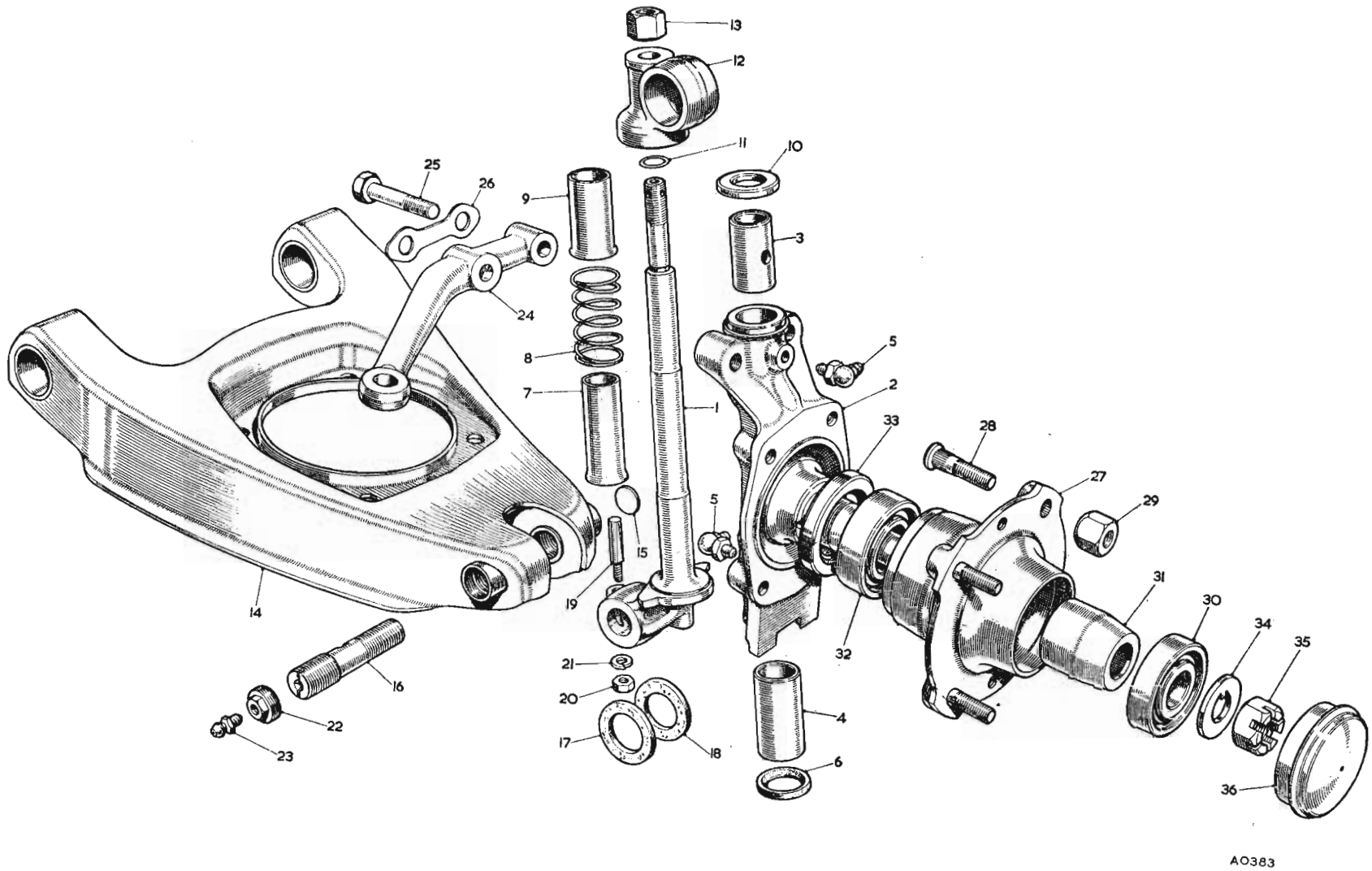
# SECTION K

## THE FRONT SUSPENSION


| | *Section* |
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| General description | |
| Castor, camber, and swivel pin angles .. .. .. .. .. .. .. .. | K.1 |
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# THE FRONT SUSPENSION COMPONENTS



