



**You may need to mount the indicators on stalks to pass the UK's IVA test or similar legislation in other countries.**

damping resistance and spring seat height.

Front suspension units: open length 298mm (11.75in), compressed length 260mm (10.25in). Note: if measured without a rubber bump stop, compressed length would be 235mm (9.25in). All measurements taken centre-to-centre of the mounting bush eyes. For spring data see appendices.

Rear suspension units: open length 349mm (13.75in), compressed length 285mm (11.25in). Note: if measured without a rubber bump stop, compressed length would be 260mm (10.25in). All measurements taken centre-to-centre of the mounting bush eyes. For spring data see appendices.

## Radiator & electric fan

A new bespoke radiator will be needed and it will require an electric fan. You can find suitable electric fans fitted to the radiators of small hatchbacks.

All Tiger systems have the radiator thermo switch fitted on the top of the radiator.



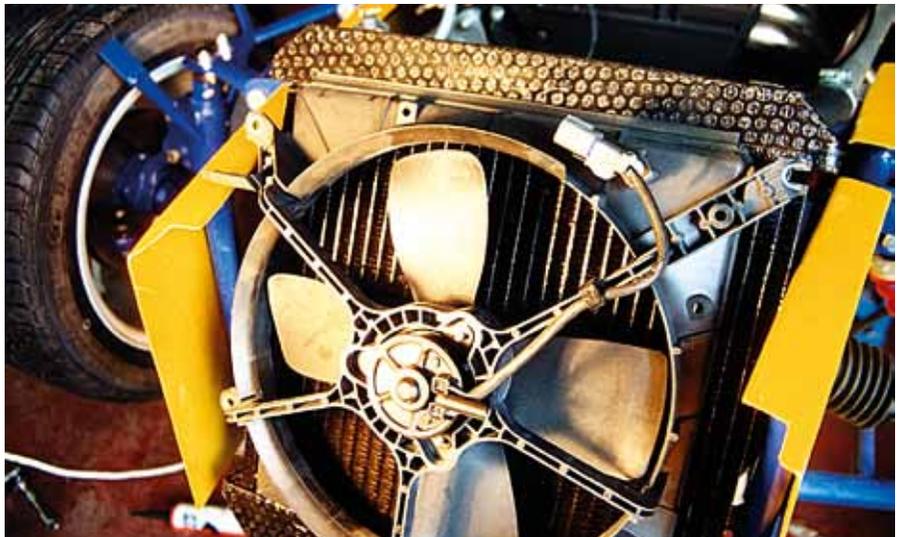
**Telescopic suspension unit with adjustable damping (resistance) and a spring platform adjustable for height.**

## Steering rack

The steering rack is from a Ford Escort Mk2 and will need modification that extends the trackrod end from Escort to Cortina Mk 4/5 length. Alternatively, purpose-built new racks are available from Tiger. Quick racks are now becoming very popular, as more drivers are taking their cars on track days. These are usually around 2.5 turns lock-to-lock.

## Trackrod ends and wishbone ball joints

The trackrod ends are Ford Escort Mk2 type, the top wishbone ball joint from the Ford Transit, while the lower wishbone ball joint is from the Fiat 124.



**A standard Tiger radiator with electric fan (here fitted to a Tiger R6).**

## Front suspension uprights/hubs

The front upright/stub axle/hub/brake disc assemblies are sourced from the Ford Cortina Mk4 & Mk5. New aftermarket units are also available.

## Battery

A Sierra-type battery (45amp hour) is fine for the Avon, although, if a Zetec engine is being used, 55 amps is recommended.



An example of a high-back seat: this type of seat or individual headrest is required for IVA.



Handbrake (parking brake) area detail of a carbon fibre transmission tunnel installed in a car.

advised to buy GRP seat shells which you can trim: such shells are available at very reasonable prices. Another way is to fabricate the seat frame in steel tube.

### **HANDBRAKE & GEARSTICK GAITERS**

The handbrake and gearstick gaiters can be made from the same vinyl material or leather as the seat covers. As with the seat covers, stitch these inside out when making them.

### **CARPET**

Most builders carpet their Tigers.

You can purchase the carpet in two ways. First, there are various companies that sell car-type carpet by the roll or metre (you can find them in various magazines). Second, you can buy a ready trimmed set from Tiger.

If you want to make your own carpets, after cutting them to shape you can trim the edges with vinyl. First cut off a strip of the vinyl material approximately 38mm (1.5in) wide and as long as the edge of the carpet you're going to trim.

Fold over one edge of the vinyl by about 8mm (0.3in) and stitch the fold for the length of the strip; repeat the procedure the other side of the strip to give two neat edges.

Now fold the vinyl around the



Tiger R6 carbon fibre transmission tunnel.

