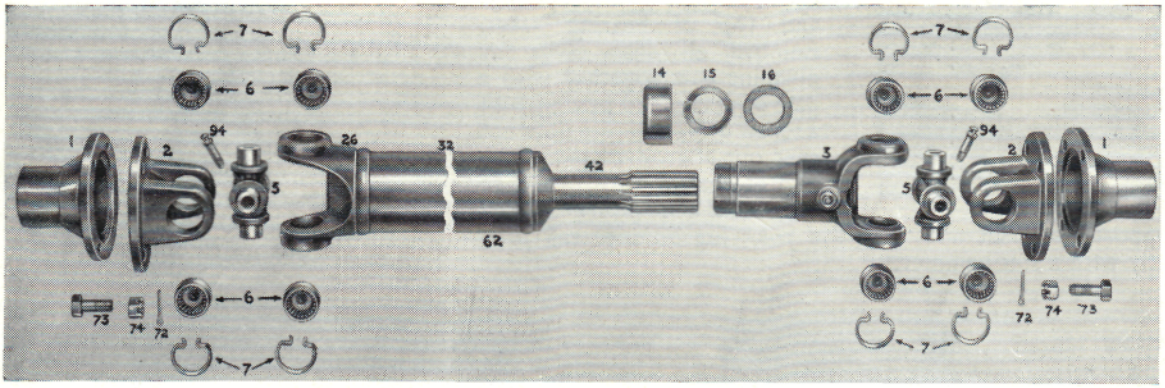
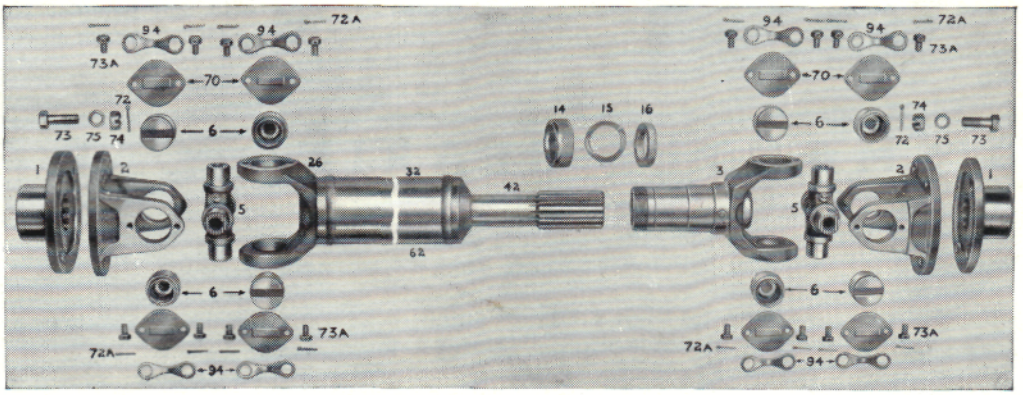
2 FLANGE YOKE CONSTRUCTION. SERIES K.0500, 1110, 1300, 1350, 1410‡ & 1510*



‡ Fitted with Square Flange Yokes.
* Previously as illustration below.

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SERIES 1510 Wide angle upwards LOCK STRAP CONSTRUCTION