## KEY TO THE FRONT SUSPENSION COMPONENTS

| *No.* | *Description* |
|---|---|
| 1. | Swivel pin. |
| 2. | Swivel axle assembly. |
| 3. | Bush (top). |
| 4. | Bush (bottom). |
| 5. | Lubricator for swivel axle bush. |
| 6. | Sealing ring. |
| 7. | Dust excluder tube (bottom). |
| 8. | Spring. |
| 9. | Dust excluder tube (top). |
| 10. | Thrust washer. |
| 11. | Adjustment washers. |
| 12. | Suspension link trunnion. |
| 13. | Nut. |
| 14. | Lower link. |
| 15. | Blanking plug. |
| 16. | Fulcrum pin. |
| 17. | Ring (large). |
| 18. | Ring (small). |
| 19. | Cotter pin. |
| 20. | Nut. |
| 21. | Spring washer. |
| 22. | Screwed plug. |
| 23. | Lubricator. |
| 24. | Steering lever. |
| 25. | Swivel axle screw. |
| 26. | Lock washer. |
| 27. | Hub assembly |
| 28. | Wheel stud. |
| 29. | Nut. |
| 30. | Outer hub bearing. |
| 31. | Distance piece. |
| 32. | Inner hub bearing. |
| 33. | Oil seal. |
| 34. | Bearing retaining washer. |
| 35. | Swivel axle nut. |
| 36. | Oil-retaining cap. |

### GENERAL DESCRIPTION

The independent suspension is of the 'wishbone' type. It consists of a single-armed, double-acting hydraulic damper bolted to its support bracket at its upper end. The single arm is towards the front of the car and is secured to the swivel pin trunnion link by a fulcrum pin

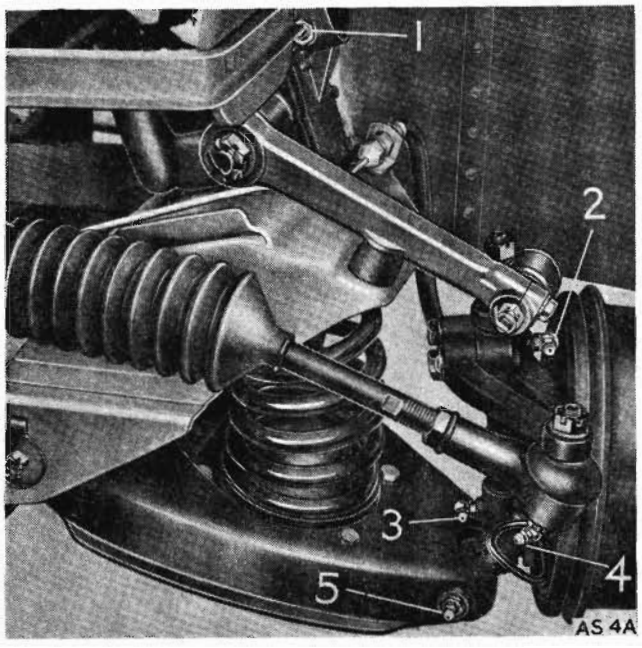



*Fig. K.1*

*Front suspension lubrication*

1. Damper filler plug.
2. Swivel axle pin top bush.
3. Swivel axle pin bottom bush.
4. Tie-rod end.
5. Lower link outer bushes.

and Metalastik rubber bushes. The bottom end of the swivel pin is secured to the outer end of the lower links by a fulcrum which is cottered in position.

The inner arms of the lower links are fixed to brackets by Metalastik rubber bushes and fulcrum pins.

A rebound buffer is fitted to the bottom of the coil spring top bracket and a smaller rebound buffer under the damper arm.

A spring seat is secured to the lower links by bolts, flat washers, and self-locking nuts.

