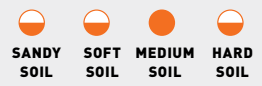


SOIL CONDITION CHART KEY ●=Best ○=Better ○=Good

DURABIT

The Durabit is designed to provide extended wear in all non-rock soil formations.



PART NUMBERS	CUT	BOLT PATTERN	BOLT SIZE	THICKNESS	BEND ANGLE
369-169*	2.5" / 63.5 mm	3 Hole DW	12 mm	1/2"	0°
368-901	3" / 76.2 mm	5 Hole DW	12 mm	5/8"	10°
368-900	3" / 76.2 mm	5 Hole DW	12 mm	1/2"	10°
368-899	3" / 76.2 mm	5 Hole DW	12 mm	5/8"	0°
368-898	3" / 76.2 mm	5 Hole DW	12 mm	1/2"	0°
368-904	4" / 101.6 mm	5 Hole DW	12 mm	3/4"	10°
368-903	4" / 101.6 mm	5 Hole DW	12 mm	5/8"	10°
368-902	4" / 101.6 mm	5 Hole DW	12 mm	1/2"	10°
369-082	5" / 127 mm	5 Hole DW	12 mm	5/8"	10°
369-005	5" / 127 mm	6 Hole DW	16 mm	3/4"	0°
368-980	5.2" / 132.08 mm	6 Hole DW	20 mm	1"	0°
368-982	6.4" / 162.56 mm	6 Hole DW	20 mm	1"	0°
368-984	8" / 203.2 mm	6 Hole DW	20 mm	1"	0°
400-1869	2.5" / 63.5 mm	5 Hole VM	3/8"	1/2"	0°

*See page 75 for bit clevis 369-709.



STEEP TAPER BIT

Designed with a pointed, triangle-shaped nose, the Steep Taper Bit can be used in highly compacted soil and cobble.



PART NUMBERS	CUT	BOLT PATTERN	BOLT SIZE	THICKNESS	BEND ANGLE
369-315*	2.5" / 63.5 mm	3 Hole DW	12 mm	1/2"	0°
369-072	3" / 76.2 mm	5 Hole DW	12 mm	5/8"	10°
368-895	4" / 101.6 mm	5 Hole DW	12 mm	5/8"	10°
369-074	5" / 127 mm	5 Hole DW	12 mm	5/8"	10°
400-170**	4.5" / 114.3 mm	6 Hole DW	16 mm	3/4"	10°
369-183	5" / 127 mm	6 Hole DW	16 mm	3/4"	0°
369-466	5" / 127 mm	6 Hole DW	16 mm	3/4"	10°
369-467	6.4" / 162.56 mm	6 Hole DW	16 mm	3/4"	10°
369-486	5" / 127 mm	6 Hole DW	20 mm	1"	0°
369-490	6.4" / 162.56 mm	6 Hole DW	20 mm	1"	0°
400-1851	3.5" / 88.9 mm	6 Hole VM	1/2"	1"	10°
400-1841	4" / 101.6 mm	6 Hole VM	1/2"	3/4"	10°
400-1843	5" / 127 mm	6 Hole VM	1/2"	1"	10°
400-1845	6.5" / 165.1 mm	6 Hole VM	1/2"	1"	10°
400-1847	5" / 127 mm	6 Hole VM	5/8"	1"	10°
400-1849	6" / 125.4 mm	6 Hole VM	5/8"	1"	10°
400-1915	8" / 203.2 mm	6 Hole VM	3/4"	1"	10°

See page 75 for:

*bit clevis 369-709, **bit pull eye assembly 400-242.



Vermeer® Compatible

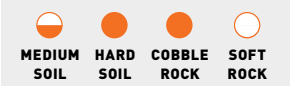
STEEP TAPER TUFF BIT

Designed for hard, compacted soils and cobble and chunk rock formations, the Steep Taper Tuff Bit features a pointed, triangle-shaped nose and Tuff Bit segments along the leading edge that have the strength and stability to withstand the pounding and vibration of drilling in rock.

PART NUMBERS	CUT	BOLT PATTERN	BOLT SIZE	THICKNESS	BEND ANGLE
400-120	4" / 101.6 mm	5 Hole DW	12 mm	3/4"	10°
400-122	4" / 101.6 mm	6 Hole DW	16 mm	3/4"	10°
400-124	5" / 127 mm	6 Hole DW	16 mm	3/4"	10°
400-1893	5" / 127 mm	6 Hole DW	20 mm	1"	10°
400-431	6" / 152.4 mm	6 Hole DW	20 mm	1"	10°
400-1895	8" / 203.2 mm	6 Hole DW	20 mm	1"	10°
400-1530	4" / 101.6 mm	6 Hole VM	1/2"	3/4"	10°
400-1885	3.5" / 88.9 mm	6 Hole VM	1/2"	5/8"	10°
400-1532	5" / 127 mm	6 Hole VM	1/2"	3/4"	10°
400-1887	5" / 127 mm	6 Hole VM	5/8"	1"	10°
400-1889	6" / 152.4 mm	6 Hole VM	5/8"	1"	10°
400-1891	8" / 203.2 mm	6 Hole VM	3/4"	1"	10°
400-2659***	4" / 101.6 mm	6 Hole DW	16 mm	3/4"	10°
400-2657***	4" / 101.6 mm	5 Hole DW	12 mm	3/4"	10°
400-2661***	5" / 127 mm	6 Hole DW	16 mm	3/4"	10°
400-2665***	4" / 101.6 mm	6 Hole VM	1/2"	3/4"	10°
400-2663***	3.5" / 88.9 mm	6 Hole VM	1/2"	5/8"	10°
400-2667***	5" / 127 mm	6 Hole VM	1/2"	3/4"	10°

***See page 75 for pull tool 400-2669.

Note: See page 75 for pull tool shackles.



Vermeer® Compatible

400-2669

SOIL CONDITION CHART

KEY ● =Best ○ =Better ○ =Good

OMNI BIT™



Take on a wider range of soil conditions with one bit—the Omni Bit. Built to tackle any terrain, the Omni Bit features a new, forward-facing cutting structure that eliminates the blunt nose for more productive drilling in the widest range of soils. The contour design allows for a larger pull hole to accommodate bigger shackles and maximize pulling capabilities. Also redesigned, the carbide teeth are more rounded—a Ditch Witch® exclusive—and less susceptible to fracture, improving bit longevity, durability and productivity.

