

Mechanical Obtain Tool for RBP



The Mechanical Obtain/Retrieval Tool (MOT) that is used to retrieve the Retrievable Bridge Plug (RBP) is slightly different than the MOT used for retrieving the Hydraulic Retrievable Hangers (HRH). When an HRH is set, the well has communication through the inside of the hanger. When an RBP is set, the well has no communication through the inside of the plug. This difference in tools require a different function when obtaining/retrieving them from the wellbore.

The RBP is a compact tool which contains a seal assembly, bi-directional slips, a ratchet assembly, and a by-pass valve. The seals are set with hydraulic pressure using the rig pumps. The bi-directional slips are hydraulically set simultaneously with the seals. The bi-pass valve is set in the closed position when being set.

To obtain/retrieve the RBP from the wellbore, the MOT containing a nose will be used. The MOT with a nose relies on pins that extend through the body of the RBP at four positions 90° apart. The top of the RBP also contains four torque slots where torque blocks on the MOT would reside. The four pins will withstand all compressive and tensile loads, while the torque blocks withstand the torsional loads. To activate the MOT, right hand rotation will shear a pin and allow further rotation, which causes the pins to extend into the RBP. At this point, the drive pins are fully extended and connected to the RBP. Additional righthand rotation extends the nose of the MOT into the RBP shifting the by-pass valve to the opened position. This opens the wellbore pressure below the RBP to surface through the work string. This will allow the operator to determine any pressure differentials below the RBP. This pressure can be released at surface to neutralize any wellbore pressures above and below the RBP. The RBP can now be removed. Continued right hand rotation will now loosen the seal and slip assembly of the RBP. All torsional loads during rotation are contained within the MOT. No drag block assemblies are required to hold torque to the RBP during release. An increase in torque can be noticed when the righthand rotation is completed. An upward movement will obtain/retrieve the RBP from the wellbore.

APPLICATION

- For use or obtain/retrieve the RBP down hole in vertical or horizontal wells.
- Mechanical retrieval using right hand rotation only.
- Used for by-pass valve opening to neutralize down hole pressures at the RBP.

FEATURES

- Can be released and re-attached down hole if required.
- High torque, tensile and compressive load capabilities.
- Right hand rotation to activate the tool will not cause unwanted connections to back-off.
- The torque blocks relieve any torsional and compressive loads to the pins.

BENEFITS

- Additional tooling is not required to find neutral point.
- Can be functioned in a compressive state.
- No drag block or no-turn tools required.



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3908 - 71 Avenue | Leduc, Alberta T9E 0R8 | (780) 986-4049 | coredesignltd.com

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