

Action code: AT FIRST OPPORTUNITY

### Safety Precautions

26-98 Engines

SL2013-576/DHB  
September 2013

#### Concerns

Owners and operators of MAN B&W two-stroke marine engines.  
Type: All two-stroke engines

#### Summary

Update of the Safety Precautions chapter in the Maintenance Book (enclosed)

Dear Sirs

As part of our continuous development, we have updated the Safety Precautions chapter in the Maintenance Book. You can find the new version enclosed with this service letter.

The content has been expanded to, among other things, include information on the general cleanliness in and around the two-stroke engine, and what to be aware of when operating the turning gear and entering the crankcase.

Please replace the chapter in the Maintenance Book and inform your crew of the safety update.

Correct operation and maintenance of the main engine are crucial points for obtaining optimum safety in the engine room.

An electronic version of the updated safety precautions can be viewed and printed from the links below:

**ME-B/ME-C engines Mk 9 and higher:** <https://dieselport.mandiesel.com/ServiceSupport/StandardManuals/2-stroke/NewInstructions-MM/Files/Descriptions/0545-0100-0008.pdf>

**All other engines:** [https://dieselport.mandiesel.com/ServiceSupport/StandardManuals/2-stroke/NewInstructions-900/Volume\\_I\\_Files/direct\\_Page/V70101-0012.pdf](https://dieselport.mandiesel.com/ServiceSupport/StandardManuals/2-stroke/NewInstructions-900/Volume_I_Files/direct_Page/V70101-0012.pdf)

If you have any questions regarding the content of this Service Letter, please contact our Maintenance Tools department, LEE3, via e-mail [LEE3@mandieselturbo.com](mailto:LEE3@mandieselturbo.com).

Yours faithfully



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*Correct operation and maintenance, which is the aim of this book, are crucial points for obtaining optimum safety in the engine room. The general measures mentioned here should therefore be routine practice for the entire engine room crew.*

## Engine Room Staff

Operation and Maintenance of MAN B&W engines is to be carried out exclusively by qualified professional personnel.



### Minimum personal safety equipment requirements:

1. Safety shoes.
2. Hearing protection.
3. Boiler suit or other similar protective wear.

## Special Dangers



Numerous situations may lead to risks of serious injuries to the body. The following recommendations must always be observed:

- Keep clear of the space below a crane with load.
- Before opening of cocks, always observe which way liquids, gases or flames will move, and keep clear.
- Dismantling of parts may also cause the release of springs.
- Do not stand near turbochargers in case of any abnormal running.
- Do not stand near crankcase doors or relief valves - nor in corridors near doors to the engine room - if an alarm for oil mist, high lube oil temperature, no piston cooling oil flow, or scavenge box fire is set off. *See also Chapter 704.*

## Turning Gear

Before engaging the turning gear, ensure that the starting air supply is shut off, the main starting and slow turning valves are blocked, and that the indicator cocks are open.

When the turning gear is engaged, check that the indicator lamp "Turning gear in" has switched on.

The turning gear remote control is a critical device and should always be kept in optimal working condition. Any fault in the device or cable must be rectified before use.

*When operating the turning gear it is important to note the following:*

The turning gear must be operated by the remote control and only by the person working on the engine.

Warnings must be given before each turning. Operation of the turning gear from the switchboard must not take place while maintenance work is in progress inside the engine.

Block the switch or place a "Do not touch" sign.

## Entering the Crankcase or Cylinder



**Always ensure that the turning gear is engaged and the brake is active, to prevent external forces or unbalance of the crankshaft from turning the crankshaft.**

Check that the starting air supply to the engine and the starting air distributor is shut off and that the main starting valve is locked.

In case of oil mist alarm, precautions must be taken before opening the doors to the crankcase (see Section 704-02). Before entering, ventilate the crankcase for about 30 minutes after stopping the engine.

Work inside the crankcase requires the use of fall protection harness and arrestor equipment.

Work inside the crankcase is as minimum a two-man job, and good communication must be maintained at all times.

The turning gear should always be operated exclusively by the person(s) who enters the crankcase or cylinders.

## Cleanliness

The engine and engine room should always be kept clean and tidy.

Oily rags must never be left around the engine room spaces as they are highly flammable and slippery.

Remove any oil spill at once.

If there is a risk of grit or sand blowing into the engine room, stop the ventilation and close the ventilating ducts, skylights and engine room doors.

