



Service Department:

THE ROVER COMPANY LIMITED

SOLIHULL
WARWICKSHIRE
ENGLAND

LAND-ROVER SERVICE NEWS LETTER
No. 14

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Item 69 SUBJECT: **CRANKSHAFT OIL RETAINER AND SEAL**

MODELS: Land-Rover 2½ litre Petrol and Diesel.

MODIFICATIONS: Improved design crankshaft oil seal which comprises two oil seal retainer halves with a separate split oil seal and garter spring.

PART NUMBERS: Retainer halves for oil seal 2 523240
Oil seal and garter spring for rear bearing 1 529365

COMMENCING NUMBERS: Engines numbered:
Land-Rover 2½ litre Petrol models from 151123197 onwards
Land-Rover 88 Diesel models from 146102061 onwards
Land-Rover 109 Diesel models from 156102154 onwards

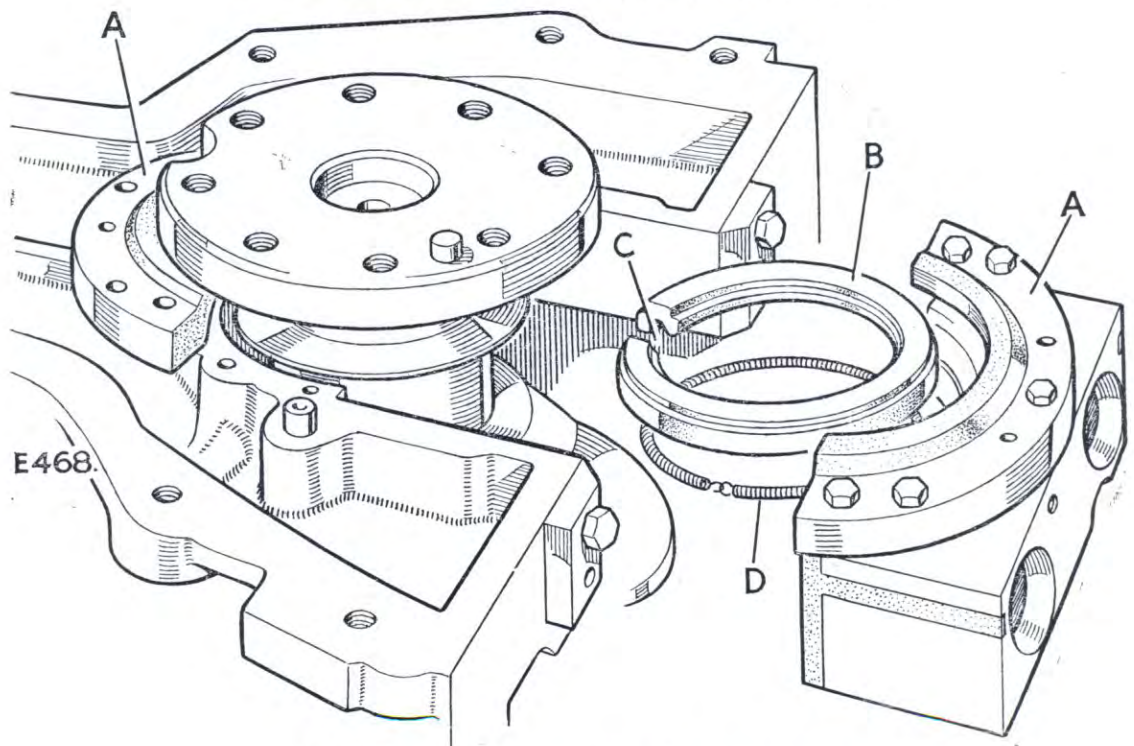


Fig. 1—Retainer halves, oil seal and garter spring.

- A—Retainer halves.
- B—Split oil seal.
- C—Split line of seal must be towards top of engine.
- D—Garter spring, hook and eye midway between split and hinge of oil seal.

REMARKS:

The latest type crankshaft oil seal retainer and oil seal should only be used as replacements on engines which had the three-piece type oil seal fitted as original equipment.

WORKSHOP PROCEDURE:

1. With the crankshaft in the engine, assemble the garter spring on the oil seal journal of the crankshaft, by laying the spring around the journal; this will bring the two ends, the hook and the eye, adjacent to one another, then insert the hook into the eye.

Care must be taken to ensure that during this operation the spring is not stretched at all. The spring should be moved along the journal until it is against the thrower flange.

2. Apply Silicone Grease MS4, obtainable in tubes under Part Number 270656, to the crankshaft oil seal journal and to both sides of the split oil seal sealing lip.
3. Open the split seal sufficiently to allow it to be fitted over the crankshaft oil seal journal. Recess in oil seal must be towards thrower flange and garter spring.

The oil seal must not be repeatedly fitted and removed from the crankshaft, as this can damage the sealing lip.

