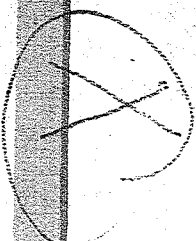


# AUSTIN

## SERVICE

## JOURNAL



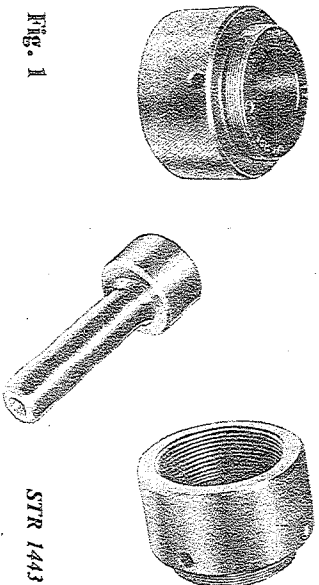
C A R S  
VOLUME 24

# FRONT HUB EXTRACTOR ADAPTORS

## Austin-Healey 100

The front wheels of the Austin-Healey 100 are fitted to the hubs by means of serrations, being held in position by "knock-on" hub caps. These caps are threaded right and left hand respectively—left hand thread/right hand side of the car, and right hand thread/left hand side: the caps are marked accordingly.

To remove a hub from the swivel axle it is necessary to use an adaptor GT 8G (right hand side) or GT 8H (left hand side), together with the centre screw extension GT 8J (Fig. 1) in conjunction with hub extractor GT 8.



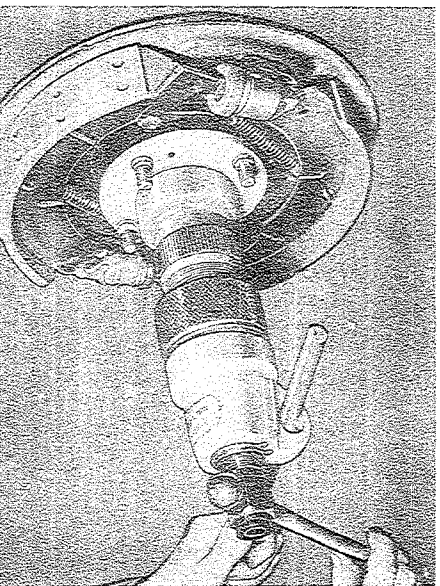
To remove a hub proceed as follows:—Loosen the hub cap by means of blows from a hide or lead hammer, then jack up the car and remove the hub cap and wheel.

Remove the nuts and spring washers holding the brake drum to the hub and remove the brake drum. If the drum appears to bind on the brake shoes, the shoe adjusters should be slackened off until the drum is free.

Remove the press-in dust cap, using the extractor provided in the tool kit. Take out the split pin and, with a suitable box spanner, remove the swivel axle nut together with the special flat washer.

Screw the adaptor, GT 8G or GT 8H, on to the hub. Place the centre screw extension GT 8J into position, with its largest dimension located in the adaptor, and fit GT 8 to the adaptor.

Turning the centre screw in a clockwise direction will produce a perfectly square pull and the hub will be withdrawn (see Fig. 2).



## PRE-LOADING BEVEL PINION BEARINGS

**A30, A40, A50, A70, A90, Austin-Healey 100, A125 and A135**

To obtain satisfactory service from a rear axle, it is essential when carrying out an overhaul, to correctly pre-load the bevel pinion bearings.

This pre-loading is achieved by fitting shims between the front bearing inner race and the bevel pinion distance piece.

Pre-loading must be carried out before the oil seal is fitted, but with the bevel pinion flange in position and the nut fully tightened to the appropriate torque wrench reading. These figures will be found in the Service manuals. In the case of the A 125 and A 135 recommended torque figures will be found in this Journal, Volume 22, Section "Axle Rear", page 18.

To check the pre-load use Tool 18G 207, Fig. 1.

The movable arms of the tool are located in opposite holes of the bevel pinion flange and are held in position by means of the knurled nuts, Fig. 2.

The weight is moved along the rod to the required poundage mark, then if the pre-load is correct, the flange will slowly rotate.

If the flange turns easily, a shim, or shims, should be removed, but if too stiff, extra shims should be added.

When the pre-load is correct, the bevel pinion flange should be removed, the oil seal fitted and the flange replaced.

Tightening the flange nut to the appropriate torque wrench reading completes the operation.

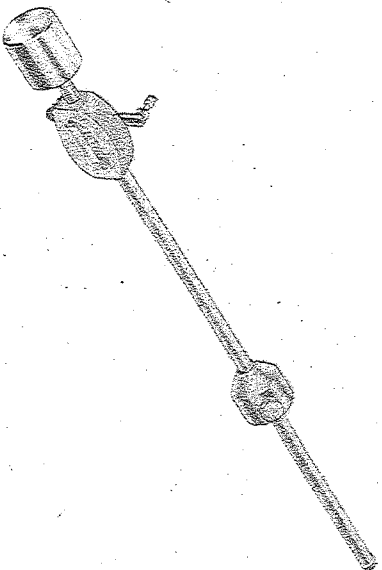


Fig. 1

STR 1518

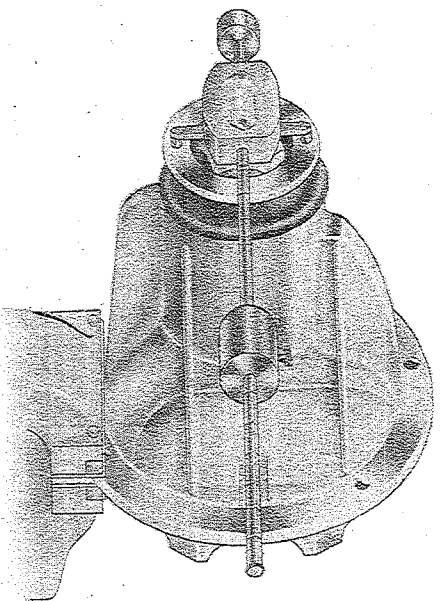


Fig. 2

STR 1519

# SEATS

## Austin-Healey 100

Seat slides have been introduced for the driver's seat on both right and left hand steering models, so that the seat can be adjusted to suit the driver's requirements. The passenger's seat has been raised to the same level as the driver's seat by fitting packing strips. Three holes have been drilled either side of the passenger's seat base panel so that the seat may be secured in any one of three positions.

### INTERCHANGEABILITY

The new seat slides can be fixed to existing cars having the fixed seat, if required. A conversion set of parts consisting of the seat slides, packings, and fixings for both seats, has been made available, and can be obtained by quoting part number B3-634 for R.H. Steering, or B3-635 for L.H. Steering.

### SUMMARY OF ALTERATION

Description	Number Off	Old Part	New Part	Parts List Publication Number
Tapped plates—seat fixing . . .	4	14B 2635	—	Pub. 1050, Seats, p. 1
Screws to floor . . . . .	8	51K 1097	—	
Nuts for screws . . . . .	8	FNZ 103	—	
Plain washers . . . . .	8	PWZ 103	—	
Spring washers . . . . .	8	2K 1209	—	
Bolts, seat to tapped plates . .	4	53K 928	—	
Plain washers . . . . .	4	PWZ 105	—	
Spring washers . . . . .	4	2K 1211	—	
Seat slide assembly (with lever), left hand, R.H. Steering . . .	1	—	14B 2767	
Seat slide assembly (with lever), right hand, L.H. Steering . .	1	—	14B 2774	
Seat slide assembly . . . . .	1	—	14B 2768	
Seat base packers—top . . . .	4	—	14B 2880	
Base packers . . . . .	2	—	14B 2834	
Washer plates . . . . .	6	—	14B 2881	
Bolts, base packers and washer plates to floor . . . . .	6	—	HBZ 0410	

COMMENCING BODY NUMBER: 1001

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED



# **BONNET TOP ASSEMBLY** **Austin-Healey 100**

A new type steel bonnet top is now being fitted replacing the aluminium type fitted hitherto; there is no change in part number, 4B 1038, and the new bonnet top assembly is interchangeable.

COMMENCING BODY NUMBER: 3397

## **BONNET CATCH** **Austin-Healey 100**

A modified type of bonnet catch is now being fitted, the lock ring for the striker pin has now been replaced by a locknut.

INTERCHANGEABILITY: The new striker pin assembly and spring can be used separately to replace their old counterparts.

### **SUMMARY OF ALTERATION**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	To B. 1949		{ Striker Pin Assembly Spring . . . .	1	ADH 457 ADA 459	Pub. 1050, Bonnet, p. 1
	B. 1950 on		{ Striker Pin Assembly Spring . . . .	1	14B 2845 14B 2846	

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# DOOR LOCK STRIKER

**Austin-Healey 100**

A new door lock striker with tapped plate and packing plate for both right and left hand doors, has been introduced. The shut pillar face cover plate has also been modified, the recess being made wider to accept the new lock striker.

INTERCHANGEABILITY

New and old parts are not interchangeable.

## SUMMARY OF ALTERATION

Descriptio	Number Off	Old Part	New Part	Parts List Publication Number
Shut Pillar Face Cover Plate, right hand	1	14B 1755	14B 2837	Pub. 1050, Body Shell, p. 1
Shut Pillar Face Cover Plate, left hand	1	14B 1756	14B 2838	
Screws . . . . .	12	*6K 9627	—	
Door Lock Strikers . . . . .	2	14B 1715	14B 2841	Pub. 1050, Doors, p. 1
Packing Plates . . . . .	2	4G 7593	14B 2842	
Tapped Plates . . . . .	2	*4G 7594	14B 2843	
Screws . . . . .	8	*54K 2777	RMP 0312	

\*Not previously listed.

COMMENCING BODY NUMBER: 2236.

23 BODY

FOR	PARTS LISTS
YOUR	STOCK CARDS
RECORDS	PARTS ORDERED
	ALTERATIONS NOTED

VOLUME 24—CARS

# SIDE WINDOWS

## Austin-Healey 100

New side windows of improved design are now being fitted; the lower half being made to open so that hand signals can be given when necessary.

**INTERCHANGEABILITY**  
The new side windows can be used to replace their old counterparts, but should be supplied in pairs due to the difference in design.

### SUMMARY OF ALTERATION

Description	Number Off	Old Part	New Part	Type and Parts List Publication Number
Side Window Assembly, right hand.	1	14B 1872	14B 2849	Pub. 1050, Doors, p. 1
Side Window Assembly, left hand	1	14B 1878	14B 2850	
Side Window Frame, right hand	1	14B 1873	—	
Side Window Frame, left hand	1	14B 1879	—	
Side Window, right hand ( $\frac{3}{16}$ perspex)	1	14B 1874	—	
Side Window, left hand ( $\frac{3}{16}$ perspex)	1	14B 1880	—	
Glazing Rubbers	2	14B 1875	—	
Weatherstrips	2	14B 1876	—	
Fasteners (Tenax) bottom portion, fixed to door	2	—	14B 2464	
Nuts	2	—	FNZ 103	
Plain washers	2	—	PWZ 103	

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# FACIA AND INSTRUMENT PANEL

## Austin-Healey 100

A combined facia and instrument panel has been introduced for cars fitted with the non-adjustable steering gear. The new instrument panel is incorporated in the facia panel, instead of being a separate part as hitherto.

**INTERCHANGEABILITY**  
The new combined facia and instrument panel is only interchangeable when fitted to cars with the non-adjustable steering gear.

### SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	B.1001-1854		*Facia panel, R.H. Steering *Facia panel, L.H. Steering *Instrument control panel assembly (less instruments)	1	14B 3542	Pub. 1050, Body Shell, p. 2
			*Seal (plastic)	1	4B 2114	
			*Screws *Spring washers	8 8	14B 2745 53K 2636 2K 1209	
	B.1855 on		Facia and instrument panel (less instruments) R.H. Steering Facia and instrument panel (less instruments) L.H. Steering	1	14B 2874	
				1	14B 2875	

\* Omitted from Parts List.

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# REAR END ASSEMBLY

# Austin Healey 100

Further to the article appearing in this Journal, Volume 24, section "Suspension", page 8, introducing new rear springs, the rear end assembly, part number 4B 1041, has been modified to accept the new road springs.

## INTERCHANGEABILITY

# INTERCHANGEABILITY

## SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Henley 100	To B. 1952. B. 1953 on .		Rear end assembly Rear end assembly . . .	1 1	4B 1041 4B 1052	Pub. 1050, Body Shell, p. 1

CENTRE TUNNEL COVER PLATE

A30

A cover plate has been introduced; this replaces the rubber plug over the transmission lubricating hole in the tunnel floor.

# INTERCHANGEABILITY

Two holes have been drilled and two nuts welded to the underside of the floor to accept new fixings.

The new cover plate can be used to replace the plug, providing the tunnel floor is suitably drilled.

## SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
A2S4 AS.4	To B. 22094 To B.407669 }		Plugs for centre tunnel	*3	4G 1851	
A2S4 AS.4	B.22095 on . B.407670 on . }		Plugs for centre tunnel Cover plate	2 1	4G 1851 14A 2876	Pub. 883B/1, p. 17

\* Parts List should be amended to read 3.

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

**FLOORBOARDS—continued**

**SUMMARY OF ALTERATION—continued**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
A 40 Country- man (GP.3 and GP.4)	To B.8399  B.8400 on	{	Rear Floor Assembly, outer, right hand . . . . .	1	4G 2242	Pub. 1099, Floor, p. 3
			Rear Floor Assembly, outer, left hand . . . . .	1	4G 2243	
			Self Tapping Screws . . . . .	14	6K 9542	
A 40 Country- man (GP.3 and GP.4)	To B.8399  B.8400 on	{	Rear Floor Assembly, outer, right hand . . . . .	1	4G 3082	Pub. 1099, Floor, p. 3
			Rear Floor Assembly, outer, left hand . . . . .	1	4G 3083	
A 40 Van (GV.3 and GV.4) A 40 Country- man (GP.3 and GP.4)	To B.21330  To B.8399  B.21331 on  B.8400 on	{	Self Tapping Screws . . . . .	14	6K 9640	Pub. 1099, Floor, p. 4
			Rear Floor Assembly . . . . .	1	4G 1124	
			Rear Floor Assembly . . . . .	1	4G 3218	
A 40 Van (GV.3 and GV.4) A 40 Country- man (GP.3 and GP.4)	To B.21330  To B.8399	{	Wood screws . . . . .	5	*5C 58	Pub. 1909, Body Equipment, p. 8
			Self Tapping Screws . . . . .	5	6K 9473	

\* Not previously listed. Add after item 3 in Parts List.

# **BOOT LID** **Austin-Healey 100**

A new steel type boot lid is now being fitted in place of the aluminium type fitted hitherto. The part number, 4B 1039, remains unchanged. The steel boot lid is interchangeable with the aluminium one.

COMMENCING BODY NUMBER: 4129

# **REAR REFLECTORS**

**A 30, A 40, A 70, Austin-Healey 100**

All vehicles are now being fitted with rear separate reflectors as a reflex reflector which reflectors to comply with the new lighting regula- complies with the new regulation is incorporated tions. The A 40/A 50 Cambridge does not require in the stop and tail lamp.

## **SUMMARY OF ALTERATION**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
A 30 A 40 A 70			Rear reflectors . .	2	2A 9001	Pub. 883B,
			Screws, reflectors to body	2	PMZ 0308	Electrical, p. 5
			Nuts for screws .	2	FNZ 103	Pub. 1099,
Austin-Healey 100			Washers for screws	2	2K 8232	Electrical, p. 28
						Pubs. 730, p. 57
						853, p. 57
			Rear reflectors . .	2	11G 9021	
			Mounting for right hand rear reflector	1	14B 3867	
			Mounting for left hand rear reflector	1	14B 3868	Pub. 1050,
			Rubber slippers for mountings	2	14B 3869	Electrical, p. 5
			Screws, mountings to body and reflectors to mounting	6	PMZ 0308	
			Spring washers .	6	2K 8232	

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED



# BATTERY ACCESS PANEL

## Austin-Healey 100

The hinges of the battery access panel are now fixed with recessed head screws instead of spot-welding as hitherto. Additional screws and washers have been introduced to suit.

INTERCHANGEABILITY

The old and new type battery access panels are interchangeable, the new type hinge can be used to replace the old type providing the panel is suitably drilled.

SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	To B.3051		Battery access panel Hinge . . . . .	1	4B 1232	Pub. 1050, Body Shell, p. 1
			Recessed head screws . . . . .	1	4G 2847	
			Nuts . . . . .	4	PMZ 0306	
			Plain washers . . . . .	4	FNZ 103	
			Spring washers . . . . .	4	PWZ 103	
	B.3052 on		Battery access panel Hinge . . . . .	1	4B 1232	
			Recessed head screws . . . . .	1	14B 3500	
			Nuts . . . . .	4	PMZ 0306	
			Plain washers . . . . .	4	FNZ 103	
			Spring washers . . . . .	4	PWZ 103	
			Recessed head screws . . . . .	4	51K 2636	
			Nuts . . . . .	4	FNN 103	
			Plain washers . . . . .	4	2K 1201	
			Spring washers . . . . .	4	2K 1209	

FOR YOUR RECORDS

PARTS LISTS

STOCK CARDS

PARTS ORDERED

ALTERATIONS NOTED

### INTERCHANGEABILITY

The new type grommet can only be used with the modified seat pan.

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
A 40 (GS.4)	To B.780700 B.780701		Grommets for rear cushion assembly Grommets for rear seat pan . . .	2 2	2H 1889 14G 3654	Pub. 1099, Seats, p. 5

# FRONT END ASSEMBLY

## Austin-Healey 100

**INTERCHANGEABILITY**  
The new front end assembly can be used for replacement of the old type.

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin- Healey 100	To B.1952 B.1953 on		Front end assembly Front end assembly	1 1	4B 1040 4B 1051	Pub. 1050, Body Shell, p. 1

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# FRONT END ASSEMBLY

## Austin-Healey 100

New door hinges and check strap assemblies of improved design have been introduced to facilitate production. This has necessitated modifications to the door hinge pillars on the front end assembly and the hinge pillars on the doors.

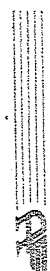
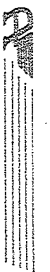
INTERCHANGEABILITY

New and old parts are not interchangeable.

### SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	B.1953-5000 B.5001 on		Front end assembly Front end assembly	1 1	4B 1051 4B 1074	Pub. 1050, Body Shell, p. 1
	B.21-5000		Door shell, right hand Door shell, left hand Hinge, top, right hand Hinge, top, left hand Hinge, bottom, right hand Hinge, bottom, left hand Hinge pins Screws, hinges to doors, 1" long. Screws, hinges to doors, 3/4" long. Screws, hinges to body Screws, hinges to body Plain washers Spring washers	1 1 1 1 1 1 4 12 4 20 4 4 4	4B 1034 4B 1035 14B 1982 14B 1983 14B 1985 14B 1986 8D 768 51K 1228 51K 1226 51K 1228 HBN 0408 PWN 104 2K 1210	Pub. 1050, Doors, p. 1
	B.5001 on		Door shell, right hand Door shell, left hand Door hinge leaves—door Door hinge leaves—hinge pillar Door hinge pins Brass washers Screws, 1" long Screws, 3/4" long Screws, hinges to body	1 1 1 2 2 2 8 4 4 16	4B 1075 4B 1076 14B 3730 14B 3731 14B 3732 2K 9020 51K 1138 51K 1136 51K 1138	
	B.21-5000		Door check assembly, right hand Door check assembly, left hand.	1 1	14B 1731 14B 1732	
	B.5001 on		Door check assembly, right hand Door check assembly, left hand.	1 1	14B 3733 14B 3734	

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
ALTERATIONS NOTED	



# TONNEAU COVER

Austin-Healey 100

A new tonneau cover assembly of improved design has been introduced. This is wider and has improved fastenings at the corners to ensure that there is no possibility of water entering the cockpit.

## INTERCHANGEABILITY

The new tonneau cover is not interchangeable with the old one due to the fastenings being redesigned.

## SUMMARY OF ALTERATION

Description	Number Of	Old Part	New Part	Parts List Publication Number
Tonneau cover assembly, R.H. Steering	1	4B 2111	4B 2188	Pub. 1050, Hood, p. 1
Tonneau cover assembly, L.H. Steering	1	4B 2133	4B 2189	

COMMENCING BODY NUMBER: 4606

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# DRIVING MIRROR FIXING

**Austin-Healey 100**

To simplify the fitting of the driving mirror and to permit adjustment of the facia panel, the bonnet remote control and facia support bracket has been dispensed with in favour of two separate brackets, one for the facia and driving mirror, and the other for the bonnet remote control. The tapped

plate for the driving mirror has been modified to be used in conjunction with the driving mirror attachment bracket.

INTERCHANGEABILITY

The new and old parts are not interchangeable.

## SUMMARY OF ALTERATION

Description	Number Off	Old Part	New Part	Parts List Publication Number
Facia and driving mirror attachment bracket. . . . .	1	—	14B 3572	Pub. 1050, Body Shell, p. 2
*Tapped plate driving mirror . . .	1	14B 2511	14B 2511	
Bonnet remote control bracket . .	1	—	14B 3573	
*Bonnet remote control and facia support bracket . . . . .	1	14B 2632	—	
*Screw . . . . .	1	54K 2776	RMP0310	
*Nut . . . . .	1	53K 325	FNZ 103	
*Plain washers . . . . .	2	6K 9695	2K 9907	
*Spring washers . . . . .	2	2K 1209	—	

\*Not previously listed. Add to Parts List.

COMMENCING BODY NUMBER: 3800

FOR YOUR RECORDS	PARTS LISTS		
	STOCK CARDS		
	PARTS ORDERED		
	ALTERATIONS NOTED		

# **SIDE WINDOWS** **Austin-Healey 100**

The new side windows introduced in this Journal, Volume 24, section "Body", page 31, can now be serviced in "breakdown" form. All serviceable parts have been given separate part numbers and are itemised below.

## **SUMMARY OF ALTERATION**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100			Side screen frame assembly, right hand . . . . .	1	14B 3511	Pub. 1050, Doors, p. 1
			Side screen frame assembly, left hand . . . . .	1	14B 3512	
			Fixing brackets, front. . . .	2	14B 3515	
			Nuts for fixing bracket . . .	4	FNZ 103	
			Plain washers . . . . .	4	PWZ 203	
			Fixing brackets, rear . . . .	2	14B 3516	
			Nuts for fixing bracket . . .	4	FNZ 103	
			Plain washers . . . . .	4	PWZ 203	
			Side screen cover assembly complete with side window and flap panels, right hand	1	14B 3540	
			Side screen cover assembly complete with side window and flap panels, left hand	1	14B 3541	
			Side window panels . . . .	2	14B 3505	
			Signalling flap panels . . .	2	14B 3506	
			Fastener . . . . .	1	14B 2465	
			Beadings, bottom rail . . . .	2	14B 3517	
			Fixing screws . . . . .	8	14B 3509	
			Shouldered nipples . . . . .	8	14B 3510	
			Beadings, front rail . . . . .	2	14B 3518	
			Fixing screws . . . . .	6	14B 3509	
			Shouldered nipples . . . . .	6	14B 3510	
			Beadings, middle rail . . . .	2	14B 3519	
			Fixing screws . . . . .	8	14B 3509	
			Shouldered nipples . . . . .	8	14B 3510	
			Beadng, main rail, right hand	1	14B 3520	
			Fixing screws . . . . .	6	14B 3509	
			Shouldered nipples . . . . .	6	14B 3510	
			Beadng, main rail, left hand	1	14B 3521	
			Fixing screws . . . . .	6	14B 3509	
			Shouldered nipples . . . . .	6	14B 3510	

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
ALTERATIONS NOTED	

DRIVING COCKPIT

Austin-Healey 100

As a result of excessive heat being experienced in the driving cockpit in overseas territories, the following modifications have been carried out and proved successful. The salkaid floor insulation and underfelt has been extended to the edge of the floor and pedal boards, also the whole of the external surface of the pedal box has been covered with asbestos panels. The slots either side of the notch for the accelerator shaft have been sealed with a sealing compound. The spring clip securing the pipe, supply tank to master cylinder, has been replaced by a new clip secured to the pedal box by means of a screw, nut and washer.

A rubber heat deflector has been fitted to the gearbox cover extension panel, and is fixed with

seven rivets, so that the lower edge of the deflector seats on top of the clutch housing. The gearbox cover is sealed with a section of sponge rubber secured with adhesive behind the gearbox cover extension panel. A sealing ring has also been fitted to the gear lever grommet.

Finally a longer air intake hose has been fitted with its forward end secured with a clip to the extreme right hand bolt of the radiator grille thereby drawing in a much greater volume of cold air.

INTERCHANGEABILITY

All the new parts can be fitted to existing models.

SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	B.21-5745		Asbestos covering, pedal box front, left hand, upper . .	1	*14B 2737	
			Asbestos covering, left hand pedal box, front left hand, lower . . . . .	1	*14B 2739	Pub. 1050 Floor Fittings, p. 1
			Asbestos covering, pedal box, inner, left hand . . . .	1	*14B 2740	

\* Not previously listed. Add to parts list.

Continued

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED



**DRIVING COCKPIT—continued**

**SUMMARY OF ALTERATION—continued**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	B.21-5745		Underfelt, pedal box carpet, right hand front, R.H. Steering . . . . .	1	*14B 2752	Pub. 1050 Floor Fittings (Carpets), p. 1
			Underfelt, pedal box carpet, left hand front, R.H. Steering . . . . .	1	*14B 2753	
			Underfelt, pedal box carpet, right hand front, L.H. Steering . . . . .	1	*14B 2731	
			Underfelt, pedal box carpet, left hand front, L.H. Steering . . . . .	1	*14B 2732	
			Underfelt, front carpet, right hand . . . . .	1	*14B 2722	
	B.21 on		Underfelt, front carpet, left hand . . . . .	1	*14B 2723	Pub. 1050 Floor Fittings, p. 1
			Insulations, floor . . . . .	2	*14B 2885	
			Asbestos covering, right hand pedal box, front, left hand, lower . . . . .	1	*14B 2738	
			Asbestos covering, pedal box front, left hand, upper . . . . .	1	14B 3875	
			Asbestos covering, left hand, pedal box, front, left hand, lower . . . . .	1	14B 3876	
B.5746 on			Asbestos covering, pedal box, inner left hand . . . . .	1	14B 3877	Pub. 1050 Floor Fittings, p. 1
			Asbestos covering, pedal box, top left hand, front. . . . .	1	14B 3878	
			Asbestos covering, pedal box, top left hand, rear . . . . .	1	14B 3879	
			Screws for asbestos panels, Nuts . . . . .	14	PMZ 0310	
			Plain washers . . . . .	14	FNZ 103	
			Spring washers . . . . .	14	53K 3151	
				14	LWN 203	

\* Not previously listed. Add to parts list.

*Continued*

**DRIVING COCKPIT—continued**

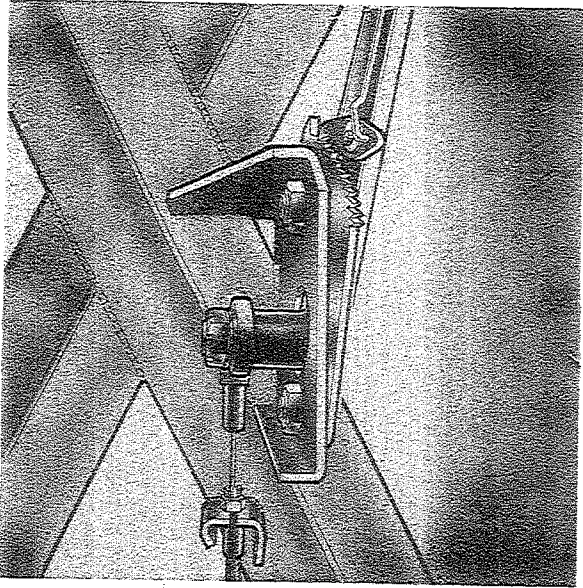
**SUMMARY OF ALTERATION—continued**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin- Healey 100	B.5746 on }		Heat deflector . . . . .	1	14B 3789	Pub. 1050 Floor Fittings p. 1
			Rivets . . . . .	7	2K 2342	
			Plain washers . . . . .	7	PWZ 202	
			Sealing rubber . . . . .	1	14B 3870	
			Underfelt, front carpet, right hand . . . . .	1	14B 3880	Pub. 1050 Floor Fittings (Carpets), p. 1
			Underfelt, front carpet, left hand . . . . .	1	14B 3881	
			Underfelt, pedal box carpet, right hand, front, R.H. Steering . . . . .	1	14B 3882	
			Underfelt, pedal box carpet, left hand, front, R.H. Steer- ing . . . . .	1	14B 3883	
			Underfelt, pedal box carpet, right hand, front, L.H. Steering . . . . .	1	14B 3884	
			Underfelt, pedal box carpet, left hand, front, L.H. Steer- ing . . . . .	1	14B 3885	
			Insulation, floor . . . . .	1	14B 3886	
Austin- Healey 100	B.21-5745 {		Flexible hose, air intake . .	1	14B 2749	Pub. 1050 Heater, p. 1
			Clip . . . . .	1	14G 800	
			Flexible hose, air intake . .	1	14B 3887	
			Clip . . . . .	1	14B 3888	
			Grommets for outlet pipes through dash . . . . .	2	2H 2816	Pub. 1050 Body Equipment, p. 1
			Sealing ring, gear lever grom- met . . . . .	1	14B 3889	
			Spring clip for pipe . . . .	1	2K 8932	
			Clip for pipe . . . . .	1	3H 2879	
			Screw . . . . .	1	PMZ 0308	
			Nut . . . . .	1	FNZ 103	
			Plain washer . . . . .	1	PWZ 103	
Austin- Healey 100	C.138031- 219384		Spring clip for pipe . . . .	1	2K 8932	Pub. 1050 Body Equipment, p. 1
			Clip for pipe . . . . .	1	3H 2879	
			Screw . . . . .	1	PMZ 0308	
			Nut . . . . .	1	FNZ 103	
			Plain washer . . . . .	1	PWZ 103	
			Spring clip for pipe . . . .	1	2K 8932	
			Clip for pipe . . . . .	1	3H 2879	Pub. 1050 Brake Pipes, p. 1
			Screw . . . . .	1	PMZ 0308	
			Nut . . . . .	1	FNZ 103	
			Plain washer . . . . .	1	PWZ 103	

# HANDBRAKE LEVER

Austin-Healey 100

A new handbrake lever assembly has been introduced to increase the operating clearance between the handbrake lever and the propeller shaft tunnel. The new lever is identical with the old one except for a longer fulcrum pin on the lever and a longer boss on the ratchet plate—see illustrations for comparison. Longer fixing screws are used to secure the new handbrake in con-

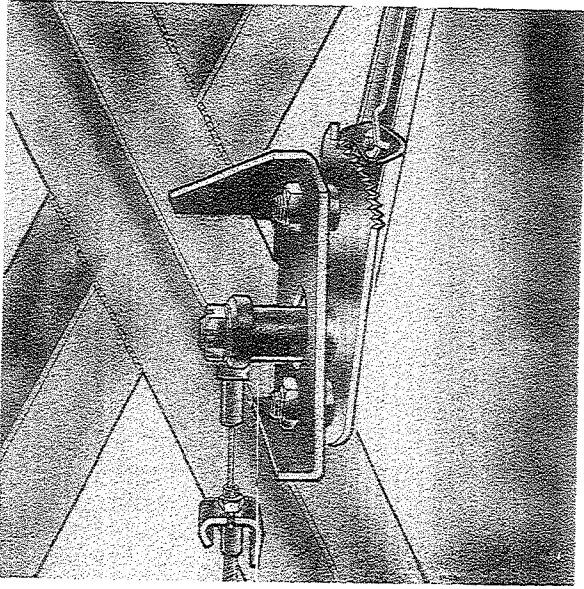


Old arrangement STR 1281

junction with two distance pieces ( $\frac{3}{8}$ " (9.52 mm.) long), which fit between the ratchet plate and the body.

## INTERCHANGEABILITY

The new handbrake assembly, together with the longer screws and the distance pieces, can be used to replace the old one. The handbrake lever ratchet plates are not interchangeable.



New arrangement STR 1282

## SUMMARY OF ALTERATION

Description	Number Off	Old Part	New Part	Type
Handbrake Lever Assembly . . . . .	1	1B 8769	1B 8893	Austin-Healey 100
Setscrews to body . . . . .	2	1B 8859	1B 8895	
Distance Pieces, lever to body . . . . .	2	—	1B 8896	
Ratchet Plate with boss . . . . .	1	7H 5925	7H 5926	

## COMMENCING CHASSIS NUMBERS:—

R.H. Steering — 149950 : L.H. Steering — 149903

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

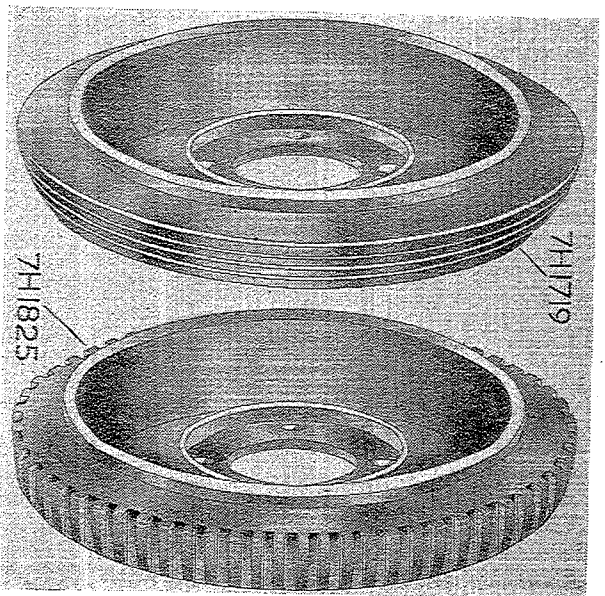
# AUSTIN SERVICE JOURNAL ALFIN BRAKE DRUMS

Austin-Healey '100'

The alfin brake drums, which are available as an optional extra, have been replaced by ones of improved design. The new drums have lateral cooling fins instead of annular grooves around the circumference of the drum. The new alfin brake drums, part number 7H 1825, are of particular benefit when the car is to be driven hard or raced. They should be fitted in pairs, either front or rear to preserve even expansion of the brake drums as they become heated in use.

## INTERCHANGEABILITY

The new alfin brake drums, part number 7H 1825, can be used in pairs to replace the earlier drums, part number 7H 1719.



STR 1525

VOLUME 24—CARS  
Issue 15

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

Published January 24, 1955

BRAKES 6

# BRAKE PIPES

## Austin-Healey 100

New brake pipes having U.N.F. tube nuts have been introduced. The tube nuts on the new pipes have slightly smaller hexagons than the old ones. They are interchangeable separately with the original pipes which had A.N.F. threaded nuts.

INTERCHANGEABILITY

The new pipes will be supplied for replacements of the old ones.

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	C.138031-156813		Flexible Brake Hoses . . .	3	1B 8874	Pub. 1050, Brake Pipes, p. 1
			Nuts for hoses. . . . .	3	6K 31	
			Brake Pipe, 5-way connection to right hand front brake house . . . . .	1	1B 8862	
			Brake Pipe, 5-way connection to left hand rear brake hose . . . . .	1	1B 8864	
			5-way Connection . . . . .	1	1B 8875	
			Brake Pipe, master cylinder to 5-way connection, R.H. Steering . . . . .	1	1B 8860	
			Brake Pipe, master cylinder to 5-way connection, L.H. Steering . . . . .	1	1B 8870	
			Brake Pipe, supply tank to master cylinder, R.H. Steering . . . . .	1	1B 8868	
			Brake Pipe, supply tank to master cylinder, L.H. Steering . . . . .	1	1B 8872	
			Brake Pipe, 5-way connection to rear brake hose. 3-way connection on rear axle for brake pipes . . . . .	1	1B 8866	
			Brake Pipe, 3-way connection on axle to right hand brake . . . . .	1	3H 1873	
			Brake Pipe, 3-way connection on axle to left hand brake . . . . .	1	1G 7355	
				1	1G 7357	

Continued

FOR YOUR RECORDS

PARTS LISTS

STOCK CARDS

PARTS ORDERED

ALTERATIONS NOTED

**BRAKE PIPES—continued**

**SUMMARY OF ALTERATION—continued**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	C.156814 on		Flexible Brake Hoses . . . . .	3	2A 7227	Pub. 1050, Brake Pipes, p. 1
			Nuts for hoses . . . . .	3	FNZ 106	
			*Locking Plate, rear hose to bracket . . . . .	1	1B 8965	
			Brake Pipe with nuts, 5-way connection to right hand front brake hose .	1	1B 8920	
			Brake Pipe with nuts, 5-way connection to left hand front brake hose .	1	1B 8921	
			5-way Connection . . . . .	1	1B 8926	
			Brake Pipe with nuts, master cylinder to 5-way connection, R.H. Steering .	1	1B 8919	
			Brake Pipe with nuts, master cylinder to 5-way connection, L.H. Steering .	1	1B 8924	
			Brake Pipe with nuts, supply tank to master cylinder, R.H. Steering . .	1	1B 8923	
			Brake Pipe with nuts, supply tank to master cylinder, L.H. Steering . .	1	1B 8925	
			Brake Pipe with nuts, 5-way connection to rear brake hose . . . . .	1	1B 8922	Pub. 1010, Controls, p. 4
			3-way connection on rear axle for brake pipes . .	1	2A 5346	
			Brake Pipe with nuts, 3-way connection on axle to right hand brake . .	1	1B 7396	
			Brake Pipe with nuts, 3-way connection on axle to left hand brake . . .	1	1B 7397	
	C.1308031-156813		Master Cylinder Assembly with screwed push rod . Supply Tank . . . . .	1 1	3H 1842 3H 920	
	C.156814 on		Master Cylinder Assembly with screwed push rod . Supply Tank . . . . .	1 1	1B 8927 1G 9501	

# ACCELERATOR CONTROL ROD

## Austin-Healey 100

To facilitate assembly, the control rod between the accelerator pedal shaft lever and the relay lever, has been reduced in length from 10 $\frac{7}{8}$ " (27.62 cm.) to 10 $\frac{1}{4}$ " (26.03 cm.) and the position of the bearings on the toeboard for the accelerator shaft has been raised by a similar amount.

INTERCHANGEABILITY

There is sufficient adjustment obtainable to permit the shorter rod to be used for replacements of the longer one.

SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	R.H.S., C.138975-148527		Control rod, 10 $\frac{7}{8}$ " long, pedal shaft lever to relay lever (use 2K 8277)	1	1B 2696	Pub. 1050, Controls, p. 1
	L.H.S., C.138031-148528					
	R.H.S., C.148528 on L.H.S., C.148529 on		Control rod, 10 $\frac{1}{4}$ " long, pedal shaft lever to relay lever . . . . .	1	2K 8277	

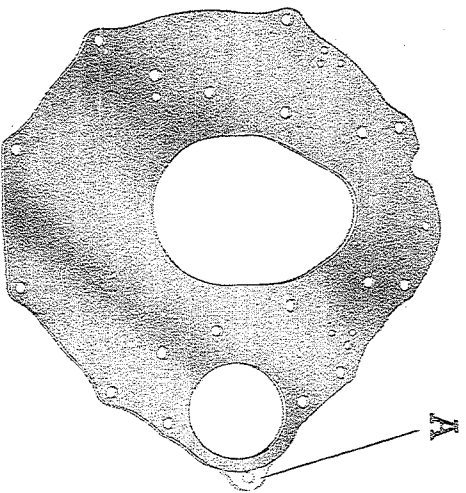
FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED



# ENGINE REAR PLATE

Austin-Healey 100, A 70

To allow more clearance for the clutch pedal on the Austin-Healey 100, the engine rear plate, also fitted to the A 70, has been modified by deleting the outer boss and hole A at the starter motor fixing face (see illustration). The gearbox casing



has been altered to accommodate the modified plate although there is no change in part number. The earthing cable, which was originally fixed by a bolt at this point, has been moved to the lower bolt securing the gearbox to the mounting plate.

## INTERCHANGEABILITY

The new rear plate can be used for replacement, also the modified gearbox casing.

### COMMENCING ENGINE NUMBERS:—

A 70 Saloon	—	—	203231
Pick-Up	}	—	174217
Countryman			

### COMMENCING CHASSIS NUMBERS:—

A 70 Saloon, R.H. Steering	—	—	148304
L.H. Steering	—	—	148307
Pick-Up, R.H. Steering	—	—	148319
L.H. Steering	—	—	148428
Countryman, R.H. Steering	—	—	148459

STR 1279

## SUMMARY OF ALTERATION

Description	Number Of	Old Part	New Part	Type and Parts List Publication Number
Engine Rear Plate . . . . .	1	1F 1332	1B 2842	A 70 Pubs. 780A, p. 3, 853, p. 3

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
ALTERATIONS NOTED	

## SOLUBLE OIL IN WATER COOLING SYSTEM

Soluble oil is often added to the water cooling system to reduce wear of the water pump seal and to eliminate the scratching sound which may emanate from wear.

The presence of too much soluble oil, however, can have a detrimental effect on the rubber diaphragm fitted to the heater water valve.

Tests have shown that the permissible quantity of soluble oil added to the water cooling system must on no account exceed 2%.

The water capacity, and the permissible quantity of soluble oil, for the various types of vehicles is given below.

Model	Water Capacity	Permissible quantity of soluble oil (maximum)
A 30	8½ pints	3.4 Fluid ozs. (Approx. $\frac{1}{6}$ pint)
A 40 (GS.3 & GS.4)	12 pints	4.8 Fluid ozs. (Approx. $\frac{1}{4}$ - $\frac{1}{3}$ pint)
A 40 (GD.2 & GD.3)	14 pints	5.6 Fluid ozs. (Approx. $\frac{1}{3}$ - $\frac{1}{4}$ pint)
A 70 & A 90	19 pints	7.6 Fluid ozs. (Approx. $\frac{2}{5}$ pint)
A 125, A 135	28 pints	11.2 Fluid ozs. (Approx. $\frac{3}{5}$ pint)
Austin-Healey 100	20 pints	8 Fluid ozs. (Approx. $\frac{2}{5}$ pint)

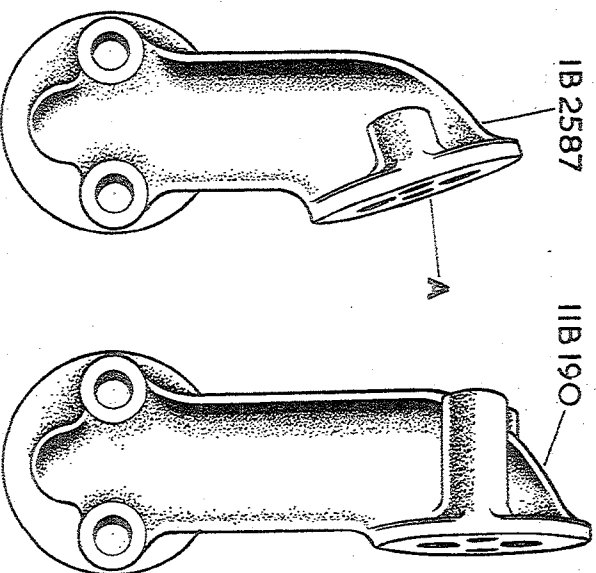
# OIL FILTER ADAPTOR Austin-Healey 100

A new oil filter adaptor has been introduced to prevent any possibility of the oil filter fouling the engine mounting bracket. The new adaptor, part number 11B 190, is similar to the old one, part number 1B 2587, but the angle of face A has been altered to move the oil filter farther away from the engine mounting bracket—see illustration.

Two new setscrews, part number 2K 3174, replace the ones used to fix the original adaptor to the oil filter. It is strongly recommended that the old oil filter adaptor is replaced with the new one at the earliest possible convenience, and distributors and dealers are requested to place orders immediately for sufficient new parts to cover requirements in their territory, quoting part numbers.

## INTERCHANGEABILITY

The new adaptor together with the new setscrews should be used for replacements of the old one.



STR 1394

## SUMMARY OF ALTERATION

Type	Range	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
BN.1	E.136894-213324	Adaptor for oil filter (use 11B 190 with 2K 3150 setscrews) Setscrew, long, adaptor to oil filter . . . . . Setscrew, short, adaptor to oil filter . . . . .	1	1B 2587	Pub. 1050, Engine, p. 16.
			1	2K 3175	
			1	2K 3167	
			1	11B 190	
	E.213325 on	Adaptor for oil filter . . . . . Setscrews to oil filter . . . . .	2	2K 3174	

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# CARBURETTOR NEEDLE

## Austin-Healey 100

The fuel consumption on the Austin-Healey 100 has been improved by fitting a new needle with modified taper.

Carburetors fitted with the old type jet needle can be converted, but to preserve engine balance it is essential to replace the needle in both

carburetors. The part numbers of the carburetors remain unchanged.

### INTERCHANGEABILITY

The modified needle will be supplied for replacements.

### SUMMARY OF ALTERATION

Type	Range	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
BN1	R.H.S. To C.148986 L.H.S. To C.148936	Jet Needles, A.H.2 (use 7H 1706) . . . . .	2	7H 1677	Pub. 1050, Engine, p. 15
		Jet Needles, Q.W. . . . .	2	7H 1706	

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

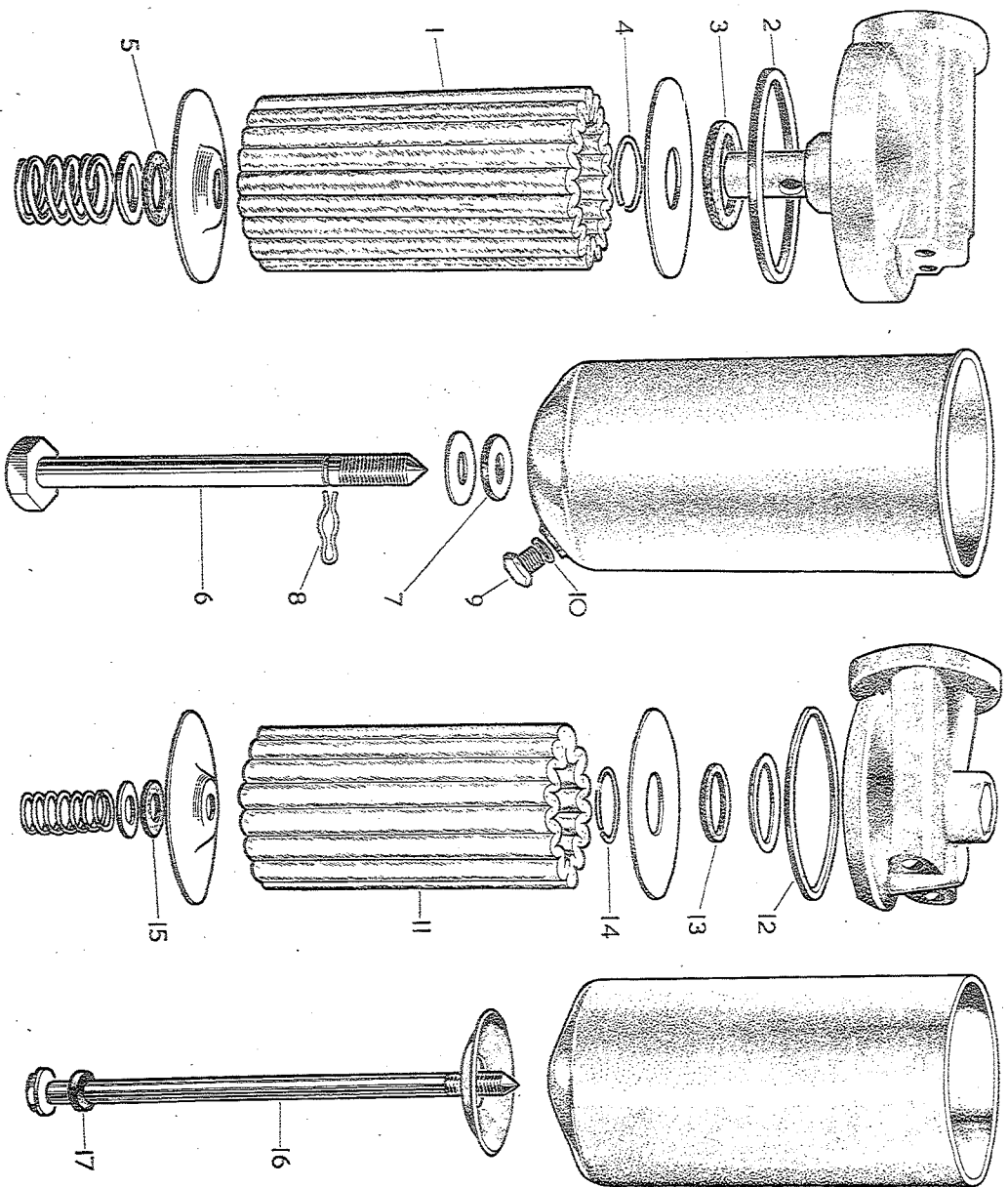
# FULL FLOW OIL FILTER

A 70, 16-H.P. Taxi and Hire-Car, Austin-Healey 100

## INTERCHANGEABILITY

The oil filter assembly is interchangeable; component parts, with the exception of the filtering element, are not.

The Tecalemit oil filter (which is an alternative to the Purolator one) has been redesigned to facilitate manufacture. The new filter works in exactly the same way as the old one, but the component parts have been modified, with the exception of the filtering element which has not been altered—see illustration.



STR 1451

**FULL FLOW OIL FILTER—continued**

**SUMMARY OF ALTERATION**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100 Taxi Hire-Car A 70 Pick-Up A 70 Saloon and Countryman	E.136894-207111 E.17800-206159 E.25001-138209 E.132001-208588 E.101-207779	1	Oil filter, Tecalemit . . . . .	1	2H 4339	Austin-Healey 100 Pub. 1050, Engine, p. 16 16-H.P. Taxi Pub. 558A, p. 15 16-H.P. Hire-Car Pub. 728, p. 14
		2	Sealing ring, synthetic rubber, container to head . . . . .	1	2H 4340	
		3	Felt washer, element clamping plate to head . . . . .	1	7H 155	
		4	Circlip for clamping plate . . . . .	1	7H 156	
		5	Felt washer for element plate . . . . .	1	7H 157	
		6	Centre bolt . . . . .	1	7H 160	
		7	Sealing washer, synthetic rubber for centre bolt . . . . .	1	7H 159	
		8	Hair pin spring for bolt . . . . .	1	7H 152	
		9	Drain plug . . . . .	1	7H 149	
		10	Fibre washer for plug . . . . .	1	7H 163 7H 162	
Austin-Healey 100 Taxi Hire-Car A 70 Pick-Up A 70 Saloon and Countryman	E.207112 on E.206160 on E.138210 on E.208589 on E.207800 on	11	Oil filter, Tecalemit . . . . .	1	1B 2897	A 70 Saloon Pub. 780A, p. 17 A 70 Pick-Up Pub. 853, p. 16
		12	Sealing ring, synthetic rubber container to head . . . . .	1	2H 4340	
		13	Felt washer, element clamping plate to head . . . . .	1	7H 1755	
		14	Circlip for clamping plate . . . . .	1	7H 1756	
		15	Felt washer for element pressure plate . . . . .	1	7H 157	
		16	Centre bolt . . . . .	1	7H 1758	
		17	Sealing washer, synthetic rubber, for centre bolt . . . . .	1	7H 1762 7H 1759	

Alternative to 3H 1287

Alternative to 3H 1287

# OIL PRESSURE GAUGE PIPE

Austin-Healey 100

A modified oil pressure gauge pipe has been introduced (for left hand steering cars only) to facilitate assembly, and an additional clip is also used to secure the pipe.

INTERCHANGEABILITY  
The new pipe can be used to replace the old one.

## SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	C.138031-149982		Oil pressure pipe with union nut and nipple, L.H. Steering . . . .	1	1B 2740	Pub. 1050, Engine, p. 16
	C.149983 on		Oil pressure pipe with union nut and nipple, L.H. Steering . . . .	1	1B 2963	
	C.138031-149982		Clip, pipe to dash, L.H. Steering. . . . .	1	2K 5215	
	C.149983 on		Screw for clip . . . .	1	6K 9897	
			Clips, pipe to dash, L.H. Steering. . . . .	2	2K 5215	
			Screws for clips . . . .	2	6K 9897	

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED



# **MAIN AND CONNECTING ROD BEARING CAP FIXINGS** **A 70, Austin-Healey 100, Taxi, Hire-Car**

Self-locking nuts (NYLOC) together with a spring washer are now being fitted to the connecting rod cap bolts and main bearing studs in place of slotted nuts and split pins. The addition of a spring washer has necessitated the introduction of longer bolts and studs respectively.

## **INTERCHANGEABILITY**

The new main bearing stud, nut and spring washer can be used together to replace their old counterparts, and so can the connecting rod bolt nut and spring washer. Bolts, studs and nuts are not separately interchangeable, but the new connecting rod with cap, bolts and nuts will be supplied for replacements when stocks of the old ones are exhausted.

## **SUMMARY OF ALTERATION**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Type and Parts List Publication Number
Taxi	E. 17800-206153					
Hire-Car	E. 25001-*		Studs for main bearing caps . . . . .	6	1K 49	16-H.P. Taxi, Pub. 558A, p. 2
A 70 Pick-Up	E. 132001-208582		Slotted nuts for studs . . . . .	6	2K 5919	16-H.P. Hire-Car Pub. 728, p. 2
A 70 Saloon and Countryman	E. 101-207773		Split pins . . . . .	6	2K 1240	
Austin-Healey 100	E. 136894-207105					A 70 Pubs. 853, p. 2 and 780A, p. 2
Taxi	E. 206154 on					
Hire-Car	E.* on					Austin-Healey 100
A 70 Pick-Up	E. 208583 on		Studs for main bearing caps . . . . .	6	1K 2810	Pub. 1050, Engine, p. 1
A 70 Saloon and Countryman	E. 207774 on		Self-locking (Nyloc) nuts . . . . .	6	1K 2812	
Austin-Healey 100	E. 207106 on		Spring washers . . . . .	6	2K 5949	

\* To be published at a later date.

*Continued*

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

**MAIN AND CONNECTING ROD BEARING CAP FIXINGS—continued**

**SUMMARY OF ALTERATION—continued**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Type and Parts List Publication Number
Taxi	E. 17800-211142	}	Connecting rods with cap, cap bolts, and nuts, less bearings and clamping screw (use 1B 2921). Bolts for connecting rod Slotted nuts for bolts Split pins . . . .	4	1B 1345	16-H.P. Taxi, Pub. 558A, p. 4
Hire-Car	E. 25001-211142			8	1K 1750	16-H.P. Hire-Car, Pub. 728, p. 4
A 70 Pick-Up	E. 132001-215120			8	2K 5129	
A 70 Saloon and Countryman	E. 101-216296			8	2K 1232	
Austin-Healey 100	E. 136894-213398	}	Connecting rods with cap, cap bolts, nuts and spring washers, less bearings and setscrews. Bolts for connecting rod caps . . . . Self-locking (Nyloc) nuts . . . . Spring washers . . .			A 70 Pubs. 853, p. 4 and 780A, p. 4
Taxi and Hire-Car	E. 211143 on					
A 70 Pick-Up	E. 215121 on			4	1B 2921	Austin-Healey 100 Pub. 1050, Engine, p. 5
A 70 Saloon and Countryman	E. 216297 on			8	1K 2808	
Austin-Healey 100	E. 213399 on			8	1K 2811 2K 5896	

# SELF-LOCKING 'NYLOC' NUTS

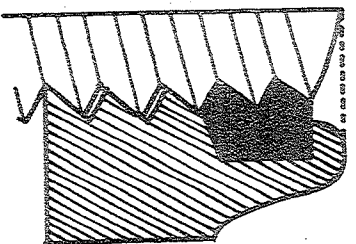
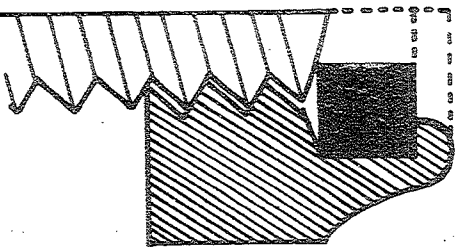
The Nyloc self-locking nuts which are now being used in many applications on Austin vehicles, have been thoroughly tested and found to be 100% efficient. The life of these nuts is almost unlimited, and provided they are not damaged, they may be removed and replaced many times yet still retain their self-locking ability.

## THE PRINCIPLE

The Nyloc self-locking nut is a standard hexagon nut with its height slightly increased to incorporate a moulded nylon insert. This insert or collar has an internal diameter slightly less than the diameter of the bolt and is not initially threaded.

In assembly, when a bolt passes through the threaded portion of a Nyloc nut and reaches the special insert, further advance is resisted. In overcoming this resistance, the nut is forced away from the bolt head until the sides of the thread are in close contact.

This force distributes itself as a pressure on the side of the bolt thread which will normally carry the load when the nut is drawn home. The pressure results in heavy friction between the sides of the thread in contact, and a considerable anti-rotational force is exerted to prevent the nut from moving under vibration.



STR 1453

*Before the bolt has passed through the insert, the Nyloc is free because of normal tolerance between the threads. After the bolt has passed through the insert heavy friction is exerted between the load-carrying sides of the threads. The Nyloc nut is independently locked to the bolt thread.*

The bolt makes its own thread through the nylon insert and the special elastic properties of the material ensure that no chips are removed when it engages the bolt threads. Pressure between the insert and the bolt further increases the anti-rotational characteristics of the nut.

## POWERS OF RESISTANCE

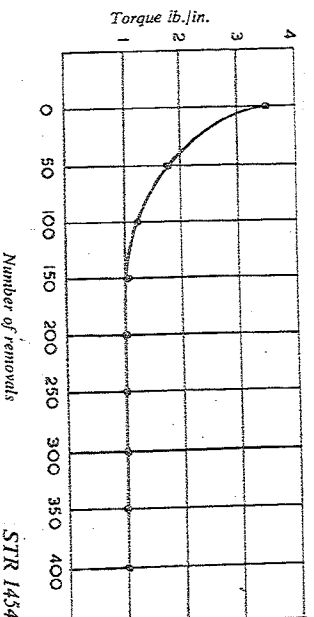
Nylon is extremely resistant to deterioration from all oils, petrol, paraffin, kerosene and boiling water. Under test the material was found to be unaffected by solutions of Hydrogen Peroxide, Soda Ash (10%), Sulphuric Acid (5%) and Sodium Hydroxide (10% at 85° C.).

## QUALITIES OF ENDURANCE

Six Nyloc nuts were screwed completely on and off a standard  $\frac{1}{4}$ " B.S.F. bolt 30 times and the final average torque was 2.100 lb. in. In addition a nut was repeatedly assembled on the bolt and after 400 removals, the torque figure was 1 lb. in. (see Graph).

This compares very favourably with the Aircraft specification A.D. 114 requirement of .975 lb. in. torque after only 30 removals.

Endurance Test—Graph



STR 1454

## INSPECTION

If when reusing a Nyloc nut the nut becomes too stiff to turn with the fingers, after being screwed on to the bolt up to the nylon insert, and a spanner becomes necessary for further screwing down, then the nut is serviceable. If the nut can be screwed past the nylon insert by finger pressure alone, then it has become damaged and must be replaced.

# DOWELS FOR CLUTCH

**A 30, A 40, A 70, Austin-Healey 100, Taxi,  
Hire-Car, A 125, A 135**

The dowels in the flywheel which locate the clutch have been slightly increased in length to facilitate assembly. In addition, the A 30 and A 40 range of vehicles have been brought into line with the remainder of the Austin range of vehicles by using stepped dowels in place of plain parallel ones. Larger holes have consequently been drilled in the A 30 and A 40 wheels to receive the stepped dowels.

INTERCHANGEABILITY

The new flywheel with dowels can be used to replace the old one, and the longer dowels will replace the shorter ones except in the case of A 30 and A 40 vehicles.

## SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
A 30	E.17957-56572		Flywheel with starter gear and dowels	1	2A 376	Pub. 883B, Engine, p. 3
	E.101-56572		Dowels in flywheel for clutch . . . . .	2	2K 5844	
	E.56573 on {		Flywheel with starter gear and dowels	1	2A 516	
A 40			Dowels in flywheel for clutch . . . . .	2	1G 2984	Pub. 1099, Engine, p. 5
	E.300301-975129 {	AB11	Flywheel with starter gear . . . . .	1	1G 1234	
			Dowels, flywheel to clutch . . . . .	2	2K 5844	
	E.975130 on {		Flywheel with starter gear . . . . .	1	1G 2981	
			Dowels, flywheel to clutch . . . . .	2	1G 2984	

Continued

FOR YOUR RECORDS

PARTS LISTS

STOCK CARDS

PARTS ORDERED

ALTERATIONS NOTED



## DOWELS FOR CLUTCH—continued

## SUMMARY OF ALTERATION—continued

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	E.136894-214144	A26	{ Flywheel with starter gear and dowels . Dowels for clutch .	1 2	1B 1987 1B 1460	Pub. 1050, Engine, p. 4 730, p. 8 853, p. 7
A 70 (Pick-up)	E.66501-215343		{ Flywheel with starter gear and dowels . Dowels for clutch .	1 2	1B 2978 IG 2984	
Austin-Healey 100	E.214145 on		{ Flywheel with starter gear and dowels . Dowels for clutch .	1 2	1B 2977 IG 2984	
A 70 (Pick-up)	E.215344 on					
A 70 (Except Pick-up)	E.35320-217378		Flywheel with starter gear and dowels . Dowels for clutch .	1 2	1B 1985 1B 1460	Pubs. 603A, p. 9 780A, p. 7
	E.217379 on		Flywheel with starter gear and dowels . Dowels for clutch .	1 2	1B 2977 IG 2984	
Taxi and Hire-Car	E.17800-211301		Flywheel with starter gear . . . . . Dowels, flywheel to clutch . . . . .	1 2	1F 1356 1B 1460	Pubs. 558A, p. 8 728, p. 7
	E.211302 on		Flywheel with starter gear . . . . . Dowels, flywheel to clutch . . . . .	1 2	1F 1526 IG 2984	*
A 125 and A 135	To E.*		Flywheel with starter gear . . . . . Dowels, flywheel to clutch . . . . .	1 2	ID 1526 1K 1754	Pubs. 430A, p. 8 779, p. 8 624, p. 7
	E.* on		Flywheel with starter gear . . . . . Dowels, flywheel to clutch . . . . .	1 2	ID 1959 ID 1960	

\*To be published at a later date.

# REFACING WATER PUMP BODIES

## All models fitted with carbon seal

This re-facing tool, GT 193, makes it possible for water pumps (fitted with a carbon seal) on any post-war Austin engine to be made serviceable in the event of a new or reconditioned pump not being available.

To carry out the re-facing operation the cutter is assembled on the arbor as shown in Fig. 1.

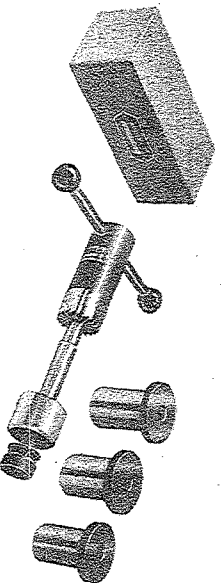


Fig. 1

STR 1440

With the pump completely stripped (see this Journal, Volume 19, section "Tools", pages 15-20) the appropriate pilot is selected and placed in position in the pump housing thus replacing the bearings and providing a centraliser for the cutter.

The arbor, carrying the cutter, is passed through the pump body and pilot until the cutter contacts the face to be cut, the thrust race is then fitted and held into position by the knurled nut.

NOTE: The thrust race is marked 'Top' on one face and this marking should be nearest the pilot when the race is fitted. The knurled nut should be tightened by hand only.

Rotating the tool in a clock-wise direction will speedily produce a smooth surface and cutting should not continue beyond that point. The cutter should not, at any time, be turned anti-clockwise, and the knurled nut must be kept hand tight as the cutting proceeds. No lubrication is necessary.

The re-facing operation should be carried out with the pump body held firmly in a vice, but great care should be taken to ensure that the casting is not damaged or distorted in any way. It is suggested that it is safest to fix it in the vice as shown in Fig. 2.

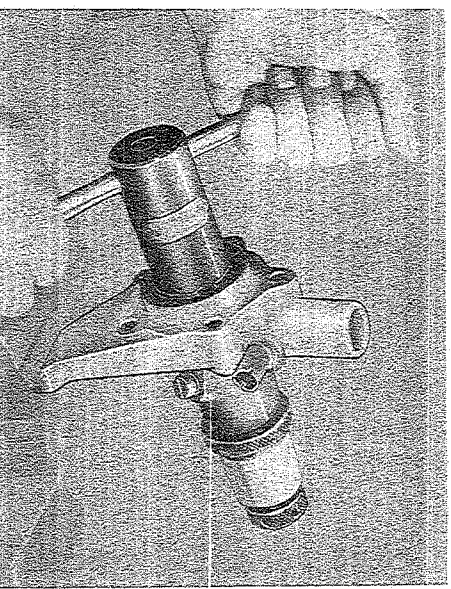


Fig. 2

STR 1491

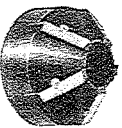
Under no circumstances should the circular part of the castings be gripped in the vice.

It is usual to fit new bearings, carbon ring and rubber seal when reconditioning a water pump and the use of tools GT 60 or GT 61 (according to the pump model) will ensure the correct fitting of the new races.

# VALVE SEAT GLAZE BREAKERS

## All Models

Worn valve seats usually have a glass-hard surface and in order to prepare them for recutting and finishing, glaze breakers have now been made available which will enable the work to be done quickly and with economy in cutting tools. The cutters are designed to be used with the standard range of pilots and handle which are available for finishing valve seats.



STR 1441

The glaze breakers must be used in the same manner as valve seat finishing cutters; a few light revolutions are sufficient to break the glass hard surface of the valve seat. After removing the glaze the seat must be finished by using the standard cutters. No attempt should be made to use glaze breakers on hardened steel valve seat inserts which may have been fitted in service. Instead the inserts should be replaced.

# **VALVE SEAT NARROWING CUTTERS** **All Models**

After valve seats have been recut several times, the width of the seat increases beyond the permitted dimension. The desired width can however be retained if these narrowing cutters are used.

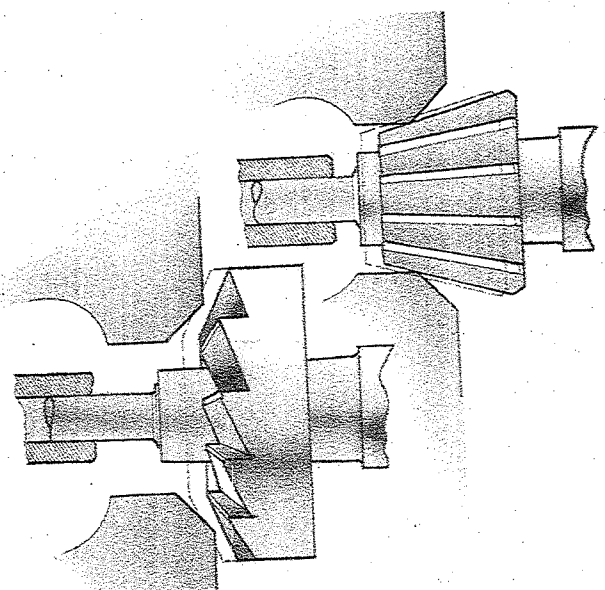
They are of two types—one, having a 15° angle, for cutting the top edge of the seat and the other, having a 75° angle, for cutting the bottom edge of the seat. The narrowing cutters are designed to be used with the standard range of pilots and handle which are available for finishing valve seats.



STR 1442

They are operated in the same manner as the valve seat finishing cutters; a few light revolutions are sufficient to reduce the width of the valve seat.

If hardened steel valve seat inserts have been fitted in service then these narrowing cutters must not be used: the inserts should be replaced. The inlet valve seats should be  $\frac{1}{16}$ " wide and the exhaust  $\frac{1}{8}$ " wide.



STR 1493



## ENGINE WEAR

### (Reconditioned Units)

Reported premature wear and failure of reconditioned engines is often caused by obstructions in the breather pipe from the rocker cover to the carburetter air cleaner. A reconditioned engine is usually fitted after a car has covered a high mileage, at which stage oil vapour has had its effect upon the rubber connection, causing either partial or total obstruction, and thereby preventing the engine from breathing. In consequence, sludge formation is built up inside the rocker cover causing considerable wear to the engine throughout. It is imperative that whenever a reconditioned engine is fitted, a new

rubber connection between the air cleaner and rocker cover, should be used. At the same time the air cleaner should be washed out with clean petrol, excess petrol and any remaining grit should be "blown out" with an air line. If the air cleaner cannot be cleaned a replacement part should be fitted.

It is recommended that after every 6000 miles the air cleaner should be examined and thoroughly cleaned, and if any doubt exists as to the condition of the air cleaner or the rubber connection, replacement parts should be fitted.

## ANTI-FREEZE SOLUTIONS

With reference to soluble oil in the water cooling system, see this Journal, Volume 24, section "Engine", page 11, it must be understood that anti-freeze solutions must not be added to the cooling water if soluble oil has already been added.

As a precaution against freezing it is advisable to drain the water from the radiator and replenish it with the recommended proportions of anti-freeze and fresh water.

# PISTONS

10-H.P.

A new piston of the fully split skirt type is now available for service purposes on the above vehicle. The new piston gives better performance and compression than the old solid skirt piston.

## INTERCHANGEABILITY

The new pistons are interchangeable in sets and will be supplied for replacements when stocks of the old ones are exhausted. The piston rings are not interchangeable with those used on the old pistons.

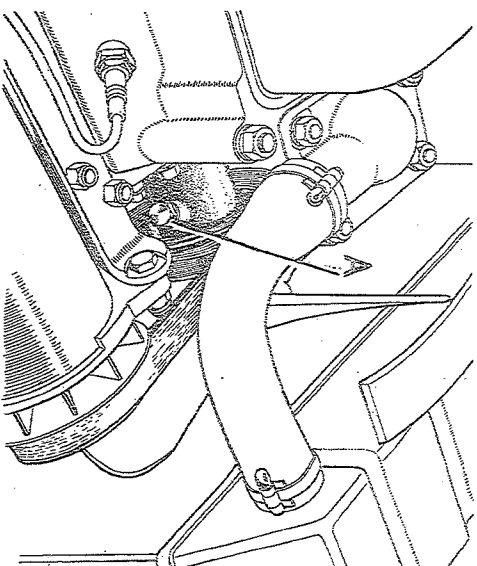
### SUMMARY OF ALTERATION

Description	Number Off	Old Part	New Part	Type and Parts List Publication Number
Pistons with rings and gudgeon pin.	4	G3-193	11G 86	10-H.P. Pub. 214A, p. 5
Piston rings, parallel, top groove .	4	1G 939	11G 88	
Piston rings, taper, 2nd groove . .	4	1G 1213	11G 89	
Scraper rings . . . . .	4	1G 1201	11G 90	

# WATER PUMP OILING PLUG Austin-Healey 100

The water pump oiling plug illustrated in the Owners' handbook Publication 996, page 37, Fig. 18 is incorrect, the plug shown being merely a blanking plug. The accompanying illustration shows the oiling plug at A on the right hand side of the pump body.

To ensure that owners are not confused, handbooks should be amended as and when possible particularly before an owner takes delivery of a new car.



STR 1511

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
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# THE OVERDRIVE UNIT AUSTIN-HEALEY 100

The overdrive unit which is fitted to the Austin-Healey 100 is automatically operated by an electrical circuit. It comprises an hydraulically controlled epicyclic gear housed behind the 3-speed synchromesh gearbox in place of the normal type of rear cover.

## THE PRINCIPLE (Fig. 1)

An epicyclic gear train is arranged to consist of a sun wheel A, planet wheels B, a planet wheel carrier D and an outer ring, the annulus C.

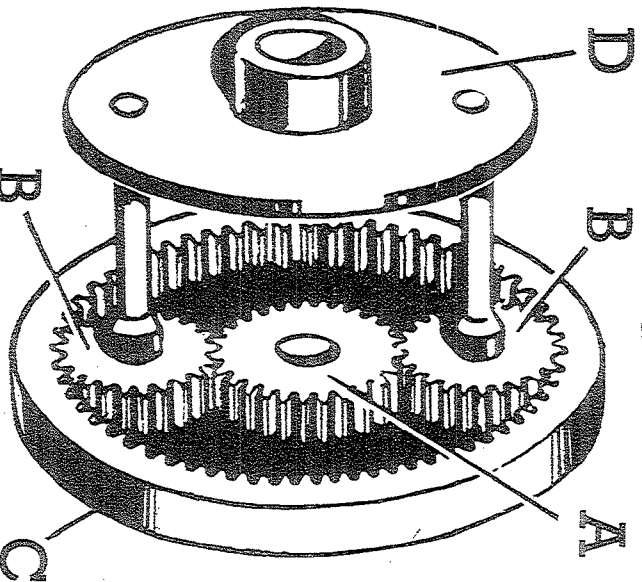


Fig. 1. Principle of an epicyclic gear STR 1168

If the planet carrier is rotated while the sun wheel is locked to the annulus or the planet carrier, the whole gear train will rotate as a solid unit giving a direct through drive. If on the other hand the sun wheel is locked to the casing preventing it from rotating, and the planet carrier is rotated, the annulus will be overdriven at a higher speed than the planet carrier.

## HOW IT WORKS

In addition to an epicycle gear train similar to the one depicted in Fig. 1, there is also an hydraulic pump, an hydraulic accumulator or pressure storage chamber, a roller clutch and a sliding cone clutch.

When in direct gear (Fig. 2) the overdrive is inoperative, the drive is taken from the driving shaft A through the rollers B of the roller clutch to the annulus C. It will be realised that the roller clutch, being uni-directional can transfer power in one direction only, and that if the car were to over-run the engine, the roller clutch would act as a free wheel leaving the car without engine resistance to assist braking. It would also be impossible to reverse the car for the same reason. This problem is overcome by means of the cone clutch D which slides on a splined extension E on the sun wheel and is pushed by eight compression springs so that the inner lining F engages with the corresponding cone on the outer rim of the annulus. This, therefore, locks the sun wheel to the annulus so that the entire gear train and cone clutch rotates as a solid unit, with the drive being taken through the roller clutch, and

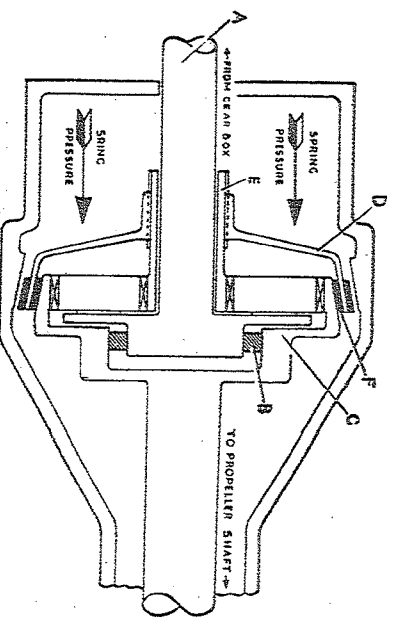


Fig. 2. Operation in direct drive STR 1169

overrun and reverse being taken through the cone clutch.

When overdrive is engaged (Fig. 3) a valve in the unit is opened, applying hydraulic pressure from the pressure accumulator to two pistons which work in cylinders formed in the unit housing. These pistons exert pressure against the cone clutch member, overcoming the spring pressure and pushing the cone clutch (D) away from the annulus until the outer lining (B) presses against a conical brake ring (A) built into the main casing.

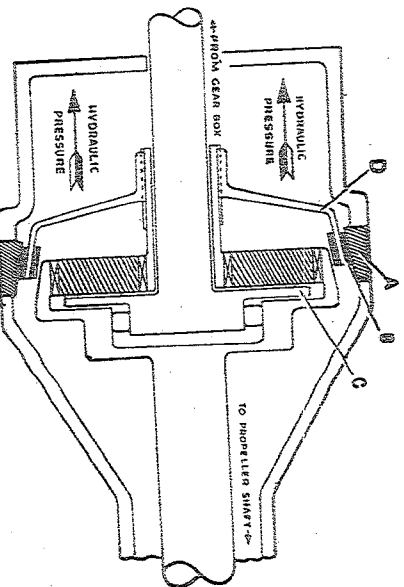


Fig. 3. Overdrive in operation

STR 1170

The sun wheel, which carries on its splined extension the cone clutch, is free to rotate on the driving shaft, therefore, when the cone clutch comes into contact with the brake ring, both cone clutch and sun wheel are brought to rest and held stationary. The planet carrier (C) which is splined to the driving shaft is driven round the stationary sun wheel so that the planets rotate and overdrive the annulus at a higher speed than the driving shaft. In overdrive, the outer member of the roller clutch overruns the inner member. Engine braking is again provided by the cone clutch which holds the sun wheel from rotating in either direction.

