

## No. 26 List of minimum recommended spare parts for main internal combustion engines of ships for unrestricted service

(1990,  
Corr.)  
(Rev.1  
Nov  
2006)

Item	Spare part	Number recommended
1. Main bearings	Main bearings or shells for one bearing of each size and type fitted, complete with shims, bolts and nuts	1
2. Main thrust block	Pads for one face of Michell type thrust block, or	1 set
	Complete white metal thrust shoe of solid ring type, or	1
	Inner and outer race with rollers, where roller thrust bearings are fitted	1
3. Cylinder liner	Cylinder liner, complete with joint rings and gaskets	1
4. Cylinder cover	Cylinder cover, complete with valves, joint rings and gaskets.	1
	Cylinder cover bolts and nuts, for one cylinder	1/2 set
5. Cylinder valves	Exhaust valves, complete with casings, seats, springs and other fittings for one cylinder	2 sets
	Air inlet valves, complete with casings, seats, springs and other fittings for one cylinder	1 set
	Starting air valve, complete with casting, seat springs and other fittings	1
	Cylinder overpressure sentinel valve, complete	1
	Fuel valves of each size and type fitted, complete with all fittings, for one engine	1 set <sup>1</sup>
6. Connecting rod bearings	Bottom end bearings or shells of each size and type fitted, complete with shims, bolts and nuts, for one cylinder	1 set
	Top end bearings or shells of each size and type fitted, complete with shims, bolts and nuts, for one cylinder	1 set
7. Pistons	Crosshead type; piston of each type fitted, complete with piston rod, stuffing box, skirt, rings, studs and nuts	1
	Trunk piston type: piston of each type fitted, complete with skirt, rings, studs, nuts, gudgeon pin and connecting rod	1
8. Piston rings	Piston rings, for one cylinder	1 set
9. Piston cooling	Telescopic cooling pipes and fittings or their equivalent, for one cylinder unit	1 set

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Item	Spare part	Number recommended
10. Cylinder lubricators	Lubricator, complete, of the largest size, with its chain drive or gear wheels, or equivalent spare part kit	1
11. Fuel injection pumps	Fuel pump complete or, when replacement at sea is practicable, a complete set of working parts for one pump (plunger, sleeve, valves, springs, etc.), or equivalent high pressure fuel pump	1
12. Fuel injection piping	High pressure double wall fuel pipe of each size and shape fitted, complete with couplings	1
13. Scavenge blower (including turbo chargers)	Rotors, rotor shafts, bearings, nozzle rings and gear wheels or equivalent working parts if other types	1 set <sup>2</sup>
14. Scavenging system	Suction and delivery valves for one pump of each type fitted	1 set
15. Reduction and/or reverse gear	Complete bearing bush, of each size fitted in the gear case assembly	1 set
	Roller or ball race, of each size fitted in the gear case assembly	1 set
<b>Footnotes</b>		
<p>1. (a) Engines with one or two fuel valves per cylinder: one set of fuel valves, complete.</p> <p>(b) Engines with three or more fuel valves per cylinder: two fuel valves complete per cylinder, and a sufficient number of valve parts, excluding the body, to form, with those fitted in the complete valves, a full engine set.</p> <p>2. The spare parts may be omitted where it has been demonstrated, at the Builder's test bench for one engine of the type concerned, that the engine can be manoeuvred satisfactorily with one blower out of action.</p> <p>The requisite blanking and blocking arrangements for running with one blower out of action are to be available on board.</p>		
<b>NOTES</b>		
<p>1. The availability of other spare parts, such as gears and chains for camshaft drive, should be specially considered and decided upon by the owner.</p> <p>2. It is assumed that the new crew has on board the necessary tools and equipment.</p> <p>3. When the recommended spares are utilized, it is recommended that new spares are supplied as soon as possible.</p> <p>4. In case of multi-engine installations, the minimum recommended spares are only necessary for one engine.</p> <p>5. For electronically controlled engines spare parts as recommended by the engine designer/manufacturer.</p>		

END

**No. 27**  
 (1990, Corr.)  
 (Rev.1 Nov 2006)

**List of minimum recommended spare parts for each type of auxiliary internal combustion engine driving electric generators for essential services on board ships for unrestricted service**

Item	Spare part	Number recommended
1. Main bearings	Main bearings or shells for one bearing of each size and type fitted, complete with shims, bolts and nuts	1
2. Cylinder valves	Exhaust valves, complete with casings, seats, springs and other fittings for one cylinder	2 sets
	Air inlet valves, complete with casings, seats, springs and other fittings for one cylinder	1 set
	Starting air valve, complete with casing, seat springs and other fittings	1
	Cylinder overpressure sentinel valve, complete	1
	Fuel valves of each size and type fitted, complete with all fittings, for one engine	1/2 set
3. Connecting rod bearings	Bottom end bearings or shells of each size and type fitted, complete with shims, bolts and nuts, for one cylinder	1 set
	Trunk piston type: gudgeon pin with bush for one cylinder	1 set
4. Piston rings	Piston rings, for one cylinder	1 set
5. Piston cooling	Telescopic cooling pipes and fittings or their equivalent, for one cylinder	1 set
6. Fuel injection pumps	Fuel pump complete or, when replacement at sea is practicable, a complete set of working parts for one pump (plunger, sleeve, valves, springs, etc.), or equivalent high pressure fuel pump	1
7. Fuel injection piping	High pressure double wall fuel pipe of each size and shape fitted, complete with couplings	1
8. Gaskets and Packings	Special gaskets and packings of each size and type fitted, for cylinder covers and cylinder liners for one cylinder	1 set

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NOTES:

1. The availability of other spare parts should be specially considered and decided upon by the Owner.
2. It is assumed that the crew has on board the necessary tools and equipment.
3. When the recommended spares are utilized, it is recommended that new spares are supplied as soon as possible.
4. Where the number of generators of adequate capacity fitted for essential services exceeds the required number, spare parts may be omitted.
5. For electronically controlled engines spare parts as recommended by the engine designer/manufacture.

END

# No. 30 List of minimum recommended spare parts for essential auxiliary machinery of ships for unrestricted service

(1990,  
Corr.)  
(Rev.1  
Nov  
2006)

## 1. Auxiliary internal combustion engines and steam turbines driving essential service machinery other than generators

The number of minimum recommended spare parts for auxiliary internal combustion engines and steam turbines driving essential service machinery is to be in accordance with that recommended for internal combustion engines and turbines driving electric generators. When an additional unit for the same purpose and of adequate capacity is fitted, spare parts may be omitted.

## 2. Pumps<sup>1</sup>

Spare parts	Number recommended
1. Piston pumps	
1.1 Valve with seats and springs, each size fitted	1 set
1.2 Piston rings, each type and size for one piston	1 set
2. Centrifugal pumps	
2.1 Bearing of each type and size	1
2.2 Rotor sealings of each type and size	1
3. Gear type pumps	
3.1 Bearings of each type and size	1
3.2 Rotor sealings of each type and size	1
NOTES	
1. When a sufficiently rated standby pump is available, the spare parts may be dispensed with.	

## 3. Compressors for essential service

Spare parts	Number recommended
1. Suction and delivery valves complete of each size fitted in one unit	1/2 set
2. Piston rings of each type and size fitted for one piston	1 set

## 4. General

It is recommended that where, for maintenance or repair work of the essential machinery, special tools or equipment are to be used, these are available on board. When the recommended spares are utilized, it is recommended that new spares are supplied as soon as possible.

END