SECTION F

GEARBOX

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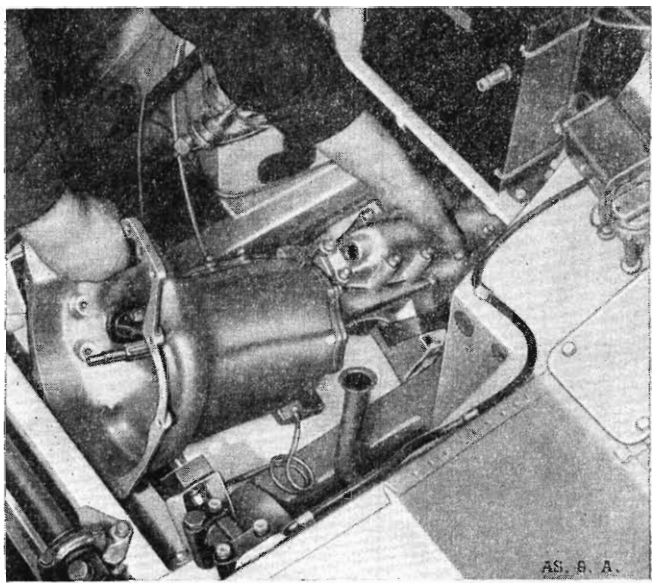


Fig. F.1. Removing the gearbox from the vehicle.

Section F.1

DESCRIPTION

The gearbox has four forward speeds and one reverse, and synchromesh is incorporated on second, third and top gears.

Top gear is a direct drive; third and second are in constant mesh; first and reverse are obtained by sliding spur pinions.

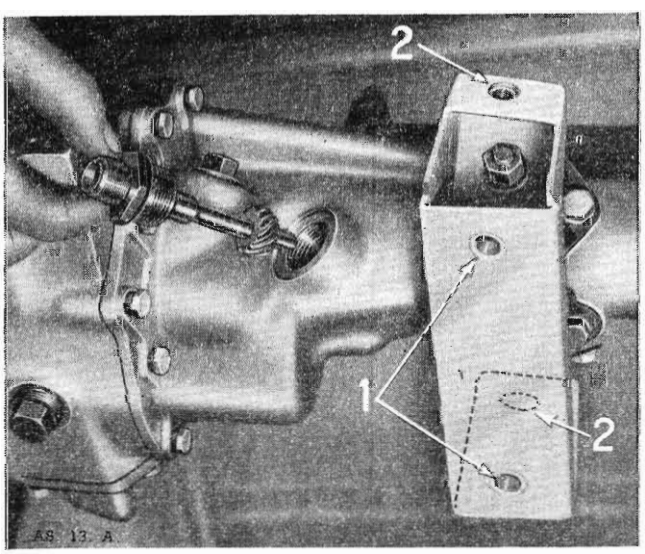


Fig. F.2. The gearbox rear support and position of the speedometer drive gear.

1. *Location of the $\frac{3}{8}$ in. AF rear mounting setpins.*
2. *Location of the $\frac{5}{16}$ in. AF rear mounting setpins.*

Section F.2

LUBRICATION

Every 1,000 miles (1600 km.)

Check the oil level and top up if necessary. To gain access remove the rubber plug on the left side of the gearbox covering. The filler plug is then accessible. Remove the plug and fill up to the bottom of the threads. This gives the correct level.

Every 6,000 miles (9600 km.)

Drain after a run when the oil is warm, and refill with new oil. Capacity $2\frac{1}{3}$ imp. pints (1·33 litres, 2·8 U.S. pints).

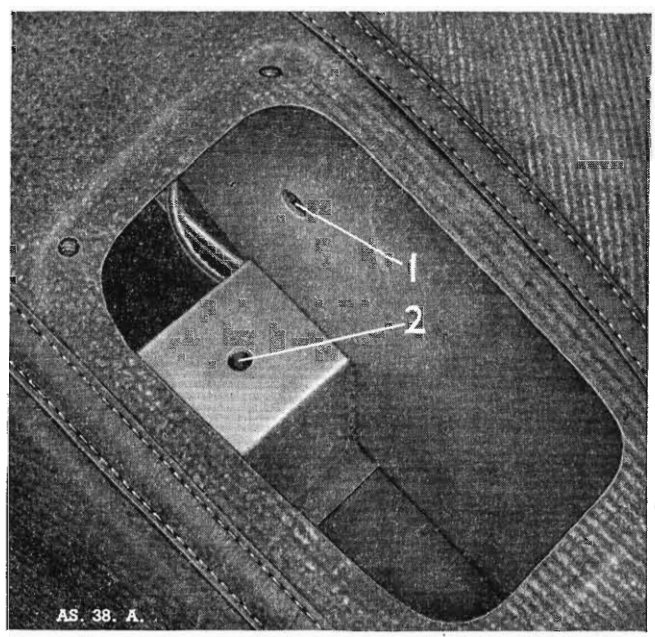


Fig. F.3. View through the gearbox change-speed-lever aperture showing the location of the rear mounting setpins.

Section F.3

REMOVAL AND REPLACEMENT

The engine and gearbox may be removed from the vehicle as a complete unit as descibed in Section A.4. Whereupon the gearbox and engine are separated. The alternative method of gearbox removal is first to remove the engine as detailed in Section A.4 and then withdraw the gearbox in the following manner:

(1) Remove the four self tapping screws from the change-speed-lever cover, and withdraw the cover off the lever.

(2) Remove the anti-rattle plunger, spring and cap from the side of the change-speed-lever turret.

(3) Unscrew the three change-speed-lever cover setpins and remove the lever.