#### CONSTRUCTION (Fig. 4)

The mainshaft of the 3-speed synchromesh gearbox is extended to form the input shaft (1) of the

overdrive unit. This shaft carries first of all a cam (3) operating a plunger type hydraulic pump (39). The pump delivers oil through a non-return valve (36) to the accumulator cylinder (35), in which a piston (34) moves back against a compression spring (33) until the required pressure is reached when relief holes are uncovered. Further back on the shaft there is a freely rotatable sun wheel (17) in one piece with an externally splined sleeve. Immediately behind the sun wheel and splined to the shaft is the planet carrier (15) in which are mounted the three planet wheels (16). At the rear of the input shaft and also splined to it is the inner member (20) of the roller clutch. The outer member (18) of the roller clutch is carried in the annulus (32) which is in one piece with the output shaft. Mounted on the splined sleeve of the sun wheel is a double cone clutch member (11). The cone clutch member can slide upon the splined sleeve of the sun wheel so that the inner lining (14) can make contact with a corresponding cone on the annulus, alternatively the outer lining (12) can make contact with a cast-iron brake ring (13) which forms part of the unit housing. To the hub of the cone clutch member is secured a ball bearing (9) housed in a flanged thrust ring (10). This ring carries on its forward face eight pegs (7) acting as guides to eight compression springs (8) by which the cone clutch member is held against the annulus. The thrust member is held against the annulus. The thrust ring also has attached to it four pins (5) which carry two bridge pieces (6) bearing against the pistons (2) operating in cylinders formed in the unit casing. The pistons can push in the opposite direction to the thrust of the springs and are connected through a valve to the pressure accumulator.

In direct gear the drive from the input shaft is through the rollers (19) of the roller clutch which rise up the inclined faces of the inner member and become wedged between the inner and outer member of the clutch. The inner lining of the

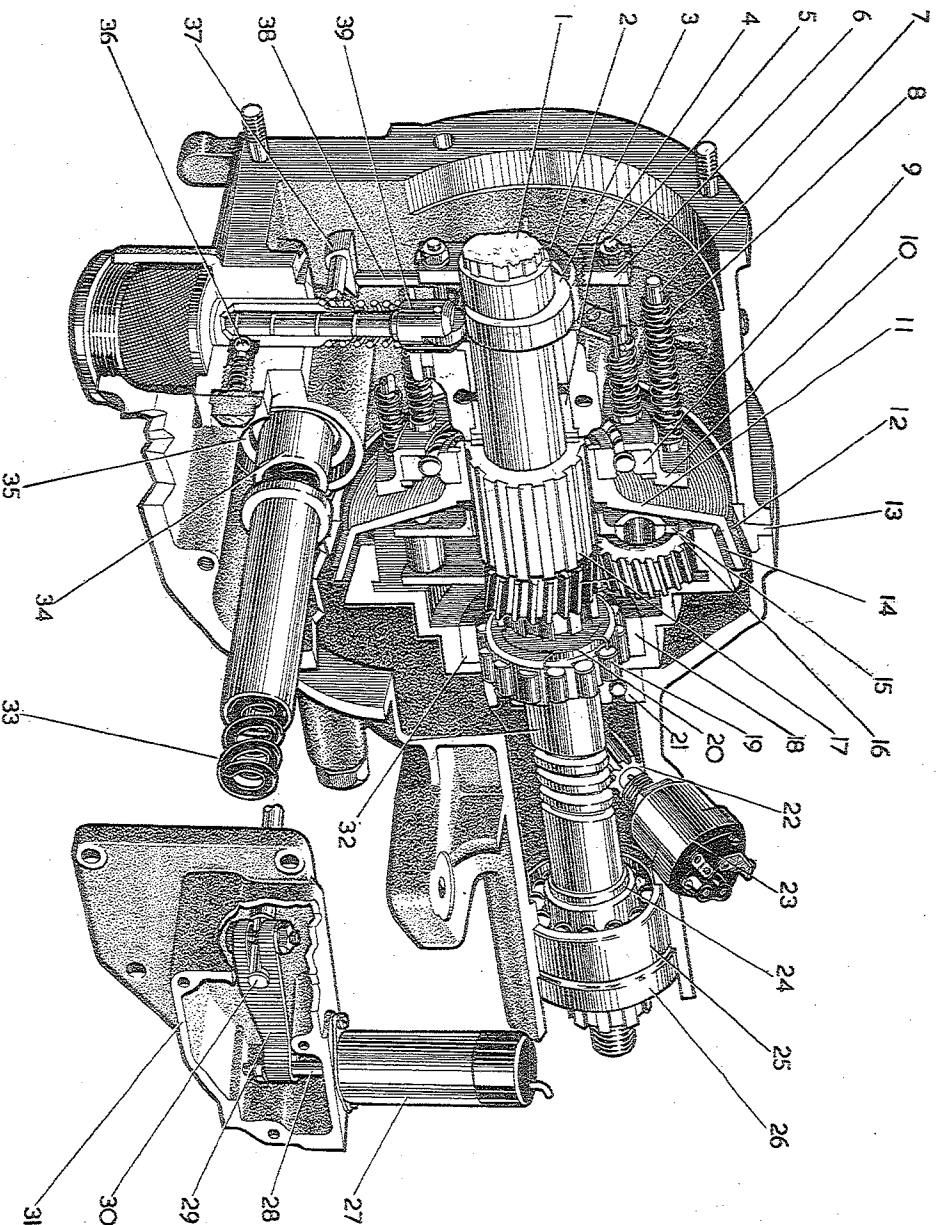


Fig. 4. Sectional view of the overdrive unit

STP 1171

cone clutch is held locked by spring pressure against the annulus so that the entire gear train rotates as a solid unit to prevent a free wheel condition and to handle reverse torque.

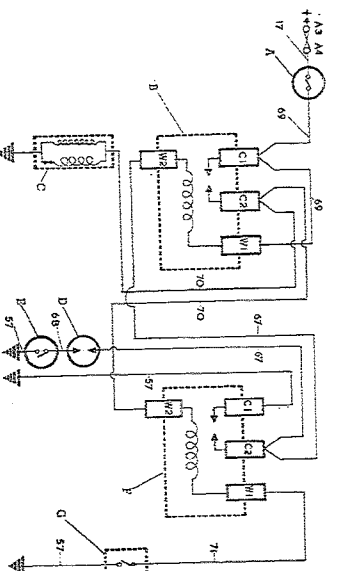
The change into overdrive is done entirely automatically at 40-42 m.p.h. (64-68 k.p.h.). Driven from the rear end of the speedometer pinion (22) is a centrifugal switch (23) which operates to supply current to the operating solenoid (27) mounted on a bracket (31). The plunger (28) of the solenoid lifts the lever (29) rotating the valve operating shaft (30), so that the cam lever (37) lifts the operating valve spindle (38) admitting oil from the pressure accumulator cylinder into the two cylinders in the unit casing, to push the operating pistons (2) against the bridge piece (6).

The cone clutch member now overcomes the eight clutch springs and slides forward along the splines of the sun wheel extension until the outer lining (12) contacts the stationary brake ring (13). The oil immersed cone clutch comes smoothly to rest together with the sun wheel resulting in a perfectly self synchronised change into overdrive. During the brief period of time when the change into overdrive is taking place the power continues to be transferred through the roller clutch until overdriving actually commences, so that the drive is without interruption and the change instantaneous. When changing from overdrive to direct drive the throttle may be kept open. The release of oil pressure from the operating cylinders is deliberately restricted so that the cone clutch takes

about half a second to move over to the direct drive position. As soon as contact between the cone clutch and the brake ring is broken, the load on the engine is released allowing the engine to speed up until the roller clutch ceases to be overrun and takes up the drive again. The change into normal is completed as the cone clutch contacts the annulus to prevent free-wheeling. When the throttle is kept partly open the engine speeds up when the cone clutch is released from contact with the brake ring, and the cone clutch then takes up the drive smoothly against the annulus. The electrical control circuit is so arranged that the overdrive once engaged will not disengage unless the throttle is partly open.

### THE ELECTRICAL CONTROL GEAR

The operating valve lever is lifted automatically by the plunger of an electric solenoid. The solenoid has two separate coil windings with an internal switch which is closed when the solenoid



- A. Gearbox switch.
- B. Relay Number 1.
- C. Operating solenoid.
- D. Centrifugal switch.
- E. Manual switch.
- F. Relay Number 2.
- G. The throttle switch.

- 17. Green.
- 57. Black.
- 67. Green with Red and Black.
- 68. Green with Black and Yellow.
- 69. Green with Brown and Yellow.
- 70. Green with Red and White.
- 71. Green with Black and White.

Fig. 5. Electrical Circuit

STR 1172

is not energized. The closing coil gives a powerful initial lift to open the valve, after which the internal switch opens leaving the holding coil to continue holding the valve open.

The current to operate the solenoid is taken

first of all through a gear switch in the gearbox which limits the use of overdrive to 2nd and top gear. When the car reaches 40-42 m.p.h. (64-68 k.p.h.) a centrifugal switch closes, and energizes the windings of relay number 1, the contacts of which close and pass current to energize the solenoid. There is a manually operated switch wired in series with the centrifugal switch and mounted on the dash panel A (Fig. 6), which permits the driver to cut out the overdrive at his own discretion on such occasions as overtaking or ascending a hill.

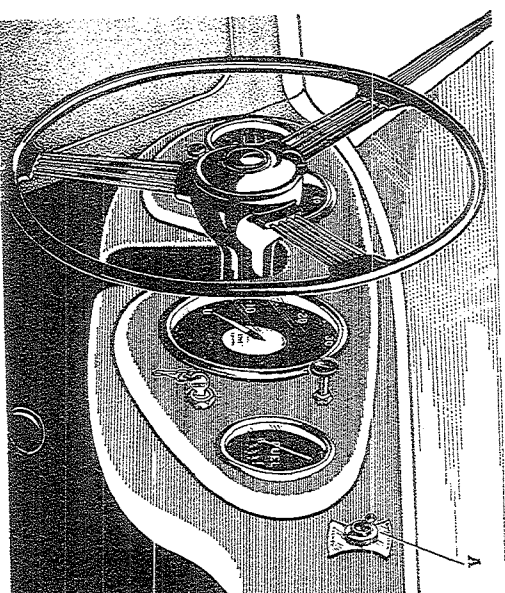


Fig. 6. The Manual Switch

STR 1173

The change from overdrive to normal is also made automatically by the centrifugal switch as the car slows down to 35-30 m.p.h. (48-56 k.p.h.) provided that the throttle is not closed.

As previously mentioned it is desirable that the throttle should be open when the change from overdrive to normal takes place, thus allowing the engine to increase speed to suit the lower gear, because if the change takes place with a closed throttle, and the car overrunning the engine, some noticeable braking effect would occur. This is prevented by a rotary throttle switch, which is connected to the accelerator controls in such a way that the switch is closed when the throttle is closed, and opens when the throttle is

more than one-fifth open. When the car is in overdrive and the throttle is closed the switch passes current to the windings of number 2 relay, the contacts of which short circuit the centrifugal and manual switches, so as to render them non-operative. When the throttle is opened the throttle switch opens allowing the centrifugal switch and manual switch to operate normally.

### THE HYDRAULIC SYSTEM

The hydraulic system is supplied with oil by a plunger type pump operated by a cam on the gearbox third motion shaft extension. The pump body is a press-fit into the overdrive front casing, and is fed with oil from the sump of the casing through a fine mesh strainer. The oil is delivered through a non-return ball valve to the accumulator cylinder, in which a piston moves back against a powerful compression spring until the required pressure of 430-460 lb. per square inch (30.23-33.34 kilogrammes per square centimetre) is reached, when relief holes are uncovered. From the relief holes the oil is led through drilled passages in the overdrive body to an annular groove between the two steady bushes for the gearbox shaft extension. Radial holes in the shaft collect the oil and deliver it along an axial drilling to other radial holes in the shaft, providing positive pressure-fed lubrication to the sun wheel, thrust washers, planet carrier and planet bearings. From the accumulator cylinder oil under pressure is supplied to the operating valve chamber by way of a drilled passage in the unit casing. When the operating valve is lifted, the oil flows under pressure via another drilled passage to the two operating pistons which work in cylinders formed in the unit casing. When the operating valve is closed, the oil in the operating cylinders is returned to the sump.

### CARE AND LUBRICATION

The oil in the overdrive is common with that in the synchromesh gearbox. The oil to use is ordinary mineral oil, in the following grades:—

Normal summer climates	—	S.A.E. 30
Normal winter climates	—	S.A.E. 20

Under no circumstances should extreme pressure gear oils such as S.A.E. 80, S.A.E. 90 be used because the centrifugal effect of the planets may separate some of the additives from the oil and cause sludging. The oil capacity of the gearbox and overdrive unit is 4½ pints (2.556 litres), and the correct level must be carefully maintained. It will be necessary to remove the drain plugs from both gearbox and overdrive unit to drain them, but refilling is done through the gearbox only.

Refill the gearbox with oil after draining and then drive the car a short distance, after which top up with oil because some of the oil will have been taken into the hydraulic system. Do not run car with no oil in the unit because air may enter the hydraulic system.

Cleanliness is the keynote to satisfactory performance of any hydraulic system. The smallest amount of dirt or "fluff" from a wiping cloth which finds its way into a valve will cause a great deal of unnecessary difficulty. Pay particular attention to the clean condition of the oil used for filling, and carefully clean all around the filler plug each time before removing it. Regular attention to these small details will be rewarded by long and trouble-free service. Access to the gearbox filler plug C (Fig. 14) is obtained through a small panel, secured by one screw and positioned at the extreme from right-hand side of the centre tunnel.



## DIAGNOSIS AND RECTIFICATION OF FAULTS

Any faults in the overdrive or its control gear will become manifest in one or other of five symptoms. These five symptoms are given below and each one is accompanied with a procedure for finding and rectifying the fault in the quickest possible time. The tests given are arranged in progressive order so as to avoid any unnecessary dismantling or removal of parts. As familiarity with the overdrive increases, almost any fault can be isolated and rectified within a short time.

Each of the tests given is based on the assumption that the previous tests have been satisfactorily carried out, and that the unit has been working normally prior to the fault developing. When a unit has been removed from the gearbox and replaced, other faults can occur due to wrong assembly but these faults are given separately in the sections dealing with fitting, stripping and rebuilding of the overdrive.

### SYMPTOM NUMBER 1—OVERDRIVE DOES NOT ENGAGE

#### 1. Insufficient oil in the unit

The gearbox must be filled to the level of the filler plug. Be sure to clean carefully around filler hole before removing plug.

#### 2. Electrical Control Gear

The electrical control circuit should be checked through in the following progressive order.

(a) *Blown fuse.* The feed to the overdrive is taken from the ignition circuit, through the 35-ampere fuse A3-4. Should the fuse be blown the various auxiliary circuits, namely, direction indicator, petrol gauge, windscreen wiper and heater motor will also be inoperative. Replace the fuse, and switch on the ignition. If the fuse again blows it will be necessary to trace the faulty

circuit by disconnecting all of the auxiliaries from A 4 and reconnecting each circuit in turn and operating it. If a faulty circuit is found, examine the wiring for "short" circuits.

(b) If the fuse is not blown and the wiring is in order the next thing to do is to check that there is a feed to relay number 1 which is the left-hand one of two identical relays mounted side by side beneath the dash on the driver's side of the car (Fig. 7). With the engine stopped and the ignition switch 'on' engage top gear, connect a test lamp from terminal C.1 on relay number 1 to earth. If the lamp fails to light, then the gearbox switch D (Fig. 16), is faulty or maladjusted and must be adjusted or replaced as necessary. The switch is the plunger type, operated by the change speed cross shaft, and adjustment is effected by adding fibre washers as required between the switch and the screwed adaptor in the gearbox casing.

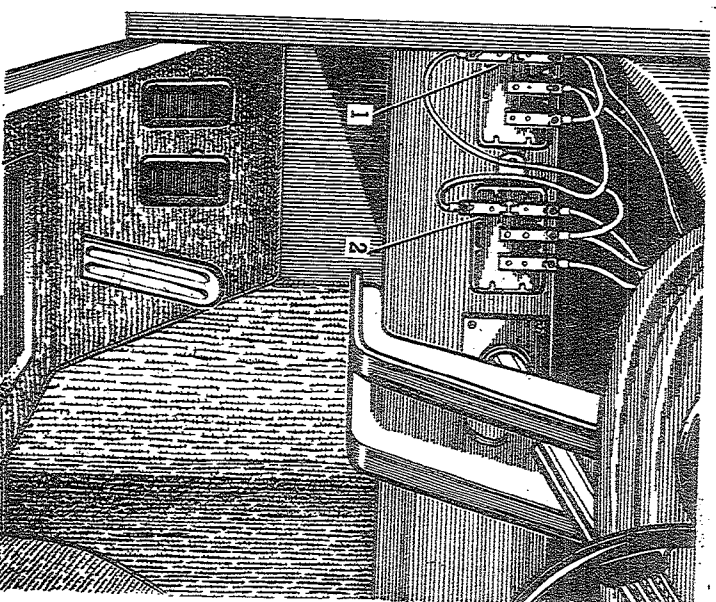


Fig. 7. The Relays

STR 1174



# DIAGNOSIS AND RECTIFICATION OF FAULTS—continued

(c) If the previous test is satisfactory, relay number 1 should now be tested. With the ignition switch still 'on' and top gear engaged, use a screwdriver blade to short circuit terminal W.2 to the metal casing of the relay, and listen for the "click" as the solenoid operates. If there is no "click", either relay number 1 or the solenoid is faulty. To find out which, put the screwdriver blade across the terminals C.1 and C.2 of relay number 1. If the solenoid now operates the relay number 1 is faulty and must be replaced. If the solenoid does not operate then the solenoid is faulty and must be replaced. To replace the solenoid, or investigate any further it is necessary to remove the centre tunnel cover which is held to the floor by six self-tapping screws.

(d) If the solenoid is working correctly in the previous test the centre tunnel must be removed and the centrifugal switch tested. With the ignition switch 'on', top gear engaged and the overdrive manual switch 'on', place the screwdriver blade across the terminals of the centrifugal switch. If the solenoid operates, it indicates a faulty centrifugal switch, which should be replaced by a new one and the car road tested to confirm the diagnosis.

(e) If the solenoid does not operate in test D the manual switch may be faulty. To check this, switch on ignition, engage top gear, place screwdriver blade across the terminals C.1 and C.2 of relay number 2 which is the right-hand one of two such relays under the dash (Fig. 7). Operation of the solenoid indicates a faulty manual switch which must be replaced.

(f) If the action of the solenoid is weak, or if the solenoid makes a "buzzing" noise, it is defective and must be replaced.

(g) If overdrive operates, but the solenoid overheats, the solenoid is defective and must be replaced. The normal current consumption of the system should be approximately 1.0 to 1.5 amperes. Overheating of the solenoid will be accompanied

by a current consumption of approximately 18-20 amperes, and the solenoid will soon burn out.

(h) If the overdrive cuts in or out at a wrong speed, the centrifugal switch is probably faulty and the car should be road tested with a new one.

NOTE: If the car is moved after the centrifugal switch is removed, the speedometer pinion will become displaced. Special attention should be paid that the speedometer pinion is correctly engaged before fitting the centrifugal switch.

## 3. Solenoid Lever not set correctly

The solenoid lever, once set should not normally require any further adjustment. Checking the setting of the lever takes only a few seconds and should be carried out at this point in case any initial "bedding down" has caused maladjustment. On the opposite side of the overdrive to the solenoid will be seen a valve setting lever C mounted on the end of the valve operating shaft D. In the outer end of the lever is a  $\frac{3}{16}$ " (4.7625 mm) diameter hole A, which must line up with a similar hole B in the overdrive casing when the lever is in the correct overdrive position (Fig. 8).

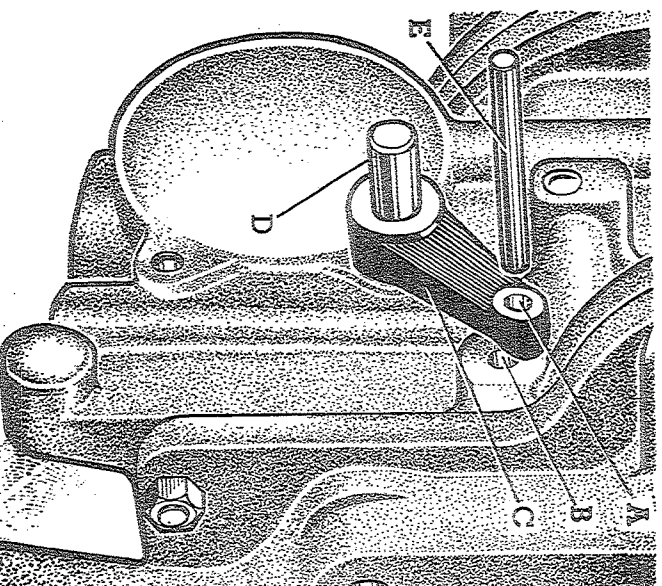


Fig. 8. Setting the operating valve

SVR 1175

## DIAGNOSIS AND RECTIFICATION OF FAULTS—continued

To check this setting, switch on the ignition, engage top gear and switch overdrive manual switch "on". Short together the two terminals of the centrifugal switch with the blade of a screw-driver, when the solenoid will operate and move the valve operating shaft to the overdrive position. The solenoid will remain energized after the screwdriver point is taken from the centrifugal switch because R.2 is a holding relay, and the solenoid will continue to hold the lever up until the accelerator pedal is depressed. The hole in the setting lever should now be in line with the hole in the overdrive casing, and it should be possible to insert a  $\frac{3}{16}$ " (4.7625 mm) diameter pin E (Fig. 8) or drill shank into the two holes. If the holes do not line up, the solenoid lever must be reset. Proceed as follows:—

- (1) Remove the cover plate E from the solenoid bracket.
- (2) Slacken off the clamping bolt A in the solenoid lever.
- (3) Energize the solenoid as already described and put a  $\frac{3}{16}$ " (4.7625 mm) diameter pin through the hole in the valve setting lever into the hole in the casing.
- (4) Hold the solenoid lever C downwards so that it bears lightly against the head of the plunger bolt D and tighten the clamping bolt A (Fig. 9). Make sure that there is no end-float

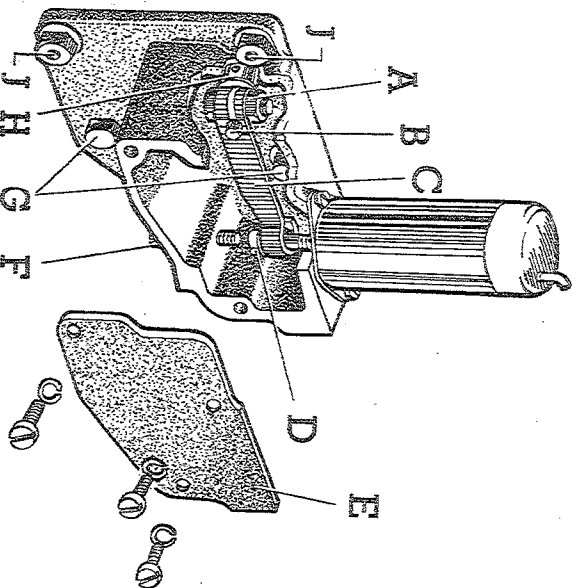


Fig. 9. Adjusting the solenoid lever  
STR 1176

in the valve operating shaft by pressing the valve setting lever and the solenoid lever inwards simultaneously when tightening the solenoid lever bolt. This expands the oil seals and prevents oil leakage.

- (5) Remove the pin from the setting lever and operate the solenoid several times by switching the ignition on and off with the terminals of the centrifugal switch short circuited together.
- (6) Check that the hole in the valve setting lever corresponds with the hole in the casing by inserting the pin again. If the two holes do not quite line up, a fine adjustment can be made by screwing the solenoid plunger bolt D further in or out of the plunger, to adjust this bolt it will be necessary to remove and replace the split pin which secures the two parts.
- (7) After ensuring that the setting is correct replace the cover to the solenoid bracket.
- (8) The adjusting screw F is to prevent the plunger bolt from falling too low when the solenoid is not energized. The screw should be set to give  $\frac{1}{4}$ " (6.35 mm) clearance between the head of the plunger bolt and the end of the screw when the plunger is lifted. (On later models, the use of this screw is discontinued, and a rubber stop used instead).

### 4. Operating valve leaking due to foreign matter on the valve seat

The operating valve chamber (Fig. 10) is an enlargement at the top of a vertical bore in the overdrive casing. It is sealed with a screwed plug A, and contains a spring B and plunger C, which hold a steel ball D downwards against a seating F, to prevent oil from circulating to the operating cylinders. The valve J is a hollow spindle sliding in the bore with a conical seating G for the steel ball in the top end. When the valve is lifted by the cam lever K it seats against the ball which is then lifted, admitting oil from the pressure accumulator via the drilled passage E, to the passage L and into the operating cylinders, moving the pistons forward to engage the cone clutch.

When the valve is lowered, the ball is allowed to come on to its seating in the housing, cutting off the supply of oil from the accumulator.

## DIAGNOSIS AND RECTIFICATION OF FAULTS—continued

Further lowering of the valve brings it out of contact with the steel ball, allowing the oil from the operating cylinders to return along passage "L," and down the inside of the valve, to discharge through the small restrictor jet H into the sump of the overdrive body. The jet is of such size that the cone clutch takes about half a second to move back under the influence of the clutch springs.

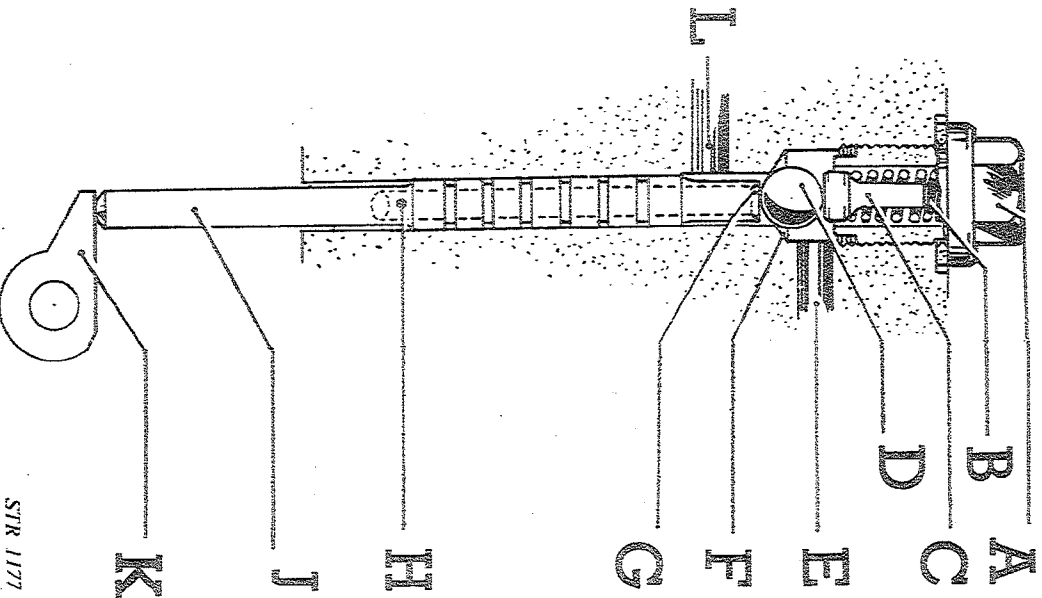


Fig. 10. The operating valve

STR 1177

The operating valve plug is placed at the top right-hand side of the overdrive casing A (Fig. 16). If the previous checks have all been satisfactory, this plug should now be removed. *Before removing the plug it is very important to release all oil pressure*

*from the system by operating the valve setting lever by hand about 10 times.* After removing the plug, spring, and plunger, the steel ball will be seen in the bottom of the valve chamber, a small magnet will be found useful for removing the ball from the chamber. To remove the valve a short length of wire, approximately  $\frac{3}{16}$ " (2.3812 mm) diameter should be inserted into the drilling in the centre of the valve, which can then be lifted out. Clean and examine the valve seats. If necessary the ball seat G on the operating valve can be re-finished by gently grinding in a spare  $\frac{3}{16}$ " (7.937 mm) diameter steel ball, using fine grade grinding paste. Do not use the actual ball from the unit for grinding in, and be sure to wash the valve clean before refitting it. If necessary, the ball should be rescated in the valve chamber by tapping it gently on to the seat F, using a soft copper drift.

### 5. No Oil Pressure

If the unit still fails to operate, and the operating valve is seating and lifting correctly check that the oil pump is working. Jack up the rear wheels of the car, remove the operating valve plug, and start the engine. Engage top gear with the engine ticking over slowly and watch for oil being pumped into the valve chamber. If none appears, then the pump is not working, probably due to foreign matter on the seat of the non-return valve. A flow of oil into the operating valve chamber does not prove that the oil pressure is correct, a pressure of about 430–460 lb. per square inch (30.23–33.34 kilogrammes per square centimetre) is required. An adaptor, part number 7H 5899, is available and should be used to replace the operating valve plug in conjunction with an oil pressure gauge reading up to 800 lb. per square inch (56.24 kilogrammes per square inch) and suitable for screwing into the  $\frac{1}{8}$ " B.S.P. thread in the mouth of the adaptor. Low pressure indicates leakage. To remedy this fault, proceed as follows:—

1. Remove the drain plug G and drain off oil (Fig. 11).

**DIAGNOSIS AND RECTIFICATION OF FAULTS—continued**

When the tension on the spring is released the two bolts which are 2" (5 cm) long can be taken right out and the solenoid bracket, accumulator spring and spring tube removed (Fig. 13).

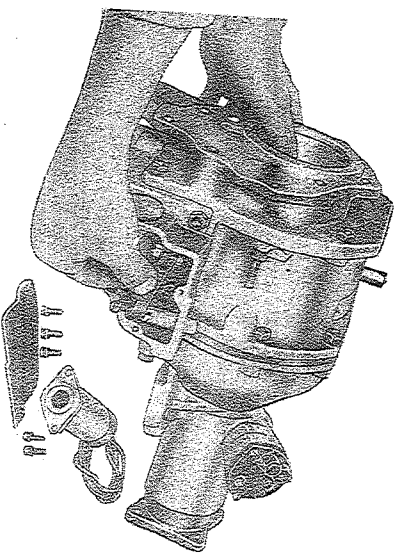


Fig. 12. Removing the solenoid lever  
STR 1179

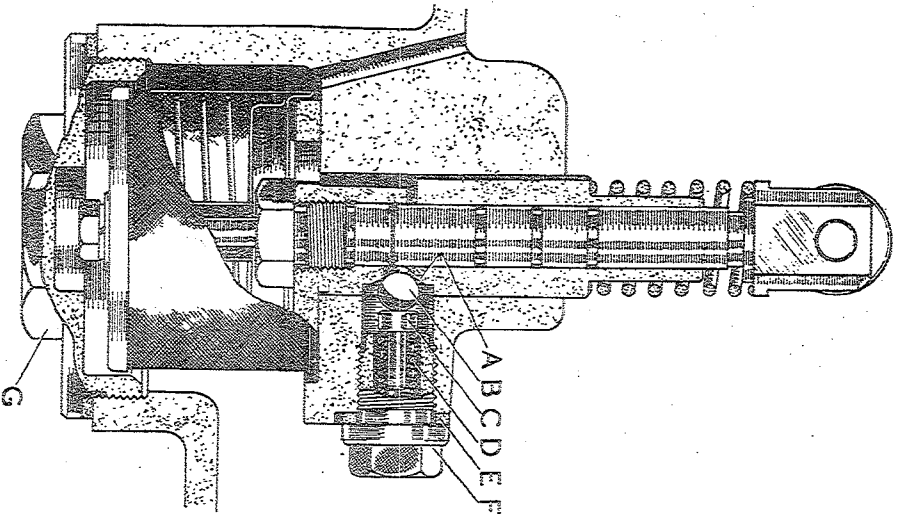


Fig. 11. The oil pump  
STR 1178

2. Remove cover from solenoid bracket.
3. Remove solenoid.
4. Slacken off clamping bolt in solenoid lever and remove lever with the solenoid plunger attached (Fig. 12).
5. Remove the distance collar H (Fig. 9).
6. The solenoid bracket is secured by two  $\frac{1}{8}$ " (7.937 mm) diameter studs and two  $\frac{1}{8}$ " (7.937 mm) diameter bolts, the heads of the bolts are painted red. *Remove the nuts from the studs before touching the bolts.* This is important. The two bolts should now be slackened off together, using box spanners as shown releasing the tension on the accumulator spring, which abuts the solenoid bracket.

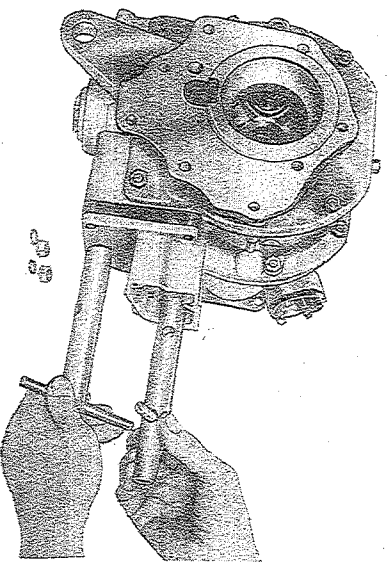


Fig. 13. Releasing the pressure from the accumulator spring  
STR 1180

7. The pump valve plug F can now be unscrewed with a box spanner, and the spring D, plunger C and ball B removed (Fig. 11).
8. Clean the valve seat A and resat the ball if necessary by gently tapping it on to its seat with a copper drift.

Re-assembly is the reverse of the above operations, but ensure that the valve plug is well tightened on to the soft copper washer E (Fig. 11), which should be replaced by a new one if damaged in any way.

**DIAGNOSIS AND RECTIFICATION OF FAULTS—continued**

Do not forget to replace the accumulator spring tube 35 (Fig. 43) when re-assembling, failure to do so will result in the piston housing becoming displaced as soon as the unit is driven. Also ensure that the end of the accumulator spring engages on the short dowel on the rear of the solenoid bracket.

After re-assembly it will be necessary to reset the solenoid lever, as already described.

NOTE: Figures 12 and 13 are shown for convenience with the overdrive removed from the car, but the procedure is exactly the same with the unit in the car.

**SYMPTOM NUMBER 2—OVERDRIVE DOES NOT RELEASE**

**IMPORTANT.** If this happens, do not try to reverse the car, because a transmission "lock" would occur in reverse, and damage may result.

**1. Blocked Restrictor Jet in the operating valve**

A symptom of this is failure to get back into normal, or a slow return to normal drive as the oil slowly leaks out through the blocked jet. The cure is to remove the operating valve as already described and clear the jet.

**2. Electric Control not operating correctly**

If the unit remains in overdrive after the ignition has been switched off, then the electrical circuit is not at fault. If, however, the unit cuts in and out with the ignition switch, a short circuit in the wiring or a faulty relay must be looked for.

**3. Solenoid Lever not set correctly or solenoid plunger "sticking"**

It is very unlikely that any maladjustment of the lever will develop to prevent overdrive from releasing. Make sure that there is  $\frac{1}{4}$ " (6.35 mm) clearance between the solenoid adjusting screw F (Fig. 9) and the head of the solenoid bolt when

the plunger is lifted. The setting and working of the valve setting lever should be checked as already described, and corrected if necessary.

**4. Sticking Cone Clutch**

This fault has been known to occur as a result of heating up after a long run on a new unit, before the linings are fully bedded in. The clutch invariably releases itself when it has cooled down a little, or it can be released by giving a sharp blow with a hide hammer on to the brake ring between the body of the overdrive and the rear cover.

5. Damaged parts within the unit necessitating removal and dismantling of the unit for inspection.

**SPECIAL NOTE.** Internal damage is very unusual and all tests should be re-checked before deciding to remove or dismantle the unit.

**SYMPTOM NUMBER 3—CLUTCH SLIP IN OVERDRIVE**

**1. Insufficient oil in gearbox**

The correct oil level must be maintained.

**2. Solenoid lever not set correctly**

Check the setting as already described.

**3. Insufficient hydraulic pressure**

Probably due to foreign matter on the ball seat of the pump valve, or on the ball seating on the operating valve. Check the pressure with the adaptor and gauge as already described, and clean and reseat valve if required.

**4. Worn or burned cone clutch outer lining**

This is not experienced even after very large mileages unless the car has been driven for a long time in overdrive, with the clutch slipping due to causes 1, 2 or 3, given above. Removal of the unit and replacement of cone clutch member, would be necessary in this case.

**DIAGNOSIS AND RECTIFICATION OF FAULTS—continued**

**SYMPTOM NUMBER 4—CLUTCH SLIP IN REVERSE OR FREE WHEEL CONDITION ON OVERDRIVE**

1. Blocked restrictor jet in operating valve causing sluggish return movement of the cone clutch  
Clean the restrictor jet as already described.

**SYMPTOM NUMBER 5—OVERDRIVE ENGAGES BUT DROPS OUT WHEN THE CAR SLOWS DOWN WITH THE THROTTLE CLOSED, ACCOMPANIED BY A NOTICEABLE BRAKING EFFECT**

**1. Wrong setting of the Rotary Throttle Switch**

The setting of the switch is very critical, and it should be realised that any adjustment of the accelerator controls, or carburetter throttle may also affect the setting of the throttle switch which must be set to open at  $\frac{1}{4}$ th throttle opening. If this fault develops, it will probably be after the accelerator controls or the carburetter have been adjusted, and the switch should be tested and if necessary reset as follows:—

Take a feed from terminal A.1 on the fuse block through a low current consumption test lamp F (a 12-volt, 2.2-watt dash panel bulb is suitable) to the top contact E of the rotary throttle switch D (Fig. 14).

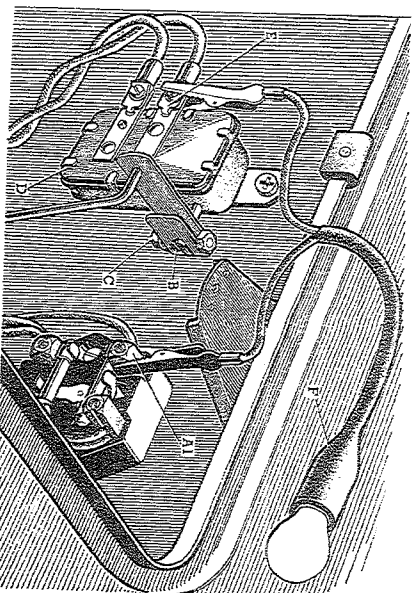


Fig. 14. Setting the throttle switch STR 1181

When the throttle is closed, the bulb should light at full brilliance and should go very dim

when the throttle is opened beyond  $\frac{1}{4}$ th. The bulb does not go completely out because when the switch opens there remains a high resistance path to earth through the windings of the relay R.2 and the solenoid. One-fifth opening of the throttle can be accurately gauged by inserting a .048" (1.319 mm) feeler C between the throttle stop A and the throttle stop screw B (Fig. 15). If the setting is incorrect slacken the throttle switch lever clamping bolt C and adjust the switch by turning the shaft B (Fig. 14) which has a slotted end to take a screwdriver.

