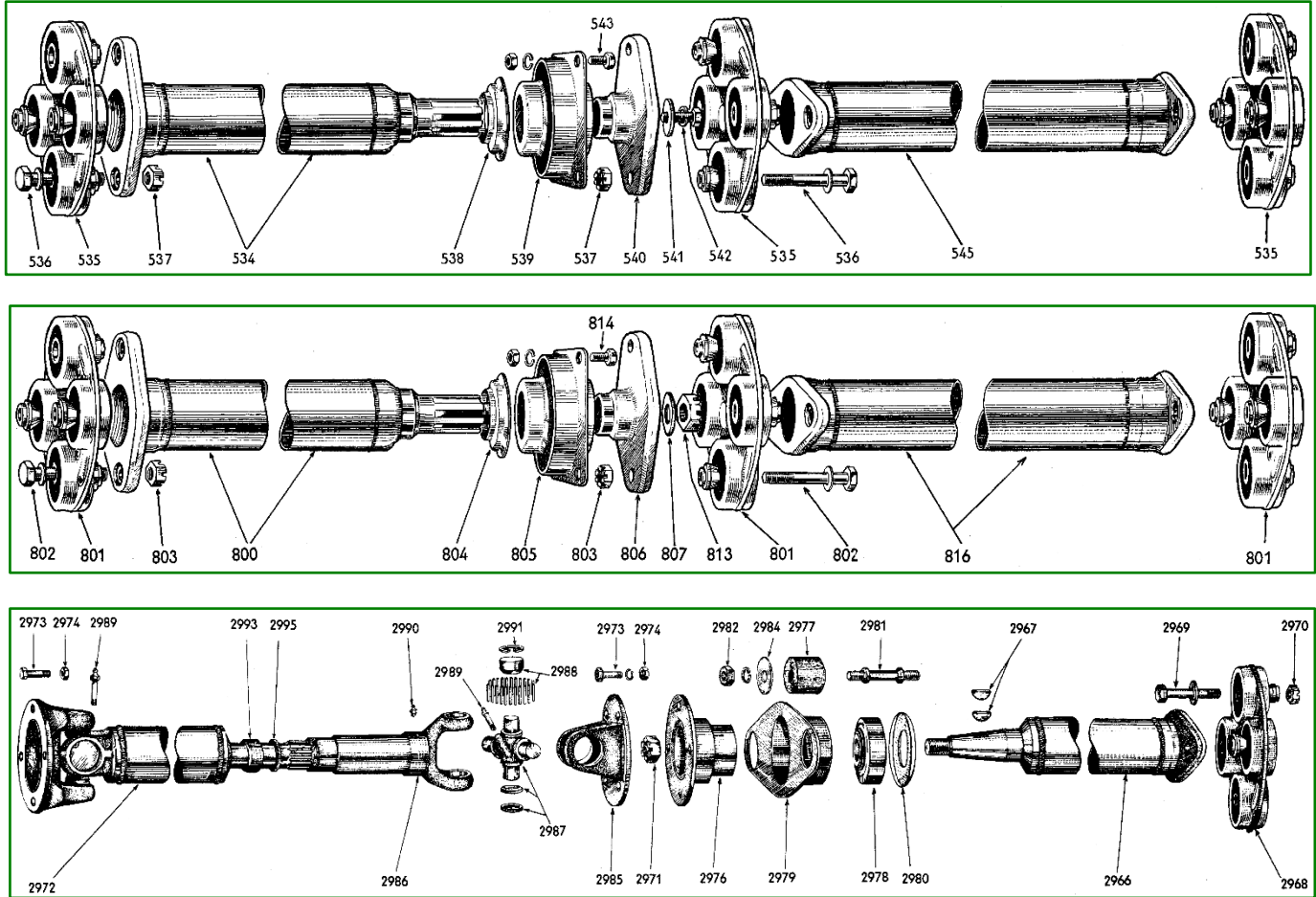


TECHNICAL NOTES SERIES

JOWETT JAVELIN – PA, PB, PC, PD & PE JOWETT JUPITER – SA, SC



Top: Jowett Javelin PA and PB Models; Middle: Jowett Javelin PC, PD and PE Models; Lower, Jowett Jupiter SA and SC Models. Note that the Jupiter mid-ship bearing assembly is different. However, that version can also be converted.

