This was due to a partly seized steering Universal Joint in the front wheelarch. Great place to put it, right behind the front wheel with no protection from salt spray etc., it's difficult to think of a worse place. Free it with some WD40 or similar but to do a proper job you might have to remove it and if you're doing this you might as well replace it.
Robert Morgan

Internet Mailing List Jan 98
I read reports recently of someone making a leather sheath for these UJs, and packing them with grease, thus protecting them from the elements, as well as keeping them lubricated.
Den Lyon

May 98
I did try to find the source of the steering column UJs for someone recently, but without much success. The steering

column is Vauxhall and the later rack is TVR, although with the same size splines as the Rover rack they used to fit on the early Griffiths. As a consequence, the top UJ is a hybrid with Vauxhall sized splines one side and Rover sized ones the other. The bottom UJ is all Rover size. Both UJs appear to be specially made for TVR. They are probably based on stock forgings somewhere along the line, but there are no markings that indicate who the supplier is. The rods that link the UJs come in varying lengths, so all-in-all it looks like a job for a dealer.

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Torque Settings

The following settings are from a TVR Engineering information sheet for the Griffith circa 1993.

Component	ft lbs	Nm
Caliper to front upright	43-44	50-60
Track rod end to upright	30-35	40-47
Bottom balljoint to upright	60-65	81-88
Top balljoint to upright	60-65	81-88
Upper balljoint adapter pinch bolt	59-66	80-89
Top front wishbone to balljoint HSG	35-40	47-54
Bottom wishbone to balljoint HSG	12-15	16-20
Steering rack mountings	12-15	16-20
Steering UJ clamp bolts	12-15	16-20
Front & rear hub retaining nuts	229-258	310-350
Rear caliper to bearing carrier	40-45	54-61
Rear bearing carrier to upright	45-48	61-65
Differential front allen bolts	90-100	122-136*
Differential bushes to chassis	48-55	65-75
Rear diff carrier to diff (cap Hd)	33-36	45-52
Top rear diff bush pinch bolt	45-50	61-65
All front wishbones to chassis	45-50	61-65
All rear wishbones to chassis	45-50	61-65#
All rear wishbones to upright	45-50	61-65
All damper bolts	55-60	75-81
Roll bar mounting clamp to chassis	30-35	40-47

Drive shaft bolts to diff	32-35	38-40
Drive shaft bolts to axle shafts	32-35	38-40
Seat belt anchorage bolts	25-30	34-41
Wheel nuts	73-77	99-104
Brake master cyl to servo	15-20	20-27
Front crossmember	45-50	61-68
Gearbox crossmember	45-50	61-68

** Use Locktite, square section washer and locknut.*
 # Except top rear spring mounting which is 55-60 ft lbs.

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Fuel Injection Problems

See Ignition for idling problems caused by faulty HT leads

Stalling and Erratic Idling

Internet Mailing List Aug 96
. . . My [Chimaera] engine cuts out on decelerating. This seems to be a common problem and has variously been described as being caused by either a broken relay or broken stepper-motor governing the idle. TVR Centre (Redhill) diagnosed the latter, replaced the faulty part and cured the problem for almost a whole month. Now it's back to it's old ways . . .
Robert Pearson

Internet Mailing List Feb 97
Has anyone had experience of their 5.0 Chimaera continually stalling on them? My 18 month old 12,000 miler has a habit of dying on me on downshifts - going into roundabouts etc. It usually won't start again for about 5 minutes. Sometimes the engine fires but dies immediately, at other times it refuses to fire at all. My dealer can't find the cause.
Philip Morland

Internet Mailing List Feb 97
Yes, I have had the problem you described on my Griff 500 when I got the car. All or a combination of the following were done and it solved the problem:

1. If it has been happening since you got the car, check to make sure that the chip in the ECU is the correct one for the 500HC engine. Mine was incorrect when a replacement unit was sent despite specifying the car it was for (came with Griffith 500 written on labels). ECU is stock Land Rover/Lucas part but mapping chip is TVR proprietary. We suspect someone forgot to change the chip at the factory.

2. The tune resistor value used should be 3900 ohms, and is standard Land Rover part. We found a variable resistor in my car which is not factory standard, and was probably installed by my dealer here to pass emission tests. Adjustment is for biasing ECU's fuel/air mixture, and if the engine runs too rich when engine is up to running temperatures, causes stalling at low rpm in my car. You did not mention whether your problem is related to engine temperature, but may be why you can't fire it up when warmed up. oo lean and drive train snatch is more pronounced. Suggest sticking to 3900 ohms since it offered the best driveability, and is the factory setting for good reasons. ther settings may cause damage to catalytic converter.

3. Have stepper motor and valve cleaned with wire brush. Check that stepper motor itself is functioning. There is a

allen key screw on the plenum at side of air inlet which is redundant for this version but make sure someone has not inadvertently screwed it all the way in. The factory setting for it is two and a half turns starting from bottom.

4. Basic tuning such as cleaning/replacing plugs, ignition cables (these deteriorated very quickly in my car, probably due to climate and heat from manifolds), and ignition timing. Another possibility to check is the fuel pump.

Please be aware that I am sharing these as my experiences of a problem similar to what you describe. Without a more detailed assessment its difficult to diagnose. Hopefully, this information would be useful in suggesting places for your dealer to look.
Kenny Heng

Oct 96
I had a minor problem with the Griff, and also previously with the Chimaera, where when the ambient temperature was very high e.g. 30C the engine would stall when depressing the clutch at a junction, instead of dropping to idle speed. I had a similar problem last year with the Golf that I was running, and it was caused by a plunger sticking in a cylinder due to a combination of dirt buildup, misalignment and/or and thermal expansion. I understand that the TVR problem is very similar, and I know it is also widespread. The main reason I would like a definitive answer is that I am regularly communicating with a soon-to-be owner in Singapore and the car he is buying is afflicted with the problem due to the higher ambient temperatures. I also know it's a simple problem to fix, as SHG cured mine in about 5 minutes. Have you got anything on this one?
Steve Powell

Oct 96
I've asked my dealer about the stalling problem you described and he has two suggestions.

The most likely cause is carbon build-up on the stepper-motor valve, which will make it stick shut. This can be checked by removing the stepper-motor unit (at the back of the plenum chamber on the end of the air by-pass hose) and cleaning the seat of the valve with a wire brush. I've never had this apart myself but I'm told it's pretty obvious what to do once the unit is off the car. This sounds like the problem you described with your Golf. A TVR or Range Rover dealer can check the operation of the motor by using their diagnostic equipment to trigger it in the same way that the ECU does. I don't think you can do it any other way, but a bodger might try whipping one end of the by-pass hose off and seeing if they can feel any suction on tickover. If the motor itself has to be replaced, the Lucas part number for all models is 73312.

Another possibility is that the fuel filler cap is on too tight. The cap is supposed to allow just enough air in to prevent a partial vaccuum developing in the tank, while not actually venting petrol fumes to the atmosphere. I'm told that it doesn't aways work as it should, especially in hot weather (maybe because the seals in the cap expand). A clue is if the tank goes whoosh when you take the cap off at a filling station. Try loosening it a fraction and see if the problem goes away. No doubt it would be illegal to drill a small hole in the cap . . .
Peter Beech

Internet Mailing List Dec 96
After not having the Griff for a week it now seems to be sitting at idle at between 400 and 800 rpm. Is this normal as it has taken to stalling in traffic unless I keep the revs up?
David Donnan

Internet Mailing List Dec 96
Around 1,000 rpm or above is the usual idle speed. Stalling in traffic usually indicates a mis-adjustment or other problem with the stepper motor, which prevents the engine from idling properly. I'd have it looked at by a dealer if I were you, as it's a common and easily rectified problem.
Steve Powell