Welding or other work that causes spreading of grit and/or swarf must not be carried out near the engine unless it is closed or protected and the turbocharger air intake filters are covered.

The exterior of the engine should be kept clean, and the paintwork maintained, so that leakages can be easily detected.

## Fire

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Keep the areas around the relief valves free of oil, grease, etc. to prevent the risk of fire caused by the emitted hot air/gas if the relief valves open.

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Do not weld or use naked lights in the engine room until it has been ascertained that no explosive gases, vapour or liquids are present.

If the crankcase is opened before the engine has cooled down, welding and the use of naked flames will result in the risk of explosions and fire. The same applies to inspection of oil tanks and of the spaces below the floor.

Attention is furthermore drawn to the danger of fire when using paint and solvents with a low flash point. Porous insulating material, soaked with oil from leakages, is easily inflammable and should be renewed. See also Sections 704-01, 02 and 'Sealing Materials' in this Section.

## Order/Tidiness

Hand tools should be securely fastened and placed on easily accessible tool panels. Special tools should be fastened in the engine room, close to the area to be used.

Do not leave major objects unfastened, and keep floor and passages clear at all times.

## Spares

Large spare parts should, as far as possible, be placed near the area to be used, well secured, and accessible by crane.

All spares should be protected against corrosion and mechanical damage. The stock should be checked at intervals and replenished in good time.

## Lighting

Ample working light should be permanently installed at appropriate places in the engine room spaces, and portable working light should be obtainable everywhere. 24v safety lamps must be available for use inside the engine.

**Harmful Materials**

Always follow the manufacturer's specific instructions, i.e. the material safety data sheet. Use protective gloves, goggles, breathing mask and any other recommended protective gear, as stated in the material safety data sheet.

While handling harmful materials it is important to secure proper ventilation and shielding if needed.

In the event of leaks or spillage, spread binding agents immediately. Dispose of the binding agents, according to the material safety data sheet.

**Lifting Precautions**

Plan lifting of engine components through all steps of the lifting procedure.

Use tackles between engine room crane and component, when lifting loads below 500 kg.

Make sure lifting attachments are tightened into full contact with the component to be lifted.

Only use designated lifting points, see Instruction Manual Volume II for guidance.

Never exceed the lowest Safe Working Load (SWL) of the lifting equipment in the lifting chain.

Keep lifting equipment clear of sharp edges.

Make sure to attach the load correctly on the crane hook.

Always keep clear of the space below a crane carrying a load.

**Working Air**

Use of working air requires safety goggles and gloves.

Avoid blowing pressurised air directly at any part of the body especially exposed skin.

**Sealing Materials**

Use gloves made of neopren or PVC when removing O-rings and other rubber/plastic-based sealing materials which have been subjected to abnormally high temperatures.

First aid measures in the event of skin contact:

- Rinse with plenty of water
- Remove all contaminated clothing
- Consult a doctor
- Dispose of all material and gloves in accordance with laws and regulations.

**Hot Surfaces**

Beware of hot surfaces and always use gloves, when working on or near hot surfaces.

## Alarms

It is important that all alarms lead to prompt investigation and remedy of the error. No alarm is insignificant. The most serious alarms are equipped with slow-down and/or shut-down functions. It is therefore important that all engine operation personnel are familiar with and well trained in the use and importance of the alarm system.

## Safety notes

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This warning is used when an operation, procedure, or use may cause personal injury or loss of life.

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This warning is used when an operation, procedure, or use may cause a latently dangerous state of personal injury or loss of life.

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This warning is used when an operation, procedure, or use may cause damage to or destruction of equipment and a slight or serious injury.

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This warning is used when an operation, procedure, or use may cause damage to or destruction of equipment.

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## Subsuppliers and external equipment

