

TrackMaster Select

Modular whipstock sidetracking system

APPLICATIONS

- Offshore extended-window drilling
- Standard casing exits and multilateral wells
- Openhole sidetracking

BENEFITS

- Increases durability and reliability
- Improves efficiency and milling performance
- Enables software utilization for better planning and improved outcomes
- Reduces sidetracking time and NPT by enabling setting and orientation in a single trip
- Prevents whipstock and anchor movement
- Mills through multiple casing strings

FEATURES

System

- Multiple casing sizes and weights
- Retrievable in a single trip

Whipstocks

- Longer whipface for full-gauge extended window
- Fast cut out and midramps
- Compatible with bimills and trimills

Mills

- Dense cutting structure forged into mill body
- Brazed PDC cutters into blade
- Quadmill for full-gauge extended window
- Customizable cutting structures optimized for high chrome content casing

Anchors

- Antirotation and high-axial-load slip design
- Hydraulic and weight-set actuation
- 5,000-psi packer element
- Strong shear bolt to assure anchor setting before milling
- Large slip areas to reduce casing stress and provide more positive anchor set

The TrackMaster Select* modular whipstock sidetracking system is part of a carefully reengineered solution to provide customers with stronger, faster, and more reliable sidetracking systems. The system is configurable for a variety of applications from single or multiple casing exits and openhole sidetracking to offshore extended windows and multilateral wells.

Reduces sidetracking time and increases system reliability

The system features a variety of modular components such as anchors, whipstocks, and mills, to enable efficient customization. Each component is optimized for reliable performance, reducing lost time from sidetracking and increasing overall system reliability. Once the anchor is set, its strong shear bolt assures that neither the whipstock nor the anchor will move before milling. Large slip areas reduce casing stress and provide a more positive anchor set. The whipstock retrievability is also improved because of an optimized hook slot location that enables the whipstock to be set and oriented in a single trip.

The single-piece mill has a newly designed cutting structure with brazed cylindrical cutters. The forged body eliminates the welding process and the resulting heat effect, producing a much stronger mill with improved fatigue life. The IDEAS* integrated dynamic design and analysis platform was used to design the cutting structure that incorporates superior cutters to make milling faster than ever, even through multiple casing strings. The mill's customizable cutting structures are optimized for high chrome content casing. Additionally, the new mill design can preserve the thickness at the top of the whipstock, providing a more reliable sidetracking system that's removable in a single trip.

Enables software utilization for better planning and higher performance

Unique to the TrackMaster Select system is the ability to design an optimum BHA, model window geometry, and perform following string pass-through and milling simulations, as well as bending stress and downhole dynamics analysis. It enables better performance from the planning stage and is supported by the DrillPlan* coherent well construction planning solution. The well planning is improved to ensure high performance and that the exit window expedites passage of the BHA.

TrackMaster Select System Equipment Availability

Casing size, in	4½	5½	7	7%	8%	9%	10¾	11¾	13%	16	18%	20
Whipstock												
Hydraulic standard whipstock	■	■	■	■	■	■	■	■	■	■	■	■
Hydraulic hard formation whipstock			■			■						
Hydraulic short whipstock			■	■		■			■			
Hydraulic extended whipstock						■						
Mechanical whipstock		■	■	■		■						
Anchors and Packers												
Expandable anchor			■	■	■	■	■	■	■	■	■	■
Retrievable anchor	■											
Mechanical anchor		■	■	■		■					■	■
Retrievable packer			■			■			■			
Permanent packer		■	■	■		■			■			
Mills												
Standard bimill	■	■	■	■	■	■	■	■	■	■	■	■
Hard formation bimill			■			■						
Bimill for mechanical whipstock		■	■	■		■						
Standard trimill		■	■	■	■	■	■	■	■	■		
Trimill and quadmill for extended whipstock						■						