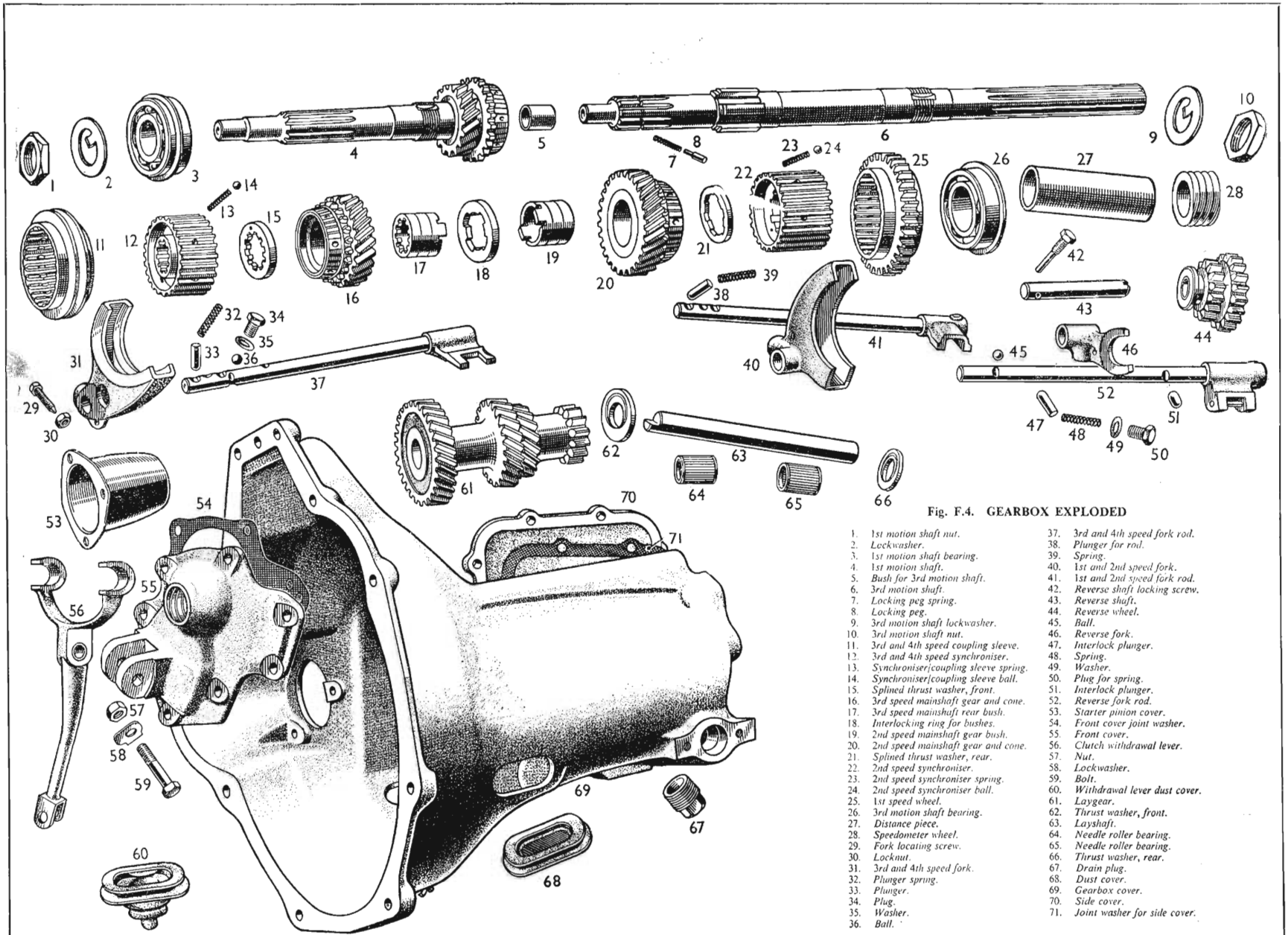


Fig. F.4. GEARBOX EXPLODED

1. 1st motion shaft nut.
2. Lockwasher.
3. 1st motion shaft bearing.
4. 1st motion shaft.
5. Bush for 3rd motion shaft.
6. 3rd motion shaft.
7. Locking peg spring.
8. Locking peg.
9. 3rd motion shaft lockwasher.
10. 3rd motion shaft nut.
11. 3rd and 4th speed coupling sleeve.
12. 3rd and 4th speed synchroniser.
13. Synchroniser/coupling sleeve spring.
14. Synchroniser/coupling sleeve ball.
15. Splined thrust washer, front.
16. 3rd speed mainshaft gear and cone.
17. 3rd speed mainshaft rear bush.
18. Interlocking ring for bushes.
19. 2nd speed mainshaft gear bush.
20. 2nd speed mainshaft gear and cone.
21. Splined thrust washer, rear.
22. 2nd speed synchroniser.
23. 2nd speed synchroniser spring.
24. 2nd speed synchroniser ball.
25. 1st speed wheel.
26. 3rd motion shaft bearing.
27. Distance piece.
28. Speedometer wheel.
29. Fork locating screw.
30. Locknut.
31. 3rd and 4th speed fork.
32. Plunger spring.
33. Plunger.
34. Plug.
35. Washer.
36. Ball.
37. 3rd and 4th speed fork rod.
38. Plunger for rod.
39. Spring.
40. 1st and 2nd speed fork.
41. 1st and 2nd speed fork rod.
42. Reverse shaft locking screw.
43. Reverse shaft.
44. Reverse wheel.
45. Ball.
46. Reverse fork.
47. Interlock plunger.
48. Spring.
49. Washer.
50. Plug for spring.
51. Interlock plunger.
52. Reverse fork rod.
53. Starter pinion cover.
54. Front cover joint washer.
55. Front cover.
56. Clutch withdrawal lever.
57. Nut.
58. Lockwasher.
59. Bolt.
60. Withdrawal lever dust cover.
61. Laygear.
62. Thrust washer, front.
63. Layshaft.
64. Needle roller bearing.
65. Needle roller bearing.
66. Thrust washer, rear.
67. Drain plug.
68. Dust cover.
69. Gearbox cover.
70. Side cover.
71. Joint washer for side cover.

