



Weatherford®

Multilaterals

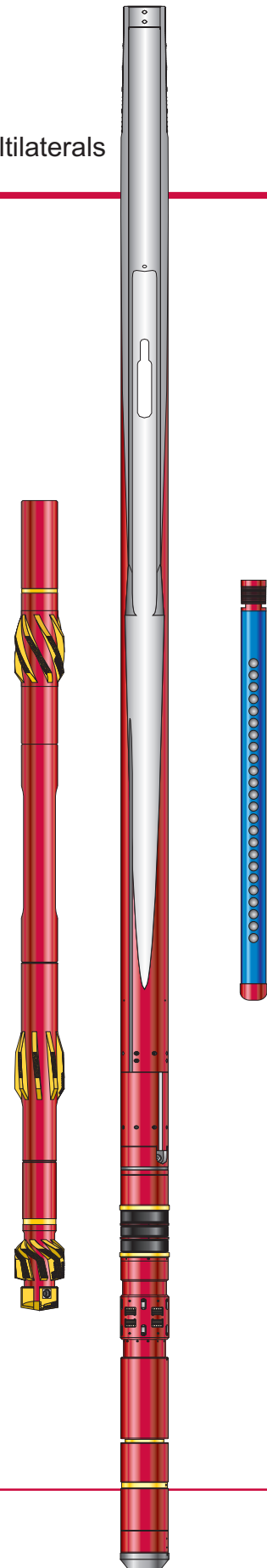
OneTrip™ StarBurst™ Level 4 Multilateral System

Weatherford's *OneTrip StarBurst* multilateral system creates a Level 4 cemented junction with full-liner access to the lateral bore. As the world's first one-trip Level 4 multilateral system, it incorporates the proven QuickCut™ milling system for orientation of the whipstock-anchor assembly, milling of the window, and drilling of the rathole in a single run. The unique, multi-purpose hollow whipstock is used in the milling, drilling, and completion phases.

After the window is milled and the lateral is drilled, a conventional lateral liner assembly is run into the lateral, cemented, and anchored back to the main bore above the window. The liner and whipstock pressure plate can then be perforated with a low-side-oriented technique to re-open the main bore and commingle production; or, perforation can simply be deferred to retain isolation of the new lateral.

Applications

- For new-development drilling and re-entries, the *OneTrip StarBurst* system is a simple, low-risk Level 4 multilateral solution that reduces costs by saving rig time with its one-trip capability and eliminating expensive junction hardware.
- The *OneTrip StarBurst* system is particularly well suited for wells in mature fields, where production rates are declining. Nearby additional reserves can be economically accessed with laterals while original wellbore production is maintained.
- The system is compatible with conventional or intelligent completions.





OneTrip™ StarBurst™ Level 4 Multilateral System

Features, Advantages and Benefits

- The *OneTrip StarBurst* system uses the QuickCut™ milling system to create a complete, full-gauge window and rathole in a single trip.
- This system allows production from the existing wellbore as well as the lateral.
- The patented AccuSet™ system, located inside the lead mill, provides reliable packer actuation without the requirement for a control valve.
- The 1.92° single-angle concave of the whipstock generates a smooth transition from the parent wellbore into the lateral section to accommodate longer rotary-steerable drilling systems.
- Unique lug and rail technology protects the whipstock pressure plate during cut-out and accurately directs the mill into the casing wall.
- The whipstock is designed to remain in the wellbore to eliminate recovery risks.
- Redundant safety disconnects allow for easy retrieval of the whipstock and packer if required.
- Lateral liner tie-back to the main bore provides mechanical integrity and connectivity with full access to the lateral and production access to the main bore. Overlapping concentric strings, combined with the cement, ensure a Level 4 junction with maximum support and formation isolation.

