TURBINE TIPS
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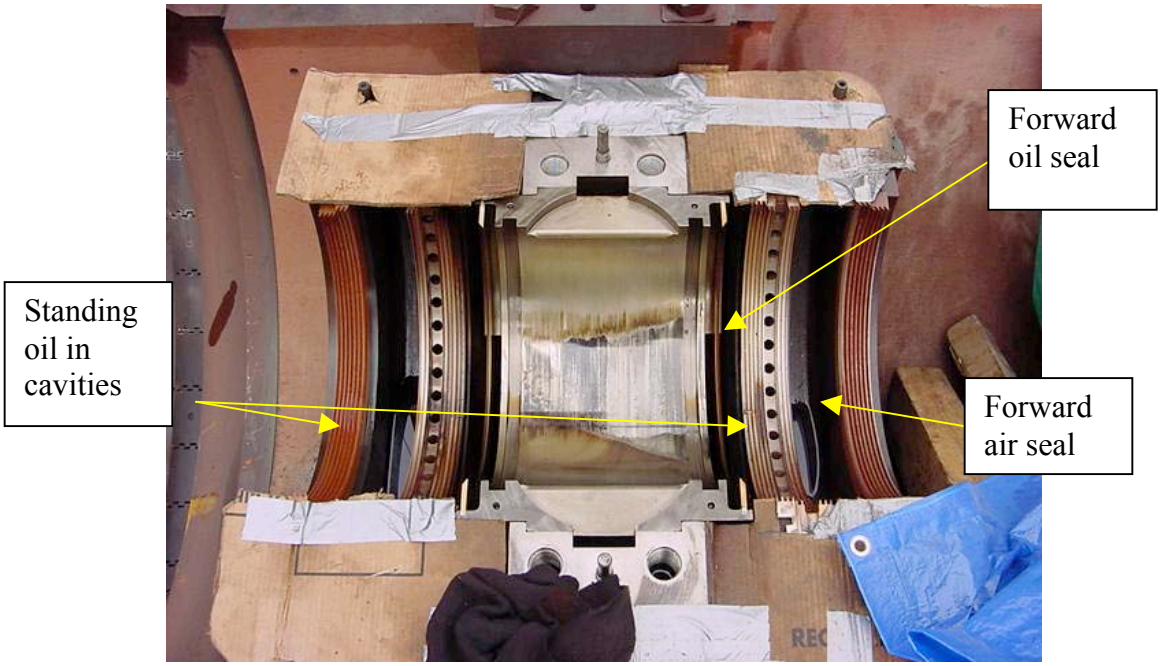
July 2002

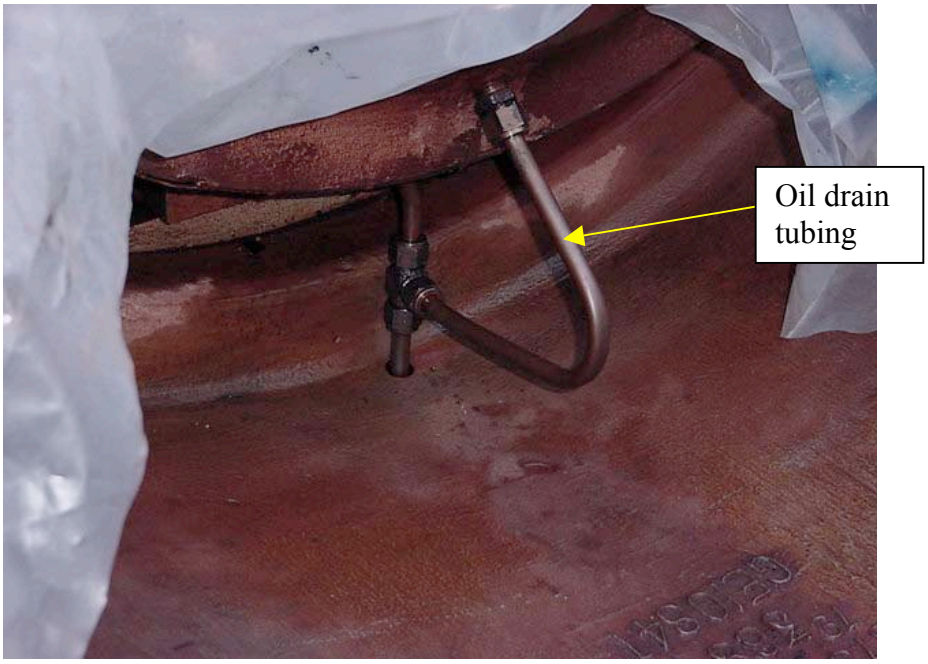
Bearing Oil Leaks on GE MS7001 Gas Turbines

Model Series MS7001 gas turbines (a.k.a. Frame 7) have three bearings. On the number two journal bearing (abbreviated: #2 bearing), the seal drains have a tendency to become plugged. It is a good idea to check these lines any time the #2 bearing cover is removed.



During a recent outage on a Frame 7E, standing oil was noticed in the cavities between the #2 bearing air and oil seals. Disassembly of the oil drain tubing revealed that both drain lines were plugged completely with burned oil. If the drain lines are plugged, oil will be forced out of the air seal, mixed with compressor discharge air, and burned in the combustion system as the turbine operates. This can prove detrimental to the performance and operation of the gas turbine.

By design, the bearing drain lines return the oil to the #2 bearing surge tank. The motive force for the movement of the oil to the surge tank is the slight vacuum that is maintained on the entire oil sump and drain system. If the drain lines are found plugged, you should disassemble and clean them. It may be necessary to cut some of the drain lines in order to clean the lines. Install swage lock unions if cutting of tubing is required.



On startup of the unit, check to see that the oil sump has the slight vacuum called for by the turbine manual.