

Buying and Restoring a Fulvia

By Peter Gerrish and Tim Burrett

Due to the 'regardless of cost' design of all the Fulvia models, they are somewhat over engineered, which is fortunate for us but proved commercially problematical for the factory.

Engines, gearboxes and suspension may well run for 80,000 to 100,000 miles without major mechanical replacements, provided that regular recommended maintenance schedules are adhered to, especially oil and filter changes. Timing chains should be closely watched and replaced at any signs of audible rattling, usually heard at a slow tick-over. The length of life of timing chains varies enormously: 1.3 engines may require replacement at between 27,000 and 40,000 miles while 1.6 engines seem to need much earlier replacement than this. Where Renold or Morse chains can be obtained they should be fitted; the Italian manufactured ones seem to stretch rather rapidly.

Fulvia clutches are normally long lived and trouble free provided that sufficient clearance is maintained on the operating mechanism and that the driver does not slip the clutch too much in traffic conditions. The use of cheap pattern clutches (or other parts for that matter) is not recommended, and the condition of the rear crankshaft oil seal should be investigated if a surfeit of oil is found inside the clutch housing.

A source of trouble for some Fulvia owners can be found in either of the two different braking systems fitted during production. Each can suffer from shortcomings (or perhaps more accurately, long stoppings), especially in the handbrake mechanisms, but if properly maintained and regularly used, both systems are capable of giving excellent results.

It must be remembered that all the 1st Series cars fitted with the Dunlop-Girling system are at least 15 years old and in many cases poor maintenance or disuse may have led to corroded cylinders and fluid leaks. New cylinders are getting scarce and are also very expensive and it must be remembered that replacement cylinder seals will only deal with slight corrosion of the bores. Brake pads can become so badly corroded that the calipers have to be unbolted before the pads can be removed. Locking plates on caliper retention bolts should always be renewed as should pad location cotter pins. Once a Series one handbrake is in good working order, regular maintenance and lubrication can keep the exposed mechanism working efficiently.

Both First and Second series handbrake cables must be regularly lubricated with penetrating oil and all the exposed parts of the inner cable greased with waterproof

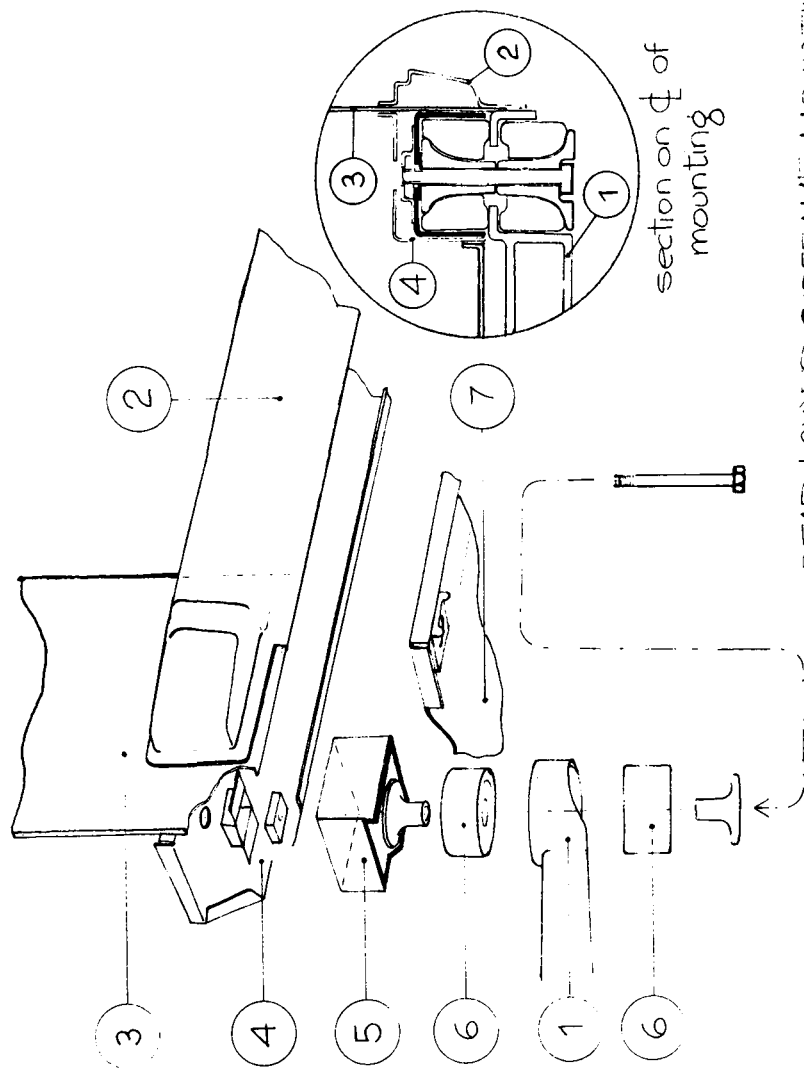
grease. Wear of shoes or pads must be compensated for by adjustment of the mechanism, not the cable.

Second Series cars fitted with the Duplex system are of course much younger and more parts are still available for them, but the enclosed handbrake mechanisms are often a source of problems.

Special tools are required for working on front and rear hubs and must be used, the alternatives, of much bashing with hammers and chisels usually damages and reduces the lives of the parts being fitted. If you do not possess the expertise to manufacture the special tools or can't afford to buy them, perhaps you should not attempt the job! We strongly recommend the inexperienced Fulvia owner to seek advice before starting work on his car.