**NOTE:** If the lamp will not light at full brilliance at all, the rotary throttle switch is faulty and must be replaced.

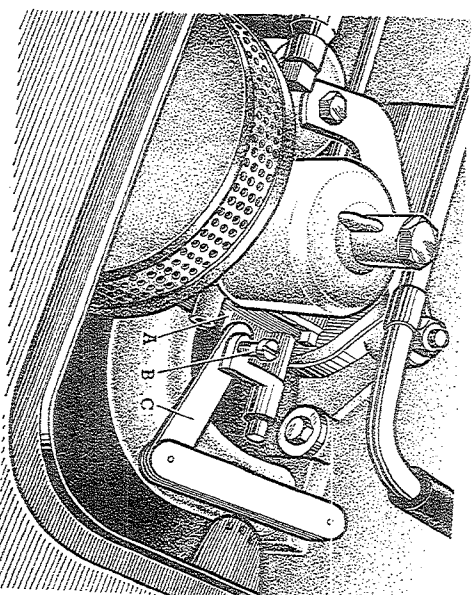


Fig. 15. Gauging the throttle opening STR 1182

**2. Faulty operation of Relay Number 2**

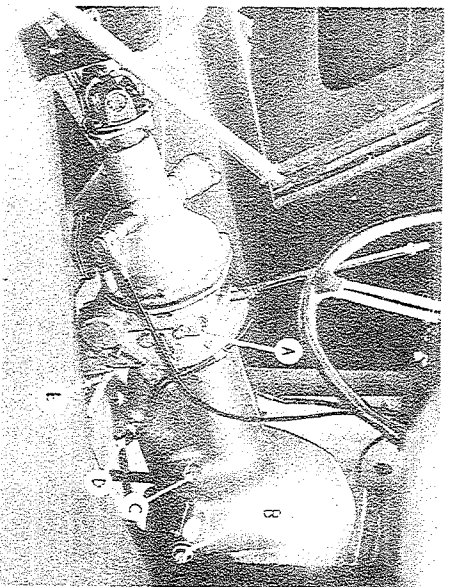
If the rotary throttle switch is correctly set and in good order then relay number 2 is probably at fault. Test as follows:—

- (a) Disconnect terminal W.2 on relay number 2.
- (b) Switch on ignition and engage top gear.
- (c) Using a short piece of wire short circuit terminal W.1 on relay number 1 to terminal W.2 on relay number 2. If solenoid fails to operate with throttle closed, relay number 2 is defective and must be replaced.

**GEARBOX AND OVERDRIVE REMOVAL AND REPLACEMENT**

**REMOVAL**

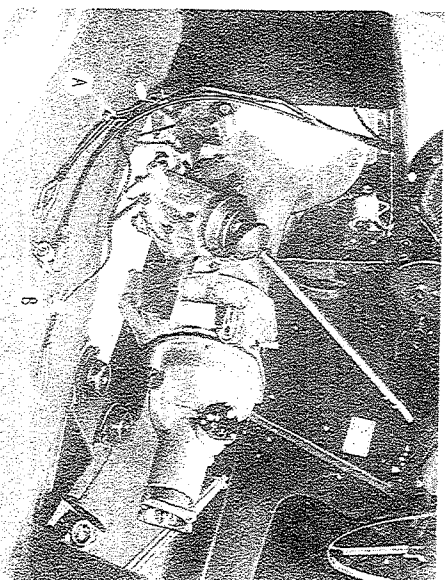
1. Jack up front of car and place on to wheel stands or tressels, or position car over a pit.
2. Turn battery master switch in rear boot to the "off" position.
3. Remove both front seats, which are held to the floor by two setscrews each, and remove carpets and matting.
4. Remove centre tunnel cover, which is screwed to the floor with six self-tapping screws, and the centre panel on the front bulkhead which is also held with six self-tapping screws. The gearbox and overdrive unit is now exposed for removal (Fig. 16).



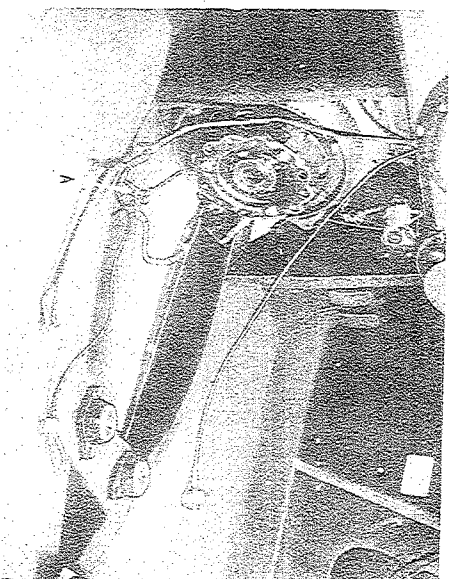
STR 1183  
Fig. 16. Transmission exposed for removal

5. Remove the bottom bolts which hold the gearbox to the engine rear plate.
6. Remove starter.
7. Disconnect the clutch operating lever from the clutch operating shaft. It is only necessary to remove the nut B (Fig. 16). The lever will then slide free. The clutch lever can be seen hanging freely at A (Fig. 18).
8. Remove the engine rear tie rod which can just be seen at E (Fig. 16).
9. Disconnect the overdrive harness A and speedometer cable B (Fig. 17).
10. Remove the four propeller shaft bolts and the rear mounting bolts.
11. Jack up rear of engine or alternatively use a lifting block attached to the rear of the engine, until the mounting flange on the overdrive unit is five inches clear of the mounting rubbers, as

shown in Fig. 17. It may also be necessary to slacken the nuts which hold the radiator to the radiator brackets, to allow the radiator to tilt forward slightly giving clearance for the fan when the unit is lifted.



STR 1184  
Fig. 17. Transmission ready for removal



STR 1185  
Fig. 18. Interior of car with transmission removed

12. Remove the top gearbox mounting bolts.
13. The gearbox and overdrive unit can now be lifted clear by hand, taking care not to strain the clutch centre plate by tilting the gearbox out of alignment.

**RE-ASSEMBLY**

Re-assembly is carried out in reverse order. If the clutch has been removed, it will be necessary to re-align the clutch centre plate using tool GT 80.



## FITTING THE OVERDRIVE TO THE GEARBOX

Experience has shown that it is quicker to remove the gearbox and overdrive from the car altogether, and to remove or refit the overdrive on the bench, than to fit an overdrive with the gearbox in the car. The overdrive can be removed very easily from the gearbox by carrying out the operations 1 and 2 in the following notes, when the gearbox and overdrive can be pulled apart, leaving the adaptor plate bolted to the gearbox.

1. Very carefully clean the outside of the overdrive unit and the gearbox. Cleanliness is of paramount importance.
2. Remove the adaptor plate A which forms the front cover of the unit, and is fixed by four short studs B screwed into the overdrive casing, and two long ones C screwed into the adaptor plate (Fig. 19).

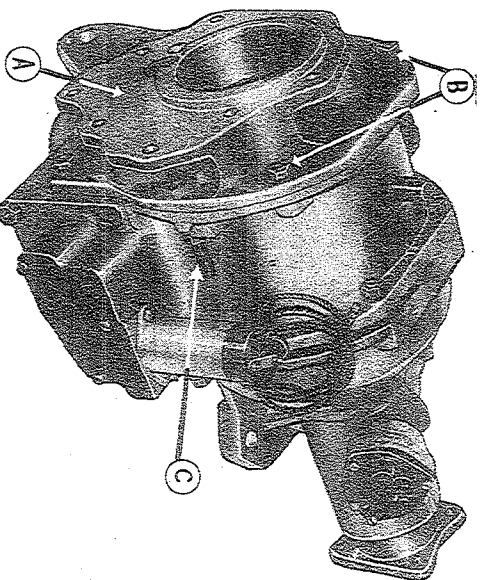


Fig. 19. Assembled overdrive unit

STR 1186

Remove the nuts from the four short studs first of all, and then simultaneously remove the nuts from the two long studs, releasing the pressure from the clutch springs. Pay attention to the degree of stiffness which is given to these two nuts by the pressure of the clutch springs, so that any undue pressure required to tighten these nuts later on would be noticed.

3. Press the ball journal bearing A for the mainshaft into the housing on the adaptor plate and fit the circlip B (Fig. 20).

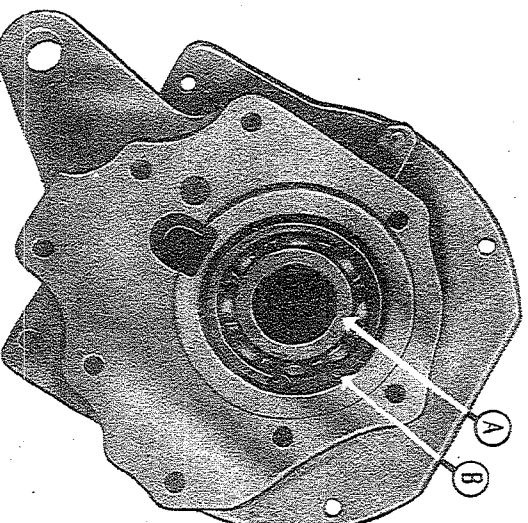


Fig. 20. Adaptor plate with mainshaft bearing

STR 1187

4. Screw the three studs A into the holes shown in the rear face of the gearbox and lay the paper joint washer in position (Fig. 21).

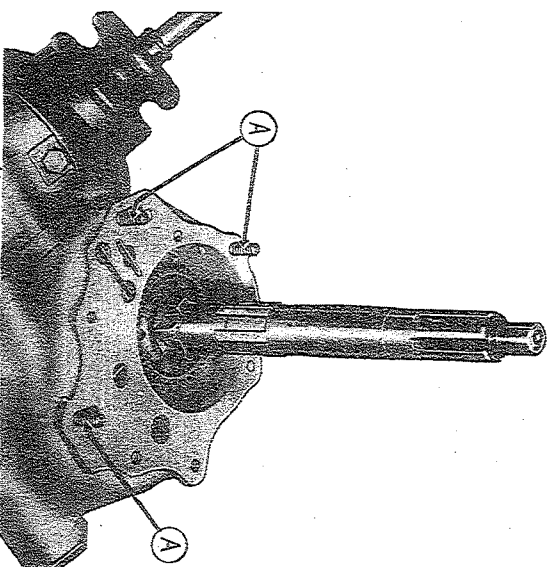


Fig. 21. Gearbox showing studs for adaptor plate

STR 1188

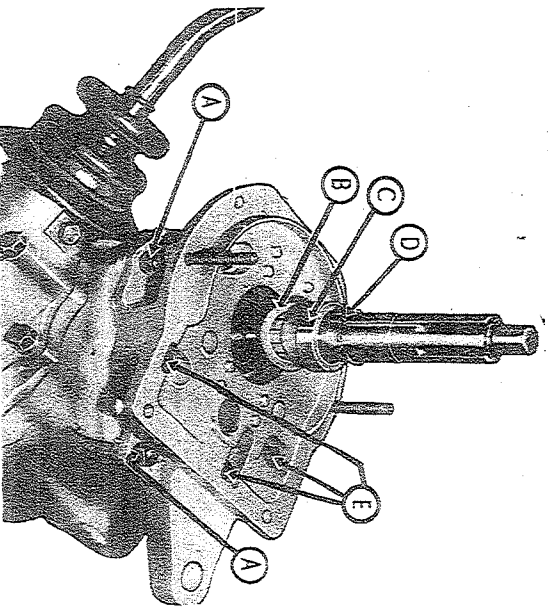
5. Using a suitable length of tubing which fits over the shaft to press against the inner race of the ball bearing, drive the bearing and adaptor plate



# FITTING THE OVERDRIVE TO THE GEARBOX—continued

on to the protruding mainshaft. As soon as the three studs in the rear face of the gearbox are through the holes in the adaptor plate, the spring washers and nuts A should be fitted, because they will not go over the end of the studs when the adaptor plate is right on.

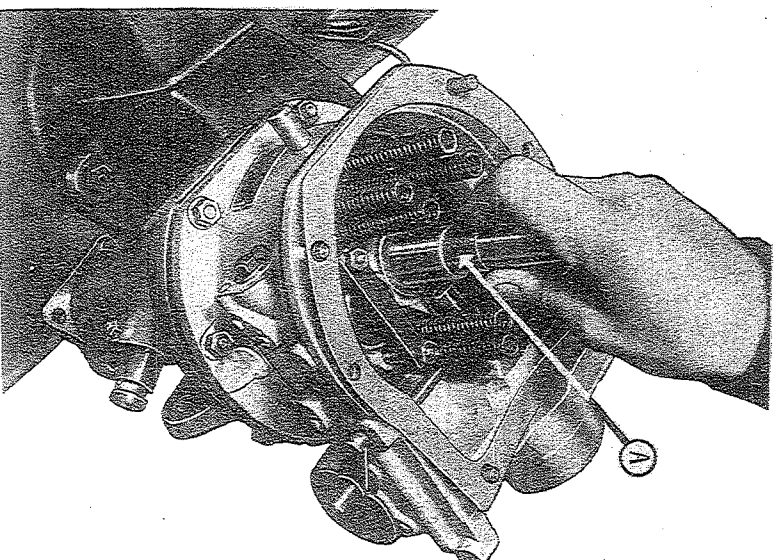
Next fit the five setscrews E and lockwashers, and tighten the setscrews and studs by diagonally opposite selection. The distance piece C is now fitted and locked in place with the circlip D, together with shim washers B if required, to prevent end float between the bearing and the distance piece (Fig. 22).



STR 1189

Fig. 22. Gearbox with adaptor plate fitted

6. Grip the mounting flange of the overdrive unit in a vice, so that the unit is upright, and insert a dummy shaft A or a spare mainshaft if the dummy shaft is not available, so that the sun wheel and thrust washers, planet carrier and roller clutch line up with each other; a long thin screw-driver should be used to line by eye the splines in the planet carrier and the roller clutch before inserting the dummy shaft. Gently turn the coupling flange to and fro while holding the dummy shaft, to assist in feeling the shaft into the splines of the planet carrier and roller clutch. Make sure that the dummy shaft has gone right in by holding the coupling flange in one hand and turning the shaft to and fro to feel the free-wheel action of the roller clutch (Fig. 23).



STR 1190

Fig. 23. Centralizing the gears

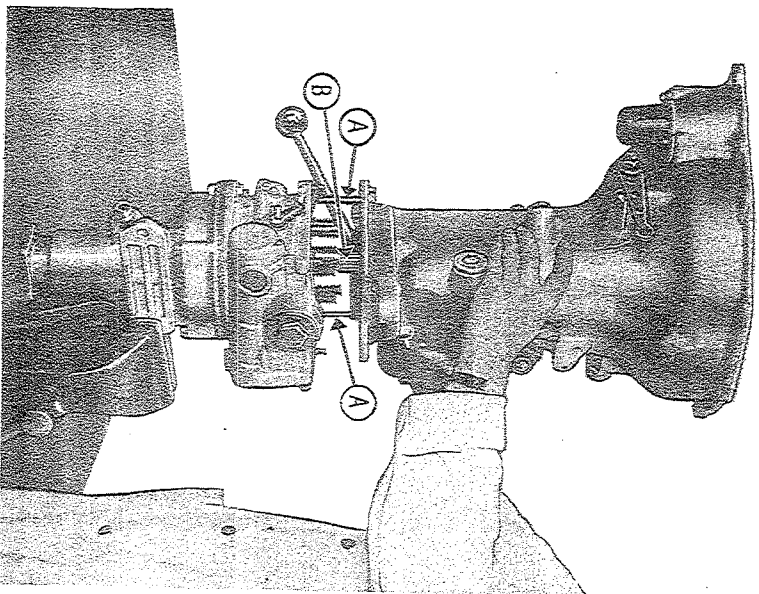
7. Make quite sure that the clutch springs are in their correct positions—the  $4\frac{1}{4}$ " (10.8 cm.) long springs D are the inner ones, and the  $4\frac{1}{2}$ " (11.5 cm.) ones E are the outer (Fig. 24). This is most important because if any of the springs are in the wrong position they will become "coil bound" when the adaptor plate is in place and restrict the movement of the sliding clutch so that overdrive will not engage. The springs can be clearly seen in their correct positions in figures 24 and 25.

8. Place the oil pump operating cam A in position on top of the centre bushing as shown, with the lowest part of the cam in contact with the oil pump plunger B, and also place the paper joint washer C in position (Fig. 24).

9. The gearbox, with top gear engaged should now be lifted by hand on to the overdrive unit, carefully threading the mainshaft through the oil pump cam and into the centre bushing in the body of the overdrive unit. Gently turn the first motion shaft to and fro to assist in "feeling" the main-

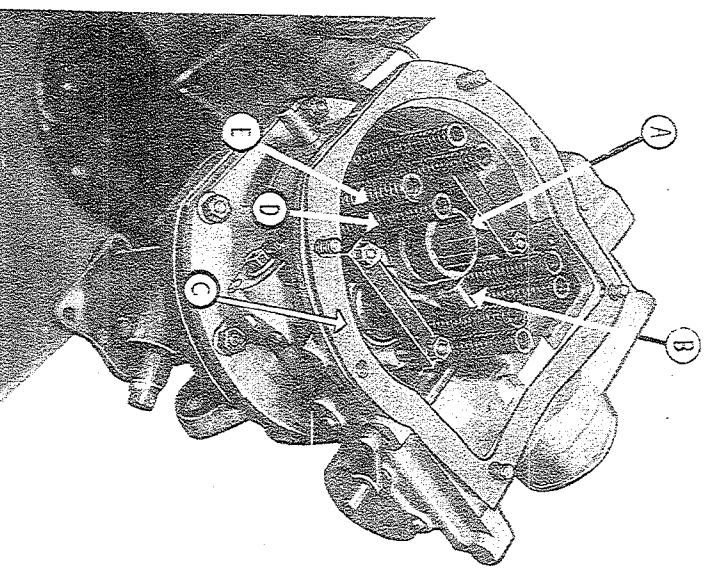
**FITTING THE OVERDRIVE TO THE GEARBOX—continued**

remains properly engaged with the oil pump plunger. If the two units do not pull together easily with only the resistance of the clutch springs being felt as the two nuts are tightened, stop tightening immediately. Gently rotate the gearbox first motion shaft in a clockwise direction whilst holding the overdrive coupling flange stationary until the mainshaft is felt to enter the roller clutch. The tightening of the nuts on the



**Fig. 24. Overdrive ready to receive the gearbox**  
STR 1191

shaft into the splines of the planet carrier. When, the mainshaft is sufficiently entered for the gearbox to come to rest against the clutch springs with the two long studs A just protruding through the holes in the overdrive body, put the spring washers and nuts on to the end of the studs. Before commencing to tighten the nuts, use a long thin screw-driver to guide the ends of the clutch springs on to the short locating pegs B (Fig. 22) which are cast into the face of the adaptor plate—this is very important because if the springs are not properly located they may become “coil bound” and prevent overdrive engaging. Now commence simultaneously to tighten the nuts on the two long studs, compressing the clutch springs and drawing the gearbox and overdrive together evenly. As the gearbox and overdrive come together watch carefully to see the splines B on the mainshaft enter the oil pump operating cam and that the cam



**Fig. 25. Lifting on the gearbox**  
STR 1192

two long studs can then be completed, and the nuts fitted and tightened on to the four short studs (Fig. 25). **NOTE:** The gearbox mainshaft should enter the overdrive easily provided that the lining up procedure described in paragraph 6 is carried out and the unit is not disturbed. If any difficulty is experienced it is probable that one of the components has become misaligned, and the gearbox should be removed and the overdrive re-aligned with the dummy shaft.

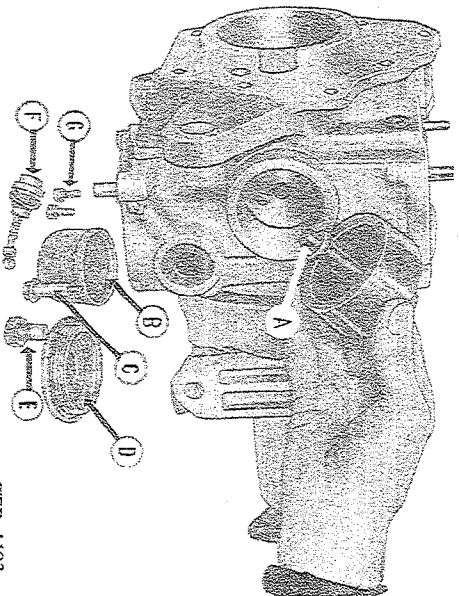
# STRIPPING AND REBUILDING THE OVERDRIVE

(See exploded views on pages 24 and 25)

Operations 1 and 2 can be carried out without completely stripping the unit; they have been included in this section for convenience.

## 1. Removing and Refitting the Oil Pump

Remove the solenoid bracket as previously described and lift out the accumulator spring and tube to give access to the oil pump non-return valve. Remove oil pump non-return valve plug, spring, plunger and ball F. Remove oil drain plug D and the oil strainer B which is held in place with the long bolt C. Now take out the special screwed plug E and the two oil pump body screws G. The short screwed end A of the extractor bolt can now be screwed into the oil pump body in place of the special screwed plug (Fig. 26).

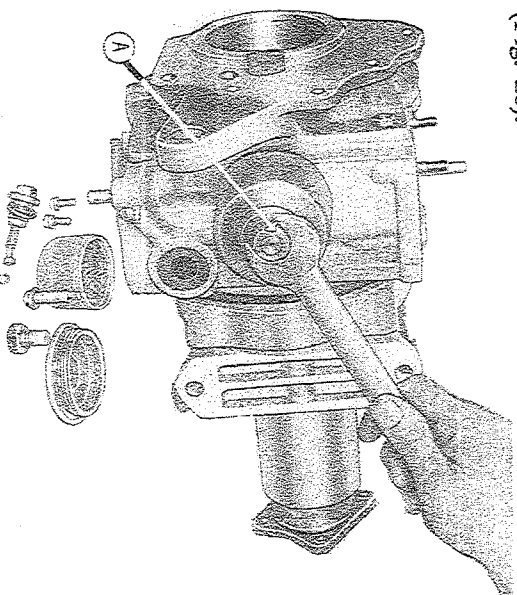


STR 1193

Fig. 26. Inserting the oil pump extractor

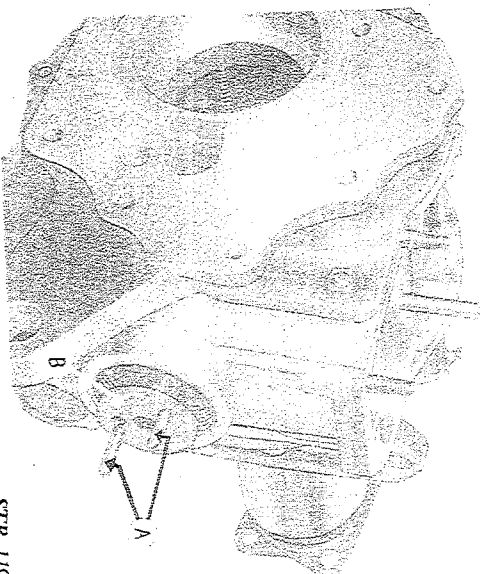
Use a suitable spanner to turn the nut A on the long screwed end of the extractor bolt, drawing out the pump body (Fig. 27).

To replace the oil pump body which is an interference fit in the casing, use two number 10 U.N.F. studs about 3" (7.5 cm.) long A as guides and drive the pump body B home with a suitable brass drift (Fig. 28).



STR 1194

Fig. 27. Extracting the oil pump



STR 1195

Fig. 28. Putting back oil pump

## 2. Removing and refitting the operating piston and its housing

Remove the solenoid bracket as previously described, and lift out the accumulator spring and

## STRIPPING AND REBUILDING THE OVERDRIVE—continued

spring tube. The accumulator piston housing B is a push fit into the unit casing, and the oil tightness of the housing is ensured by the two rubber "O" rings A.

The housing can be extracted easily together with the piston by the use of the special tool D which fits into the bore of the housing and has a rubber "O" ring C which can be expanded by turning the tommy bar E (Fig. 29).

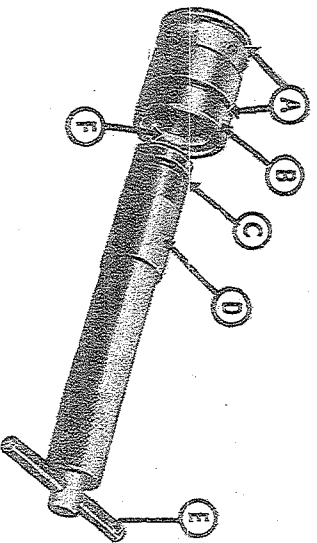


Fig. 29. Piston housing and extractor  
STR 1196

To use the extractor, first remove the operating valve plug to admit air to the rear of the housing, insert the nose of the extractor as far as it will go into the bore of the housing, tighten the tommy bar and pull (Fig. 30).



Fig. 30. Extracting the piston housing  
STR 1197

Examine the bore of the housing for signs of wear such as a ridge or scoring. This examination should be carried out without removing the piston from the housing.

The accumulator piston is fitted into the housing at the works with a special venturi tube, which ensures that the piston rings do not scrape the surface as they enter the aluminium housing. Replacement pistons are supplied ready assembled in the housing. The piston should not be taken from the housing, but should this happen inadvertently do not put the piston back by pushing it into the rear end of the housing which has a conical recess F (Fig. 29), as this may result in the piston rings scraping the aluminium as they enter the housing. Instead put the piston back from the front end of the housing, using a small piston ring clamp to compress the rings as the piston enters.

Push the new piston and housing together into the casing by hand, using the accumulator spring tube 35 (Fig. 43) to push with. This will ensure that the piston does not blow out backwards as the housing goes in.

### 3. Dismantling the body and gears

Remove the front cover plate, the clutch thrust springs and the two operating piston bridge pieces. Next remove the nuts from the six studs which hold the rear casing to the main casing and the two casings can then be pulled apart (Fig. 31).

The sliding cone clutch sun wheel, planet carrier and roller clutch can now be lifted out in that order. To remove the annulus from the rear casing, grip the coupling flange in a vice and remove the large slotted nut from the end, also remove the speedometer pinion assembly. The annulus, which can now be drifted out easily from the rear will take the front ball bearing with it and leave the rear ball bearing in the casing.

STRIPPING AND REBUILDING THE OVERDRIVE—continued

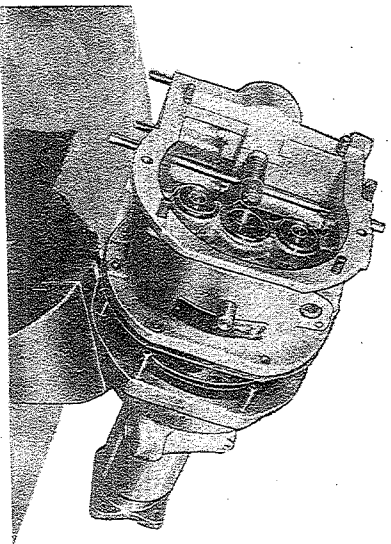


Fig. 31. Separating the casings

STR 1198

#### 4. Inspection

After the unit is dismantled and cleaned, each part should be thoroughly inspected to decide which parts should be replaced.

(a) *Front Casing.* Examine for cracks or damage, oil leaks from the plugged ends of the oil passages or from the weld plug beneath the accumulator bore. Examine the bronze support bushes in the centre bore in which the mainshaft should be a close running fit. These bushes cannot be replaced in service since they have to be bored concentric to the casing after fitting. See that the cylinders which are bored in the casing for the operating pistons are free from scratches or scoring, and that the operating pistons and rings are not damaged.

(b) *The Gear Train.* Inspect the teeth of the gear train for damage. Examine the bronze bush in the sun wheel which should be a close running fit on the mainshaft, and examine the planet wheels which should be a close running fit on the planet pinions. If the sun wheel or planet bushes are worn they cannot be replaced in service because they have to be bored true to the pitch line of the gear teeth. The gear train comprising sun wheel, planet carrier with planets and annulus is only

supplied for service as a matched assembly to ensure quiet running, and care should be taken when dismantling units to keep gear trains in sets.

(c) *The Mainshaft.* Inspect splines for wear or burrs, examine for signs of wear where the shaft runs in the bushes and sun wheel. See also that the oil holes are open and clean.

(d) *Cone Clutch Sliding Member Assembly.* Examine the clutch linings for burning, wear or embedded foreign matter. The linings cannot be renewed in service because they have to be ground accurately after riveting to the cone clutch member, which must be replaced if necessary. See also that the cone clutch slides freely on the splines of the sun wheel extension. Make sure that the pins for the clutch springs and bridge pieces are riveted tightly into the clutch thrust ring, and that the thrust ring ball bearing is in good condition.

(e) *Clutch Springs.* Examine for distortion or collapse. Free length should be  $4\frac{1}{2}$ " (11.5 cm.) outer springs,  $4\frac{1}{4}$ " (10.8 cm.) inner springs. Replacement springs are supplied only in sets.

(f) *Roller Clutch.* See that the rollers are not chipped or damaged and that the inner and outer members of the roller clutch are not damaged. The outer member of the roller clutch cannot be replaced in service because it has to be ground concentric to the annulus after being fitted. See that the spring is not distorted or broken. Replacement rollers are supplied only in sets.

(g) *Ball Bearings.* See that the ball bearings for the annulus are in good condition, and free from roughness when rotated slowly.

(h) *Thrust Washers.* Inspect for scoring of the steel or bronze.

(i) *Oil Pump.* Examine the pump for signs of wear. The pump plunger should be a close sliding hydraulic fit in the pump body, and the plunger

**STRIPPING AND REBUILDING THE OVERDRIVE—continued**

roller should rotate freely on the roller pin with no slackness. Examine that the pump valve seat and ball are free from nicks and scratches.

(j) *Operating Valve.* See that the ball seating is free from nicks and scratches and the restrictor jet clear. Make sure that the valve slides freely in its bore in the front casing.

**5. Re-Assembling the Overdrive Unit**

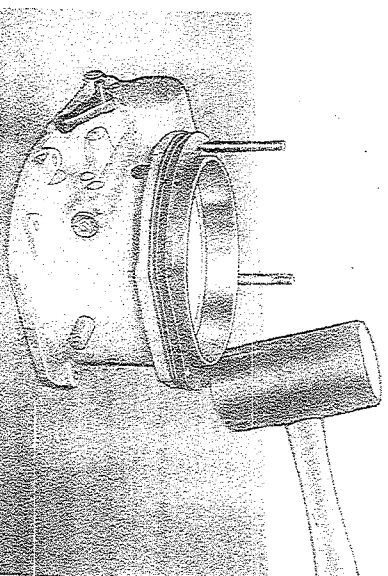
(a) First build up the tail case assembly; drive the front ball bearing on to the annulus, and then press the annulus and bearing into the tail casing; put the distance washer 24 (Fig. 4) on to the annulus shaft and press home the rear bearing 25 (Fig. 4). These distance washers are supplied in various thicknesses to suit the assembly. First of all try the same distance washer which was taken off when dismantling, even if a new annulus has been fitted the original distance washer will probably be suitable. Drive on the coupling flange and tighten the slotted nut. The end float of the annulus must now be measured, using either a dial indicator or by inserting feeler gauges between the annulus and a straight edge placed across the front face of the tail casing. The end float must be .005" to .010" (.127 to .254 mm.). It is very important that no preload should develop on the annulus bearings when the unit warms up in use. If the end float falls outside these limits, the nut and flange must be removed, the annulus driven out and a different spacing washer selected. When the end float is correct, remove the nut and flange and press home the oil seal (Fig. 4) which is .006" (26 mm.) interference fit. The lip of the oil seal should face inwards.

(b) Next prepare the main casing assembly in the following order:—

Assemble the oil pump with valve, etc., the accumulator housing with piston, accumulator spring, tube and solenoid bracket, as already described. Next fit the two operating pistons, using

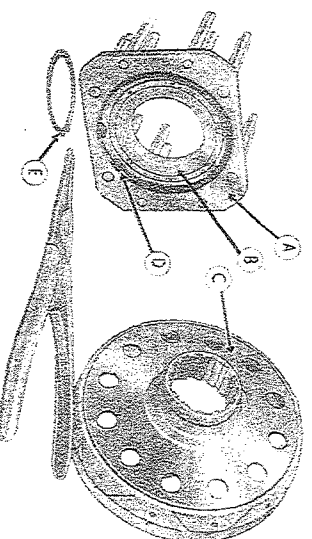
a small piston ring clamp to assist assembly. The operating valve ball, plunger, spring and plug should now be fitted.

Finally drive home the cast-iron brake ring using a hard rubber hammer (Fig. 32). The brake ring is spigoted to the main casing and is a light interference fit; jointing composition should not be used.



STR 1199  
Fig. 32. Driving home the brake ring

(c) Assemble the sliding clutch member. Press the ball bearing B into the housing in the thrust ring A and secure with the external circlip D. The thrust ring and bearing is then pressed on to the cone clutch member C and secured with the internal circlip E using suitable circlip pliers (Fig. 33).



STR 1200  
Fig. 33. Assembling the sliding member



STRIPPING AND REBUILDING THE OVERDRIVE—continued

(d) Assemble the roller clutch. This is quite easily done with the special assembly ring (Fig. 34). The roller clutch inner member A, cage B and spring are put together making sure that the spring is in the right way so as to cause the cage to urge the rollers up the inclined faces of the inner member

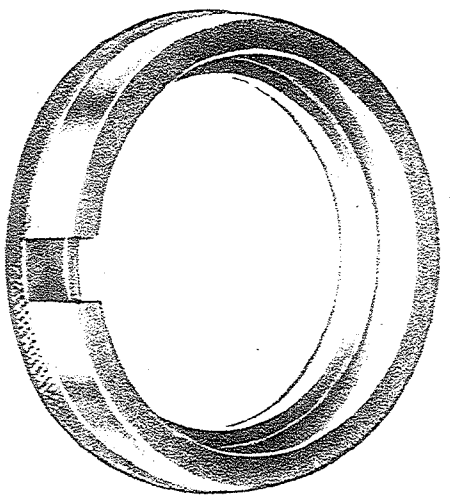


Fig. 34. Roller clutch assembly ring  
STR 1201

The inner member with cage and spring is then placed into the assembly ring and the rollers C are pushed in through the slot in the rim of the ring (Fig. 35).

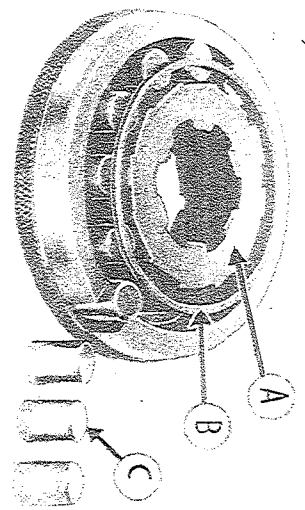


Fig. 35. Assembly of roller clutch  
STR 1202

The roller clutch can then be transferred direct from the assembly ring to the annulus, remembering to put the bronze thrust washer A (Fig. 36) into position first (Figs. 36 and 37).

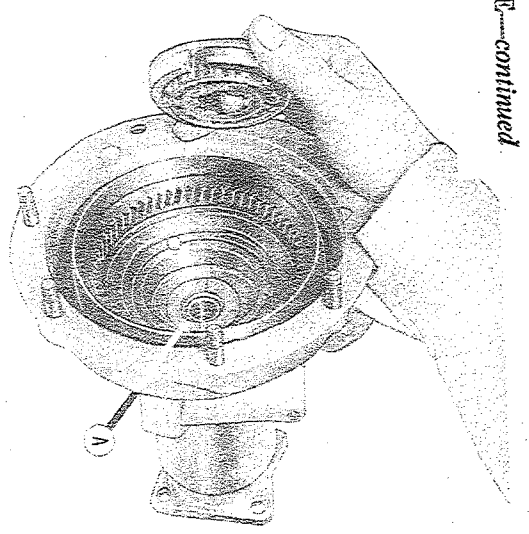


Fig. 36. Transferring roller clutch to annulus  
STR 1203

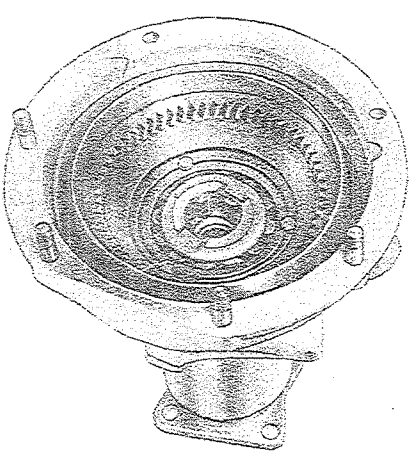
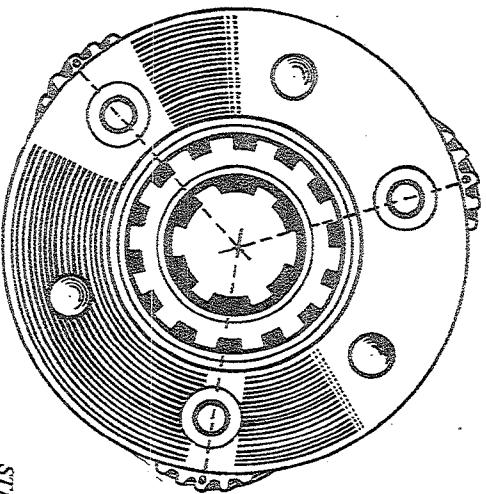


Fig. 37. Tail casing with roller clutch assembled  
STR 1204

Assembly of gear train. Erect the tail case assembly by securely gripping the mounting flange in a vice. Place the three thrust washers 3, 4 and 5 (Fig. 44) for the rear of the sun wheel into position inside the planet carrier, with the steel thrust washer between the two bronze ones. One tooth on each planet wheel is punch-marked, and the planet wheels must be turned in the carrier so that the punch marks are radially outward as shown in Fig. 38. The sun wheel should now be inserted into the planet carrier, and with the punch marks

# STRIPPING AND REBUILDING THE OVERDRIVE—continued

still outward, the planet carrier should be placed into the annulus. The dummy shaft (Fig. 39) should now be inserted and left in place until rebuilding is completed (Fig. 40).

