

The Checking and Maintenance Schedules indicate the intervals at which it is deemed appropriate to inspect the individual components of the engine and to carry out overhauls, if necessary, based on the engine condition or on time criteria.

Design modifications may necessitate a revision of the instructions, in which case the revised instructions and changed overhauling intervals, if any, will apply and supersede those originally issued (*see e.g. our Service Letters*).

The stated **Normal hours of service** should only be used as a guide, as differences in the actual service conditions, the quality of the fuel oil or lubricating oil, the treatment of cooling water, etc. will decisively influence the actual service results, and thus the intervals between necessary overhauling.

In addition to the checking and overhauling intervals stated in this schedule, please note that the periodical survey requirements of the classification society may require additional checks and overhauls to be carried out. For further information please refer to the classification society.

The procedures are divided into three categories:

Condition checking procedures marked under the heading **Normal hours of service** with a **C**, deal with the service condition of a number of engine components, and form the basis for estimating whether further overhauling is necessary. In a number of cases the condition checking procedures refer to **Volume I** of the instruction book, in which more detailed descriptions and working procedures can be found.

Condition-based overhauling procedures are those procedures which under the heading **Normal hours of service** are marked with an **O**, and opposite which, under the heading **Overhaul to be based on procedure No.** (column P), a procedure number is stated.

This procedure number normally refers to one of the above condition checking procedures which form the basis of the overhaul. For this reason, the intervals stated are for guidance only.

Time-based overhauling procedures also marked with an **O** under the headings **Normal hours of service** or **Based on observations**, are the procedures where an actual basis for estimation is lacking. It is recommended, therefore, to carry out these procedures at the overhauling intervals stated as a basis.

Where a symbol **O** or **C** is indicated in **Based on observations** (column B), this is due to the fact that special service conditions may make checking or overhauling necessary beyond the actual standard schedules indicated.

| | | | Regular Checks | | | Service interval (x 1000 hours of operation) | | | | | | | | | | | |
|--|------------------------------------|---|----------------|--------|---------|--|---|---|---|-----|----|----|----|-----|-----|--|--|
| No. | Procedure | H | Daily | Weekly | Monthly | 2 | 4 | 6 | 8 | 12 | 16 | 24 | 32 | B | P | Remarks | |
| 901 Cylinder Cover | | | | | | | | | | | | | | | | | |
| -1 | Cylinder cover | | | | | | | | | | C* | | | O | | * Check whenever exhaust valve is removed | |
| | Indicator cock | | | | | | | | | | | | | O | | | |
| 902 Piston with Rod and Stuffing box | | | | | | | | | | | | | | | | | |
| -1 | Piston | | | | | | | | | C,O | | | | O | | * Check clearances without dismantling segments | |
| | Inspection through scavenge ports | | | | C | | | | | | | | | | V | | |
| -2 | Piston rod stuffing box | | | | | | | | | C* | | | | O | | | |
| 903 Cylinder Liner and Cylinder Lubrication | | | | | | | | | | | | | | | | | |
| -1 | Cylinder liner | | | | | | | | | | | | | O | | | |
| | Inspection through scavenge ports | | | | C | | | | | | | | | | | | |
| | Measuring wear inside liner | | | | | | | | C | | | | | | | | |
| -2 | Cylinder lubricators | | | | | | | | | | C | | | A | V,M | | |
| | Accumulators nitrogen pressure | | | | | | | | | | C | | | A | | | |
| 904 Crosshead with connecting rod | | | | | | | | | | | | | | | | | |
| -1 | Crosshead bearing | C | | | | | | | C | | | | | C,O | V | Bearings should only be opened if bearing material fragments fall out. | |
| -2 | Crosshead | C | | | | | | | C | | | | | C,O | | | |
| -3 | Reciprocating parts | | | | | | | | C | | | | | C,O | | | |
| -4 | Crankpin bearing | C | | | | | | | C | | | | | C,O | V | | |
| -5 | Connecting rod | | | | | | | | | | | | | O | | | |
| 905 Crankshaft and Thrust Bearing | | | | | | | | | | | | | | | | | |
| -2 | Main bearing | C | | | | | | | C | | | | | C,O | V | Bearings should only be opened if bearing material fragments fall out. | |
| -3 | Thrust bearing | C | | | | | | | C | | | | | C,O | | | |
| -3 | Guide bearing | C | | | | | | | C | | | | | C,O | | | |
| -4 | Journal bearing | C | | | | | | | C | | | | | C,O | V | | |
| -5 | Axial vibration damper | | | | | | | | | | | | | O | | | |
| | Electronic axial vibration monitor | | C | | | | | | | | | | | | | | |
| | Mechanical checking | | | | | | | | C | | | | | | | | |