## Section K.1

### CASTOR, CAMBER, AND SWIVEL PIN ANGLES

The castor and camber angles and the swivel pin inclination are determined by machining and assembly of the components during manufacture, and are not adjustable.

Should the car suffer damage to the suspension, the angles (as given in **'GENERAL DATA'**) must be verified with a camber, castor, and swivel pin inclination gauge and new parts fitted as found necessary.

## Section K.2

### FRONT SUSPENSION ASSEMBLY

**Removing**

Raise the car and remove the wheel and coil spring (see Section K.3). Disconnect the steering side-tube from the steering-arm by withdrawing the split pin and removing the castellated nut. If the ball pin shank is tight in the steering-arm release the nut, but do not remove. Sharply tap the steering-arm at the side-tube end, when it will be found to come away quite easily on removing the nut. Disconnect the flexible hose. Withdraw the split pins, remove the nuts, tap the fulcrum pins through the lower link inner ends, and take away the two rubber bushes at the outer ends of the lower link inner brackets. The lower end of the suspension is now free.

At the upper end remove the clamp bolt and shakeproof washer in the hydraulic damper arm, withdraw the split pin, and release the castellated nut on the fulcrum pin. Tap off the fulcrum pin and retrieve the rubber bushes. The suspension unit is now free and can be lifted away.

**Dismantling**

Secure the suspension by clamping the web of the lower links between a dummy baseplate at the bottom and a solid metal disc and bolt at the top. Remove the drum securing screw and withdraw the brake-drum. Remove the hub as described in Section K.4.

Detach the backplate by removing its securing bolts and washers.

Tap back the lock washers and remove the set screws to release the steering lever.

Extract the split pin and remove the castellated nut at the top of the swivel axle pin. Remove the trunnion and preserve the shims for use during assembly. Lift off the phosphor-bronze Oilite thrust washer and the swivel axle along with the dust excluder tubes and their spring, and the bevelled cork sealing ring at the bottom of the swivel axle pin.

Release the lower trunnion swivel pin cotter nut and knock the cotter loose. Remove the nut, spring washer, and cotter. Screw out the swivel pin lower trunnion oil nipple and its housing, which also serves to plug the lower trunnion.

Unscrew the swivel pin lower trunnion fulcrum pin, remove the swivel pin and cork sealing washers, and knock out the welch plug.

**Reassembling**

Reverse the sequence of operations detailed for dismantling, but note the following point. Place the phosphor-bronze thrust washer over the swivel axle. Put a ·008 in. shim (·008 in. [·2032 mm.] and ·012 in. [·3048 mm.] shims available) onto the swivel pin, followed by the trunnion with its bore towards the hub when it is fitted. Tighten the castellated nut. Resistance should be just felt when the swivel axle is moved from lock to lock and there should be no vertical movement of the swivel axle. Increase the thickness of the shims to loosen and decrease to tighten as required.

**Refitting**

Wet the spring rebound bumper and push it into its hole in the bottom of the hydraulic damper mounting plate, and the hydraulic damper arm rebound buffer in the top. Wet two of the large rubber bearings and position one from inside each lower link. Lift the two arms into position, insert the fulcrum pin from the inner end so that its washer registers, position the two remaining rubber bearings from outside the lower links, locate the special washer, tighten the castellated nuts, and insert and turn back the split pins.

With the block still under the hydraulic damper arm proceed to connect the top end.

Insert the two small rubber bearings in the upper trunnion eye, tap the fulcrum pin from the rear to go through the bearings and damper arm, and see that the notch in the fulcrum pin is to the top. Tighten the castelated nut till the notch is in line with the clamp bolt hole in the damper arm, split-pin the castellated nut, and tighten the clamp bolt onto its shakeproof washer.

Refit the coil spring (Section K.3). Replace the wheel and lower the car. The block can now be removed from under the hydraulic damper arm.

## Section K.3

### COIL SPRINGS

**Removing**

Place a hardwood or metal block 1·125 in. (28·57 mm.) long under the hydraulic damper arm to keep the arm off its rubber rebound buffer when the car is in a raised position. With the vehicle raised to a workable height remove two diametrically opposite spring seat securing nuts and bolts. Using Service tool 18G153 (or two slave bolts) compress the spring. Remove the remaining nuts and bolts from the spring seat and release the centre screw of the Service tool to allow the spring to expand.

