



# TClinic

## STEERING

The TC steering is particularly unique. Its accuracy, its lightness, its durability, all these extraordinary features were lost with the change to rack and pinion. Yes, TC steering is indescribable, (Comstock Laws forbid a deserving description here) The TC steering must be “experienced.”

The heart of TC handling is the steering box. It is incredible that Bishop Gear had the audacity to put its name on such a piece of junk! The cam is located by balls running in cones fitted in the box, with shims under the end cover to adjust the end play. This is common practice, but the TC end cover bends, thus affecting adjustment. Some of the later boxes had king pin bushings fitted for the sector shaft, and boxes that do not have these can be repaired (They must be severely scored by now) by fitting them. The sector shaft is unfortunately so soft that it wears rapidly, and with it, the bushings. Then the peg wears as it runs on the cam.

The real culprit in the TC box is the point of end thrust. It is incredible that anyone who has been exposed to a secondary school physics course could put the thrust out on the lever, rather than on the end of the shaft where it belongs. The Tompkins Kit will cure this sore point. Another method is to drill ( $\frac{5}{16}$ " ) and tap ( $\frac{3}{8}$ -20) the top cover directly above the center of the shaft and fit a bolt and lock nut. Fit plenty of shims so that the lever and cover do not contact one another, then take up the play with the adjustment bolt and lock its position. A little experimenting will give the right settings. This does not have the rolling element bearing of the Tompkins Kit, but it is markedly superior to the original.

Excessive wear in king pins, wheel bearings and the various linkages can also affect TC handling. The TC front end will deteriorate rapidly without proper lubrication. The king pins must be lubed every 500 miles, and the other points lightly touched every 1,000 miles. Pay particular attention to the right drag link end, as wear there is usually great, and only adequate lubrication can deter this. The track rod and drag link ends, when properly lubricated, will be like new after 50,000 miles. The ball at the drop arm (1004770)

takes a beating, as do its cups (35945 & 35946) so inspection and appropriate service about every 25,000 miles is necessary.

King pin bushings are NLS in England, and shortly will be elsewhere. However, this is a common size bushing, so it is likely to be available over the counter at industrial supply and ball bearing houses. Be certain to drill oil supply holes in these. The trust washer (ATB 4089) is fitted with .004 inches of end play, but by now all front axles and splines have been worn so that BMC-supplied washers are useless (too thin), so make them yourself, tailoring one for each side. Phosphor-bronze is a good material.

The front wheel bearings are single row thrust type, with an outer and inner per wheel, and are renowned for their weakness and short life. Tapered roller bearings eliminate these troubles completely, and there is no adverse effect. Cost is about the same and no machine work is needed.

First printed by TCMG in 1969

### 2002 Update

Part numbers listed are factory numbers. 1004770 converts to Moss 261-270. Moss does not sell the cups individually so you must buy a complete unit. Abingdon Spares does sell the cups separately. Thrust washer ATB 4089 is Moss 261-107

The steering box can be outfitted with roller bearings for the sector shaft instead of bushings. Then hard chrome the sector shaft.

Not mentioned are the spring mount bushings. If worn they will cause loose steering.

Although not original Datsun and VW steering boxes have recently been fitted to the TC. They have a stronger, more modern design.

Be sure to retain the spacers when converting to tapered roller bearings on the front axle.