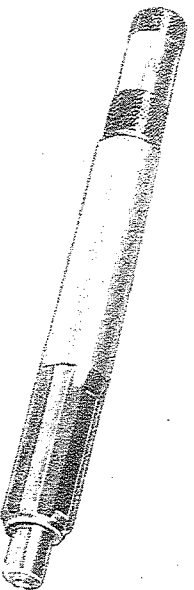


STR 1220

Fig. 38. Positioning the marked teeth on the planet wheels

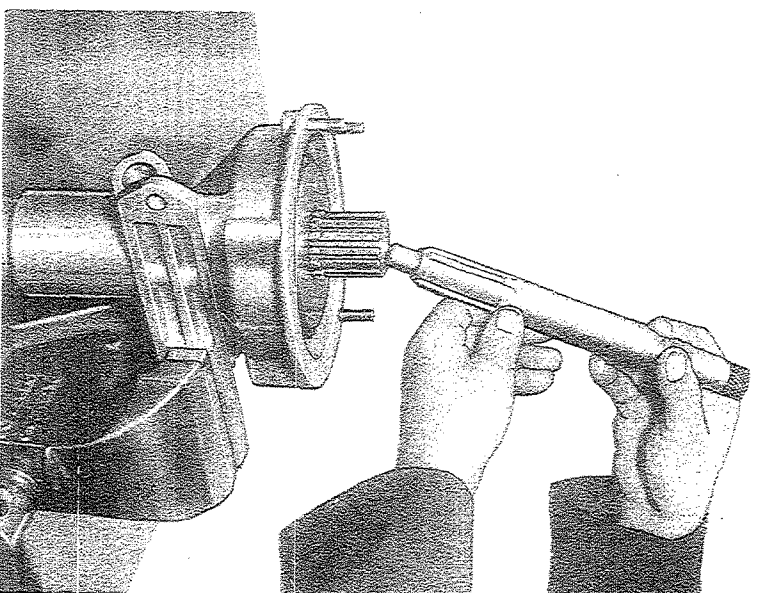
NOTE: There are no marked teeth on the planet wheels of the 32% ratio units, as fitted to early cars. The relative position of the planet wheels on 32% ratio units is unimportant. The planet wheels of the 28% ratio units are of compound design, and it is imperative that the marked teeth should be arranged as described.

The next thing is to select a suitable adjustment washer to allow the correct amount of end float



STR 1205

Fig. 39. Dummy mainshaft



STR 1206

Fig. 40. Inserting the dummy mainshaft

to the sun wheel. The steel thrust washer B (Fig. 41) which is fitted between the bronze thrust washer C (Fig. 41) and the central bush 4 (Fig. 4) in the main casing, serves also to make this adjustment and is supplied in various thicknesses to suit the assembly. Gauging the end float of the sun wheel can be done easily with ordinary feeler gauges as follows:—

Place the bronze washer C (Fig. 41) and the steel washer B (Fig. 41) in position at the front of the sun wheel. The cone clutch A (Fig. 41) should be left out while the thrust washer is being selected. Put an extra steel adjustment washer of known thickness on top of washer B, and offer up the main casing assembly to the tail casing assembly. It will not go right down because of the extra washer, and the gap left between the



STRIPPING AND REBUILDING THE OVERDRIVE—continued

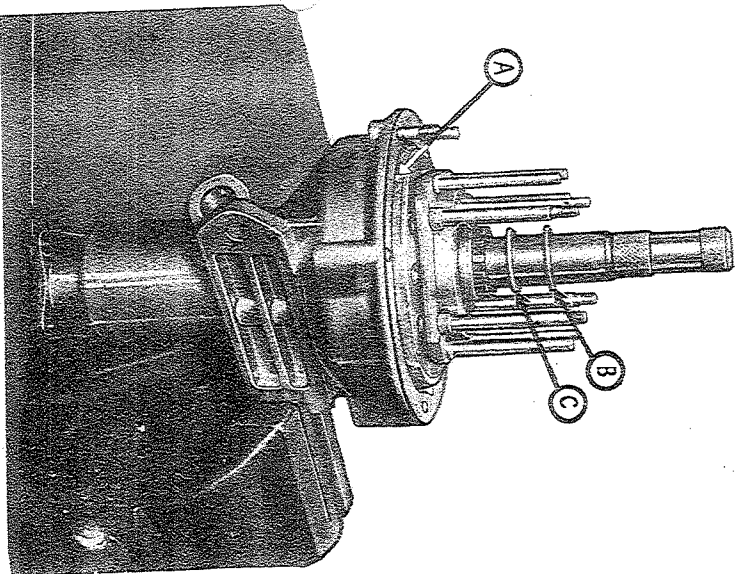


Fig. 41. Ready for final assembly

STR 1207

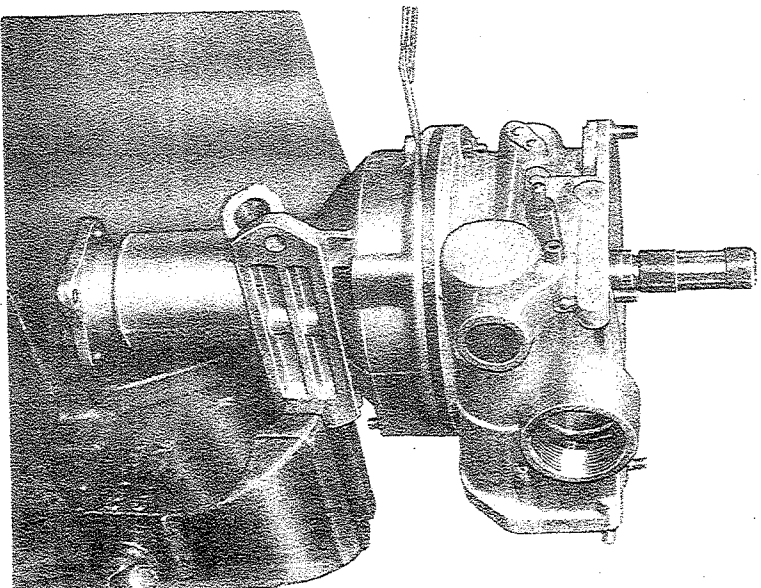


Fig. 42. Gauging the sun wheel end float

STR 1208

two casings should be measured with feeler gauges (Fig. 42).

The width of the gap will be equal to the thickness of the extra washer less the amount of sun wheel end float, for example if the extra washer used is part number 7H 5872G which is .078" (1.981 mm.) thick, and the measured gap between the casings is .062" (1.575 mm.) then the end float of sun wheel with the particular thrust washer used will be:—.078" minus .062" = .016" (1.981 mm. minus 1.575 mm. = .406 mm.). The end float of the sun wheel must be between .014" and .020" (.355 mm. and .508 mm.). It is advisable when reassembling a unit to first of all try the original thrust washer taken from the unit. If the end float is found to be too much or too

little, a suitable washer can readily be selected by calculation.

As soon as the end float of the sun wheel is correct, reassembly can quickly be completed. Separate the two casings, remove the extra thrust washer, put the cone clutch assembly A (Fig. 41) in place, offer up the main casing to the tail casing, put the nuts and spring washers on to the studs and tighten up evenly. The bridge pieces for the operating pistons should now be fixed in place, and the clutch thrust springs placed in position on the pegs. The dummy shaft should now be withdrawn and the unit is ready for fixing to the gearbox. If not required for immediate fixing to a gearbox the adaptor plate should be fitted before putting the unit into store.

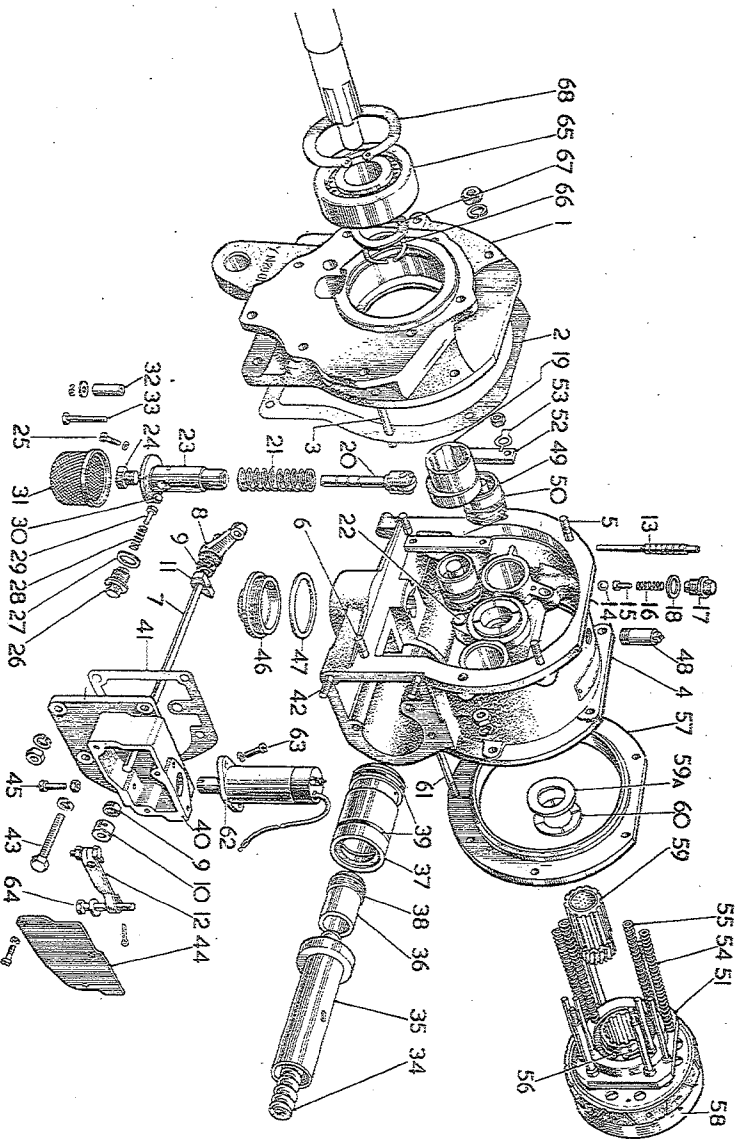


Fig. 43. The overdrive body in exploded form

STR 1209

1. Adaptor plate to gearbox.
2. Joint washer.
3. Studs, adaptor plate to body.
4. Front casing.
5. Stud for adaptor plate.
6. Stud for adaptor plate.
7. Valve operating shaft.
8. Setting lever for shaft.
9. Oil seals for shaft.
10. Collar for shaft.
11. Cam lever.
12. Solenoid lever.
13. Operating valve.
14. Steel ball for valve.
15. Plunger for ball.
16. Spring for plunger.
17. Screwed plug for valve.
18. Copper washer for plug.
19. Oil pump operating cam.
20. Oil pump plunger assembly.
21. Spring for plunger.
22. Guide peg, in casing, for plunger.
23. Oil pump body.
24. Screwed plug for pump body.
25. Setscrews, pump to casing.
26. Plug for valve on oil pump.
27. Copper washer for plug.
28. Spring for plunger.
29. Plunger for ball.
30. Steel ball.
31. Oil strainer.
32. Distance tube for strainer.
33. Bolt for strainer.
34. Accumulator spring.
35. Accumulator spring tube.
36. Accumulator piston.
37. Housing piston.
38. Piston ring.
39. Rubber "O" ring.
40. Solenoid bracket.
41. Joint washer.
42. Stud for bracket.
43. Setscrew for bracket.
44. Cover plate.
45. Adjusting screw.
46. Oil drain plug.
47. Fibre washer.
48. Breather.
49. Operating pistons.
50. Piston rings.
51. Clutch thrust ring.
52. Bridge piece.
53. Tab washer.
54. Clutch spring, outer.
55. Clutch spring, inner.
56. Circlip, internal.
57. Clutch brake ring.
58. Clutch sliding member.
59. Sun wheel.
- 59a. Adjustment washer, steel.
60. Thrust washer, phosphor bronze.
61. Stud for rear casing.
62. Operating solenoid.
63. Setscrews to bracket.
64. Plunger screw.
65. Ball bearing for mainshaft.
66. Circlip for shaft.
67. Distance piece.
68. Circlip for adaptor plate.

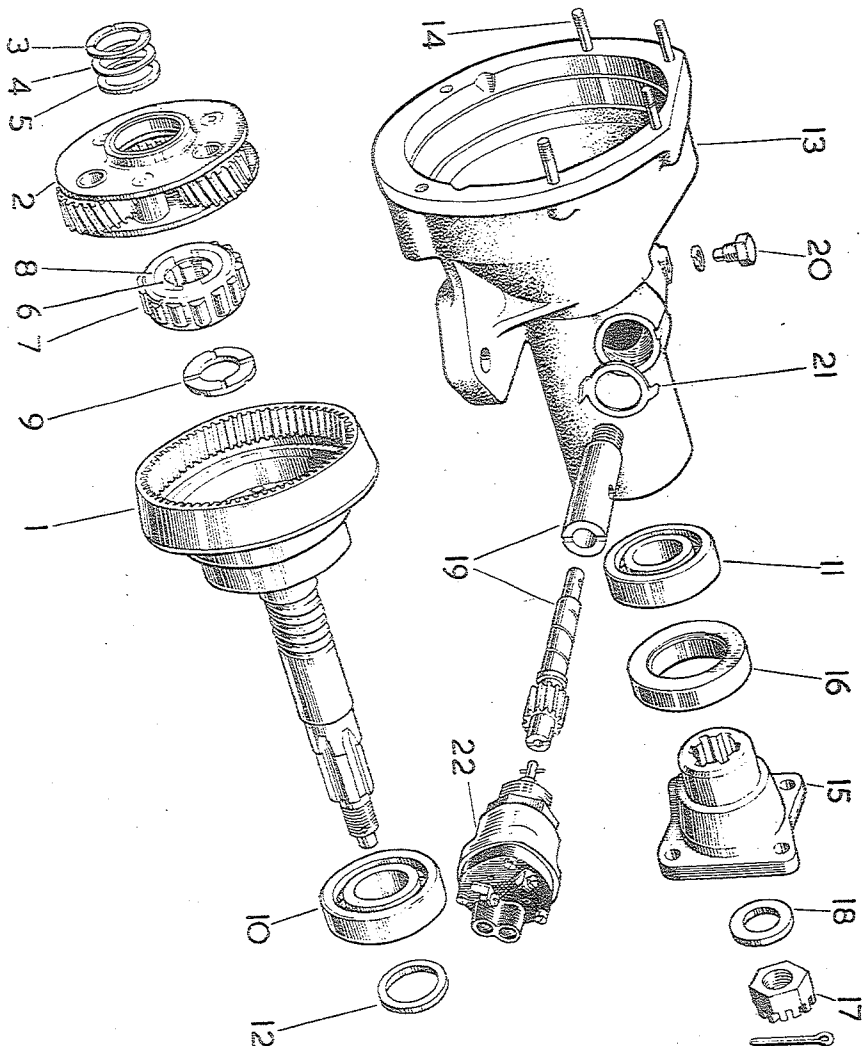


Fig. 44. The overdrive rear casing in exploded form

STR 12/10

1. Annulus assembly.
2. Planet carrier with planets.
3. Thrust washer, phosphor bronze.
4. Thrust washer, steel.
5. Thrust washer, phosphor bronze.
6. Roller clutch, inner member.
7. Steel roller.
8. Cage for roller.
9. Thrust washer, phosphor bronze.
10. Ball bearing.
11. Ball bearing.

12. Adjustment washer.
13. Rear casing.
14. Stud for body.
15. Coupling flange.
16. Oil seal.
17. Slotted nut.
18. Washer.
19. Speedometer pinion.
20. Locking screw.
21. Lockwasher.
22. Centrifugal switch.

# OVERDRIVE UNIT-ANNULUS COUPLING FLANGE OIL SEAL (REMOVING AND REPLACING) Austin-Healey 100

The oil seal fitted to the rear end of the overdrive unit can be removed and replaced without removing the gearbox and overdrive unit from the chassis (Figs. 1 and 2).

The following procedure should be adopted:—

1. Turn off the master switch.
2. Remove tunnelling.
3. Remove the gear lever.
4. Disconnect the propeller shaft at the front end only.
5. Remove the gearbox stabilizing rod.
6. Remove the rear mounting setscrews.
7. Drain the radiator.
8. Disconnect the exhaust pipe from the manifold.
9. Remove the fan blades.
10. Remove the cover and gauge from the front air cleaner.
11. Disconnect both the heater pipes from the engine.
12. Sling the rear end of the overdrive unit and lift it clear of the tunnelling.
13. Remove the split pin and coupling flange nut (hold the flange with tool GT 34).

14. Remove the flange using tool GT 2.

15. Screw tool GT 176 into the oil seal by means of a spanner located on the flats of the tool body. Operate the centre bolt of the tool against the main shaft with either a spanner or tommy bar, again holding the body of the tool by means of a spanner on the two flats. Continue to screw in the centre bolt to withdraw the oil seal.

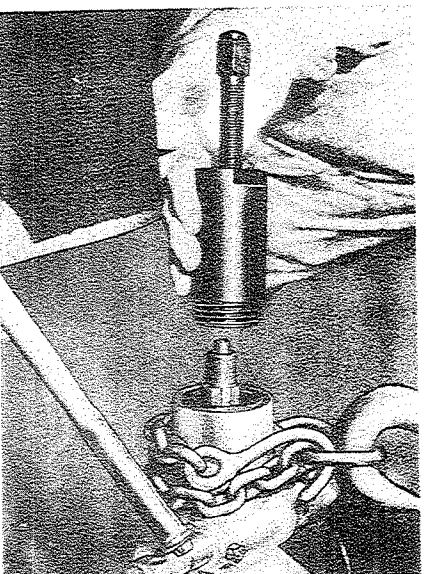


Fig. 1

STR 1330

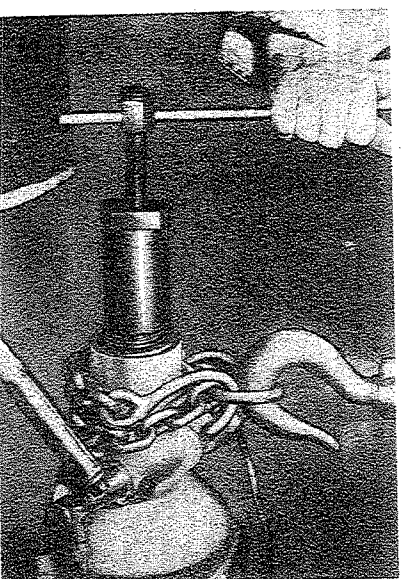


Fig. 2

STR 1322

*Continued*

**OVERDRIVE UNIT—ANNULUS COUPLING FLANGE OIL SEAL (REMOVING AND REPLACING)—*continued***

The fitting of a new oil seal is quite an easy matter if GT 177 is used (Figs. 3 and 4). The new seal should be inserted as squarely as possible in the housing with its inner lip towards the gearbox, and then driven in until it is up against the shoulder inside the housing. GT 177 will centralize itself over the shaft and will ensure that

the oil seal is correctly fitted. Thus no damage to either oil seal or casing will result.

After fitting the new oil seal refit all items from 1 to 14 in reverse order. Tools GT 176 and GT 177 make the removal and dismantling of the gearbox and overdrive unit completely unnecessary, thus saving time and expense.

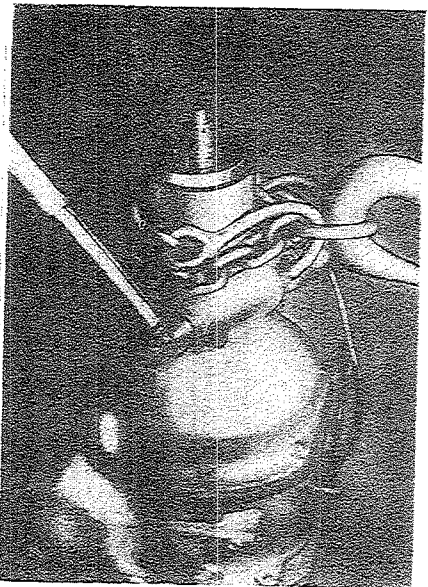


Fig. 3

STR 1331

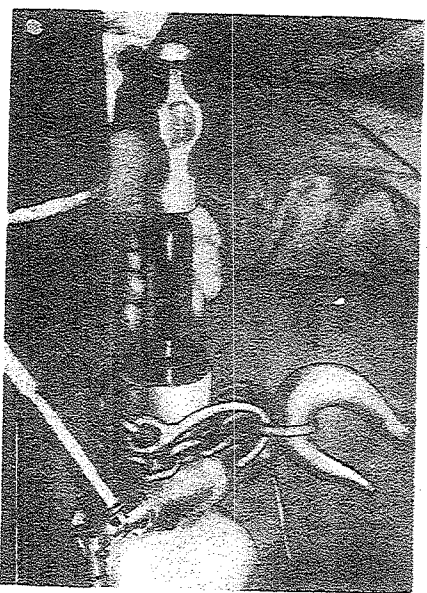


Fig. 4

STR 1324

# **THIRD SPEED MAINSHAFT GEAR** **Austin-Healey 100**

A modified third speed gear, incorporating larger and stronger gear teeth is now being fitted, also the 1st motion shaft and the laygear have been modified to suit the new third speed gear.

**INTERCHANGEABILITY**

The new parts together should be used to replace the old ones. They cannot be used separately. A conversion set of parts can be obtained by quoting part number 58G 341.

## **SUMMARY OF ALTERATION**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	*	B. 41	1st Motion shaft with cone and adaptor (can be replaced by conversion set 58G 341)	1	1B 3549	Pub. 1050 Gearbox and Overdrive, pp. 2/3
		B. 60	3rd Speed mainshaft gear with cone and adaptor (can be replaced by conversion set 58G 341)	1	1B 3625	
		B. 66	Laygear with bushes (can be replaced by conversion set 58G 341)	1	1B 3481	
		†	1st Motion shaft with cone and adaptor		1B 3695	
			3rd Speed mainshaft gear with cone and adaptor	1	1B 3697	
			Laygear with bushes	1	1B 3693	

\* To Gearbox number 5154 R.H. Steering.  
5145 L.H. Steering.  
† Gearbox number 5155 on, R.H. Steering.  
5146 on, L.H. Steering.

OUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# BUSH FOR THIRD SPEED MAINSHAFT GEAR

A 40, A 70, Austin-Healey 100

In the interest of standardization of parts, a new bush for the third speed mainshaft gear is now being used. The new bush differs from the old one in that it has an additional oil hole.

INTERCHANGEABILITY  
The new bush will be supplied for replacements when stocks of the old ones are exhausted.

## SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100 A 40 A 70	C.138031-157301 C.365171-864313 C.89001-157908		Bush for 3rd speed mainshaft gear .	1	1B 3490	Pub. 1050, Gearbox, p. 3 Pub. 1099, Gearbox, p. 11 Pubs. 780A, p. 30 853, p. 28
Austin-Healey 100 A 40 A 70	C.157302 C.864314 C.157909	on on on	Bush for 3rd speed mainshaft gear ...	1	11G 3029	

FOR YOUR RECORDS

PARTS LISTS

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PARTS ORDERED

ALTERATIONS NOTED

# **THIRD SPEED MAINSHAFT GEAR** **A 70**

The improved gears recently introduced for use on the Austin-Healey 100, refer to this Journal, Volume 24, section "Gearbox", page 32, are also being fitted to the A 70 range of vehicles.

## **INTERCHANGEABILITY**

The new parts together should be used to replace the old ones. They cannot be used separately. A conversion set of parts can be obtained, by quoting part number 58G 341.

## **SUMMARY OF ALTERATION**

Description	Number Off	Old Part	New Part	Type and Parts List Publication Number
1st Motion Shaft with cone and adaptor . . . . .	1	1B 3549	1B 3695	A 70, Pub. 853, pp. 27/28
3rd Speed Gear with cone and adaptor . . . . .	1	1B 3625	1B 3697	A 70, Pub. 780A, pp. 29/30/31
Laygear with bushes . . . .	1	1B 3481	1B 3693	

COMMENCING CHASSIS NUMBER: 160460

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# OVERDRIVE OPERATING SOLENOID

## Austin-Healey 100

To improve accessibility and facilitate production, the enclosed type solenoid bracket (Fig. 1) has been replaced by an open type bracket. The solenoid is now protected by a metal stoneguard A, and from the effects of the weather by two rubber caps, B and C (see Fig. 2). The solenoid plunger D and operating lever E

have also been modified and the plunger now has a rubber stop F in place of an adjusting bolt. INTERCHANGEABILITY  
The old and the new parts are not interchangeable. The overdrive assembly is interchangeable and the part number remains unchanged.

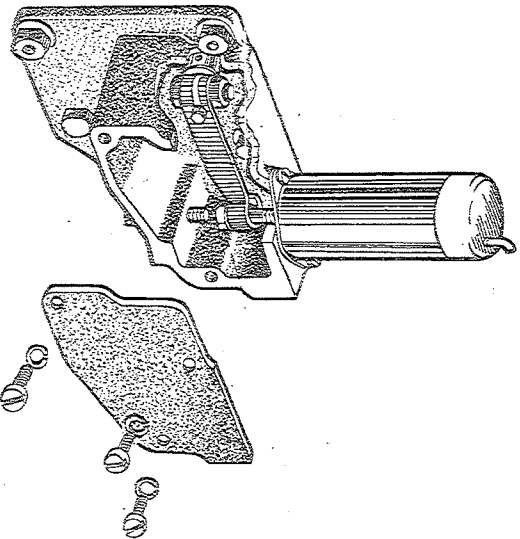


Fig. 1

STR 1176A

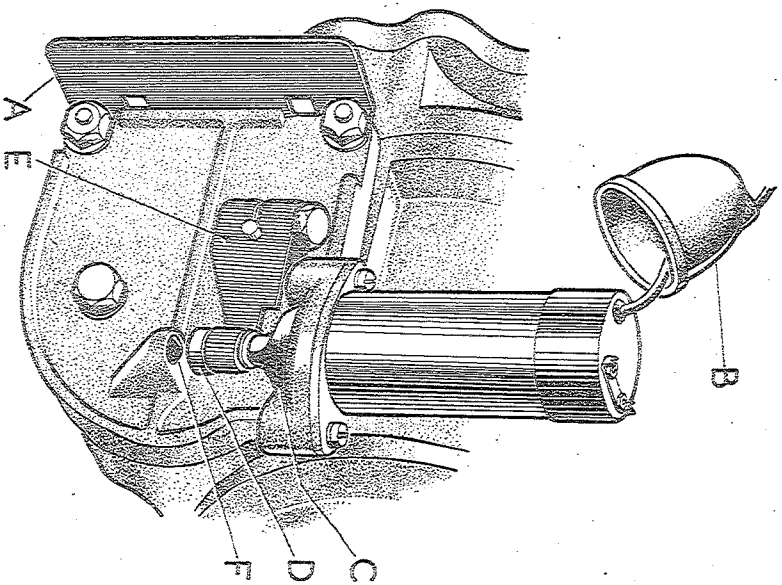


Fig. 2

STR 1510

*Continued*

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED



# AUSTIN SERVICE JOURNAL



## OVERDRIVE OPERATING SOLENOID—continued

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin- Healey 100	To O/D 28/1292/3772	C62 C64	Operating solenoid, with plunger, for overdrive. Special screw, plunger to lever . . . . . Split pin for screw . . .	1 1	1B 2838 *7H 5896	Pub. 1050, Electrical, p. 2
	O/D 28/1292/3773 on		Operating solenoid, with plunger, and rubber dust covers, for over- drive . . . . .	1	17H 5813	
	To O/D 28/1292/3772	C10 C12	Collar for shaft . . . . Solenoid lever . . . .	1 1	7H 5819 7H 5828	
	O/D 28/1292/3773 on		Collar for shaft . . . . Solenoid lever . . . .	1 1	17H 5809 17H 5808	Pub. 1050, Gearbox and Overdrive, p. 5
		C40	Solenoid bracket and side cover for casing. . . . Cover plate for bracket . Screws, cover plate to bracket . . . . . Spring washers . . . . Adjusting screw for sole- noid lever . . . . . Locknut for screw. . . .	1 1 3 3 1 1	7H 5850 7H 5854 53K 2636 2K 1209 53K 2638 FNN 103	
	To O/D 28/1292/3772	C44 C45				
	O/D 28/1292/3773 on		Solenoid bracket and side cover for casing. . . . Stone guard for solenoid. Rubber stop for solenoid lever . . . . .	1 1 1	17H 5812 17H 5810 17H 5811	Pub. 1050, Gearbox and Overdrive, p. 6

\* Listed in error as 7H 1086.

# REVERSE FLUSHING OF RADIATORS

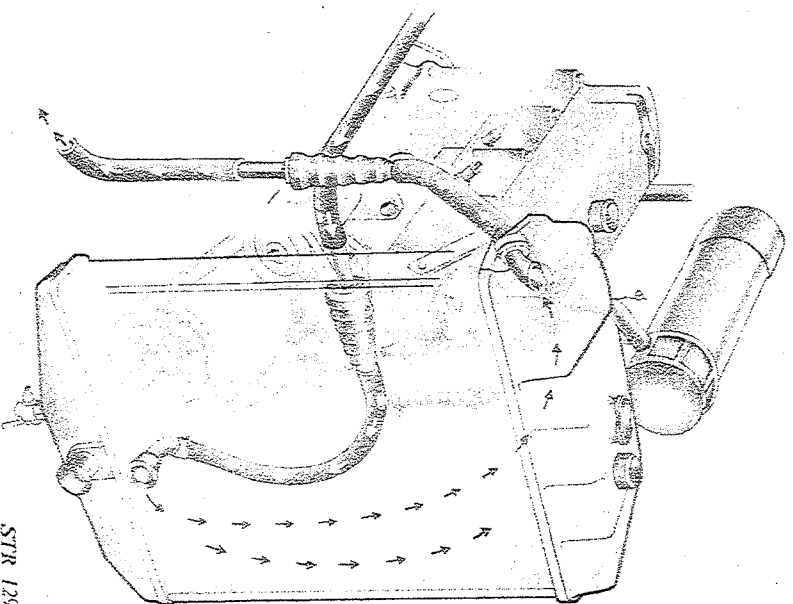
Further to the article appearing in this Journal, Volume 23, section "Radiator", page 1, specially shaped plugs, part number GT 187, have now been introduced so that a radiator can be reverse flushed without resorting to removal from the vehicle.

It is also recommended that a radiator should be flushed twice annually, and flushed particularly after using anti-freeze during winter time.

The adaptor plugs are designed to accommodate all hoses used on Austin vehicles, and no difficulty should be experienced if the following instructions are adhered to.

1. Open the radiator drain tap and drain the system. When drained, close the tap. If anti-freeze mixture is present in the system it should be drained into a clean container and replaced after flushing.
2. Disconnect the bottom hose from the engine side and insert one of the plugs into the hose.
3. Connect an ordinary hose pipe to the plug and to the main water supply.
4. Disconnect the radiator top hose from the engine side and fit the second plug into the hose. A length of ordinary hose pipe, long enough to reach the nearest drain, should be fitted to this plug. This will prevent water from flowing over the engine whilst the flushing is in progress.

5. Turn on the tap of the main water supply and let the flushing continue for 15-20 minutes.



**NOTE:** The radiator filler cap should be in position and the drain tap closed whilst flushing. Care should be exercised as to the water pressure applied from the main supply. This should not exceed 20-25 lb. After flushing, drain the radiator by means of the drain tap. Re-connect the hoses to the engine, close the drain tap and fill up with clean water in the usual way.

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# RECOMMENDED LUBRICANTS 1954

Since the publication of Recommended Lubricants (see this Journal, Vol. 23, section "Repairs Data", pages 7-13) certain changes have occurred necessitating this reprinted revised list.

A 40, A 70, AUSTIN-HEALEY 100

HOME MARKET

Engine	Summer	Duckham's	Vacuum	Shell	Wakefield	Esso	B.P.
		Duckham's "Nol Thirty"	Mobiloil A	Shell X-100. 30	Castrol XL	Essolube 30	Energol S.A.E. 30
Gearbox	Winter	Duckham's "Nol Twenty"	Mobiloil Arctic	Shell X-100. 20	Castrolite	Essolube 20	Energol S.A.E. 20W
	A40, A70	Duckham's "Nol Forty"	Mobiloil B.B.	Shell X-100. 40	Castrol XXL	Essolube 40	Energol S.A.E. 40
Rear Axle, Steering Box and Oil Nipples	Austin- Healey 100	Duckham's "Nol Thirty"	Mobiloil A	Shell X-100. 30	Castrol XL	Essolube 30	Energol S.A.E. 30
		Duckham's Nol E.P.T. 140	Mobilube GX 140	Shell Spirax 140 E.P.	Castrol Hi-Press	Esso Expee Compound 140	Energol E.P. S.A.E. 140
Front Wheel Hubs		Duckham's H.B.B. Grease	Mobil Hub Grease	Shell Retinax A	Castrolase Heavy	Esso Grease	Energol C 3
Distributor and Oil Can		Duckham's "Nol Twenty"	Mobil Handy Oil	Shell X-100. 20	Wakefield Oilit	Esso Handy Oil	Energol S.A.E. 20W
Upper Cylinder Lubrication		Duckham's Adcoids	Mobil Upperlube	Shell Donax U	Wakefield Castrollo	Essomix	Energol U.C.L.
Rear Road Springs (A 40)		Duckham's Laminoid Liquid	Mobil Spring Oil	Shell Donax P	Castrol Penetrating Oil	Esso Penetrating Oil	Energol Penetrating Oil
Hydraulic Brakes: Use Girling Brake Fluid (crimson) only. Shock Absorbers: Use Armstrong's Super (thin) Shock Absorber Oil.							

## A 40, A 70, AUSTIN-HEALEY 100

## OVERSEAS MARKETS

		Duckham's	Vacuum	Shell	Wakefield	Esso	B.P.
*Engine	From 90° F. down to 32° F.	Duckham's "Nol Thirty"	Mobiloil A	Shell X-100. 30	Castrol XL	Essolube 30	Energol Motor Oil S.A.E. 30
	32° F. down to 10° F.	Duckham's "Nol Twenty"	Mobiloil Arctic	Shell X-100. 20	Castrolite	Essolube 20	Energol Motor Oil S.A.E. 20W
	Below 10° F.	Duckham's "Nol Ten"	Mobiloil 10W	Shell X-100. 10W	Castrol Z	Essolube 10	Energol Motor Oil S.A.E. 10W
†Trans- mission	A40, A70	Duckham's CG 90	Mobilube C 90	Shell Dentax 90	Castrol ST	Esso Gear Oil S.A.E. 90	Energol Transmission Oil S.A.E. 90
	Austin-Healey 100	Duckham's "Nol Thirty"	Mobiloil A	Shell X-100. 30	Castrol XL	Essolube 30	Energol Motor Oil S.A.E. 30
‡Rear Axle	Down to 32° F.	Duckham's Nol E.P.T. 140	Mobilube GX 140	Shell Spirax 140 E.P.	Castrol Hi-Press	Esso XP Compound S.A.E. 140	Energol Transmission Oil E.P. S.A.E. 140
	32° F. to 10° F.	Duckham's Nol E.P.T. 90	Mobilube GX 90	Shell Spirax 90 E.P.	Castrol Hypoy	Esso XP Compound S.A.E. 90	Energol Transmission Oil E.P. S.A.E. 90
‡Steering Box and **Oil Nipples		Duckham's Nol E.P.T. 140	Mobilube GX 140	Shell Spirax 140 E.P.	Castrol Hi-Press	Esso XP Compound S.A.E. 140	Energol Transmission Oil E.P. S.A.E. 140
Front Wheel Hubs		Duckham's H.B.B. Grease	Mobil Hub Grease	Shell Retinax A	Castrol Heavy	Esso Bearing Grease	Energol C 3
Distributor and Oil Can		Duckham's "Nol Twenty"	Mobil Handy Oil	Shell X-100. 20	Wakefield Oilit	Esso Handy Oil	Energol Motor Oil S.A.E. 20W
Upper Cylinder Lubrication		Duckham's Adcoids	Mobil Upperlube	Shell Donax U	Wakefield Castrollo	Esso Upper Motor Lubricant	Energol U.C.L.

# A 40, A 70, AUSTIN-HEALEY 100

## OVERSEAS MARKETS—continued

	Duckham's	Vacuum	Shell	Wakefield	Esso	B.P.
Rear Road Springs (A 40)	Duckham's Laminoid Liquid	Mobil Spring Oil	Shell Donax P	Castrol Penetrating Oil	Esso Penetrating Oil	Energol Penetrating Oil

\*Engine: Above 90° F. or for high speed driving at high temperatures use next heavier grade of oil.  
†Transmission: For prevailing sub-zero (F. °) temperatures use S.A.E. 80 lubricant (A40, A70) and S.A.E. 20 (Austin-Healey 100).  
‡Rear Axle and Steering: For prevailing sub-zero (F. °) temperatures use S.A.E. 80 E.P. lubricant.  
\*\*Oil Nipples: For high temperature climates the grease as shown for hubs can be used.  
Use only the best standard fluids for hydraulic brakes and shock absorbers.

# 16-H.P. TAXI AND HIRE-CAR

## HOME MARKET

Engine	Summer	Duckham's "Nol Thirty"	Mobiloil A	Shell X-100. 30	Castrol XL	Essolube 30	Energol S.A.E. 30
	Winter	Duckham's "Nol Twenty"	Mobiloil Arctic	Shell X-100. 20	Castrolite	Essolube 20	Energol S.A.E. 20W
Gearbox		Duckham's "Nol Forty"	Mobiloil B.B.	Shell X-100. 40	Castrol XXL	Essolube 40	Energol S.A.E. 40
Rear Axle		Duckham's R	Mobiloil R	Shell Super Heavy	Castrol R	Esso T.S.D. 533	Energol Racing Oil
Steering Box and Oil Nipples		Duckham's Nol E.P.T. 140	Mobilube GX 140	Shell Spirax 140 E.P.	Castrol Hi-Press	Esso Expee Compound 140	Energol E.P. S.A.E. 140
Wheel Hubs		Duckham's H.B.B. Grease	Mobil Hub Grease	Shell Retinax A	Castrolase Heavy	Esso Grease	Energol C 3
Distributor and Oil Can		Duckham's "Nol Twenty"	Mobil Handy Oil	Shell X-100. 20	Wakefield Oilit	Esso Handy Oil	Energol S.A.E. 20W

## **CHASSIS LUBRICATION**

It is apparent that some Dealers are still using grease to lubricate chassis components in spite of the fact that it is clearly stated in the recommended list of lubricants published in this Journal, Service Manuals and Handbooks, that oil should be applied to all chassis nipples with the exception of the hubs. Only when a vehicle is operating under tropical conditions should grease be used.

# STEERING WHEEL

## Austin-Healey 100

The telescopically adjustable steering wheel which was originally fitted to the Austin-Healey car has been discontinued in favour of a non-adjustable one in conjunction with an adjustable driver's seat—see this Journal, Volume 24, Cars, "Body", pages 9 and 10.

The old and new steering wheels, together

with the horn and trafficator switches, are shown in Fig. 1 (Plate EB); the old and new parts are numbered and reference is made to these in the "Summary of Alteration" panel.

