



Industry's *first multi-taper*
rotary shouldered connection

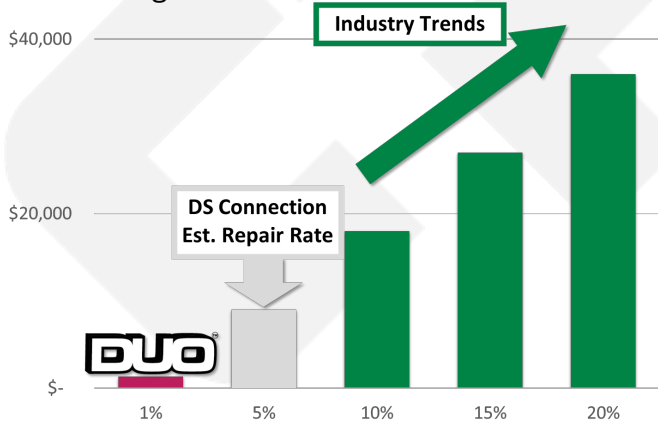
Drive the bit to TD with the lowest cost

2018

First DUO® string deployed in summer, 2018

72,000+

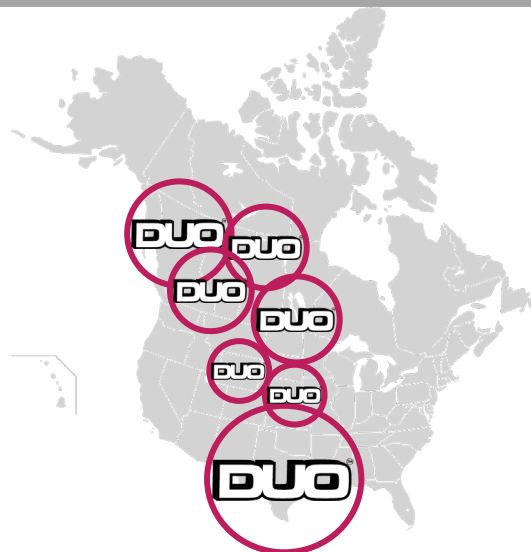
More than 72,000 connections in operation
60+ strings of DUO®



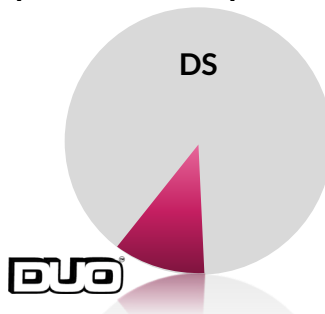
0.71%

Average shop repair rate with
high-torque performance

DUO has successfully drilled for:



Repair Cost Over per String Life



\$168K+

SAVING OVER \$168K+ PER STRING*

DUO® repair cost: 0.4 ¢ /m drilled

*Based on CAOEC 1,500 drilling days



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Inspection Summary

Size	Inspected Ends	White & Reface	Red (Fatigue)	Double Green (Shop Thread Repair)
400 DUO®	11,284	11,275	0	9
430 DUO®	7,026	6,919	0	107
450 DUO®	16,110	15,975	0	135
480 DUO®	4,630	4,605	0	25
Total	39,050*	38,774	0	276
Shop repair rate:				0.71%

**The inspection summary covers DUO® strings deployed from summer 2018 through fall 2021.*

A total of 39,050 connections (boxes and pins) were inspected, with only **0.71% (276 ends)** requiring machine shop repair due to thread damage.

As of 2025, more than **60x DUO® strings** are in operation across Canada and the United States - continuing to deliver consistent, reliable performance to this day without a single fatigue crack reported.



