

Dear Sir or Madam

This service letter introduces a new cylinder oil strategy where the aim is to raise the performance level of cylinder oils by dividing them into two performance categories. It also provides a general overview of the major international cylinder and system oil brands currently available in the market.

For specific lubrication guidelines, reference is made to the most recent lubrication guidelines available for your specific engine type, for example service letters and circular letters. Service letters are available at: <https://marine.man-es.com/two-stroke/service-letters>

For questions and inquiries regarding the content in this letter, contact our Operation department at: operation2s@man-es.com

Yours faithfully



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Action code: WHEN CONVENIENT

Cylinder and system oils

MAN B&W low-speed two-stroke engines

SL2020-694/JUSV
May 2020

Replaces SL2019-686/JUSV

Concerns

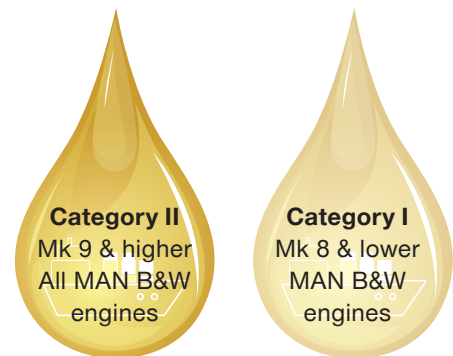
All MAN B&W ME/ME-C/ME-B/MC/MC-C, ME-GI/E- and ME-LGIM/P engines.

Summary

Examples of international cylinder and system oil brands tested in service. Introduction of two performance categories.

Relevant Service Letters:

Most recent Cylinder Lubrication recommendation
SL2019-670 0.50% S fuel operation.



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**Cylinder oils with different performance levels:
Category I and Category II**

MAN Energy Solutions is constantly working on improving the engine design. Highly fuel-efficient engines with higher pressures and higher temperatures require lubricants with matching performance. We are therefore introducing a new strategy that aims at raising the cylinder oil performance. The cylinder oils are divided into two categories (Cat. I and Cat. II), of which Cat. II is the overall higher performing category.

The main purposes of the cylinder oil are to:

- lubricate the piston and liner
- reduce the friction
- introduce wear protection
- minimise risk of seizures
- neutralise acids and oxidation products in accordance with the engine requirement
- and to keep the piston, piston rings, ringlands, and liner clean, as it is important to ensure free movement of the rings by managing and preventing excessive deposit build-up.

The main property requirements for Cat. I and Cat. II cylinder oils are:

- kinematic viscosity
 - min. 18.5 cSt at 100°C
 - max. 21.9 cSt at 100°C
- viscosity index (VI): min. 95
- high detergency
- alkalinity or base number (BN).

Category II

Cat. II cylinder oils have excellent overall performance with a special focus on cleaning ability. In order to receive this status, the cylinder oil is tested thoroughly. The first cylinder oils to go through the Cat. II process have been the 100 and 140 BN oils, and the aim is that the other lubricant grades will follow, such as the 40 BN oil. A Cat. II status automatically gives a Cat. I status.

Cat. II cylinder oils are applicable for all engines (e.g. Mark 8 and lower) and recommended for MAN B&W two-stroke engines Mark 9 and higher.

Category I

Cylinder oils with a current No Objection Letter (NOL) are considered to be in Cat. I. These are applicable for MAN B&W two-stroke engine Mark 8 and lower.

Category II cylinder oils – all MAN B&W engines & recommended for Mark 9 and higher

Table 1 lists major international system oil brands tested in service with acceptable results, and which have passed the testing procedure and obtained an NOL. Do not consider these lists to be complete, as other Cat. II cylinder oils with NOLs from MAN Energy Solutions can be equally suitable.

