

Service Call:

Relief Valve Erosion

Tools Required:

Basic Hand Tools

Flash Light

Model(s):

All Digger Derricks equipped with Digger Relief Manifold Block

Tech Tip Safety Rules




Danger


Failure to obey the instructions and safety rules in the appropriate Operator's Manual and Service Manual for your machine will result in death or serious injury. Many of the hazards identified in the operator's manual are also safety hazards when maintenance and repair procedures are performed.

Do Not Perform Maintenance Unless:

- You are trained and qualified to perform maintenance on this machine.
- You read, understand and obey:
 - manufacturer's instructions and safety rules
 - employer's safety rules and worksite regulations
 - applicable governmental regulations
- You have the appropriate tools, lifting equipment and a suitable workshop.

The information contained in this tech tip is a supplement to the service manual. Consult the appropriate service manual of your machine for safety rules and hazards.

 **WARNING**



Escaping fluid under pressure can penetrate skin causing serious injury.

Relieve pressure before disconnecting hydraulic lines. Keep away from leaks and pin holes. Use a piece of cardboard or paper to search for leaks. Do not use your hand.

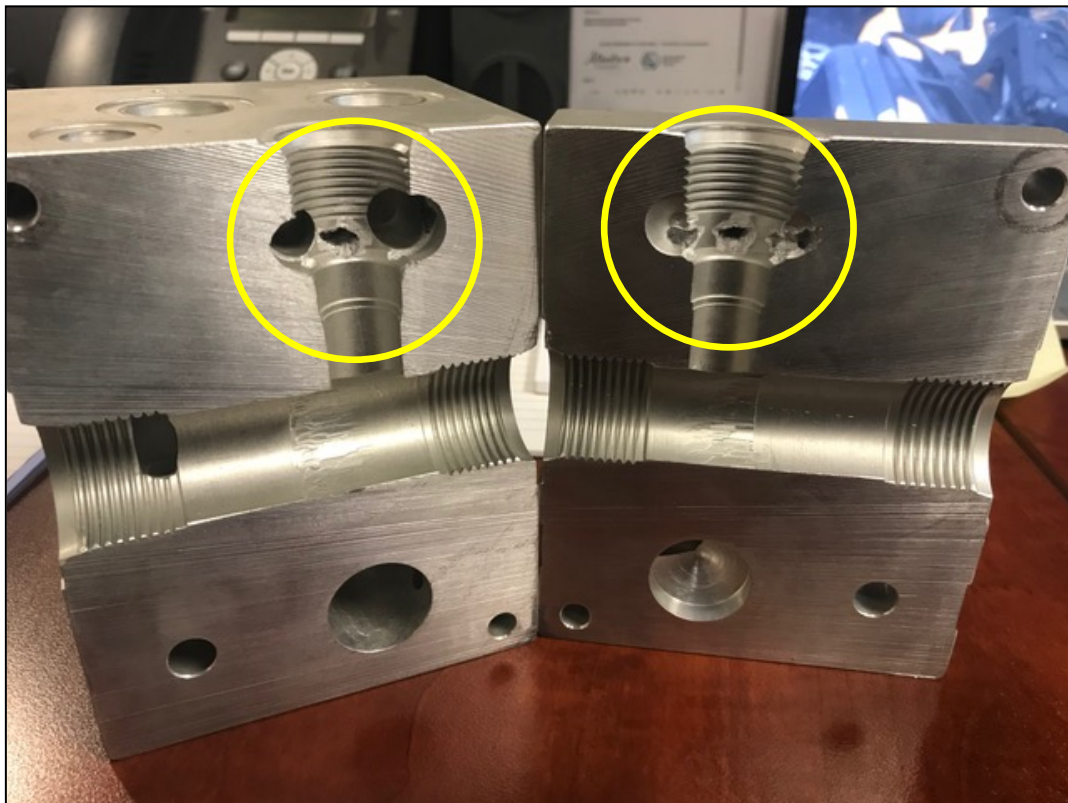
Fluid injected into skin must be surgically removed within a few hours by a doctor familiar with this type injury or gangrene will result.