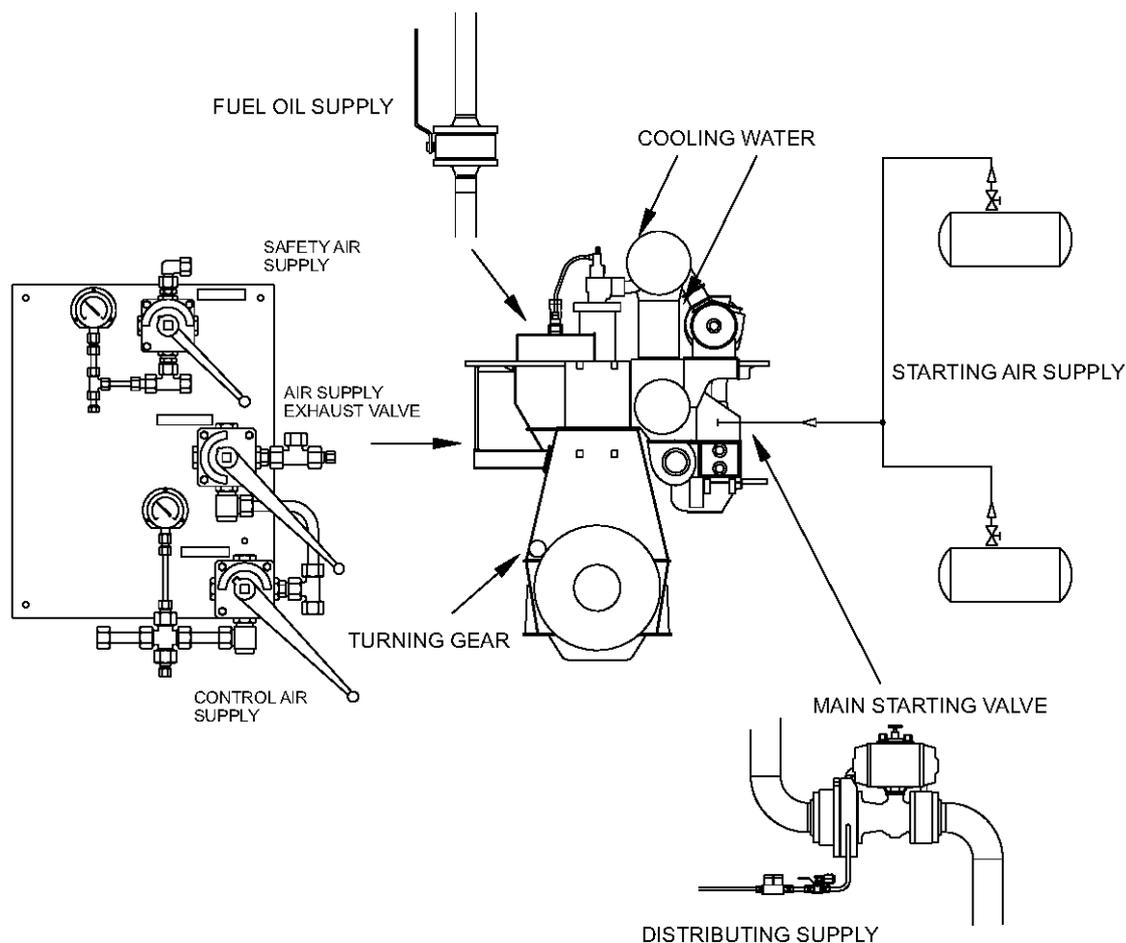
Please check the special instructions concerning subsupplier delivery and external equipment for specific warnings!

## 2. Safety Precautions at Maintenance

Before carrying out maintenance work, stop and block the engine according to the safety precautions given on the specific Data Page.

### SAFETY PRECAUTIONS

X	Stopped engine
X	Shut off starting air supply – <i>At starting air receiver</i>
X	Block the main starting valve
X	Shut off starting air distributor/distributing system supply
X	Shut off safety air supply – <i>Not ME-engines</i>
X	Shut off control air supply
X	Shut off air supply to exhaust valve – <i>Only with stopped lubricating oil pumps</i>
X	Engage turning gear
X	Shut off cooling water
X	Shut off fuel oil
X	Stop lubricating oil supply
X	Lock the turbocharger rotors



*The drawing gives the approximate location of the valves concerned*

3. Data Sheet Signs

Data sheets may include warning signs for special dangers that could arise in connection with the maintenance procedures.

Warning signs		Mandatory action signs	
General warning sign		General mandatory action sign	
Explosive material		Wear ear protection	
Drop (fall)		Wear eye protection	
Slippery surface		Wear safety footwear	
Electricity		Wear protective gloves	
Overhead load		Wear face shield	
Hot surface		Wear head protection	
Crushing		Wear mask	
Overhead obstacle		Wear respiratory protection	
Flammable		Wear safety harness	
Crushing of hands		Disconnect before carrying out maintenance	
Pressurized cylinder			
Pressurized device			