

## INTRODUCTION

The Scotsman Hydraulic Set Anchor (Scotsman) provides a means of securing liners and bottom hole assemblies in casing or openhole. The Scotsman has a large contact area between the bi-directional slips and the casing or open hole ensuring a high anchoring force and a minimal contact pressure. Despite this the Scotsman is short allowing it to pass through tight dog legs and other restrictions.

## FEATURES

- High Anchoring Force
- Bi-Directional Slips
- Large Slip Footprint Area
- Low pressure applied to formation
- Hydraulic Set
- Anti-Preset Mechanism
- Range of release mechanisms

## BENEFITS

- An anti-preset mechanism ensures the SHSA will not start to set until a pre-determined differential pressure is achieved. Once at depth the SHSA is fully set by the application of a minimum differential tubing pressure for 30 minutes.
- The SHSA incorporates a pull to release feature, the shear value of which can be varied at surface prior to running in hole. This can be replaced for cut to release, shift and pump to release or punch and pump to release.



## OPERATIONAL

The Scotsman anti-preset is adjusted, based on well conditions, at surface prior to run in hole. Once on depth the completion can be tested at a low pressure without setting the Scotsman. The pressure is then increased to at least the minimum setting pressure and held for 30 minutes to ensure the Scotsman is fully anchored. Pressure is bled off and the anchoring force is locked in place.

The Scotsman can be released with a straight pull to a value higher than the shear release rating. This value is adjustable at surface if additional shear rings are purchased. After releasing the slips are pulled back below the major OD of the tool and held in place to avoid re-setting.

The shear release mechanism can be provided with alternative release mechanisms such as shift and pump, punch and pump or cut to release.

## APPLICATIONS

- > Open or Cased Hole
- > Completion Assurance
- > Bridge Plug
- > Straddle
- > Zonal Isolation
- > Water Shut Off
- > Plug and Abandonment



TECHNICAL DATA							
Nominal Size (in)	Open Hole Range	Max OD (in)	Min ID (in)	Length (in)	Slip Footprint (in <sup>2</sup> )	Minimum Yield† (lbs)	Burst/Collapse (psi)
3-1/2"	6.125 to 6.500 6.000 to 6.375	5.875 5.750	2.75	73	193	159,100	5,000
4-1/2"	8.500 to 9.000	8.125	3.625	90	255	307,000	5,000
5-1/2"	8.500 to 8.750	8.125	4.625	90	255	397,000	5,000

† Release Mechanism, material or connection may increase or decrease this value