

Action code: **WHEN CONVENIENT**

**Guiding Overhaul Intervals
Updated Tables**

SL10-533/TBO
May 2010

Concerns

Owners and operators of B&W two-stroke stationary diesel engines.

Types:

K98MC-S	K60MC-S
K90MC-S	K50MC-S
K80MC-S	L35MC-S

Dear Sirs

Based on the latest service experience and experience with condition based overhaul (CBO), we are pleased to issue a revised version of our Guiding Overhaul Intervals table. The guiding overhaul intervals apply to MC-S types.

However, experience and feedback from various power plants indicate that time between overhaul (TBO) is more frequently used rather than CBO due to generally limited downtime.

Please note that the intervals in the lists apply only to engines with so-called high topland pistons. High topland pistons are pistons where the topland is significantly higher than the ringland.

Please direct any inquiries and questions regarding tables or condition-based overhaul to our Operation Department at leo@mandiesel.com or to our Service Department at PrimeServ-cph@mandiesel.com.

Yours faithfully



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MC-S engines Guiding overhaul intervals and expected service life

Component	Overhaul interval (hours)	Expected service life (hours)	Remarks		
Cylinder liner	Bore sizes	Bore sizes	Sludge cleaning min. every 1,000 hrs. Max. internal wear: 0.4-0.8% of nominal cylinder liner diameter.		
	98-50	8,000-16,000		98-90	70,000
	35	8,000-12,000		80	60,000
				60-50	50,000
			35	50,000	
Piston rings	Bore sizes	Bore sizes			
	98-50	8,000-16,000	98-50	16,000	
	35	8,000-12,000	35	12,000	
Piston crown	Bore sizes	Bore sizes	Pressure test at every 2 nd piston overhaul, recondition/rechrome when required (typically every 16-24,000 hours). Piston crown can be reconditioned by welding-up twice.		
	98-50	8,000-16,000		98-90	70,000
	35	8,000-12,000		80	60,000
				60-50	50,000
			35	50,000	
Stuffing box	Bore sizes	Bore sizes	Lamellas renewed after 8-16,000 hrs. Generally performed during piston overhaul. However, special tools are supplied for internal engine overhaul without withdrawal of piston.		
	98-50	8,000-16,000		98-50	32,000
	35	8,000-12,000		35	24,000
	Check lamellas	Renew lamellas			
Exhaust valve spindle and bottom piece (cage)	Inspection of seat and air spring:	Bore sizes	Normally, HVOF coated stems need no reconditioning. Usually only light grinding of seats is required at subsequent inspections. 1) Condition check Inspection of air spring according to instruction manual. Two or three valves to be inspected. 2) Subsequent inspection Condition check + possible complete overhaul. Max burn off rate of spindle disc underside to be estimated and calculated for lifetime of spindle. All valves to be inspected.		
	Bore sizes	50-35		DuraSpindle exhaust valve	50,000
	98-35			Bore size	
	First inspection 1)	8,000		98-60	
Bore sizes		DuraSpindle or			
50-35		Nimonic exhaust valve	100,000		
Subsequent inspections 2)	16,000	To be obtained for DuraSpindle and Nimonic valve with reconditioning of seat and possible re-welding of disk underside.			
Bore sizes					
98-60					
Subsequent inspections 2)	32,000				
Actuator gear	Hydraulic system	32,000	64,000		
Fuel valve Bio fuel (TAN >6)		8,000	Valve nozzle (12,000)	16,000	
	- depending on fuel quality		Spindle guide (12,000)	16,000	
Fuel pump plunger and barrel, suction valve, puncture valve and shock absorber		16,000	Renew or recondition:	40,000	
	- based on engine observations				
		8,000	Bio fuel (TAN >6)	30,000	
	For suction valve and puncture valve				
Cylinder cover			96,000	Check for burned grooves at fuel valve nozzle holes. Weld-up if required, up to 2-3 times during service life.	
Starting valve and indicator cock		12,000	Engine lifetime		



MC-S engines Guiding overhaul intervals and expected service life

Component	Overhaul interval (hours)	Expected service life (hours)	Remarks
Alpha Lubricator	Check/ Refill accumulators 8,000 Overhaul lubricators 32,000	Engine lifetime	
Crosshead bearings Main bearings Crank bearings Thrust bearings	Check clearances and crankshaft deflection: once a year. Check bearing edges by wire gauges: once a year	64,000 96,000 96,000 96,000	Do not open bearings unless bearing material fragments fall out or other bearing inspection measures indicate so.
Roller guide for fuel pump and exhaust valve	Check condition in situ: 1,500	Engine lifetime	Check running surfaces and free rotation of roller.
Chains	Tighten chains: 3,000-4,000 - every six months	96,000	New or overhauled chains to be checked/retightened after 500, 1,500 hours.
Chain wheels and rubber guide bars	Visual inspection: 3,000-4,000	Chain wheels: 96,000 Guide bars: 32,000	First inspections and retightenings after 500, 1,000 and 1,500 hours in total service.
Regulating gear	Check moving parts: 3,000-4,000	Engine lifetime	Pneumatic/hydraulic governor: Oil change every 4,000 hours.
Tie rods including bracing screws	Tighten rods and screws: once a year	Engine lifetime	
Holding down bolts	Tighten: once a year	Engine lifetime	
Turbocharger	According to manufacturer's recommendations.	According to manufacturer's recommendations.	According to manufacturer's recommendations.
Air cooler(s) 1st stage 2nd stage	Cleaning: based on engine observations	45,000	Clean before differential pressure has increased 50% compared to sea trial value.
Flaps and butterfly valves in scavenge air receiver	Check movement at every scavenge port inspection.	Engine lifetime.	
Various fuel and lubricating oil filters. Camshaft filters and TCS filters, if any	Cleaning: based on engine observations		
Lubricating oil bottom tank	Cleaning: 32,000		Typically done every four years during major overhaul.