Hydraulic Setting Tool

Used to set wireline packers and similar tools when wireline setting methods are not practical

FEATURES AND ADVANTAGES

- Tubing-conveyed tool that fills and drains automatically
- Setting pressure that can be lowered by adding cylinders to the setting tool (three cylinders are standard)
- Ability to couple to adapter kits made for most pressure setting assemblies
- Availability of rotational release adapter kit

The hydraulic setting tool (HST) is a hydraulically actuated system used to set wireline packers and similar tools when wireline setting methods are not practical or desirable. The HST features three pressure-amplified hydraulic cylinders that generate maximum setting force from a limited amount of setting pressure. The required setting pressure can be lowered further by adding cylinders to the tool. This system includes an automatic fill-and-drain feature, enhancing rig-floor safety while reducing running time.

The HST is designed to couple with adapter kits made for common pressure setting assemblies, and it is available with an optional rotational release adapter kit.

Setting adapter kits

Setting adapter kits are used to attach the packer to an explosive-style wireline setting tool or a hydraulic setting tool. The setting adapter kit sets the packer either when it is actuated by the explosive device or by hydraulic pressure applied via a setting tool. After packer setting, the adapter kit releases from the packer for retrieval.

Hydraulic adapter kit

The hydraulic adapter kit is used when it is not possible to adapt between a wireline setting kit and the setting tool. The hydraulic setting kit connects the packer to the HST, and the assembly is run on a workstring.

Setting the packer requires pressuring the workstring against a setting ball and seat to a predetermined pressure. After setting and testing, the setting tool assembly is released by right-hand rotation. The hydraulic setting kit contains a port, sealed during packer setting, to allow tubing to drain when retrieved.

Hydraulic setting kit

The HST with adapter kit is used to connect a standard wireline adapter kit to the HST, adapting the packer to run on a workstring or tubing. The HST is actuated by applying hydraulic pressure to the workstring. A setting ball is dropped and landed in the seat of the hydraulic adapter kit.

Hydraulic pressure applied to the workstring sets the packer and, at a predetermined force, the tension stud parts, releasing the collet-style running nut from the packer. The setting tool, setting ball, and adapter kits are pulled from the well with the workstring.