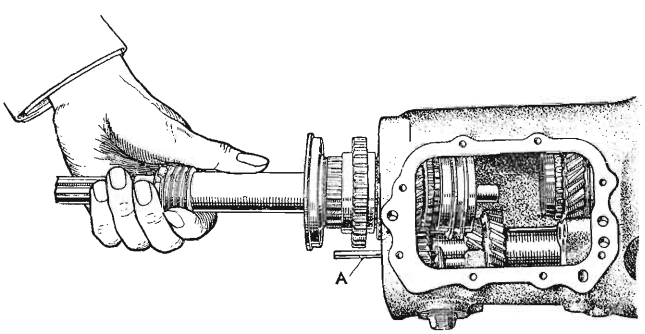
(4) Peel back the carpet surrounding the gearbox cover to expose the gearbox rear mounting setpins. The location of one of the setpins is shown (1) Fig. F.3. Unscrew both setpins.
(5) Working beneath the vehicle, unscrew the speedometer drive cable at its union with the gearbox rear extension.
(6) Detach the clutch slave cylinder from the clutch bell-housing by unscrewing its two mounting setpins and withdrawing the push rod from the rear of the cylinder.
(7) Disconnect the propeller shaft from the rear axle by unscrewing the four self locking nuts.
(8) Unscrew the remaining two gearbox rear mounting setpins, one of which is located at (2) Fig. F.3.
(9) Lift the gearbox together with the propeller shaft clear of the vehicle as shown in Fig. F.1.

Reassembly is a reversal of the above procedure. The propeller shaft **must** be connected to the rear end of the gearbox before the gearbox is replaced in the vehicle.

Section F.4

DISMANTLING

(1) Unscrew the filler plug. Drain the oil by removing the plug from the bottom of the gearbox.
(2) Unscrew the speedometer pinion sleeve from the left side of the gearbox rear cover, remove the fibre washer and withdraw the speedometer pinion.
(3) Remove the eight nuts securing the remote control housing and lift the housing off the rear cover.
(4) Unscrew the nine set screws and spring washers securing the rear cover to the gearbox.
(5) Pull the rear cover back slightly and turn it in an anti-clockwise direction as viewed from the rear, to enable the control lever to clear the fork rod ends, and then remove the rear cover from the gearbox.



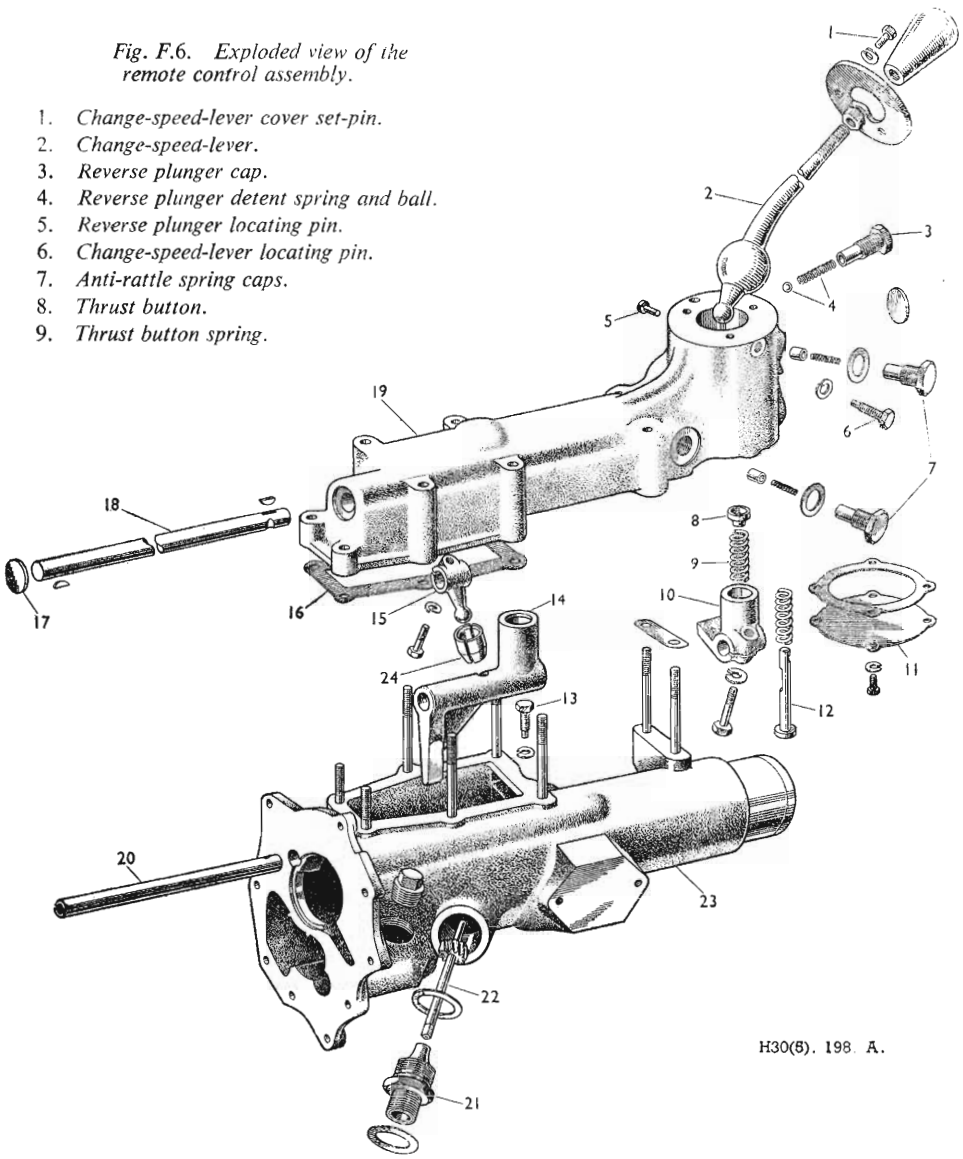
H30. 99. A.

