



Service Department:

**THE ROVER COMPANY LIMITED**

By Appointment to  
Her Majesty  
Queen Elizabeth II



Manufacturers  
of Motor Cars and  
Land-Rovers

SOLIHULL  
WARWICKSHIRE  
ENGLAND

**LAND-ROVER SERVICE NEWS LETTER No. 34**

May 1963

**Item 169 SUBJECT: FREE SERVICE AND MAINTENANCE ATTENTION**

**MODELS:** Land-Rover Series IIA, Petrol and Diesel.

**REMARKS:** The chart below gives the time allowed for carrying out the Free Service and Maintenance Attention Schedules up to 54,000 miles (90,000 km) as detailed in the literature supplied with Land-Rover Series IIA, 88 Regular, 109 Long, 88 and 109 Station Wagon, Petrol and Diesel models.

Copies of this chart can also be obtained on a separate sheet, free of charge, from Technical Service Department under Part No. 4537, for workshop use if required. English version only available.

**TIMES CHART  
FREE SERVICE AND MAINTENANCE ATTENTION**

Maintenance Attention at		Land-Rover Series IIA			
		Petrol		Diesel	
Mileage	Kilometres	Hours	Minutes	Hours	Minutes
* 1,500	2,500	5	40	4	50
3,000	5,000	3	00	2	15
6,000	10,000	5	25	4	10
9,000	15,000	3	00	† 2	25
12,000	20,000	7	15	6	35
15,000	25,000	3	00	2	15
18,000	30,000	5	25	† 4	20
21,000	35,000	3	00	2	15
24,000	40,000	7	15	6	35
27,000	45,000	3	00	† 2	25
30,000	50,000	5	25	4	10
33,000	55,000	3	00	2	15
36,000	60,000	8	00	† 7	30
▲ 39,000	65,000	3	00	† 7	50
42,000	70,000	5	25	2	15
45,000	75,000	3	00	4	10
48,000	80,000	7	15	† 2	25
51,000	85,000	3	00	6	35
54,000	90,000	5	15	2	15
				† 4	10

One fuel filter  
Two fuel filters

\* Free Service.

† If it is necessary to overhaul Diesel injectors. Additional time is required, 4 hours 05 minutes.

▲ Additional time is required for this operation if all rubber seals in brake system are changed.

**Item 170 SUBJECT: HYDRAULIC WINCH (POLICY ITEM)**

**MODELS:** Land-Rover 88 and 109, Series II and IIA.

**REMARKS:** In view of the wording of News Letter No. 19, there has been some misunderstanding regarding the applications of this piece of equipment.

The point which all concerned should understand is that where the winch is used as a hoist—it is the responsibility of the user to ensure that any pertinent regulations are met.

The following paragraph in relation to winch usage should therefore be brought to the notice of all users:

“The hydraulic winch is designed for recovery and general winching purposes. It may be used as a part of a hoist, but in this, as in all the other applications, the customer must satisfy himself that it is suitable for the purpose to which it is put, and that the complete equipment is in accordance with any pertinent regulations”.

**Item 171 SUBJECT: RUSTON ROVER MARINE UNITS**

**REMARKS:** Rover Distributors and Dealers will be aware that the Land-Rover 2¼ litre Diesel engine is being used as a marine unit, and marketed by Messrs. Ruston and Hornsby of Lincoln, as the Ruston Rover Marine Engine.

The majority of the components of this engine are exactly as our basic 2¼ litre Diesel engine. However, there are differences and to assist Rover Distributors and Dealers who may be called upon to service these units, we give below full details.

**Messrs. Ruston and Hornsby 2¼ Litre Diesel Engine Unit**

**Commencing Engine Number:** 29600001A

**Basic Engine** ..... 2¼ litre Diesel as fitted to Series IIA Land-Rover.  
LESS

Engine feet, oil pressure switch, exhaust manifold, fan blade and clutch. Lead from starter motor to earth.

**Special Features** ..... Front cover with extended casting for optional engine mounted equipment. Flywheel balanced, less clutch fixings and primary pinion bush. ‘Oil cooler’ type crankcase sump. ‘Oil cooler’ type oil pressure release valve plug. Cast iron core plugs.

**Rover Parts peculiar to this engine and which replace similar parts on the basic engine**

Engine assembly	.....	.....	1	534096	
Cylinder block assembly	.....	.....	1	541812	
Cylinder head assembly	.....	.....	1	600156	} From engines numbered 26900101A onwards
Core plug, 1 in. dia.	} Cast iron	.....	9	536798	
Core plug, 1 3/8 in. dia.		.....	1	542710	
Core plug, 3/4 in. dia.		.....	2	542709	
Plug for oil pressure release valve	.....	.....	1	500427	
Front cover assembly	.....	.....	1	529155	
Crankcase sump	.....	.....	1	529826	
Flywheel, balanced	.....	.....	1	534463	Modified by Ruston's after delivery
Injector complete, CAV 5348001	.....	.....	4	539561	

There are three types of marine engine sold:

(1) **Direct cooled (river or sea water)**

The cooling water is circulated around the engine through the water cooled exhaust manifold and overboard. With the direct cooled system no thermostat is fitted and the bypass is removed and the facing blanked off by a flange. This change is made by Ruston and Hornsby.

**(2) Heat exchanger cooled**

The engine cooling system is a closed circuit incorporating a heat exchanger. The Rover engine water pump circulates this coolant. A separate water pump supplied by Ruston and Hornsby circulates the raw water. This pump sucks raw water through an oil cooler and delivers to the heat exchanger through the water cooled exhaust manifold. From the water cooled exhaust manifold the raw water is discharged overboard.