Internet Mailing List Dec 96
Mine did that when I first got it and I have yet to completely cure it. I cleaned the stepper motor valve which improved matters a little. This requires its removal from the back of the plenum but is relatively simple to do. I have been told

that replacing the motor itself may be necessary, and I have just received the part and will try this out soon. Another adjustment is the allen bolt at the side of the plenum on the passenger side nearest to air hose. I am told by the factory to have this set 2.5 turns starting from fully screwed in. Mine stalled too and this was cured by removing the variable tune resistor (installed by dealer and running too rich) and replacing it with a fixed resistor (Land Rover part, 3900ohms for Griff 500). This is found in your harness leading to the ECU in the passenger footwell. I doubt however that this would be your problem, but is simple to check.
Kenny Heng

Internet Mailing List Dec 96
So how does this thing effect idle speed?
Paul (engine Illiterate)

Internet Mailing List Dec 96
It doesn't... but the jet it controls does. The V8 engine sets the idle speed by bleeding a small amount of air from the air intake into the plenum chamber. It's the equivalent of opening the throttle slightly without having to touch the accelerator. This is controlled by a jet which is controlled by the stepper motor which in turn is controlled by the engine mangement system. If the jet gets stuck or the stepper fails, the idle speed goes out of the window. This used to be done by adjusting a metal screw - which is still there but does very little now its function is done by the stepper motor.
Steve Heath

Internet Mailing List Dec 96
. . . Apart from for keeping the engine idling, I understand it is also used to keep revs up during gear changes (the moment when throttle is closed) so that they are smoother. The ECU controls the stepper motor based on inputs such as engine temperature, engine speed, and vehicle speed.
Kenny Heng

Internet Mailing List May 96
. . . My Chimaera initially idles at just over 2000 rpm for no apparent reason. If you start it from cold or warm it either jumps to 2000 revs or shoots up and down between 1-2000 revs. Strange thing is when you let it idle for about 2 minutes it settles down to a much more reasonable 98Oish revs but if you should restart the engine for any reason its straight back up to 2000.
Tony Orr

Internet Mailing List May 96
My S3C has the same 'feature' in normal use and also a very similar problem relating to a faulty component. My solution is the following:

1. Start the car using no throttle

2. Let engine settle down to it's start-up revs (usually 1,500-2,000)

3. The battery light is still on.

4. Rev the engine to turn off the battery light.

5. Immediately let the engine revs settle down.

Simple as that! . . . obvious really?!

A very similar problem also occurs when there is a faulty throttle regulator. This gets steadily worse especially in summer when it is hot. What happens is that when you are braking (!) or when stopping at lights the car can inadvertently go to 2,000 (or more) revs - which is obviously dangerous. The solution is to get a new one.
Mark Gee

Apr 97
In my experience, if the idle speed is searching between say 1500 and 2000 rpm it is usually a stepper motor problem.
Steve Beresford

Internet Mailing List Jun 97
The stepper motor is a black plastic unit about 1.5 inches across with an electrical lead plugged into the back. It screws into the rear of the plenum chamber at the back of the engine on the driver's (RHD) side. To remove it, disconnect the lead and gently with a large spanner unscrew the unti. If it is gummed up, clean it and put it back. Do not over torque it or it will break. Some people recommend using some ptfe tape - as used by plumbers - around the thread to ensure a good seal. If it not gummed up, then it could still be faulty in which case it will need testing and replacing i.e. a trip to your friendly dealer. This is best done when the engine is cold. Not only is there no hot metal work waiting to burn you, but the stepper is often easier to remove.
Steve Heath

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Low Speed Misfires

Sep 96
Problems with missing and holding back on light throttle could be caused by a bad connection on the earth strap from the battery to the chassis under the centre console or one from the engine to the chassis. Try tightening the bolts before looking for problems elsewhere.

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Stalling and Loss of Power

Letter Sep 96
The TVR Club gave me your name as someone who might be able to give me some advice on some of the problems I have been having with my Chimera, a 4.0 June 94 model . . . I bought the car last April with about 4,000 miles on the clock in perfect condition and a complete service history from the TVR centre in High Barnet. The manufacturers' warranty still had two months to run, and after that I purchased a two year TVR approved warranty.

In the Summer/Autumn of last year the car developed an intermittent problem where it would stall and prove impossible to re-start unless left for several hours. The problem seemed to occur mostly when damp, and after many hours at the TVR Centre was traced to a badly soldered transistor in the ECU. This was re-soldered and the car ran trouble free for about six months.

Then at the beginning of the summer the car, on occasion, would seem to lose a considerable amount of power. If the car was idling, it would stall. If moving, there would be a momentary loss of power. These were the same symptoms as described in the above problem, except this time the car would always re-start. Again, the problem occured sporadically. I assumed that there was yet another issue with the ECU, and insisted that it be sent away to be checked (the TVR Centre computer had failed to pick up the earlier fault).

The TVR Centre says that the ECU is fine and that the problem is carbon build up in the cylinder head valves. Their solution is a de-coking of the cylinders for £1,300. Now I admittedly do most of my driving in London, but after only 9,500 miles in total there is no way that this can be ordinary wear and tear. If a carbon build up is the problem then surely there must be something else wrong. I haven't heard of anyone de-coking a car (although my father has, but twenty years ago and then only after about 50,000 miles).

Do you have any thoughts/suggestions? If it is a carbon build up should I try "blowing it off" e.g. driving it for some long motorway stretches? Are there any products that one can put through the fuel?. . .
Michael Hewett

Comment
I have a lot of respect for the people at the TVR Centre in Redhill [Redhill Ltd] and often ask them for help with queries I get from other owners, but I've no idea what the Barnet branch is like. So I rather mischievously asked Redhill to comment on Michael's letter. If you are a cynic you will ignore what follows, but it seemed to make some sense to me so I thought it was worth passing on.

Redhill have had problems with several cars that are used a lot in London, and they believe it is because the ECU has been set up for 'sports' driving (oddly enough) and not for sitting in traffic jams. In stop-start conditions the messages going to the ECU could be so far outside its normal parameters that it starts assuming fault conditions and ignores them completely. The engine will still run under these circumstances, but not with anything like the correct mixture. If this is the only type of driving the car is used for, it is possible that it could have got as badly coked up as Barnet were suggesting. I gather from other sources that carbon build-up on the valves is much more common with unleaded fuel.

In this particular case one wonders whether the previous owner had also spent all their time chugging round London, and whether the duff ECU had made matters even worse. As for giving it a good thrashing, I would have thought the car would be ever so grateful even if it didn't cure the problem. An RAC man once told me that he regularly 'decoked' his own cars with a good dose of Red-X straight into the carbs, but I'm not too sure how modern engines (or cats) would react to this.

(There is a reference to this in a discussion about city driving under the Impressions section).
Peter Beech

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Ticking Injectors

Internet Mailing List Nov 96
Sometimes when I lifted off the throttle in the Griff, I could hear a very faint ticking noise, I did wonder if this could be the tappets, but I was told that it could be the injectors. The Griff went in on Saturday and it was the injectors, it seems to be at it's loudest at a constant 2500 rpm in third, and even then it is very, very faint (and I'm very, very picky !).
David Donnan

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Ticking Injectors

Feb 98
If you hear a whistling noise that changes in tone as you apply and lift off the throttle, it may be an air leak around the plenum chamber. It may come and go as the engine warms up and differential expansion opens or closes the gap.

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Recurring Stepper Motor Faults

Sep 98
A few owners of 4.3 litre cars with cats have reported having stepper motors replaced repeatedly in an attempt to cure idling problems. There are two other possible causes which are worth investigating.

The early cars used a Range Rover Discovery ECU chip, which was programmed to set a fault code if the lambda sensors on the cats gave an oxygen reading that was about 20% over or under the 'ideal' level. Outside this range the ECU would increase the engine idle speed to prevent possible damage to the cats. The problem is that this band is

really too narrow for the 4.3 engine, and as a result the ECU can be operating in a fault mode when there is nothing actually wrong. The only solution is to change the chip. Mark Adams on the car club's Helpline can explain whether this problem might apply to your car and what to do about it.

The second problem is that some early cars had a range of throttle movement that could, under some circumstances, run off the end of the throttle potentiometer which tells the ECU how far the throttle is open. This will also trigger a fault condition and the ECU will not function properly until the fault code is cleared.