Fig. F.5. Drawing out the third motion shaft assembly after lowering the laygear on to the dummy layshaft 'A.'

(6) Remove the control shaft locating screw, and screw it into the tapped front end of the control shaft. Slight pressure on the screw will facilitate the removal of the control shaft, which is a push fit in the rear cover. The control lever will slip off the end of the shaft as the shaft is removed.
(7) The two halves of the control lever bush can be lifted out after removal of the circlip. From Gearbox No. 14495, a one-piece Nylon bush, which is interchangeable, is used and the circlip is deleted.
(8) Unscrew the four set screws securing the bottom cover to the change-speed-lever tower. Retain the paper joint washer if undamaged.
(9) Unscrew and remove the change-speed-lever locating peg and the two anti-rattle springs. The latter are removed by unscrewing the two caps and then tilting the remote control housing so that the springs and plungers drop out.
(10) Unscrew the three set pins securing the change-speed-lever cover to the top of the change-speed-lever tower and remove the lever care being taken to retain the thrust button, and thrust button spring.
(11) Release the set screws in the front and rear selector levers, remove the welch plugs at either ends of the remote control housing, and using a suitable drift tap out the remote control shaft. The front and rear selector levers can then be removed.
(12) To remove the reverse selector plunger first unscrew the reverse plunger cap and remove the detent spring and ball, then remove the locating pin.
(13) Remove the clutch release bearing by levering out the two retaining springs.
(14) To remove the clutch withdrawal lever bend back the locking washer and remove the nut and washer. The bolt may then be unscrewed. Do not attempt to knock the bolt out, as it is threaded into the support bracket. To unscrew the bolt remove the rubber dust cover from the hole opposite that which the clutch withdrawal lever passes, and pass a suitable tool through the hole. On left-hand drive cars the clutch withdrawal lever passes through the hole on the left hand side of the bell-housing.
(15) Remove the seven nuts and washers from the front cover, situated within the clutch bell-housing. The front cover may then be withdrawn by gripping the clutch withdrawal lever brackets with the finger and thumb and pulling. Remove the paper joints and packing shim.

Fig. F.6. Exploded view of the remote control assembly.

1. *Change-speed-lever cover set-pin.*
2. *Change-speed-lever.*
3. *Reverse plunger cap.*
4. *Reverse plunger detent spring and ball.*
5. *Reverse plunger locating pin.*
6. *Change-speed-lever locating pin.*
7. *Anti-rattle spring caps.*
8. *Thrust button.*
9. *Thrust button spring.*



10. *Selector lever rear.*
11. *Bottom cover.*
12. *Reverse selector plunger.*
13. *Control shaft locating screw.*
14. *Control lever.*
15. *Selector lever front.*
16. *Joint washer.*
17. *Welch plug.*
18. *Remote control shaft.*
19. *Remote control housing.*
20. *Control shaft.*
21. *Speedometer pinion sleeve.*
22. *Speedometer pinion.*
23. *Gearbox rear cover.*
24. *Tapered bush.*

(16) Release the eight screws set in the side cover. Remove the side cover and joint washer. Remove the two springs from the front edge of the side cover joining face. Turn the gearbox on its side so that the two plungers fall out of the holes from which the springs were removed.

(17) Remove the two plugs situated near the clutch bell-housing on the side cover side of the gearbox casing. They each have a fibre washer and the lower of the two plugs covers the reverse plunger and spring, which may be removed by tilting the gearbox on its side. The other plug which has a long shank blocks the hole through which the interlock ball between the 1st and 2nd, and 3rd and 4th selector rods is inserted.

(18) Select neutral by aligning the slots in the rear ends of the selector rods. Working on the gearbox, with the side cover facing upwards, unlock and remove the reverse fork locating screw, lock nut and shakeproof washer through the drain plug hole. Similarly remove the locating screw lock nut and shakeproof washer from the 1st and 2nd, and 3rd and 4th speed forks.

(19) Tap the 3rd and 4th speed selector rod from the front end, and draw it out through the back of the gearbox. Similarly remove the 1st and 2nd speed selector rod (nearest side cover) and then the reverse selector rod.

As the selector rods are being drawn out care must be taken to remove the two interlock balls from the front end of gearbox casing. Also the double ended interlock plunger should be removed from the back end of the gearbox casing. The three selector forks may now be lifted out of the gearbox.

(20) Tap the layshaft out of the front of the gearbox with a bronze drift. On removing the drift the laygear cluster and thrust washers will drop into the bottom of the gearbox.
(21) Draw the main shaft assembly rearwards out of the gearbox case.
(22) Insert a long soft metal drift through the main shaft opening in the rear of the casing and drive the first motion shaft forwards out of the gearbox. The laygear cluster and thrust washers may now be removed.
(23) Remove the reverse shaft locking screw. Place a screwdriver on the slotted end of the reverse shaft and push it into the gearbox with a turning motion. The reverse shaft and gear may now be removed.

Section F.5

DISMANTLING THE MAINSHAFT

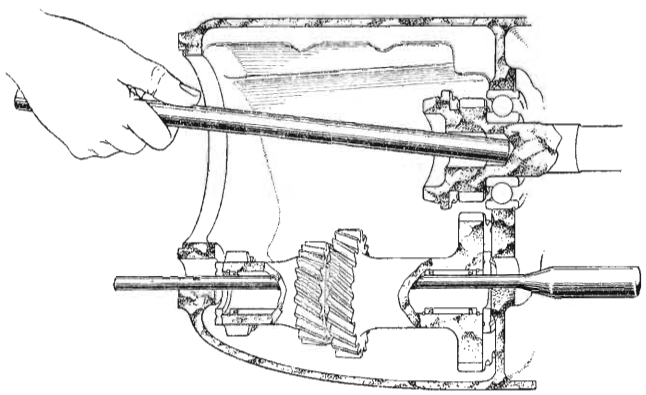
(1) Slide off the third and fourth speed synchroniser assembly.
(2) Depress the small spring loaded plunger which locks, the splined ring at the front end of the main shaft, and turn the ring so that one of its splines covers the plunger (a peg spanner is useful for turning the splined ring).
(3) Slide the splined ring and 3rd speed gear off the end of the shaft, remove the plunger and spring; slide the 3rd speed bush interlock ring and 2nd speed gear off the end of the shaft. If the 2nd speed gear bush is worn chisel it off and sweat a new bush on.
(4) Draw the splined ring, 1st speed ring and synchroniser off the end of the shaft.
(5) At the other end of the shaft knock back the locking washer and unscrew the securing nut. The speedometer wheel and distance piece may now be removed.
(6) Draw the ball journal bearing off the end of the shaft with its housing, and then drift the bearing out of its housing.