Check the spring against makers' specifications. If it has sustained damage in any way it should be renewed.

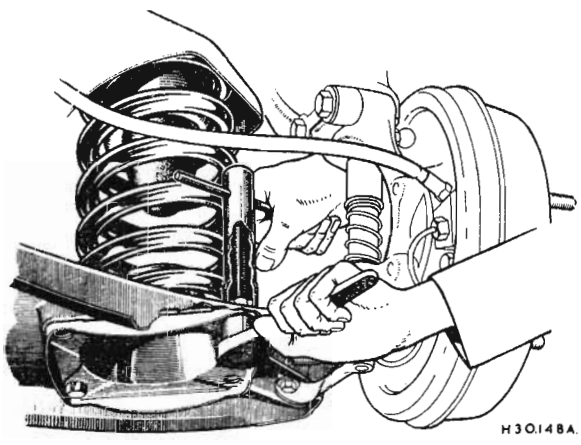



*Fig. K.2*

*Using a pair of slave bolts to remove or replace a coil spring*

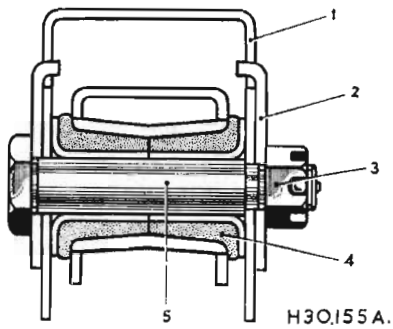



*Fig. K.3*

*Lower link mounting (inner end)*

1. Mounting bracket.
2. Special washer.
3. Castellated nut.
4. Rubber bush (bearing).
5. Fulcrum pin.

**Refitting**

Reverse the removal procedure when refitting, with attention being given to inserting two guide rods in diametrically opposite holes to bring the spring seat and wishbone lower links into line when in the process of compressing the spring.

## Section K.4

### FRONT HUBS

**Removing**

Raise the car and remove the wheel. Remove the brake-drum securing screw from the countersunk hole and withdraw the drum.

Remove the hub cap by levering with a screwdriver. Wipe away any excess grease and extract the split pin. Remove the slotted nut and washer. Withdraw the complete hub assembly off the swivel axle, using Service tool 18G146.

Should the inner bearing remain on the swivel axle, it should be carefully extracted, using Service tools 18G8 and 18G8P. It is usually only the inner race of the inner bearing that is left behind, and removal will be found easier if the backplate is first removed.

With the hub removed, the outer bearing and collapsible distance piece can be tapped out, using Service tool 18G260 together with 18G260A. Similarly, the inner bearing and oil seal can be detached by drifting them off from the other side of the hub, using Service tools 18G260 and 18G260B.

**Refitting**

Reverse the removal procedure, with special attention being given to ensure that the inner and outer bearings are drifted on with their sides marked 'Thrust' towards the centre of the hub, using Service tool 18G134 together with adaptors 18G134B and 18G134C.

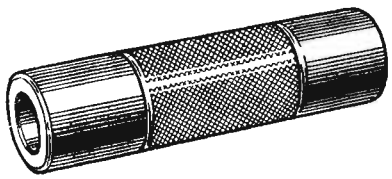
Ensure also that the oil seal is pressed in with its lipped end towards the inner bearing.

Using Service tool 18G7, refit the hub assembly on the swivel axle.

Having ensured that the pegged washer on the swivel axle locates in the slot, fit the slotted nut to a torque wrench reading of 50 to 55 lb. ft. (6·91 to 7·60 kg. m.).