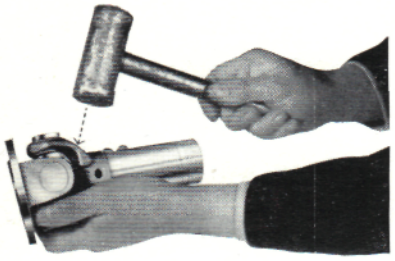


INDEX TO PARTS

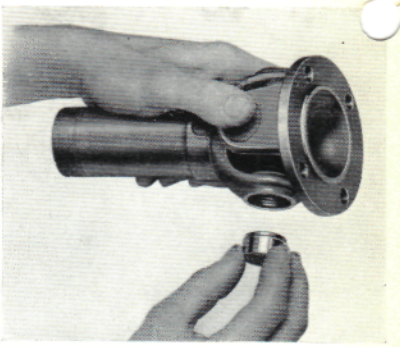
General Index No.	Part Name	General Index No.	Part Name
1	Companion Flange	42	Slip Stub Shaft
2	Flange Yoke	62	Tubular Shaft Assembly
3	Sleeve Yoke	70	Bearing Cap
5	Journal Assembly	72	Cotter Pin (for flange bolt)
6	Bearing Race Assembly	72A	Cotter Pin (for bearing cap)
7	Snap Ring	73	Flange Bolt
14	Dust Cap	73A	Bearing Cap Screw
15	Steel Washer	74	Nut
16	Cork Washer	75	Lock Washer
26	Stub Ball Yoke	94	Lock Strap
32	Tube	94	Lubricator Nipple

TO DISMANTLE SNAP RING TYPE

To remove sliding joint from splined shaft, unscrew the dust cap and pull back the cork washer.

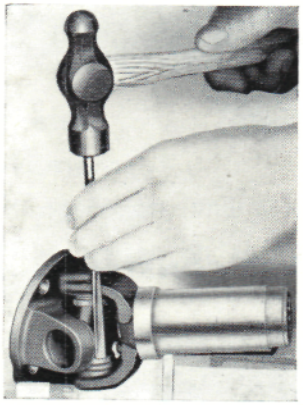


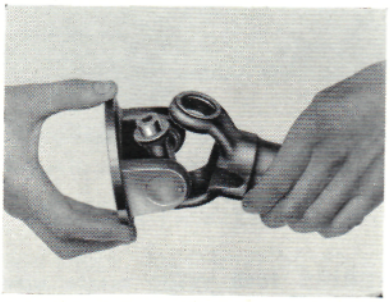
(1) Clean enamel from snap rings and top of bearing races. Remove all snap rings by pinching ears together with a pair of pliers, and prising with a screw driver. If ring does not snap out of groove readily, tap end of bearing race lightly to relieve the pressure against ring. Support the shaft and with the yoke lug on top, tap yoke arms lightly with a soft hammer.



(2) Top bearing should begin to emerge, turn shaft over and finally remove with fingers.

(3) If necessary tap bearing race from inside with small diameter bar, taking care not to damage bearing race.

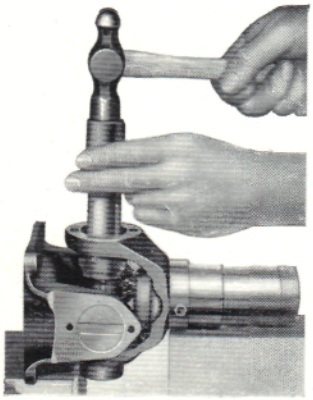




(4) Keep joint in this position so as to avoid dropping the needle rollers. Repeat this operation for opposite bearing. The splined sleeve yoke or flange yoke can now be removed.

Rest the two exposed trunnions on wood or lead blocks, then tap yoke with soft hammer to remove the two remaining bearing races. Wash all parts in petrol. For fixed end similar operations will apply. Complete shaft to be supported on wooden blocks.

TO DISMANTLE BEARING CAP TYPE

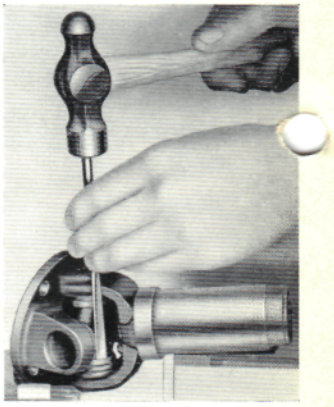


Having unscrewed completely the dust cap and pulled back the cork washer, pull splined sleeve yoke off shaft.

Remove as fitted, split pins, locking plates, lockstraps, bearing cap screws and bearing cap.

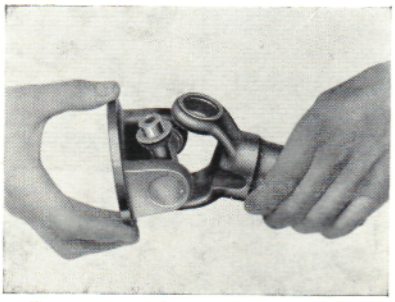
Use a soft nosed drift slightly smaller than the outside diameter of the bearing race, to drive out from the top the underneath bearing race. Keep joint in this position enabling the bearing race to be finally removed with the fingers. Repeat this operation for the opposite bearing using a soft nosed drift on the end of the spider journal, taking care to support the two halves of the joint.

