

Lockout and Communication Tools

STANDARD LOCKOUT TOOL

The standard permanent lockout and communication tool permanently locks TRM series subsurface safety valves in the open position while establishing hydraulic communication to facilitate the insertion of a hydraulically controlled, slickline-retrievable secondary safety valve. The tool engages and shifts the lockout sleeve, moves the valve to the fully open position, and establishes hydraulic communication to the ID of the valve, where applicable, while permanently locking the valve out of service.

SELECTIVE LOCKOUT TOOL

The selective lockout tool is a combination mechanical- and hydraulic-actuated tool used in the TRM series safety valves. Mechanical jarring is used to engage the tool and to part the shear bolts. Hydraulic pressure is then used to shift the valve into the fully open position and allow hydraulic communication from the hydraulic control system to the ID of the valve, while permanently locking the valve out of service.

For specific lockout tool application information, contact your local Schlumberger representative, or see the appropriate safety valve operating manual.

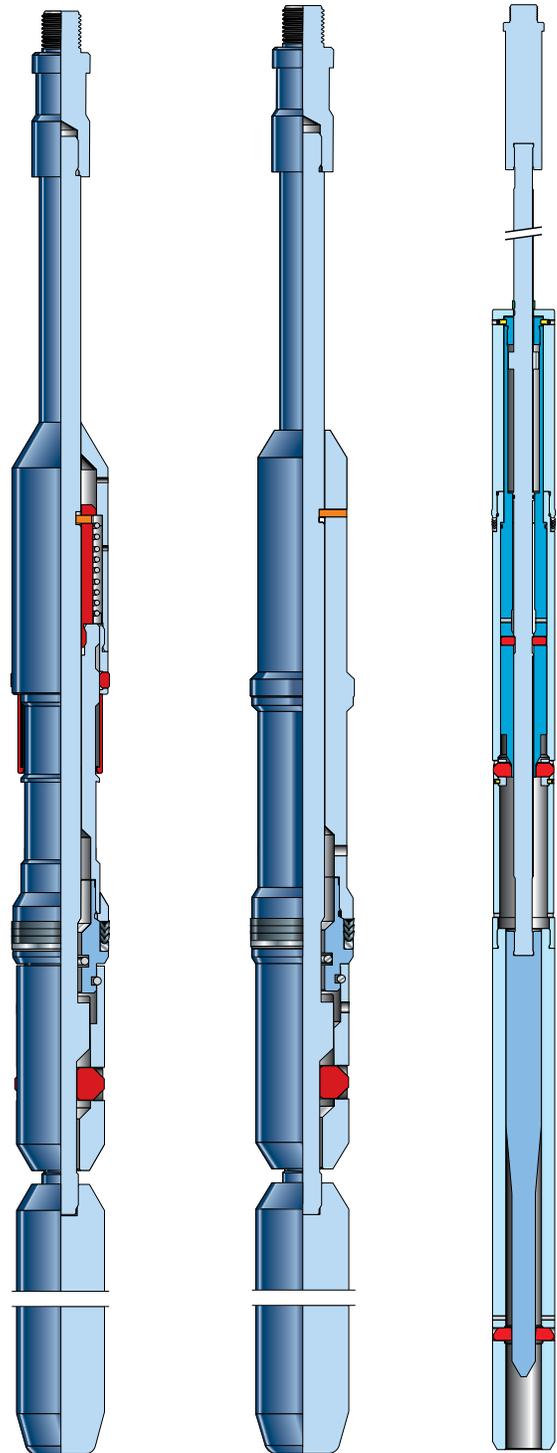
DEFORMATION LOCKOUT TOOL

The hydraulic deformation lockout tool is used in TRMAXX*, Slim-Tech*, Pinnacle*, TRC-II*, and Reliance* safety valves to permanently lock the valves open.

This tool is a combination mechanical and hydraulic tool. Applied tubing pressure is used to force the flow tube down, while mechanical jarring is used to permanently deform the flow tube into a recess machined in the flapper seat. This action prevents the valve from travelling back into the closed position.

Because applied tubing pressure is used to force the flow tube down, production pressure at valve depth dictates the amount of applied pressure required to shift the flow tube. This value should be calculated before the lockout tool is run.

For specific lockout tool application information, contact your local Schlumberger representative, or see the appropriate safety valve operating manual.



Selective lockout communication tool (left), permanent lockout communication tool (center), and deformation lockout tool (right).