

On-Off Tool

Downhole rod to pump release

APPLICATIONS

- Any rod lift well

BENEFITS

- Minimizes stripping job operations
- Enables retrieval of the rodstring in the event of a stuck pump
- Permits the operator to fish broken rods without unseating the pump

FEATURES

- Ability to run an oversized tubing pump
- Availability in a variety of high-strength materials including INCONEL®
- Closed design
- Guide balls for proper latching
- High-resistance springs to prevent unintended release
- Availability in both right-hand and left-hand release

The on-off tool connects to or disconnects from a sucker rodstring, at any point, based on the location of the tool in the rodstring. The tool is attached directly to the rodstring where the operator wishes to make the disconnection. The tool is then disconnected by turning the rodstring and picking up. The tool is connected by setting down weight on the bottom latch section and rotating the rodstring in the latch direction.

Elimination of stripping jobs

The on-off tool's primary benefit is that it can virtually eliminate stripping jobs. A stripping job occurs when an operator must pull the tubing and rods simultaneously, usually as a result of inability to unseat the downhole pump. Stripping jobs add cost due to increased rig time and damaged equipment. The on-off tool enables the operator to release the rodstring from the pump, allowing retrieval of the rods and tubing separately.

Components

The on-off tool comprises six different components: top bushing, body, locking pawl, balls, bottom latch, and spring. Each component can be manufactured in different metallurgies as required by different well conditions. This tool can be produced for both right-hand as well as left-hand operation.

Applications

In the event of a rod part above the on-off tool, the operator can now fish and release the remaining rods from the pump, eliminating the need to unseat the pump. The on-off tool is also used when running an oversized tubing pump. An oversized tubing pump gives the operator the ability to use a pump bore size larger than the tubing internal diameter, displacing more fluid without replacing the entire tubing string. The on-off tool is required with the oversized tubing pump to connect the rodstring to the plunger because the plunger outer diameter is larger than the internal diameter of the tubing.



Components of the on-off tool, from left to right: locking pawl with balls, top bushing, body, spring, and bottom latch.

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On-Off Tool Specifications

Model number	80	90	100	110	120	130
Tubing size, in [mm]	1.5 [38.1]	2.375 [60.325]	2.375 [60.325]	2.875 [73.025]	2.875 [73.025] 3.5 [88.9]	3.5 [88.9] and up
Tool OD, in [mm]	1.44 [36.576]	1.62 [41.148]	1.812 [46.0248]	2.15 [54.61] HDT = 1.94 [49.276]	2.312 [58.7248]	2.75 [69.85] HDT = 2.44 [61.976]
Metallurgy [†]	T/ST	T/ST/AT/IT	T/ST/AT/IT	T/HDT/ST/AT/IT	T/ST/AT/IT	T/HDT/ST/AT/IT
Pin size, in [mm]	0.9375 [23.8125] 1.0625 [26.9875]	0.9375 [23.8125] 1.0625 [26.9875]	1.0625 [26.9875] 1.1875 [30.1625]	1.0625 [26.9875] 1.1875 [30.1625] 1.375 [34.925] [‡]	1.0625 [26.9875] [‡] 1.1875 [30.1625] 1.375 [34.925] [‡]	1.1875 [30.1625] 1.375 [34.925] [‡]

[†] T = Plain steel, HDT = 4130, ST = stainless steel, AT = 4140, IT = INCONEL

[‡] Not available in HDT

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