

11.0 Steering

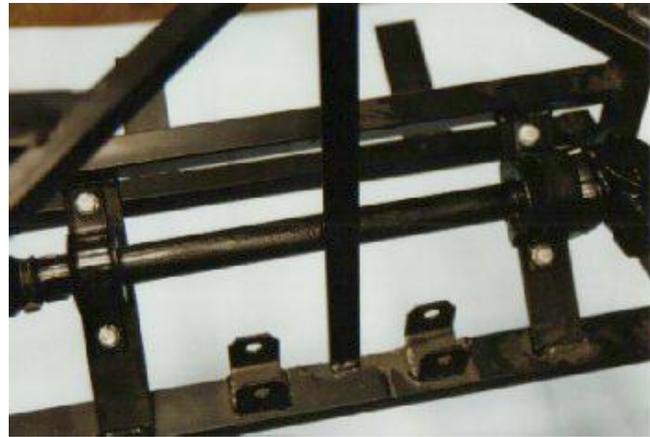
11.1 Steering Rack

The Cat uses a Ford Cortina steering rack.

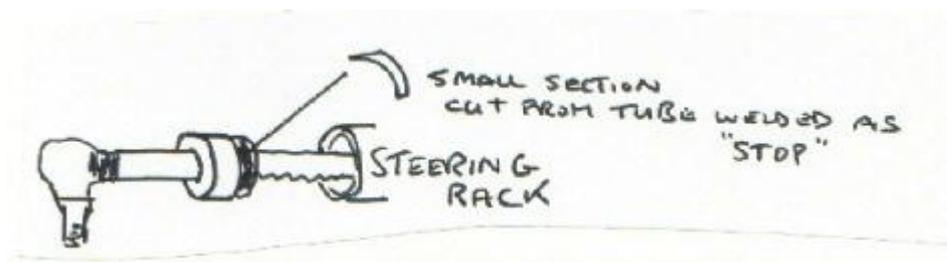
Before fitting the steering rack, cut off 5 threads from each rod end.

The two brackets for holding down the steering rack have to be drilled - drill the brackets using the chassis members as a guide. It is advisable to use new rubber bushes, which are normally available from Ford dealerships. The rubber bush fits under the bracket and over the steering rack, once located use M8 bolts and nyloc nuts and washers and tightens down. (Good condition used rubber bushes can be fitted)

When the wheels and mudguards have been fitted, test the turning lock to ascertain whether the wheels are fouling the wings or bodywork. It may be necessary to



provide a stop on the steering rack to stop this. A stop in the form of a half moon section 5mm – 10mm half welded in position or a jubilee clip can sometimes be used. Fit the stop under the rubber gaiter at the steering rod knuckle joint.



11.2 Front suspension

Before fitting the front suspension make sure that the car is level. The front suspension on the Cat is made up of Tiger rocker arms, Spax shock absorbers fitted inboard, Sierra track control arms, Tiger lower arms, Sierra hubs and callipers with a Tiger modification to the Sierra leg.



Fig 11a

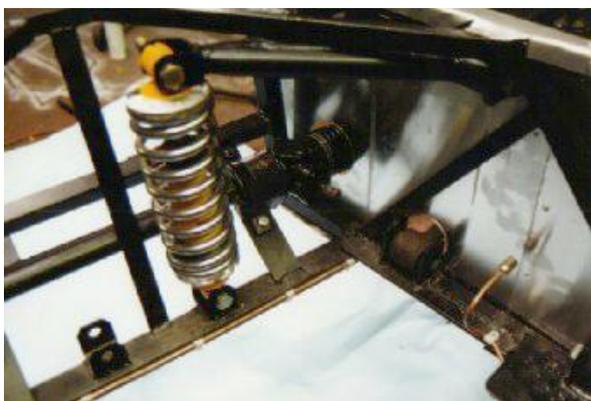


Fig 11b

11.3 Rocker arms

Fig 11a and 11b shows different ways of fitting the bushes

Two steel sleeved rubber bushes are inserted into each end of the tubular section (centre) of the rocker arm. These can be pressed in if a suitable press is available or a large vice will be fine, with a file clean out the powder coat inside the tube section of the rocker-with a file or small sander remove clean the zinc coating from outside of the steel bush-grease both inside the tube and outside of the steel bush and press in -the bush is put in flush with the end of the rocker. The nylon spacer washers (small piece is cut off edge) will be against these -if using a hammer and possibly a small piece of tube or an old socket- be careful not to burr over the end of the bush.



11.4 Track control arms

If you are using the old Sierra track control arms, check the condition of the ball joint and bushes before fitting, new track control arms can be purchased from Tiger if required.(recommended)

Fit the new bush in Tiger lower arms, it maybe necessary to use soap and press in with a vice, the larger end of the bush goes towards the rear of the car, fit using M10 bolt. Now fit lower arm onto track control arm using the new bush kit. Use 12m x 90mm bolts for lower arm to chassis fixing. The bush kit supplied is a replacement for



the old sierra track control arm bush-
The larger part of the bush goes to rear of car(first on the lower arm.