### LIVE REAR AXLE OPTION

The chassis drawings in this book are for a car with independent rear suspension. However, we'd like you to have as many options as possible so, maybe, as well as a self-designed GRP body you'll want to use a live rear axle? Probably the easiest way of doing this is with a five link system: this comprises four trailing arms and a Panhard rod.

You'll need to remove the old locating brackets on your chosen axle, and make and weld on new ones to locate the five link system.

The trailing arms are connected at one end to the chassis and at the other to links above and below the axle. The trailing arms should be parallel with each other and, ideally, parallel with the ground when the vehicle is at normal loaded ride height.

The Panhard rod should be as long as possible, with one end as close to the centre of the axle as possible. Again, ideally, the Panhard rod should be parallel with the ground when the vehicle is at normal loaded ride height.

The trailing arms and Panhard rod will require bushes to be fitted, and you can press in the new bushes using a vice (vise) or press. Nylon bushes are now fitted to many track/fast road cars, and these are available at little additional cost.

#### Fitting of trailing arms

It's recommended that you put the axle into place in the chassis before fitting the trailing arms and Panhard rod.

Place the trailing arms into the brackets on the chassis and the axle.  
Grease all bolts before fitting.



Trailing arms and brackets on a live axle Tiger Super Six.



Live axle with new trailing arm brackets  
welded in place.



Adjustable length trailing arms with  
bushes and Rose joints.

## SPEEDPRO SERIES

base. You can check the clearance by placing Plasticine on the pick-up and temporarily refitting the sump (with gasket). Measure the compressed Plasticine to gauge the actual clearance. Zetec engines usually have alloy sumps fitted and are very difficult for the home builder to modify. It is recommended that a new, shorter alloy sump is purchased from Tiger or from Raceline Components.

### PROPELLER SHAFT (DRIVESHAFT)

A modified propshaft will be needed which will be much shorter than the original Sierra one and which will have no central bearing (see drawing 8.27).

**Warning!** The Sierra propshaft must only be modified and balanced by a qualified engineer. Alternatively, you can buy a brand new propshaft (balanced for 120mph performance) from Tiger.

If you're fitting an electronic speedometer, a sensor disc will usually need to be fitted between the differential drive flange and the propshaft. Alternatively, a system using twin magnets can be used, the magnets being fitted to the propshaft. The sensor itself can be mounted on a made up bracket and should point directly at the holes in disc.

### REMOTE GEARCHANGE (GEARSHIFT) LEVER

If you're fitting a remote gearchange lever mechanism, the first thing you need to do is remove the small piece of steel used as a reverse stop in the Ford Sierra gearbox (see illustration).

The modified gearlever (the standard Sierra item shortened and with a small piece of flat steel welded to it – see illustration) is secured in place by three M8 x 25 bolts.

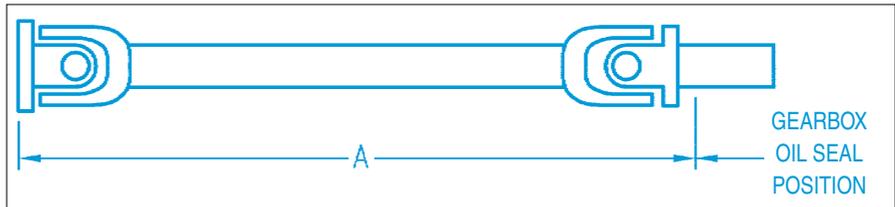
The remote gearlever pivots in a



Left-hand drive Tiger Cat with Ford SOHC 'Pinto' engine (fitted with sidedraught carburetors).



New Tiger Avon propeller shaft. Note the distance on the sliding part of the prop, between the oil seal and the U/J: this is to allow for movement of engine and gearbox mountings.



Drw 8.27 – Tiger Avon modified propeller shaft (driveshaft) dimensions.  
A = 650mm (25.59in). Total length 740mm (29.13in).

# Chapter 12

## GTA (Grand Tourer Avon) bodywork

Tiger has designed a new 'slippery shape' body as an alternative to the traditional roadster shape. The new design is, of course, available as a new model, but also as a retro fit (aftermarket conversion) for all other Avons built either by the factory or by the amateur at home.

The new Grand Tourer bodywork is designed to easily fit an existing Tiger Avon with only small additions to the chassis – the correct wheel offset will be required if the car is being assembled for submission to the ministry IVA test – plus a different roll bar or modification to the existing one.

You will need a small bracket/hinge assembly manufactured by Tiger to fit the bonnet, which will operate on the nylon bushes supplied. The front part of the central body (engine side) is pop-riveted to the existing alloy battery tray panel, with the interior sides of

**Grand Tourer Avon.**

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