

# ProCISE

## Casing cutting and pulling systems

### APPLICATIONS

- Subsea well abandonment operations where casing is to be cut and removed
- Pipe recovery operations where multiple casing cuts may be required

### BENEFITS

- Maximizes reliability of cutting operations with system components designed to work together
- Saves rig time by retrieving wellhead seal assembly or wear bushing, and casing in one trip
- Cuts faster because casing is held in tension
- Requires a single trip for multiple cuts
- Increases safety of surface handling by engaging the cut casing segment from the top
- Minimizes possible drillstring failure because the drillstring is not rotated in open water

### FEATURES

- Complete system for cutting and retrieving casing, together with the wellhead seal assembly or wear bushing, in a single run
- Spear can be engaged and released multiple times
- Unique grapple design to eliminate grapple damage to wellhead
- Rugged, three-blade cutter design
- Cutter arms expandable up to five times the tool diameter
- Retraction of arms by stopping circulation and picking up drillstring

ProCISE\* casing cutting and pulling systems are designed to sever a single string of casing, engage it for removal, and retrieve the wellhead seal assembly, all in one safe operation.

### Spear

At the heart of the system is a spear that can be engaged near the sever point to facilitate the cutting operation, then released and reengaged at the top of the casing segment being removed. This procedure enables the recovered casing to be hung in the rotary table while the spear is released and the workstring is racked out of the way, leaving the casing to be handled safely and efficiently as it is removed from the wellbore.

### Seal assembly retrieval tool

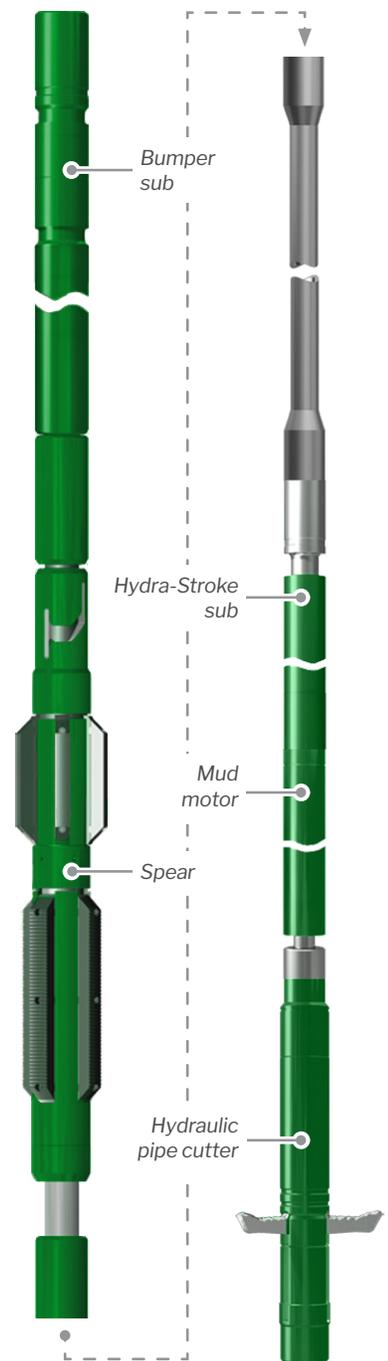
A retrieval tool incorporated in the ProCISE system enables the removal of the wellhead seal assembly or wear bushing, making it possible to complete the entire operation of cutting and recovering casing in a single trip. The efficiency of the system can result in significant cost savings.

### Sequence of operations

Other system components include a hydraulic casing cutter, the Hydra-Stroke\* bumper sub, a bumper jar, and a mud motor. All the components work together to efficiently cut and recover casing. The sequence of operations is:

1. Engage the wellhead seal assembly with the retrieval tool and strip it up into the riser.
2. Position the casing cutter at the predetermined depth.
3. Engage the spear and place the casing in tension.
4. Start the pump, slowly increase the flow rate to run the motor, and sever the pipe with the hydraulic casing cutter.
5. Slack off to string weight, disengage the
6. Reengage the spear and pull out of hole with the casing.
7. Lay out the seal assembly and retrieval tool at surface.
8. Pull out of hole until the casing hanger is landed out on the rotary table.
9. Disengage the spear and rack back in the derrick.
10. Lay down the casing.

A bumper jar is run above the spear and the Hydra-Stroke bumper sub is run below it when impact or jarring is required to free a section of casing.



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