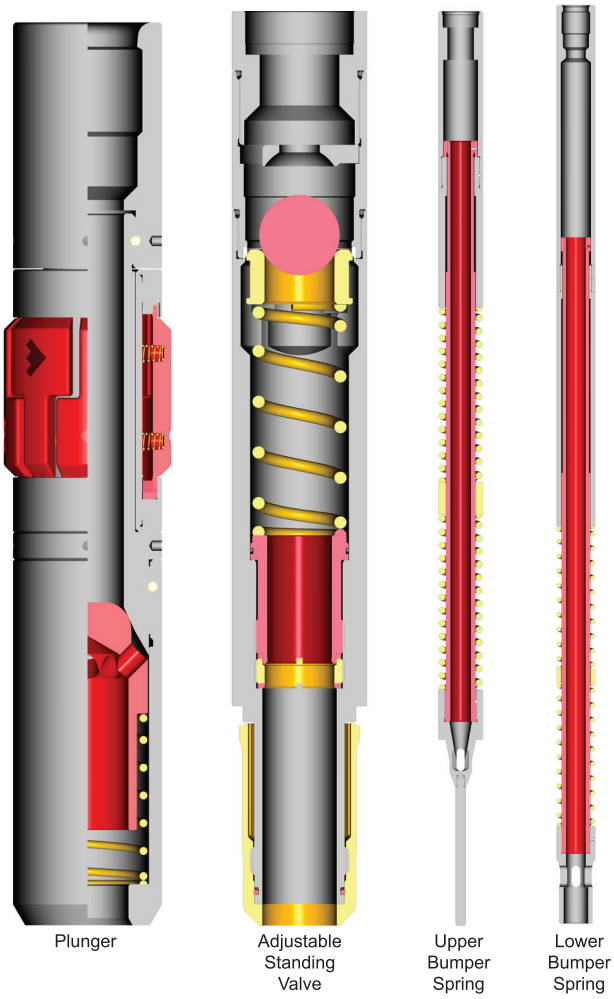
SafetyLift™ Plunger-Lift System

Wells completed with a sub-surface safety valve (SSSV) have not been considered plunger-lift candidates. The risk of damaging the SSSV with a plunger prohibited their use in wells equipped with a SSSV. Weatherford's *SafetyLift* plunger-lift system has been designed to mitigate this risk, and enable effective plunger-lift operations in SSSV-equipped wells, increasing daily production and ultimately, reservoir recovery.

The *SafetyLift* system components are machined to drift through the ID of the SSSV and set using wireline. After the bottomhole spring (BHS) assembly is set, the plunger is run in the hole to the SSSV and then carefully pushed through. The plunger contracts to pass through the valve ID, then expands to the tubing ID. The top-spring assembly is then attached to the bottom of the wireline-retrievable subsurface safety valve (WRSSV), run in the hole, and set in the SSSV profile.

In many applications, the SSSV is located within a few hundred feet of the surface. From this relatively shallow depth, gas expansion and increased velocity will usually lift the fluids carried by the plunger to the SSSV the remaining distance to the surface. In applications where the SSSV is set deeper in the well, a second bumper spring and plunger can be installed above the SSSV, enabling plunger-lift operations from the top of the SSSV to surface and from the end of tubing (EOT) to the SSSV.



Applications

- Typical gas well completion with a tubing-retrievable safety valve (TRSV) that is experiencing liquid loading.
- Plunger-lift operations below the SSSV.

Specifications

- *SafetyLift* system components have a 2.72-in., (0.06909 m) OD for use in 3.5-in, (0.08890 m) tubing.

Features, Advantages and Benefits

- Components are machined to drift through the ID of the SSSV, reducing damage risk.
- No changes to the wellhead configuration and no workover or pulling unit are required, reducing operating costs.
- Allows plunger-lift operations below a SSSV, increasing production and ultimate recovery at a lower OPEX and CAPEX.