

Diesel Engines
8 V 183 TE 93 (OM 442 LA)
12 V 183 TE 93 (OM 444 LA)**Maintenance Task Schedule**
M050522/03E

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Low operating and maintenance costs as well as operational reliability and availability depend on maintenance and servicing being carried out in compliance with our specifications and instructions.

The overall system, of which the engine is an integral part, must be maintained in such a way as to ensure trouble-free engine operation at all times. For this purpose always:

- ensure that sufficient fuel is available,
- ensure that the combustion air is dry and clean,
- use only dry, clean compressed air,
- use only clean, filtered raw water.

Moreover, it is essential that:

- maintenance tasks be completed by trained personnel,
- suitable tools be used,
- genuine spare parts and fluids and lubricants as per the current MTU Fluids and Lubricants Specification A001061 be used.

Our Product Support Service will always be available should assistance be required.

Preventive maintenance instructions.

- Special care should be taken to keep the machinery plant in a clean and serviceable condition at all times to facilitate early detection of possible leaks and prevent subsequent damage.
- Protect rubber and synthetic components from oil and fuel, never treat with organic detergents. Wipe with a dry cloth only.
- Always replace all seals and gaskets.

MTU Maintenance Concept

The maintenance concept is a preventive maintenance concept and features the maintenance echelons W1 to W6 as outlined below.

Preventive maintenance facilitates advance planning and ensures a high degree of equipment availability.

Main features of the maintenance echelons:

- W1: Operational checks
- W2, W3 and W4: Periodic maintenance tasks to be performed during out-of-service periods without the need for engine disassembly.
- W5: -
- W6: Major overhaul. This echelon requires complete engine disassembly.

The time intervals according to which the W2 to W6 Maintenance Echelons and the relevant checks and tasks involved are to be completed are based on operational experience. They have been determined so as to ensure correct engine operation until the next scheduled maintenance echelon.

Use of a maintenance predictor can mean changes to the operating hours given in the Maintenance Frequency Chart.

Specific operational conditions may require modification of the Maintenance Schedule.

NOTE:

The codes on the following pages refer to the groups and subgroups of the Task Descriptions in Part G of the Engine Operation Manual.

This Maintenance Schedule may refer to parts which are not installed on your engine, these may be disregarded.

Application Group

1DS: Fast vessels with low load factors

Maintenance Frequency Chart

Maintenance Echelon	W1: Operational checks, daily	X
	W2: Operating hours	250
	Limit, months	6
	W3: Operating hours	500
	Limit, year	1
	W4: Operating hours	1 000
	Limit, year(s)	2
	W5: Operating hours	-
	Limit, year(s)	-
	W6: Operating hours	4 500
	Limit, year(s)	8

Maintenance Task Schedule

Code No.	One-time operations after the first 50 operating hours. – With a new engine, after W5 maintenance echelon, or after W6 major overhaul	
G00.049	Attachments	Check tightness of securing screws and nuts
G06.101	Valve gear	Check clearances, adjust if necessary
G12.311	Fuel pre-filter	Clean
G12.311	Fuel pre-filter	Replace filter element
G13.112	Engine coolant pump	Check relief bore for obstructions
G88.911	Belt drive	Check condition and tension, re-tension if necessary

Code No.	Maintenance Echelon W1 – Operational checks	
G10.051	Exhaust system	Check exhaust gas colour Drain condensate (if drain valve provided)
G10.211	Air filter	Check restriction indicator, replace filter if necessary
G12.311	Fuel pre-filter	Operate ratchet handle several times
G12.311	Fuel pre-filter	Drain water and contaminants
G12.311	Fuel pre-filter	Check differential pressure
G14.011	Engine coolant	Check level
G14.511	Raw water system	Check filter for contamination (see yard documentation)
G16.002	Engine oil	Check level
G84.001	Monitoring system	Carry out lamp test
G84.002	Engine operation	Check running noises, Check engine and external pipework for leaks, Check speeds, pressures and temperatures - if gauges are provided
G86.051	Compressed air system	Check operating pressure Drain condensate
G86.621	Compressed-air filter	Drain condensate
G86.641	Air starter lubricator	Check oil supply

Code No.	Maintenance Echelons	W	2	3	4
G10.151	Intake air line	Check emergency air shut-off flaps			
G16.001	Engine oil	Change (in supplementary tank also) <ul style="list-style-type: none"> – with oil category 1: every W2 maintenance echelon = 250 operating hours – with oil category 2: every 2nd W2 maintenance echelon = 500 operating hours – with oil category 3: every 3rd W3 maintenance echelon = 750 operating hours 			
G16.111	Engine oil filter	Drain oil sludge, replace filter elements and sealing rings <ul style="list-style-type: none"> – accomplish when changing the oil Check for metallic residues			
G86.621	Compressed-air filter	Clean filter or replace element			
G88.911	Belt drive	Check condition and tension, re-tension if necessary			
G06.101	Valve gear	Check valve clearances			
G10.531	Exhaust system	Check exhaust pipework security and insulation			
G12.321	Fuel duplex filter	Replace filter elements			
G13.112	Engine coolant pump	Check relief bore for obstructions			
G16.009	Lubrication point(s)	Lubricate			
G14.012	Engine coolant	Take sample and analyse <ul style="list-style-type: none"> – Change coolant, see MTU Fluids and Lubricants Specification A001061 			
G84.311	Engine coolant system	Check fluid level monitor function			
G88.111	Coupling	Check condition			
G01.411	Crankcase ventilation	Replace oil separator <ul style="list-style-type: none"> – every 2nd W4 maintenance echelon = 2000 operating hours 			
G05.109	Cylinders	Check compression pressures			
G10.122	Air filter	Check filter for damage (visual inspection)			
G10.141	Intercooler	Remove, clean, leak test, replace seals <ul style="list-style-type: none"> – every 2nd W4 maintenance echelon = 2000 operating hours 			
G11.311	Fuel injector(s)	Replace injection nozzles			
G12.311	Fuel pre-filter	Replace filter element			
G14.314	Coolant cooler	Remove, clean, leak test <ul style="list-style-type: none"> – every 2nd W4 maintenance echelon = 2000 operating hours 			
G14.912	Engine coolant system	Check condition of coolant hoses <ul style="list-style-type: none"> – Replace coolant hoses every 4 years 			
G19.011	Engine mounts	Check condition of rubber mounts Check tightness of securing screws and nuts			
G19.171	Gearbox mounting	Check condition of rubber mounts Check tightness of securing screws and nuts			
G84.011	Monitoring system	Check function of monitoring units			
G86.321	Wiring	Check security and condition			
G88.911	Belt drive	Replace belt, check tension			

Maintenance Echelon W6

Requires complete engine disassembly for repair/overhaul of all relevant parts, or the installation of an overhauled engine.

Important: Note the following

In the case of a new engine:

- Mark the oil dipstick according to drawing standard 506 000 02 99.

During the initial putting-into-service of a new engine, or an engine from which the oil has been drained from the system or filters (assembly or maintenance task i.e. = oil change),

- ***actuate the engine shutdown system with the shutdown button and simultaneously turn over the engine with the starter until the oil-pressure gauge responds. Do not operate the starter for more than 20 uninterrupted seconds, and allow a cooling-off period of 1 minute afterwards.***

Before an out-of-service period of more than one week:

- Close the intake and exhaust openings airtight.

Before a prolonged out-of-service period:

- Spray oil into the combustion chambers and bar the engine manually once a month.

If the engine is to remain out of service for more than 3 months, carry out engine preservation in accordance with the Engine Operation Manual.