PART XXVI – MIDSHIP BEARING CONVERSION

THIS DOCUMENT HAS BEEN PREPARED SOLELY FOR PROVIDING TECHNICAL ADVICE

The Jowett Car Club of Australia Incorporated is not responsible for any inaccuracies or changes that may occur within this document. Every effort has been made to ensure accuracy. It is not a Jowett Car Club publication and, therefore, the Club has no control over its contents. These Technical Notes have been compiled by using the information that was available, which was deemed accurate at the time.

Compiled by Mike Allfrey – January, 2007.

Revised – March, 2024.

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WARNING!
ASBESTOS COULD BE PRESENT IN
GASKETS AND FIBRE WASHERS



INTRODUCTORY COMMENT FOR TECHNICAL NOTES

These introductory notes should be read prior to reading Part XXVI of the Technical Notes Series.

The Jowett Technical Notes Series have been an ongoing activity for several years. That means that some techniques and specifications may have been superseded in later notes on the same, or associated topics in the series. Also be aware that some topics and recommendations may be specific to certain Engine Serial Number ranges. It appears that, in Australia, the various State Main Agents did not carry out Service Bulletin information during Jowett active times. A set of known Service Bulletins is in Part III.

Some of the notes are restorations of what was written by members of the Jowett Car Club (UK), the Jowett Car Club (NZ) and by members of the JCCA.

Over the years of involvement with matters Jowett, and with the dawning of the personal computer age, a personal decision was made to help members of the Jowett Car Club of Australia Inc. with technical information. Included with the Technical Notes are 'restored' versions of the Javelin and Jupiter Maintenance Manuals and the associated Spare Parts Catalogues. Future generations will prefer to flick through images on their personal device screens, rather than leafing through pages in a tattered and oil stained book to access information.

The term 'restored' has been used because it soon became apparent that, as with our efforts in restoring Jowett vehicles, we desire excellent quality of workmanship in the reproduction of Jowett related documentation. Not for us the crude, and crooked, photocopies that have been issued over the years. These have, even though accurate at their time, become partly out of date.

Hence the decision to 'restore' the publications and documents that have come to hand.

It should be noted that the Javelin and Jupiter Spare Parts Catalogue is a combination of all the catalogues that were to hand (from 1948 to 1953).

The Maintenance Manuals were originally written on the assumption that they would be used by skilled motor mechanics who had attended service training courses conducted by Jowett Cars Limited and after works closure, were made available for owners who had reasonable mechanical knowledge of motor car maintenance and overhaul.

Included with the Technical Notes Series is a Lucas Overseas Correspondence Course, which can be of great assistance when trouble-shooting electrical problems related to your Jowett, or any other British vehicle of the same period.

Please be aware that this is an ongoing project

Mike Allfrey – February, 2024

Introduction – Midship Bearing Conversion Kit

A number of years ago the genuine midship bearing assembly (AS50918) became impossible to obtain. The Jowett Car Club of Australia designed and developed a suitable conversion which is easily fitted by the car's owner. The conversion kit consists of the following individual components:

Part Number	Description	Qty In Kit
JK-50919	Aluminium Housing	1
JK-50918	Bearing (RLS-8)	1
JK-50924	Circlip (1300-57)	2
JK-50923	Seal (P3196)	2
JK-50917	Rubber Mounting	4
JK-50920	Nuts (8 mm)	8

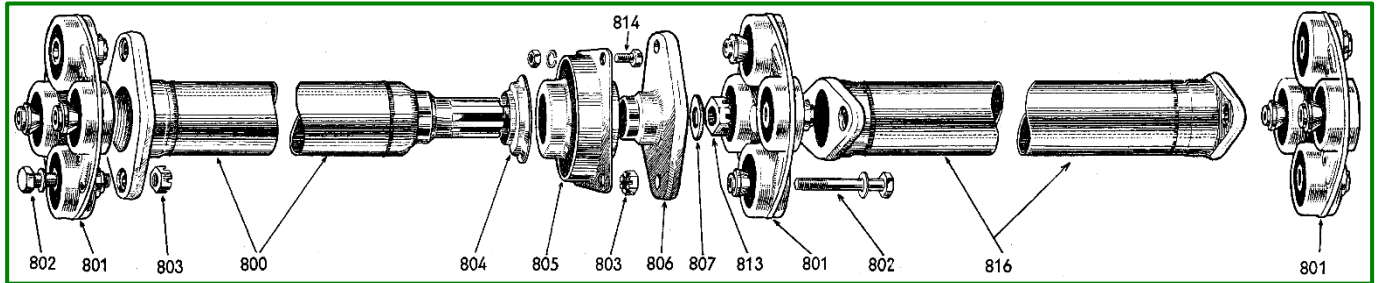
Note: It is not known if the Jowett Car Club of Australia Inc. is still using the part numbers that are prefixed with 'JK' – please check with the Spare Parts Officer before placing an order.