Table 1: Category II cylinder oils*

Company	Category II cylinder oils		
	140 BN	100 BN	40 BN ¹
Castrol	Cyltech 140	Cyltech 100	
Chevron	Taro Ultra 140	Taro Ultra 100	
ExxonMobil	Mobilgard 5145	Mobilgard 5100	
Gulf Oil Marine		Gulfsea Cylcare 50100S	
JXTG Nippon Oil & Energy		Marine C1005	
Lukoil	Navigo 140 MCL	Navigo 100 MCL	
Shell	Shell Alexia 140	Shell Alexia 100	
Sinopec		Sinopec Marine Cylinder Oil 50100	
Total Lubmarine	Talusia HR 140	Talusia Universal 100	

¹ Ask your lube oil supplier whether there is a Cat. II 40 BN available.

* Category II cylinder oils applicable for all engines and recommended for MAN B&W two-stroke engines Mark 9 and higher. Examples of international cylinder oils for which an NOL has been granted Cat. II status by MAN Energy Solutions.

Category I cylinder oil
– MAN B&W engines Mark 8 and lower

Table 2 lists major international cylinder oil brands tested in service with acceptable results, and which have passed the testing procedure and obtained an NOL. Do not consider these lists to be complete, as other Cat. I cylinder oils with NOLs from MAN Energy Solutions can be equally suitable.

Table 2: Category I cylinder oils**

Company	Cylinder oils			
	140 BN	100 BN	70 BN	40 BN
Castrol	Cyltech 140 *	Cyltech 100 *	Cyltech 70	Cyltech 40SX Cyltech 40
Chevron	Taro Ultra 140 *	Taro Ultra 100 *	Taro Ultra 70	Taro Ultra 40
ExxonMobil	Mobilgard 5145 *	Mobilgard 5100 *	Mobilgard 570	Mobilgard 540
Gulf Oil Marine	Gulfsea cylcare 50140X1	Gulfsea Cylcare 50100S *	Gulfsea Cylcare DCA 5070S	Gulfsea Cylcare DCA 5040S
JXTG Nippon Oil & Energy		Marine C1005 *	Marine C705	Marine 405Z
Lukoil	Navigo 140 MCL *	Navigo 100 MCL *	Navigo 70 MCL AW	Navigo MCL Extra
Shell	Shell Alexia 140 *	Shell Alexia 100 *	Shell Alexia 70	Shell Alexia 40
Sinopec	Sinopec Marine Cylinder Oil 50140	Sinopec Marine Cylinder Oil 50100 *	Sinopec Marine Cylinder Oil 5070S	Sinopec Marine Cylinder Oil 5040
SK Lubricants	SK Supermar Cyl 140	SK Supermar Cyl 100	SK Supermar Cyl 70 Plus	SK Supermar Cyl 40
Total Lubmarine	Talusia HR 140 *	Talusia Universal 100 * Talusia Optima	Talusia HR 70	Talusia LS 40

* Cylinder oils marked with a * have Cat. II status. See Table 1, Category II cylinder oils

** Category I cylinder oils applicable for MAN B&W two-stroke engines Mark 8 and lower. Examples of international cylinder oils with an NOL from MAN Energy Solutions.

System oil

Table 3 lists major international system oil brands tested in service with acceptable results, and which have passed the testing procedure and obtained an NOL. Do not consider these lists to be complete, as other system oils with NOLs from MAN Energy Solutions can be equally suitable. System oils are recommended for all MAN B&W two-stroke engines, independent of Mark number.

We recommend the use of system oils (circulating oil) with the following main properties:

- SAE 30 viscosity grade
- BN level 5-10
- high corrosion protection
- good anti-oxidant properties
- high detergency and dispersancy.

Table 3: International system oil brands*

Company	System oil
Castrol	Castrol CDX 30
Chevron	Veritas 800 Marine 30
ExxonMobil	Mobilgard 300C
Gulf Oil Marine	Gulfsea Superbear 3006
SK Lubricants	SK Supermar AS
JXTG Nippon Oil & Energy	Marine S30
Lukoil	Navigo 6 CO
Shell	Shell Melina s 30
Sinopec	System Oil 3005
Total Lubmarine	Atlanta Marine D3005

* Examples of international system oil brands that have an NOL from MAN Energy Solutions.

Notwithstanding the foregoing, it remains the sole responsibility of the owner/operator of an engine to ensure that suitable fuel and lube are conditioned and used in order to prevent damage to the engine and other equipment on board.