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ECU Fault Codes

Dec 97
This information is included for general interest, or for those who know how to make use of it and have access to the correct diagnostic equipment. The test module supplied to TVR dealers can detect 22 fault codes from the ECU. Note that pre-cat cars will display certain fault codes when there is no actual fault (they are noted in the list). Fault codes are stored in the ECU until its live feed is disconnected, and this must be done after a fault has been rectified otherwise the ECU will continue to ignore the supposedly faulty sensor(s).

Code	Meaning	Comments
02	Live feed to ECU has been interrupted	Normal if ECU has been disconnected to clear old fault codes. Code 02 will clear if ignition turned off for 30 secs then on again.
03	Stored data corrupted since last trip	No useful information available. Test drive and try again.
12	Airflow meter out of range	Possible air leak or wiring fault.
14	Coolant thermistor out of range	Faulty sensor or wiring.
15	Fuel thermistor out of range	Faulty sensor or wiring.
17	Throttle sensor out of range	Sensor needs adjustment or is faulty or has wiring fault. This can cause low speed misfires
18	Throttle sensor output too high when air flow low	Large air leak between throttle butterfly and A/F meter or faulty throttle sensor or A/F meter.
19	Throttle sensor output too low when airflow high	Faulty A/F meter or throttle sensor.
21	Tune resistor out of range	Check tune resistor resistance.
23	Low fuel pressure	Blocked fuel filter or faulty pump or pressure regulator. Valid for cat cars only.
25	Misfire at full load	Faulty plugs, leads, electronic ignition unit, distributor or coil, low fuel pressure or valve or head gasket leak. See 40 and 50. Valid for cat cars only.

28	Air leak	Leak in A/F meter hoses, injector seals, inlet manifold gasket, plenum gasket, servo or crankcase vent hoses or Lambda sensors. Valid for cat cars only.
29	Checksum error	The ECU is f****d.
34	Fuelling fault in nearside injector bank	Injector or Lambda sensor wiring fault, faulty injectors, air leak at injector seals or inlet mainfold, blocked injectors. Valid for cat cars only.
36	Fuelling fault in offside injector bank	As above but for cylinders 2-4-6-8 only. Valid for cat cars only.
40	Misfire on nearside bank	As 25 but for cyclinders 1-3-5-7 only. Valid for cat cars only.
44	Nearside Lambda sensor out of range	Faulty or lead-poisoned sensor or sensor wiring fault. Valid for cat cars only.
45	Offside Lambda sensor out of range	As above. Valid for cat cars only.
48	Stepper motor fully open above 500 rpm or fully closed above 750 rpm	Sticking stepper valve, incorrect base idle speed adjustment, air leak on non-cat cars, incorrect stepper motor adjustment, incorrect throttle butterfly adjustment, rough running because of fuel or ignition or mechanical faults.
50	Misfire on offside bank	A 25 but for cylinders 2-4-6-8 only. Valid for cat cars only.
59	ECU unable to distinguish between faults 23 and 28	Fault occured for insufficient time for ECU to diagnose.
68	Road speed sensor output too low at medium rpm and high air flow	Possible sensor or wiring fault (will also cause wrong speedo readings on electrical speedo cars). Valid for cat cars only.
88	Power-up check	Not a fault. Sometimes displayed on first connecting test module.

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ECU Sensor Checks

Jan98

To carry out these tests you will need a multimeter and access to the back of the 40-way plug that connects the ECU harness to the ECU. Access is obtained by removing the ECU plug and rolling back the plug's shroud to expose the pin connections. Some tests require the plug to be re-connected to the ECU and some are done with it disconnected. There are a few pin numbers on the back of the plug, but in case you can't make them out, the pin numbering (looking at the back of the plug with the harness coming in from the right) is thus:

```
  28 29 30 31 32 33 34 35 36 37 38 39 40
27 26 25 24 23 22 21 20 19 19 17 16 15 14
 01 02 03 04 05 06 07 08 09 10 11 12 13
```

Don't blame me if tinkering about here produces a puff of smoke and a large bill!

Power Supply to ECU
ECU plug connected. Ignition off. Voltage between pin 15 and ground should be same as battery voltage and at least 10V.

Airflow Sensor
ECU plug connected. Ignition on. Should be 0.3V-0.6V between pin 35 and ground.

Coolant Sensor
ECU plug disconnected. Ignition on. Should be 2400-2600 ohms between pins 7 and 25 when coolant at 20C, 300-400 ohms at 80C.

Fuel Temperature Sensor
ECU plug disconnected. Ignition off. Resistance as for coolant sensor but between pins 25 and 32.

Throttle Potentiometer
ECU plug disconnected. Ignition off. Should be 5000 ohms between pins 3 and 25.
ECU plug connected. Ignition on. Voltage between pin 20 and earth should swing smoothly from 0.26V-0.36V to 4.6V-5.0V as throttle is moved from fully closed to fully open.

Tune Resistor
ECU plug disconnected. Ignition off. Resistance between pins 5 and 27 should be 446-494 ohms on non-cat cars (green wire resistor), and 2700-4100 ohms for cat cars (white wire resistor).

Injectors and Lambda Sensors
Injectors for cylinders 1-3-5-7 should be connected to pin 13 via yellow and blue wires.
Injectors for 2-4-6-8 should be connected to pin 11 via yellow and white wires.
Lambda sensor for 1-3-5-7 should be connected to pin 23 via a blue wire.
Lambda sensor for 2-4-6-8 should be connected to pin 24 via a blue wire.

ECU plug disconnected. Ignition off. Resistance between pins 2 and 13 and between 2 and 11 should be 4-5 ohms.
ECU plug connected. Ignition off. 12V between sensor earth connections and ground.

Engine running at 1000 rpm. Fluctuating 0.5-1.0V between pins 4 and 23 (sensor for 1-3-5-7) and between pins 4 and 24 (sensor for 2-4-6-8). Low voltage indicates faulty sensor or air leak, low fuel pressure or faulty injectors. Steady 1.0V indicates faulty sensor or high fuel pressure, leaking injectors or saturated carbon canister.

Stepper Motor
ECU plug disconnected. Ignition off. Should be 48-58 ohms between pins 1 and 26 and 48-58 ohms between pins 28 and 29.

Road Speed Sensor
ECU plug disconnected. Ignition on. Should be either a fluctuating voltage from 0 and 12V or from 0.5 and 5V between pin 6 and ground when car is rolled forward slowly (depends on type of sensor fitted).

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Exhaust System

up to contents

Spares

Internet Mailing List Apr 97
Trivia for those that enjoy this kind of thing, I was reading a copy of the Elite catalogue (a bit like Ripspeed) and noticed the text in the advert for Magnex exhausts.

"Recognition of Magnex quality is endorsed by Aston Martin and TVR Sports Cars who rely on Magnex expertise for their original equipment exhausts. If you have ever followed one of these machines, you will have heard enough already!"

So there you go - Magnex produce the exhausts for TVR according to the blurb. Another part identified - only a few hundred left!
Andrew Guy

Aug 98
Wedge Automotive can supply replacement exhaust systems for all Griffs and Chimaeras. They are made to order and cost a bit more than the factory ones, but WA claim to use better quality stainless steel and give a lifetime guarantee. Two common problems are cracking at the back of the centre box and gas leaks from the flexible section near the gearbox (Griff 500 only). The latter problem is caused by chaffing within the flexible section itself and since no-one has been able to tell me why the factory put it on the Griff in the first place it seems to be something you just have to live with. Wedge can make a replacement length of pipe including a new flexible section that can be bolted in after cutting out the worn part. The only other solution is to buy a piece of flexy pipe yourself and find someone who knows how to weld stainless steel.

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Heat Damage to GRP

Internet Mailing List Apr 97
. . . I was recently informed that the bodywork [on my K reg 4.3 Griff] immediately opposite both sets of exhaust manifolds was softening due to heat from the manifolds expanding the laminated layers, which as it cooks is the cause of the rather acrid smell (similar to urine) emanating from the footwells. TVR mount heat shielding to these areas, but this obviously degrads with time. TVR have subsequently designed a modification for the area adjoining the driver's footwell (a recess into the footwell increasing the air gap between body and manifold). These may be points worth checking when buying an earlier Griff (or any GRP bodied car for that manner).
Dave Peck

[More on this under 'exhaust fumes' below]

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Heat Shielding

Apr 99
The heat shielding under the offside manifold on my Griff started failing recently. Easy enough to spot if you peer down between the manifold and the inner wing, because the aluminium facing material breaks up and curls back like a bit of old kitchen foil.