Kit Installation (Javelin)

In the illustration below, the rear of the vehicle is at the right hand side (i.e. Item 816 is the rear propeller shaft).

Note: Item and part numbers are shown in brackets, e.g. (801-50916) after the description.

1. Park the car on a firm level surface.
 2. Jack up the car and place four suitable chassis stands to provide a safe working height. If only two chassis stands are used, securely chock the front wheels and jack up the rear of the car so that the rear wheels are well clear of the floor.
- DANGER!** Do not work under vehicle supported only with a jack of any type.
3. Release the handbrake, have gear shift in neutral.
 4. Mark each component of the complete propeller shaft, with a white permanent marker pen, so that shaft can be reassembled in correct alignment to maintain balance of the assembly.



Above: Figure 1. Jowett Javelin (later version) midship bearing assembly.

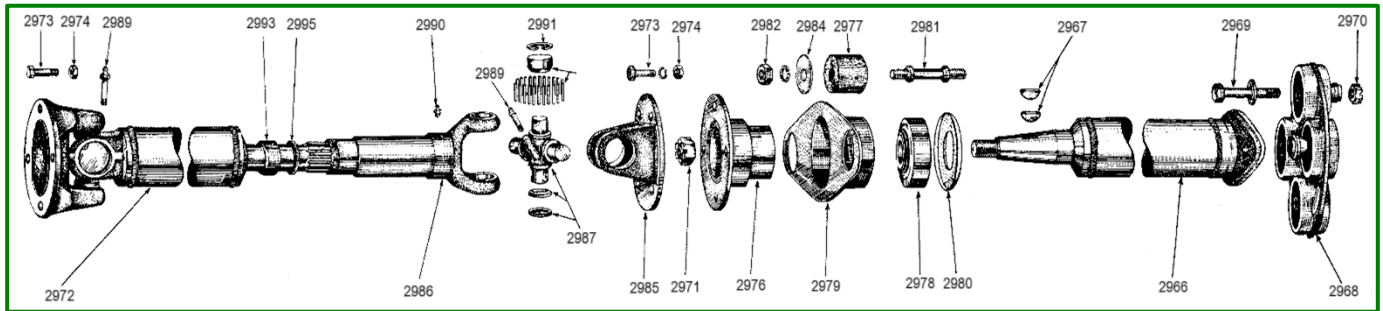
5. Remove the centre Layrub coupling (801-50916). Place a support stand under the rear section of the propeller shaft (816-54106) to prevent damage to the rear Layrub coupling. Gently tie the shaft to one side for better access.
6. Remove the four bolts (814-FS105/4) that secure the midship bearing to the cross-chassis support channel (52324, not shown in parts catalogue).
7. Detach the front Layrub coupling at the gearbox companion flange (not illustrated here, 50120).
8. Rotate the front shaft (800-50324) until the midship companion flange (806-50927) lies in a horizontal plane and remove the shaft by drawing the flange through the provided opening in the midship bearing support (52324).
9. Remove the split pin from the slotted nut (813-FN410/K), or setscrew (549-FS106/7) in early cars, and pull the companion flange (806-50927) from the propeller shaft spline. Do not forcefully clamp the shaft in a vice.
10. Using a press, or a suitable puller, withdraw the midship bearing (805-AS50918) from the propeller shaft.
11. **IMPORTANT!** Remove the dust slinger (804-50917) from the propeller shaft because it is not required with the new bearing.
12. Install one circlip (JK-50924) into a groove in the bearing housing (JK-50919).
Note: The holes provided in the circlip, for the pliers, are tapered. Be sure to install the circlip with the plier's prongs entering the smaller diameter of the holes, and, in this manner, install both circlips from each end of the bearing housing (JK-50919).
13. Using a sharp instrument, flick the protection seals out of the bearing (JK-50918) front and rear faces.
14. Press the bearing (JK-50918) into the housing against the installed circlip (JK-50924) and install the second circlip to secure the bearing in the centre of the housing.
15. Press into position the two seals (JK-50923), with their 'open' sides towards the bearing.
16. Lightly pack the new bearing with multi-purpose grease, do not fill to capacity.
17. Apply a smear of multi-purpose grease to the seal lips
18. Press the assembled bearing housing on to the shaft, with the mounting flange facing the front end of the propeller shaft.
19. Thoroughly clean the companion flange, make sure that the grease fitting is in good condition.
20. Install the companion flange, taking note of the marks made at Step 4. Tighten the slotted nut to 60 lb. ft. and, if necessary, tighten further to install a new split pin. Or on early cars, tighten the setscrew to 28 lb. ft. against a new spring washer.