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Components

Whipstocks

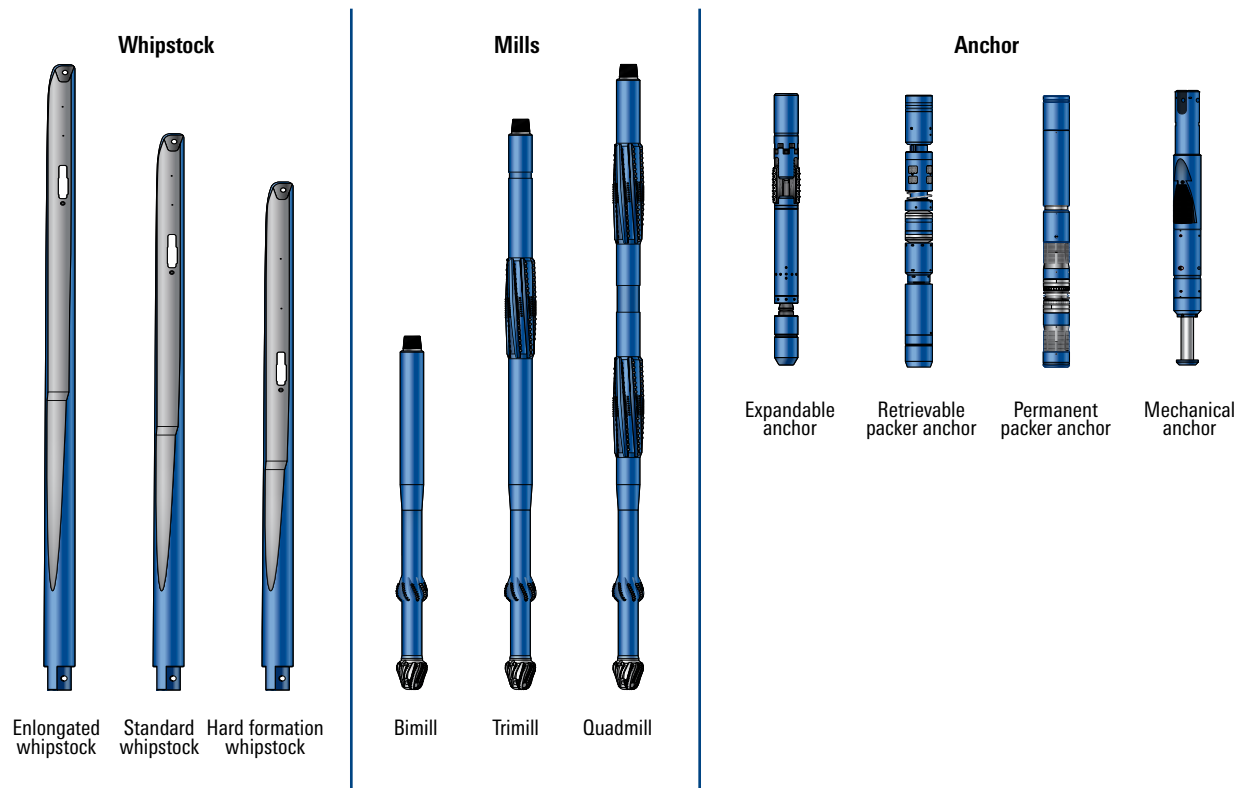
During a sidetracking operation, whipstocks guide mills into the required sidetracking orientation. TrackMaster solutions whipstocks have fast cut out and midramps and longer whipfaces to enable milling full-gauge extended windows and more efficient ratholes. Whipstock choices include elongated whipstocks, standard whipstocks, mechanical anchor whipstocks, and hard-formation whipstocks. For more detailed information about these options, see the TrackMaster Solutions Whipstocks product sheet.

Mills

In a TrackMaster Select system, mills deliver efficient and cost-effective performance in any sidetracking operation. Complete with enhanced PDC cutters, mill choices include bimills, carbide bimills, trimills, and quadmills. For more detailed information about these options, see the TrackMaster Solutions Mills product sheet.

Anchors

The anchor maintains a firm grip on the interior of the casing or formation to hold the whipstock in place and isolate the original wellbore. Anchor choices include expandable anchors, retrievable packer anchors, permanent packer anchors, and mechanical anchors. For more detailed information about these options, see the TrackMaster Solutions Anchors product sheet.



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