PART NUMBERS	DESCRIPTION	WIDTH	BOLT PATTERN	BOLT SIZE	THICKNESS
400-2749	3-3 / 12-50-10 Omni Bit	3" / 76.2 mm	3 Hole DW	12 mm	.5"
400-2751	3.5-5 / 12-75-10 Omni Bit	3.5" / 88.9 mm	5 Hole DW	12 mm	.75"
400-2753	4-5 / 12-75-10 Omni Bit	4" / 101.6 mm	5 Hole DW	12 mm	.75"
400-2755	4.5-5 / 12-75-10 Omni Bit	4.5" / 114.3 mm	5 Hole DW	12 mm	.75"
400-2757	4-6 / 16-75-10 Omni Bit	4" / 101.6 mm	6 Hole DW	16 mm	.75"
400-2759	4.5-6 / 16-75-10 Omni Bit	4.5" / 114.3 mm	6 Hole DW	16 mm	.75"
400-2761	5-6 / 16-75-10 Omni Bit	5" / 127 mm	6 Hole DW	16 mm	.75"
400-2763	6-6 / 20-1-10 Omni Bit	6" / 152.4 mm	6 Hole DW	20 mm	1"
400-2765	7-6 / 20-1-10 Omni Bit	7" / 177.8 mm	6 Hole DW	20 mm	1"
VERMEER®					
400-3092	4-6 / .5-75-10 Omni Bit	4" / 101.6 mm	6 Hole VM	12.7 mm	.75"
400-3123	5-6 / .5-75-10 Omni Bit	5" / 127 mm	6 Hole VM	12.7 mm	.75"
400-3125	5-6 / .625-75-10 Omni Bit	5" / 127 mm	6 Hole VM	12.7 mm	.75"



TORNADO BIT

This long-lasting, all-purpose bit is designed for use in a variety of soils, including sandstone, chunk rock and hard soils. Tornado Bits use both button and crushed carbide for optimized performance and extended life.



PART NUMBERS	CUT	BOLT PATTERN	BOLT SIZE	THICKNESS	BEND ANGLE
400-1929	3" / 76.2 mm	5 Hole DW	12 mm	5/8"	10°
400-1925	3.5" / 88.9 mm	5 Hole DW	12 mm	5/8"	10°
400-1927	4" / 101.6 mm	5 Hole DW	12 mm	5/8"	10°
400-1931	4" / 101.6 mm	5 Hole DW	12 mm	3/4"	10°
400-1585	5" / 127 mm	5 Hole DW	12 mm	3/4"	10°
400-1933	4.5" / 114.3 mm	6 Hole DW	16 mm	3/4"	10°
400-1935	5" / 127 mm	6 Hole DW	16 mm	3/4"	10°
400-1063	6" / 125.4 mm	6 Hole DW	16 mm	3/4"	10°
400-1937	6.5" / 165.1 mm	6 Hole DW	16 mm	3/4"	10°
400-1939	5" / 127 mm	6 Hole DW	20 mm	1"	10°
400-1941	6" / 125.4 mm	6 Hole DW	20 mm	1"	10°
400-1901	8" / 203.2 mm	6 Hole DW	20 mm	1"	10°
400-1897	3.5" / 88.9 mm	6 Hole VM	1/2"	5/8"	10°
400-1514	3.5" / 88.9 mm	6 Hole VM	1/2"	3/4"	10°
400-1516	4" / 101.6 mm	6 Hole VM	1/2"	3/4"	10°
400-1518	5" / 127 mm	6 Hole VM	1/2"	1"	10°
400-1520	6" / 125.4 mm	6 Hole VM	1/2"	3/4"	10°
400-1554	5" / 127 mm	6 Hole VM	5/8"	1"	10°
400-1558	6" / 125.4 mm	6 Hole VM	5/8"	1"	10°
400-1899	8" / 203.2 mm	6 Hole VM	3/4"	1"	10°



Vermeer® Compatible



SOIL CONDITION CHART

KEY ● =Best ○ =Better ○ =Good

TUFF BIT

The ultimate long-wearing bit for all soil conditions, including hard, compacted soils or soft, sedimentary rock. Tuff Bit segments along the leading edge have the strength and stability to handle the pounding and vibration of drilling in rock. The barracuda material down the sides reduces wear on the nose of the housing.

PART NUMBERS	CUT	BOLT PATTERN	BOLT SIZE	THICKNESS	BEND ANGLE
400-2963*	3" / 76.2 mm	3 Hole DW	12 mm	1/2"	10°
369-727**	3" / 76.2 mm	3 Hole DW	12 mm	1/2"	0°
369-729	3" / 76.2 mm	5 Hole DW	12 mm	5/8"	10°
401-334	3.5" / 88.9 mm	5 Hole DW	12 mm	5/8"	10°
369-731	4" / 101.6 mm	5 Hole DW	12 mm	5/8"	10°
369-733	5" / 127 mm	5 Hole DW	12 mm	5/8"	10°
400-172***	4.5" / 114.3 mm	6 Hole DW	16 mm	3/4"	10°
369-735	5" / 127 mm	6 Hole DW	16 mm	3/4"	10°
369-737	6.4" / 162.56 mm	6 Hole DW	16 mm	3/4"	10°
369-739	5" / 127 mm	6 Hole DW	20 mm	1"	10°
369-741	6.5" / 165.1 mm	6 Hole DW	20 mm	1"	10°
369-743	8" / 203.2 mm	6 Hole DW	20 mm	1"	10°
400-1871	2.5" / 63.5 mm	5 Hole VM	3/8"	1/2"	0°
400-1877	3.5" / 88.9 mm	6 Hole VM	1/2"	5/8"	10°
400-1522	4" / 101.6 mm	6 Hole VM	1/2"	3/4"	10°
400-1524	5" / 127 mm	6 Hole VM	1/2"	3/4"	10°
400-1881	5" / 127 mm	6 Hole VM	5/8"	1"	10°
400-1528	8" / 203.2 mm	6 Hole VM	5/8"	1"	10°
400-1560	6" / 152.4 mm	6 Hole VM	5/8"	1"	10°
400-1526	6.5" / 165.1 mm	6 Hole VM	1/2"	3/4"	10°
400-1879	8" / 203.2 mm	6 Hole VM	3/4"	1"	10°

See page 75 for: **bit clevis 369-709, ***bit pulley assembly 400-242, *pull tool 400-2669.



SHOT GUN BIT



This new designed bit is made for hard compacted soils and sedimentary rock. The Shot Gun Bit uses large carbide cutters for greater rock fracturing and production. The barracuda material down the sides adds protection for the life of the bit.