21. Replacement of the shaft assembly into the car is the reverse of the removal procedure given above.
NOTE: The four rubber mounts (JK-50917) are fitted between the bearing housing flange and the front face of the cross-chassis midship bearing support (52324). Secure the $\frac{5}{16}$ -in. UNF nuts with spring washers.
22. At 5,000 mile intervals, apply two shots of multi-purpose grease. Do not over grease this bearing assembly.

Kit Installation (Jupiter)

In the illustration below, the rear of the vehicle is at the left hand side (i.e. Item 2972 is the rear propeller shaft).

1. Park the car on a firm level surface.
2. Jack up the car and place four suitable chassis stands to provide a safe working height. If only two chassis stands are used, securely chock the front wheels and jack up the rear of the car so that the rear wheels are off the floor.
DANGER! Do not work under vehicle supported only by a jack of any type.
3. Release the handbrake, have gear shift in neutral.
4. Mark each component of the propeller shaft, with a white marker pen, so that the shaft can be reassembled in correct alignment to maintain balance of the assembly.

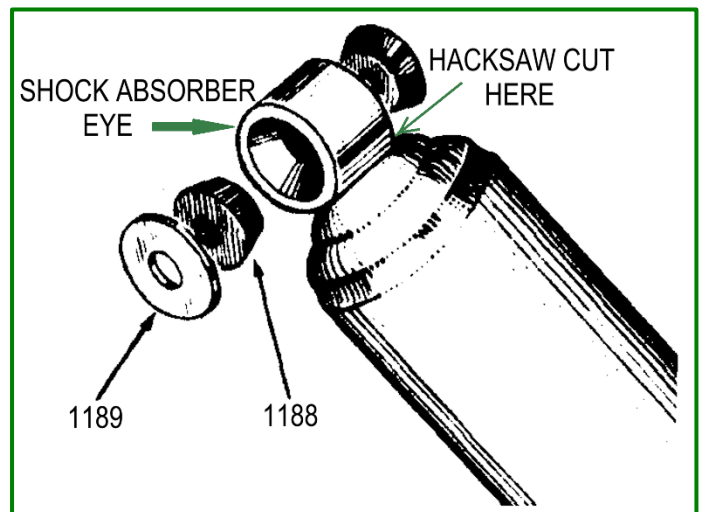


Above: Figure 2. Jowett Jupiter midship bearing assembly.

5. Referring to Figure 2, remove the centre universal joint coupling flange (2985-K1-2-39R). Place a support stand under the rear section of the propeller shaft (2972-52999) to prevent damage to the rear universal joint coupling, so that it is held to one side.
6. Remove the front shaft (2966-52991) from the front Layrub coupling.
7. Remove the split pin from the nut (2971-FN410K) and unscrew the nut. Use a suitable puller to pull the coupling flange (2976-K1-1GB1164) from the taper on the front shaft. Apply a reasonable amount of force on the puller and then, with a sharp tap on the side of the companion flange, it should release easily. Watch out for the two Woodruff keys (2967-BS90). Unscrew the two front nuts (2982-6-74-GB11). The bearing and housing assembly (2979-94-GB2286) can then be pulled from the shaft.
8. From here onwards, to Step 12, the information is from memory. The club supplied bearing housing was modified by cutting away two diametrically opposite mount lugs. The aluminium housing was filed to smooth out the cut areas so that the flange end resembled an exhaust flange.

Right: Figure 3. Scrap shock absorber eye.

9. A flat plate was cut to resemble the original (2979-94-GC2286) but differed in that the centre hole provided major diameter front shaft (2966-52991) clearance and two $\frac{5}{16}$ -in. diameter holes to match those in the



new midship bearing housing (JK-50919). The holes at the outer ends were drilled, at 1¹⁵/₃₂-in. diameter, to accept two scrap shock absorber eyes, see *Figure 3*, that had been cut off a pair of ex-MG Magnette VB rear shock absorbers. The eyes were dressed with a grinder and file.