V : See Volume I "Operation"
 A : Adjustment to be carried out
 C : Check the condition

M : See maker's instructions
 O : Overhaul to be carried out
 H : Check new/overhauled parts after 500-1500 hours

R : Parts to be replaced
 B : Based on observations
 P : Refer to

| No. | Procedure | H | Regular Checks | | | Service interval (x 1000 hours of operation) | | | | | | | | B | P | Remarks | |
|------------------------------------|--|-----|----------------|--------|---------|--|----|-----|---|-----|-----|----|----|---|-----|---------|--|
| | | | Daily | Weekly | Monthly | 2 | 4 | 6 | 8 | 12 | 16 | 24 | 32 | | | | |
| -7 | Tacho pick-up | | | | | | | | | | | | | | C,O | M | New or overhauled chain to be checked/retightened after 500, 1500 and 4000 hours |
| -8 | Angle encoder | | | | | | | | | | | | | | C,O | M | |
| 906 Mechanical Control Gear | | | | | | | | | | | | | | | | | |
| -1 | Chains | C | | | | | | C | | | | | | | R | V | |
| -2 | Chain tightener | C,A | | | | | | C,A | | | | | | | A | | |
| | Chain wheels, spray nozzles and guide bars | C | | | | | | C | | | | | | | R | | |
| -3 | Camshaft | C | | | | | | | | C | | | | | C,A | | |
| -4 | Camshaft bearings | | | | | | | | | C | | | | | C,O | | |
| | Camshaft coupling, fitted bolts | | | | | | | | | C | | | | | | | |
| -5 | Moment compensator | C | | | | | | C | | | | | | | C,A | | |
| | Governor | | | | | | | O | | | | | | | | M | |
| | Functional check of overspeed device | | | | | | | | | C | | | | | | M | |
| | Functional check of speed-setting system (engine with bridge control system) | | | | | | | | | C | | | | | | M | |
| 907 Starting Air System | | | | | | | | | | | | | | | | | |
| -1 | Starting air distributor | C | | | | | | | | | C | | | | A | | |
| -2 | Starting air valve | | | | | | | | | | C,O | | | | | | |
| 908 Exhaust Valve | | | | | | | | | | | | | | | | | |
| -1 | High-pressure pipe | | | | | | | | | | | | | | O | | |
| -2 | Exhaust valve | | | | | | | | | | | | | | | | |
| | Conventional hard-faced valve seats | | | | | | | | | O | | | | | | | |
| | Nimonic exhaust valves | | | | | | | | | | | O | | | | | |
| -3 | Exhaust valve actuator | | | | | | | | | | | | | O | | | |
| | Actuator safety valve | | | | | | | | | C,A | | | | | | | |
| -4 | Exhaust valve roller guide | C* | | | | | C' | | | | | | | C | O | | |
| -5 | Exhaust valve cam | C* | | | | | C* | | | | | | | | O | | |
| -7 | Exhaust valve special running | | | | | | | | | | | | | | O | | |