PART NUMBERS	CUT	BOLT PATTERN	BOLT SIZE	THICKNESS	BEND ANGLE
400-1665	3.5" / 88.9 mm	5 Hole DW	12 mm	3/4"	10°
400-1667	4" / 101.6 mm	5 Hole DW	12 mm	3/4"	10°
400-1669	5" / 127 mm	5 Hole DW	12 mm	3/4"	10°
400-1671	4" / 101.6 mm	6 Hole DW	16 mm	1"	10°
400-1673	5" / 127 mm	6 Hole DW	16 mm	1"	10°
400-1905	5" / 127 mm	6 Hole DW	16 mm	3/4"	10°
400-1907	6" / 152.4 mm	6 Hole DW	20 mm	1"	10°
400-1909	8" / 103.2 mm	6 Hole DW	20 mm	1"	10°
400-1574	3.5" / 88.9 mm	6 Hole VM	1/2"	3/4"	10°
400-1576	4" / 101.6 mm	6 Hole VM	1/2"	3/4"	10°
400-1578	5" / 127 mm	6 Hole VM	1/2"	3/4"	10°
400-1580	5" / 127 mm	6 Hole VM	5/8"	1"	10°
400-1582	6" / 152.4 mm	6 Hole VM	5/8"	1"	10°
400-1903	8" / 203.2 mm	6 Hole VM	3/4"	1"	10°

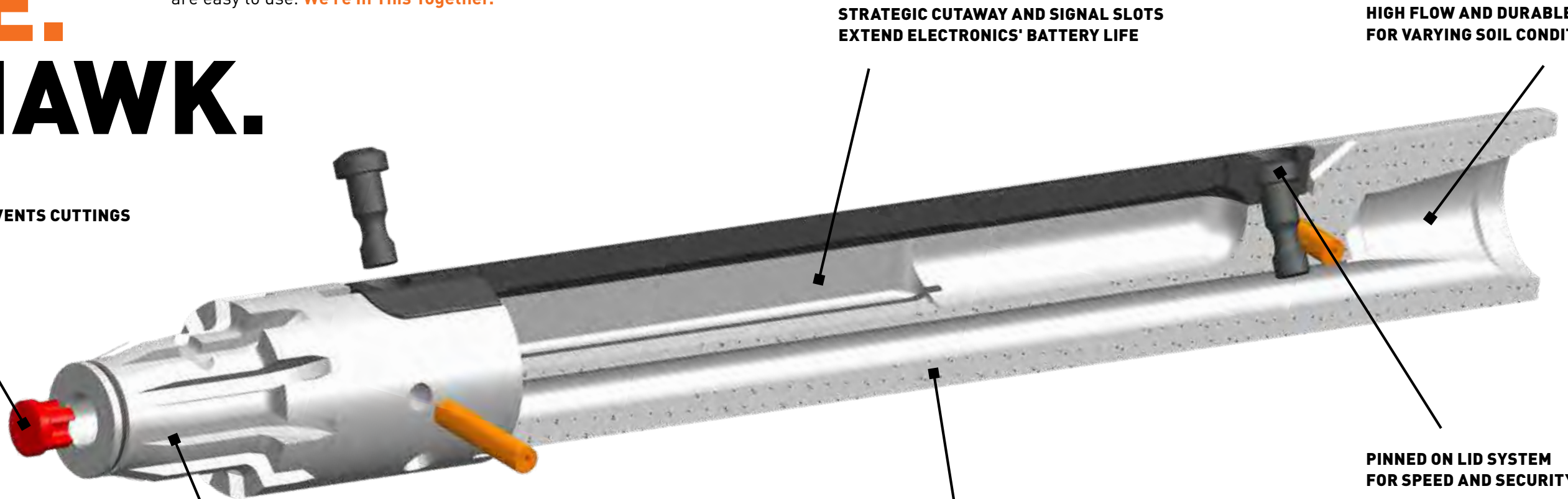




TRIED. TRUE. TRIHAWK.

The Ditch Witch® TriHawk housing is an exceptionally versatile, durable and productive housing for directional drilling. But best of all, it's rebuildable. So no matter what your particular drilling application or jobsite conditions, Ditch Witch electronic housings are easy to use. **We're In This Together.**

CHECK VALVE PREVENTS CUTTINGS IN THE HOUSING



STRATEGIC CUTAWAY AND SIGNAL SLOTS EXTEND ELECTRONICS' BATTERY LIFE

HIGH FLOW AND DURABLE FOR VARYING SOIL CONDITIONS

PINNED ON LID SYSTEM FOR SPEED AND SECURITY

SQUARE SPLINE PROVIDES BEST TORQUE TRANSFER AND RAPID BIT CHANGEABILITY

ALL DITCH WITCH HOUSINGS HAVE PROPER BIT TO DOOR ALIGNMENT FOR ADDED STRENGTH AND SECURITY (THIS IS AN ILLUSTRATION ONLY)

AVAILABLE BITS:



TRIHAWK I



TRIHAWK I HD



TRIHAWK III



TRIHAWK IV



TRIHAWK V



TRIHAWK REAMER BIT



DIRT BIT ADAPTERS



DRILLING CONDITIONS CHANGE. PERFORMANCE DOESN'T.



With their innovative, high-flow design and exceptional versatility, the TriHawk HD housings are the best choice for your lineup, and the best choice for varying soil conditions. Plus, you can change tooling with maximum speed and security thanks to its square drive spline. Just one of the TriHawk HD housing's many patented features.

TRIHAWK® HD HOUSINGS

TriHawk HD housings are exceptionally versatile, durable and productive housings that are compatible with Ditch Witch® and Vermeer® drills. With their innovative high-flow design, TriHawk HD housings have the power and volume to drill in varying ground conditions. Plus, as drilling conditions change, you can change tooling with maximum speed and security thanks to a square drive spline, one of the TriHawk HD housing's many patented features.