If necessary, tap bearing race from inside with small diameter bar, taking care not to mark or damage race.



The splined sleeve yoke can now be removed.

Rest the two exposed trunnions on wood or lead blocks then tap yoke with soft hammer to remove remaining bearing races.



Wash all parts in petrol.

For fixed end similar operations will apply. Complete shaft to be supported on wooden blocks.

For Re-assembly see opposite page

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EXAMINE AND CHECK FOR WEAR

The parts most likely to show signs of wear after long usage are bearing races and spider journals. Should looseness in the fit of these parts, load markings or distortion be observed, they should be renewed complete as a unit, *i.e.* because worn needle bearings used with a new spider journal, or new needle bearings used with a worn spider journal, will wear more rapidly, making another replacement necessary in a short time.

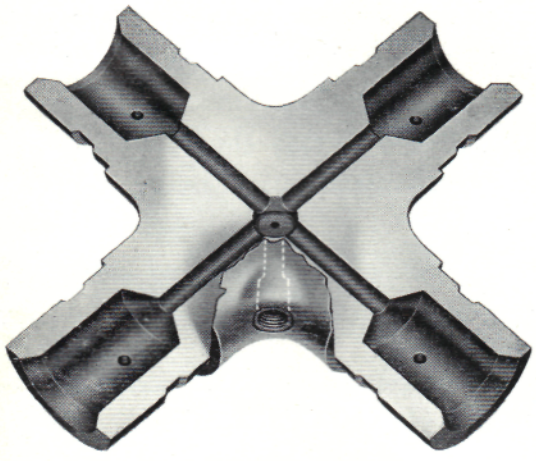
It is essential that bearing races are a light drive fit in the yoke trunnion.

In the rare event of wear having taken place in the yoke cross holes, the holes will most certainly be oval, and the yokes must be removed.

In the case of wear of the cross holes in a fixed yoke, which is part of the tubular shaft, yoke and tube or yoke and shaft assembly, only in cases of emergency should these be replaced in the field. They should normally be replaced by a complete assembly.

The other parts likely to show signs of wear are the splined sleeve yoke, or splined stub. A total of .004" circumferential movement, measured on the outside diameter of the spline, should not be exceeded. Should the splined stub shaft require renewing, this must be dealt with in the same way as the fixed yoke, *i.e.* a replacement tubular shaft assembly fitted.

RE-ASSEMBLY



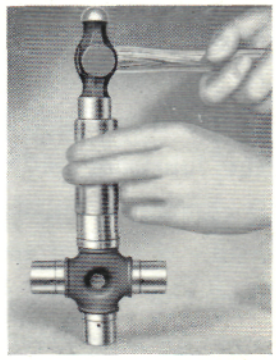
Insert Journal in yoke holes and using a soft round drift with flat face about $\frac{1}{32}$" smaller in diameter than the hole in the yoke, tap the bearing into position. Repeat this operation for the other three bearings. Replace snap rings or bearing caps, bearing cap screws, locking plate and split pins as fitted. With the bearing cap type make sure that bearing races are replaced with the slot in the top of the race in line with the bearing cap screw holes, so that they are prevented from rotating by the key in the bearing cap. If joint appears to bind tap lightly with a wooden mallet, which will relieve any pressure of the bearings on the end of the journal. When replacing a sliding joint on shaft, be sure that trunnions in sliding and fixed yoke are in line.

This can be checked by observing that arrows marked on splined sleeve yoke and splined stub shaft are in line.

See that all drilled holes in journals are cleaned out and filled with grease.

With the rollers in position fill the races about one-third full with grease (see *back page*).

Should any difficulty be encountered when assembling rollers in housing smear the wall of the race with vaseline. It is advisable to install new gaskets and gasket retainers on the journal or spider assembly. Using the tubular drift as shown at illustration on right. The journal shoulders should be shellaced prior to fitting to ensure a good lubricant seal. It is also useful to have snap rings available as replacements in the event of damaging a ring whilst dis-assembling the joint.