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Introduction

Under certain conditions, the digger derrick relief manifold block may develop a pinhole leak near the main system relief. The pinhole leak is caused by erosion of the relief return cavity, which will then wear away the material surrounding the return port until it reaches the outside of the manifold.

The photo below shows a cutaway of a manifold with the erosion in the return port of the relief valve cavity circled for clarity.



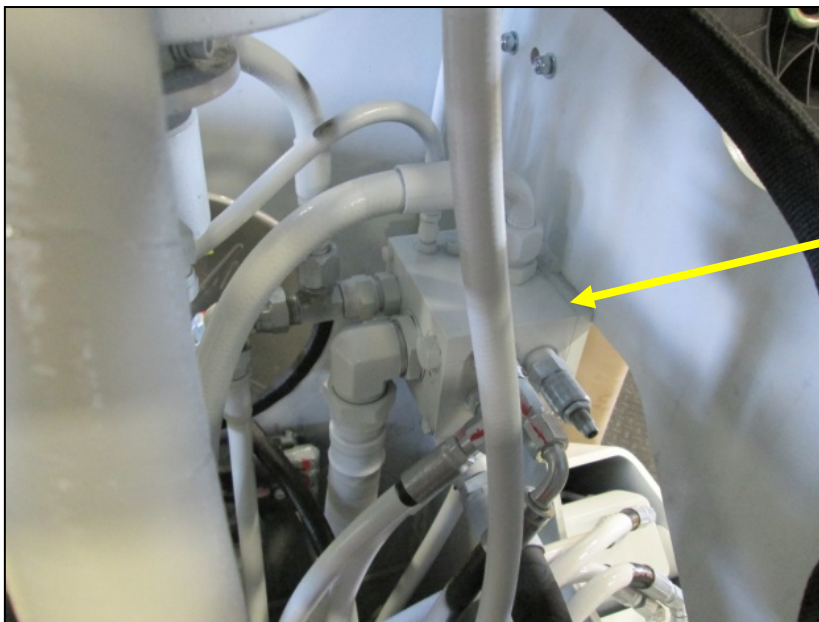
Perform the following steps to verify that the leak is related to return port erosion.

Step 1

Clean area around the manifold block to remove any built up dirt and hydraulic oil. Check all hoses and surrounding components for leaks.

Step 2

Verify that the hydraulic leak is coming from the relief manifold block. Hydraulic oil will be leaking from between the mounting plate and the manifold.



Mounting Plate and Manifold

Step 3

Disconnect hoses and remove the manifold. Inspect the mounting surface on the manifold for any pinholes or signs of leakage.

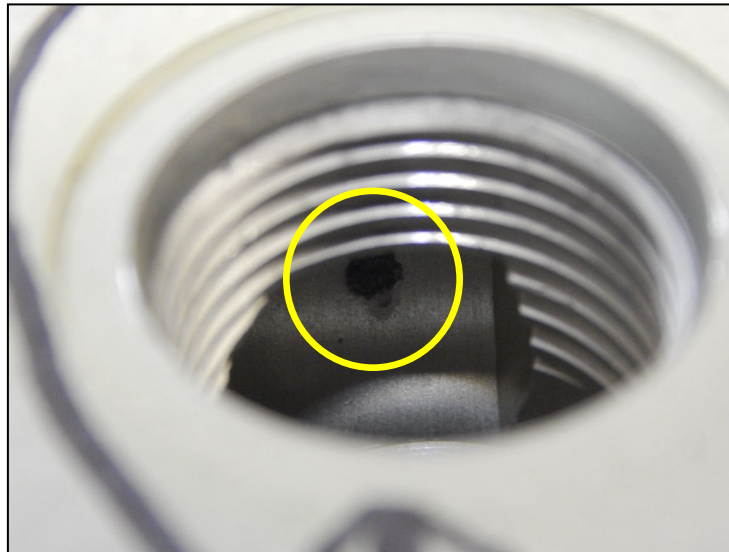


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Step 4

Remove the system relief and inspect the cavity for erosion in the return porting.



Step 5

If signs of erosion are found, replace both the manifold and the system relief valve.