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Preface to periodic maintenance

00:29-01

PS2024

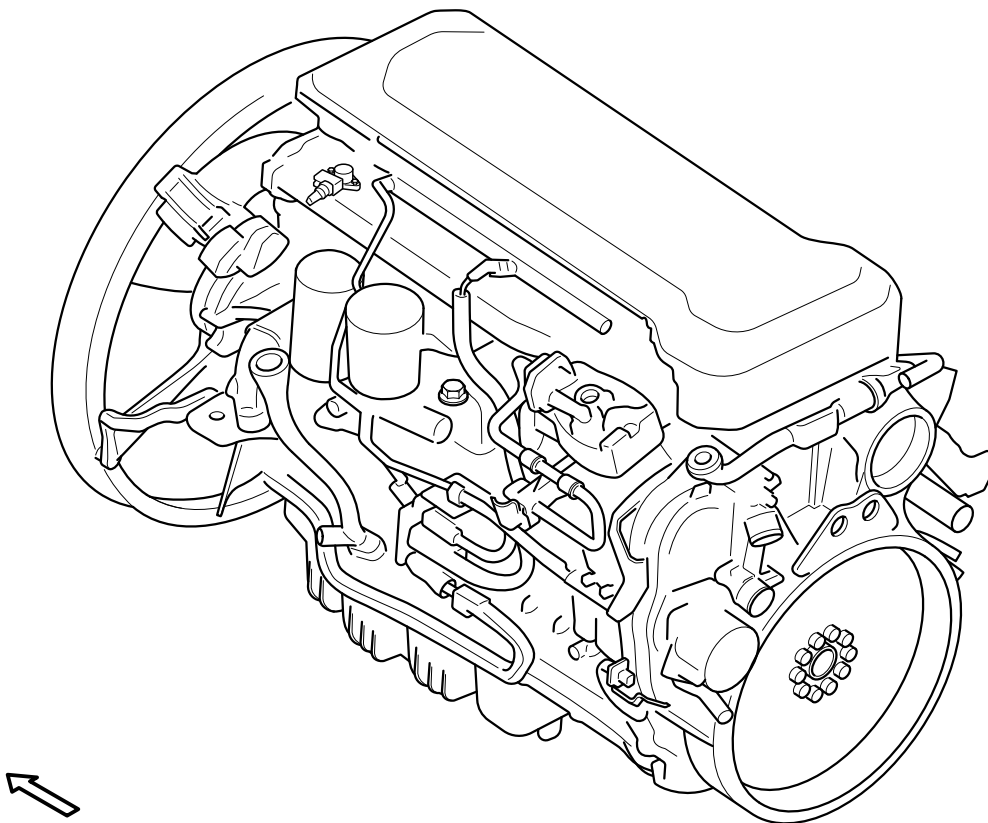




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Changes since the previous issue

	PS2024 for marine has been added.



Preface

This Operator's Manual describes operation and provides information in order to plan basic maintenance of Scania engines within PS2024.

A Scania engine is optimised for good economy. Regular maintenance is crucial for the service life of the engine and in order to avoid unplanned stops.

This document describes the periodic maintenance programme, with renewal intervals for components and systems.

Be aware that several factors can affect the maintenance requirements of the engine. This may involve:

- In what type of operation is the engine used?
- Are local adaptations of the maintenance programme required?
- Is the engine used in an environment that requires extra maintenance in addition to the regular maintenance programme?



Planning maintenance

The maintenance programme is the basis for planning the maintenance requirements of the vehicle.

Operating conditions can vary significantly. Therefore, include these experiences when planning the maintenance.

In addition to the regular maintenance events in the maintenance programme, it is possible to add a number of optional maintenance events.

Maintenance requirements

Start planning maintenance by identifying the following:

1. Engine specification
2. Application and environment where the engine is used
3. Engine oil grade
4. Engine emission class
5. Fuel grade and sulphur content
6. Other components which may have an effect on the interval
7. Fluids or components with expiration dates.

Approved and recommended oil grades for the engine are reported in document **00:16-15, Fuel, lubricants and fluids**.

The option may be to fill with approved oil grades, which would result in shorter change intervals. In this case, it is necessary to make local adaptations to the forms.

The engine must be maintained according to the individual maintenance plan at least once per year. This applies regardless of operation type or engine oil grade.

Start the maintenance plan for a used engine with *L maintenance*.

Maintenance of the engine is not just covered by the maintenance programme, but also by checks performed by the operator.



The Scania maintenance programme

The maintenance programme covers a number of points that are divided into the following sections:

- Lubrication system
- Air cleaner
- Cooling system
- Fuel/Exhaust system

WARNING!

It must not be possible to start the engine during maintenance work on it. If the engine starts unexpectedly, there is a serious risk of injury.

There is always a risk of sustaining burns when an engine is hot.

Particularly hot parts are branch pipes, turbochargers, oil sumps, hot coolant and oil in pipes and hoses. The coolant is also hot.