I was told it would take three hours labour to get the manifold off and rivet on a new piece of mat, at a cost of around £200. Since the damage wasn't very advanced I decided to try patching it up with some Thermo-Shield tape instead. This is adhesive-backed aluminised glass fibre tape about two inches wide, intended mainly for wrapping fuel lines and hoses, and you can buy it from Agriemach in Copthorne, West Sussex (01342 713743). It was easy to push into position with the manifold still in place, has stayed firmly stuck for a couple of thousand miles now. Total cost £15, and fifteen minutes to fit.

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Exhaust Fumes

Apr 97
It may happen that after a ride, goods which are stored in the boot (jackets etc) will have an exhaust smell, especially if the car is a Non-Cat.

Cause:
When driving the car you will notice that road dirt will hit the back of the car despite the fact that it has to travel quicker than the car. This is a consequence of the (higher than atmospheric) pressure that is created at the back panel at speed. Since the pressure in the boot is normal (atmospheric) any opening in the back of the car will result in fumes entering the boot.

Solution:

- Seal off the space between the rear lights and the body WITHOUT removing the light unit. Use black silicon kit and smoothen it with your finger after dipping it into a soapy solution. Excess material can be removed from the body with a cloth and white spirit (do this quickly as white spirit may affect the paint). On later 500 models the factory is applying the same solution.
- Replace a damaged boot seal. When lifting the roof panel in and out the boot the lower RH corner of the seal may get damaged after a few years. If it is damaged it can easily be replaced (you can buy it per meter and this is not a special TVR part). When replacing make sure that:
- The open ends of the are at the centre of the top side of the boot opening
- Don't cut off too much material; the ends should meet tightly without a gap. Use some silicon kit if required.

Note: A gas leak through the seal does not have to result in a water leak.
Tom Mogyorossy

Internet Mailing List Apr 98
I've had the Griff for a couple of months now and I'm beginning to notice a nasty sulphurous pong when I accelerate hard. I don't think it's me, so it must be the car that's doing it.

I have heard about this on other Griffs. In my case the pong gets in with the hood on and is worse with a window open. I was under the impression that cats only smelled like that when they weren't working properly, eg. before they

warm up, but in my case it's worse when the engine's hot.

Any suggestions, anyone, before I start crawling around underneath and going off to the MOT station for an emission test?
Peter Beech

Internet Mailing List Apr 98
I'm probably not the only one who suffers this but it is rather worrying. If I am driving (especially noticeable if I am 'giving it the large one') with the roof up and the window down, the cabin fills with exhaust fumes and almost becomes unbearable at times. I am assuming that it is something to do with the airflow around the car sucking the exhaust fumes back into the car (down the side of the car, not in from the boot it seems as I don't have this problem with the window wound up). I don't have this problem when the roof is down, but that is probably because it all gets blown away again. Any thoughts/comments?
Nick White

Internet Mailing List Apr 98
I own a 92 Griff (pre-cat) and it too stinks of exhaust. The fumes seem to come into the car from the heating system but coats left in the boot do pick up the smell as well. On some days it's bad enough to make your eyes water and need to drive with the window down.
Doug Antill

Internet Mailing List Apr 98
Seems there are at least three of us with pongy Griffs but no-one with any answers.

I've shoved my head in the boot after a dose of sulphurous fumes and there's no smell in there, so I think that puts paid to one theory. Ergo it's either coming in through the vent system (which would be odd because bugger all else comes through it), or as Nick suggested it's being sucked forwards from outside and coming in through the window.

My bet goes on the latter. It's just possible that lengthening the tailpipes might get them out of the turbulence, so I'm thinking of slotting a couple of bean cans over them to see what happens. Expect report in due course, possibly re ballistic properties of bean cans.
Peter Beech

Internet Mailing List Apr 98
Make that four, because I also have a problem but at least I do know what the cause is. On pre-cat Griffiths, it seems that there can be insufficient space between the exhaust manifolds and the inner wings. Most cars seem to be unaffected by this but in some cars, once the engine is really hot, this can cause the inner wings to toast behind the heat shielding, generating a smell not unlike burning paint. It isn't a serious problem but I am going to have it sorted in the next few weeks. The manifolds have to come off anyway to replace the gaskets so it's an ideal time. I have heard that the factory has paid for a modification to the inner wings on some pre-cat cars, even as recently as last year, so I will be pursuing this initially. It isn't trivial because it requires the inner wings to be cut and a new curved piece of GRP inserted. The other option is to add some extra heat shielding but according to SHG this is not usually very successful.
Steve Powell

Internet Mailing List Apr 98
My non-smelly Griffith has some chrome "thingies" (sort of Carlos Fandango exhaust pipe extension bits - hi-tech baked bean tins) which may be causing it not to smell, but as previously mentioned I'm fairly certain that the air get sucked out - although thinking about it, when it's raining, rain gets sucked in . . .
Mike "not quite so sure any more" Jennings

Internet Mailing List Apr 98
Having claimed that my Griffith was not Nasally Challenged, I now have to admit defeat. After a run back from London last night with the hood up but windows open, my girlfriend felt sick and I had a headache, added to which my clothes smelt of exhaust fumes. This has not happened when just pottering about, nor did it happen on the way up

to London with the hood down. Did anyone get any further with trying to sort out this problem?
Mike Jennings

Internet Mailing List Jun 98
Have just been speaking to Brian at Fernhurst about this problem, he says he has a surefire solution.
The exhaust fumes, he says, are sucked up through the boot and then penetrate the cabin through the rear bulkhead.....(one of the trains of thought previously discussed on this list). Brian said that to cure this is to fill the void under/around the boot/bulkhead/inner wheel arch (not sure if it was all of these or just one) with a type of expanding foam, which, he says, definately stop the fumes getting into the cabin, quote " yes, have done quite a few and it has cured every one"

Apparently relatively cheap and takes about 30 mins to do. My Griff is booked into Fernhurst next weekend, so will report back when it's done.
Nick White

Internet Mailing List Jun 98
As one of the sufferers of the "Smelly Griff Syndrome", with my additional "Hot Legs" situation, I thought that a quick update might help some of the fellow sufferers.

The initial problems were that my girlfriend would often end up with a headache, and nauseous (not completely due to my conversation / driving), I would get a headache (occasionally) plus smell of exhaust fumes also. Additionally my legs would get hotter than a Vindaloo on a run.

The diagnosis was the that footwell sides (inner wings) had overheated and delaminated, and that the exhaust manifold had a "blow". So TVR Services (Hurst) started by chopping out the offending engine bay areas and "glassing in" some repairs. They also replaced the heat shields, and extended the area that they cover. They also repaired one of the manifolds, but gave me the sad news that they could not get to the offending split in the other (right in the middle of the nest of four pipes) - it would need replacing.

This first visit to Hurst Hospital cost me a fair bit, and made a good improvement to the heat level, but I couldn't tell if the exhaust smell had disappeared as it had been replaced by a fibre-glass smell.

My car went back again on Tuesday, and has had the new manifold fitted, plus Steve realised that my car was getting much hotter than it should have in the cockpit. Steve found that there was a gap, by the driver's side headlight pod (in the under-bonner area), that was letting hot air (and possibly exhaust fumes - leaking from the manifold) into the cabin. This gap led into the inner-wing duct that on the 500's is used for the cold-air blower. Steve glued a piece of leather over this hole to isolate this possible source of fumes / heat.

The end result is a massive improvement. The Hot Leg situation has now disappeared due to the leather "patch" - making driving with the hood up MUCH better. I haven't noticed the fumes recently - but the real test of that is whether or not my girlfriend is sick or not.