Now we come to the body and chassis. Due to the use of rather poor quality sheet steel during construction, and a few hidden corrosion traps, all models in the Fulvia range will have suffered from corrosion of the subframe, chassis and body to a certain degree. This aspect of the model should be carefully appraised before buying, as repairs to the metalwork can be complicated, lengthy and costly if you are not an experienced D.I.Y. enthusiast.

The rigidity of the front end of the car depends much on the subframe (on which the engine, transmission and front suspension are mounted) being in good sound condition. (In the diagrams which accompany this article, the part numbers refer to those mentioned in the text to identify individual parts of the chassis and subframe.) The six mounting points where the subframe is bolted to the chassis must also be in good mechanical order. A useful check on the bending strength of the front end of a Fulvia is to raise it on the jacking point located below the radiator on the front subframe. There should be no significant movement in the rear legs of the subframe (diag. 1.) and little change in the fit of the doors. Try this operation gently on an unknown car and listen carefully for ominous creaks and groans. The subframe itself and the front and top mounting points can be fairly easily inspected and if necessary repaired by welding in substantial steel plates, followed by drilling suitable holes into which Waxoyl or some similar rustproofing is injected. Never weld in new metal to cover up the old; always cut the rusted material away first, otherwise the gap between the two will form an even worse damp and rust trap. There may be complicated shaped corners (such as when reinforcing rear damper top mounts) where this is difficult to achieve. In such a case drill extra holes in the original metal and apply rustproofing copiously after welding.



REAR LOWER SUBFRAME MOUNTING

The rear lower subframe mountings to the front of the sills are much more difficult to inspect properly and tend to corrode very badly. This often leads to the front end of the car flexing up and down which puts far more strain than the designer intended on the top body sections, inner wings and on the Coupe and H.F. models the outer wheel arches. The Zagato bodies Sport models have no welded joints between inner and outer wings and are thus not quite as stiff as the Coupes in this area; removal of the rust provoking rubber seals and welding plates between inner and outer wings is worth doing during restoration of these models.

The outer sill (diag. 2.) runs the full length of the floor pan from the front subframe mount to the front edge of the rear wheel arch and should have an inner sheet steel 'membrane' (diag. 3.) between it and the inner sill (diag. 4.) some 12" long at front and rear. The authors have extended this membrane along the full length of the sill on Fulvias used mainly for competition with a noticeable increase in chassis stiffness. This 'membrane' and the actual box (diag. 5.) in which the subframe mounting rubber blocks (diag. 6.) are located suffer from severe corrosion, and while partially successful repairs have been carried out by welding underneath or by cutting into the inner sill from inside the car, the only guaranteed long term repair in this area is made by cutting into the rear lower part of the front wing and replacing all weakened material with mild steel plate. Complete 10 s.w.g. mild steel mount boxes and full length 18 s.w.g. folded sill sections can be obtained from specialist dealers, or made to order by a 'Yellow Pages' sheet metal fabricator.

The floor sections (diag. 7.) under the inner sills may well be badly corroded and should be plated, preferably along the full length of the floor pan, with 18 s.w.g. steel.

To transmit loads sideways from the subframe mountings into and over the gearbox tunnel there are hidden, triangular, boxes between the floorpan and the rear of the front inner wheel arches. These too should have plates welded in should any weakness be apparent.

When welding in the sill areas, (especially when using gas welding equipment) all carpets, rubber mats, inside trim and the wiring harness, which runs along the top of the left hand inner sill, must be lifted out of harms way. A fire extinguisher should be close at hand as there is always a chance of setting sealing materials and paint alight.

If major structural repairs are to be attempted on sills and subframe mounts, the car should be adequately blocked up and levelled with a spirit level, or even a simple water gauge, before welding commences. Misalignment will cause strange and possibly dangerous handling characteristics. The fit of the doors is a useful guide when assessing possible body distortion.

Other places on the chassis which may require reinforcing include the top mounting areas of the rear shock absorbers and the metal between them and the inner wheel arch edge. These are complicated shaped corners and cardboard patterns should be cut out, folded and fitted: from these you can then cut and shape your steel plates. Be ruthless when inspecting damaged areas to ensure that your reinforcing plates are welded to thoroughly sound base metal.

The rear hangers of the leaf springs are located by silentbloc mountings inside the rear side chassis members, and this area and the cross tube which connects them beneath the back of the boot floor can also be badly corroded. In very bad cases the spring hanger mountings will need to be removed and new steel box sections and cross member manufactured to suit. A similar problem can arise with the transverse box or tube which stiffens the body mounted Panhard rod locating bracket.

Now that replacement wing panels are virtually unobtainable, wheel arch sections must be made up by panel beaters or by using repair sections intended for other makes of car. For instance, Hillman Hunter rear arch repair sections have much the same flare and radius as the Fulvia Coupe wheel arches.

After the car is finally painted, holes should be drilled into inner box sections and more Waxoyl injected. This process should be repeated at yearly intervals, preferably on a warm day when the rustproofing will penetrate better.

Small rearward angled holes at the bottom of sections may be left open; they will allow some ventilation of otherwise almost closed areas and will drain any water which may seep inside.

When one considers that a badly corroded Fulvia can be bought for such a low price, it is surely well worth spending time and money on the restoration on such a car, particularly as it will be such a delight to drive when completed.

Don't scrap that Fulvia; rebuild it and then enjoy it!