

Lube Oil System Instructions for YAMAMA GT6 - GT9

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1 Introduction

1.1 Purpose of the document

The purpose of this document is to give instructions on how a filter change is performed and how a sample of lube oil is taken.



Warning!

Contact with lube oil can cause allergy and/or irritated skin.
Before any action is taken, read the document *Maintenance Safety*.

2 Lube oil filter change instructions



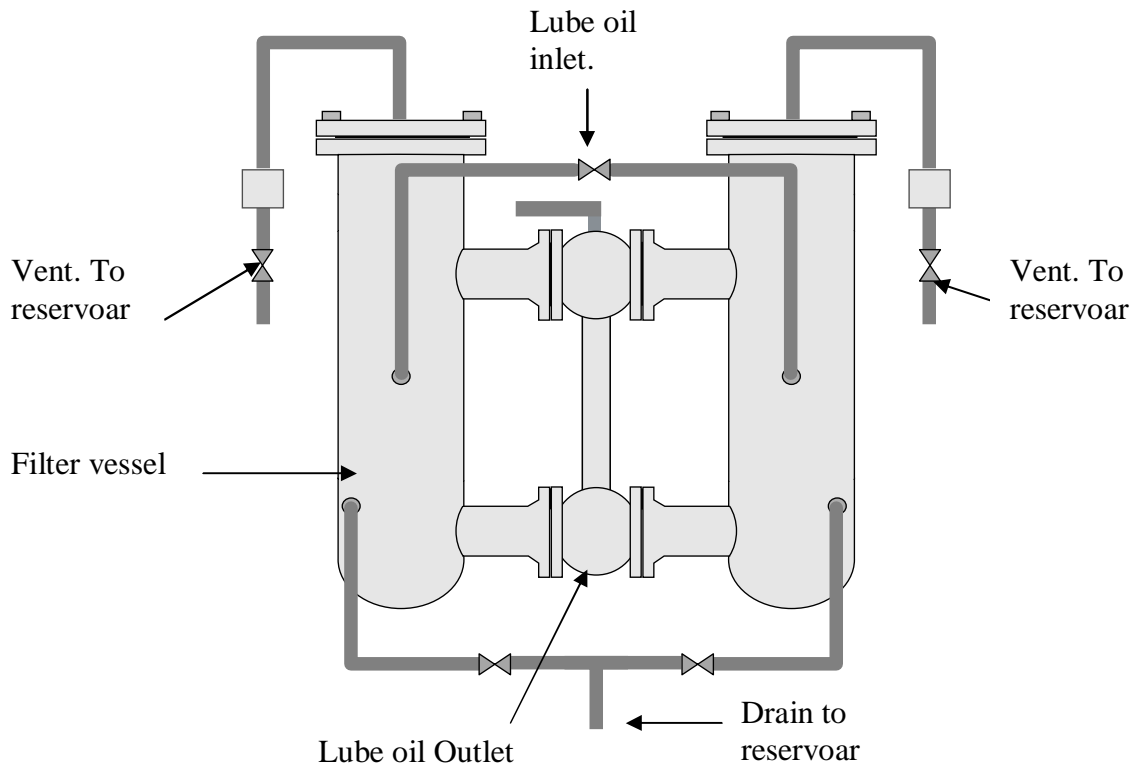
Warning! Only authorised personnel are allowed to replace lube oil filter cartridges

Caution! It is of utmost importance that the lube oil filter replacement is performed correctly according to the following instructions. Failure to follow the instructions may lead to severe damage of the gas turbine bearings when air cushioning may occur.

2.1 Description of the lube oil filter

The unfiltered oil enters the lube oil filter unit at the top and passes through one of the two filters (one in operation and one in stand-by). The filtered lube oil passes out at the bottom of the lube oil filter unit. See *Figure 1*.

Figure 1. Lube oil filter unit



Caution! If the dirty filter is to the right, all actions must be performed as shown but MIRROR REVERSED.

2.2 When to replace filters

When an alarm is given for high differential pressure (>0.8 bar) across the dirty filter elements, the oil flow must be transferred to the clean element, and the dirty filter element must be replaced. Check the differential pressure on the transmitter see *P&ID*, *MBV40CP010*.

2.3 Before replacing the filter

Before you start to replace the filter, provide a suitable spanner, gloves and a bucket.



Warning! Smoking is not permitted in the enclosure at any time during this procedure.

2.4 Replacement Instructions

One filter unit can be serviced during operation. Further details are given in the subsupplier's documentation, system MBV.

1. Dirty Filter: Close the continuous ventilation valve (4)

2. Open the equalization valve (1)

This valve is connected across the three way valve and enables oil to pass from the filter in operation into the stand-by filter in order to prime.