To preserve a neat appearance the width of the cut-out in the facia panel for the steering column has been reduced from  $2\frac{1}{4}$ " (57.15 mm.), as shown by the dotted line, to  $1\frac{3}{8}$ " (44.45 mm.)—see Fig. 2.

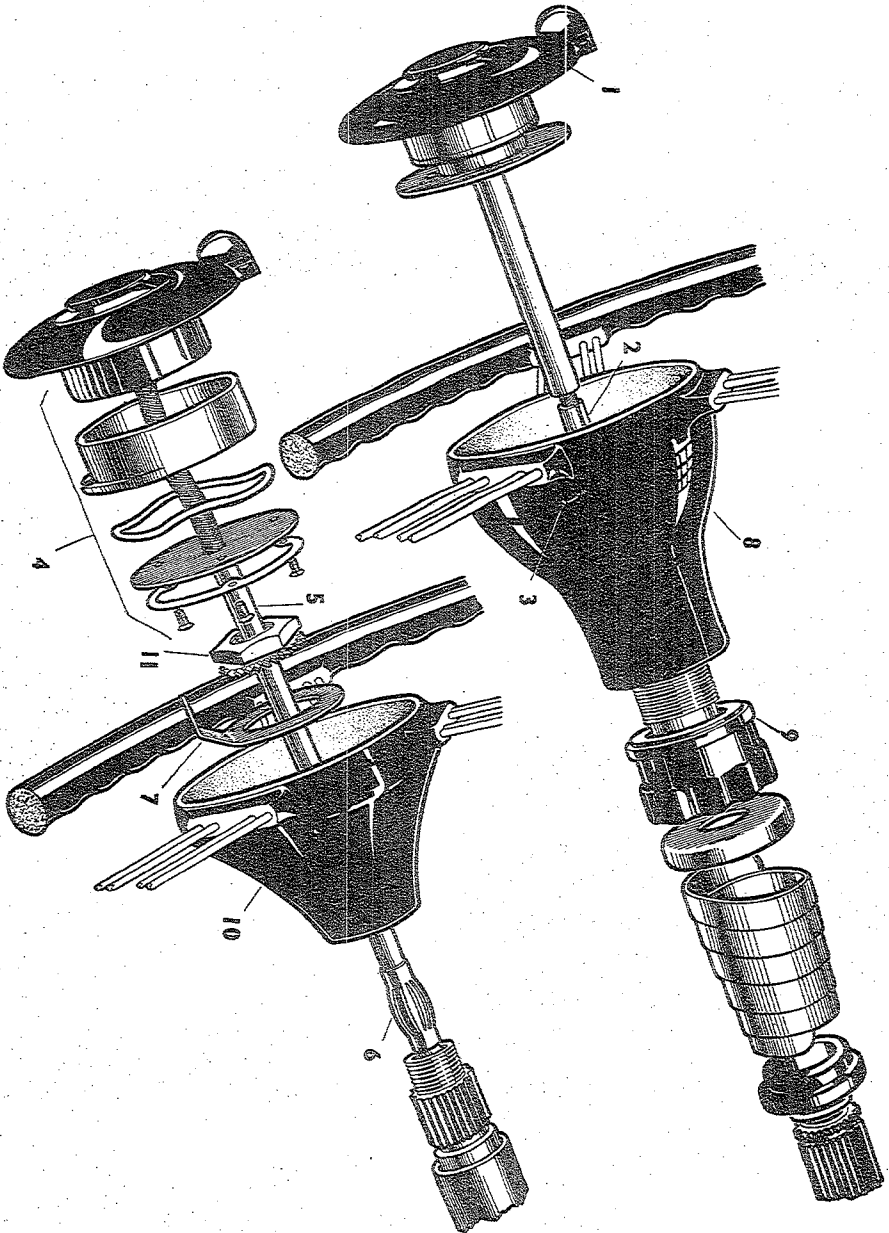


Fig. 1

PLATE EB

STR 1380

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FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
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Published May 10, 1954

Continued

STEERING 3



**STEERING WHEEL—continued**

**INTERCHANGEABILITY**

The non-adjustable steering gear with the appropriate steering wheel and trafficator switch with horn push can be used to replace the adjustable steering gear. The new fascia panel cannot be used for replacements of the old one unless the non-adjustable steering gear is also fitted.

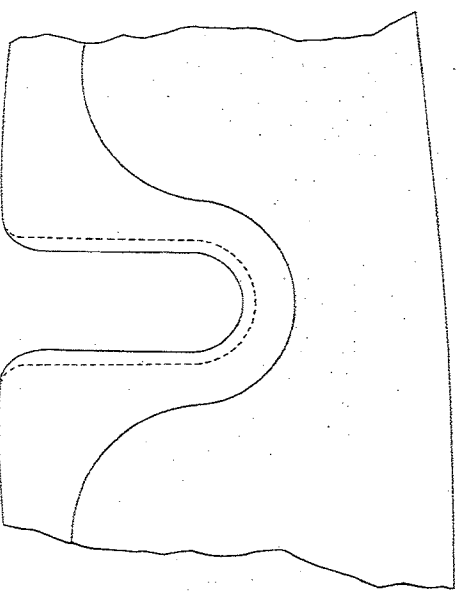


Fig. 2

STR 1381

**SUMMARY OF ALTERATION**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
BN.1	R.H.S. C.138975-149949 L.H.S. C.138031-149929	EB.1	Horn and trafficator switch on steering column . . . .	1	1B 6225	Pub. 1050, Electrical, p. 2
		EB.2	Stator tube . . . .	1	1B 6226	
		EB.3	Retaining screws . . . .	2	1B 6210	
		EB.4	Horn and trafficator switch on steering column . . . .	1	17H 5246	
BN.1	R.H.S. C.149950 on L.H.S. C.149930 on	EB.5	Stator tube . . . .	1	7H 5474	Pub. 1050, Electrical, p. 2
		EB.6	Rubber sleeves for stator tube . . . .	3	3H 677	
		EB.7	Anti-rattle spring . . . .	1	1G 6261	
BN.1	R.H.S. C.138975-149949 L.H.S. C.138031-149929		Trip lever . . . .	1	1H 2635	Pub. 1050, Steering, p. 1
			Steering gear assembly, less wheel and lever, R.H. Steering . . . .	1	1B 6208	
BN.1			Steering gear assembly, less wheel and lever, L.H. Steering . . . .	1	1B 6196	

Continued

**STEERING WHEEL—continued**

**SUMMARY OF ALTERATION—continued**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
BN.1	R.H.S. C.138975-149949 L.H.S. C.138031-149929	EB.8	Steering wheel (telescopically adjustable)	1	1B 6203	
		EB.9	Clamping nut	1	1B 6204	
		E.1	Telescopic steel dust cover for inner column	1	1B 6211	
BN.1	R.H.S. C.149950 on L.H.S. C.149930 on	E.2	Support for dust cover	1	1B 6214	
		E.3	Cup for dust cover	1	1B 6215	
			Steering gear assembly, less wheel and lever, R.H.	1	1B 6217	
			Steering gear assembly, less wheel and lever, L.H.	1	1B 6219	
		EB.10	Steering wheel (non-adjustable)	1	ALT-134	Pub. 1050, Steering, p. 1.
BN.1	R.H.S. C.138975-149949 L.H.S. C.138031-149929	EB.11	Nut for steering wheel	1	2K 6057	
			Shakeproof washer	1	2K 8929	
		E.5	Inner column and cam, R.H.	1	7H 6778	
			Steering . . . . .	1	7H 6781	
		E.6	Inner column and cam, L.H.	1	7H 6784	
BN.1	R.H.S. C.149950 on L.H.S. C.149930 on	E.7	Felt bush	1	7H 6785	
			Support washer for felt bush	1	7H 6786	
		E.8	Anti-rattle washers, rubber, for inner column.	2	7H 6786	
			Inner column and cam, R.H.	1	7H 6792	
			Steering . . . . .	1	7H 6791	
BN.1	R.H.S. C.149950 on L.H.S. C.149930 on		Inner column and cam, L.H.	1	7H 6791	
			Steering . . . . .	1	7H 6711	
BN.1	R.H.S. C.149950 on L.H.S. C.149930 on		Felt bush	1	7H 6711	
			Support washer for felt bush	1	7H 6706	

*Continued*

**STEERING WHEEL—continued**

**SUMMARY OF ALTERATION—continued**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
BN.1	R.H.S. C.138975-149949 L.H.S. C.138031-149929		*Facia panel, R.H. Steering . . . . *Facia panel, L.H. Steering . . . .	1  1	14B 1761  14B 1824	
BN.1	R.H.S. C.149950 on L.H.S. C.149930 on		Facia panel, R.H. Steering . . . . Facia panel, L.H. Steering . . . .	1  1	14B 3542  14B 3543	Pub. 1050, Body Shell, p. 2.
BN.1	R.H.S. C.138975 on L.H.S. C.138031 on		*Instrument control panel as- sembly (less instruments) . *Seal (plastic) . . . . *Screws . . . . *Spring washers . . . .	1 1 8 8	4B 2114 14B 2745 53K 2636 2K 1209	

\* Not previously listed.

# STEERING CROSS AND SIDE TUBES

**A 40, A 70, Austin-Healey 100**

The steering cross and side tubes with adjustable ball pins have now been discontinued in favour of ones with spring-loaded non-adjustable ball pins.

## INTERCHANGEABILITY

The new cross tubes with ends are interchangeable with the old ones; end assemblies are also separately interchangeable. This also applies to the side tubes and the side tube ends. The new parts will be supplied for replacements when stocks of the old ones are exhausted.

## SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
A 40	C.649032-854228		Steering side tube with ends, right hand . . . . .	1	1G 6203	Pub. 1099, Steering, pp. 9/10
			Steering side tube with ends, left hand . . . . .	1	1G 6204	
A 40	C.854229 on		Dust covers, rubber . . . . .	4	1G 6210	
			Steering cross tube with ends . . . . .	1	1G 6211	
			End assembly, R.H. thread . . . . .	1	1G 6216	
			End assembly, L.H. thread . . . . .	1	1G 6217	
			Dust covers, rubber . . . . .	2	1G 6210	
			Steering side tube with ends, right hand . . . . .	1	1G 6311	
			Steering side tube with ends, left hand . . . . .	1	1G 6312	
			Dust covers, rubber . . . . .	4	17H 3400	
			Clips for covers . . . . .	4	17H 3401	
			Steering cross tube with ends . . . . .	1	1G 6313	
			End assembly, R.H. thread . . . . .	1	1G 6309	
			* Locknut, R.H. thread . . . . .	1	2K 7657	
			End assembly, L.H. thread . . . . .	1	1G 6310	
			* Locknut, L.H. thread . . . . .	1	2K 7658	
			Dust covers, rubber . . . . .	2	17H 3400	
			Clips for covers . . . . .	2	17H 3401	

\* Not previously listed.

*Continued*

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**STEERING CROSS AND SIDE TUBES—continued**

**SUMMARY OF ALTERATION—continued**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin- Healey 100	C.138031-157623		Side tubes with adjustable ball pins . . . . .	2	1B 6200	Pub. 1050, Steering, p. 4
			Anti-rattle springs . . . . .	4	6K 17	
			Split pins for sockets . . . . .	4	CPS 0316	
			Dust covers, rubber . . . . .	4	1G 6210	
			Cross tube with adjustable ball pins . . . . .	1	1G 6211	
			Cross tube end assembly, R.H. thread . . . . .	1	1G 6216	
			Cross tube end assembly, L.H. thread . . . . .	1	1G 6217	
			Anti-rattle springs . . . . .	2	6K 17	
			Split pins for ball sockets . . . . .	2	CPS 0316	
			Dust covers, rubber . . . . .	2	1G 6210	
A 70	C.157624 on		Side tubes with ends . . . . .	2	1B 6228	
			Dust covers, rubber . . . . .	4	17H 3400	
			Clips for covers . . . . .	4	17H 3401	
			Cross tube with ends . . . . .	1	1G 6313	
			Cross tube end assembly, R.H. thread . . . . .	1	1G 6309	
			Cross tube end assembly, L.H. thread . . . . .	1	1G 6310	
			Dust covers, rubber . . . . .	2	17H 3400	
			Clips for covers . . . . .	2	17H 3401	
			Side tube with adjustable ball pins, right hand . . . . .	1	1G 6153	
			Side tube end assemblies, R.H. thread . . . . .	1	1A 6659	
A 70	Saloon R.H.S. C.73817- 160021 L.H.S. C.73829- 160045 Pick-Up R.H.S. C.73872- 160089 L.H.S. C.73743- 160903		Locknuts, R.H. thread . . . . .	2	B3-253	Saloon, Pub. 780A, pp. 40/41 Pick-Up, Pub. 853, pp. 37/38
			Ball sockets, bottom . . . . .	2	2K 7657	
			Anti-rattle springs . . . . .	2	1G 6150	
			Split pins for sockets . . . . .	2	6K 17	
			Ball pins . . . . .	2	2K 1235	
			Nuts for ball pins . . . . .	2	1G 6149	
			Split pins . . . . .	2	2K 3996	
			Dust covers, rubber . . . . .	2	2K 1232	
			Dust covers, rubber . . . . .	2	1G 4241	
			Grease nipples . . . . .	2	2H 2793	

*Continued*



## STEERING CROSS AND SIDE TUBES—continued

## SUMMARY OF ALTERATION—continued

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
A 70	Saloon R.H.S. C.73817-160021 L.H.S. C.73829-160045		Side tube with adjustable ball pins, left hand . . . . .	1	1G 6154	Saloon, Pub. 780A, pp. 40/41
			Side tube only, left hand . . . . .	1	1A 6660	
	Pick-Up R.H.S. C.73872-160089 L.H.S. C.73743-160903		Side tube end assemblies, L.H. thread . . . . .	2	B3-254	Pick-Up, Pub. 853, pp. 37/38
			Locknuts, L.H. thread . . . . .	2	2K 7658	
	Saloon R.H.S. C.160022 L.H.S. C.160046 on		Ball sockets, bottom . . . . .	2	1G 6150	
			Anti-rattle springs . . . . .	2	6K 17	
	Pick-Up R.H.S. C.160090 L.H.S. C.160904 on		Split pins for sockets . . . . .	2	2K 1235	
			Ball pins . . . . .	2	1G 6149	
			Nuts for ball pins . . . . .	2	2K 3996	
			Split pins . . . . .	2	2K 1232	
			Dust covers, rubber . . . . .	2	1G 4241	
			Grease nipples . . . . .	2	2H 2793	
			Cross tube with adjustable ball pins . . . . .	1	1B 6148	
			Cross tube only . . . . .	1	1B 6149	
			Cross tube end assembly, R.H. thread . . . . .	1	B3-255	
			Locknut, R.H. thread . . . . .	1	2K 7657	
			Cross tube end assembly, L.H. thread . . . . .	1	B3-256	
			Locknut, L.H. thread . . . . .	1	2K 7658	
			Ball sockets, bottom . . . . .	2	1G 6150	
			Anti-rattle springs . . . . .	2	6K 17	
			Split pins for ball sockets . . . . .	2	2K 1235	
			Ball pins . . . . .	2	1G 6149	
			Nuts for ball pins . . . . .	2	2K 3996	
			Split pins . . . . .	2	2K 1232	
			Dust covers, rubber . . . . .	2	1G 4237	
			Grease nipples . . . . .	2	2H 2793	
			Side tube with ends, right hand. Dust covers, rubber . . . . .	1	1G 6311	
			Clips for covers . . . . .	4	1G 6312	
			Nuts for ball pins . . . . .	4	17H 3400	
			Split pins for nuts . . . . .	4	2K 3996	
			Cross tube with ends . . . . .	1	2K 1232	
			Cross tube end assembly, R.H. thread . . . . .	1	1B 6227	
			Locknut, R.H. thread . . . . .	1	1G 6309	
			Cross tube end assembly, L.H. thread . . . . .	1	2K 7657	
			Locknut, L.H. thread . . . . .	1	1G 6310	
			Nuts for ball pins . . . . .	1	2K 7658	
			Split pins for nuts . . . . .	2	2K 3996	
			Dust covers, rubber . . . . .	2	2K 1232	
			Clips for covers . . . . .	2	17H 3400	
				2	17H 3401	

# STEERING IDLER ADJUSTMENT

**A 30, A 40, A 70, A 90**

Instances have occurred where a slight "knock" in the steering has resulted from end float of the shaft in the steering idler. This can be readily adjusted by removing one or more of the paper joint washers which are fitted beneath the idler top cover.

The top cover should be adjusted by means of the paper joint washers so that there is no pre-loading and no end float of the idler shaft.

## II STEERING

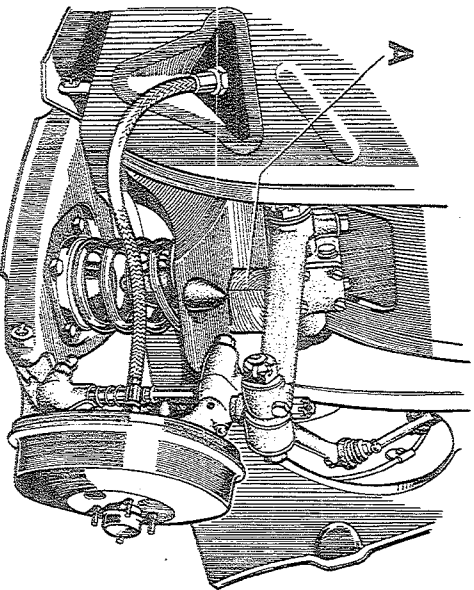
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## STEERING CHECK

**A 30, A 40 (Series 2, 3, 4), A 70, Austin-Healey 100,  
A 90, A 125, A 135**

Whenever it may be necessary to examine or check the front suspension or steering linkage, and the front end has to be jacked up, it is essential that the relative road position of the wheels and suspension be maintained.

This will be achieved if, before jacking up, a distance piece of definite dimensions be placed between the shock absorber arm and the upper spring plate (on each side of the vehicle) as shown at 'A' in the illustration of an A 30 front suspension unit.



STR 1407

As will be seen from this table, with certain exceptions, the dimensions of the distance pieces vary for different models and it is important that the correct distance piece be used.

It is very necessary to use three distance pieces when building up a suspension unit, because the arms must be correctly set before the various bearings are tightened. *DO NOT FORGET* to remove the distance pieces after lowering the jack.

These distance pieces may be of steel or hardwood, and the following table gives the dimensions for the various models.

Model	Vehicle Range	Dimensions of Distance Piece
A 30	All	1 <sup>3</sup> / <sub>8</sub> "
A 40 (Series 2)	R.H.S. To 288909 L.H.S. To 288785	1 <sup>3</sup> / <sub>4</sub> "
A 40 (Series 2)	R.H.S. 288910-609259 L.H.S. 288786-609259	2 <sup>1</sup> / <sub>8</sub> "
A 40 (Series 3)	All	3"
A 40 (Series 4)	All	2 <sup>1</sup> / <sub>4</sub> "
A 70	All	2 <sup>3</sup> / <sub>8</sub> "
Austin-Healey 100	All	2"
A 90	All	2 <sup>3</sup> / <sub>8</sub> "
A125	All	1 <sup>5</sup> / <sub>8</sub> "
A 135	All	1 <sup>5</sup> / <sub>8</sub> "



# STEERING GEAR ADJUSTMENT

A 70, Austin-Healey 100

gear can be seen from the accompanying illustrations.

## INTERCHANGEABILITY

The new steering gears are interchangeable with the old ones and will be supplied for replacements. The new side cover together with the thrust screw, locknut, special stud and locking plate may be fitted to replace the old side cover.

New steering gears incorporating screw type rocker shaft adjustment instead of selective shim adjustment have been introduced to facilitate service. The new steering gears are identical with their old counterparts with the exception of the side cover. A special new feature is the locking plate for the thrust screw, which is additional to the thrust screw lock-nut and ensures the absolute security of the thrust screw setting. The method for assembling and adjusting the new steering

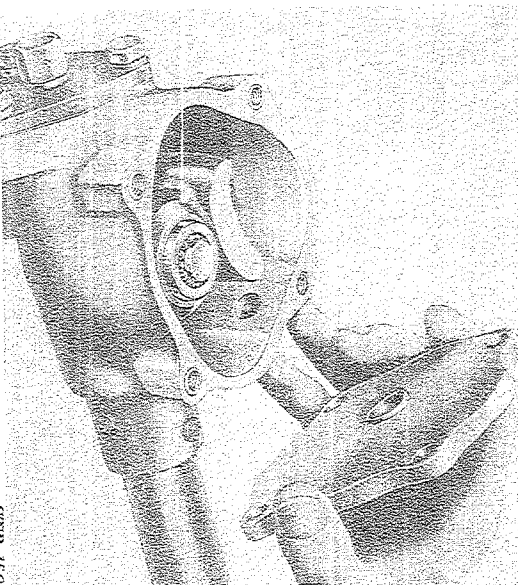


Fig. 1

STR 1502

The side cover and paper joint washer are fitted to the steering box.

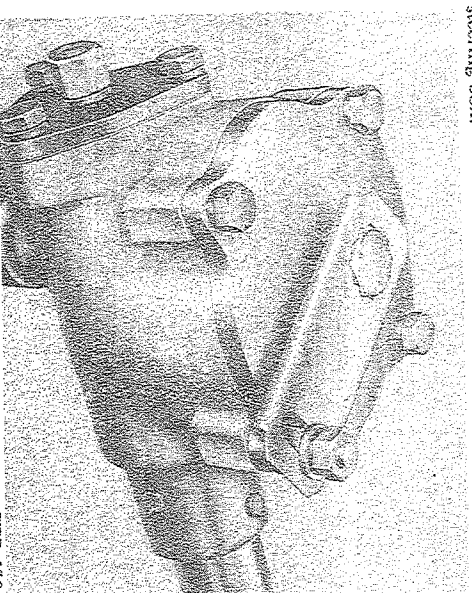


Fig. 3

STR 1504

The elongated slot in the locking plate enables the plate to secure the thrust screw in any setting.

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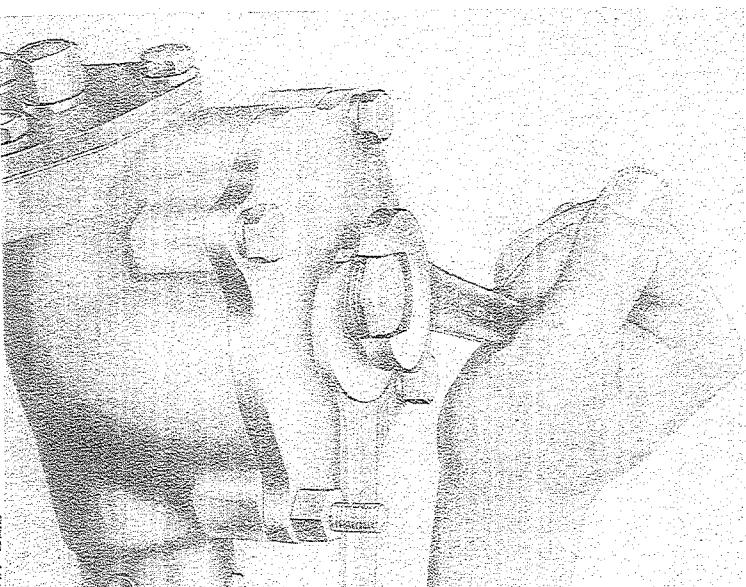


Fig. 2

STR 1503

Three setscrews and a special stud are used to secure the side cover. The steering gear must be in the straight ahead position when the thrust screw is adjusted. After tightening the locknut make sure that there is still no end float, or stiffness of the rocker shaft.

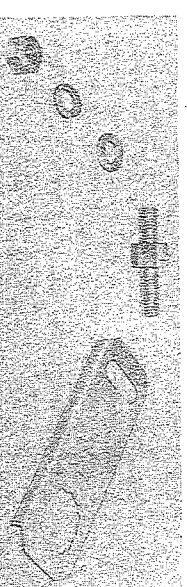


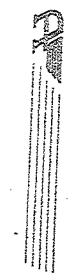
Fig. 4

STR 1505

The locking plate is fixed to the special stud with the nut and washers.

STEERING 13

Published November 29, 1954



# AUSTIN SERVICE JOURNAL



## STEERING GEAR ADJUSTMENT—continued

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
A70	R.H.S. C.127101- 157684		Steering gear assembly, less wheel and lever, R.H. Steering . . . . .	1	1B 6188	
	L.H.S., C.127135- 157722		Steering gear assembly less wheel and lever, L.H. Steering Cover plate with thrust button Shims (steel) .004"-.005" thick . . . . .	1 1 1	1B 6190 7H 6750	
			Shims (paper) .010" thick . Shims (plastic) .002" thick . Setscrews . . . . .	as req. as req. as req. 4	7H 6743 7H 6744 7H 6745 7H 6758	
A70	R.H.S. C.157685 on		Steering gear assembly, less wheel and lever R.H. Steering . . . . .	1	1B 6230	Pubs. 780A, p. 42
	L.H.S., C.157723 on		Steering gear assembly, less wheel and lever, L.H. Steering Cover Plate . . . . .	1	1B 6232	Pub. 853, p. 39
			Joint washer, paper . . . . . Setscrews for cover plate . Spring washers . . . . . Thrust screw . . . . .	1 1 3 1	1B 6232 7H 6731 7H 6744 7H 6700	
Austin- Healey 100	R.H.S., C.149950- 219136		Locknut for thrust screw . Lockplate for thrust screw . Special stud for side cover and lockplate . . . . .	1 1 1 1	7H 6800 PWZ 106 2K 1211	
	L.H.S., C.149930- 219257		Plain washer for stud . . . . Spring washer . . . . .	1 1	7H 6801	
			Steering gear assembly, less wheel and lever, R.H. Steering . . . . .	1	1B 6217	
Austin- Healey 100	R.H.S., C.219137 on		Steering gear assembly, less wheel and lever, L.H. Steering . . . . .	1	1B 6219	Pub. 1050, Steering, p. 1
	L.H.S., C.219258 on		Steering gear assembly, less wheel and lever, R.H. Steering . . . . .	1	1B 6267	
			Steering gear assembly, less wheel and lever, L.H. Steering . . . . .	1	1B 6269	

Continued

FOR YOUR RECORDS	PARTS LISTS
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## STEERING GEAR ADJUSTMENT—continued

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	R.H.S., C.138975- 219136		Cover plate with button, R.H. Steering . . . . . Cover plate with button, L.H. Steering . . . . . Joint washers, paper, .010" thick . . . . . Joint washers, steel, .005" thick . . . . . Joint washers, plastic, .002" thick . . . . . Setscrews, $\frac{7}{8}$ " long, B.S.F. . . . . Spring washers . . . . .	1  1  as req.  as req.  as req. 4	7H 6787 7H 6788 7H 6744 7H 6743 7H 6745 7H 6700 2K 1211	Pub. 1050, Steering, p. 1
	L.H.S., C.138031- 219257		Cover plate, R.H. Steering . . . . . Cover plate, L.H. Steering . . . . . Joint washer, paper . . . . . Setscrews for cover plate . . . . . Spring washers . . . . . Thrust screw . . . . . Locknut for thrust screw . . . . . Lockplate for thrust screw . . . . . Special stud for side cover and lockplate . . . . . Nut for stud . . . . . Plain washer for nut . . . . . Spring washer . . . . .	1 4 1 3 3 1 1 1 1 1 1 1	7H 6802 7H 6803 7H 6744 7H 6700 2K 1211 7H 6799 7H 6704 7H 6801 7H 6800 2K 3985 PWZ 106 2K 1211	
	R.H.S., C.219137 on L.H.S., C.219258 on					

# INTERCHANGEABLE PARTS

The following parts have been superseded by new ones of modified design or material. These parts are interchangeable with their old counterparts and will be supplied for replacements when stocks of the old ones are exhausted.

Description	Old Part	New Part	Type and Parts List Publication Number
Sparkling Plugs . . . . .	2H 4228	2A 480	A 30 Pub. 883B, Electrical, p. 3
Remarks : The new plug has a gap of .022" (.55 mm.) instead of .018" (.45 mm.) to prevent mis-firing at low engine speeds. Commencing Engine Number 32850.			

Description	Old Part	New Part	Type and Parts List Publication Number
Starter Gear . . . . .	2A 292	2A 381	A 30 Pub. 883B, Engine, p. 3
Remarks: It is now established that the new starter gear 2A 381 can be used for replacements of 2A 292. Therefore, amend statement published in this Journal, Volume 24, section "Engine", page 47, under heading "Interchangeability" to this effect.			

Description	Old Part	New Part	Type
Exhaust Pipe with flange . . . . .	1B 2700	1B 2954	Austin-Healey 100
Remarks: New pipe incorporates an improved type of flexible pipe to give longer life. COMMENCING CHASSIS NUMBERS:— R.H. Steering - - - 149648 L.H. Steering - - - 149628			

FOR YOUR RECORDS	PARTS LISTS
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# INTERCHANGEABLE PARTS

The following parts have been superseded by new ones of modified design or material. These parts are interchangeable with their old counterparts and will be supplied for replacements when stocks of the old ones are exhausted.

## SUMMARY OF ALTERATION

Description	Old Part	New Part	Type and Parts List Publication Number
Joint washer for oil reservoir . . . . .	1B 1123	1B 2923	A 70 Pubs. 603A, p. 11, 730, p. 9, 780A, p. 9, 853, p. 9 16-H.P. Taxi Pub. 558A, p. 10 16-H.P. Hire-Car Pub. 728, p. 9
Joint washer for oil reservoir . . . . .	ID 1283	ID 1944	A 125 Pubs. 430A, p. 9, 779, p. 10 A 135 Pub. 624, p. 8

Remarks: New joint washer provides a more adequate seal round front and rear main bearing studs.

### COMMENCING ENGINE NUMBERS:—

A 125 . . . . . 10406  
A 135 . . . . . 11945

Description	Old Part	New Part	Type and Parts List Publication Number
Petrol tank strap . . . . .	1B 2785	1B 2929	Austin-Healey 100
Remarks: Fibre pad on strap has been repositioned to facilitate assembly.			

### COMMENCING CHASSIS NUMBERS:—

Austin-Healey 100, R.H. Steering . . . 151608  
L.H. Steering . . . 151610

FOR YOUR RECORDS	PARTS LISTS
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# INTERCHANGEABLE PARTS

The following parts have been superseded by new ones of modified design or material. These parts are interchangeable with their old counterparts and will be supplied for replacements when stocks of the old ones are exhausted.

Description	Old Part	New Part	Type and Parts List Publication Number
Clutch Plate with linings . . . . .	7H 3077	7H 3201	AS.1, Pub. 371, p. 15
Clutch Plate with linings . . . . .	7H 3186 7H 3227	7H 3201 7H 3201	A 30, Pub. 883B, Engine, p. 17

Remarks: Introduction of a clutch plate suitable for both cars to facilitate service.

Description	Old Part	New Part	Type and Parts List Publication Number
Petrol Filler Cap . . . . .	2A 184	2A 5381	A 30, Pub. 883B, Petrol Tank, p. 1

Remarks: New filler cap has a chromium plated finish.

Description	Old Part	New Part	Type and Parts List Publication Number
Tension Spring for seat lock Assembly .	14G 1781	14G 4732	A 40, Pub. 1099, Seats, p. 2. A 70

Remarks: Stronger spring.

Description	Old Part	New Part	Type and Parts List Publication Number
Drain Plug for petrol tank . . . . . Washer . . . . .	2F 4249 2F 4250	2A 380 6K 638	A 40, Austin-Healey 100, Petrol Tank, p. 1. A 70

Remarks: Modified drain plug with an "undercut" at the base of the thread. Use with 6K 638.

*Continued*

FOR YOUR RECORDS	PARTS LISTS
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**INTERCHANGEABLE PARTS—continued**

Description	Old Part	New Part	Type and Parts List Publication Number
Front Door Casing, right hand . . . .	4B 1183	4B 1228	A 70, Pub. 780A, p. 81
Front Door Casing, left hand . . . .	4B 1184	4B 1229	
Rear Door Casing, right hand . . . .	4B 1185	4B 1230	
Rear Door Casing, left hand . . . .	4B 1186	4B 1231	

Remarks: The new type door casing can be used to replace the old type, providing holes are drilled in the casing to accept the screws, see this Journal, Volume 23, section "Body", pages 37 and 61.

Description	Old Part	New Part	Type and Parts List Publication Number
Joint Washer for oil reservoir . . . .	1B 1123	1B 2923	A 70, Pubs. 603A, p. 11 730, p. 9 780A, p. 9 853, p. 9
			A 90, Pub. 787, p. 10
			Taxi, Pub. 558A, p. 10
			Hire-Car, Pub. 728, p. 9
			Austin-Healey 100, Pub. 1050, Engine, p. 8
Joint Washer for oil reservoir . . . .	ID 1283	ID 1944	A 125, Pubs. 430A, p. 9 779, p. 10
			A 135, Pub. 624, p. 8

Remarks: New joint washer provides a more adequate seal around main bearing studs.

COMMENCING ENGINE NUMBERS:—  
A 125    —    —    10406

# AMENDMENTS TO LITERATURE

A 30 PARTS LIST,  
PUBLICATION No. 883B,  
Section "Boat".

Page 1. Amend part number 3H 5478 for Lock Cover and Escutcheon to read 3A 5478.

A 40 PARTS LIST,  
PUBLICATION No. 1099,  
Section "Engine".

Page 23. Amend part number 7H 903 for Repair Kit for pump to read P 147.

Section "Gearbox".

Page 4. Delete item 25:—  
CD 71—Dust Cover     1     1G 3420

Add:—

Saloon C. 601669-601686	} CD 71—Dust Cover     1     1G 3420
606355-606462	
606950-606961	
607675-608000	
609061-609131	
609260-845028	

Commercial C. 609133-845033

Sports C. 614776-753428

Remarks: Dust Cover no longer fitted.

Section "Controls".

Page 7. Amend part number 1G 3272 for bushes in gearbox to read ALT-136.

Section "Doors".

Page 5. Add under 4G 7735 Private Locking Device, the following:—

Weathershield for private locking device	1	14G 1789
Split pin for weathershield	—	1 2K 1381

Section "Casings".

Page 3. Add after 4G 2119 Parcel Tray, the following:—  
Clips     —     —     5     14A 2641

AUSTIN-HEALEY "100",  
PUBLICATION No. 1050,  
Section "Controls".

Page 3. Amend part number 1B 8817 for clutch pedal pad, R.H. Steering to read 1B 8750.

*Continued*

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# AUSTIN SERVICE JOURNAL

## AMENDMENTS TO LITERATURE—continued

AUSTIN-HEALEY "100"  
PUBLICATION No. 1050—continued.

Section "Controls".

Page 3. Item 47—Amend:—

Nut	—	—	1	2K 3978
to read:—				
Nut, B.S.F. (R.H. Steering)	—	1	—	2K 3978
Add:—				
Nut, U.N.F. (L.H. Steering)	—	1	—	FNZ 107

A 70 SCHEDULE OF REPAIR CHARGES,  
PUBLICATION No. 1084.

Page 7. Amend repair charge for operation number EE 10 (Side lamp bulb, remove and refit) to read 2/- instead of 6/- for BS.3, BK.3 and BW.4.

A 125 and A 135,  
SCHEDULE OF REPAIR CHARGES,  
PUBLICATION No. 1086.

Page 2. Amend repair charge for operation number E 23 (Remove and refit radiator) to read £2 2s. 0d. instead of £1 16s. 0d. for A 125 and A 135.

Page 7. Amend repair charge for operation number B3 (Adjust brakes, including bleeding) to read 12/- instead of 6/- for A 125 and A 135.

Page 8. Amend repair charge for operation number BM 3 (Remove and refit radiator cowl) to read £1 16s. 0d. instead of £2 2s. 0d. for A 125 and A 135.

THE AUSTIN SERVICE JOURNAL, Page 19. Add the following Commencing Chassis Number:—

A 125, R.H. Steering	—	—	—	10501
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Section "Transmission".

THE AUSTIN SERVICE JOURNAL, Page 1. Add the following data under "Commencing Chassis Cars—VOLUME 23.  
Section "Axle—Front".

Hire-Car, R.H. Steering	—	—	—	155737
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THE AUSTIN SERVICE JOURNAL, Page 1. Add the following data under "Commencing Engine Cars—VOLUME 24.  
Section "Engine".

Numbers":—	—	—	—	204884
A 70 Saloon	—	—	—	—
A 70 Pick-Up	—	—	—	174870

Page 6. Add the following data under "Commencing Chassis Numbers":—

A 125, L.H. Steering	—	—	—	10480
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Page 25. Amend Adaptor for oil filter (use 11B 190 with 2K 3150 setscrews) to read Adaptor for oil filter (use 11B 190 with 2K 3174 setscrews).

*Continued*

# AUSTIN SERVICE JOURNAL

## INTERCHANGEABLE PARTS—continued

Description	Old Part	New Part	Type and Parts List Publication Number
Gear Carrier with differential case and gears .	B3-174	1B 7335	A 70, Pub. 780A, p. 45 A 90, Pub. 787, p. 50
Remarks: Part number change only to assist records.			

Description	Old Part	New Part	Type and Parts List Publication Number
Oil Seal . . . . .	ID 3561	3H 2118	A 125, Pubs. 430A, p. 24, 779, p. 27 A 135, Pub. 624, p. 25
Remarks: Part number change only.			

Description	Old Part	New Part	Type and Parts List Publication Number
Flexible Hose Dennister, 14" long . . . . . Flexible Hose Dennister, 12" long . . . . .	4G 9761 4G 9762	14B 3790 14B 3791	Austin-Healey 100, Pub. 1050, Heater, p. 1
Remarks: Change of material only.			

### AMENDMENTS TO LITERATURE

A 30 PARTS LIST,  
PUBLICATION No. 883B.  
Section "Engine".

Page 11. Amend item number 7 to read as follows:—  
Studs for inlet and exhaust manifold — — — 4 — 52K 487  
Cancel the following:—  
Studs, outer for inlet and exhaust manifolds — — 2 — 52K 488  
Page 16. Amend part number 52K 1566 for Bolt to bracket to read HBZ 0509.

A 30 PARTS LIST,  
PUBLICATION No. 883B/1.

Page 6. Add the following after Tonneau filler panel, left hand, 14A 678:—  
Panel, rear, lower and apron assembly — — 1 — 14A 2420

A 30 PARTS LIST,  
PUBLICATION No. 883B/3.

Page 3. Add the following after Tonneau assembly, 14A 42:—  
Panel, rear, lower and apron assembly — — 1 — 14A 2420

A 30 PARTS LIST,  
PUBLICATION No. 883/4.

Page 19. Amend part number 14A 2561 for Brackets, front seat pivot tube, to rear 14A 2861.