With this system the Rover thermostat is fitted.

**(3) Keel cooled**

The keel cooled system is split into two categories—

- (a) As applied to engines up to and including 3,000 r.p.m.
- (b) As applied to engines from 3,001 to 3,600 r.p.m.

**Category (a)**

The engine coolant system is a closed circuit. The Rover water pump draws engine coolant from the header tank and circulates it around the engine, into the water cooled exhaust manifold and then through the keel cooler, which is a bank of pipes fitted to the outside of the hull near the boat keel. From the keel cooler the coolant passes through the lubricating oil cooler and back to the header tank.

In this system the Rover thermostat is replaced by one supplied by Ruston and Hornsby and a restrictor is arranged in the bypass pipe by Ruston and Hornsby.

**Category (b)**

The system is as outlined for category (a) except that the lubricating oil cooler is not incorporated in the keel cooled system. In this case, Ruston and Hornsby fit a separate water pump that circulates raw water through the lubricating oil cooler and then overboard.

In many installations the raw water in 1, 2 and 3 category (b) will not be taken directly overboard. The raw water will be used for spray cooling the exhaust or circulated around a water cooled exhaust silencer.

Items 1-12 inclusive apply to all types.

1. Diesel injector springs are of a different rating and therefore the standard Rover injectors should not be fitted.
2. The Diesel injector pump is differently rated after delivery of the engine to Ruston's and therefore the standard pump is not interchangeable.
3. All low pressure fuel piping is Ruston manufactured and different from the standard Rover parts, largely because the fuel filter is mounted on the engine.
4. The dipstick has different markings.
5. The inlet manifold is a Rover part modified.
6. The air cleaner is a Ruston item.
7. The exhaust manifold is water cooled.  
The exhaust manifold clamp, Part No. 500961, is a standard Rover part.
8. The feet on the cylinder block are Ruston designed.
9. The oil cooler, pipes and connections on the engine are all special.
10. All water piping on the Ruston engine is special.
11. The extension shaft and pulley at the forward end of the crankshaft is special.
12. All speed controls on the engine and gearbox are special.

13. The instrument panel is a Ruston part but some standard Rover components are used. These are as follows:

- (a) Warning lights (if the lubricating oil pressure indicating light is fitted, then the lubricating oil pressure switch is also fitted. This is a Rover part.)
- (b) Heater starter switch.
- (c) Voltage-control regulator.
- (d) Heater plug resistance coil.

When a tachometer is fitted, the camshaft end cover, lubricating oil drain pipe from cover to crankcase, oil feed pipe to rockers and tachometer drive are all special parts.

Item 14 applies to direct cooled engines only.

14. The water pump assembly is a Ruston part, but the thermostat housing, etc., are Rover components. The Rover part numbers used in this application are:

247874	516059	511957
256209	524200	511958

Corrosion resistant plugs are fitted in the cylinder block and exhaust manifold.

Item 15 applies to heat exchanger cooled engines:

15. The water pump pulley is special.

Item 16 applies to keel cooled engines:

16. The thermostat, water outlet pipe and restrictor in the bypass pipe are special.

17. When the engine is fitted with a Parsons automatic gearbox the oil connection block between the lubricating oil filter and the cylinder block is special.

For items 1 and 2, replacements should be obtained from Ruston and Hornsby direct, through the local Ruston dealer or C.A.V. Agent.

All modifications and new design equipment referred to in items 3 to 17 are supplied by Ruston and Hornsby Ltd., and any replacements can be obtained from them.

**Item 172 SUBJECT:**

**OIL CONTROL RINGS**

**MODELS:**

Land-Rover Series II and IIA with 2½ litre Petrol engines.

**PART NUMBERS:**

Wellworthy Duaflex oil control ring (Wellworthy Part No. I.24, size  $3\frac{9}{16} \times \frac{3}{32} \times .172$  in.) .. .. . 4 541383

**REMARKS:**

The Wellworthy Duaflex oil control rings are approved by The Rover Company for use on Land-Rovers where there is complaint of excessive oil consumption in vehicles which have covered a comparatively small mileage.

However, before assuming that the only cause of excessive oil consumption is due to piston rings, the following points should be checked.

- (A) External leakage from engine.
- (B) In practice it has been found that high oil consumption early in the life of the engine is sometimes caused by leakage down the valve guides into the cylinders.  
If this is occurring oil will be found on the valve stem at the head end and in the ports. This must be rectified by renewing the oil seal in each valve guide and at the same time checking the fit of the valve in the guide to ensure that there is no excess wear.
- (C) If items A and B are satisfactory the pistons should be withdrawn and the compression rings, pistons and cylinder bores examined for any defect; after establishing all these to be in good order the new oil control rings should be fitted.

- Item 173** SUBJECT:           **AUXILIARY DRIVING LAMPS**
- MODELS:                Land-Rover Series IIA.
- REMARKS:              When fitting auxiliary driving lamps to the Land-Rover Series IIA models, the 'feed' should be taken from a spare 'Lucar' blade, at the 'A.1' terminal of the fuse box.
- The 'feed' cable may be looped from the first to the second switch in order to supply a second lamp, if required.
- There is no special position for mounting the switches recommended, this being left to the discretion of the person concerned.
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- Item 174** SUBJECT:           **TELESCOPIC ASH TRAY**
- MODELS:                Land-Rover Series II and IIA.
- PART NUMBER:         Telescopic ash tray complete assembly        ..        ..        ..        1        320576
- REMARKS:              Stocks of telescopic ash trays for use on the Land-Rover Series II and IIA models are now available from our Parts Department. Each kit is complete with detailed Fitting Instructions.