PART NUMBERS	DIAMETER	THREAD	SPLINE SIZE	ELECTRONICS	MODEL(S)
906-0854	2.75"	2.0 API IF	2.125"	15T / 17T	JT9 / JT922 / JT1220 / D6X6 / D7X11 / D9X13
906-1854	3"	2.38 API R	2.125"	15T / 17T	JT1220 / JT1720M1 / JT20 / JT2020 / D6X6 / D7X11 / D9X13 / D16X20 / D18X20 / D20X22
906-2654	3.5"	2.38 API R	2.5"	15T / 17T	JT25 / JT2720M1 / JT30 / JT3020 / JT4020 / D24X26 / D24X33 / D24X40 / D33X44 / D36X50
906-2754	3.75"	2.88 R	2.5"	15T / 17T	JT40
906-5354	4.25"	2.88 API R	3.375"	15T / 17T	JT4020 / JT7020 / JT8020 / JT60 / D33X44 / D36X50 / D50X100 / D55X100 / D75X100 / D80X100 / D80X120
906-5356	4.75"	3.5 API IF	3.375"	906-5356 BHL Only	JT7020M1 / JT8020M1 / JT100 / D50X100 / D55X100 / D75X100 / D80X100 / D80X120 / DD110

HOUSING ACCESSORIES

DIAMETER	HOUSING	LID	LID PIN	COIL PIN	FLOW CHECK	O-RING
2.75	906-0854	908-0835	908-0852	906-2405	906-2638	906-1604
3	906-1854	908-0835	908-0852	906-2405	906-2638	906-1604
3.5	906-2654	906-2635	906-2652	906-2405	906-2638	906-2404
3.75	906-2754	906-2635	906-2652	906-2405	906-2638	906-2404
4.25	906-5354	906-2635	906-2652	908-0019	906-2638	906-5004
4.75	906-5356	906-5335	906-2652	908-0019	906-2638	906-5004



SOIL CONDITION CHART KEY ●=Best ◐=Better ○=Good

TriHawk bits are field-proven to provide unbeatable performance and reliability. Using the highest-quality, heat-treated alloy steel and strategically placed carbide, TriHawk bits punch through rock, overburdened cobble or compacted soil, while their patented square-drive spline is the toughest tooling connection in the industry. Combine them with TriHawk HD housings for an unbeatable combination.

TRIHAWK I

TriHawk I is an aggressive directional drill bit designed for soft rock conditions. It also provides excellent performance in dry, compacted soils as well as cobble and broken formations. Made of high-quality, heat-treated alloy steel, TriHawk I features replaceable carbide teeth that are angled into the cut to increase production and reduce machine vibration.



PART NUMBERS	CUT	SPLINE	REPLACEMENT TEETH	DRILL SIZE
906-1792	3.75" / 95.25 mm	2.125"	906-1642 short / 906-1637 long	6K - 12K Drills
906-1626	4.44" / 112.77 mm	2.125"	906-2434 short / 906-2437 long	16K - 20K Drills
906-1627 HD	4.5" / 114.3 mm	2.125"		16K - 20K Drills
906-2426	5.12" / 130.04 mm	2.5"	906-2446 med / 906-2494 long	24K - 40K Drills
906-2427 HD	5.12" / 130.04 mm	2.5"	906-2446 med / 906-2494 long	24K - 40K Drills
906-5026	6.12" / 157.48 mm	3.375"	906-5082 med / 906-5090 long	50K - 100K Drills
906-5027 HD	6.12" / 155.44 mm	3.375"		50K - 100K Drills
906-1827	TriHawk I Pullback Tool			5K - 12K Drills
906-2627	TriHawk I Pullback Tool			16K - 40K Drills

TriHawk I HD

TriHawk I with Pullback

Note: Please contact your local dealer about our rebuildable program that provides reduced operating costs.

TRIHAWK® III

TriHawk III features superior abrasion resistance and massive, carbide-core cutting teeth designed to efficiently cut through soft to medium rock and cobble. Welded carbide grit is applied not only to the bit surface, but also into grooves that are cut into high-wear areas, keeping the bit surface smooth and resulting in less resistance when pushing to steer.



PART NUMBERS	CUT	SPLINE SIZE	REPLACEMENT TEETH	DRILL SIZE
906-1719	4.38" / 111.25 mm	2.125"	906-1713	16K - 20K Drills
906-2519	5.5" / 139.7 mm	2.5"	906-2516	24K - 40K Drills
906-5119	6.6" / 167.64 mm	3.375"	906-5116	50K - 100K Drills
906-1513	10.0" / 254 mm	4.5 F API IF	906-1512	150K - 300K Drills
906-1527	12.5" / 317.5 mm	6.625 F FH	906-1530	500K Drills +
906-1723	TriHawk III Pull Back		Use with	906-1719
906-2523	TriHawk III Pull Back		Use with	906-2519



TRIHAWK IV

The TriHawk IV drill bit is designed for use in heavy, overburdened cobble or fractured rock. Our bit is machined from high-grade alloy steel and engineered to reduce machine vibration in tough drilling conditions. The TriHawk IV's numerous carbide chisels are positioned to help provide smooth, rotational drilling and fracture clearance space for the housing.



PART NUMBERS	CUT	SPLINE SIZE	DRILL SIZE
906-1730	4.38" / 111.25 mm	2.125"	16K - 20K Drills
906-2530	5.5" / 139.7 mm	2.5"	24K - 40K Drills
906-5130	6.6" / 167.64 mm	3.375"	50K - 100K Drills



SOIL CONDITION CHART

KEY ● =Best ○ =Better ○ =Good

TRIHAWK V

The innovative design of TriHawk V combines torque-edge steering with thrust-face steering to provide unbeatable performance in round rock cobble, flat river stone, and loose fill. TriHawk V's patented J-tapered torque edge feature converts rotational torque to direct steering thrust, which gives the operator exceptional control. The key to TriHawk V's outstanding productivity is the tapering of the leading edge toward the bit's trailing edge.

PART NUMBERS	CUT	SPLINE SIZE	DRILL SIZE
906-0708	3.5" / 88.9 mm	6 Hole VM - Bolt-on	5K - 12K Drills
906-0792	3.5" / 88.9 mm	5 Hole DW - Bolt-on	5K - 12K Drills
906-1771	3.88" / 98.55 mm	2.125"	16K - 20K Drills
906-2571	4.8" / 121.92 mm	2.5"	24K - 40K Drills
906-5171	7" / 177.8 mm	3.375"	50K - 100K Drills
906-1523	9" / 228.6 mm	4.5 F API IF	150K - 300K Drills
906-0825	TriHawk V Pullback		5K - 12K Drills
906-1825	TriHawk V Pullback		16K - 20K Drills
906-2625	TriHawk V Pullback		24K - 40K Drills



TriHawk V with Pullback

TRIHAWK REAMER BIT



Intended to use for fast, easy, small-diameter installations. When you finish a bore with your TriHawk system, simply drive out the two roll pins holding the bit and install the reamer bit instead. This cast reamer is equipped with a pulling tab intended to be used in conjunction with a swivel and will cut a 5.25" hole.