*Continued*

# AUSTIN SERVICE JOURNAL

## AMENDMENTS TO LITERATURE—continued

A 40 SALOON PARTS LIST,  
PUBLICATION No. 1099.  
Section "Engine".  
Section "Heater".

Page 33. Amend part number 7H 3063 for Pressure plate to read 7H 3057.

Page 3. Add the following after item 8:—  
Plugs, when fixing straps for heater are not fitted      2      3H 926

AUSTIN-HEALEY 100 PARTS LIST,  
PUBLICATION No. 1050.  
Section "Boat".  
Section "Bumpers".

Page 1. Cancel the following:—  
Packing blocks for petrol tank      2      14B 2502

Page 1. Add the following:—  
Front number plate with brackets (Home Market only)      1      1B 8937  
Rear Number Plate      1      1B 8940  
Bolts to bracket      2      HZS 0404  
Nuts for bolts      2      FNZ 104  
Plain washers      2      PWZ 204  
Spring washers      2      LWZ 204  
(For Rear Number Plate Bracket, refer to Body Equipment, page 1.)

Section "Electrical".

Page 1. Amend part number 2H 3061 for Speedometer, miles, to read 3H 2061.

Section "Engine".

Page 1. Add the following after item 1:—  
Short Block Assembly, cylinder block with pistons, connecting rods, crankshaft and bearings only      1      8G 273

Page 14. Delete the following which has been listed in error:—  
Pulley for fan and water pump } Export (hot climates)      1      1B 2172  
Distance piece      1      1B 2173

16-H.P. HIRE-CAR PARTS LIST,  
PUBLICATION No. 728.

Page 9. Amend part number 1B 1375 for Dust Cap to read 1B 1735.

A 125 PARTS LIST,  
PUBLICATION No. 430A

Page 82. Amend item 17:—  
Sealing Rubbers      2      8D 2892  
to read:—  
Sealing Rubber, right hand      1      8D 2892  
Add:—  
Sealing Rubber, left hand      1      8D 6559

continued

# INTERCHANGEABLE PARTS

The following parts have been superseded by new ones of modified design or material. These parts are interchangeable with their old counterparts and will be supplied for replacements when stocks of the old ones are exhausted.

Description	Old Part	New Part	Type and Parts List Publication Number
Inlet manifold with plug .	2A 107	2A 538	A 30 Pub. 883B, Engine, p. 11
Remarks: Manifold now has a boss which can be tapped to provide a connection for a suction operated windscreen washer.			

Description	Old Part	New Part	Type and Parts List Publication Number
Differential shafts . . .	1B 7231	1B 7475	A 70, Pub. 780A, p. 46 A 90, Pub. 787, p. 52
Remarks: Higher grade material.			

Description	Old Part	New Part	Type and Parts List Publication Number
Valve oil seals. . . .	AEF 112	AEK 113	A 70, Pubs. 780A, p. 5 853, p. 5 A 125, Pubs. 430A, p. 5 779, p. 5 A 135, Pub. 624, p. 5 Taxi, Pub. 558A, p. 5 Hire-Car, Pub. 728, p. 5
Remarks: Improved seal to reduce oil consumption			

Description	Old Part	New Part	Type and Parts List Publication Number
Windscreen bottom weather strip	14B 1863	14B 3778	Austin-Healey 100 Pub. 1050, Windscreen, p. 1
Remarks: Modified section to give improved protection against the weather			

FOR YOUR RECORDS	PARTS LISTS
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# AUSTIN SERVICE JOURNAL

## AMENDMENTS TO LITERATURE

A 30 PARTS LIST,  
PUBLICATION 883B/2.

Page 24. Amend item 24.

Washers for nuts	-	6	-	2K 5319
to read:—				
Washers (plain) for nuts	-	6	-	PWZ 105
Add after item 24.				
Shakeproof washers	-	6	-	2K 8606

A 40 PARTS LIST,  
PUBLICATION 1099,  
Section "Gearbox."

Page 15. Amend item 6.

Setscrews ( $\frac{3}{8}$ " B.S.F. $\times$ $\frac{1}{8}$ " long), mounting plate to crankcase				
-	-	8	-	2K 3136
To read:—				
Setscrews ( $\frac{3}{8}$ " B.S.F. $\times$ $\frac{1}{8}$ " long) mounting plate to crankcase				
-	-	8	-	2K 6404
Remarks: Improved material. Commencing—Engine Number 986275.				

AUSTIN-HEALEY 100,  
PUBLICATION 1050,  
Section "Engine".

Page 15. Add after item 3:—

Rubber cover for petrol pump	1	-	11B 2003
Remarks: Protection against weather. Commencing—Chassis Number 160315.			

Page 16. Amend item 17.

Joint washer to crankcase	1	-	1B 123
To read:—			
Joint washers to crankcase and oil filter	-	2	1B 12

Section "Electrical".

Page 4.

Amend part number 3B 50 for Grommet, flasher cable through dash, to read 11G 2053.

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## AMENDMENTS TO LITERATURE—continued

AUSTIN-HEALEY 100, PUBLICATION 1050. Section "Windscreen".	Page 1.	Cancel item 9. Shouldered screws - - 2 - - 14B 1861 Add after item 15:— Windscreen security spring assembly - - - 1 - - 4B 5389	
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Section "Body Equipment".	Page 1.	Add after item 13 the following:— Plugs, front bumper apron panel - - - 2 - - 3H 926	
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16-H.P. HIRE-CAR, PUBLICATION 728.	Page 50.	Amend part number ALT-14 for Clips for rubber connection, water outlet pipe to radiator to read 8G 632.  Amend part number ALT-14 for Clips for rubber connection, radiator to water pump to read 8G 632.	
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16-H.P. TAXI, PUBLICATION 558A.	Page 48.	Amend part number ALT-14 for Clips for rubber connection, water outlet pipe to radiator to read 8G 632.  Amend part number ALT-14 for Clips for rubber connection, radiator to water pump to read 8G 632.	
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THE AUSTIN SERVICE JOURNAL, CARS—VOLUME 24, Section "Stores Data".	Page 6.	In the left hand column, line 8, amend the word "tank" to read "pipe".	
	Page 25.	Delete the words "in pairs" after part numbers 1G 1629 and 1G 1631.	

## SPECIAL AMENDMENT DUAL STEERING CONTROL

### A 40 Somerset

In the A 40 Parts List, Volume 1, Publication 1099, a list of special parts (including standard L.H. Steering parts) is given to enable an A40 Somerset Saloon, R.H. Steering, to be converted to dual steering control. As this model is now out of production the special parts (NOT normal L.H. steering parts) are not now available. Therefore the last page in the parts list, namely "Special Parts 1" is now cancelled.

# INTERCHANGEABLE PARTS

The following parts have been superseded by new ones of modified design or material. These parts are interchangeable with their old counterparts and will be supplied for replacements when stocks of the old ones are exhausted.

Description	Old Part	New Part	Type and Parts List Publication Number
Licence holder . . . . .	14G 1761	14G 5824	Pubs. 883B, A 30 Body Equipment, p. 1 883B/1, p. 22 883B/3, p. 16 883B/4, p. 20  A 40 Pub. 1099, Body Equipment, pp. 1/2
Remarks: Alternative type.			

Description	Old Part	New Part	Type and Parts List Publication Number
Pistons with rings and gudgeon pin .	1B 2376	11B 200	A 70 Pubs. 780A, p. 4 853, p. 4  16-H.P. Taxi Pub. 558A, p. 4  16-H.P. Hire-Car Pub. 728, p. 4
Remarks: Material change.  COMMENCING ENGINE NUMBERS:—  A 70     —     —     —     215001 16-H.P. Taxi     —     —     —     211001 16-H.P. Hire-Car     —     —     —     211030			

Description	Old Part	New Part	Type and Parts List Publication Number
Sealing rubbers for petrol tank mounting . . . . .	14B 2503	14B 2852	Austin-Healey 100 Pub. 1050, Boot, p. 1
Remarks: Improved method of sealing.			

*Continued*

<b>FOR YOUR RECORDS</b>	PARTS LISTS
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**AMENDMENTS TO LITERATURE—continued**

**A 70 PARTS LIST,  
PUBLICATION 780A**

Page 95. Amend item 12 for Clips for hose  
 $\frac{1}{8}$ " diameter                      2                      14G    799  
 To read:—  
 Clips for hose  $3\frac{1}{8}$ " diameter —    2                      14G    5630

**A 70 PARTS LIST  
PUBLICATION 833/L.**

Page 21. Amend item 22  
 Clips for hose  $3\frac{1}{8}$ " diameter    2                      14G    799  
 To read:—  
 Clips for hose  $3\frac{1}{8}$ " diameter —    2                      14G    5630

**AUSTIN-HEALEY 100 PARTS LIST.  
PUBLICATION 1050.  
Section "Body Equipment"**

Page 1. Add the following:—  
 Rubber buffers for blanking  
 fixing holes for brake fluid  
 container, R.H. Steering —    2                      3H    926

**Section "Body Shell"**

Page 1. Add after item 24 the following:—  
 Rubber buffers                      —                      2                      14B    766

**Section "Bonnet"**

Page 1. Add after part number 14B 1850 the following:—  
 Radiator grille —                      1                      14B    4568  
 Radiator grille surround —                      1                      14B    4569  
 Screws, self-tapping —                      12                      PTZ    602

**Section "Bumpers"**

Page 1. Add after item 13:—  
 Rubber grommet, rear  
 bumper spring bar to  
 body, right hand —                      1                      1A    9307  
 Rubber grommet, rear  
 bumper spring bar to  
 body, left hand —                      1                      1A    9308

**Section "Electrical"**

Page 1. Amend item 10 to read:—  
 To C.156839 (Fixing rods,  
 B.S.F. thread) —                      4                      3H    3057  
 Add after item 10:—  
 C.156840 Fixing rods,  
 U.N.F. thread —                      4                      1B    2906  
 Washers —                      4                      1B    2907  
 Washers —                      4                      2K    9420  
 Spring washers —                      4                      2K    2543

*Continued*





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## AMENDMENTS TO LITERATURE—continued

AUSTIN-HEALEY 100 PARTS LIST,  
PUBLICATION 1050.  
Section "Electrical"

Section "Seats"

Page 5. Add after item 30:—  
Rubber rings for side lamp  
cables — — — 2 — 2H 35

Page 1. Amend the quantity of part number 14B 2881, for  
Washer plates to read 4 instead of 6.  
Add the following, after:—

Plain washers (small) — — 9 — PWZ 104  
Plain washers — — — 3 — PWZ 106

Commencing Chassis Number:—

R.H. Steering — 144659  
L.H. Steering — 154660

A 125 PARTS LIST,  
PUBLICATION 430A

Page 71.

Add the following:—

Paint touch-up pencil — 1 — 2A 5377

Remarks: When ordering state colour required.

THE AUSTIN SERVICE JOURNAL,  
Cars—Volume 24.  
Section "Body"

Page 3. Add under 2K 1209, for Spring washer, in Summary of

Alteration panel:—

Support trunk floor, side, right hand — —	1 — 4G 4999
Support trunk floor, side, left hand — —	1 — 4G 5450
Support trunk floor, front Reinforcement for front support floor — —	1 — 4G 5451
Stiffener, wheelarch to rear mounting — —	1 — 14G 3794
Stiffener, wheelarch to rear mounting — —	1 — 4G 9913
Stiffener, wheelarch to rear mounting — —	1 — 4G 9914
Stiffener, wheelarch to rear mounting (rear) — —	1 — 4G 9915
Stiffener, wheelarch to rear mounting (rear) — —	1 — 4G 9916
Mounting bracket, rein- forcement — —	1 — 4G 8618
Mounting bracket and angle support — —	1 — 4G 9398

Page 21. Delete the following from the Range column of the  
Summary of Alteration panel:—

AS.4 — To B. 405107  
AS.4 — B. 405108 on.

Section "Stores Data"

Page 23. Amend reference to 14A 2861 for Brackets, front seat  
pivot tube, to read 14A 2581.

# INTERCHANGEABLE PARTS

The following parts have been superseded by new ones of modified design or material. These parts are interchangeable with their old counterparts and will be supplied for replacements when stocks of the old ones are exhausted.

## SUMMARY OF ALTERATION

Description	Old Part	New Part	Type and Parts List Publication Number
Felt, handbrake cover plate . . . . .	14A 803		A 30 Pubs. 883B Floor Fittings, p. 1 883B/1, p. 17 883B/3, p. 12 883B/4, p. 16
Sealing washer handbrake cover plate .		14A 3591	
Remarks: Rubber seal now fitted, instead of a felt seal.			

Description	Old Part	New Part	Type and Parts List Publication Number
Cork rings, large . . . . .	2A 4063	2A 4178	A 30 Pub. 883B/2, p. 21
Cork rings, small . . . . .	2A 4165	2A 4177	
Cork rings . . . . .	1A 4764	1G 4505	A 40 Pub. 1099 Front Suspension, p. 3 A 40/A 50 Pub. 1099A Front Suspension, p. 1 A 70 Pubs. 780A, p. 36 853, p. 33 Austin-Healey 100 Pub. 1050 Front Suspension, p. 1
Remarks: Improved material specification			

*Continued*

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# **CAR ENGINE AND CHASSIS SERIAL NUMBERS**

The system of giving cars a separate engine and chassis serial number has now been discontinued in favour of a joint car/engine serial number. The body will continue to have a separate serial number. The following list shows the last chassis number and the first car/engine number for each range of vehicle. The abbreviation C.E. will be used in parts lists to indicate a car/engine number.

The car/engine serial number system has been in use from the outset of production in the case of the A 40/A 50 Cambridge. It should be noted that all cars in the A 70, Austin-Healey 100, 16-H.P. Taxi and Hire Car range will share the same serial number sequence. A 30, A 40/A 50, A 125 and A 135, have each had a separate range allocated to them.

Model	Finishing Chassis Number	Commencing Car/Engine Number
A 30	72037	73000
A 70	161964	219000
Austin-Healey 100	161885	219000
16 H.P. Taxi and Hire Car	162037	219000
A 125 and A 135	10697	121000

# INTERCHANGEABLE PARTS

The following parts have been superseded by new ones of modified design or material. These parts are interchangeable with their old counterparts and will be supplied for replacements when stocks of the old ones are exhausted.

Description	Old Part	New Part	Type and Parts List Publication Number
Layshaft . . . . .	1B 3329	1B 3702	A70, Pubs. 780A, p. 31. 853, p. 28. A90, Pub. 787, p. 34. Austin-Healey 100 Pub. 1050, Gearbox, p. 3.
Remarks: Modified drilling to improve oil feed to front layshaft bearing.			

Description	Old Part	New Part	Type and Parts List Publication Number
Valve spring cup . . . . .	1B 2875	11B 263	A70 Pubs. 780A, p. 5, 853, p. 5, 16-H.P. Taxi Pub. 558A, p. 5. 16-H.P. Hire-Car Pub. 728, p. 5. A125 Pubs. 430A, p. 5. 779, p. 5. A135 Pub. 624, p. 5.
Valve spring cup . . . . .	1B 2811	11B 262	Austin-Healey 100 Pub. 1050, Engine, p. 9.
Remarks : Thicker flange to increase strength.			

*Continued*

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

**INTERCHANGEABLE PARTS—continued**

Description	Old Part	New Part	Type and Parts List Publication Number
			A70 Pubs. 780A, p. 7 853, p. 6. 16-H.P. Hire-Car Pub. 728, p. 7. Austin-Healey 100 Pub. 1050, Engine, p. 4.
Crankshaft gear . . . . .	1B 2373	11B 231	
Remarks: Improved material.			

Description	Old Part	New Part	Type and Parts List Publication Number
Tank unit for gauge . . . . .	1G 2690	11G 2063	A40/50 Pub. 1099A, Petrol Tank, p.1.
Remarks: Modified design. Commencing Chassis Engine Number -- 8425			

Description	Old Part	New Part	Type and Parts List Publication Number
Oil reservoir . . . . .	1B 1117	11B 340	A70 Pubs. 780A, p. 9, 853, p. 9. A90 Pub. 787, p. 10, Austin-Healey 100 Pub. 1050, Engine, p. 8. 16-H.P. Taxi Pub. 558A, p. 10. 16-H.P. Hire-Car, Pub. 728, p. 9.
Remarks: Standardization of oil reservoir.			

**AMENDMENTS TO LITERATURE—continued**

A40/A50 PARTS LIST,  
PUBLICATION 1099A,  
Section "Controls".

Page 5. Amend part number 2H 2641, for Brake "pull-off" springs for cross rods, to read 2H 1641.

Page 6. Delete part number CPS 0410 for Split pin, spring to control rod.

Add after item 22:—

Anchor plate (on gearbox),

for spring

Amend part number 5C 2546, for Rivets, to read

RRS 0207.

1 — 11G 3122

Page 7. Add after item 34 the following:—

Change speed cross shaft

bracket, outer with ball

socket

1 — 4G 1298

Ball socket

1 — 1B 3403

Screws, bracket to body

2 — HZS 0505

Special washers

2 — LWN 205

Section "Petrol Tank".

Page 1. Amend part number 2K 6428, for Screws, unit to tank to read 53K 165.

Delete part numbers 2K 5555 and 2K 8932.

Add after item 17:—

Clips for pipe

6 — ALT 123

THE AUSTIN-HEALEY 100,  
PUBLICATION 1050,  
Section "Gearbox and  
Overdrive"

Page 7. Amend part number 52K 3028, for Bolts rubber mountings to frame, to read HZS 0507.

Section "Steering".

Page 3. Amend part number 3H 3127, for Oil seal, to read 3H 3132.

A70 PARTS LIST,  
PUBLICATION 780A.

Page 44. Amend part number 3H 3127, for Oil seal, to read 3H 3132.

A70 PARTS LIST,  
PUBLICATION 853.

Page 40. Amend part number 3H 3127, for Oil seal, to read 3H 3132.

*Continued*

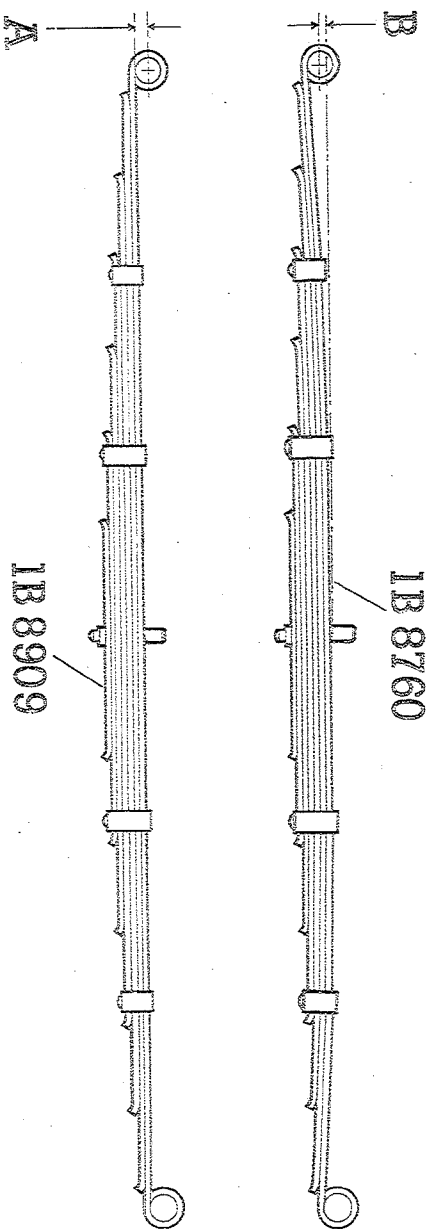
# REAR ROAD SPRINGS

Austin-Healey 100

## INTERCHANGEABILITY

A new rear road spring has been introduced to ensure that there is adequate ground clearance when the car has finally settled down on its springs. The new rear spring has  $\frac{1}{4}$ " (12.7 mm.) positive camber A, whereas the old one had  $\frac{1}{4}$ " (6.35 mm.) negative camber B, normally loaded, see illustrations for comparison.

The new springs can be used to replace the old ones, but only in pairs. Main leaves are not interchangeable.



STR 1280

## SUMMARY OF ALTERATION

Description	Number Of	Old Part	New Part	Type
Rear Springs with bushes . . . . .	2	1B 8760	1B 8909	Austin-Healey 100
Main Leaves . . . . .	2	1B 8761	1B 8910	

## COMMENCING CHASSIS NUMBERS---

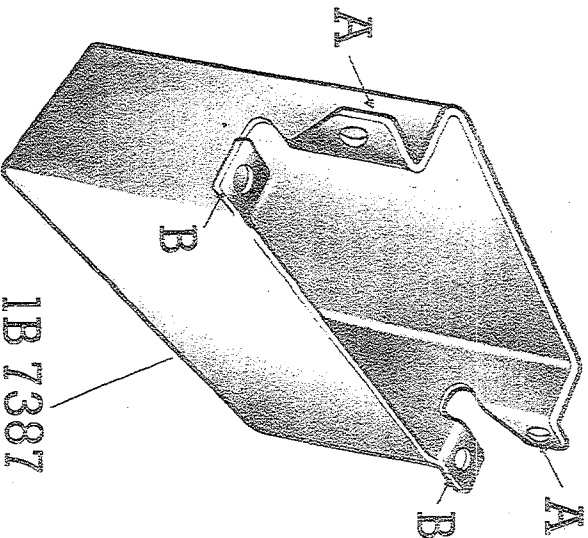
R.H. Steering	--	148987
L.H. Steering	--	148921

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# REAR AXLE BUMPER BRACKETS

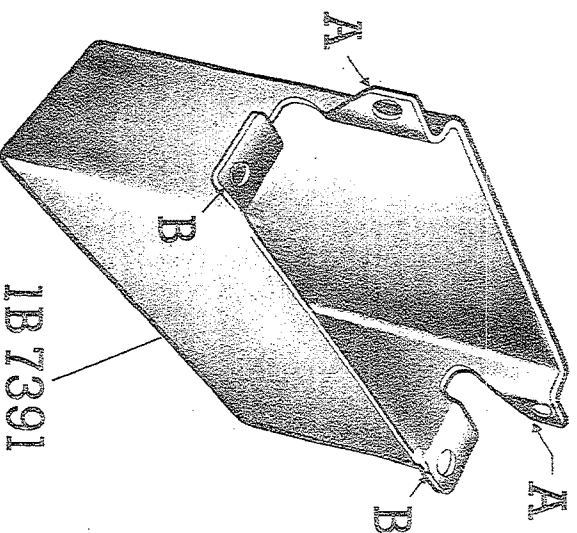
Austin-Healey 100

The rear axle bumper brackets have been modified to increase the clearance between the tyre and the bracket. The new bracket is similar to the old one, but the upper fixing flanges A have been repositioned to permit the bracket to fit farther under the wheelarch. The fixing holes in the wheelarch for the lower flanges B have been



Old Bumper Bracket

STR 1284



New Bumper Bracket

STR 1285

repositioned to suit the new brackets (see illustrations for comparison).

## INTERCHANGEABILITY

The new brackets may be used in pairs for replacements of the old ones, provided that new  $\frac{1}{4}$ " (6.35 mm.) holes are drilled in the wheelarch for the lower fixing bolts.

## SUMMARY OF ALTERATION

Description	Number Of	Old Part	New Part	Type
Brackets for rear axle bumpers	2	IB 7387	IB /391	Austin-Healey 100

## COMMENCING CHASSIS NUMBERS:—

R.H. Steering    —    —    146479  
L.H. Steering    —    —    146476

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED



# BRAKE BACKPLATE LOCKWASHERS

A 40, A 70, Austin-Healey 100

A new lockwasher has been introduced for the upper setscrews securing the brake backplates to the swivel axles. The new lockwasher has a wider cross section which prevents it buckling when the setscrews are being tightened.

INTERCHANGEABILITY  
The new lockwashers should be used to replace the old ones in this application.

## SUMMARY OF ALTERATION

Description	Number Off	Old Part	New Part	Type and Parts List Publication Number
Lockwashers for setscrews, swivel axles to backplates . . . . .	2	1G 4282	1G 4471	A 40 Pubs. 579A/1, p. 17 884, p. 34 A 70 Pubs. 780A, p. 38 853, p. 35 Austin-Healey 100

## COMMENCING CHASSIS NUMBERS:—

A 40 Saloon, R.H. Steering—	—	833956
L.H. Steering —	—	833971
Van, R.H. Steering —	—	833973
Countrymen, R.H. Steering—	—	833987
L.H. Steering —	—	834467
Pick-Up, R.H. Steering —	—	833992
L.H. Steering —	—	835331
Coupe, R.H. Steering —	—	833965
L.H. Steering —	—	834034
A 70 Saloon, R.H. Steering—	—	152146
L.H. Steering —	—	152274
Pick-Up, R.H. Steering —	—	152288
L.H. Steering —	—	152263
Austin-Healey 100, R.H. Steering —	—	151690
L.H. Steering —	—	151691

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
ALTERATIONS NOTED	

# REAR ROAD SPRINGS

Austin-Healey 100

Stronger and stiffer rear road springs, which were formerly supplied only to special order for racing purposes, are now being fitted as standard initial equipment to further improve the performance of the Austin-Healey car. The new springs are of the reverse camber type, similar to the ones which were fitted prior to the recent introduction of positive camber springs, refer to this Journal, Volume 24, Cars, "Suspension", page 1. The new springs, part number 1B 8929, which have eight leaves instead of seven, are readily distinguishable from the old ones, part number 1B 8909. The top spring leaf is increased in thickness from  $\frac{5}{32}$ " (3,969 mm.) to  $\frac{3}{16}$ " (4,7625 mm.) and there is a special stiffening and safety clip A fitted around the eye at both ends of the spring—see Fig. 1.

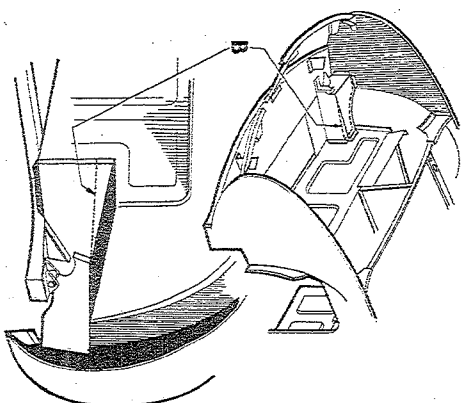


Fig. 2 STR 1378

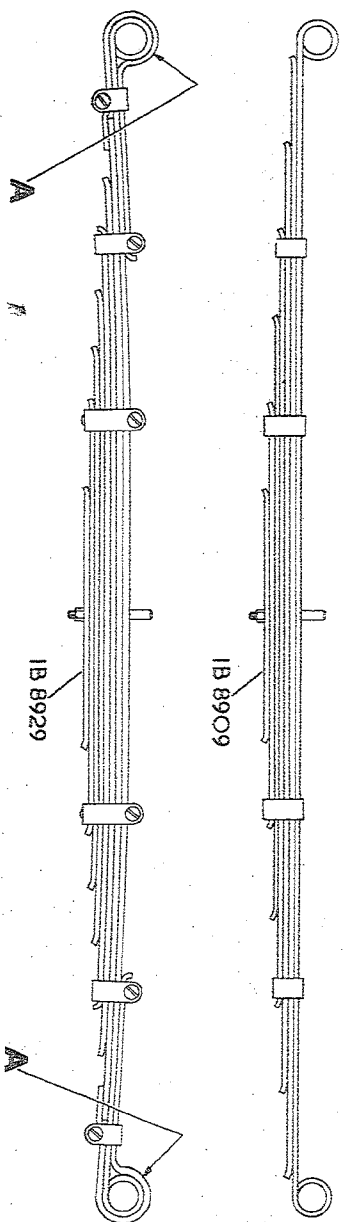


Fig. 1 STR 1377

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

Continued

### REAR ROAD SPRINGS—continued

To accommodate the extra thickness of the spring, the toe bolt has been lengthened from 1 $\frac{1}{8}$ " (39.687 mm.) to 1 $\frac{3}{4}$ " (44.449 mm.) and the spring clips from 2 $\frac{3}{4}$ " (69.849 mm.) to 2 $\frac{7}{8}$ " (73.024 mm.).

The extra height of the new spring has necessitated modifications to the body to give sufficient clearance between the top of spring and the body when the spring is in the full bump position. The top of the rear spring shackle box has been raised by 1 $\frac{1}{4}$ " (31.749 mm.) at its front end, as shown by the dotted line B which marks the position of the original top—see Fig. 2. At the front end of the rear spring the floor panel has been raised at C by  $\frac{3}{4}$ " (19.05 mm.) immediately above the shackle—see Fig. 3.

### INTERCHANGEABILITY

The new springs cannot be fitted unless the body is modified to give sufficient clearance at

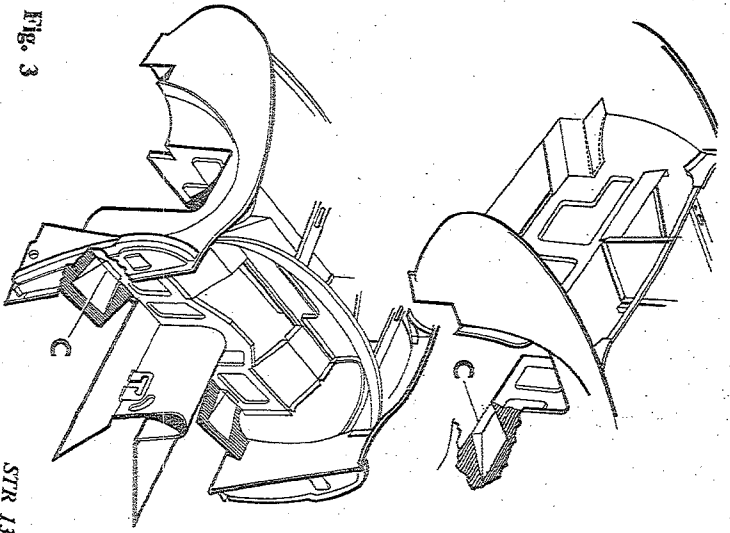


Fig. 3

STR 1379

full bump. Further details for modification to the body will be published in due course.

### SUMMARY OF ALTERATION

Type	Range	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
BN.1	<div> R.H.S. C.148987-154646 </div> <div> L.H.S. C.148921-154648 </div>	<div>Rear springs with bushes</div> <div>Main leaves with bushes</div>	<div>2</div> <div>2</div>	<div>1B 8909</div> <div>1B 8910</div>	Pub. 1050, Rear Suspension, p. 1.
	<div> R.H.S. C.154647 on, and* </div> <div> L.H.S. C.154649 on, and* </div>	<div>Rear springs with bushes</div> <div>Main leaves with bushes</div>	<div>2</div> <div>2</div>	<div>1B 8929</div> <div>1B 8930</div>	

**REAR ROAD SPRINGS—continued**

**SUMMARY OF ALTERATION—continued**

Type	Range	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
BN.1	R.H.S. To C.154646 L.H.S. To C.154648 except*	Rear spring clips . . . .	4	1G 5103	Pub. 1050, Rear Suspension, p. 1
		Toe bolts . . . .	2	1B 8759	
	R.H.S. C.154647 on, and* L.H.S. C.154649 on, and*	Rear spring clips . . . .	4	1G 5271	
		Toe bolts . . . .	2	1B 8931	

\*152233-152242, 152244, 152246, 152248-152252, 152254, 152255, 152257-152422, 152424-152475, 152477-152484, 152487, 152490-152505, 152507-152511, 152514-152540, 152542-152553, 152556-152559, 152562-152578, 152580-152736, 152739-152744, 152746-152768, 152770-152777, 152779-152935, 152937-152942, 152944, 152945, 152947-152949, 152951, 152953-152973, 152975, 152976, 152978-153320, 153799-153898, 154100-154645.

# FRONT SHOCK ABSORBERS

Austin-Healey 100

New front shock absorbers are being fitted to further improve the riding qualities of the car and to reduce shock absorber 'fade'. The new shock absorbers are identical with the old ones except for the valves which have a modified torque leak setting.

## INTERCHANGEABILITY

The new shock absorbers are interchangeable, in pairs, with the old ones and will be supplied for replacements.

## SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
BN.1	R.H.S. C.138975-153856	F.1	Front shock absorbers, with arms (use IB 8935 in pairs)	2	3H 3045	Pub. 1050, Front Suspension, p. 1
	L.H.S. C.138031-153854					
	R.H.S. C.153857 on L.H.S. C.153855 on	F.1	Front shock absorbers with arms . . . .	2	1B 8935	

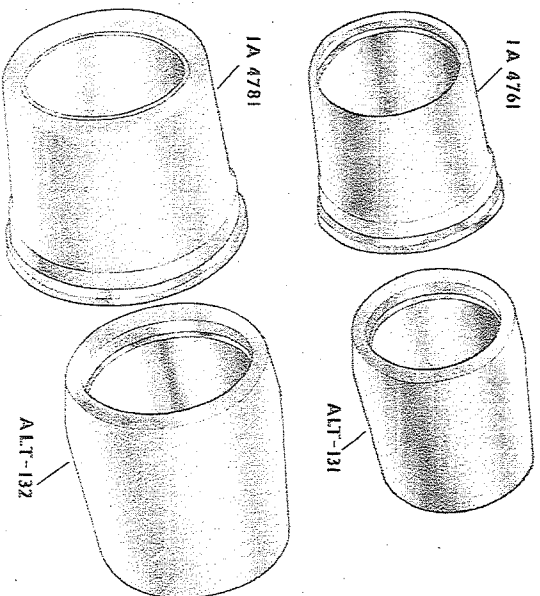
FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# **FRONT SUSPENSION LINK BEARINGS** **A 70, Austin-Healey 100**

The flangeless type of bearings which were recently introduced for use on the A 40 range of vehicles (see this Journal, Volume 23, section "Suspension", page 3) are now also being used on the A 70 and Austin-Healey 100.

## **INTERCHANGEABILITY**

The modified bearings are interchangeable with their old counterparts.



STR 1455

## **SUMMARY OF ALTERATION**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	C.138031-156135	F 7	Bearings for trunion links . . . . .	4	1A 4761	Pub. 1050, Front Suspension, p. 1
	C.156136 on		Bearings for trunion links . . . . .	4	ALT-131	
	C.138031-156135 C.156136 on	F 21	Bearings for lower links Bearings for lower links	8 8	1A 4781 ALT-132	
A 70	To C.157684		Bearings for trunion links . . . . .	4	1A 4761	Saloon, Pub. 780A, p. 36 Pick-Up, Pub. 853, p. 34
	C.157685 on		Bearings for trunion links . . . . .	4	ALT-131	
	To C.157684 C.157685 on		Bearings for lower links Bearings for lower links	8 8	1A 4781 ALT-132	

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# SHOCK ABSORBERS

## Austin-Healey 100

The new co-axial type shock absorbers, referred to in this Journal, Volume 24, section "Suspension", pages 14, 15 are now being fitted to the Austin-Healey 100.

INTERCHANGEABILITY  
The new shock absorbers will be supplied for replacements and should be fitted in pairs.

### SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	C.153855-219136	F.1	Front shock absorbers with arms . . . . .	2	1B 8935	Pub. 1050, Front Suspension, p. 1
	C.219137 on		Front shock absorbers with arms . . . . .	2	1B 4403	
	C.138031-220087		Rear shock absorber with arm, right hand . . .	1	1B 8807	Pub. 1050, Rear Suspension, p. 2
			Rear shock absorber with arm, left hand . . .	1	1B 8808	
			Rear shock absorber with arm and link, right hand	1	1B 7444	
			Rear shock absorber with arm, right hand . . .	1	1B 7445	
	C.220088 on		Rear shock absorber with arm and link, left hand .	1	1B 7447	
			Rear shock absorber with arm, left hand . . .	1	1B 7448	

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
ALTERATIONS NOTED	

# **FRONT SUSPENSION LINK BEARINGS**

## **A 70, Austin-Healey 100**

Further to the article in this Journal, Volume 24, "Suspension", page 17, the flanged type bearings have been reintroduced on the A 70 and Austin-Healey 100.

### **INTERCHANGEABILITY**

The flanged type of bearings are interchangeable with the flangeless type.

### **SUMMARY OF ALTERATION**

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	C.156136-158336		Bearings for trunnion links	4	ALT-131	
	C.158337 on	F 7	Bearings for trunnion links	4	1A 4761	Pub. 1050, Front Suspension, p. 1
	C.156136-158336		Bearings for lower links	8	ALT-132	
A 70	C.158337 on	F 21	Bearings for lower links	8	1A 4781	
	C.157685-158336		Bearings for trunnion links	4	ALT-131	
	C.158337 on	J 9	Bearings for trunnion links	4	1A 4761	Saloon, Pub. 780A, p. 36
	C.157685-158336		Bearings for lower links	8	ALT-132	Pick-up, Pub. 853, p. 34
	C.158337 on	J 23	Bearings for lower links	8	1A 4781	



# TORQUE WRENCHES AND SOCKET SETS

Since the publication of torque figures in this Journal, Volume 23, section "Repairs Data", pages 15 and 19, of various nuts, bolts and set screws used in particular applications, requests have been received for suitable torque wrenches and socket sets.

This equipment can be obtained from any good tool factor, or direct from Messrs. V. L. Churchill & Co. Ltd., Walnut Tree Walk, Lambeth North, London, S.E.11, who market several torque wrenches of varying capacities as listed below.

Size	Capacity	Square Drive
Number 1	8 to 20 lb. ft.	$\frac{3}{8}$ " (9.525 mm.)
Number 2	16 to 100 lb. ft.	$\frac{1}{2}$ " (12.700 mm.)
Number 3	25 to 150 lb. ft.	$\frac{1}{2}$ " (12.700 mm.)
Number 4	125 to 300 lb. ft.	$\frac{3}{4}$ " (19.050 mm.)

Numbers 2 and 3 sizes will accommodate the torque wrench loadings which have already been published. Socket wrench sets can also be obtained from Messrs. V. L. Churchill to suit both Whitworth and American size hexagons for B.S.F. and U.N.F. threaded nuts, bolts and set screws respectively.