TO REPLACE COMPLETE ASSEMBLY

(*a*) Wipe the companion flange and flange yoke faces clean to ensure the pilot flange registering evenly all round.

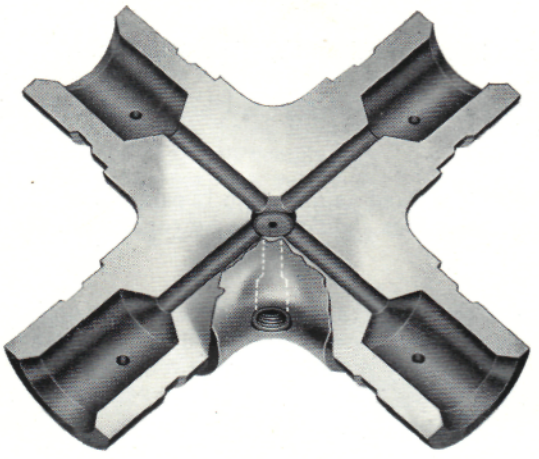
(*b*) Insert bolts at rear end and see that all nuts are evenly tightened all round and securely locked.

Dust cap to be screwed up by hand as far as possible.

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Service Instructions
LUBRICATION

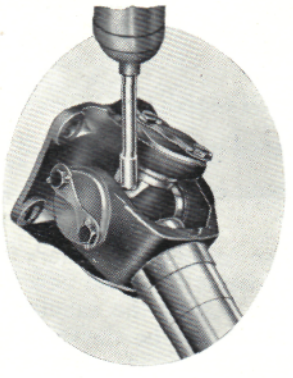
Prior to 1939 all small car joints had no lubricator fitted to the spider for lubrication, the spider being packed with lubricant on assembly and this lasted till general overhaul.



Later it became necessary to make lubrication a simpler operation, and a lubricator was added to the spider on the small car series of propeller shafts, and since 1945 the majority of these joints have been supplied with a lubricator.

Either type requires lubrication—those without external lubricator should be re-packed with grease at general overhaul, and those fitted with external lubricator should have attention during ordinary lubricating periods.

On the larger series of joints a lubricator is standard fitment to the centre spider for lubrication of the bearings.



A relief valve is provided in larger sizes to prevent damage to the seals when extreme pressure is used to force in the lubricant and to show when the joint is completely filled. Charge fully after overhaul. If a large amount of lubricant exudes from the seals the joint should be dismantled and new seals fitted.

On all shafts where a slip joint is used a lubricator is fitted to enable the spline to be lubricated and this should be done every 2,000–3,000 miles or every time the chassis is lubricated.

On all sizes, for necessary replacements, we supply "Unit Packages" consisting of a spider cross piece, four bearing races and four snap rings or lock straps, etc. complete and while these are "greasy" as received from us they should be packed with lubricant on assembly.

A Lithium Base Grease should be used for lubrication of the Needle Bearings.

As a guide for type, the following are suitable and all are equally recommended :

ESSO MULTIPURPOSE GREASE, H. and T.S.D. 1110 ; GULFSIL GREASE G.78-2 and G.64A-2 ; SUPER LITHIUM 'FILTRATE' and E.P.3 ; ALMARINE H.S. GREASE ; 'MAXIMA' LITHIUM GREASE ; MOBILGREASE M.P. and LARITAL No. 2 ; OILITH 3 and OILINE LITHIUM L.24 ; FINA MARSON H.T.L.2 and E.P.L.2 ; MARFAK MULTI-PURPOSE 2 and MULTI-FAK E.P.2 ; SHELL RETINAX A and ALVANIA GREASE 2 and 3 ; AMBROLINE L.H.T. and TERNOLINE 720 ; F.V. 73 E.P. and F.V. 72 VALVOLINE LITHIUM GREASE No.2 ; EVCO B.B. No. 3 GREASE and M.L.1 GREASE; CASTROLEASE L.M. and SPHEEROL A.P.T.2.

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