## SERVICE TOOLS

**18G7. Front Hub Outer Bearing Remover**



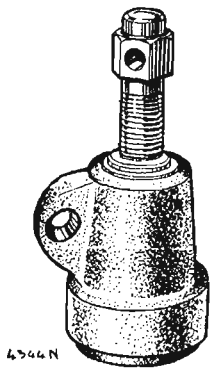
43'6F

18G7

**18G8. Hub Assembly Remover (basic tool)**

Internally threaded for attachment to the hub and the end of the centre screw provided with a hardened-steel ball to reduce friction when engaging the stub axle. Provision is also made for the use of a tommy-bar to prevent the tool turning in operation.

Used on the M.G. Midget only in conjunction with adaptor 18G8P.

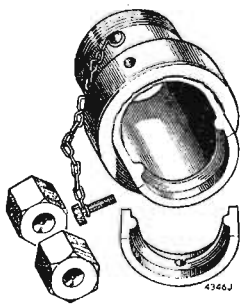


4344N

18G8

**18G8P. Front Hub Bearing Inner Race Remover Adaptor**

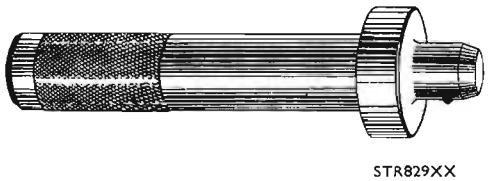
Used with hub remover 18G8; a peg and chain is included to retain the locking ring and half-ring when not in use.



4346J

18G8P

**18G134. Bearing and Oil Seal Remover and Replacer (basic tool)**



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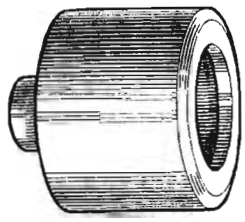
18G134

**18G134B. Front Hub Outer Bearing Replacer Adaptor**

For use with 18G134.

**18G134C. Front Hub Inner Bearing Replacer Adaptor**

For use with 18G134.



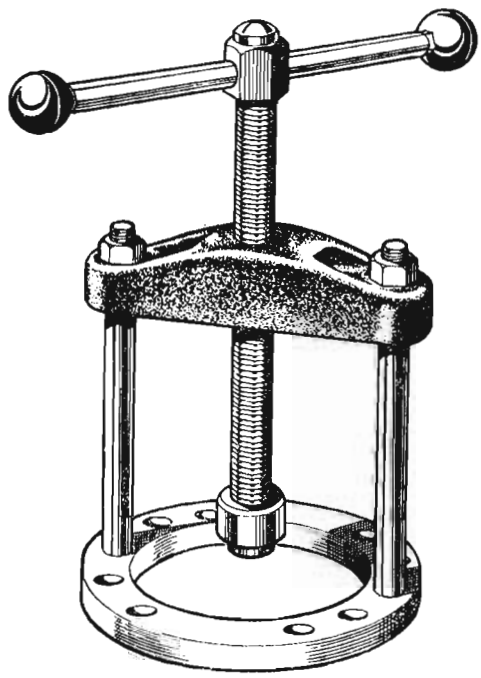
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**18G134B**

**18G134C**

**18G146. Front and Rear Hub Remover**

The thrust pad supplied with the tool is for use only when removing the rear hubs.

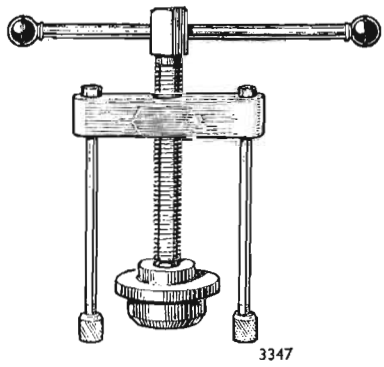


9227

**18G146**

**18G153. Front Suspension Spring Compressor**

The spring compressor thrust pad is ball-mounted to assist in lining up the spring and spring seat.