11.5 Hub assembly

Fit the hub assembly onto the track control arm ball joint and tighten lock nut, slide the modified leg into the hub and set at 95mm(min 90mm),measure from centre of ball joint to top edge of

Hub assembly - this measurement has been tested and should eliminate virtually all bump steer from the suspension.

Note: If fitting cycle wings, the two lugs welded on the modified leg for the mudguard supports must have all edges radiused to meet SVA regulations.or a “u” shaped trim fitted

11.6 Top ball joint (fig 11d)

Wind the large half nut on to the top ball joint, then wind the ball joint into the rocker arms, lift up hub and push down taper on the ball joint into the modified leg and



tighten the lock nut. The top ball joint needs to be set at zero camber, to achieve this once again check that the car is level and then put a spirit level against the brake disk and ensure that it is vertical, winding in or out adjusts the camber. You will have to remove the top ball joint from it's taper each time you need to alter the camber. Check all the edges on the hub assembly and radius to 2.5mm before painting, all nuts and bolts that are exposed on the suspension must be fitted with plastic dome caps as supplied in the kit. The Picture shows spirit level used on super six for camber adjustment. Camber can be set on stands—with no springs fitted fit the shocks to front---level the chassis on the stands-lift suspension to mid way point on shocks and set camber.

Fig 11d below



11.7 Front shock absorber

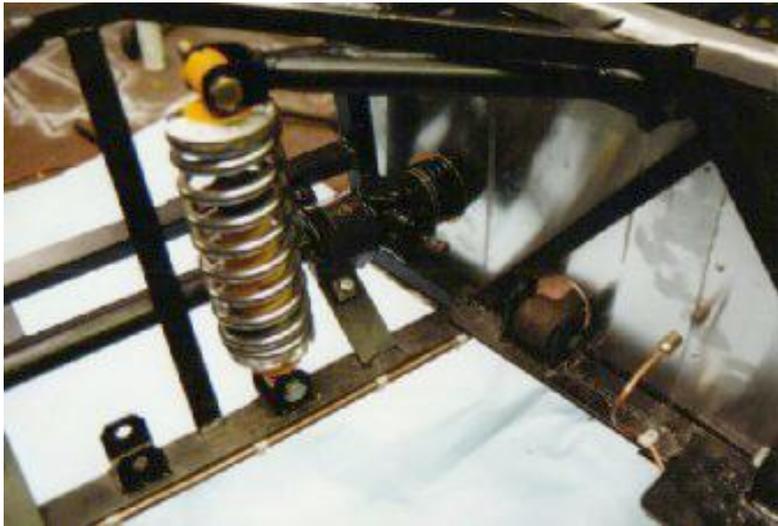
The Cat front shock absorbers are fitted inboard. Fig 11e

Fit the bottom of the shock absorber to the lugs on the chassis just behind the steering rack, use 2.5" bolts with nyloc nuts to fix. Take the top alloy cap off the shock absorber (use manufacturers instructions) and drop the spring over the top of the shock absorber. Use a spring compressor to clamp down the spring and refit the top alloy cap.

The top of the shock absorber is fitted to the inside attachment point of the rocker arm, use 2.5" bolts and nyloc nuts to secure. It may be required to sand or file off some of the edges of the suspension brackets on the chassis and rockers if the bolts are difficult to fit .

The front shock absorbers are adjustable, if necessary adjust to suit the driving conditions and car set up.

Tiger can provide different rating springs, if required.
Fig 11e below



11.8 Tracking front wheels

The front wheel tracking must be set at 4mm toe in.

11.9 Steering column

The Sierra steering column is used on the Cat, and fixed to a Tiger split shaft with rose joint bolted to the chassis. Fig 11f and 11g

First clear out with a file or other the steel bush welded to the chassis (the nylon round bush on the end of the column) will be turning inside this.

Trail fit the nylon bush inside with the column and remove and lightly file around bush to give a smooth (not tight) feel when turned. Now grease both inside the steel tube and outside the nylon bush. Now fit the column alloy housing onto the two flat steel sections (these can be slightly bent for flush fit) and drill 2 holes (best position is highest as possible to touch under dash panel) Attach loosely using two bolts, with large penny washers, and nyloc nuts. Adjust driving position at a later stage when the steering wheel is fitted.

STEERING SHAFT (split) with rose joint

Slide the rubber coupling attached to the steering split shaft onto the splined shaft on the steering rack pinion, the coupling has splines inside, and must be aligned to ensure that the gap on the coupling is central to the single spline on the splined shaft. Use a M8 high tensile bolt on this-(Fig 11g below) coupling. The rose joint fits to the large hole in the chassis – fit the universal joint to the column and tighten using high



tensile bolt and making sure that the triangle section is far enough inside for safety .

11.10 Steering wheel

The standard equipment supplied with the Cat kit is the Mountney steering wheel and boss. Fit the boss to the steering column shaft using the large nut and washer from the Sierra column, try to centralise the wheel with the tracking to get correct

alignment, at this stage it might be required to lengthen the column slightly and or sand a little off the bottom of the boss (if tight on stalks).
Fig 11f below

