SAFETY BULLETIN

Safety Bulletin No. 019
August 15, 2019

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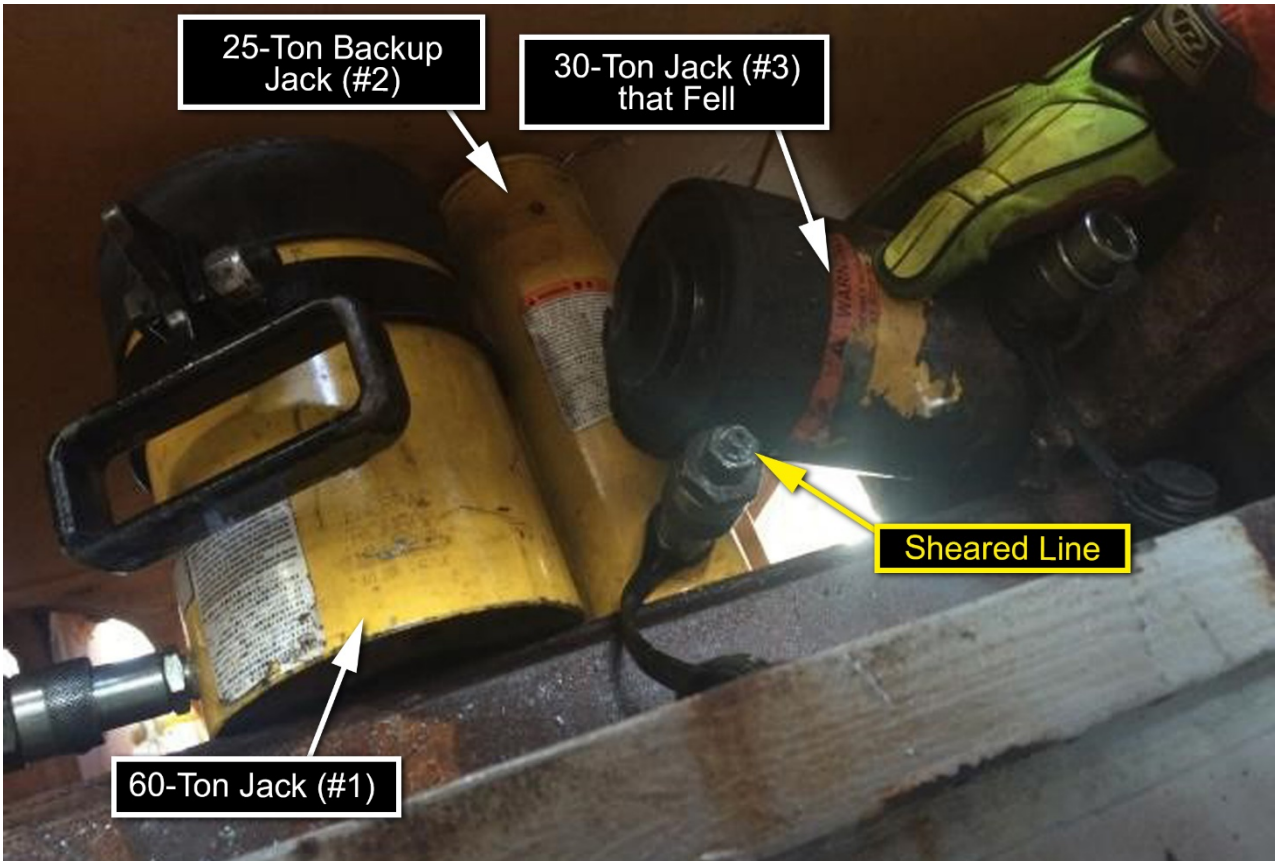
Hydraulic Jack Falls During Lift, Causing Injury



The hydraulic jack at right (#3) was being used to break a Hillman roller free from a mount. The jack fell, shearing the hydraulic line on the backup jack (#2, center).

On 16 November 2018, an offshore hydraulic mechanic sustained an injury when a 30-ton hydraulic jack fell, struck and sheared a hydraulic line that in turn struck the hydraulic mechanic in the face. The incident occurred while the hydraulic mechanic worked under a lifted blowout preventer (BOP) carrier frame load. The lifted carrier frame load remained supported by a 60-ton hydraulic jack. The severity of the hydraulic mechanic's injury required evacuation from the rig for medical attention.

The operation called for a three-person team to replace the BOP trolley equipment roller. A 60-ton hydraulic jack (jack #1) lifted and supported the BOP carrier frame, in order to replace the equipment roller. In addition to the 60-ton jack, a 25-ton hydraulic jack (jack #2) was added as a backup support for the lifted BOP carrier frame while the hydraulic mechanic worked under the load. The hydraulic mechanic then used a 30-ton hydraulic

jack (jack #3) to attempt to free the equipment roller which was stuck to the BOP carrier frame due to corrosion. While pressuring up on the 30-ton hydraulic jack, the 30-ton jack body started to leak hydraulic fluid. The hydraulic mechanic then called "hold up" to another member of the three-person team, but the command was misinterpreted and the 30-ton jack was instead bled off, which caused the 30-ton jack to fall, then strike and shear the hydraulic line fitting on the adjacent 25-ton jack. The hydraulic line on the 25-ton jack broke loose from the fitting and struck the hydraulic mechanic on the right side of his face, causing an injury.

Lifting devices (hydraulic cylinders, cranes, hoists, etc.) should be used as designed, and lifted loads should be supported by solid, stable supports before being approached and before work begins. The personnel involved in this incident supported the load with hydraulic cylinders rather than using rigid supports while working on the supported load.

Lifting devices may be left in place for efficiency's sake, but should be bled down so that the entire load of the item is supported by the solid, rigid supports. In this incident, the hydraulic mechanic used two hydraulic cylinders to support the load; if the hydraulic pressure supply to the 60-ton jack (jack #1) would have been compromised, additional injuries could have occurred.

If a rigid support was properly used to support the load, the injury would have been prevented because the hydraulic cylinder hoses would have been bled down prior to the incident. In a bled-down condition, the 25-ton hydraulic hose would not have forcefully moved if sheared.

Therefore, BSEE recommends that operators consider the following:

- Install a rigid support system to secure lifted loads, and
- Ensure the Job Safety Analysis includes procedures to be followed during the lifting of a load and that all procedures are communicated with all personnel involved in the task.

For more information on this incident, please click HERE or visit
https://www.bsee.gov/sites/bsee.gov/files/kc918-anadarko-16nov2018.pdf

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A Safety Bulletin is a tool used by BSEE to inform the offshore oil and gas industry of the circumstances surrounding a potential safety issue. It also contains recommendations that could assist avoiding potential incidents on the Outer Continental Shelf.