Specifications

System Assembly

Casing OD (in./mm)	Milled Window Length (ft/m)	Whipstock Angle	Material	Overall Length of Whipstock and Packer (ft/m)	System Torque Rating (ft-lb/N•m)	Shear Release Values		
						Lead Mill or Running Tool from Whipstock (lb/kg)	Whipstock and Packer (lb/kg)	Whipstock from Packer (lb/kg)
9-5/8 244.5	22 6.71	1.92°	Carbon steel	30.8 9.39	10,000 13,558	40,000	120,000 54,431	180,000 81,647
						18,140		
						48,000		
						21,768		
						59,000		
						26,757		



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Specifications (continued)

Milling System

Casing OD (in./mm)	Casing Weight (lb/ft, kg/m)	Concave OD (in./mm)	Lead Mill OD (in./mm)	Lead Mill Pilot OD (in./mm)	Lead Mill Connection	Secondary Mill OD (in./mm)	Secondary Mill Connection	Flex Mandrel Connection	Steering Mill OD (in./mm)	Steering Mill Connection	
9-5/8 244.5	40.0	Special	8-5/8	7	4-1/2-in. Reg. Box	Special	4-1/2-in. IF Box x 4-1/2-in. Reg. Pin	4-1/2-in. IF Box x 4-1/2-in. IF Pin	Special	4-1/2-in. IF Box x 4-1/2-in. IF Pin	
	59.5		219.1	177.8							8-1/2
	43.5	8 203.2	8-1/2 215.9	6-3/8 161.9		8-3/8 212.7			8-3/8 212.7		8-3/8 212.7
	64.7										
	47.0										
53.5 SD*	79.6 SD	8-3/8	212.7								
53.5	79.6										

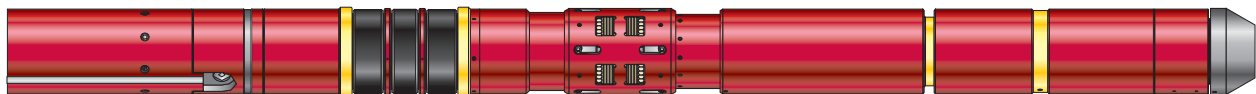
* Special drift



Packer

Casing OD (in./mm)	Casing Weight (lb/ft, kg/m)	Maximum OD (in./mm)	ISO 14310 V3 Testing Data					
			For Standard Service			For High Performance		
			Maximum Temperature (°F/°C)	Maximum Pressure Differential		Maximum Temperature (°F/°C)	Maximum Pressure Differential	
			From Above (psi/kPa)	From Below (psi/kPa)	From Above (psi/kPa)	From Below (psi/kPa)		
9-5/8 244.5	40.0	8.437 214.3	275 135	2,500	3,000	302 150	N/A	N/A
	59.5			17,237	20,684		N/A	N/A
	43.0	3,500		5,000	N/A		N/A	
	64.7	24,132		34,474	5,000		5,000	
	47.0	24,132		34,474	34,474		34,474	
69.9	3,500	5,000	5,000	5,000				
53.5 SD*	8.350	3,500	5,000	5,000	5,000			
79.6 SD	212.1	24,132	34,474	34,474	34,474			

* Special drift



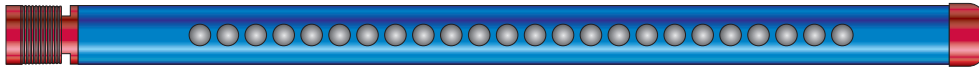


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Specifications (continued)

Perforating Gun

Nominal Liner OD (in./mm)	Perforating Gun OD (in./mm)	Standard Length (ft/m)	Low-Debris Length (ft/m)	Shot Density (spf)	Charge Type	Number of Perforations	Gun Phase	Post-Perforation Flow Area (in. ² /cm ²)
7 177.8	3.375 85.7	9 2.74	12 3.66	4	RDX or HDX	33	0°	2.8 18.1



Options

- High-temperature options are available.
- Running tool is available for extended-reach wells, where assembly must be pushed to setting depth.