

Oilflushing Instruction / Lube oil system  GT10B2 / GT10C	Respons. dept <b>GIM10</b>	Date <b>980317</b>	Reg.
	Prepared <b>Roger Jonsson</b>		

**CLEANING AND OIL FLUSHING OF LUBRICATING OIL SYSTEM  
WHEN CHANGING THE OIL CHARGE AND DURING TURBINE  
COMMISSIONING**

**1 SCOPE**

System must be flushed before first start-up of the turbine.

**2 DRAINING OF OLD OIL**

If the turbine has been in operation and the oil is of low quality, it can be necessary to clean the system before filling it up with a new charge of oil.

Drain all the oil in system at operation temperature and remember to switch the heaters off.

**3 INSPECTION**

Before cleaning, inspect the type and amount of impurities to be removed (tank and filtervessels especially).

**4 PRELIMINARY CLEANING**

Tank and filter vessels should be cleaned manually before flushing of the system.

**5 NEW ERECTION**

Rev.01 All new pipes, tank, lube oil unit etc. must have been cleaned before erection acc. **2035 742**.

Rev.01 The lube oil unit is flushed by the manufacturer before delivery to ALSTOM Power.

**6 PREPARATIONS OF SYSTEM FOR FLUSHING**

If the turbine has been in operation there is no need to bypass any object during flushing.

Rev.02 Reference to GT10B2 / GT10C flushing drwg.: **2032 497**

- Inlet pipes to be connected to outlet pipes by flushing hoses.
- Connections to bearings must be blinded for protection.
- Rev.01 - Bellows and pipes that are removed during flushing must be carefully cleaned acc. **2035 742**.
- Bypass MBV51/52/53AP005 (boosterpumps) with hoses and if provided MBV80AP005 jacking oil pump.

Approved	Latest revision <b>2</b>	Archive	HG <b>4691</b>
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To protect the booster pumps operating dry the booster pumps have to be disconnected electrically.

- Ensure that drain/vent.valves for cooler(s) are in open position.

Remark

- Cotton waste or fluffing rags must not be used for cleaning.
- Diesel fuel and silicon type sealing compound destroys oil and must not be used.

## 7 CHOICE OF FLUSHING OIL AND ANALYSIS

Oil checked acc.instructions:

**8121-09 Material Specification (Valid for ISOVG46/GT10)**  
**DL-1171-1 (Technical Delivery Terms) and**  
**K-1171-7 (Delivery Control of Lubricating Oil).**

If separate flushing oil is used, at least half the volume of the tank must be filled. Oil filled through separate oil filling connection on tank.

## 8 FLUSHING

- At start of flushing no oilflushing orifices to be assembled in order to reach a maximum oilflow in the system. Pressure adjusting valve MBV30AA025 should be maximum open.
- Heat the oil during flushing with heaters MBV10 AH005/010.
- Start the oil system ventilation fan to filter MBV10 AT005 together with main oil pumps.

Remark:

During flushing time the manual override on tempreg.valve MBV30AA020 should be used to force oil through coolers, otherwise only the by pass of cooler will be flushed.

- During flushing, pipes etc. should be hammered on with a plastic hammer.

During the end of the flushing, bunting spades can be placed in the flanged joints of the inlet pipes in order to check purity in the system.

Determination by inspecting cleanliness of spades after running system.

If the system is decided to be clean, remove the bypass for the booster pumps MBV51/52/53AP005 and run the pumps for approx. 15 minutes.

If provided in system remove the bypass for the jacking oil pump MBV80AP005 and run the pump for approx. 15 minutes.

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<p><b>9 AFTER FLUSHING / TESTING OF FLUSHING OIL</b></p> <p>The flushing oil can be used as ordinary lube oil after flushing if the oil has not deteriorated noticeably.                  Testing of oil acc. to instruction <b>K-1171-7</b>.</p> <p>If the flushing oil is used as ordinary oil, samples must be taken and analysed again after approximately 500 hours in operation.</p> <p>All by-pass couplings, orifices, blind spades and bunting spades must be removed. Check if dirt has collected just before the bunting spades or in hoses or bellows, (if any).</p> <p><u>Pt. 10 and 11 valid only if testresults indicate necessity to change charge of oil.</u></p> <p><b>10 DRAINING AND CLEANING AFTER FLUSHING</b></p> <p>If the flushing oil can't be used as ordinary lube oil, see procedures acc. to sect. 4.</p> <p><b>11 REFILLING WITH NEW OIL</b></p> <p>Refill with new oil so that the oil level during operation will be within permitted limits.                  Procedures acc. to sect.7.</p> <p><b>12 MONITORING THE OIL CONDITION DURING TURBINE OPERATION</b></p> <p>Rev.01 In-service monitoring of condition of the oil acc. to <b>K-8962-11</b>.</p> <p><b>13 APPENDICES</b></p> <p>Rev.02      <b>2032 497</b>                      <b>(GT10B2 / GT10C Standard Flushing drwg.)</b>                  Rev.02      <b>8121-09</b>                      <b>(Material Spec. valid for ISOVG46 GT10B2 / GT10C)</b>                                <b>DL-1171-1</b>                      <b>(Technical Delivery Terms)</b>                                <b>K-1171-7</b>                      <b>(Delivery Control of Lubricating Oil).</b>                  Rev.01      <b>2035 742</b>                      <b>(Surface Treatment System)</b>                  Rev.01      <b>K-8962-11</b></p>						
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