



Retractable Shoe Joint

Weatherford's retractable shoe joint (RSJ) (patent pending) is a special casing slip joint fixed to the end of the main casing string. The RSJ enables the operator to run the casing to total depth with up to 35 ft (11 m) of fill and then cement the casing near or on bottom. The RSJ also provides a better cement job in previously oversized rathole sections by covering those sections in which cuttings, cement stringers, or other debris could fall into the open hole as a result of nonsupport.

Adjustable shear screws optimize the activation set-down force when running into the well. A second set of adjustable shear screws provide torque transmission through the tool for reaming the casing down. Three sets of cementing burst ports are biased to cement the casing from the lowest portion of the well after the special guide shoe lands, improving drilling fluid displacement and annular cuttings removal. Cement is pumped from the bottom of the rathole, displacing the stagnant drilling fluid usually remaining below the shoe. Vanes on the tool OD and anti-rotation slips prevent rotation during and after drillout.

The retractable shoe joint is compatible with water- and oil-based drilling fluid systems and cement.

Applications

- Subsea casing hanger systems in which the rathole is subject to filling with cuttings and/or debris
- Washed-out rathole sections in which enlarged IDs cause fluid velocities to drop and cuttings to accumulate

Features, Advantages and Benefits

- The shoe joint can be assembled off-site and shipped in a retracted position. The complete assembly can be handled with standard elevators and made up with standard equipment to ensure safety, accelerate operations, and minimize the inventory of on-site equipment.
- The casing covering the enlarged portion of the rathole prevents expensive drilling or logging tools from falling to the low side of the well and becoming hung up or lost.





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Features, Advantages and Benefits (continued)

- The tool covers short rathole sections so that the casing can be successfully landed in the wellhead with cuttings fill without the cost and time of pulling the casing out of the hole, running a cleanout trip, and then running back into the hole.
- The lugged guide nose is PDC drillable for a quick drillout.

Specifications

Tool Size ¹ (in./mm)	9-5/8 244.5	10-3/4 273.1
Maximum rigid OD (in./mm)	11.25 285.8	12.25 311.2
Typical overall retracted length ² (ft/m)	47 14.3	
Typical overall extended length ² (ft/m)	80 24.3	
Special guide shoe burst pressure (psi/kPa)	250 to 500 1,724 to 3,447	
Maximum set-down force to retract the main casing string (kip/kN)	50 to 60 222 to 267	
Temperature rating (°F/°C)	250 121	

¹Others available on request

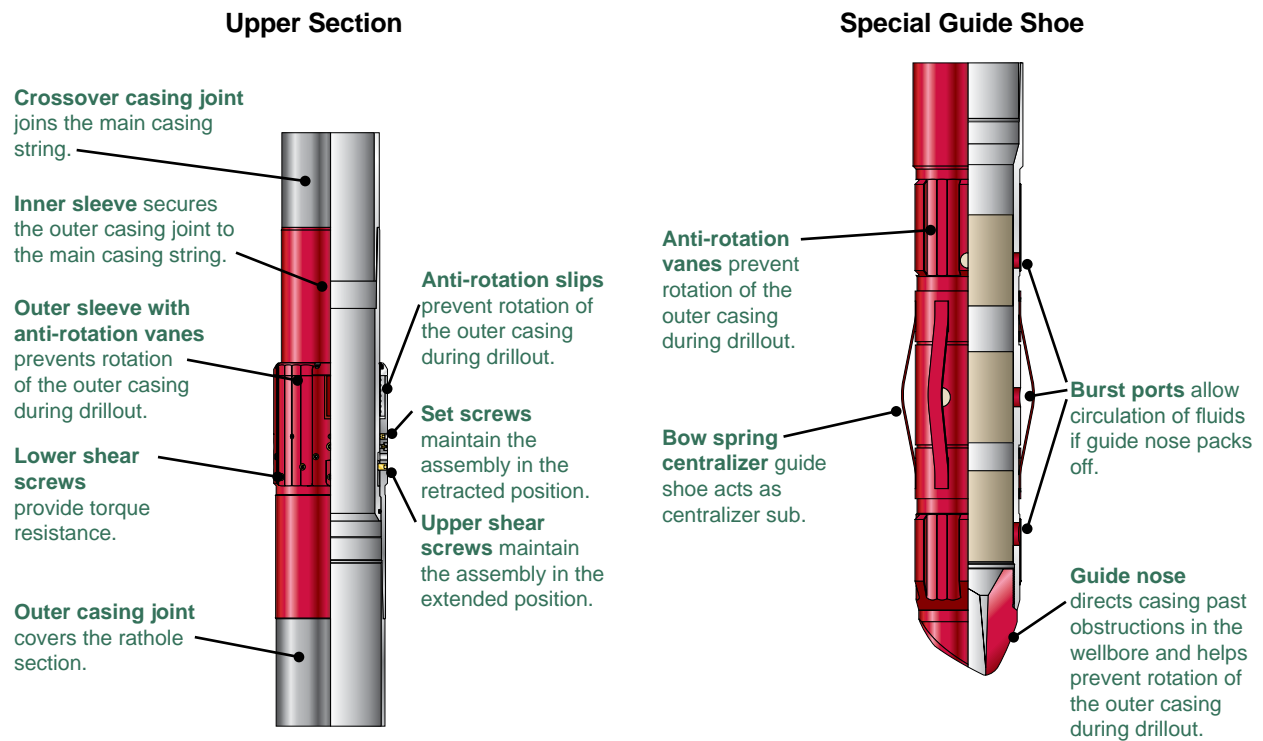
²Depending on the lengths of client-furnished casing