The maintenance programme includes the following:

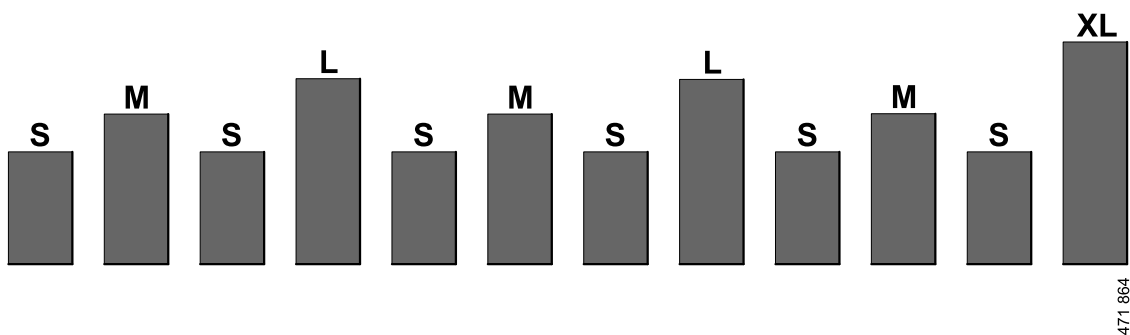
- R maintenance: One event when taken into service.
- S maintenance: Minimum basic maintenance
- M maintenance: More extensive maintenance
- L maintenance: Includes nearly all maintenance items in the form.
- XL maintenance: Includes all maintenance items in the form.

During a period, the following maintenance activities occur: S-M-S-L-S-M-S-LS-M-S-XL.

Type of application, selected engine oil grade and fuel grade determines the number of hours of operation between the current maintenance events.

NOTE:

Clean the engine according to the instructions in the workshop manual.



The illustration shows the order of recommended maintenance events.



Underhållsintervall

Hour-based fixed intervals	500 R	2000				Checking and adjusting the valve clearance		
		Intervals (hours)						
Intervals based on operation, fuel and oil type	First time	500	1000	2000	6000	Every year	Every 5 years	
Type of interval		S	M	L	XL			
Clean the engine externally	X	X	X	X	X	X	X	
Lubrication system								
Checking fault codes	X	X	X	X	X			
Uploading operational data								
Checking the oil level	X							
Changing the oil ¹	X	X	X	X	X	X		
Renewing the oil filter ¹	X	X	X	X	X	X		
Air cleaner								
Reading the vacuum indicator	X	X	X	X	X			
Renewing the filter element ²				X	X		X	
Renewing the safety cartridge ²				X	X		X	
Cooling system								
Checking the coolant level	X	X	X	X	X			
Checking the coolant's antifreeze and corrosion protection				X	X	X		
Changing the coolant and cleaning the cooling system					X		X	
Checking the sacrificial anodes	X	X	X	X	X	X		
Checking the sea water pump impeller		X	X	X	X	X		



Underhållsintervall

Fuel system							
Checking the fuel level	X						
Renewing the fuel filter			X	X	X		X
Renewing the fuel tank venting filter				X		(X) ³	
Other							
Checking the drive belt			X	X	X	X	
Checking and adjusting the valve clearance				X	X		
Renewing the reductant filter				X	X	X	
Cleaning the reductant tank filler filter		X	X	X	X		
Checking and cleaning the reductant tank venting	X	X	X	X	X		
Check for leaks and any damage to the engine and connected equipment	X	X	X	X	X	X	X
Renewing the reductant tank plastic venting filter					X		X
Checking/renewing the particulate filter	4,500 hours ⁴						

1. The change interval depends on the average load and type of engine oil. See the section Oil change intervals This may mean that the change interval for engine oil and associated filters may be shorter or longer than 500 hours. The other components have maintenance intervals according to the intervals specified in the table.

2. Fixed intervals do not apply in extra dusty environments. Monitor the filter continuously. The indicator shows when the filter should be cleaned or renewed.

3. Applies every other year at least.

4. See the OPM, the section Particulate filter maintenance intervals.



Oil change intervals

! IMPORTANT!

For all types of uses, it is recommended to use oil grade LDF-5, viscosity 5W-20.

This oil grade can be used in all ambient temperatures. Oil grade LDF-5 also provides a long interval between oil changes.

Operation with average engine load			
Change interval in number of operating hours or equivalent calendar time 1.5 years			
Type of sump: Aluminium 38 litres			
Fuel consumption litres/ hour	<31	<36	>36
Oil grade: LDF-5	1000	750	500
Other approved oil grade	750	500	400
Type of sump: Aluminium 43 litres			
Fuel consumption litres/ hour	<34	<38	>38
Oil grade: LDF-5	1000	750	500
Other approved oil grade	750	500	400
Type of sump: Aluminium 48 litres			
Fuel consumption litres/ hour	<36	<40	>40
Oil grade: LDF-5	1000	750	500
Other approved oil grade	750	500	400
Type of sump: Aluminium 64 litres			
Fuel consumption litres/ hour	<41	<46	>46
Oil grade: LDF-5	1000	750	500
Other approved oil grade	750	500	400



Underhållsintervall

Type of sump: Aluminium 80 litres				
Fuel consumption litres/hour	<40	40-50	50-72	>72
Oil grade: LDF-5	1500	1000	750	500
Other approved oil grade	1000	750	500	400



Other

Cleaning the engine

WARNING!

Beware of hot washing water.

Wear eye protection, protective clothes and protective gloves.

ENVIRONMENT

Dispose of the washing water in compliance with relevant national or local regulations.

- The engine and engine compartment are to be cleaned using hot water.
- Be careful when using the high pressure washer.
- Avoid spraying electrical components such as the starter motor, alternator and electrical installations.

Engines with few hours of operation

IMPORTANT!

On engines with few hours of operation, maintenance must be carried out annually or every 5 years.

This applies to equipment that is not used regularly, such as stand-by generator sets and similar applications:

The equipment needs to be test run with associated checks.

Check points

Run the engine up to operating temperature.

Then carry out the following maintenance items:

1. Check the oil level
2. Check the coolant level
3. Check the vacuum indicator
4. Check the fuel level
5. Check for any leaks on the engine