HGE Marine Engine Products

H&H Marine Engine Service Ltd.

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WHY THE MANIFOLD FAILS

Here are three reasons why the manifold fails during casting process:

1. Void space - The air in the molten iron remains in the wall and forms an "air bubble" inside the wall, which could burst under extreme stress, e.g. heat from the engine exhaust and cold from the cooling system.

To examine it, cut the manifold in questioned carefully whereas the cracked area been located, if you can see a void space in the defective area, it is very likely was the problem.

2. Core shifting- During the pouring process, it was very common that the sand core shifted due to the extreme pressure of the molten iron.

To examine it, cut along the area in question and see whether if the wall thickness is constant or not, if the wall thickness is the same and does not have a thin area then it is not the cause of the problem.

3. Dropping to the hard surface- During the transportation from station to station in the foundry, sometime the workers weren't careful and dropped the manifold to the ground.

To examine it, check the outside to see if there's an obvious damage. If no damage is observed, then it is not the cause of the problem.

If none of the above applies, then there are only three other possible reasons.

Failure:

1. Materials used in this manifold does not meet the specification i.e., ASTM Gray Iron 30

To solve this problem, bring this manifold in question to the material lab for analysis, H&H will pay fot the testing cost if the material is not to the specification.

2. Customer's engine has a cooling problem.

To solve this problem, the customer has to hire professional mechanic to check his/her cooling system .

3. Using the wrong gasket or the gasket was not tighten to specification.

To solve this problem customer has to consult the manual.