PART NUMBERS	CUT	SPLINE SIZE	DRILL SIZE
906-1812	6" / 152.4 mm	2.125"	16K - 20K Drills
906-2712	6" / 152.4 mm	2.5"	24K - 40K Drills



TRIHAWK® DIRT BIT ADAPTERS

PART NUMBERS	HOUSING DIAMETER	SPLINE SIZE	BOLT PATTERN	NOZZLES
906-1796	3" TriHawk HD	2.125"	5 Hole DW / 12 mm	2
906-2697	3.5" TriHawk HD	2.5"	6 Hole DW / 16 mm	2
906-2698	3.5" TriHawk HD	2.5"	6 Hole DW / 20 mm	2
906-5296	4.25" TriHawk HD	3.375"	6 Hole DW / 20 mm	2
906-1665	3" TriHawk HD	2.125"	6 Hole VM (1/2" Bolt)	2
906-2465	3.5" TriHawk HD	2.5"	6 Hole VM (1/2" Bolt)	2
906-5165	4.25" TriHawk HD	3.375"	6 Hole VM (5/8" Bolt)	2
906-5166	4.25" TriHawk HD	3.375"	6 Hole VM (3/4" Bolt)	2



Vermeer® Compatible

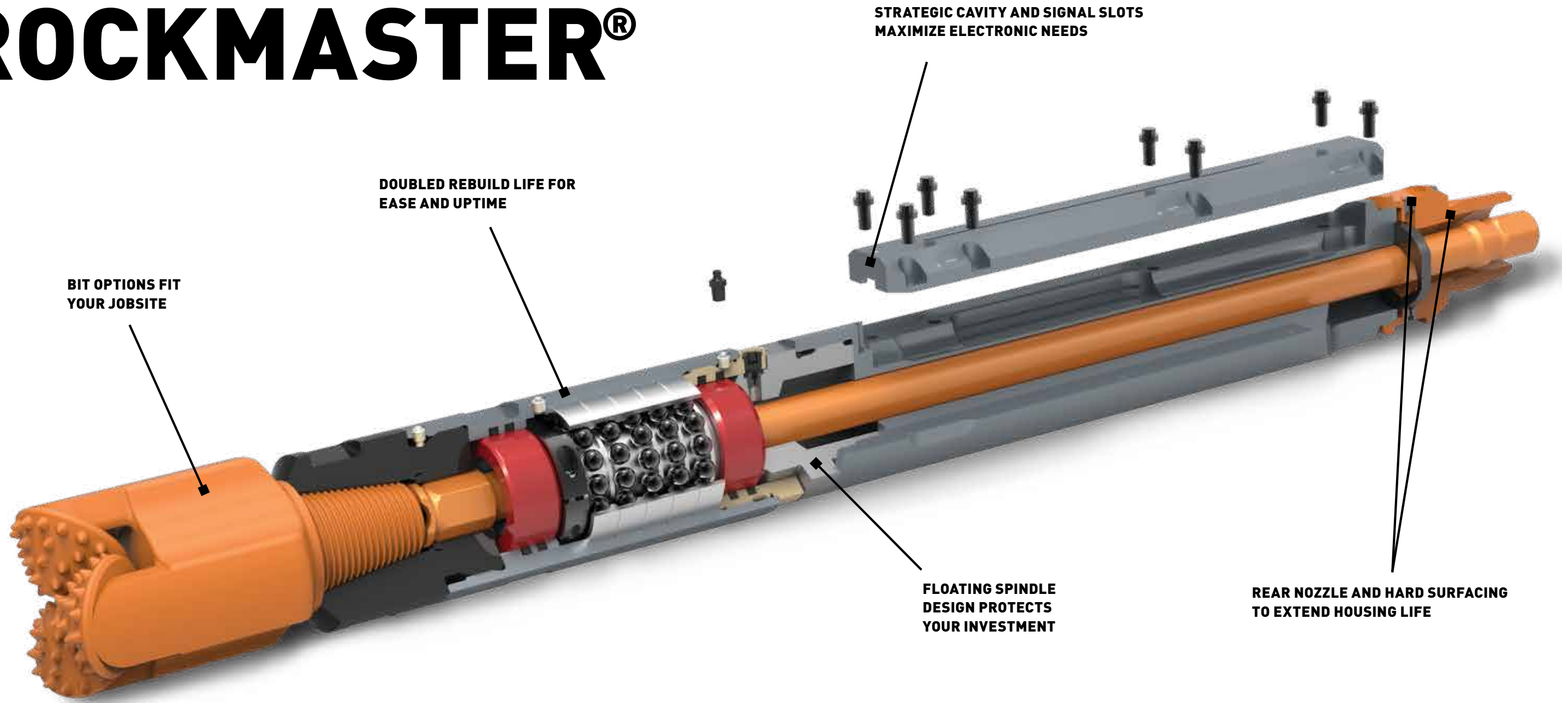
TRIHAWK PULLERS

PART NUMBERS	DESCRIPTION	SPLINE SIZE	DRILL SIZE
906-1593	TriHawk HSG Pull Tab	2.125" F	10K - 20K Drills
906-2493	TriHawk HSG Pull Tab	2.5" F	24K - 40K Drills





DITCH WITCH® ROCKMASTER®



BIT OPTIONS FIT
YOUR JOBSITE

DOUBLED REBUILD LIFE FOR
EASE AND UPTIME

STRATEGIC CAVITY AND SIGNAL SLOTS
MAXIMIZE ELECTRONIC NEEDS

FLOATING SPINDLE
DESIGN PROTECTS
YOUR INVESTMENT

REAR NOZZLE AND HARD SURFACING
TO EXTEND HOUSING LIFE

CRUSH THROUGH ROCK. CRUSH THROUGH THE COMPETITION.



ROCKMASTER® AT HOUSINGS

RockMaster All Terrain housings are the only housings designed and manufactured to provide superior performance with the All Terrain technology, which allows you to steer while drilling and are designed with a 2° offset for responsive steering.

