



Revised November 2011

Dear Sirs

We are sorry to inform you about the issuance of this Service Letter SL11-541/JXN for pistons installed in GenSets L23/30 series.

Recently, we have received reports of cracks in the pistons of abovementioned engine series.

Pistons have been examined and it was found that the cracks originate from the ribs between the pin boss and the intermediate deck.

A similar Service Letter will be issued accordingly by our Licensees in Korea, covering vessels equipped with the affected engines.

Yours faithfully

Action code: IMMEDIATELY

Fatigue Piston Cracks on L23/30-series Engines

SL11-541/JXN January 2011

Concerns

Owners and operators of MAN four-stroke diesel engines.
Type: GenSets L23/30 series

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In recent years, the global shipping industry has been voicing for ever higher levels of reliable performance and safety. In order to follow this trend actively, MAN Diesel & Turbo is launching a new service package for overhauling pistons towards vessels equipped with L23/30-series engines. Please see attached list of affected vessels/engines.

MAN-L23/30-series engines have proven its reliability and durability over the past decades. Nevertheless, MAN Diesel &Turbo never stopped pouring best efforts to improve the quality of the engines. As one of the results from such efforts, we have found that pistons equipped on L23/30 engines might have fatigue cracks. We have experienced such cracks after 20,000 running hours on few vessels, mainly tankers, which may potentially bring risk and consequential damage to the engine and endanger the health and life of persons who are around the engine.

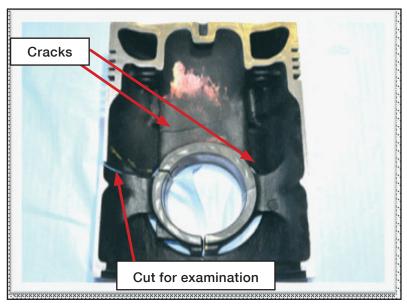


Figure 1

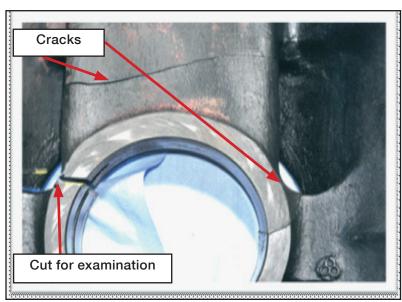


Figure 2

Service Letter SL11-541/JXN





In order to avoid unfortunate cases, MAN Diesel & Turbo offers a service package consisting of the overhaul inspection and replacement of pistons with reinforced new pistons by improved design. This service package is applicable to L23/30-series engines in service.

Upon this opportunity, we advise that all pistons must be inspected. Until then and if the pistons are not exchanged make sure that no person is standing or walking in or through the area on the exhaust side of the engine(s) during operation.

The inspection procedure is as follows (PT examination based on EN 1371-1):

- 1. Lift the piston complete with connecting rod
- 2. Eliminate system oil and impurity on all adjacent area (Fig 3) with cleaning agent
- 3. Spray the liquid penetrant agent (Red) on the fillet and wait for a dwell time (5 min. @ $10\sim52^{\circ}$ C, 10 min. @ $5\sim9^{\circ}$ C)
- 4. Remove the penetrant with the penetrant remover
- 5. Spray the developer (White)
- 6. Inspect whether any hair crack is observed

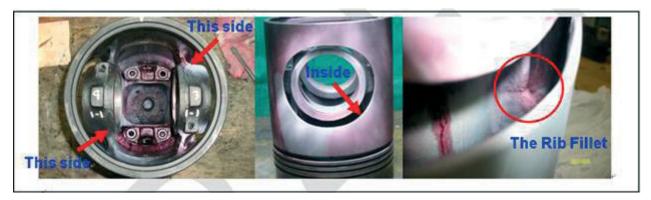


Figure 3

The service package consists of the followings:

- 1. Overhaul inspection of pistons, liners, bearings and others upon owners' requests
- 2. New pistons with improved design, piston rings and other spare parts upon owners' requests
- 3. Performance check and tuning after re-assembly of the engine
- 4. Overhaul inspection report

The application of this service package will result in a range of benefits to operators, among others:

- 1. Prevention of accidents / damages caused by piston failures
- 2. For overhauling and renewing pistons we offer a special service package
- 3. High quality of overhaul inspection by professional service team
- 4. Improved engine performance by tuning

MAN Diesel & Turbo will provide best service for you to secure ship's safety and reliable operation.

If you have any further questions, please do not hesitate to contact PrimeServ Holeby:

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