* Only inspection through camshaft covers

| | | | Regular Checks | | | Service interval (x 1000 hours of operation) | | | | | | | | | | Remarks |
|--------------------------------|-------------------------------------|----|----------------|--------|---------|--|---|---|-----|----|----|----|----|-----|-----|---|
| No. | Procedure | H | Daily | Weekly | Monthly | 2 | 4 | 6 | 8 | 12 | 16 | 24 | 32 | B | P | |
| 909 Fuel Oil System | | | | | | | | | | | | | | | | |
| | Fuel oil water content | | | C | | | | | | | | | | | | |
| -1 | Fuel pump settings | | | | | | | | | | | | | A,C | V | |
| -2 | VIT system | | | | | | | | | | | | | A | V | |
| -3 | Fuel pump cam | | | | | | | | | | | | | A | | |
| -4 | Fuel pump | | | | | | C | | | | O | | | O | | |
| -5 | Fuel pump top cover | | | | | | | | | | | | | O | | |
| -6 | Fuel pump barrel assembly | | | | | | | | | | | | | R | | |
| -7 | Fuel pump suction valve | | | | | | | | C,O | | | | | | | |
| -8 | Fuel pump puncture valve | | | | | | | | C,O | | | | | | | |
| -9 | Fuel pump shock absorber | | | | | | | | C | | | | | O | | |
| -9 | Fuel system shock absorber | | | | | | | | C | | | | | O | | |
| -10 | Lifting gear for roller guide | | | | | | | | C | | | | | O | | |
| -11 | Fuel valve | | | | | | | | C,O | | | | | | | |
| - | Fuel nozzle | | | | | | | | R | | | | | | | |
| -12 | Spindle guide | | | | | | | | | | R | | | | | |
| -13 | Non-return valve | | | | | | | | O | | | | | | | |
| -14 | Fuel oil high-pressure pipes | | | | | | | | | | | | | O | | |
| -15 | Fuel pump roller guide | C* | | | | | | | C* | | | | C | O | | * Only inspection through camshaft covers |
| -16 | Fuel pump special running | | | | | | | | | | | | | O | | |
| 910 Turbocharger System | | | | | | | | | | | | | | | | |
| -1 | Air cooler | | C | | | | | | | | | | | O | V | Check Δp and Δt Check at every port inspection |
| -2 | Non-return valve | | | | C | | | | | | | | | O | | |
| -3 | Auxiliary blower | | | | | | | | | | | | | O | | |
| -4 | Butterfly valves | | | | C | | | | | | | | | O | | |
| -5 | Turbocharger turbine | | C* | | | | | | C | | | | | C,O | V,M | |
| | Turbocharger air filter | | C | | | | | | | | | | | O | | |
| | Protective grid before turbocharger | | | | | | | | C | | | | | R | V | |

| | | | Regular Checks | | | Service interval (x 1000 hours of operation) | | | | | | | | | | Remarks |
|------------|--|---|----------------|--------|---------|--|---|---|----|----|----|----|----|-----|-----|---|
| No. | Procedure | H | Daily | Weekly | Monthly | 2 | 4 | 6 | 8 | 12 | 16 | 24 | 32 | B | P | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | Turbocharger lubricating oil water content | | | C* | | | | | | | | | | | M | * Only if separate oil system |
| -6 | Water mist catcher | | C* | | | | | | | | | | | C,O | | * Check Δp |
| 911 | Safety Equipment | | | | | | | | | | | | | | | |
| -1 | Overpressure indicator valve | | | | | | | | C | | | | | O | | |
| -2 | Relief valve | | | | | | | | C | | | | | O | | |
| -3 | Scavenge air receiver safety valve | | | | | | | | C | | | | | O | | |
| | Functional test of alarm system for thrust bearing and slow down /shut down system | C | | | | C | | | | | | | | | M | |
| | Checking and adjustment of pressure gauge | | | | | | | | C | | | | | A | M | |
| | Checking and adjustment of thermometers | | | | | | | | C | | | | | A | M | |
| | Checking and adjustment of thermostats | | | | | | | | C | | | | | A | M | |
| | Checking and adjustment of pressurestats | | | | | | | | C | | | | | A | M | |
| | Checking and adjustment of turning gear switch | | | | | | | | C | | | | | A | M | |
| 912 | Assembly of Large Parts | | | | | | | | | | | | | | | |
| -2 | Holding-down and end chock bolts | C | | | | | | | C | | | | | | | |
| -3 | Stay bolts | C | | | | | | | | | | | C | | | |
| | Top bracings | C | | | | | | | C | | | | | | | |
| | Diaphragm in crankcase oil outlet | | | | | | | | | | | | C | R | | |
| | System lubricating oil water content | | | C | | | | | | | | | | | M | Empty and clean tank |
| | System lubricating oil bottom tank | | | | | | | | | | | | O | | | |
| | Cooling water quality | | | C | | | | | | | | | | A | V,M | * Check for loose nuts and bearing material fragments |
| | Crankcase | | | | | | | | C* | | | | | | | |
| 913 | General Tools | | | | | | | | | | | | | | | |
| -1 | Hydraulic tools | | | | | | | | C | | | | | O | M | |