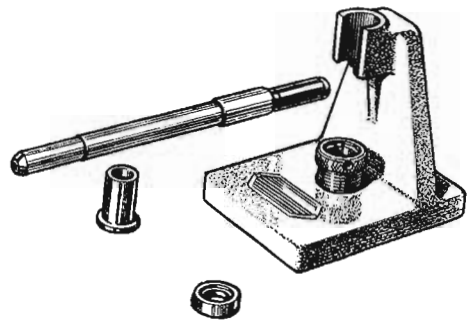


3347

**18G153**

**18G154. Swivel Axle Bush Remover and Replacer**

This tool enables the swivel axle bushes to be removed and fitted without the distortion which would occur if an improvised drift were used. The shoulder of the driver is recessed to prevent the split bushes from opening when being pressed into position. The tool is designed for use with a press.

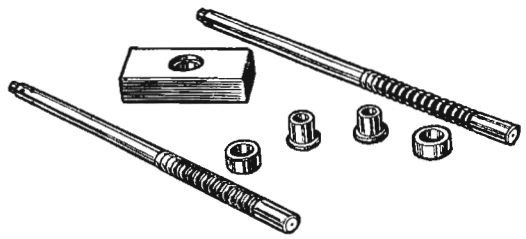


4344A

**18G154**

**18G155. Swivel Axle Bush Broaching Equipment**

Consisting of an anvil, two broaches, two guide bushes, and two support adaptors. They are for use with a light press, and will ensure highly finished bores. The worn bushes can be removed, and new bushes fitted with tool 18G154.



4348D

**18G155**

**18G155A. Swivel Axle Bush Broach Guide**

For use with 18G155.

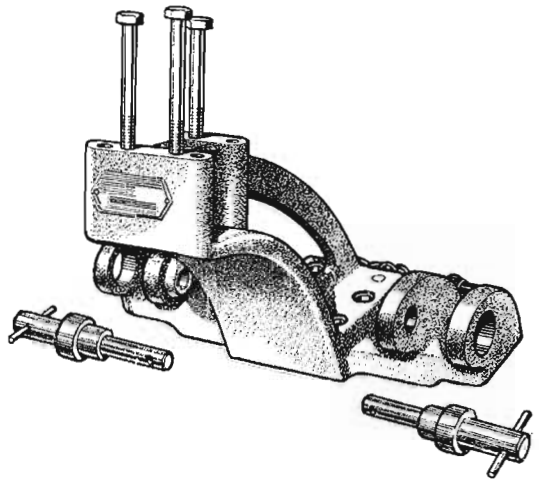


4471E

**18G155A**

**18G253. Front Suspension Assembly Fixture**

Designed to serve the dual purpose of accurately assembling a front suspension unit for fitting as a replacement to a vehicle, and also as a means of checking a unit suspected of damage or misalignment.

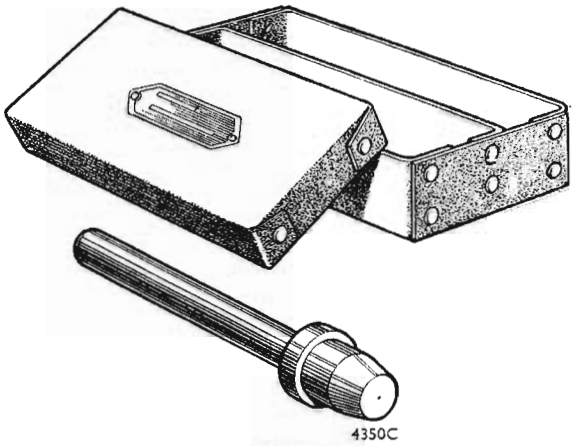


4348E

**18G253**

**18G260. Front Hub Outer Race Remover (basic tool)**

The outer race of a front hub bearing often remains inside the hub when dismantling. This remover with the appropriate adaptor will ensure easy extraction from the hub.

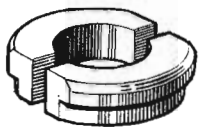


4350C

**18G260**

**18G260A. Front Hub Bearing Outer Race Remover Adaptor**

For use with 18G260 to remove the outer race of the outer bearing.



4349E

**18G260A**

**18G260B. Front Hub Bearing Outer Race Remover Adaptor**

For use with 18G260 to remove the outer race of the inner bearing.

**18G260B**