I'm off to Fernhurst tomorrow for their foam filling approach, and then my Griffith should be the most nasal-friendly car for miles aound. Any other early Griffith owners - I would check for that gap by the headlamp pod - it really has made a world of difference.
Mike Jennings

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Welding Manifolds

Internet Mailing List Oct 96
During a recent engine inspection at my local TVR dealers it was discovered that both exhaust manifolds on my Griffith 4.3 BV had developed cracks. The manifolds are cracked in the same place, I'm not sure how the cylinders are

numbered but the cracks are located close to the rear ports nearest the bulkhead. Has anybody had similar experiences, or know the best course of action. The options open to me are:

- remove existing manifolds and TIG weld the offending cracks and then plate the area (the cheapest option, but how long will the weld hold secure?).
- buy stock TVR replacement manifolds at 300 pounds each.
- upgrade to Stainless Steel at 600 pounds each, although I've read in Sprint that these are not supposed to crack, the TVR mechanic informed that in his experience SS manifolds are equally prone to cracking.

Dave Peck

Internet Mailing List Oct 96
Yes I've had manifold problems ranging from rusting, holes appearing and eventual replacement (350i). MIG/TIG welding works very well and the repair will outlast the manifold. I looked into stainless for mine, and I think it would be slightly more prone to cracking. The expense didn't justify the benefits, and that was at 300 quid each. You'd be better off Nickel plating mild steel ones.
Anon

Internet Mailing List Nov 96
Snap, my 4.3BV has just returned from servicing with the same problem. I intend getting my local garage to have a go at welding it . . . From what I've read this is a common occurrence in 4.3 Griffs, it's obviously a design fault, perhaps we ought to ask TVR to come clean and pay for the repairs!!
Nic Collins

Apr 97
Manifolds can develop hairline cracks, usually after 3 years on Griffiths. Weld them until you can afford a new exhaust. Welds should stay secure for three to six months.
Steve Beresford

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Manifold Gasket Leaks

Internet Mailing List Nov 96

Dave Donnan wrote:
"Sometimes when I lift of the throttle in the griff, I can hear a very faint ticking noise, I did wonder if this could be the tappets, but I have been told that it could be the injectors, any ideas."

This may not be of any help but I have the opposite problem. I hear this ticking noise (which is not pinking) when I open the throttle, and goes away when I lift off. My dealer says it is apparently caused by a leak in the exhaust manifold, which has yet been found on my car and corrected.
Kenny Heng

Internet Mailing List Nov 96
I recently had the same problem as Kenny, the problem being a split gasket manifold. Although the part was pretty cheap, the microscopic grooves caused by the escaping gases meant it had to go in for a second time so that a wierd and wonderful machine (allegedly) could smooth out the metal. That cost more than the part, so I'd recommend getting it fixed sooner rather than later. The gasket is between engine and manifold. If your problem turns out to be the same, it's very easy to spot and fix. The downside is the engine sounds even better with a hole in it.
Rick Eirew

Aug 98
TVR Centre Redhill tell me that the best way to get the manifold off is simply to undo the band clamp that holds the

manifold onto the cat, undo the top manifold bolts then reach down from above and undo the lower ones with a short open-ended spanner. Once they are a little bit loose you should be able to rock the manifold up and down to get a bit more of a turn on the spanner. You don't need to remove anything else. It's very fiddly on the passenger side and you'll almost certainly lose bits of finger in the process, but going in from under the car is even more difficult.

From other sources I gather that recurring gasket leaks can be caused by a manifold that has been made with one or more of the flanges slightly out of line so that they will never seat square against the head. The only solution is the get them machined to the correct angle. There has been one report of an owner finding his manifolds didn't match the port sizes on the head, so it's never a good idea to take anything for granted!

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Removing the cat

Internet Mailing List Nov 96
Having spent several long phone conversations with TVR Power and Team Central discussing a strategy for more BHP including removing the cat.. Here are my conclusions.

1. As Steve Powell said, it's illegal and invalidates the warranty. In Milton Keynes, there have been reports of "smell police" pulling over cars for on the spot emission checks, so removing the cat is a bit of risk for me.

2. Some of the cat fittings are cartridges that are dropped into the big wide pipes from the manifold and it's easy to remove the canister. The later versions had the cannister built into the pipework so removal requires that piece of the manifold to be replaced. Team Central reckoned it would cost about £100 to remove if it was the cannister type and "open to negotiation" for the other type.

3. With the cat removed, you should be able to use 4 star but this will deposit lead in the engine. When the cat is replaced, this lead *could* - I stress could - contaminate the cat and destroy it, making it useless. The possible result would be a failed MOT and a big bill for a new one. Needless to say, I've decided to keep my V8S kosher and keep the cat.

4. Changing the ECU chip etc also invalidates any warrenty and any insurance unless they agree to the mod in writing. It may result in poor performance through mismatching the maps to the engine. The ECUs are programmed/configured for different engines and therefore it is a bit of a lottery if you simply change the chip. Most mods have to be done effectively on a rolling road to ensure that they give the best results.

In terms of changing the cat, I'm not going to touch it. I am planning to get Team Central/TVR Power to enlarge/gas flow the plenum and reprogram the ECU at the next service in Feb'97 when it comes out of winter hibernation. The plenum mods are necessary to maintain the correct mixture to meet the emmission levels but get more fuel into the cylinders to give the additional power. They reckon I'll get 4.0 HC power from my straight 4.0 e.g. 275-280 BHP and 310lb torque and a few hundred extra revs (changes the limit from 5600 to 6000/6250) - so it may not sound as good/loud as a pre-cat but it'll go much quicker! They will warranty the engine and the insurance company (Pearts) won't change my premium - anymore power and it would be a 25-50% loading!
Steve Heath

Internet Mailing List May 97
Technically the cat regulations apply to all cars first registered after 1st January 1993, but this would have been impractical to achieve, because with most manufacturers some cars being registered after that date would have been manufactured some time previously and sat in a field, or on a boat. Such strict legislation would have meant that either manufacturers would have been forced to adopt the future legislation some months in advance, or else be faced with unregistered cars at dealers which couldn't be legally sold. For practical reasons therefore, the legislation allowed for a percentage of a manufacturers cars to be registered after that date without cats. What percentage, for how long, I can't remember. Despite this exception, if any car registered after 1st January 1993 had cats when first registered then they must remain on the vehicle in working order.

I discovered all this when working the club's stand at the NEC last year when I met someone who works in this field and knows the legislation inside out. This led me to think that maybe, since my Chimaera was registered in May '93, I could take the cats off and tell MOT inspectors that it never had one. Of course *I* knew that all Chimaeras have cats, but did the MOT testers? Immediately I phoned the factory to be told that the work involved was very expensive and not to be undertaken lightly, and they wouldn't recommend it. I gave up the idea and bought a pre-cat Griffith instead shortly afterwards. I agree with Steve Heath, it's an expensive thing to do when you are making the car illegal and it can only cause more problems that it solves in the long run. Besides which, if you lot keep your cats on, it's very good for the resale value of my Griff.

I was told at Blackpool that JS Cars in Jersey exploit some sort of legal loophole and if you buy a new Griffith 500 from them, and pay them an extra £500, you can have a completely legal non-cat Griffith 500. Not sure how this works, but I suspect it goes something like: cats not required by law in Jersey, used cars can be registered in any EC country if they were legal when first registered in another EC country (Jersey is technically part of the UK), but only if the owner has already owned the car for 6 months. So I reckon your £500 probably covers storing the brand new beast for 6 months, at which point you can rumble with a clear conscience onto the ferry, and look forward to years of jealous looks from other Griffith 500 owners at club events.
Steve Powell

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Exhaust Wrapping

Jan 98
Before you wrap your exhaust you should consider the following. Some time ago I was experimenting with heat wrap on our development car. We took a brand new mild steel manifold and heat wrapped it. We did this to try to reduce the under bonnet temperature. Although the heat was reduced it unfortunately did not make that much difference. You will experience a increase in radiated heat at the point the heat wrap stops, so be aware of this. However the massive drawback or heat wrap on a road car was that the brand new manifold was totally shot through with rust after only 8 months. The material will contain moisture next to the manifold in a very hot humid atmosphere, throw in a bit of road salt and very soon all you have is rusty fragments. If you intend to use heat wrap only use it on a stainless manifold.
Richard Thorpe

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Cheating

Internet Mailing List Jan 98
If your exhaust is failing noise test but just by 1db or so, try the following;-

Take 2-3 baked bean cans, peel off paper and take both ends off with a can opener. Now use tin snips to cut down one edge of the can, and open it out onto a block of wood. Drill lots of small holes (5mm ish) in the can across its whole area. Now take two jubilee clips for each can, and attach to the exhaust pipes under the car, keeping the cans as far apart from each other as possible. Ensure the jubilee clips are attached very tightly indeed. This has resulted in approx 1-2db noise reduction on my rally cars, enabling me to compete where I would otherwise have failed noise check.

