

The ships are equipped with the spare parts for boiler operation and management, then at this time, we would like to introduce the spare parts.



Before visiting the ships for maintenance, we ask the ships to check the operation and spare parts by TEL, FAX or e-mail. Because according to the conditions, the troubles may be solved only by the parts replacement.

Keeping from purchasing the spare parts brings about cost reduction. However, the boiler may stop by only one parts loss.

We have an experience that we dispatched the parts by charter shipment because the ships did not have the damaged parts for their spare. The shipment charge is some ten times as much as the price of the parts, but the parts arrived at the ship without accident and the problems was solved. However, if the traffic accident and loss time had been caused under shipment, the parts should not have arrived before ship's departure.

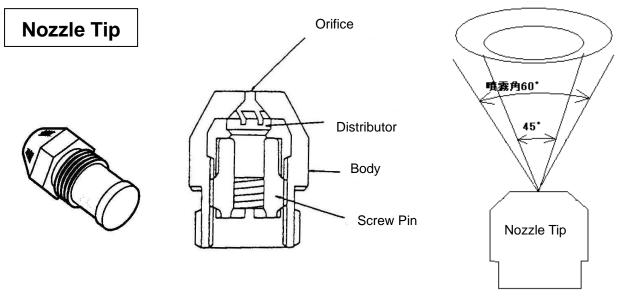
The spare parts supply is required to prevent the accident as same as the water treatment. At this time, we would like to introduce some spare parts and advise you the general replacement period and spare parts list.



Scan the QR code or click on the following URL for information about our service network. https://www.miuraz.co.jp/en/marine/service/network.html



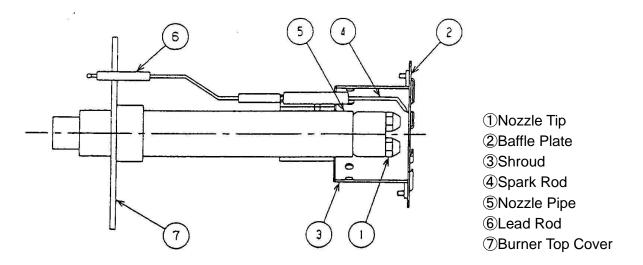
If you have any questions, please contact nearest MIURA's office. We hope to receive your continuous support in the future.



The nozzle tip is equipped with all the goods which have burner ASSY.

For some burner type, the filter is removed and cut off valve is installed. About cleaning, the filter (or cut off valve) cleaning, and the dirt in distributor groove removing are carried out. Moreover, the parts replacement is depending on the used fuel oil, and the hard material is used because the high pressure and quick speed wears the orifice. However, we recommend you to replace the parts with new one every half year.

Besides, nozzle tip has 45° and 60° spray degree, please use the proper parts.



The equipment which ignites by the high voltage spark from the tip is needed for the burner ASSY as same as the nozzle tip.

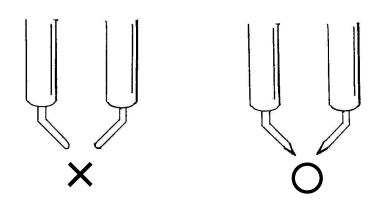
The lead rod is not needed for the some burner. The burner using time is depending on the Exh. gas economizer common use and voyage time.

The replacement is usually caused by wear and tear of the spark, after year by year, the damage of the white rid used at the base is caused, and then there are some cases that the voltage leaks from the damage parts, and the inferior spark is caused.

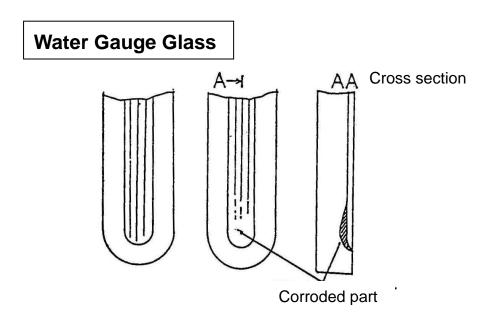
If there are some doubts of leak from both of the insulator cap and ignition code (Neon wire), it may be difficult to find out the leak phenomenon and decide the leak position.

Check and cleaning of Spark Rod

- Insulation check of the spark rod is to be carried out at the burner cleaning.
- The metal tip of the spark rod is to be cleaned by a file.



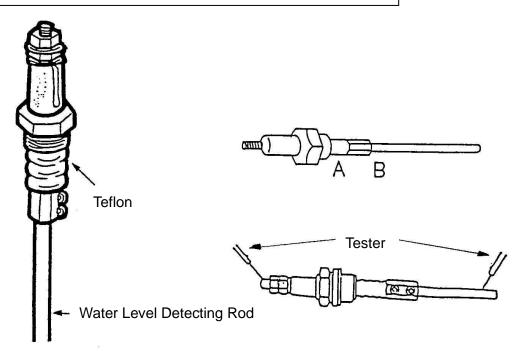
If the tip is round, use after filing the tip.



The cleaning is carried out by water level gauge blower once a day. The gauge glass is corroded by the condensed boiler water because it touches the boiler water directly,

The gauge glass has the vertical groove. We recommend you to replace it when the groove fades out.

Electrode Holder and Water Level Detector



For steam boiler, Miura adopts the water level control system by the electrode holder. We suppose that the electrode holder and water level detector cleaning are carried out periodically.

Please kindly check resistance (0Ω) once a year as the following procedure.

- 1. Remove the electrode holder with a torque wrench.
- Remove dirt adhered to the teflon part (A) with the cloth, and remove dirt adhered to metal part (B) with the sand paper part (A). Moreover, check that there are no any damages on the insulating part.
- 3. Check resistance with a tester.
- 4. < In case of analog tester>

Less than $1K\Omega$ on $[x1\Omega]$ range.

<In case of digital tester>

Actual value is to be the almost same as the figure when the only detecting rod is measured.

*After cleaning and checking the electrode holder, check the wiring No. and connect the wires to prevent the wrong wiring.

However, there are some cases that the electrode holders used for several years have inferior insulation and cannot detect the correct water lever because of the current carrying around the water level installation part.

The insulation check cannot be detected by the normal range tester, Miura uses the tester for insulation check.

Others

Switch: There are many types depending on the capacity and contact point. Please replace or place and order after checking the standard and usage.

Solenoid Valve: The deterioration is judged according to the fuel oil pressure low and so on. For replacement, we recommend to replace both the coil and valve body. Because the deterioration often is caused by over load on the coil when dirt enters the valve body.

Spark Test Procedure:

- Carry out the thermal trip of the oil pump switch. (Prevent the oil from flowing into the burner.)
 For the type equipped with the pilot burner, remove the wiring on the terminal stand.
- 2. Turn the burner switch to "Manual".
- 3. Insert the plug cap into the burner and spark rod. **<Caution>** <u>At this time, do not install the copper tube and flexible tube on the burner</u>.
- 4. <The manual switch is divided into the each process.>

Turn the ignition or pilot switch to ON, and then check the spark condition.

<The cam switch is used as the manual switch.>

Carry out the thermal trip of the fan switch. After that, turn the cam switch until the ignition position, and then check the spark.