10. The fettled shock absorber eyes were welded into the plate, I think located centrally.
 11. The mounting rubbers used were Jowett rear shock absorber cones (1188-50469), employing two per mount eye.
 12. Suitable bolts and spacers were developed to replace the insulator studs (2981-94-GB2393). The spacers were machined to a length that just nipped the isolating rubbers, to allow a degree of free movement. The new mount assembly was painted.
 13. **IMPORTANT!** Remove the dust slinger (2980-94-GB2146) from the propeller shaft because it is not required with the new bearing.
 14. Install one circlip (JK-50924) into a groove in the bearing housing (JK-50919).
Note: The holes provided in the circlip, for the pliers, are tapered. Be sure to install the circlip with the plier's prongs entering the smaller diameter of the holes, and, in this manner, install both circlips from each end of the bearing housing (JK-50919).
 15. Using a sharp instrument, flick the protection seals out of the bearing (JK-50918) front and rear faces.
 16. Press the bearing (JK-50918) into the housing against the installed circlip (JK-50924) and install the second circlip to secure the bearing in the centre of the housing.
 17. Press into position the two double lip seals (JK-50923), with their 'open' sides towards the bearing.
 18. Lightly pack the new bearing with multi-purpose grease, do not fill to capacity.
 19. Apply a smear of multi-purpose grease to the seal lips
 20. Press the assembled bearing housing on to the shaft, with the mounting flange facing the rear end of the propeller shaft.
 21. Thoroughly clean the companion flange, make sure that the grease fitting is in good condition.
 22. Install the companion flange, taking note of the marks made at Step 4. Tighten the slotted nut to 60 lb. ft. and, if necessary, tighten further to install a new split pin.
 23. Replacement of the shaft assembly into the car is the reverse of the removal procedure given above.
NOTE: The four rubber mounts (JK-50917) are not used in this application.
 24. At 5,000 mile intervals, apply two shots of multi-purpose grease. Do not over grease this bearing assembly.
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Testing The Kit's Installation

Provided there was no vibration in the drive line prior to installing the Midship Bearing Kit, and the drive-line components were marked as described in Step 4 of each instructions and the drive-line has been set up accordingly, then the propeller shaft assembly should remain vibration free.

Should vibration occur, then action will need to be taken to resolve the out of balance situation.

From The Maintenance Manual:

The following possible causes of transmission vibration may be encountered during the life of a car as a result of wear or damage.

The propeller shaft midship bearing may be dry or worn, or the rubber housing supporting the bearing may be damaged or distorted.

It is possible for the midship bearing support cross member to be fitted, or forced off centre, allowing metal to metal contact with the frame-side. Another possible cause of vibration is wear or damage to the rubber and fabric strips which retain the cross member to the frame-side.

The slotted nut or setscrew securing the companion flange to the rear end of the front propeller shaft must be fully tightened.

Vibration can be caused by a loose Universal Joint bolt, or by wear on the Universal Joint rubbers. When examining these rubbers special attention should be given to any cracks appearing round the coupling bolt.

The possibility of damage to one of the propeller shafts, causing it to run out of line must not be overlooked, and it should also be noted that an arrow showing the direction of rotation is stamped on the forward end of the rear shaft.

As a general guide it can be taken that vibration at 2,000 – 2,500 propeller shaft r.p.m. is likely to be traced to the front end of the transmission, while a 4,000 - 4,500 r.p.m. vibration usually originates from the centre assembly, or the rear propeller shaft.

If, after checking the above mentioned items and they are found to be correct, proceed as follows. Raise both rear wheels off the floor, obtain a No. 2 Jubilee clip and fit round the front propeller shaft, immediately behind the front Layrub coupling; this will have the effect of acting as a balance weight on the propeller shaft. Mark the position of the Jubilee clip, adjusting screw on the propeller shaft and carry out a series of tests by running the vehicle with both rear wheels off the floor. After each test turn the Jubilee clip through approximately 15° until the position is obtained where the minimum amount of vibration is recorded.

Note this position and move the clip approximately 1½-in. (38.1 mm) towards the rear of the Propeller shaft, checking the vibration at each position. By this method the position will be found where the vibration is eliminated. In the event of the vibration still being experienced, remove the Jubilee clip and carry out the same testing procedure on the rear propeller shaft.
