THE ROVER CO. LTD.,
SOLIHULL, BIRMINGHAM, ENGLAND.

SERVICE BULLETIN
A4

Issue 1 | Date 17/5/50 | Sheet 1 of 3 Sheets.

MODELS AFFECTED
1948-49 "60" and "75"
1950 "75"
1948-50 LAND-ROVER

UNIT AFFECTED
ENGINE

COMPLAINT

EXCESSIVE OIL CONSUMPTION

Upon receipt of a complaint of excessive oil consumption, the following procedure should be adopted:—

A. EXTERNAL OIL LEAKS

Check carefully for external oil leaks, especially at the rocker cover joints, front cover, sump joint and oil pressure gauge or switch connection; rectify as necessary.

In the case of engines fitted with an AC external oil filter, particular attention should be paid to possible leaks at the pipe connections.

B. CARRY OUT AN ACCURATE CONSUMPTION CHECK AS FOLLOWS:—

1. Allow the vehicle to stand overnight on level ground and top up the oil level to the "H" mark on the dipstick.
2. **1948-49 "75" only.** Fit a small metal container over the crankcase breather pipe; this container must be so arranged that, while it will collect any oil expelled from the breather, it must not prevent the crankcase from breathing normally.
3. Carry out a test run of approximately 200 miles (300 Km.) of which at least 50 miles (80 Km.) must be made at a speed of over 60 m.p.h. (95 k.p.h.)
   The test run may be done by the owner.
4. Allow the vehicle to stand again overnight and measure the amount of oil required to bring the oil level back to the "H" mark.

   Compute the oil consumption in terms of miles per gallon (or litres per 1000 Km.); if it unduly exceeds the figure set out below, proceed in accordance with Sections C and D.

   "60", "75" and Land-Rover (road work in high transfer ratio):
   1 gallon per 1,500 miles: 1,88 litres per 1000 Km.

   Land-Rover (low transfer ratio or stationary running):
   3 pints (0,17 litre) per hour at 4,000 r.p.m.
5. **1948-49 "75" only.** Remove the tin from the breather pipe; should it be found to contain an appreciable quantity of oil, check the holes in the exhaust valve chest which allow oil to drain back into the sump.

   There should not be less than eleven of these holes, of which at least one must be in the centre compartment and they must all be a full ¼ in. (7 mm.) in diameter. If necessary, they can be rectified or increased in number by removing the sump and drilling out with a ¼ in. (7 mm.) drill brazed on to an extension piece to give an overall length of 21 in. (530 mm.). The drill must be smeared with grease to trap all swarf and frequently dipped in cold water to prevent the grease melting.

C. INLET VALVE GUIDE OIL SEALS

Damage to the inlet valve guide seals would allow oil to leak from the cylinder head into the combustion chambers under certain working conditions. It is always necessary to check these seals, and renew as necessary, when the head is removed for decarbonising.

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The oil seals are fitted in the valve spring cap on all 1948-49 "60" and "75" engines, Land-Rover engines numbered 860001 to 06106719 and 1950 "75" engines numbered 04300001 to 04300445. A modification has been introduced on all later engines, whereby the oil seals are repositioned at the top of the inlet valve guides, to provide more efficient sealing. This modification can be incorporated on the earlier engines by fitting new inlet valves, valve guides and sealing rings; part numbers of the parts required are:—

Parts required	1948-49 "60" and Land-Rover	1948-49 "75"	1950 "75"
Inlet valves	233427	210516 (with 15° chamfers added at top of stem and leading edge of cotter groove).	233426
Inlet valve guides	233643	233643	233644
Sealing rings	233419	233419	233419

The grooved spring caps should be replaced without the original sealing rings.

It will be necessary to re-cut the inlet valve seats concentric with the new guides.

If the oil consumption is still excessive, attention should be transferred to the pistons:—

D. PISTONS

Remove the pistons and modify them by reducing the bottom land and top of the skirt as shown at Fig. 1.

Replace the pistons with new piston rings.

The piston clearance across the thrust faces at the bottom of the skirt should be checked as described below; if the clearance does not greatly exceed .0025 in. (0,065 mm.) the original pistons may be replaced with new rings. Otherwise, new modified piston assemblies should be fitted to achieve this clearance.

(*a*) 1948-49 "60" and "75": check the piston clearance as described in Service Bulletin 5035.

(*b*) 1950 "75" and Land-Rover: Check the piston clearance by passing the piston, crown downwards and without rings, through the chromium plated portion of the bore; if the fit is correct, the piston should not fall under its own weight, but be a light thumb press fit through the plated bore.

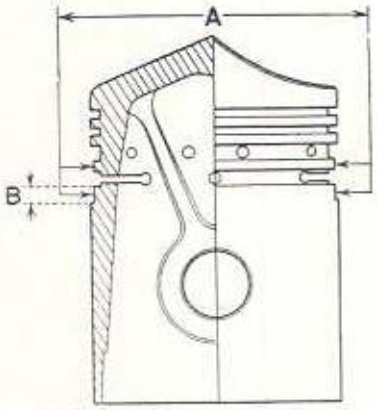

Fig. 1. Piston modification

A—Reduce diameter to 2.676 in.—.004 (68 mm.—0,10) for "60" and Land-Rover or 2.506 in.—.004(63, 6mm. —0,10) for "75".

B— $\frac{3}{16}$ in. (4,8 mm.)

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It is essential that the new piston rings be correctly gapped as follows:—

Models	Compression rings	Scraper rings
1948-49 "60"; LAND-ROVER	.014 in. to .018 in. (0,35 mm. to 0,45 mm.)	.011 in. to .015 in. (0,275 mm. to 0,375 mm.)
1948-49 "75"	.008 in. to .012 in. (0,2 mm. to 0,3 mm.)	.008 in. to .012 in. (0,2 mm. to 0,3 mm.)
1950 "75"	.014 in. to .018 in. (0,35 mm. to 0,45 mm.)	.011 in. to .015 in. (0,275 mm. to 0,375 mm.)

Any or all of these modifications may be incorporated as circumstances dictate.