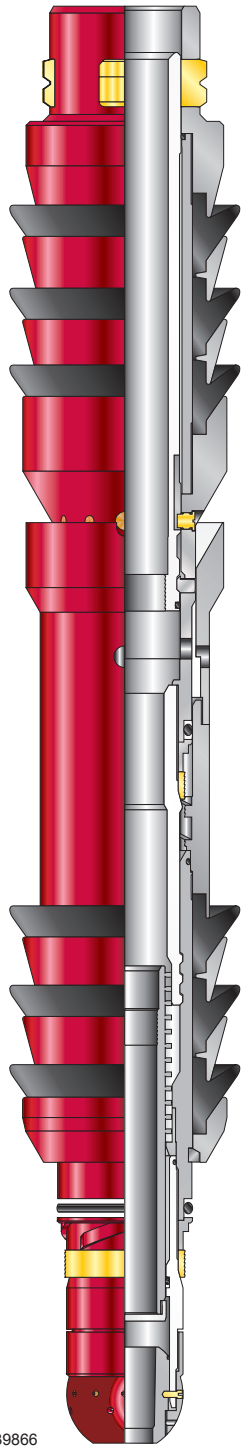
Weatherford®

Liner Systems

Dual-Wiper Plug (DWP) with Integral Ball Seat



US Patent: 5839866

Weatherford's premium dual-wiper plug (DWP) is used to displace cement and spacer fluid through the liner ID. A major advantage of the DWP is its integral ball seat, used to activate hydraulic liner hangers and running tools. Typically the DWP is used in conjunction with Weatherford's jointed system; therefore, the plugs do not move in relation to the liner until they are launched.

The **lower plug** on the DWP is launched by releasing the first drillpipe dart (DPD) in front of the cement. The DPD latches and seals into the inner sleeve of the lower plug, and differential pressure across the DWP launches the lower plug. After the plug has landed and latched into the landing collar, the DPD is expelled into the landing collar, allowing cement displacement to resume.

The **upper plug** on the DWP is launched by releasing the second DPD behind the cement. The DPD latches and seals into the inner sleeve of the upper plug, and differential pressure across the DWP launches the upper plug. Upon reaching the landing collar, the plug lands and latches into the collar, and pressure can be applied as required.

Applications

- Any liner for which a dual-liner-wiper system is required

Features, Advantages and Benefits

- Integral ball seat is more reliable than landing collar ball seats, minimizing the potential for nonproductive time.
- When the integral ball seat is blown, the pressure dissipates in the liner volume, greatly reducing the possibility of formation damage related to hydraulic shock.
- High-strength construction withstands high bump pressures.
- The DWP provides a mechanical barrier in front of and behind the cement, minimizing the extent of potential contamination of the cement.

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Features, Advantages and Benefits *(continued)*

- Several features help simplify or accelerate drill-out, saving rig time:
  - Anti-rotation devices prevent the DWP and DPD from rotating during drill-out of the landing collar.
  - The DWP is made of aluminum and elastomeric materials, making it PDC drillable.
- HNBR fins can withstand high differential pressure to effectively wipe the liner ID and act as a lower pack-off.

Specifications

Contact an authorized Weatherford representative.

Options

- The DWP is also available without the ball seat for use with completely mechanical systems or systems using an alternative ball-seat system.

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