Options

- The guide shoe is available with or without an integral bow-spring centralizer.
- The guide shoe is available with optional composite or aluminum eccentric or concentric noses in either fixed or free-rotating configurations.

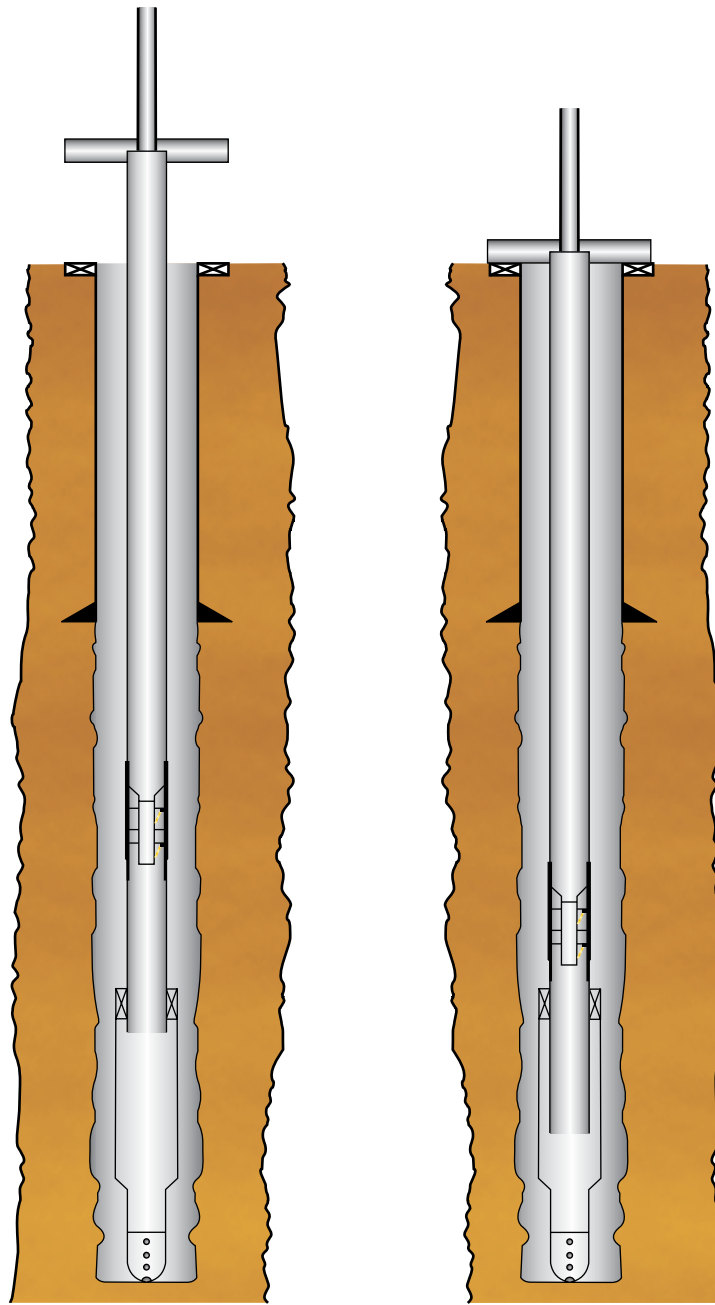


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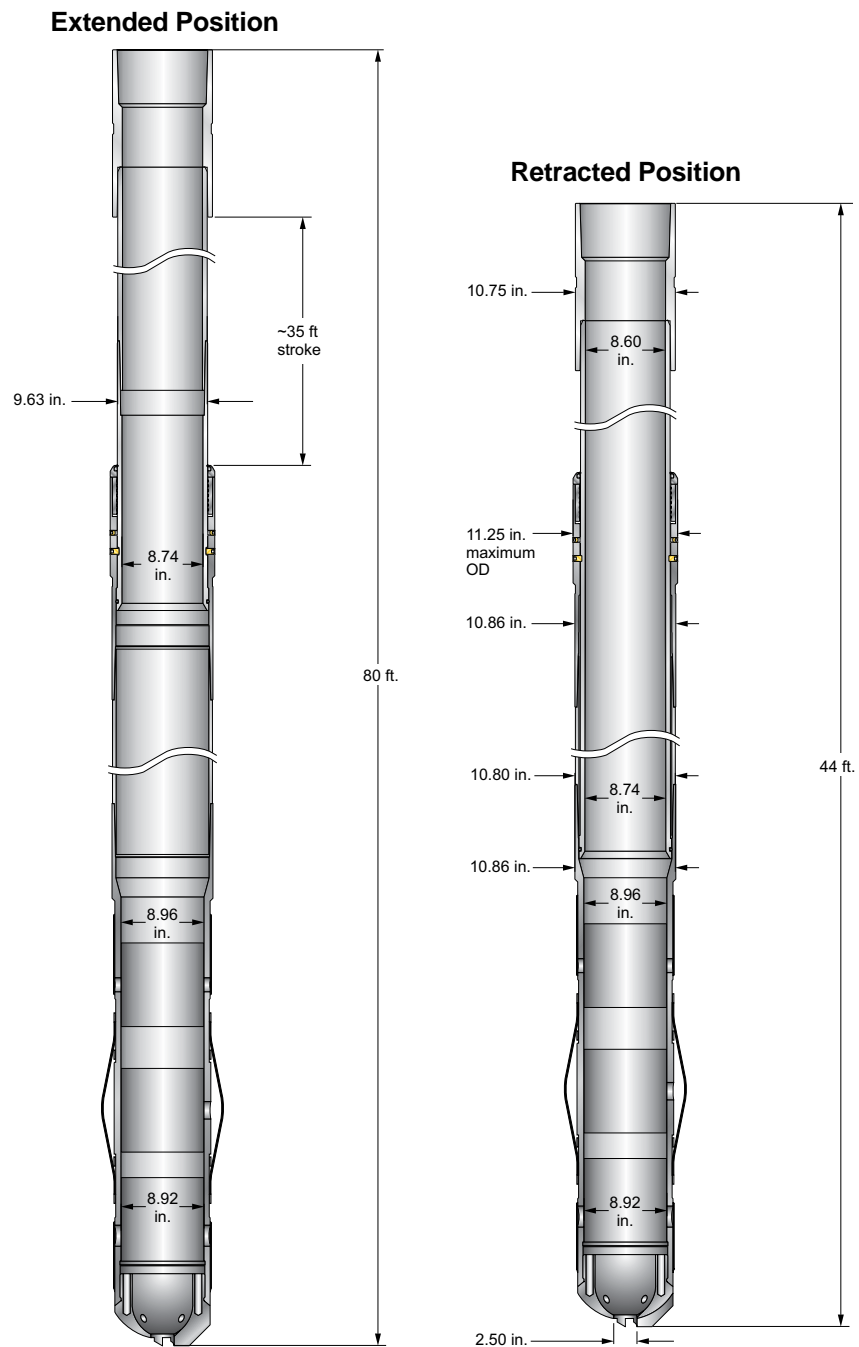


