

Running-in and/or Break-in Instructions for new or overhauled Engines

Job No.
0-3

The consideration of the running-in instructions is of essential importance for the operating life, safety of operation, and economy of an engine.

New and generally overhauled engines (exchange engines) are given the first running-in at the plant before installation in a vehicle or delivery.

Therefore, we recommend that after repairs on engines, e.g. assembly of new bearings or assembly of new pistons, a short break-in be conducted before installation.

As a test stand with brake is very seldom available outside the plant, we give you the following brief instructions on how the running-in can be conducted with a common test support with separate cooling but without braking device. During the running-in the water temperature of approx. 80° C and the oil pressure have to be checked by all means.

Running-in Specification for OM 636 and OM 621

Running-in period in min.	Speed rpm
30	1 500*
20	1 800 to 2 000
10	1 800
10	2 000
5	2 500
5	2 600 to 2 750

* The cylinder head fixing bolts have to be tightened according to instructions after the running-in at 1500 rpm, also all screws and nuts of the suction line, the exhaust manifold, the starter and generator.

The running-in has the advantage that the freely accessible engine can be checked for leaks, oil pressure, smooth running, idling, no-load max. speed etc.

Right after the running-in of the engine it is also practicable to conduct the first change of oil and clean the oil filter at this opportunity. Experience has shown that even after the most thorough cleaning of the engine components before the assembly, particles of dirt stick to the corners and cavities of the housing, which are loosened by the spraying oil during the running-in operation of the engine, and can be removed by draining the oil.

The running-in instructions listed in the operating instructions are valid for the subsequent running-in of the vehicle. Up to a specified covered distance maximum speeds in the 4 gears are recommended for the vehicles; e.g. for the **types 180 D and 180 Db**

up to 500 km			500 to 1500 km		
Gear	Speed km/h	Engine speed rpm	Gear	Speed km/h	Engine speed rpm
1st	15	2 000	1st	20	2 700
2nd	30	2 400	2nd	35	2 800
3rd	50	2 500	3rd	60	3 000
4th	70	2 350	4th	80	2 600

After 1500 km the speed can "gradually" be increased to the possible maximum speed of the vehicle.

There are no specified instructions for the running-in of the Unimog vehicles and built-in engines. The valid rule here is to carefully break in new and/or overhauled engines during the first 50 operating hours, which means that the engine should not be operated under full load during the running-in period.