Another extreme method is to take some loosely compacted wire wool, and jam it up the exhaust pipe with a complex bit of coat hanger engineering! Done properly, the wool will stay up there long enough to pass noise test at 5000 rpm, but will almost certainly catapult through the trees at SS1 start line....
Peter Nixon

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Impressions

See Engine Specs for a bit about Steve Beresford's 4.5 BV

Steve Powell's 4.3 Griffith

Internet Mailing List Jul 96
Well the Chimaera has gone, and I now have a non-cat Griffith in its place. It's LOUD, and spits flames on the overrun once fully warmed up. The engine is so responsive great care is needed at junctions and roundabouts! The body colour is not quite as bright as the Macau Yellow of the Chimaera - it's Ocean Haze which looks pretty good on the Griff. Even though the engine has the same power and torque (according to TVR at least) it has a totally different character without the cat - touch the throttle at low revs and pickup is instant. You can even hear the induction roar - it's great!

You do need a sense of humour with TVRs though. The speedometer broke on the way home from collecting it! Good job it's under warranty . . .
Steve Powell

Internet Mailing List Aug 96
No problems so far other than the speedometer which I think I already mentioned, which only works about half the time on longer journeys. That is due to be fixed shortly but since the gearing is the same as the Chimaera I haven't found it to be a problem, even when passing speed cameras, as I know the speeds from the rev counter.

It is different in a number of areas to the Chimaera. The ride is worse as you would expect with lower profile tyres, and rear wheel control on bumpy roads isn't as good either. On the plus side, the steering is more accurate and turn-in is sharper, and on smoother roads the levels of grip are huge.

Although the boot is smaller there is more room inside the car, and not so much heat soak either. The battery is differently located and there is more legroom on the passenger side as a result. The roof folds down a bit further too which is welcome.

The car runs at 80C which is the ideal temperature for the engine, and never exceeds the white line at 90C even in heavy traffic and high temperatures, as we found out in a one hour traffic jam on the M25 going to Brands.

The engine is much more tractable and driving the car even in traffic is a more rewarding experience - third gear is about as low as you need to go in town unless you actually stop. When the engine really gets into its stride at about 3,000 rpm you even get a nice induction roar as well - it's so different to the same engine with the cat and other emissions measures. That was all or nothing below 2,000 rpm, otherwise the lean mixture caused the engine to stutter. The Griff seems to be using maybe 5-10% more fuel as a result, but it's worth it and at least it's only four star. Another major benefit is that when I get it out of the garage it doesn't fill my house with the sickly smell of super unleaded!
Steve Powell

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City Driving

Internet Mailing List Sep 96
. . . What would a Chimmy be like using it every day, considering it is only a 3 mile drive in London to work . . . Average running costs for a 12,000 mile year would be good too.
Ian Collins

Internet Mailing List Sep 96
I've never driven a TVR in the City before, but I would expect it to be frustrating. The car isn't meant to stand still in the heat of traffic and will tend to get a bit hot (earlier Griff/Chimis will). The gearstick will get hot, the door opener thingy on the Chim will, the air vents will blow hot air even when the selector is cool and other niggly things. A TVR to use in the city is okay if you stretch its legs every so often on an open road or track day. If not, I suspect the cylinders will get all choked with carbon etc. If you're going to use the performance of the car then go ahead, but if it's just going to be sat in the city and therefore used as an image promotion tool only then buy something else coz they're not great in the centres of towns clogged up in traffic. Heavy clutches and steering on non PAS models is a bugger when you park too.
Rupert Kent

Internet Mailing List Sep 96
I've just had someone on the phone who bought a used Chimaera at 5,000 miles and has run it for 4,500 miles around London. It's been intermittently losing power and cutting out and his dealer now says it needs a decoke! I've spoken to another dealer about it, and they said it was not impossible for a Chim to get in this state if used a lot in heavy traffic. Others may have had different experiences, but my guess is that if your friend used a Chim exclusively for town driving he'd end up hating it - a bit like keeping a greyhound in a flat.
Peter Beech

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''More like a Trabant''

Internet Mailing List Jul 96
I plan to order my first TVR, a new Chimaera, in September of this year. However, I was stunned to read the article in the Times on Saturday July 27th ("TVR went more like a Trabant"). Coincidentally, I have also noticed the high number of low mileage, one year old, examples on the marketplace. For me, reliability is a key requirement. I would be grateful for any feedback from Chimaera owners. Is the Times article representative?
Anon

Internet Mailing List Jul 96
I can't comment on the Times article as I haven't read it, however the high number of low mileage/1year old Tivs in the marketplace is likely to be the "Morgan effect". The Morgan effect typically occurs when a prospective car owner sees a Morgan +4 or +8 and decides it would be a lovely car to own, puts the deposit down, waits 6 years for delivery and then finds its not as comfortable/fast/safe/driveable/maintenance free as their BMW/Mercedes/Escort/Fiesta and sells it in the first year. This can and does happen with TVR's, good news for people like me - I'd far rather let someone else take the steep depreciation curve and I'll buy after the "Morgan effect".
Andrew Guy

Internet Mailing List Jul 96
I can't comment on the article which you are referring to because I missed it (can anyone scan it and post it to the mailing list?), but while there are undoubtedly some highly publicised rogue cars, this is not typical in my experience. Don't forget it's only the really problematic cars which get into the national press, and usually you only get the owner's

side of the story. It is perfectly true to say that they are more prone to problems than say most Japanese or German cars, but when you are getting F40 performance for the price of a mid-range Mercedes saloon you can't have everything. I am sure if TVR doubled the price the cars could be 100% reliable, but how many of us would like to pay twice as much for that? I had a Chimaera for 18 months with only one minor problem - a speedometer failure. No breakdowns, leaks or electrical problems whatsoever. I personally know quite a few Griffith and Chimaera owners who could tell you the same story - although there are others on the mailing list who did report some problems earlier this year.

If you are buying new you have the advantage in that the car cannot have been mistreated by its first owner. If there are any teething troubles (and there may well be with a hand-built car, even Astons and McLaren F1s are not immune) they should be sorted immediately by the dealer at no cost to yourself. It will pay you to buy the car from a dealer with a good reputation, rather than just the cheapest, as they are the most understanding if things go wrong. Don't expect another TVR as a loan car if you need one - it doesn't happen! And the reason why the cars are often only kept for a year or so is simple - very low depreciation means you don't have to save for very long to get the next one. I'm on my third TVR in four and a half years.
Steve Powell

Internet Mailing List Jul 96
I just read the same article and some of the points sounded far too familiar. My personal experience was with a Griff 500 that I bought as an ex-demo when it was about 9 months old (and under the skin it's pretty much the same as a Chimaera). To cut a long story short it was a pain in the arse to own and it was not reliable. I'm sure you'll get a lot of replies from people who have had no reliability problems, but I can only state my personal experiences (and I'm not alone!). If you'd like more details drop me some mail; I sold it after 5 months because I need a car I can rely on.
Gary Walsh

Internet Mailing List Jul 96
I have had my Chimp for 2 years and I have taken it to France as well as all over Scotland, in total it has only let me down twice in 20,000 miles, once when the gear linkage broke (I obviously slam it pretty hard through the gears!) and once when a prat at an airport car park left the door ajar after parking it, flattening the battery. Personally I have friends and acquaintances queuing up for me to take them for a spin and I have never had anyone make any negative comments about the car. Actually the most common comment is "F-----g Hell!" (normally heard when proving that the published acceleration figures are correct). Take the Times article with a pinch of salt and join the ranks of Chimp owners who always have broad grins on their faces as they blast around the countryside.
Steve Williams

Internet Mailing List Aug 96
It's taken me a couple of weeks to get hold of this article. To avoid any problems over copyright infringement I'm not posting the original text, but I've written this short 'review' instead.