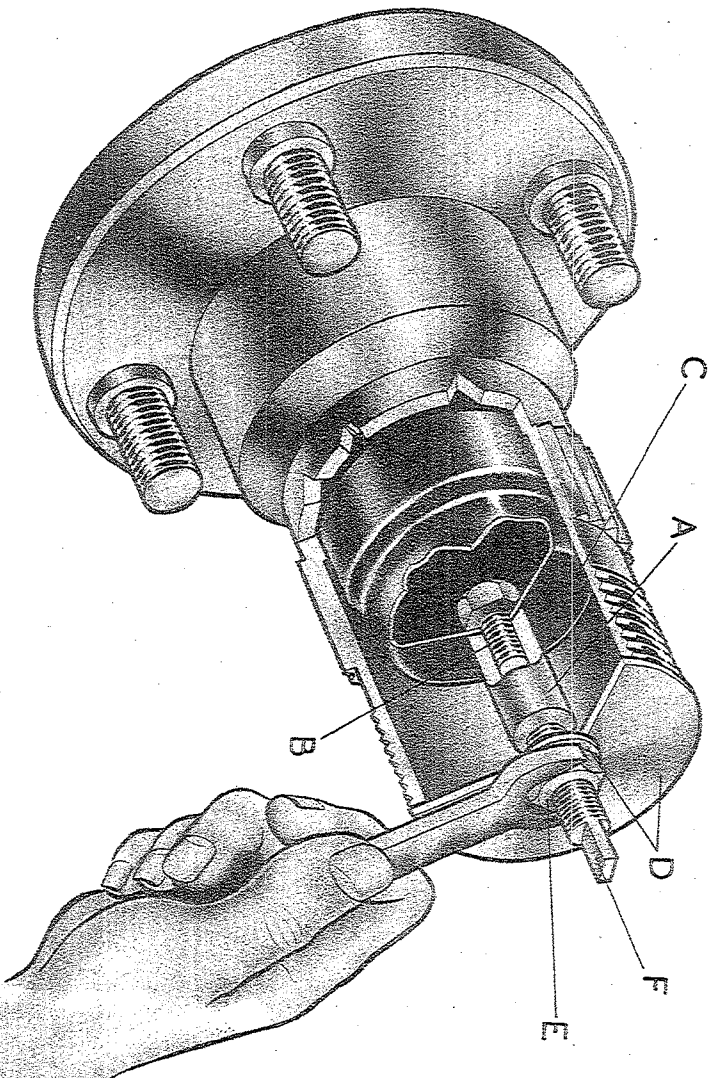
FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# FRONT HUB DUST CAP EXTRACTOR

## Austin-Healey 100

A tool for extracting the press-in type dust cap from the front hub has been added to the tool kit supplied with the car. The tool comprises a pillar, threaded internally  $\frac{1}{16}$ " U.N.F. at one end, and threaded externally  $\frac{1}{4}$ " U.N.F. at the other end: there are also two washers and a nut. The extractor is used as illustrated by screwing the

pillar A onto the bolt B (welded to the dust cap C for extraction purposes): the washers D and nut E are then put in place, and the nut E is tightened until the dust cap C is withdrawn. It is important to hold the end F of the extractor pillar A with a spanner, while the nut E is tightened, to prevent the pillar A from turning and twisting the dust cap.



STR 1278

### SUMMARY OF ALTERATION

Description	Number Off	New Part	Type
Extractor for front hub dust cap . . . . .	1	1B 4339	Austin-Healey 100

### COMMENCING CHASSIS NUMBERS:—

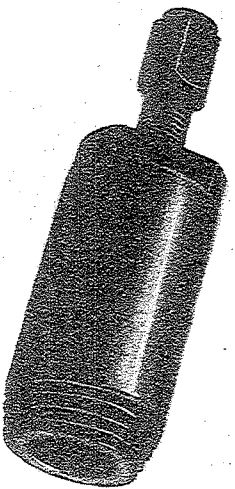
R.H. Steering - - - 148987  
L.H. Steering - - - 148935

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# OVERDRIVE UNIT—ANNULUS COUPLING FLANGE OIL SEAL REMOVER

**Austin-Healey 100**

TOOL NUMBER - - - GT 176  
WEIGHT - - - 4½ lb.

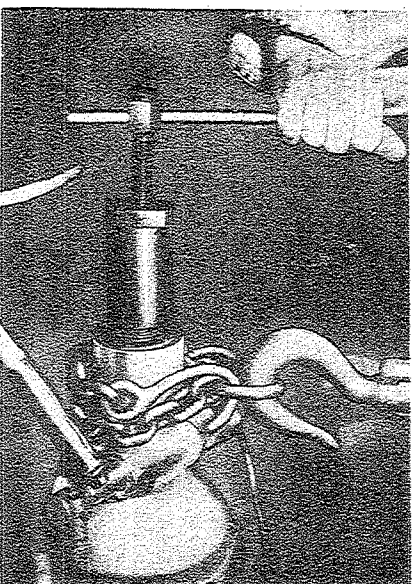


STR 1321

This oil seal remover, of entirely new design, will remove a defective oil seal from the rear end of the overdrive unit.

It consists of a heavy steel body with a tapered thread at one end, and a substantial centre screw.

Flats are provided at the top end of the tool so that the body can be held firmly whilst the centre screw is secured up against the mainshaft.



STR 1322

Full details of the method of application can be found in this Journal, Volume 24, section "Gearbox", page 28.

# OUT SEAT REPLACER

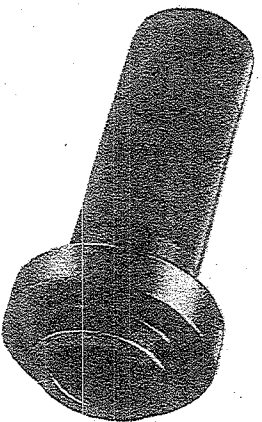
# Austin-Healey 100

TOOL NUMBER	GT 177
WEIGHT	2 lb.

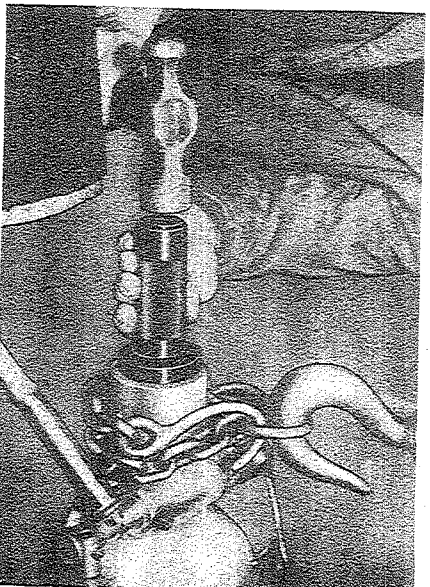
Tool GT 177 has been designed and introduced to ensure that the oil seal in the overdrive unit casing is correctly fitted.

By this means, neither the oil seal nor the over-drive casing, which is made of aluminium, can be damaged.

The application of the tool is fully described and illustrated in this Journal, Volume 24, section "Gearbox", page 28.



STK 1323



STR 1324



## VOLUME 24 CARS

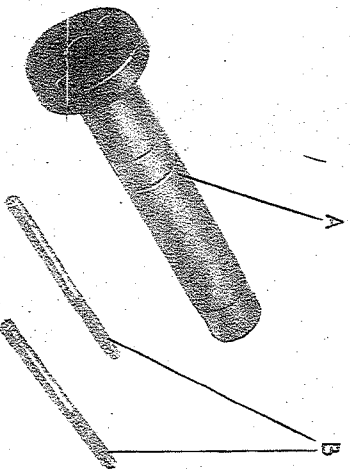
# OVERDRIVE UNIT-OIL PUMP BODY REPLACER

**Austin-Healey 100**

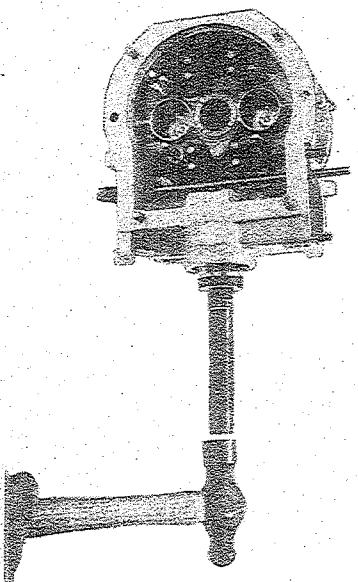
TOOL NUMBER - - - GT 184  
WEIGHT - - - 1 lb. 2 oz.

Full particulars of its use appear in this Journal,  
Volume 24, section "Gearbox", page 17.

Tool GT 184 consists of a body A and two steel guide pegs B. When this tool is used the oil pump body is very accurately positioned in the overdrive unit housing, before, and during its replacement.



STR 1314



STR 1325

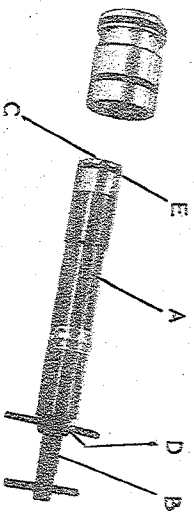
# **OVERDRIVE UNIT-ACCUMULATOR HOUSING REMOVER**

**Austin-Healey 100**

TOOL NUMBER -- -- -- GT 182  
WEIGHT -- -- -- 1 3/4 lb.

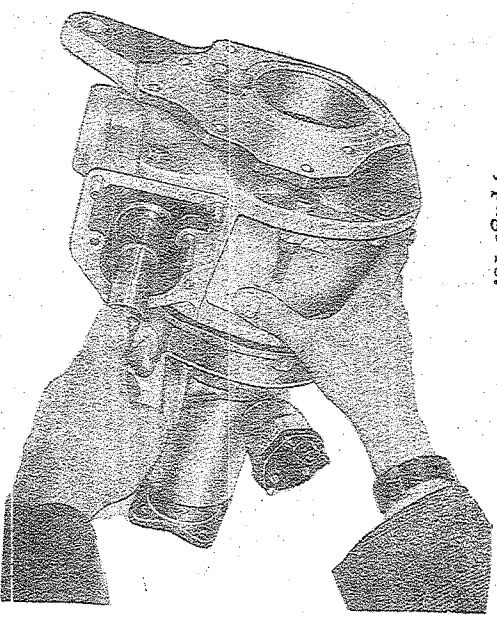
The difficulty of removing the accumulator housing from its bore is completely overcome by the use of this tool.

It consists of a body A, through which is fitted the centre screw B, terminating in a flange C, large wing nut D and a rubber ring E.



STR 1315

Full details of the operation of this tool can be found in this Journal, Volume 24, section "Gearbox", page 18.



STR 1197

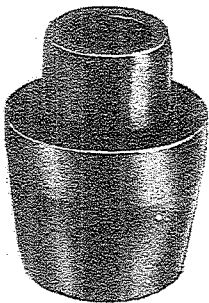


# OVERDRIVE UNIT-ACCUMULATOR HOUSING RING GUIDE

**Austin-Healey 100**

TOOL NUMBER	-	-	-	-	GT 181
WEIGHT	-	-	-	-	$\frac{3}{4}$ lb.

This ring guide is designed to prevent permanent distortion of the lower rubber ring when it is being fitted to the accumulator housing.

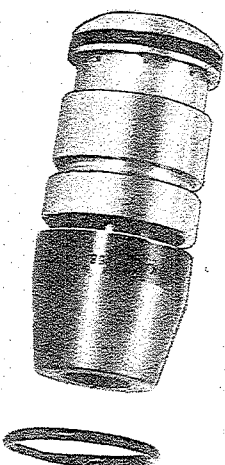


STR 1316

Stretching of the lower rubber ring will take place if it is forced over the full diameter of the housing, but if it be rolled gently up the tapered

face of the ring guide, and into position in the lower groove of the housing, no distortion will occur.

The upper ring should be rolled on from the tapered end of the housing to locate it in its groove. The accompanying illustration shows the correct sequence of assembly for the lower ring.



STR 1329

# OVERDRIVE UNIT—ACCUMULATOR HOUSING AND OPERATING PISTON RING COMPRESSORS

Austin-Healey 100

TOOL NUMBER	-	-	-	GT 179
WEIGHT	-	-	-	6 oz.
TOOL NUMBER	-	-	-	GT 180
WEIGHT	-	-	-	8 oz.

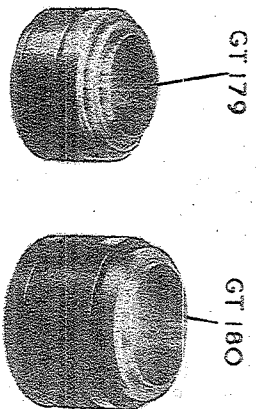


Fig. 1

STR 1317

The possibility of breaking piston rings or of damaging the small cylinder bores is entirely overcome by the use of these ring compressors.

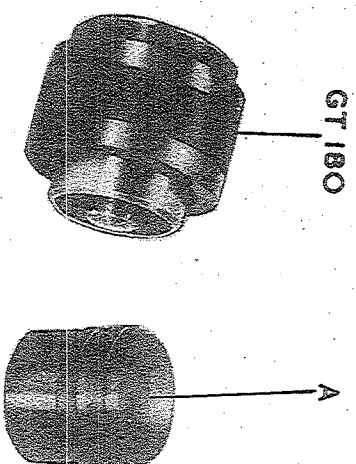


Fig. 3

STR 1327

Tool GT 179 is for fitting the accumulator piston with rings B to its housing C (Fig. 2) and GT 180 for fitting the operating piston with rings A (Fig. 3).

Full details of these ring compressors being used can be found in this Journal, Volume 24, section "Gearbox", pages 18 and 20.

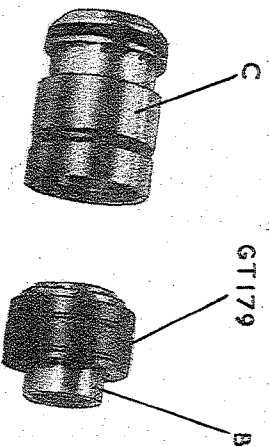


Fig. 2

STR 1326

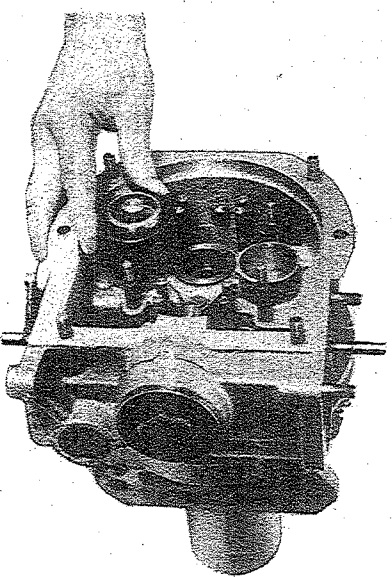


Fig. 4

STR 1328

# OVERDRIVE UNIT-UNIDIRECTIONAL CLUTCH ASSEMBLY RING

Austin-Healey 100

TOOL NUMBER - - - GT 178  
WEIGHT - - -  $\frac{1}{2}$  lb.

This precision made assembly ring is an essential tool for reassembling the unidirectional clutch.

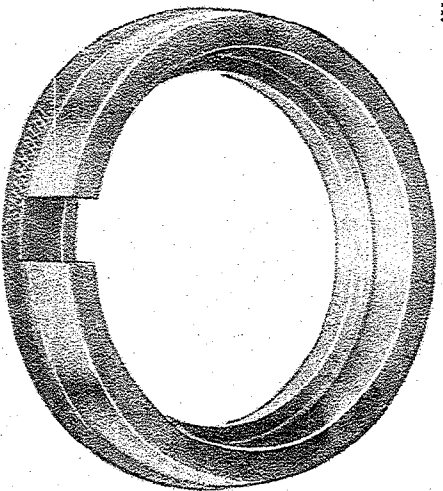


Fig. 1

STR 1201

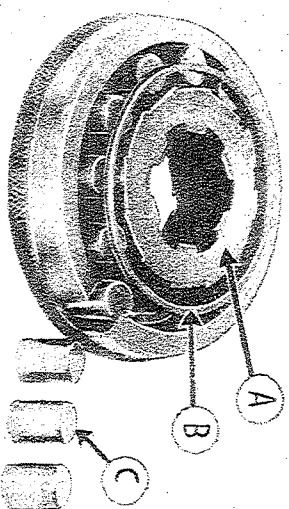


Fig. 2

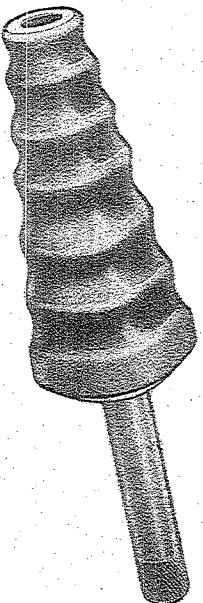
STR 1202

Fig. 2 shows the inner member A, cage and spring B of the clutch being put together; it is important to make sure that the spring is in the right way in order to cause the cage to urge the rollers up the inclined faces of the inner member.

The inner member with cage and spring is then placed into the assembly ring and the rollers C are pushed in through the slot in the rim of the ring. The unidirectional clutch can then be transferred from the tool to the annulus.

# **RADIATOR FLUSHING ADAPTORS** **All Vehicles**

TOOL NUMBER	-	-	-	-	-	GT 187
WEIGHT	-	-	-	-	-	1 ½ lb.

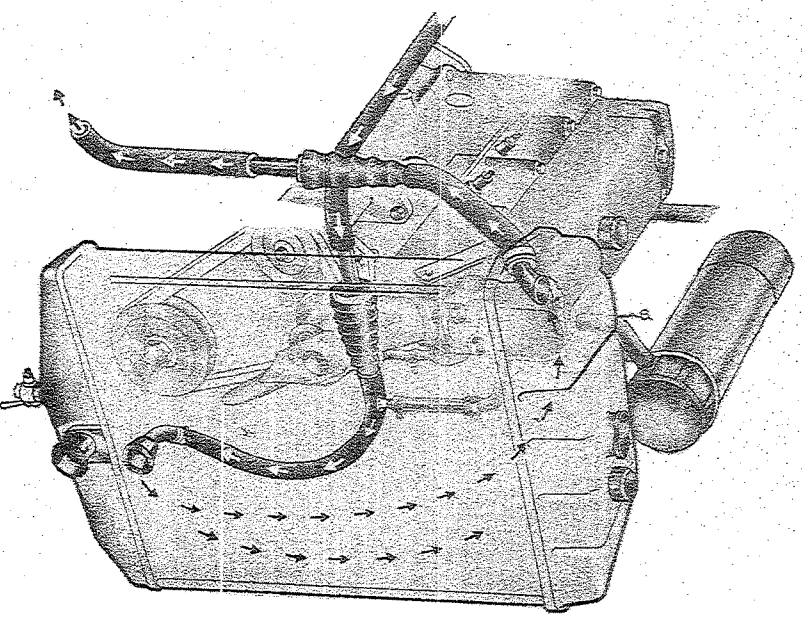


S7R 1304

These adaptors, made in alloy and brass, are so designed that every size of hose fitted to post-war Austin vehicles is covered.

By their use, the operation of reverse flushing of radiators, recommended at least twice yearly, will become an easy task.

The adaptors should be used in pairs, one for the radiator inlet hose and one for the outlet hose, and the brass inlet pipe is of 1" (25.400 mm.) diameter. This has been found to be the size of the water mains supply hose generally used, and



S7R 1394

if there is any variation, it is suggested that a reducing sleeve be obtained locally.

The method and use of these adaptors is fully described in this Journal, Volume 24, section "Radiator", page 1.

# TOOLS

## Austin-Healey 100

A lead hammer is now being supplied in place of the hide hammer for removing the hub caps from the Austin-Healey 100.

### SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	C.138031-159256 }		Hammer, hide . . . .	1	3H 3128	Pub. 1050, Tools, p. 1
			Hammer, lead . . . .	1	1B 8996	
	C.159257 on					

# TOOL KIT

## A 30

A modified grease gun and a modified box spanner are now being supplied with the tool kit of the above car.

INTERCHANGEABILITY: The new parts will be supplied when stocks of the old ones are exhausted.

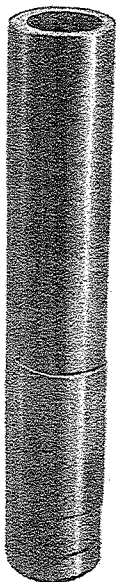
### SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
A 30	C.101-64649 }		Grease gun with adaptor Spanner, box, for sparking plug and gearbox filler and drain plugs .	1	3H 2278	Pub. 883B/2, p. 28
				1	3H 2419	
	C.64650 on }		Grease gun . . . . Spanner, box, for sparking plug . . . .	1	2A 5380	
				1	2A 5379	

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

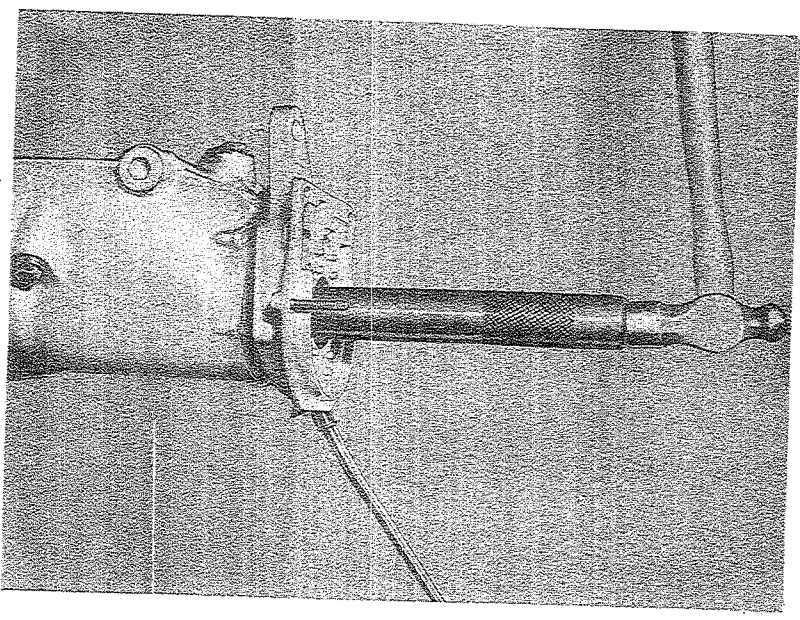
# **MAINSHAFT BEARING REPLACER FOR OVERDRIVE UNIT** **Austin-Healey 100**

TOOL NUMBER	-	-	-	-	GT 186
WEIGHT	-	-	-	-	4 lb.



STR 1309

Improvised tools can do much damage, especially when used to fit ball and roller bearings, and GT 186 has been designed to ensure that the ball bearing fitted to the adaptor plate at the rear end of the gearbox, is fitted speedily and without damage to either adaptor plate, shaft or ball bearing. The use of this tool is more fully described in this Journal, Volume 24, section "Gearbox", page 14.



STR 1490

## WATER PUMP BODY REFACING TOOL

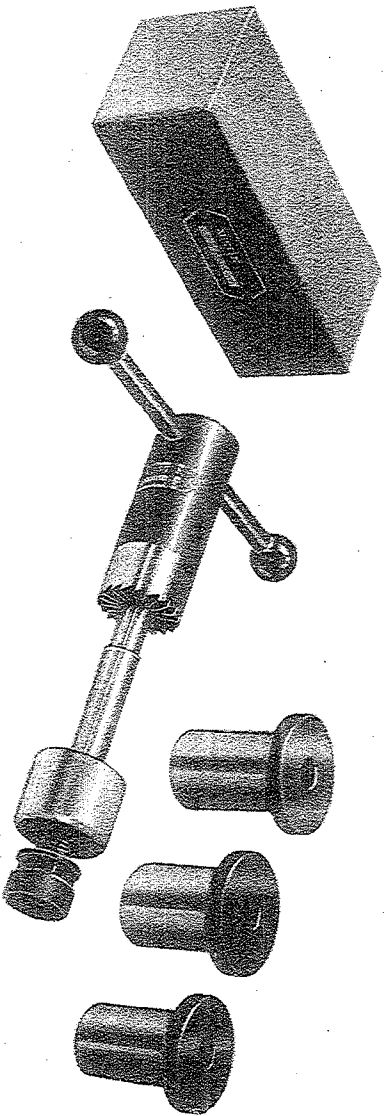
### All Models fitted with carbon seal

TOOL NUMBER - - - - GT 193  
WEIGHT - - - - 8  $\frac{3}{4}$  lb.

This hand-operated re-facing tool consists of a high speed cutter mounted on an arbor, a thrust race, adjusting nut, and three pilots.

The three pilots enable the tool to be used on all Austin Models and on all water pumps fitted with a carbon seal.

Full details as to the method to be employed in using this re-facer will be found in this Journal, Volume 24, section "Engine", page 74.



STR 1440

# **VALVE SEAT GLAZE BREAKERS** **All Models**

**TOOL NUMBERS**

	GT 188
	GT 189
	GT 190
	18G 195
	18G 196
<b>WEIGHT</b>	6 oz. (each)



Worn valve seats usually have a glass-hard surface. These glaze breakers will be advantageous in preparing the valve seats ready for recutting and finishing. If hardened valve seats inserts have been fitted, then these glaze breakers must not be used: the inserts should be renewed. The cutters of the tools are staggered to prevent scoring the valve seats during the operation.

**Application:—**

A 30	STR 1441
A 40 exhaust, A 40 inlet (series 2, 3),	18G 195
A 50 exhaust	GT 188
A 40 inlet (series 4 and 5), A 50 inlet	18G 196
8-H.P., 10-H.P., 12-H.P., 16-H.P.,	
16-H.P. Taxi and Hire-Car, A 70,	
A 125, A 135 (inlet and exhaust),	
Austin-Healey 100, A 90, A 135 (3	
carburetors) exhaust	GT 189
Austin-Healey 100, A 90, A 135 (3	
carburetors) inlet	GT 190

Operational details can be found in this Journal, Volume 24, section "Engine", page 75.

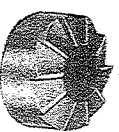


# VALVE SEAT NARROWING CUTTERS

## All Models

### TOOL NUMBERS

18G 197 (top)  
 18G 198 (bottom)  
 18G 199 (top)  
 18G 200 (bottom)  
 18G 201 (top)  
 18G 202 (bottom)  
 18G 203 (top)  
 18G 204 (bottom)  
 18G 205 (top)  
 18G 206 (bottom)



STR 1442

### Application:—

WEIGHT — — — — 4 oz. (each)

These special narrowing cutters have been designed to enable the width of valve seats to be maintained at their original dimension. Two types are available, one having a 15° angle for the top of the seating and the other having a 75° angle for the bottom or inside edge.

The cutters are intended to be used with the standard range of pilots and handle which are available for finishing valve seats.

If hardened valve seat inserts have been fitted, then these narrowing cutters must not be used; the inserts should be renewed.

A 30 — — — — 18G 197/198

A 40 (Series 2, 3) inlet and exhaust. A 40 (Series 4, 5) exhaust. A 50 exhaust — 18G 201/202

A 40 (Series 4, 5) inlet, A 50 inlet — 18G 199/200

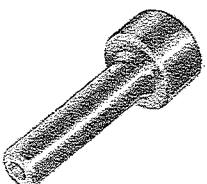
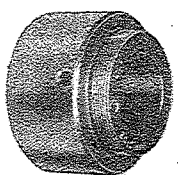
8-H.P., 10-H.P., 12-H.P., 16-H.P., 16-H.P. Taxi and Hire-Car, A 70, A 125, A 135 (inlet and exhaust), Austin-Healey 100, A 90, A 135 (3 carburetters) exhaust — — — 18G 203/204

Austin-Healey 100, A 90, A 135 (3 carburetters) inlet — — 18G 205/206

Operational details can be found in this Journal, Volume 24, section "Engine", page 76.

# **FRONT HUB EXTRACTOR ADAPTORS** **Austin-Healey 100**

TOOL NUMBERS:—		Weight
GT 8G (right hand thread)	—	2 lb.
GT 8H (left hand thread)	—	2 lb.
GT 8J — — —	—	1 lb.



STR 1443



These adaptors, to be used in conjunction with hub extractor GT 8 are threaded internally to suit both the right and left hand threads of Austin-Healey 100 front hubs.

GT 8G has a right hand internal thread to remove the left hand hub, and GT 8H has a left hand internal thread to remove the right hand hub.

The centre screw extension GT 8J is centralised and held in position by locating its large diameter in the adaptor.

This ensures a direct and central pull against the swivel axle.

The application of these adaptors is described and illustrated in this Journal, Volume 24, section "Axle-Front", page 4.

## STEERING ARM EXTRACTOR THRUST PADS

**All Models, except A 30**

TOOL NUMBER	GT 75B
WEIGHT (set of 3)	1 lb.

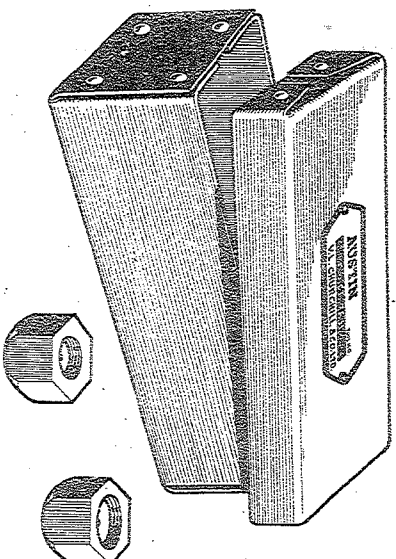
Since the steering rocker and idler shaft now have U.N.F. threads (see this Journal, Volume 23, section "Steering", page 19) a new set of thrust pads have been introduced to be used with GT 75A Steering Arm Remover.

These thrust pads screw on to the rocker or idler shaft, after removal of the nut and washer, thus protecting the threads whilst the arm is being withdrawn.

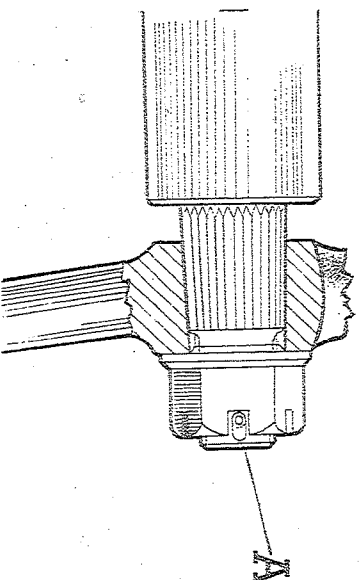
They are supplied in sets of 3, in a strong fibre box, and should be ordered under part number GT 75B.

Steering rocker and idler shaft threads can be identified as follows—B.S.F. threads—No marking, U.N.F. threads—a letter 'U' is stamped on the end of the shaft as shown at "A" in the illustrations.

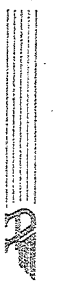
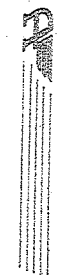
Full details of their applications can be found in this Journal, Volume 22, section "Tools", page 1.



STR 1496



STR 1027A



## SERVICE TOOLS

### Part Number Alterations

Certain Service Tool part numbers have been altered, and it is essential that the new part numbers given below be quoted in all future orders.

These alterations should also be made to the Service Tool List, Publication 941B.

#### SUMMARY OF ALTERATION

Description	Old Part Number	New Part Number
Valve seat cutter . . . . .	GT 25	18G 25
Valve seat cutter pilot . . . . .	GT 31	18G 31
Front hub extractor adaptor . . . . .	GT 8G	GT 8K

## DIFFERENTIAL CASE BEARING REMOVER ADAPTORS

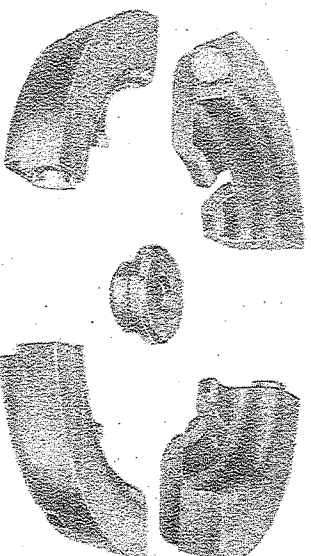
### A 30

TOOL NUMBER - - - - 18G172  
WEIGHT - - - - 3½ lb.

These adaptors are designed to be used with GT.47A for the removal of the differential case bearings fitted to the A 30 rear axle.

The set comprises four segments and one thrust pad complete in a box.

Full details of the use and operation of these adaptors will be found in this Journal, Volume 24, section "Axle—Rear", page 16.



STR 1153

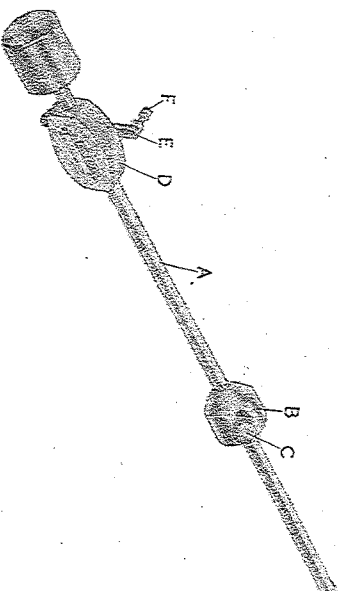
## BEVEL PINION BEARING PRE-LOAD GAUGE

A 30, A 40, A 50, A 70, A 90, Austin-Healey 100, A 125 and A 135

TOOL NUMBER - - - - 18G207  
WEIGHT - - - - 4 lb. 6 ozs.

This precision-made pre-load gauge consists of a steel rod A, calibrated in pounds from 3 to 20, along which slides a weight B held in any position required by a knurled headed set screw C. A small gearbox D carries swinging arms E which can be moved to suit any circle from 2⅞" to 4" diameter (60.3 mm. to 101.6 mm.)

These arms are held in position on the bevel pinion flange by means of knurled nuts, F.



STR 15184

Details of the full use of this tool can be found in this Journal, Volume 24, section "Axle—Rear", page 16.

# OVERDRIVE COUPLING FLANGE

## Austin-Healey 100

Coupling flange bolts with "D" shaped heads (which are already in use on the rear coupling flange) have now been introduced for the front of the propeller shaft. The overdrive coupling flange has been modified to provide a register to locate the head of the new bolts. The lockwashers which were formerly used on the rear flange only

are now used to secure the bolts of the front coupling flange.

INTERCHANGEABILITY

The new coupling flange together with the new bolts and lockwashers can be used together to replace the old flange.

### SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
Austin-Healey 100	C. 138031-155283	CA 15	Coupling flange . . . . .	1	7H 5887	Pub. 1050, Gearbox and Overdrive, p. 7
	C. 155284 on	CA 15	Coupling flange . . . . .	1	17H 5807	
	C. 138031-155283	{	Bolts for flange to overdrive flange . . . . .	4	2K 8688	Pub. 1050, Propeller Shaft, p. 1
			*Nuts for bolts . . . . .	4	2K 3977	
			Lockwashers for bolts . . . . .	4	1B 7386	
	C. 155284 on	{	Bolts for flange to overdrive flange . . . . .	4	2K 7491	
			Nuts for bolts . . . . .	4	2K 3977	
			Lockwashers . . . . .	2	2K 5914	

\*Not previously listed.

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

# ROAD WHEELS

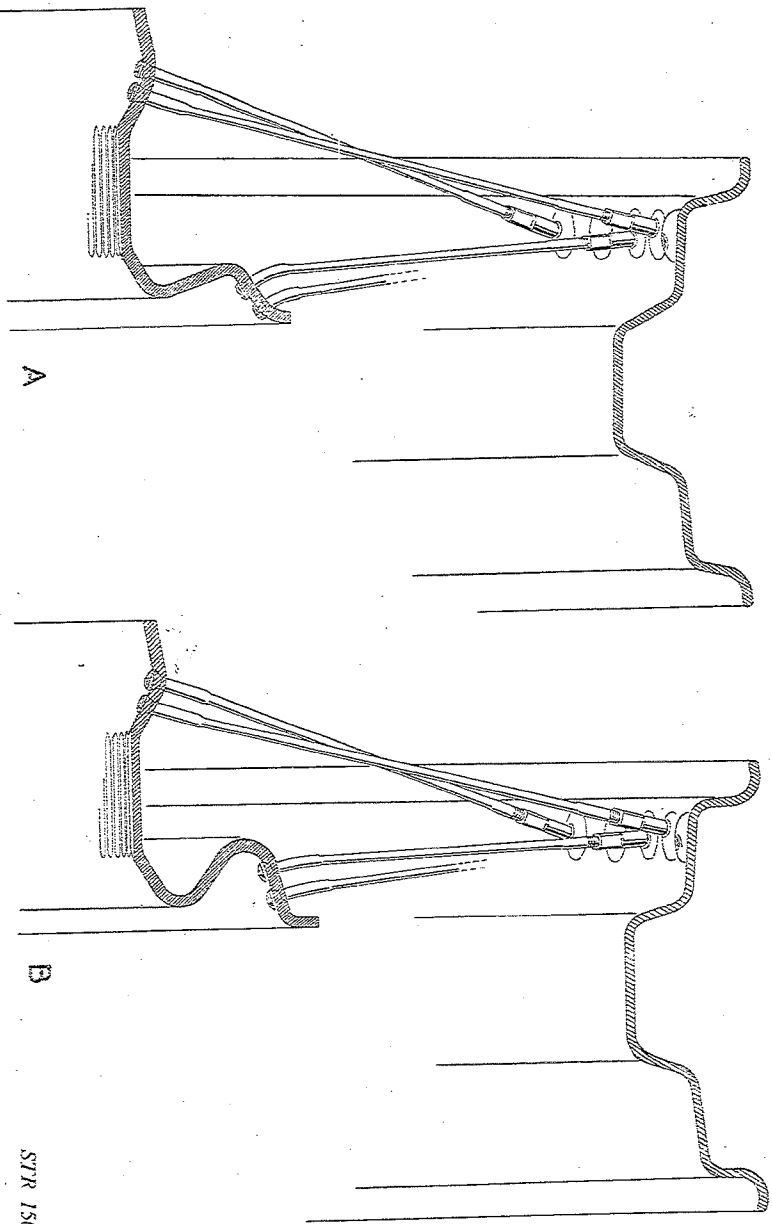
## Austin-Healey 100

The road wheels have been re-designed to increase the safety margin and reduce the possibility of spoke breakages when travelling at very high speeds. The new wheels are similar to the old ones but the shape of the centre lock hub has been modified to permit the use of spokes which have a less acute bend at the butt end—see illustration. In addition the wheel rim is now made from

11 S.W.G. (.116 in.-2.946 mm.) material in place of 13 S.W.G. (.092 in.-2.337 mm.).

### INTERCHANGEABILITY

The new road wheels and the rims are separately interchangeable with their old counterparts, and will be supplied for replacements. The new spokes cannot be used for replacements on the old type wheel. Hub centres cannot be supplied separately.



The new wheel B is interchangeable with the old one A, but the spokes are not interchangeable.

STR 1501

### SUMMARY OF ALTERATION

Type	Range	Plate	Description	Number per Vehicle	Austin Part Number	Parts List Publication Number
BN.1	C.138031-159801		Road wheels, centre lock	5	1B 8033	Pub. 1050, Road Wheels, p. 1
			Rims	5	7H 1710	
			Spokes, long	80	7H 1707	
	C.159802 on		Spokes, short	160	7H 1708	
			Road wheels, centre lock	5	1B 8048	
			Rims	5	7H 1804	
			Spokes, long	80	7H 1806	
			Spokes, short	160	7H 1805	

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
ALTERATIONS NOTED	