

Land-Rover Service Newsletter Vol. 3 No. 21B



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The Rover Company Limited Service Department: Solihull, Warwickshire, England

By Appointment to
Her Majesty
Queen Elizabeth II



Manufacturers
of Motor Cars and
Land-Rovers

- Item 1 SUBJECT: ALL-SYNCHROMESH GEARBOX**
- MODELS:** Land-Rover Series IIA Bonneted Control Station Wagon 88 and 109, U.K. only.
- MODIFICATION:** Introduction of a modified gearbox with synchromesh on all forward gears.
- LITERATURE AFFECTED:** Land-Rover Parts Catalogue Part No. 605957
Land-Rover Workshop Manual Part No. 606407, Section C
- PART NUMBERS:** Components of the all-synchromesh gearbox are as listed on pages 229 to 253 of the Land-Rover Parts Catalogue Part No. 605957, except for the following items which replace the similar parts in the catalogue.

GEARBOX MAIN CASING

Gearbox assembly	1	576730	2½ Litre
Gearbox assembly	1	576761	2.6 Litre
Gearbox casing assembly	1	606881	
Bell housing assembly	1	576714	2½ Litre
Bell housing assembly	1	576762	2.6 Litre

SHAFTS AND GEARS

Front cover for gearbox	1	576718	
Oil seal, primary pinion	1	571059	
Joint washer for front cover	1	576724	
Primary pinion and constant gear	1	606880	
Layshaft cluster	1	576686	
Mainshaft	1	576725	
1st speed mainshaft gear	1	591362	
1st and 2nd speed gears	1	576733	
Sliding block } For	3	553084	
Spring } synchromesh	3	503805	
Ball } gear	3	52459	
Synchromesh cone	2	591364	
Bush 1st speed mainshaft gear	1	576734	
Thrust washer for 1st speed gear	1	576735	
2nd speed mainshaft gear	1	591363	
3rd speed mainshaft gear	1	556010	
Bush for mainshaft 2nd and 3rd speed gears	1	571218	
Washer for layshaft	1	576907	
Special bolt for layshaft	1	561601	
Housing for mainshaft bearing, rear	1	576836	
Shaft for reverse gear	1	591527	
Reverse gear	1	576707	
Bush for reverse wheel	1	561954	
Spring pin, reverse gear shaft	1	591519	

SELECTORS AND LEVERS

Clutch release bearing and sleeve	1	576721
Clutch release lever	1	576137
Nylon insert for release lever	1	571161
Clip	1	571163
Spring washer	1	3074
Bolt (6 mm x 10 mm long)	1	890055
Staple for lever	1	576203
Bolt ($\frac{1}{4}$ in. WHIT x $1\frac{1}{4}$ in. long)	3	215599
Spring washer	3	3074
Self locking nut ($\frac{5}{16}$ in. BSF)	4	251321

CLUTCH

Clutch assembly	1	576557
Clutch plate	1	561536
Clutch slave cylinder	1	591231
Repair kit for slave cylinder	1	502335
Push rod for slave cylinder	1	576751
Clip for push rod	1	576723

COMMENCING
NUMBERS:

Vehicles with Suffix letter 'H' onwards
Gearboxes numbered in the range 90100001A onwards

REMARKS:

This special News Letter has been prepared to give Rover Distributors and Dealers an outline of the all-synchromesh gearbox and to provide service information.

The all-synchromesh gearbox has the following main features:

1. Layshaft gears integral with shaft.
2. Re-designed clutch operating mechanism with clutch slave cylinder mounted on bell housing.
3. Sealed primary pinion. Oil seal in front cover replaces oil scroll on primary pinion shaft.
4. Offset reverse idler shaft to improve gear retention when reverse gear is selected.

The transfer gearbox, transmission brake assembly and the front output shaft and housing assembly remain unchanged.

A fully illustrated Workshop Manual Supplement Part No. 607288 will shortly be available for those Distributors and Dealers who may be dealing with vehicles fitted with the all-synchromesh gearbox.

INTERCHANGE-
ABILITY:

The new gearbox can be fitted only to vehicles in the commencing number range specified in this News Letter.

No. 3 chassis crossmember on these vehicles has a large cut-out to accommodate the new bell housing and clutch slave cylinder.

GENERAL
IDENTIFICATION:1. **With gearbox installed**

- (a) In driver's compartment. Main gearchange selector travel is **shorter** when selecting first and second gears than when selecting third and fourth gears.
- (b) Under vehicle. The clutch slave cylinder is mounted directly on to the bell housing at the left hand side.

2. **With gearbox removed**

- (a) Bulges and machining on bell housing to accept slave cylinder.
- (b) The second gear selector over-travel stop, previously visible with the selectors inspection cover removed, is now deleted. The reverse gear selector travel stop remains unchanged.

3. **With gearbox dismantled**

(a) **Primary pinion oil sealing.**

A separate oil seal is housed in the new front cover.

(b) **Mainshaft assembly.**

An additional synchroniser unit, for first/second gear, is fitted and the mainshaft is splined to accept the synchroniser inner member.

The first speed gear is carried on an oilite bush and not splined to the shaft as previously.

(c) **Layshaft**

The first, second and third speed gears are integral with the layshaft. The constant-mesh gear remains detachable for dismantling and assembly purposes.

The layshaft is secured at the front with a special bolt in place of the previous castellated nut and split pin.

(d) **Reverse gear and shaft**

The reverse gear is of a single gear type.

The offset reverse gear shaft is located radially by means of a spring pin in the shaft which engages in a slot at the rear face of the main gearbox.

(e) **Clutch operating mechanism**

A new clutch slave cylinder is attached to the bell housing. The slave cylinder push rod engages the outer end of a pivoted arm and the inner end of the arm operates a sleeve and ball bearing assembly for clutch release.

(f) **Clutch assembly**

In conjunction with the modified gearbox, a diaphragm spring type clutch is fitted. No thrust pad is provided on the clutch spring and the release bearing engages directly on to the springs.