PART NUMBERS	STYLE	DESCRIPTION	ELECTRONICS	MODEL(S)	BOLTS FOR LID
401-159	3.75" RockMaster 2°	2.77 DS / AT30 / 2.88 API R	88 Series	AT2720 / AT30	107-433 6x
401-329	3.75" RockMaster 2°	2.77 DS / AT30 / 2.88 API R	15T / 17T	AT2720 / AT30	106-891 6x
400-3162*	4.5" RockMaster 2°	2.77 DS / AT30 / 2.88 API R	15T / 17T	AT2720 / AT30	106-891 8x
400-3163*	4.5" SwitchBack™ 2°	2.77 DS / AT30 / 2.88 API R	15T / 17T	AT2720 / AT30	106-891 8x
350-1254	4.75" RockMaster 2°	2.77 DS / AT30 / 2.88 API R	15T / 17T	AT2720 / AT30	106-891 8x
400-2460*	4.75" RockMaster 2°	2.95 DS / AT40 / 2.88 API R	15T / 17T / 19T	AT40	106-891 8x
400-2630*	4.75" RockMaster 2.5°	2.95 DS / AT40 / 3.5 API R F	15T / 17T / 19T	AT40	106-891 8x
400-919*	5" RockMaster 1.5°	3.25 SS / AT4020 / 3.5 API R	15T / 17T	AT4020 / AT60	106-891 8x
400-1467*	5" RockMaster 2°	3.25 SS / AT4020 / 3.5 API R	15T / 17T	AT4020 / AT60	106-891 8x
400-1488*	5" RockMaster 2°	3.44 SS / AT100 / 3.5 API R	15T / 17T	AT100	106-891 8x

* Air Capable
Note: DCI® isolation kit is 908-4306.

AT30 SWITCHBACK ACCESSORIES

PART NUMBERS	DESCRIPTION
400-3094	SwitchBack Adapter [2-7/8" API-Reg]
400-3100	10K SwitchBack Swivel Assembly

ROCKING THE INDUSTRY SINCE 1996.

1996	2000	2017	2019
Revolutionized HDD rock drilling with RockMaster® technology.	The revolution continues with All Terrain technology.	The future is now with new 12-point Patented Hex Design.	The SwitchBack® System changes the way you drill.

Engineered to deliver the most impact in the toughest conditions, the RockMaster AT Housings are your go-to components for jobsite challenges. The RockMaster AT housings feature a more robust bearing design, a higher-strength door, easy serviceability and high flow capacity. And as with all Ditch Witch® equipment, they're manufactured with the quality you expect, so you take on any job with confidence. And a whole lot of power.

The International Association of Drilling Contractors (IADC) developed a system to describe any tricone bit through a simple 4-digit number. This streamlines the process of ordering a new tricone bit for drillers everywhere. By coming up with a simple 4-digit code to describe and categorize any tri-cone bit they eliminated any confusion that can arise when ordering. This classification system dedicates the first 3 digits to the design and function of the tricone, with the final digit being an alphabetical code for any additional features of the bit.

IADC NUMBER DESIGNATION SYSTEM

First Number Type of Bit	Second Number Formation Hardness	Third Number Bit Features
1-Steel Tooth, Soft Formation	1-Soft Formation	1-Standard Open Bearing
2-Steel Tooth, Medium Formation	1-Soft Formation	2-Standard Open Bearing/Air Cooled
3-Steel Tooth, Hard Formation	2-Medium-Soft Formation	3-Standard Open Bearing/Gage Protected
4-Tungsten Carbide Insert Bits	2-Medium-Soft Formation	4-Sealed Roller Bearing
5-Tungsten Carbide Insert Bits, Soft Formation	3-Medium-Hard Formation	5-Sealed Roller Bearing/Gage Protected
6-Tungsten Carbide Insert Bits, Medium-Soft Formation	3-Medium-Hard Formation	6-Sealed Journal Bearing
6-Tungsten Carbide Insert Bits, Hard Formation	4-Hard Formation	7-Sealed Journal Bearing/Gage Protected
7-Tungsten Carbide Insert Bits, Medium-Hard Formation	4-Hard Formation	7-Sealed Journal Bearing/Gage Protected

For Example: A Roller Cone Bit with a 517 IADC code means the bit has Tungsten Carbide Inserts Designed for Soft Formations, and has a Sealed Journal Bearing and Gage Protection.



ROCKMASTER® BIT

The RockMaster bit is engineered with patented Edgeguard™ shirt tail protection, premium bearing technology utilizing high-performance components to extend bit life in hard rock conditions with an HDD application. Designed for Ditch Witch All Terrain drills.

PART NUMBERS	CUT	THREAD	DESCRIPTION
400-2317	5.5" / 139.7 mm	2.88 API R	TCI Open Bearing IADC:533
400-2319	5.5" / 139.7 mm	2.88 API R	TCI Sealed Bearing IADC:517
400-2517	5.5" / 139.7 mm	2.88 API R	TCI Sealed Bearing IADC:637
400-2320	6.5" / 165.1 mm	3.5 API R	TCI Sealed Bearing IADC:537
400-2516	6.5" / 165.1 mm	3.5 API R	TCI Sealed Bearing IADC:637
400-2420	4.75" / 120.65 mm	2.88 API R	TCI Sealed Bearing IADC:517
400-2421	4.75" / 120.65 mm	2.88 API R	TCI Open Bearing IADC:533

COBBLE ROCK	SOFT ROCK	MEDIUM ROCK	HARD ROCK
○	◐	●	◐
○	◐	●	◐
○	○	◐	●
○	◐	●	◐
○	○	◐	●
○	◐	●	◐
○	◐	●	◐



DITCH WITCH® TRI-CONE BIT

Made with high-performance components and tungsten carbide, or steel tooth design options. The Tri-Cone Bit is perfect for variable ground conditions.

COBBLE ROCK	SOFT ROCK	MEDIUM ROCK	HARD ROCK
○	●	○	●
○	●	○	●
○	●	○	●
○	●	○	●

OPEN BEARING

PART NUMBERS	CUT	THREAD	DESCRIPTION
400-2314	4.75" / 120.65 mm	2.88 API R	TCI IADC:612
400-2520	5.5" / 139.7 mm	2.88 API R	MT IADC:211
400-2521	6.5" / 165.1 mm	3.5 API R	MT IADC:211
400-2316	5.625" / 142.87 mm	3.5 API R	TCI IADC:612
400-2315	5.625" / 142.87 mm	3.5 API R	MT IADC:211

COBBLE ROCK	SOFT ROCK	MEDIUM ROCK	HARD ROCK
○	○	○	●
○	○	○	●
○	○	○	●
○	○	○	●
○	○	○	●
○	○	○	●
○	○	○	●
○	○	○	●

SEALED BEARING

PART NUMBERS	CUT	THREAD	DESCRIPTION
401-345	5.5" / 139.7 mm	2.88 API R	TCI HDX40 IADC:627
401-349	5.5" / 139.7 mm	2.88 API R	TCI HDS2 IADC:517
401-361	6.5" / 165.1 mm	3.5 API R	TCI HDS3 IADC:537
401-346	6.5" / 165.1 mm	3.5 API R	TCI HDX30 IADC:547
400-1812	6.5" / 165.1 mm	3.5 API R	TCI XR50 IADC:627
400-2740	5.5" / 139.7 mm	2.88 API R	TCI IADC:727
400-2741	6.5" / 165.1 mm	3.5 API R	TCI IADC:727
400-2318	6.5" / 165.1 mm	3.5 API R	TCI IADC:537

Note: MT = Mill Tooth and TCI = Tungsten Carbide Inserts
 Note: Refer to IADC code on page 60.