430 DUO®
field inspection





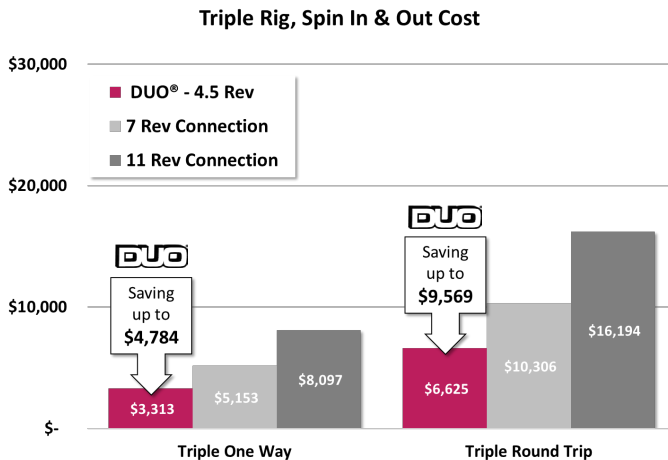
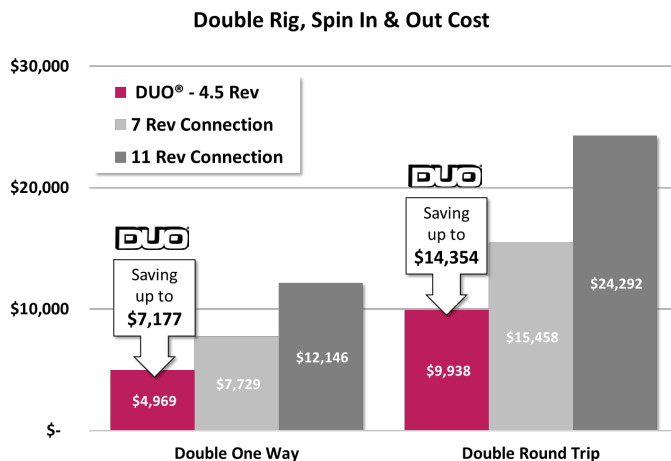
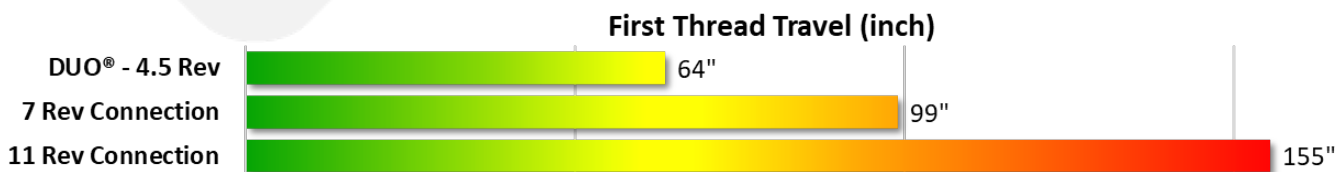
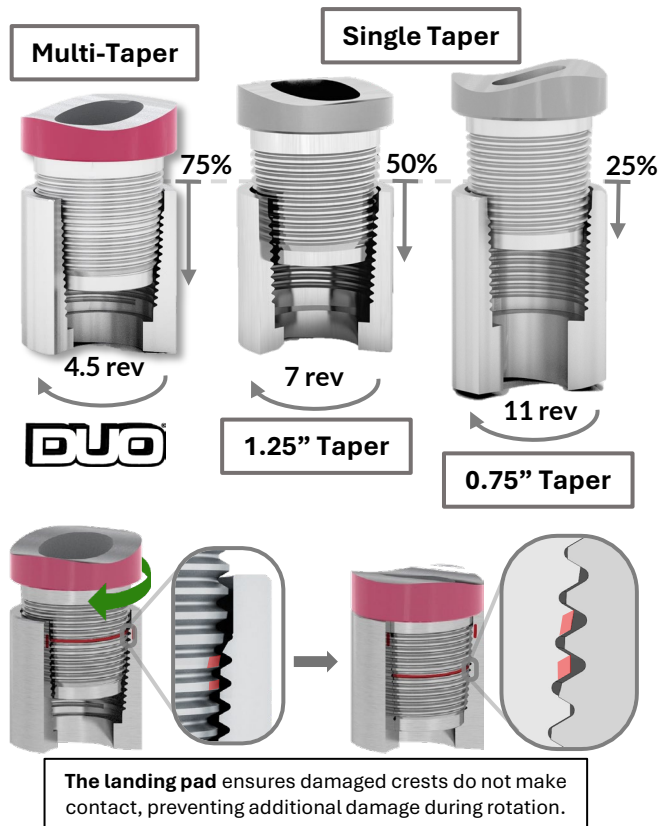
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The DUO® multi-taper design enables deeper stab-in, requires **4.5 turns** to spin in and out, significantly **reducing rig time**.

