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<b>Service Technician Instruction</b>	<b>ST-177</b>	18 October 2016

Engine type **J612...J620-E/F & J624-G/H**

Subject **"F" cylinder heads**  
**Cylinder head cracks and corrective action**

ST-177 relates to cracking within the fire deck of "F" cylinder heads of Type 6 engines.

#### AFFECTED ENGINES / SCOPE OF THIS BULLETIN

Type 6 versions E, F, G and H engines equipped with "F" cylinder heads can be affected.

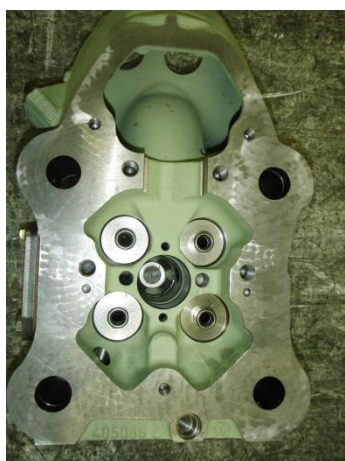


Fig. 01: Current design of the "F" cylinder head of Type 6 engines – CAN BE AFFECTED



Fig. 02: Previous design of the "F" cylinder head of Type 6 engines – NOT AFFECTED

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## DESCRIPTION OF THE CONTENT

In a small number of Type 6 units small cracks in the pre-chamber bore area towards the exhaust gas valves (mostly between them, see Figure 03) have been observed. The cracks are located between the cooling water channel and fire deck of the cylinder head.

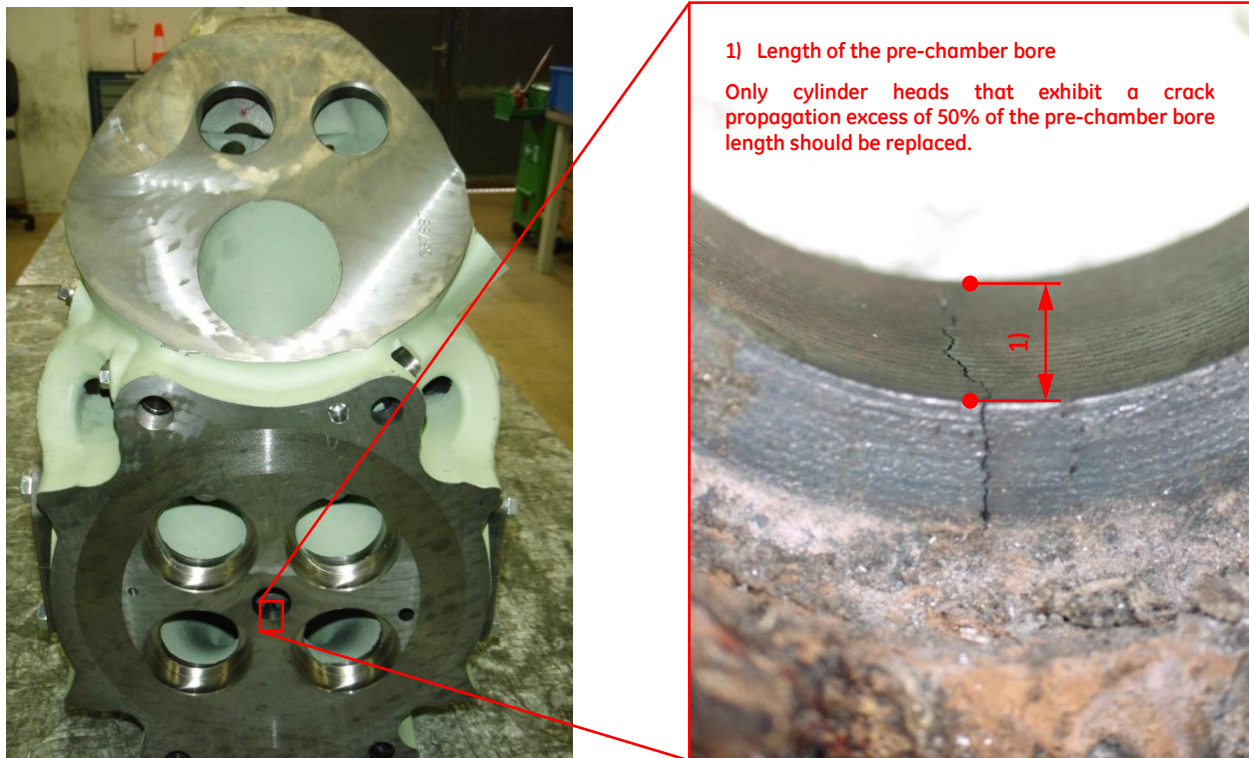


Fig. 03: Affected area

If the crack propagates the full length of the pre-chamber bore then "JACKET WATER PRESSURE HIGH" shut-downs (Failure Message No. 1050) can be experienced. These units require the replacement of the affected cylinder head.

## SOLUTION

In some instances it has been observed that cylinder heads which do not have fully propagated cracks are being exchanged. The presence of a crack in the pre-chamber bore does not mean the head has to be replaced. **Only cylinder heads that exhibit a crack propagation in excess of 50% of the pre-chamber bore length should be replaced.** The crack propagation can be measured by removing the cylinder head, cleaning the affected area and visually inspecting the crack length. If the crack cannot be visibly seen then crack detection dye penetrant should be used.

## RELEVANT DOCUMENTS

When working on GE Jenbacher modules, all applicable local regulations must of course be observed in addition to our documentation. We would particularly like to emphasise observation of the following documents in connection with this Service Technician Instruction:

- Technical Instruction TA 1100-0111: General conditions – Operation and maintenance
- Technical Instruction TA 2300-0005: Safety regulations

## REVISION CODE

INDEX	DATE	DESCRIPTION / REVISION SUMMARY
02	Oct. 18, 2016	Chapter 'Affected engines' updated
01	Jun. 17, 2015	First version of this document

Table 01: Revision history