SOFT SOIL	HARD SOIL	COBBLE ROCK	SOFT ROCK
○	○	○	●

PIRANHA BIT

PART NUMBERS	CUT	THREAD	INSERT BIT	QUANTITY
400-2972	5.5 / 139.7 mm	2.88 API-REG	135-1630	4
400-2973	6.5 / 165.1 mm	3.5 API-REG	135-1630	6

NOZZLES

ROCKMASTER® AND TRI-CONE BIT NOZZLES

PART NUMBERS	DESCRIPTION	ORIFICE SIZE	RETENTION TYPE	COMPATIBLE BITS
159-1016	Jet Nozzle	.125"	Snap Ring	400-2319, 400-2517, 400-2420
159-1017	Jet Nozzle	.25"	Snap Ring	400-2319, 400-2517, 400-2420
159-1018	Jet Nozzle	.375"	Snap Ring	400-2319, 400-2517, 400-2420
159-1019	Jet Nozzle	.125"	Nail	400-2421, 400-2316
159-1020	Jet Nozzle	.25"	Nail	400-2421, 400-2316
159-1021	Jet Nozzle	.375"	Nail	400-2421, 400-2316
159-1022	Jet Nozzle	.375"	Snap Ring	400-2320, 400-2516, 400-2318
159-1023	Jet Nozzle	.5"	Snap Ring	400-2320, 400-2516, 400-2318
159-1024	Jet Nozzle	.62"	Snap Ring	400-2320, 400-2516, 400-2318
159-1029	Jet Nozzle	.125"	Snap Ring	400-2740
159-1030	Jet Nozzle	.25"	Snap Ring	400-2740
159-1031	Jet Nozzle	.375"	Snap Ring	400-2740
159-1032	Jet Nozzle	.25"	Snap Ring	400-2741
159-1033	Jet Nozzle	.375"	Snap Ring	400-2741
159-1034	Jet Nozzle	.562"	Snap Ring	400-2741

Note: Sold in quantities of three.





THE TOUGHEST TOOLS FOR THE TOUGHEST TERRAIN.



Advanced technology enables the All Terrain Air Hammer to continuously drill as it is being steered, an exclusive All Terrain drill feature that results in superior productivity; no loss of productivity while steering.

Your All Terrain Air Hammer works like nothing else. It's designed to penetrate the hardest rock where rotary bits lose effectiveness. To ensure superior performance, trust genuine Ditch Witch® Air Hammer housings—the only parts designed, manufactured and tested by the creators of All Terrain technology.



Kits Include: RockMaster® Housing, All Terrain Air Hammer, 6.5" convex bit, fluid/air adapter kit, wrench jaws and pins.

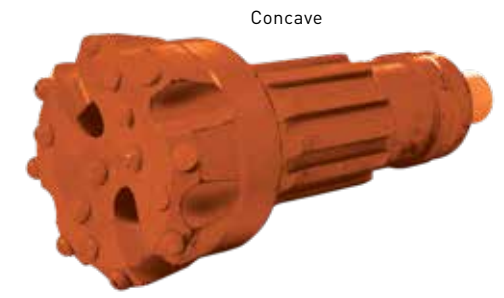
ALL TERRAIN AIR HAMMER

PART NUMBERS	STYLE	DESCRIPTION	ELECTRONICS	MODEL(S)
190-1692	6" Air Hammer Kit	AT4020 / 3.5" API R	15T / 17T	AT4020
190-1932	6" Air Hammer Kit	AT60 / 3.5" API R	15T / 17T	AT60
190-1701	6" Air Hammer Kit	AT100 / 3.5" API R	15T / 17T	AT100 with 120 gpm
190-1969	6" Air Hammer Kit	AT100 / 3.5" API R	15T / 17T	AT100 with 200 gpm

*Contact your dealer for more information.



Convex



Concave

AIR HAMMER BITS

PART NUMBERS	STYLE	DESCRIPTION	JAW PART NUMBER
400-1451	Concave / Spherical Inserts	6.5"	400-1486
400-1452	Convex / Spherical Inserts*	6.5"	400-1477
400-1454	Convex / Semi-Ballistic Inserts	6.5"	400-1487
400-1455	Convex / Ballistic Inserts	6.5"	400-1487

*Comes standard in all AT air hammer kits.

UNRIVALED VERSATILITY. UNIVERSAL PRODUCTIVITY.



UNIVERSAL HD HOUSINGS

Universal HD housings are designed for maximum flow rate to be used with mud motor, air hammers and threaded bit applications. These are wireline capable and can accept 15" through 19" beacons.

PART NUMBERS	DIAMETER	FRONT THREADS	REAR THREADS	MODEL(S)
908-1690	3.25"	2.38 API R F	2.38 API R F	JT20 / JT2020 / D16x20 / D18x20 / D20X22 / D24X26 / D24X33
908-4290	3.75"	2.38 API R F	2.38 API R F	JT25 / JT3020 / JT30 / AT30 / D24X40 / D33X44 / D36X50
908-4390	4.25"	2.88 API R F	2.88 API R F	JT40 / JT60 / DD110
908-5290	4.75"	3.5 API I F F	3.5 API I F F	JT7020 / JT8020 / JT100 / AT40 / AT60 / AT100 / D50X100 / D55X100 / D60X90 / D75X100 / D80X10 / D100X120 / DD110
400-1426*	4.75"	3.5 API I F	3.5 API I F	JT7020 / JT8020 / JT100 / AT40 / AT60 / AT100 / D50X100 / D55X100 / D60X90 / D75X100 / D80X10 / D100X120 / DD110
400-1000**	4.75"	3.5 API I F	3.5 API I F	JT7020 / JT8020 / JT100 / AT40 / AT60 / AT100 / D50X100 / D55X100 / D60X90 / D75X100 / D80X10 / D100X120 / DD110
908-6190	6.5"	4.5 API I F M	4.5 API I F F	150K - 330K
908-8090	8"	6.625 API F H M	6.625 API F H F	400K - 1000K

* BHL Electronics Only.