Section F.6

DISMANTLING THE LAYGEAR

Twenty-three needle roller bearings are fitted in each end of the laygear. The needles are held in position by their races (one at each end) and spring rings.

(1) Remove the spring rings from their locating grooves (one at each end of the laygear) and take out the outer race, needle rollers and the inner race.
(2) Remove the inner spring ring from its groove in the large end of the laygear.
(3) Remove the distance piece and spring ring from the small end of the laygear.



H30. 111. A.

Fig. F.7. Drifting the first motion shaft out of the gearbox casing.

Section F.7

DISMANTLING FIRST MOTION SHAFT

(1) Place the 1st motion shaft in a dummy 3rd and 4th speed coupling sleeve, knock back the lock washer and remove the nut.
(2) Remove the bearing with a suitable bearing extractor.

Section F.8

EXAMINATION FOR WEAR

Bearings

The first and third motion shaft bearings become warn after a considerable length of service and should be renewed if there are signs of looseness between the inner and outer races.

Third Motion Shaft Spigot Bush

The bush is fitted to give a clearance of ·002 to ·003-in. to (·0508 to ·0762 mm.) with the 3rd motion shaft. Any appreciable wear above this figure, necessitates examination of the bush and shaft and renewal where necessary.

Main Gear Bushes

The 2nd and 3rd speed main shaft gear bushes have an extremely low tolerance of ·00025 to ·0015-in. (·0064 to ·0381 mm.) with the shaft. They should be replaced if

any appreciable wear occurs between these bushes and the 3rd motion shaft.

Laygear Thrust Washers

These washers are designed to permit a laygear end float of ·001 to ·003-in. (·0254 to ·0762 mm.). If the end float exceeds this amount, the thrust washers must be renewed. The smaller thrust washer, at the rear, is made in varying thicknesses to allow correct end float to be obtained

Gear Synchronising Cones

These cones are 'shrunk on' to the second, third and fourth speed gears and are normally supplied as a complete unit for spares purposes. Where facilities exist for shrinking on and finally machining the cones, they can be supplied separately. If the gear is to operate satisfactorily, however, care must be taken in fitting them.

The internal machining of the cone is calculated to allow for a shrinkage fit on to the gear, and the cone must be heat expanded before it can be fitted.

When heated in oil to approximately 250° F. (121·1° C.) expansion will allow the cone to be pressed home on to the gear without damage. **Note:** The six large recesses on the perimeter of the cone must line up with the holes in the boss of the gear.

After shrinking on, the unit should be immediately quenched in water to prevent the gear itself being softened. Punch mark the cone in each of the six recesses. This ensures resistance to displacement when changing gear.

When the cone is in position the final machining can be done in accordance with the dimensions given in Fig. F.9. The taper of the cone must be true and concentric with the bore to ·001-in. (·0254 mm.).

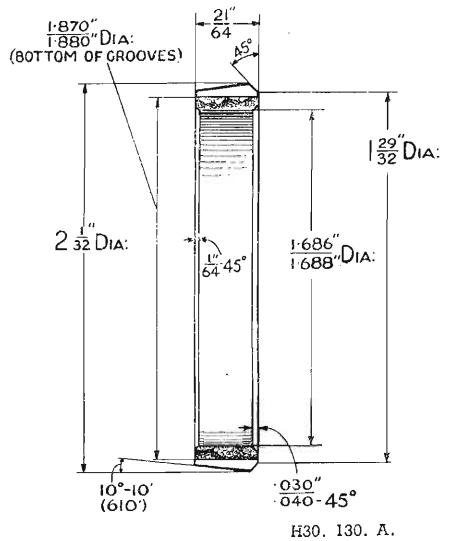


Fig. F.9. Cone dimensions (after fitting).

Section F.9

REASSEMBLY

Mainshaft

(1) The third motion shaft ball journal bearing outer race is grooved to take a spring ring. This spring ring registers in a recess in the bearing housing.
Press the bearing into the end of the housing with the larger diameter, so that the spring ring end of the bearing is trailing.

(2) Press the bearing and its housing on, from the rear end of the shaft (the end with the long splines) in such a way that the larger diameter of the bearing housing (when fitted) is towards the rear of the shaft. Now fit the distance piece, speedometer drive, lock washer and lock the nut in position.

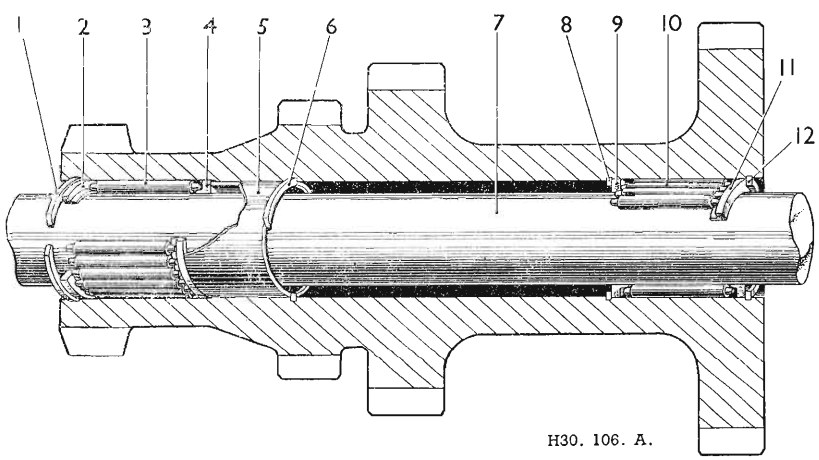


Fig. F.8. Laygear sectioned to show needle roller bearing assembly.