Review of Article in The Times "Car 96" Section, July 27 1996:-

The article described a new Chimaera bought by Jeremy Moore in February 1995 from the TVR Centre in Arkley, Hertfordshire. Although the specification wasn't given, the price was quoted as £32,000, including air conditioning (about £1,875 extra) and a radio that cost an extra £1,200. This makes me think it was probably a 'cooking' 4.0. The article doesn't say specifically how long Mr Moore owned the car, but it does refer to "fifteen months of misery", from which I suppose we can hazard a guess. The car was apparently off the road for four months during 1995, and was recovered five times by AA Relay. Problems mentioned were:

1. Engine overheating.
2. Unspecified electrical failures.
3. Faulty air conditioning.
4. Faulty wipers.
5. Rattling exhaust.
6. Rear suspension' needed replacing.

7. Rain coming in between windows and top, into boot and into driver's footwell.
8. Speedo packed up.
9. Radio reception very poor.
10. Doors locked themselves once while the car was left with the engine running. Phoned factory who advised breaking a window. Owner got in by opening hood with a broom handle.
11.Three occasions when windows suddenly steamed up while driving.
12.Engine repeatly stalling and not re-starting for two or three minutes. Happened 32 times (sic) on one journey into the West End (presumably from owner's home near Watford).

The owner took his complaints to TVR Engineering (presumably after taking them to the dealer, although the article didn't actually say this), wasn't satisfied with the response and wrote to Peter Wheeler asking for "the courtesy of a reply". The article quoted Wheeler's reply as saying "I am convinced you do not know the meaning of the word". At one stage (it did not say whether this was before or after writing to Wheeler), Mr Moore went into the TVR Centre "shouting and waving my arms around and saying the car was rubbish". He was threatened with an injunction banning him from the premises.

The TVR Centre agreed to sell the car for Mr Moore and got £28,450 for it. The article implied hat the dealer was reluctant to do this. They also asked him to agree that "neither he nor any associate of his shall at any time in the future purchase a new TVR", which he refused to do. At some stage in all this the owner contacted The Times who made their own approach to TVR Engineering. They received a response from solicitors acting for the TVR Centre who said that there were numerous inaccuracies in Mr Moore's story. The case had also been taken up by the Legal Protection Group at some point, who said that Mr Moore had been "tolerance personified" and that they had received ten similar stories about TVRs breaking down.

That, more or less, is it.

Now, since this is a review I'll indulge myself by making some comments.

1. I don't understand why the TVR Centre were reluctant to sell the car for Mr Moore. This is, after all, what dealers do for a living. I am guessing that the settlement they reached involved giving up their sales margin, but the article is silent on this.

2. If you'd been writing the Times article, wouldn't you have tracked down the new owner of the car and found out whether they were having problems with it too? [Rumour has it that the TVR Centre got a letter from the new owner saying they were completely happy with the car, but the Times wouldn't publish it.]

3. Wouldn't you have commented on the fact that any car had managed to retain 89% of its value after fifteen (ish) months? Sounds pretty good for a hunk of junk.

4. What happened about the problems? Did the dealer fix any/some/all of them? Why was the car off the road for four months and what the hell was going on during this time?

5. Was the factory really as offhand as the article implies? If anyone reading this has found it necessary to take a complaint to the factory, it would be interesting to know what sort of treatment they got.
Peter Beech

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General Comments on Reliability

Internet Form Aug 96
I am in the process of ordering the build on my Cerbera, I am a bit dubious in doing so as my current experience with a TVR (Griff 500) has not been good. My first TVR was a 4.0 Griffith, she went and sounded like a dream - fault free!

W.Ramsay

Internet Mailing List Aug 96
Your experience of Griff 500 vs Griff 4.0 concurs with a long held view of TVR reliability, namely that the more TVR mess with things, the worse they get. This will no doubt be controversial, and I expect I will receive much abuse through these pages, however as a totally unbiased S2 owner, (who commutes 25 miles each way by Tiv), it appears to me that there are generally fewer problems with these cars (certainly 2.9 onwards) and that this is probably due to the high percentage of "straight from the box" components, including engine and gearbox. Moving to V8 cars, as an observer, it seems that the further TVR move away from the original Rover unit the more unreliable it gets and the more oil it burns. OK so maybe there is no gain without pain, and poor reliability may be acceptable to those of you who want max power for a Sunday afternoon blast. But I have read quite a few messages lately from contributors who have sold Griffs and returned to tin-tops because they need a reliable car. Maybe a Tiv using closer to standard components would be a compromise (eg S, V8S, 350i etc). Going to the logical conclusion of the Cerbie with so many "special to type" components? Time will tell, but I know where my money lies.
Richard Eggleston

Letter Aug 97
Peter
Many thanks for your time and effort in putting together the workshop notes, they are most useful. Regarding the overheating survey.. well I suppose all I can say is.. yes it overheats to the point where the fluid boils when I stop the car. No the garage can't find it, and anyway my TVR is the most unreliable car I have ever had. I have come to expect that I only share my car with the dealership, it literally has spent twice as much time at the dealers than I have spent drivng it,

I purchased it with 1800 miles on the clock from Brooklands at Exeter, and rejected it within a few weeks as the car was full of water, leaking oil, and suffering electrical problems. Despite lots of letters, the dealers refused to refund my money and sent the car to Blackpool, where the body shell was found to be porous. It was sealed with gell and the car returned to me. It still leaked although not as badly. In fact it still leaks.

Engine problems abound. Water consumption when the engine is behaving is about a pint a week, when its not behaving it dumps the lot on the road! Problems so far include:

- Electrical problems... new half wiring loom
- Water leaks into passenger area
- Wing mirror failure
- Engine missfiring.. new Lambda sensor
- Starter motor failure
- Fuel pump failure
- More leaks
- Oil gauge failed
- Temperature gauge failed, new sensor
- Speedometer failed, new sensor
- Oil consumption ... uses 1 ltr on a 300 mile motorway trip... I'm told thats OK
- Engine missfiring again.... another Lambda sensor
- Overheating..... garage changes "Valley gasket"
- PAS noisy... new seals fitted and fluid replaced

Currently the car is at Broughtons in Bristol, where they are attempting to find an intermittant overheating problem, despite the fans working, the indicated engine temperature goes off the scale and the fluid boils when I stop the car. So far they have had two attempts to correct this, and I have driven the car 25 miles in the last two weeks. Currently the car has 19000 miles on the clock and is two years old.... I can't wait to get rid of it!

It seems amazing to me that NOBODY talks about TVRs in this manner. If the facts were known more widely no-one would purchase them. Isn't your decision not to publish the overheating survey contibuting to the problem?

Denis Lomax

Denis,
Bloody hell! That is absolutely disgusting. I honestly don't think this is common, otherwise I'm sure I'd hear about it more often, but if I was in your position I'd be wheeling the big guns out right now - solictor, trading standards officer, small claims court, AA/RAC inspector, the lot. The main finding of the overheating survey from your point of view is that I can find no evidence of inherent design features that make TVRs overheat. If your car does overheat then it is, by this definition, defective.

I'm slightly hurt by your last sentence because I had every intention of sending the survey results to Sprint until the editor told me about TVR's reaction to it. Do remember that I'm not a club official, just an ordinary member. I don't speak for the club and I've no interest in getting involved in club policy or politics. I don't think Sprint would have published the survey results after the ear-bending they got from TVR over the questionnaire, and I'm not going to submit things if there is any possibility of them being sanitised before they get into print. I think it's a great shame that the club has to choose between its racing & social activities (which need the factory's cooperation) and giving technical and consumer support to owners but it's not the first time a car club has faced this dilemma and in their position I'd probably make the same decision. If you do want a club that offers cheap parts, legal support, dealer satisfaction surveys and all that good stuff, you're going to have to start your own.
Peter

Peter,
Many appologies for "getting at you" in my reply, your previous email arrived just after my car vomited over the main road, after collecting it from the dealers.. all of 5 miles and 30 mins driving. (it's still there today!). I really appreciate your work on the notes, being an engineering type myself I find them really helpful.

