



BIT RELEASE TOOL

CASING DRILLING®

AZIMUTH TUBULAR SERVICES™

# BIT RELEASE TOOL (BRT)



## APPLICATION & ADVANTAGES

- TESCO's Bit Release Tool (BRT) is a multi-purpose tool for TESCO's CASING DRILLING® "drill-in" system that utilizes casing as the drill string with the bit attached as a "non-retrievable" Bottom Hole Assembly. The Bit Release Tool serves the following important functions for the casing drill string:

**Crossover** – the BRT connects the casing to the bit with API box connections on bottom and casing connections on top.

**Bit Stabilization near the bit** – Spiral stabilizer blades maintain directional control of the assembly during drilling.

**Bit Release** – the BRT provides a mechanism for removing the bit and lower assembly to open the bottom of the casing.

- After "knocking off" the bit, the casing bottom is open to full drift to allow passage of Open Hole Logging tools, generally favored over Cased Hole logging techniques.
- The simple yet durable design provides full pressure and torsional integrity during the rigors of drilling while also offering a reliable method of opening the bottom of the casing.
- Stabilizer blades for directional control during drilling are hard faced with *Tungsten Carbide* to withstand abrasive wear.

## DESIGN & FEATURES

- Release of the bit is achieved by either hydraulic or mechanical force. For the hydraulic option, force is applied by the combination of a ball dropped in the casing and pump pressure applied to "pump off" the bit and lower assembly. "Pump off" occurs when a differential pressure of approximately 900 psi is reached. For the mechanical option, force is applied by wireline tools.

- The BRT is an assembly of three basic components:

**The Float Sub** is the bottom unit supporting the drill bit and connected to the "bottom sub" with an integral thread. An internal check valve prevents backflow up into the casing.

**The Bottom Sub** receives the dropped ball creating the hydraulic force to separate from the "top sub". Shear screws ensure separation occurs at a predetermined axial load.

**The Top Sub** is stabilized and remains on the casing after the lower assembly is knocked off. The top and bottom subs are designed with castellated ends that provide the torsional lock for drilling.

- The castellated top sub serves as an effective stabilized reaming shoe to ream casing to bottom if needed.

**Better Ways to The Bottom™**

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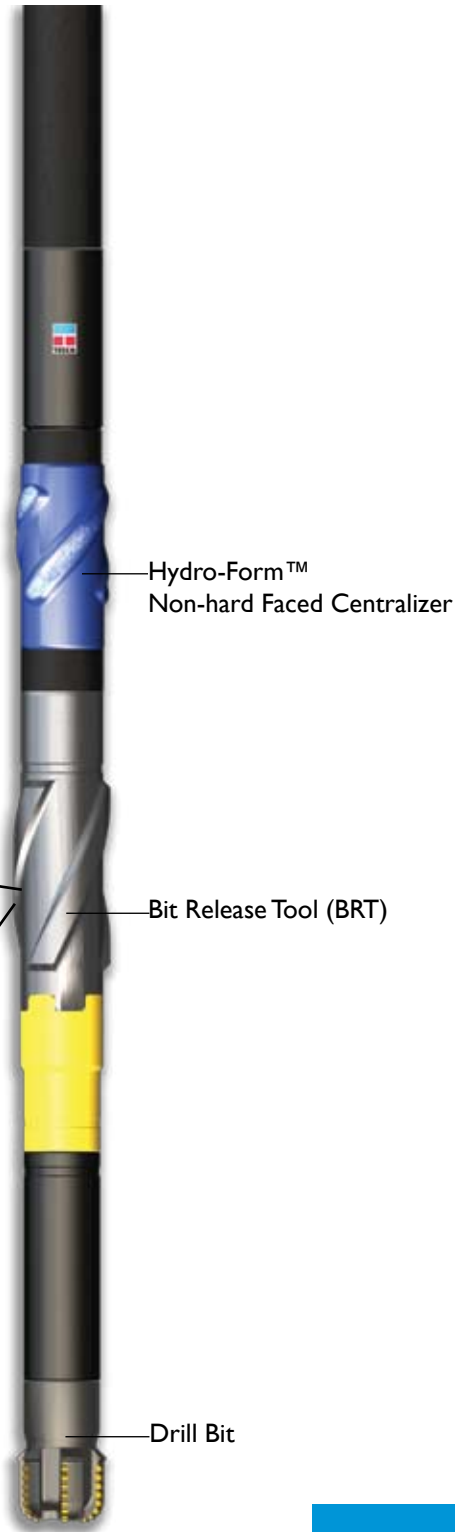
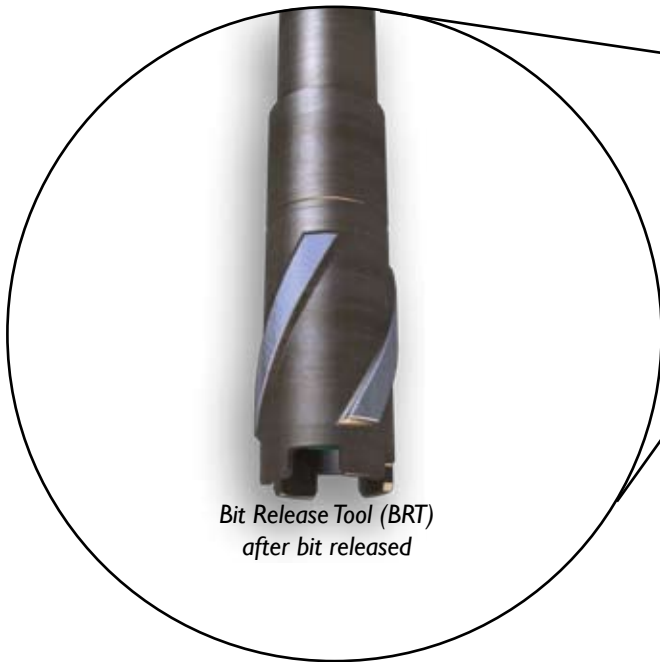
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## TECHNICAL SPECIFICATIONS

### Dimensions and performance table

Casing Size (in)	4 1/2	5 1/2	7	7 5/8	8 5/8	9 5/8
Casing Size (mm)	114.30	127.00	139.70	168.25	172.8	193.68
Torque Capacity (ft-lb)	10,000	16,000	32,000	34,000	42,000	58,000
Torque Capacity (daN-m)	1 358	2 169	4 339	4 610	5 694	7 864
Minimum ID dia. (in)	1.50	2.25	2.75	*2.75	*2.75	*2.75
Minimum ID dia. (mm)	38	57	70	70	70	70
Blade Diameter (in)	6.188	7.813	8.625	9.810	10.930	12.190
Blade Diameter (mm)	157	198	219	249	278	310
Body Diameter (in)	5.00	6.05	7.656	8.50	9.625	10.625
Body Diameter (mm)	127	154	194	216	244	270
Length (in)	48	54	53	*54	*54	*54
Length (mm)	1.22	1.37	1.35	1.37	1.37	1.37
Box Connection on Bottom (Reg)	3 1/2	4 1/2	4 1/2	6 5/8	6 5/8	6 5/8
Float Size	2F-3R	3 1/2IF	3 1/2IF	4F	4F	4F

\* subject to design revisions



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