

GENERAL DESCRIPTION

The overhead-valve engine is of unit construction with one reverse and four forward gears assembled into a combined transmission casing and oil sump below the engine crankcase. The unit is transversely mounted on flexible rubber mountings. Drive is transmitted from the differential by short driving shafts to each of the front wheel hubs.

Engine valves are set in line in the left-hand side of the cylinder head. Oil seals are fitted to the valve stems and there is normal provision on the valve rockers for clearance adjustment.

The camshaft, running in three white-metal bearings, is roller-chain-driven from the crankshaft, with synthetic rubber chain tensioners. Both the oil pump and the distributor are driven from the camshaft, the distributor by a transverse shaft with helical gear drive.

Pistons carry three compression rings and one slotted oil control ring. The gudgeon pins are fully floating and the connecting rods have renewable steel-backed big-end bearings with lead-indium- or lead-tin-plated surfaces.

The oil supply for the engine, gears, and differential is carried in the transmission case below the crankcase, and is replenished through a filler aperture in the valve rocker cover.

Oil is drawn from the base of the transmission casing by a rotary pump mounted on the rear end of the crankcase and delivered to a full-flow external oil filter, passing on through drilled passages to the main, big-end, and camshaft bearings. Jet holes in the connecting rods deliver oil quickly to the cylinder walls, and the overhead rocker gear is provided with oil at reduced pressure via the camshaft front bearing.

The tappets are lubricated by oil returning from the rocker gear by way of the push-rod apertures and by splash.

The external oil filter carried on the right-hand side of the engine crankcase is of the full-flow, renewable-element type. It is connected to the main oil gallery by a drilled passage.

Section A.1

LUBRICATION

Checking the engine oil level

Inspect the oil level in the engine and transmission, and top up if necessary to the 'MAX' or 'FULL' mark on the dipstick. The oil filler cap is on the top of the engine valve cover and is released by turning it anti-clockwise.

Changing the engine oil

Drain the oil from the engine and transmission by removing the magnetic drain plug on the rear right-hand side of the transmission casing. Draining is preferable when the engine is hot as the oil will flow more readily in this condition; allow at least 10 minutes for draining before replacing the plug. The drain plug washer should be renewed on alternate oil changes.

Changing the engine oil filter

The oil filter is of the full-flow type and the bowl should be washed in fuel. The filter is released by unscrewing the central bolt securing the filter to the filter head. When refitting ensure that the seating washer for the filter body is correctly positioned, clean, and serviceable. Ensure that the washers below the element inside the bowl are fitted correctly. The small felt or rubber washer must be positioned between the element pressure plate and the washer above the pressure spring.

It is essential for correct oil filtration that the sealing (felt or rubber) washer should be in good condition and a snug fit on the centre-securing bolt.

NOTE.—Disconnect the battery before commencing work on the filter.

Section A.2

OIL PRESSURE

Morris and M.G. early models

When the ignition is switched on a warning light in the instrument panel will glow, and if the system is working correctly it will go out when the engine is running.

Should the oil pressure warning light continue to glow when the engine is running at or above a fast idling speed, the cause may be lack of oil, low oil pressure, or the need of a new oil filter element and engine/transmission oil change. To locate the cause of the trouble proceed as follows:

- (1) Check the level of the oil in the engine and transmission, and top up if necessary.
- (2) If the light continues to glow when the engine is running disconnect the lead from the oil filter head. If the light then goes out fit a new oil filter element and change the engine/transmission oil; this should be done as soon as possible within a maximum of a further 300 miles (500 km.).
If the light still glows with the filter lead disconnected and the engine running, stop the engine immediately and carry out the following.
- (3) Check that there is no air leak at the pump pick-up union on the suction side of the pump and that the oil pump is not worn and is functioning correctly. See Section A.24 for oil pump removal and dismantling.
- (4) Check that the strainer in the transmission casing is clean and not choked with sludge.
- (5) Check that the bearings to which the oil is fed under pressure have the correct working clearances. Should the bearings be worn and the clearances excessive, the oil will escape more readily from the sides of the bearings, particularly when the oil is warm and becomes more fluid.

All models except Morris and M.G. early models

The information and instructions given apply to the above models except that two warning lights are fitted, one for oil pressure and one for the oil filter. If the oil