The car has been a total disaster, trouble is .. every time I start to get solicitors involved, the dealer takes it back and promises a full repair job. Seems hard to argue with that, however there is always something else within a few weeks, and I have to start again.

What I find hurtful are glowing reports on Top Gear and the like, that just hint at unreliablilty or other probs, that is if you can hear the commentary under the "Guns and Roses" music.

Looking at your survey results makes me wonder if it would be worth pressing for a different vehicle, it looks as if the others are more reliable. For your information, I keep the car in a garage, and at most do 10 miles a day in it on my way to work. It really is a gorgous and totally stunning car, when it works.... so that's the problem!
Denis Lomax

Letter Sep 97
. . . Regarding some people's problems with reliability, perehaps TVR have improved things with the Griffith recently. I've done 22,000 miles in just under two years. My engine uses about half a litre of oil between services. Rear tyres still have about four thousand miles left in them. Only problem was a failed fuel guage within the first thousand miles, and a leaking clutch hydraulic pipe at twenty thousand. Else the car has been totally reliable, and seems to do 25 to the gallon when reasonably gently driven. I love it!
Tony Miller

Letter Dec 97
Faults on a Griff 500 in Cyprus, since new in July 94.

Windows whistling. Adjusted using vertical screw inside door

Fuel gauge stuck at max for a while then needle moved erratically. Cured itself.

Fuel Gauge drops too quickly from full then empty means it really has 1/3 tank. Nice quirk so kept it as a large reserve facility.

Clicking odometer eventually stopped working. (Just like all the hire cars in Cyprus!) Replaced same but colour had changed so TVR sent a whole new set of clocks which were great fun to fit! Unfortunately 1 week after, oil pressure gauge needle fell off! Same nice job taking dashboard front out to fit old colour one.

Battery flattened quickly & replaced twice. Also, ignition light flickering indicating alternator not performing. TVR supplied new 90amp alternator FOC which we had to machine the shaft to fit. Solved flickering but battery still prone to failure. Problem worsened until battery died a death then out of warranty period. After trying many suggestions by Paul Arab, our autoelectricians spent countless hours of exhaustive diagnosis and finally traced the problem to an insufficiently sized elec. cable supplying the battery/ECU from the alternator. This was replaced with higher amperage capacity cable and with a new battery I have never has a problem (even starts after 2 weeks non-use). Note, TVR would only reimburse cost of same as credit against a new car purchase!

Door seal falling off. Fix on with contact adhesive several times.

Door close sensor for alarm/courtesy lights etc. clicking in & out when door closed. Glued small piece of rubber inside base of door to push sensor pin in further when door closes and makes contact with same.

Top of range Pioneer CD/cassette/radio cuts out on left hand bends, whistles with interference, jumps on bumpy surfaces. Secured connections and eventually went away. Took to hi-fi specialist who tried suppressors but didn't work. Have been told by people incl. TVR that this problem exists. End of story but disappointment for £1K worth of system.

A/C dripping water into car. Dave Bateman confirmed nearly 1 year later that the system still in development stage but kindly assisted in resolving when over here on hols. Firstly a/c. compressor gave up. TVR supplied new one. Many attempts per TVR instructions to re-silicone seal the cover under the bonnet housing the expansion valve to avoid air coming in. This did nothing as was gaping hole inside by heater box / electrics. Nearly 1 year later, replaced heater box with fully air sealed one with cork tape (air causes condensation which was dripping everywhere incl. on electrics). Repiped same with new pipes & exp. valve and recharged a/c. system. Worked well.

Also, fitted improved ducting to vents in dashboard. (approx. 12 hours work in total). If any old models exist and wish to fix problem, I have rough guidelines (14 points) for the job by Dave Bateman which look easier than in practice. Now a/c. works fine but can't use because aggravates overheating problem.

Under bonnet heat starting to take effect on components so prevention measures were required. Received great help & advice from Mark Mini in Holland. TVR supplied 2 rolls of Demon Tweeks Turbotec 11002 insulation banding for exhausts which were professionally fitted overlapping & held firm using stainless steel wire. Hasn't moved after 2 years. Also, Land Rover remote ignition module STC1856 kit to site away from heat. No ignition problems now except when overheating and ECU goes crazy.

Drilled small holes in lip of bonnet where hidden below windscreen.

Reversing light intermittent then eventually 100% inoperative. TVR thought it was a positioning problem but after spending time like a gynecologist squeezing fingers above exhaust into small gap trying to reposition which worked for about 10 minutes each time, we ended up replacing it and which solved the problem.

Door mirror hanging loose after heavy handed car wash attendant moved it (the only time I didn't wash the car myself). Very tricky one to remove using sawn off allen key. Eventually fastened down in permanent fixed position after much trial & error. Can explain further upon request.

Intermittent Horn. Probably faulty through high temp. Fitted new one & is fine.

Headlight silicone wearing away leaving a gap between lens and bodywork. Only silicon holding the whole unit in place. Was a hell of a job trying to hold headlight in place to seal it and eventually had to make metal fixing to hold it. Other one needs sealing soon.

Ticking noise from engine. Was found to be near-side exhaust manifold gasket leaking. Very awkward to replace but used semi-metal type rather than weak type original.

Water Pump leaking. Had to replace same and modify to fit.

Coolant overheating problem. Problem was strangely almost non existent when car was new (rarely reaching into the red). But gradually worsened until even in winter temperatures would reach past the red to maximum needle travel (140?) and would not fall below the red even at speed.

- Fitted lower temp. cut in stat.
- Drilled holes in bonnet as mentioned above.
- Re-tubed radiator giving 30% more capacity which made quite a difference. The difference in temp. of coolant going in & out of rad. Is 30 deg. C.
- Fitted exhaust insulation as mentioned above.
- Fitted extra temp. gauge for comparison as original suspected pessimistic (but only by 5-10 deg.).
- Fitted 2 Demon Tweeks high power fans (which both now have seized bearings) in addition to the originals which we fitted outside/below the rad.
- Many bleeding methods used including jacking the car up to bring the rad. Into a vertical position (old Grifs like mine had rad. on angle and there is no room for shrouds).

In August this year, Perry (mechanic) spent 3 days checking the whole coolant system top to bottom and rewired all fans to achieve better performance. Also used aforementioned bleeding method and at this time only, the car maintained 90deg.C at all times even on tickover for 15 mins. in ambient temps. of 100deg. C. only reaching toward the red (but not into) when using the a/c. It even dropped towards 80 deg. when at speed.

However, the situation over the following weeks reverted back to overheating when the fan bearings eventually gave up, blowing fuses and the coolant actually boiled over several times. It is my hope that if I can fit 2 reliable high performance fans that all will be well.

I am running at the moment with 1 dragging Demon Tweek fan plus testing an old Merc.190E fan which has a broken plastic bearing housing and the blade catches the frame of the fan making a racket. You can hear such a big increase in air movement with the Merc. fan and it is amazingly managing to keep the temperature at 90 deg. until stuck in traffic when it slowly rises into the red.
Ken Dobson

Internet mailing List Feb 98
Can't resist passing this on:

Got a call at 9:00am at work the other day from my business partner (the guy with the Carrera 4 that was off the road for a week a while back because the ABS decided to turn the brakes off). He was sitting at home waiting for the AA to turn up and work out why his car wouldn't start. "This'll just give you more ammunition you bastard" he commented in a calm and collected manner.

I also found out that the car leaks so badly he often has to take the mats inside and let them dry out on the radiator - and his car isn't even a targa, let alone a cabriolet.

Its interesting that the attitude of Porsche owners to these problems is exactly the same as that of TVR owners - that the cars are worth it. However why is it that Porsches have the reputation of being quite literally perfect and TVR have the reputation of being total dogs? Is it because Porsche UK take journalists out to more expensive restaurants than TVR?
Patrick Buckland

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