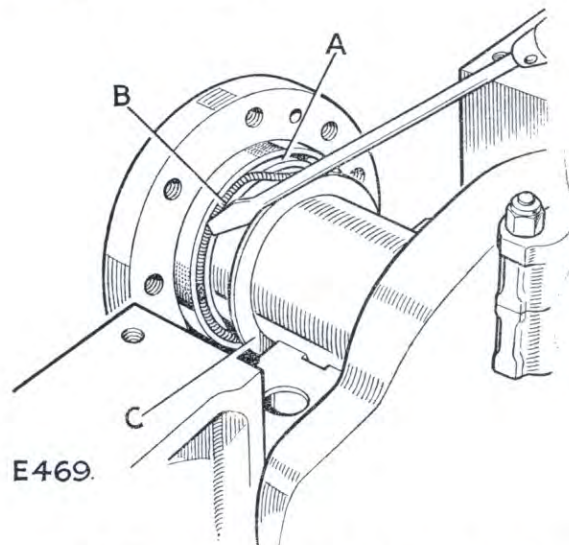


Fig. 2—Fitting garter spring to oil seal recess.

A—Oil seal recess. B—Garter spring. C—Thrower flange.

4. Ensure that the hook and eye of the garter springs are located mid-way between the split and hinge of the oil seal. Then, using a small screwdriver or similar tool, gently ease the spring into the recess in the oil seal. See Fig. 2.
5. Rotate the oil seal until the split is on the vertical axis pointing towards the cylinder head—this position is important.
6. Fit one half of the oil seal retainer on to the crankcase dowels. The oil seal should be compressed to assist assembly.
Bolt the retainer on to the crankcase, leaving the two bolts adjacent to the split line finger-tight, fully tighten the remaining three bolts. In order to fit the bolts it will be necessary to rotate the crankshaft; it is essential to hold the seal so that it does not rotate with the crankshaft.
7. Bolt the other half of the oil seal retainer on to the main bearing cap in the same way. The cap must be off the crankcase for this operation.
8. Fit the main bearing cap with the seal retainer, bearing shell and 'T' corks to the crankcase until there is a $\frac{1}{32}$ in. (0,8 mm) gap between the cap and crankcase.

9. Using a thin screwdriver, move the oil seal along the shaft until it is located in the housing recess.
10. Pull down the cap slowly, ensuring there is no buckling of the split seal or misalignment of the butt joint.
11. Tighten the cap bolts to 85 lb/ft. (11,75 kg/m) torque and re-check that the seal is located correctly in the housing.
12. Finally tighten the four bolts securing the housings adjacent to the split line.

NOTE: The split seal and garter spring must be renewed whenever a crankshaft is removed or replaced for any reason. However, it is not necessary to replace the retainers when a new seal is fitted, unless they are damaged.

A Service kit of retainer halves, oil seal, garter spring, Silicone grease and Fitting Instruction can be obtained from our Parts Department under Part Number 525927.

Item 70 SUBJECT: MUDSHIELDS FOR BRAKE DRUMS

MODELS: Land-Rovers, Series II.

PART NUMBERS: Mudshields for brake drum 4 528162 88 models
 Mudshields for brake drum 4 528163 109 models

REMARKS: Service kits of mudshields, which are complete with fixings and Fitting Instructions, are now obtainable from our Parts Department for both the 88 and 109 models.

These mudshields are riveted to the brake anchor plate, see illustration below, and may be used in cases where abnormal conditions cause excessively rapid lining wear. The use of these shields does not, however, obviate the necessity of brake drum removal and cleaning out from time to time.

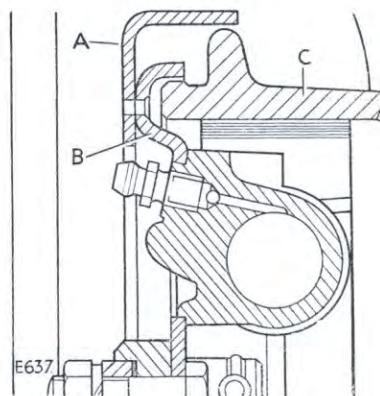


Fig. 3—Cross-section of wheel brake mechanism showing mudshield in position.
 A—Mudshield. B—Brake anchor plate. C—Brake drum.

Item 71 SUBJECT: AUXILIARY FUEL TANK

MODELS: Land-Rover Series II 109 Station Wagon.

PART NUMBER: Fitting instructions, auxiliary fuel tank 1 530214

REMARKS: A detailed Fitting Instruction, Part No. 530214, to enable an auxiliary fuel tank to be fitted to the Land-Rover Series II 109 Station Wagon under the right-hand side front seat, can be obtained from the Technical Service Department. Owing to limited demand, the parts required are not available in kit form, and must therefore be ordered separately from the list detailed in the Fitting Instruction.