1. *Spring ring (outer).*
2. *Outer race.*
3. *Needle rollers.*
4. *Inner race.*
5. *Distance piece.*
6. *Spring ring (inner)*

Small end.

7. *Layshaft.*
8. *Spring ring (inner).*
9. *Inner race.*
10. *Needle rollers.*
11. *Outer race.*
12. *Spring ring (outer).*

Large end.

(3) Fit 1st speed gear and 2nd speed synchroniser assembly onto the shaft with the protruding end of the synchroniser towards the bearing. Place the large internally splined steel thrust washer behind the second speed synchroniser.

(4) Follow the steel thrust washer with the bush for the second speed main shaft gear (largest of the remaining gears), so that its legs are away from the steel thrust washer. Slide the second speed mainshaft gear over the bush with its cone towards the first speed gear and second speed synchroniser assembly. Locate the phosphor-bronze interlocking ring on the legs of the second speed mainshaft gear bush and mate the legs of the third speed mainshaft gear bush in the splines of the interlocking ring.

(5) Place the spring and plunger in their hole; depress the plunger and draw the third speed mainshaft gear bush slightly forward, to keep the plunger depressed, slide the 3rd speed mainshaft gear onto the bush with its cone away from the interlocking ring.

(6) Put the remaining steel thrust washer behind the 3rd speed main shaft gear and push it as far as it will go.

(7) Slip a tube over the end of the shaft and lightly tap the thrust washer, turn the washer until the plunger is released and locks it.

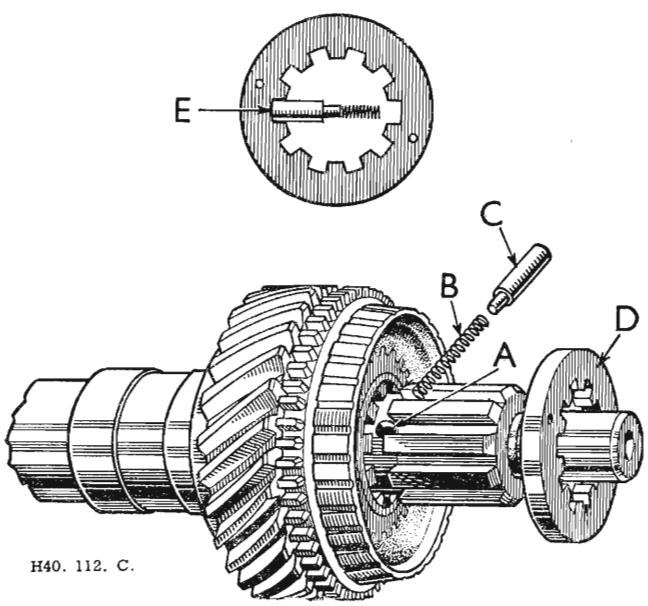


Fig. F.10. Securing the third motion shaft gears.

A. Hole in shaft for locking plunger. B. Spring. C. Locking plunger. D. Locking washer. E. Locking washer with plunger engaged.

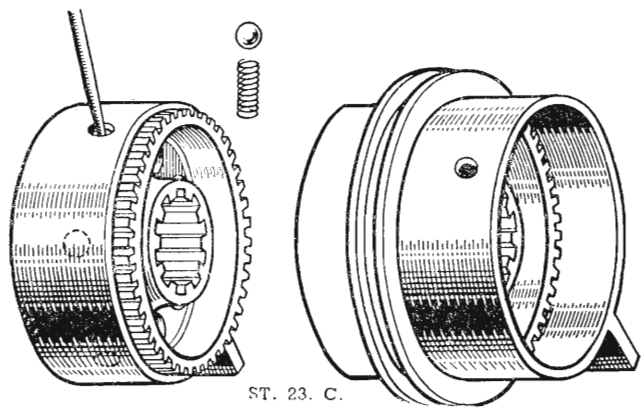


Fig. F.11. Using Service Tool 18G 144 to assemble the spring loaded balls to a coupling sleeve and synchroniser.

(8) Slide the 3rd and 4th speed synchroniser onto the shaft, with the boss on the synchroniser hub away from the thrust washer.

First Motion Shaft

(1) Knock the self lubricating bush into the back of the first motion shaft with a drift.

(2) Drift the ball journal bearing onto the shaft with its spring ring away from the geared end.

(3) Position the geared end of the first motion shaft in a dummy 3rd and 4th speed coupling sleeve, put the washer over the bearing, tighten the nut and lock it in position.

Laygear

(1) Locate spring ring in the inner groove of the small end of the laygear. Drift the distance piece into the small end of the laygear making sure it is right home against the spring ring.

(2) Put the laygear (small end upwards) over a guide shaft if available. Take the needle roller bearing, which is supplied in a cage. Ease the retaining knicks in the one end of the cage. Place the cage over the end of the guide rod, and press the needle rollers out of the cage into position (Service Tool 18G 194).

(3) Take the upper roller race and spring ring out of the cage, place the race over the needle rollers and the spring ring in its groove.

(4) Similarly the needle rollers are assembled into the big end of the laygear.

