SECTION G

THE PROPELLER SHAFT

Description	*Section*
Propeller shaft	G.1
Service tools	End of Section

GENERAL DESCRIPTION

The propeller shaft and universal joints are of unit construction, the latter being of the non-constant-velocity type.

The fore-and-aft movement of the rear axle and other components is allowed for by a sliding spline between the propeller shaft and gearbox unit. Each universal joint consists of a centre spider, four needle-roller bearings, and two yokes.

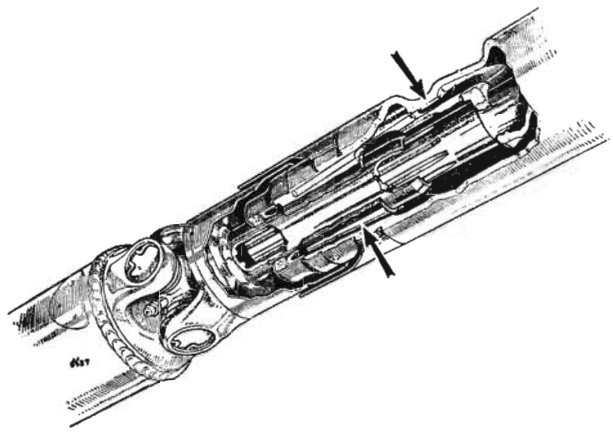


Fig. G.1

The propeller shaft sliding joint, showing the oilways which conduct oil from the gearbox

Section G.1

PROPELLER SHAFT

Removing

Disconnect the propeller shaft from the rear axle and remove it from the vehicle over the axle assembly and to the left-hand side of the differential casing.

Dismantling

Remove the enamel and any road dirt from the snap rings and bearing faces. Remove the snap rings. If the ring does not come out, tap the bearing face lightly to relieve the pressure against the ring. Hold the splined end of the shaft in one hand and tap the radius of the yoke with a lead or copper hammer; the bearing will then begin to emerge. If difficulty is experienced, use a small bar to tap the bearing from the inside, taking care not to damage the race itself. Turn the yoke over and extract the bearing with the fingers, being careful not to lose any of the needles. Repeat this operation for the other bearings.

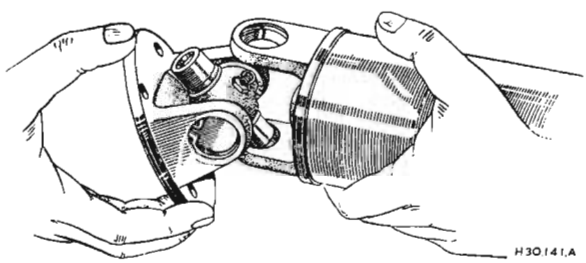


Fig. G.2

Separating the joint

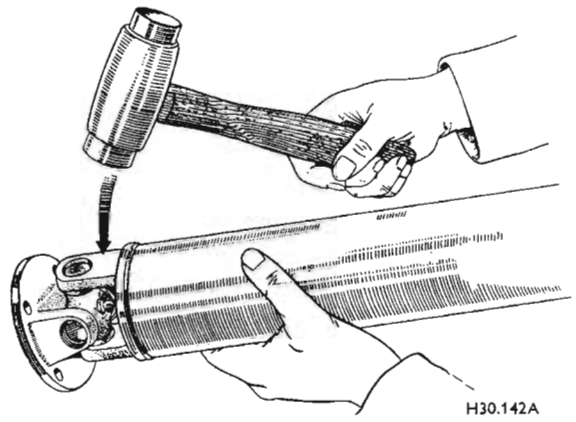


Fig. G.3

Tapping the joint to extract the bearing

Examination

When the propeller shaft has been in use for a long time the parts most likely to show signs of wear are the bearing races and the spider journals.

The complete assembly should be renewed if looseness or stress marks are observed, as no oversize journals or bearings are provided.

It is essential that bearing races should be a light drive fit in the yoke trunnions. Any ovality in the trunnion bearing holes indicates the necessity of fitting new yokes.

Reassembling

Ensure that the holes in the journals of the universal joints are cleaned out and filled with oil. Assemble the needle rollers in the bearing races and fill with oil. Should difficulty be experienced in assembly, smear the walls of the races with light grease to retain the needle rollers in place. It is advisable to renew, if necessary, the cork washer and the washer retainers on the spider journals. Continue assembling in the reverse of the dismantling procedure.

Refitting

When refitting the propeller shaft a second operator is required. With the aid of a screwdriver approximately 8 in. (20 cm.) long inserted through the front universal joint lubricating hole in the propeller shaft tunnel, lift the shaft and guide it onto the splines of the third motion shaft and into the gearbox rear extension.

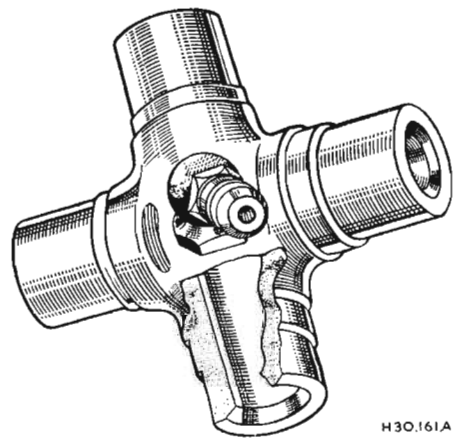


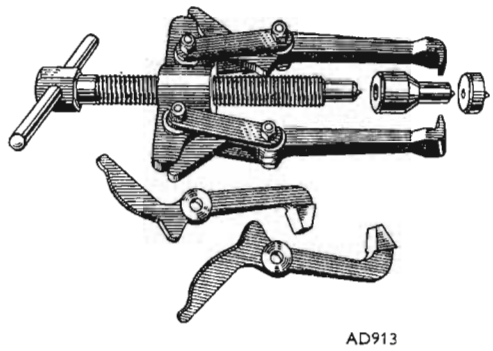
Fig. G.4

Showing the oil channels in the spider

SERVICE TOOLS

18G2. Crankshaft Gear, Pulley, and Propeller Shaft Flange Remover

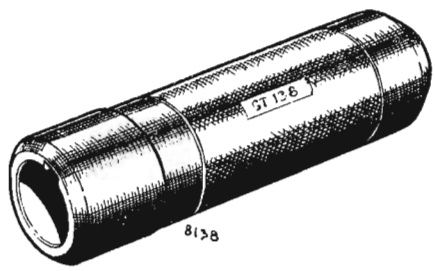
A multipurpose tool with alternative legs readily interchangeable: one pair has thin, flat ends designed for removing crankshaft gears and propeller shaft and bevel pinion flanges, the other pair has tapered ends suitable for fan pulley grooves other than the later-type models fitted with narrow-section fan belts.



18G2

18G138. Crankshaft Gear and Pulley Replacer

The bevel pinion flange can also be replaced with this tool on the M.G. Midget.



18G138