

# Safety Bulletin

No: SB033

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## Description: Hydraulic Cylinder Overpressure Hazard, Break Out Vise



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### BACKGROUND INFORMATION:

A hydraulic cylinder on the Break Out Vise (figure1) failed due to over-pressure causing an HSE incident. This occurred when the hydraulic cylinder was extended to its travel limit and the equipment operator continued to hold the button to run the pump. The hydraulic oil pressure exceeded 3,000 psi as a consequence. The hydraulic cylinder is rated to 3,000-psi max. working pressure. The hydraulic pump can produce a maximum pressure of 10,000 psi. The hydraulic power unit has a built-in relief valve. The relief valve should be set to 2,850 psi for Break Out Vise Type 2 &3. It is obvious that the hydraulic cylinder failed due to an over-pressure situation. This was possible only if the relief valve was not properly set or it had a malfunction.

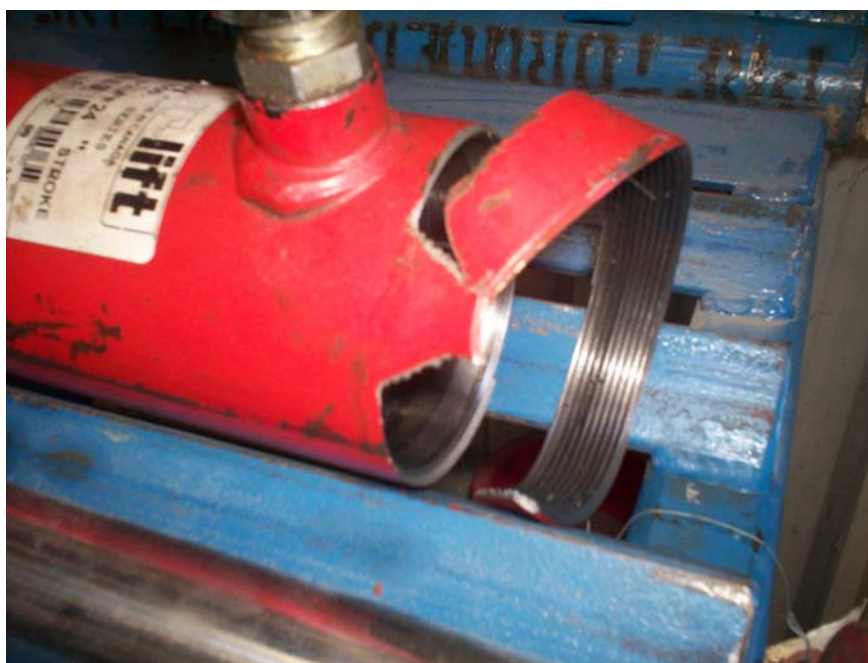


Figure 1

### AFFECTED PRODUCT:

#### General Assembly

Description	Part No.	Serial No.	Mfg. Date
Break Out Vise, Type 2	489026	All	All
Break Out Vise, Type 3	540691	All	All
Break Out Vise, Type 4	540779	All	All

## **SAFETY CONCERN**

The relief valve installed on the hydraulic pump is difficult to access and check in the field. If the relief valve in the hydraulic power unit is incorrectly set or has malfunctioned, it is possible for the system to experience an over-pressure situation that can result in the failure of the hydraulic cylinder.

## **ACTION REQUIRED:**

Additional safety relief valves should be installed as close as possible to the hydraulic cylinder. These safety relief valves must be readily accessible and will allow easy adjustment of the working pressure. The manifold, two-cavity body for cross-port relief will be installed on the lower port of the hydraulic cylinder. One relief valve will control pressure when the hydraulic cylinder is **extending** and this relief valve should be set to 500 psi on all types of the Break Out Vises.

The second relief valve will control the pressure (working pressure) when the hydraulic cylinder is **retracting**. The maximum working pressure for each type of the Break Out Vise is shown on the table mounted on the vise base.

For Break Out Vises which are currently in use, the Kit, Relief Valves, Break Out Vise Type 2, 3 & 4 #540961 should be sent to the field and installed.

Drawing for Kit, Relief Valves, Break Out Vise Type 2, 3 & 4 is attached.

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**Contact your local TESCO Parts and Service Center for further information regarding this bulletin and or supply of affected components noted above.**