(5) Insert the thin end of the dummy layshaft (Service Tool 18G 471) from the clutch housing and place the large thrust washer on it, taking care that it does not slip off. Take the laygear, large end first, through the hole in the rear of the

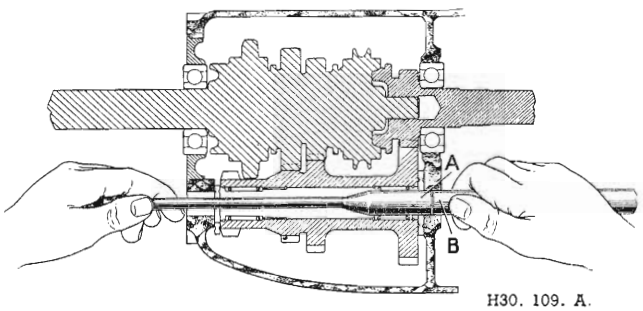


Fig. F.12. A Dummy layshaft Service Tool 18G 471 being used to lift the laygear into position and to insert the layshaft.

gearbox casing and pass the dummy layshaft through it. As the shaft emerges through the small end of the laygear, slip on a suitable small thrust washer to give the laygear an end float of ·001 to ·003-in. (·0254 to ·0762 mm.). Thrust washers for the laygear small end are available in thicknesses of ·123 to ·124-in. (3·124 to 3·150 mm.), ·125 to ·126-in. (3·175 to 3·200 mm.), ·127 to ·128-in. (3·226 to 3·250 mm.) and ·130 to ·131-in. (3·302 to 3·327 mm.), to obtain the required end float. Let the laygear hang on the thin part of the dummy layshaft.

Gearbox

(1) Reassemble the reverse gear on its shaft in the gearbox. Align the hole in the shaft with the hole in the casing and lock the shaft with the locking screw and spring washer.

(2) Put the laygear in position in the gearbox complete with its thrust washers, supporting it with the thin part of the dummy layshaft, the thick part being at the front end of the gearbox.

(3) Insert the third motion shaft into the back end of the gearbox and drift the bearing housing so that its flange is flush against the recess in the rear of the gearbox casing.

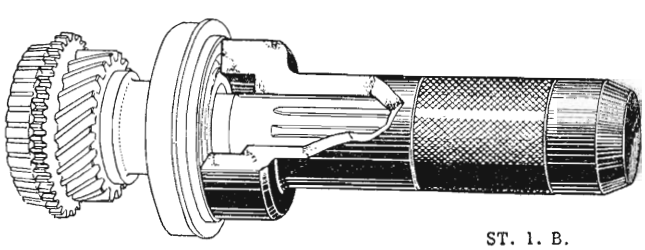


Fig. F.13. Using Service Tool 18G 140 to drift the bearing on to the first motion shaft.

(4) Turn the gearbox casing to ensure that the laygear teeth are clear of the first motion shaft bearing housing. Now drift the first motion shaft into position from the front end (Service Tool 18G 4) ensuring that the spring ring registers properly in the recess in the gearbox casing.

(5) By drawing the dummy layshaft rearwards slightly lift the laygears into mesh. Smear the layshaft with oil and follow the dummy.
When the layshaft is being pushed into position maintain contact between it and the dummy layshaft or one of the thrust washers will slip out of

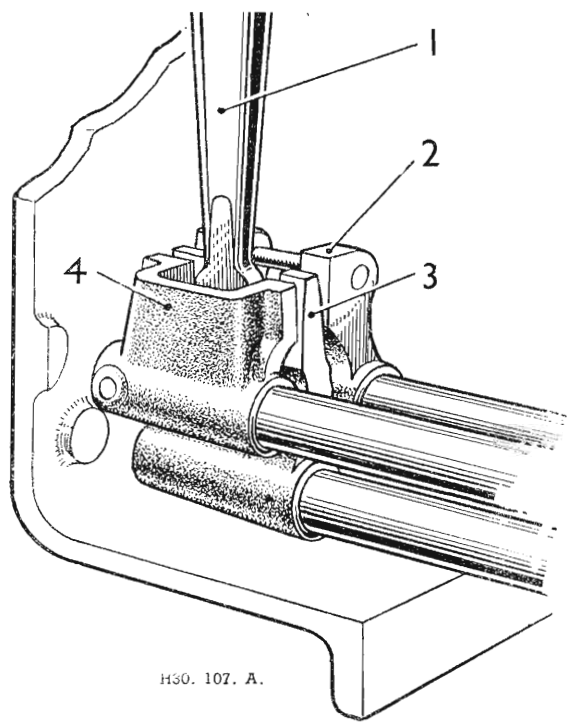


Fig. F.14. Position of selector rods.

1. *Change speed lever.*
2. *Reverse rod.*
3. *Third and fourth speed rod.*
4. *First and second speed rod.*

position. With the side cover end uppermost, the half-mooned end in the front of the layshaft should be in the U-position with its diameter horizontal.

(6) Place the reverse fork in position with its tapped hole towards the drain plug hole.
Fit the 1st and 2nd speed fork over the first speed wheel, and the 3rd and 4th speed fork over the 3rd and 4th speed coupling sleeve.

(7) With the side cover facing upwards push the reverse fork rod through the lowest hole in the rear of the gearbox casing, through the reverse fork, and through the clearance hole in the 3rd and 4th speed fork. Align the hole in the rod with the tapped hole in the fork, screw in the locking screw and lock it up with the shakeproof washer and nut.

