



W-Series Debris Barrier System

Weatherford's W-series debris barrier system is an enhanced, patented¹ liner-top protection system that consists of a lifting sub, the Weatherford setting tool extension (WSTE), and two field-proven products—the Weatherford floating junk bonnet (WFJB) and the Weatherford rotating packer actuator (WRPA).

For the debris barrier system, the WFJB and the WRPA have been reengineered onto the WSTE for use in the most challenging well conditions. This new design removes the connection between the junk bonnet and the packer actuator, eliminating potential leak paths and resulting in a shorter tool.

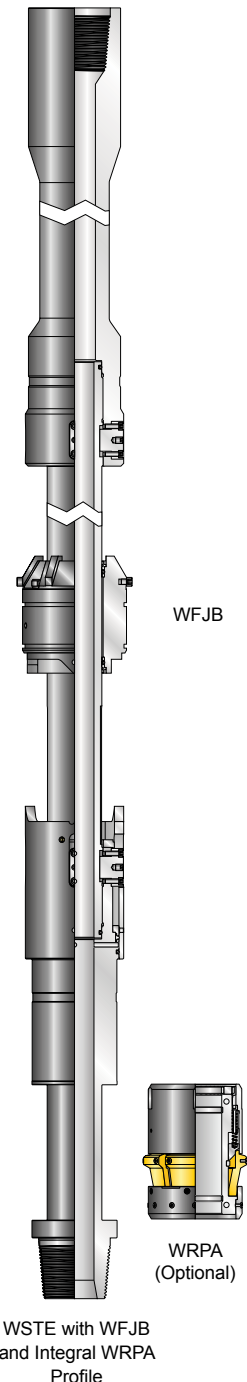
Weatherford's debris barrier system is deployed with a cushion of fresh water between system body and the cementing packoff, enabling the WFJB to float in position at the liner top and prevent entry of debris. When cementing operations are completed, the running string is raised until the bypass channel on the WSTE straddles the WFJB, thereby equalizing the pressure so that the WFJB can be retrieved from the tieback polished-bore receptacle (PBR).

If pressure does not equalize because of the debris above the WFJB, the incorporated spring sleeve is actuated to reestablish communication through the circulation port. The top of the WFJB body is equipped with backreaming blades that enable the tool to be backreamed through debris when necessary to help ensure retrieval of the running tools.

After the WFJB is pulled out of the PBR, the service engineer continues to pick up the running string until the WRPA clears the top of the PBR. Weight is then slacked off until the WRPA dogs engage the top of the PBR. Additional running-string weight is applied to the PBR through the WRPA and transmitted to the packer below to set the element and slips.

Applications

- Cemented liners
- Liners in unconsolidated formations, especially at higher deviations
- Liners in sidetracked wells with accumulations of steel debris
- Liners in holes with problems caused by mud solids and lost-circulation material fluids
- Liners in wells from which retrieval of running tools can be difficult



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Features, Advantages and Benefits

- Weatherford's debris barrier system's patented design prevents debris from packing off around the running tools by keeping the WFJB at the top of the PBR until released, ensuring optimal running-tool performance and positive indication of running-tool release without the danger of becoming stuck.
- The bypass channel enables fluid-circulating pressure to equalize, minimizing the force needed to retrieve the WFJB.
- The spring sleeve is shear-pinned to a closed position, eliminating the risk of inadvertently opening.
- The spring sleeve enables circulation to be reestablished through a circulation port, ensuring the retrieval of the WFJB.
- Integration of the WFJB and the WRPA onto the WSTE eliminates a connection, removing a potential leak path.
- WFJB is equipped with backreaming blades and, when being retrieved, is locked to the WSTE by rotation lugs, enabling the WFJB to be backreamed through debris for a successful, running-tool retrieval.
- The incorporated circulating valve prolongs the tool life by using a single-piece captive seal, preventing any potential washout.
- Full testing and documentation, including redress criteria, are verified by testing, improving field reliability.
- The interchangeable handling sub can be customized to complement any drillstring, providing operational flexibility.
- The debris barrier system is equipped with high-torque connections, providing strength in the wellbore.

Specifications

PBR ID	Part Number		
	WFJB Bonnet	WRPA Dog	Lifting Sub
7.180	1279871	1251653	1279854
7.375	1279872	1251665	1279854
7.500	1279873	1251665	1279854
7.686	1279874	1251667	1279854
7.750	1279875	1251667	1279854
7.846	1279876	1251667	1279854
9.659	1279877	1251669	1279854
10.626	1279878	1251670	1279854
11.000	1279879	1251671	1279854
11.531	1279880	1251672	1279854
13.523	1279881	1251673	1279854

WFJB bonnets and WRPA dogs must be ordered separately from the tool body and must be compatible with PBR sizes and dimensions. Six dogs required for fully dressed WRPA.

Options

For more information on the debris barrier system, contact an authorized Weatherford representative.