Shoe Joint Extended and Run to the Bottom of the Open Hole

Casing Hanger Landed with the Shoe Joint Retracted



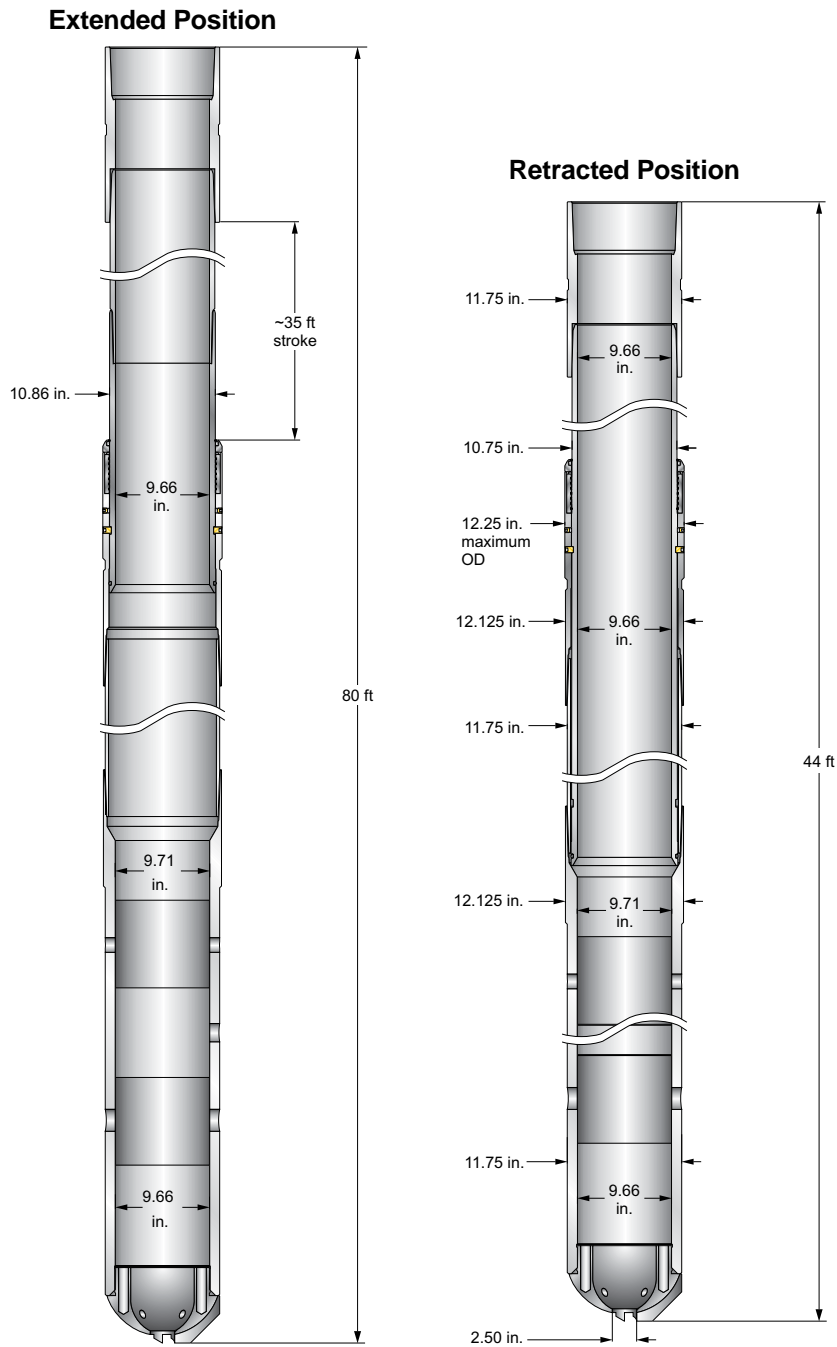
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Dimensions of the 9 5/8-in. (244.5-mm) Retractable Shoe Joint



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Dimensions of the 10 3/4-in. (273.1-mm) Retractable Shoe Joint