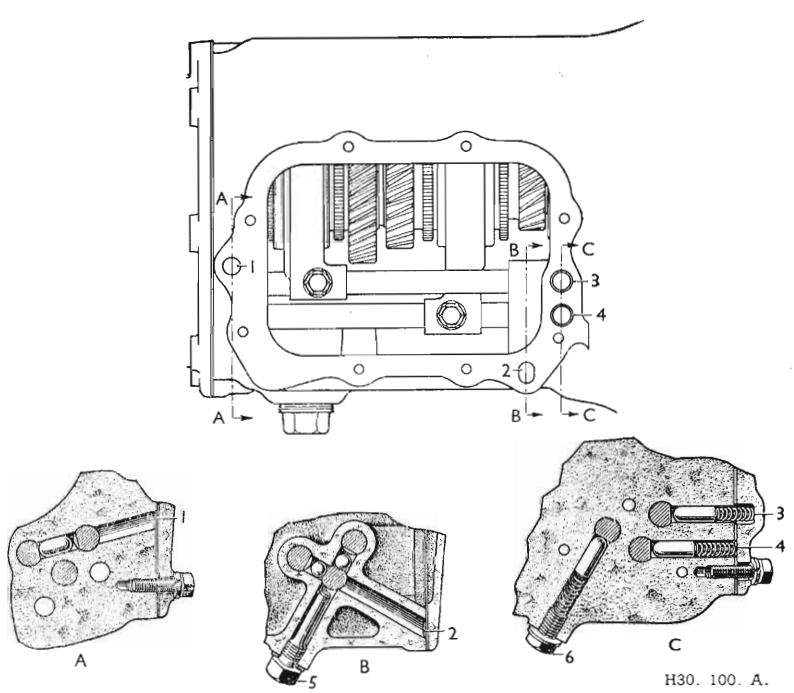
(8) Drop the double ended plunger through the hole in the middle of the side cover rear face on the gearbox casing.

(9) Push the first and second speed fork rod through the uppermost selector rod hole in the rear of the gearbox casing, through its fork and into the front of the casing. As before, but through the side cover end of the casing, insert the locating screw and lock it in position.

(10) The third and fourth speed fork rod goes through the hole in the rear of the casing between the other two rods, through the fork and into the front of the gearbox casing.
Push it through till it just enters the hole in the front of the gearbox casing.
Drop a ball down the hole in the edge of the side cover on the drain plug side of the casing and see that it goes between the reverse and third and fourth fork rods. This can be done by looking from the clutch housing end. Place a rod down the same hole and push hard against the ball to centralise the slot in the selector rod. If this is not done the third and fourth fork rod will be damaged in trying to force it into position.
Turn the gearbox so that the drain plug is towards the top and drop a ball in the upper hole (in line with the drain plug hole) and see that it goes between the first and second, and third and fourth fork rods. As before guide a rod up the hole and push hard against the ball to centralise the slot in the rod. Push the third and fourth fork rod home and lock it in position.
Do not knock the selector rods in with a hammer. If any obstruction is felt when pushing the rods through the front of the gearbox casing, it is an indication that the balls are not seating correctly in their slots. Centralise the slots in the rod as previously described, so that the balls do not stand proud of their holes. It will be found that they can now be pushed home quite easily, by hand.

(11) Put the reverse plunger (rounded end first) in the lower hole on the drain plug side, followed by a spring, and fill the hole with its plug and fibre washer. The upper hole is blocked with a long shanked aluminium plug and fibre washer. The two remaining plungers go into the two holes in the front edge of the side cover face of the gearbox casing. Drop one into each hole, rounded end first and follow each plunger with a spring.

(12) Locate the side cover and paper joint washer on the studs, and screw on the eight nuts and spring



H30. 100. A.

Fig. F.15. Location of balls and plungers.

1. *Hole for interlock plunger between reverse and 1st and 2nd speed fork rods.*
2. *Hole for ball between reverse and 3rd and 4th speed fork rods.*
3. *Hole for 1st and 2nd speed fork rod plunger.*
4. *Hole for 3rd and 4th speed fork rod plunger.*
5. *Plug for 1st and 2nd, and 3rd and 4th speed ball hole.*
6. *Plug for reverse plunger hole.*

A, B and C are scrap views of sections AA, BB and CC respectively, looking in the direction of the arrows.

washers and tighten up evenly by diagonal selection.

(13) Position the front cover joint washer; put the packing shims in the front cover holding it in position with grease; locate the front cover on the studs and secure it with the seven nuts and spring washers.
Although a ·006-in. (·1524 mm.) shim is usually found to be sufficient, use the following method to shim the front and rear covers. Measure the depth of the cover recess and the amount by which the bearing outer race protrudes from the casing, tighten the cover with only the paper joint washer in position to allow it to be compressed. Take off the cover and remove the paper joint washer and measure its thickness. Add the thickness of the joint washer to the depth of the cover recess and subtract the amount by which the bearing protrudes from the casing. The result gives the thickness of shims to be used. Use the least possible number of shims to arrive at the correct thickness. Shims are available in various thicknesses.

(14) Hold the clutch withdrawal lever in position and screw in the pivot bolt.
Place the lockwasher on the bolt and tighten the withdrawal lever from the side opposite the steering. The leg of the clutch withdrawal lever bracket on the steering side of the car is threaded. Screw the bolt through the leg and tighten it sufficiently to take out all play. Lock it in position with the nut and spring washer, and turn the lockwasher over.
Fit the rubber dust cover over the withdrawal lever and plug the other hole with a flat rubber grommet.

(15) Reassembly of the rear cover is affected by reversing the procedure described in Section F.4 Nos. 5 to 15.

Rear Cover

(16) Position the paper joint washer, place a ·006-in. (·1524 mm.) shim in the rear cover bearing recess and fit the rear cover. Shims are also available in thicknesses of ·004-in. (·1016 mm.) and ·010-in. (·254 mm.) Tighten the rear cover (evenly by diametrical selection) with the nine long setpins and spring washers. Correct shimming is done in exactly the same way as for the front cover.

(17) Flush the gearbox with flushing oil and replace the drain plug.

Section F.10 FAULT DIAGNOSIS

Symptom	No.	Possible Fault
(a) Jumping out of Gear	1	Broken change speed fork rod spring
	2	Excessively worn fork rod groove
	3	Worn coupling dogs
	4	Fork rod securing screw loose
(b) Noisy Gearbox	1	Insufficient oil in gearbox
	2	Excessive end play in laygear
	3	Damaged or worn bearings
	4	Damaged or worn teeth
(c) Difficulty in Engaging Gear	1	Incorrect clutch pedal adjustment
(d) Oil Leaks	1	Damaged joint washers
	2	Damaged or worn oil seals
	3	Front, rear or side covers loose or damaged