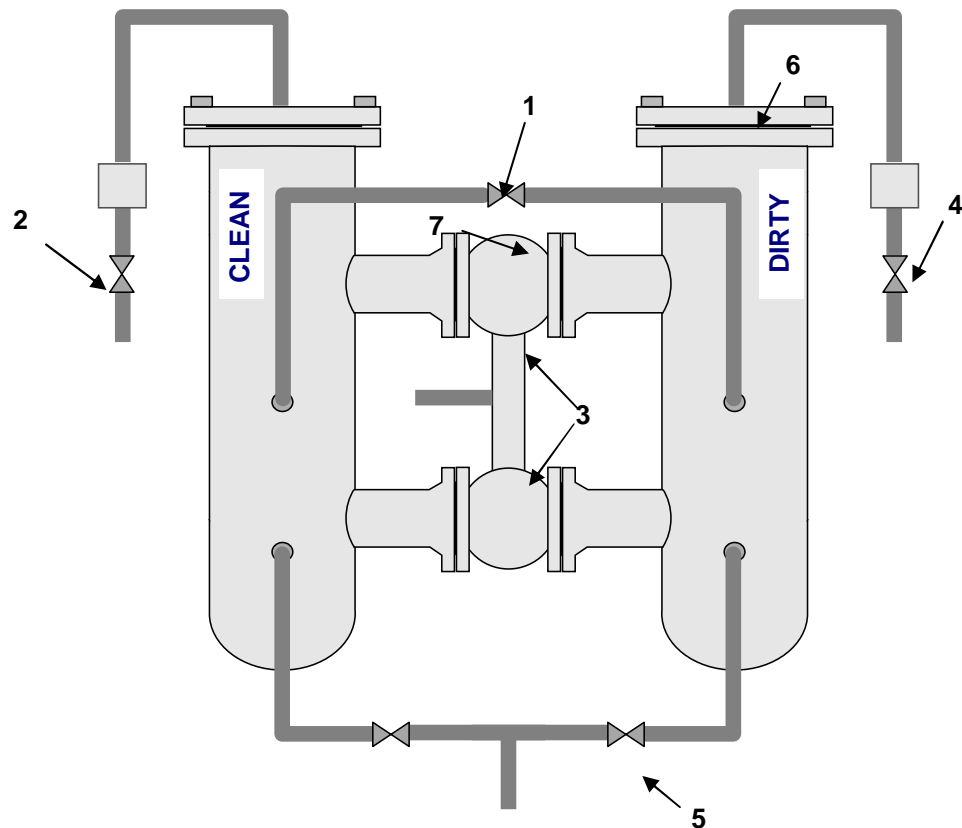
3. Clean filter: Open the continuous ventilation valve (2) until oil streams in the pipe. Then close the continuous ventilation valve (2)

This ensures that the clean filter vessel is filled with oil. If there is air left in the vessel there is a risk for severe damage to the gas turbine.

4. Shift the three way valves (3) position by means of the handle (7).

5. Close the equalization valve (1).

Figure 2. Lube oil filter unit



- 6 **Dirty filter: With the continuous ventilation valve (4) still open, open the emptying valve (5). Gravity will force the oil back into the tank.**
- 7 **Dirty filter: Close the emptying valve (5).**
- 8 **Dirty filter: After drainage, close continuous ventilation valve (4).**
- 9 **Dirty filter: Open the filter housing by opening the vessel lid (6). Remove the two filter cartridges. Install new filter cartridges. Check and if necessary, change the gasket. Close the vessel lid (6).**
- 10 **Open the equalization valve (1) and the continuous ventilation valve (4) of the replaced filter until oil streams in the pipe. After this, close the equalization valve (1). Now the replaced filters are filled with oil.**
- 11 **Close the continuous ventilation valve (4) for the replaced filter vessel.**
- 12 **Open the continuous ventilation valve (2) of the operating filter vessel.**

3 Lube oil test instruction

Note! This procedure is to be performed every 2 000 hours.

3.1 Instruction

Note! This procedure is to be performed every 6 months.



Warning! Before performing this test, read the document *Maintenance Safety*.

SAMPLE POINT

The lubrication oil sample should be taken after the lube oil filter at the test valve MBV40AA020.

SAMPLE BOTTLES

Two clean 1 litre glass bottles should be used.

RINSING

The sample line and the sample bottles must be rinsed thoroughly, with the oil that is being sampled, in order to avoid contamination of the sample.

PROCEDURE

1. Open the drain valve and flush some oil into a bucket in order to rinse the sampling line.

Note! The drain valve should not be closed between flushing and sampling, in order to avoid adding dirt from the valve to the sample.

2. After flushing, open the sample bottles and fill them to approx. 75% of their volume without turning off the drain valve. Put the top back on the bottles, shake them, take off the top and pour out the oil into the bucket.
3. Rinse the bottles once again. Fill the bottles, shake and pour out.

4. Fill the bottles. The sample volume should not exceed 90-95% of the bottle volume. Close the drain valve. Seal the bottles carefully.
5. The samples should be marked with sampling date, site no., product name, supplier, operating hours of the oil, make up oil, sampler and contact person.
6. Send the bottles for analysis, one to the oil supplier and one to:
Siemens Industrial
Turbomachinery AB
Dept. GRCCC
SE-612 83 Finspong
SWEDEN
7. The oil shall fulfil the requirements described in the document *K-8962-11, see binder 2A-3 tab Requirements*.
8. Only mineral oil acc. to *MAT 812109* to be used.

REVISION

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