



Approved by (department acronym, name)  
KED Stephan Pettersson  
Issued by (department acronym name phone)  
KED Mikael Östlund 82203

To (department acronym name)

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## MTBF & MTBO Patrol Long

### Applies only if the following requirements are met:

- Only for products mounted according to Scania installation requirements and with an approved installation report issued
- Only valid if Scania original parts are used
- Inspections must be done according to inspection intervals following the instructions in Scania Operators Manual (OPM)
- The inspection interval must not be exceeded
- Scania LDF oil are used, or the oil fulfil the quality requirements described in the OPM
- Fuel specification according to OPM
- Coolant specification according to OPM
- Operating altitude accordance to Scania Data handbook

### Following conditions will affect the maintenance intervals and the expected overhaul interval for the engine:

- Extended operation at low idle
- Minimum cool down periods after high load factor operation
- Operating the engine beyond the guidelines for the engine rating
- Operating the engine at loads that are greater than the rated load
- Operating the engine at speeds that are greater than the rated speed
- Use of the engine for an application that is not approved

### The need for an overhaul is generally indicated by:

- Increased fuel consumption and reduced power
- Increased oil consumption
- Increased levels of noise and vibrations

A marine engine's published MTBF or MTBO does not mean that every marine engine will operate the number of hours or years listed without requiring part replacements and/or unscheduled repair events. Noncompliance with Scania's instructions as per the above mentioned requirements may necessitate repair or replacement of engine parts and accessories earlier than the published MTBF or MTBO. The MTBF and the MTBO periods specified in this document are only estimates and does not reflect the warranty period. For marine engine warranty, the conditions of warranty is set forth in the "Supplementary Provisions to General Conditions – Scania Engines" and "General Conditions of Delivery and Warranty - Scania Engines (Duplicate of Orgalime S2012 - Brussels, March 2012)" contained in the Scania Global Warranty Manual (as amended from time to time).

**Marine Patrol Long - PDE**

	<b>MTBF</b>	<b>MTBO 10 000h</b>	<b>Comments</b>
<b>01 Engine</b>			
Turbo charger	7 500		
Cylinder head		10 000*	*Control/replace at major overhaul
Exhaust valves		10 000	
Intake valves		10 000	
Piston		10 000	
Piston rings		10 000	
Cylinder liners		10 000	
O-rings cylinder liners		10 000	
Connecting rod bearing*		10 000*	*Control/replace at major overhaul
Crankshaft bearings*		10 000*	*Control/replace at major overhaul
Oil pump		10 000	
Roller tappet*		10 000*	*Control/replace at major overhaul
Crank shaft seals*		10 000*	*Control/replace at major overhaul
Crankshaft damper		10 000	
Intermediate timing gear roller bearing		10 000	
<b>02 Cooling system</b>			
Coolant pump**		10 000	**Check at valve-, injector adjustment
Coolant hose**		10 000	**Check at valve-, injector adjustment
Charge air cooler**		10 000	**Check at valve-, injector adjustment
Heat exchanger		15 000	
Poly V-belt***	Max 5 000		***Check at maintenance
Idler roller Poly V-belt**		10 000	**Check at valve-, injector adjustment
Belt tensioner Poly V-belt**		10 000	**Check at valve-, injector adjustment
Sea water pump		10 000	
<b>03 Fuel System</b>			
Injectors	7 500		
Overflow valve		10 000	
Feed pump		10 000	
<b>16 Electrical system</b>			
Alternator		10 000	
Starter		10 000	