The shortened thread travel distance per make-up/break-out cycle **minimizes the risk of thread damage**, while the unique self-centered landing pad further **enhances operational tolerance**.

Field-proven, **DUO®** retains **superior frictional preload** with **exceptional fatigue resistance**, consistently delivering **reduced non-productive time (NPT)** and **minimal repair rates** (<1% cumulative).



*based on \$100k leasing cost/per day, 20,000ft string, range 2 drill pipe, makeup/breakout speed at 25RPM

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Performance

- **High torque performance**
- Wide range of sizes
- Time-proven thread form, design and field-verified for **anti-galling and superior fatigue-resistance**

Cost of ownership

- Field verified **minimal repair** rate (<1% cumulative)
- Field dress/reface available for minor damage
- Existing obsolete inventory conversion to DUO®

Ease of use

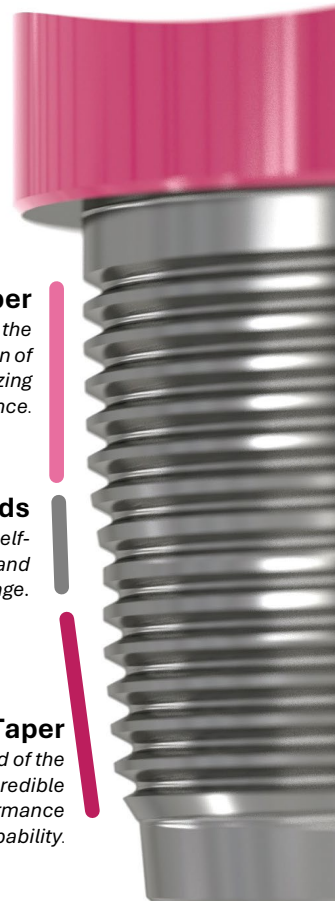
- Deep stabbing, **4.5x revolution** to makeup/breakout
- **Landing pad** design, operating forgiveness
- **Retains frictional preload**, endure downhole condition with consistent breakout value

Service/network

- Convenient licensee network
- Non-proprietary thread form, globally stocked insert
- Tubular/accessories management
- Technical/sales/marketing support

Connection	OD	ID	Rec. MUT* 60% TYS (ft-lbs)	Max MUT* 65% TYS (ft-lbs)
390 DUO®	4.875" 124 mm	2.688" 68 mm	22,000	23,800
400 DUO®	5.250" 133 mm	2.688" 68 mm	30,300	32,800
430 DUO®	5.250" 133 mm	3.000" 76 mm	27,000	29,300
433 DUO®	5.250" 133 mm	3.125" 79 mm	25,100	27,200
	5.250" 133 mm	3.250" 83 mm	21,800	23,600
	5.375" 137 mm	3.000" 76 mm	30,500	33,000
450 DUO®	5.375" 137 mm	3.250" 83 mm	27,500	29,700
	5.500" 140 mm	3.000" 76 mm	33,800	36,600
	5.625" 143 mm	2.875" 73 mm	37,800	41,000
	5.625" 143 mm	3.750" 95 mm	26,400	28,600
	5.750" 146 mm	3.500" 89 mm	34,000	36,800
530 DUO®	6.500" 165 mm	3.750" 95 mm	50,500	54,700
550 DUO®	6.625" 168 mm	3.750" 95 mm	55,200	59,800
	6.625" 168 mm	4.000" 102mm	50,200	54,400
	7.000" 178 mm	4.250" 108 mm	62,000	67,200

*Data shown are based on 135ksi yield strength tool joint material at 1.0 friction factor. Contact us for configurations not listed.



0.75" Taper

Strategically placed in the load-bearing cross-section of the connection, maximizing mechanical performance.

Transition Threads

Serve as landing pad, self-center the thread and minimizes stabbing damage.

2.00" Taper

Positioned at the nose end of the connection, it delivers incredible stabbing and spin-up performance with superior torque capability.