** Not wireline compatible.

Note: These housings will accommodate Subsite® Electronics and DCI® Electronics, including the 19" sonde.

The Ditch Witch® Universal Housings deliver unbeatable flexibility, allowing you to do more using the same housing for a variety of tasks. Run threaded options such as mud motors, air hammers and threaded bits, all with the same component. Universal Housings are wireline capable and accept 15" through 19" beacons, so you tackle more jobs, increasing your productivity and your ROI.



UNIVERSAL HD HOUSING ADAPTERS

PART NUMBERS	FRONT THREADS	SPLINE SIZE	BOLT SIZE	HOUSING	ADAPTER
906-1810	2.38 API M	2.125"		908-1690	Universal to TriHawk®
906-2585	2.38 API R M	2.5"		908-4290 / 908-1690	Universal to TriHawk
906-2478	2.88 API R M	2.5"		908-4290 / 908-1690	Universal to TriHawk
906-5310	3.5 API IF M	3.375"		908-5290	Universal to TriHawk
906-1720	2.38 API R M		12 mm	908-1690	Bit adapter
906-2637	2.38 API R M		16 mm	908-1690	Bit adapter
906-2636	2.38 API R M		20 mm	908-4290	Bit adapter
906-5312	2.88 API R M		20 mm	908-4390	Bit adapter
906-5298	3.5 API IF M		20 mm	908-5290	Bit adapter

UNIVERSAL HD HOUSING ACCESSORIES

DIAMETER	HOUSING	LID	LID PIN	COIL PIN	LID BOLT
3.25	908-1690	908-4283	906-2652	906-2405	906-2633
3.75	908-4290	908-4283	906-2652	906-2405	906-2633
4.25	908-4390	908-4283	906-2652	906-2405	906-2633
4.75	908-5290	908-4283	906-2652	908-0019	906-2633
6.5	908-6190	908-4283	906-2652	906-2409	906-2633
8	908-8090	908-4283	906-2652	906-2409	906-2633



Choosing the ideal bit for a particular type of soil can be challenging. This chart offers guidelines to help, but for specific recommendations for your area, ask your Ditch Witch® dealer.

SOIL CONDITION CHART

Key ●=Best ◐=Better ○=Good

	Sandy Soil	Soft Soil	Medium Soil	Hard Soil	Cobble Rock	Soft Rock	Medium Rock	Hard Rock
Durabit	◐	◐	●	◐				
Steep Taper Bit		◐	●					
Steep Taper Tuff Bit			◐	●	●	○		
Omni Bit	●	●	●	●	○	○		
Tornado Bit	◐	◐	●	◐	○	○		
Tuff Bit	◐	●	●	●	◐	○		
Shot Gun Bit		●	●	●	◐			
Rhino Rock Bit		◐	●		○	●		
TriHawk® I		○	◐	●	◐	●		
TriHawk III		○	○	◐	◐	●		
TriHawk IV				○	●	◐		
TriHawk V				○	●			
TriHawk Reamer Bit	●	●	●	◐	○			
Piranha Bit		○		◐	◐	●		

SOIL TYPE DESCRIPTION CHART

Sandy Soil	Sugar sand, blow sand or other solids where sand is the predominant component
Soft Soil	Sandy loam
Medium Soil	Loams, loamy clays
Hard Soil	Packed clays, gumbo, all compacted soils
Cobble Rock	Chunk rock, glacier till, cobble, gravel, flat river stone
Soft Rock	Sandstone, shale, coral, caliche, chalk
Medium Rock	Limestone, caliche, sandstone, shale
Hard Rock	Granite, schist, marble, hard limestone

This chart is meant as a guideline only. See your local Ditch Witch dealer for recommendations in your area.



**BUILT
BETTER
TO LAST
LONGER.**

Featuring a heavy-duty design, Ditch Witch® backreamers are ruggedly built to last longer. They're also the most versatile, designed to tackle the cutting and expanding requirements of extreme soil conditions like rock, chunk rock and cobble, and also effectively manage the spoils of long bores. If you demand superior performance, look for backreamers designed, manufactured and extensively tested by the same experts who built the drills that drive them. Demand Ditch Witch HDD Tooling.

Choosing the ideal backreamer for a particular type of soil can be challenging. This chart offers guidelines to help, but for specific recommendations for your area, ask your Ditch Witch® dealer.

SOIL CONDITION CHART	Key ● =Best ◐ =Better ○ =Good							
	Sandy Soil	Soft Soil	Medium Soil	Hard Soil	Cobble Rock	Soft Rock	Medium Rock	Hard Rock
Compact Fluted HD	○	○	●	◐		○		
Kodiak™ HD			○	◐	●	◐		
Beavertail HD	◐	●	●	●				
Warthog™ HD		○	◐	●		○		
RockMaster®					○	●		●
Sandhog HD	●	◐	○					
Rock Monster™ HD						●	●	◐
Swab				●	◐			
EZ			◐	●	○			

This chart is meant as a guideline only. See your local Ditch Witch dealer for recommendations in your area.

SOIL TYPE DESCRIPTION CHART	
Sandy Soil	Sugar sand, blow sand, or other solids where sand is the predominant component
Soft Soil	Sandy loam
Medium Soil	Loams, loamy clays
Hard Soil	Packed clays, gumbo, all compacted soils
Cobble Rock	Chunk rock, glacier till, cobble, gravel
Soft Rock	Sandstone, shale, coral, caliche, chaulk
Medium Rock	Limestone, caliche, sandstone, shale
Hard Rock	Granite, schist, marble, hard limestone

FLANGED SWIVEL / STATIC PLATE

PART NUMBERS	DESCRIPTION
190-2359	12K Swivel Kit (12K Clevis)
190-2360	12K Swivel Kit (12K Tab)
190-2361	20K Swivel Kit (20K Clevis)
190-2362	20K Swivel Kit (20K Tab)
190-2363	30K Swivel Kit (30K Clevis)
190-2364	30K Swivel Kit (30K Tab)
190-2365	40K/60K Swivel Kit (40K Clevis)
190-2366	40K/60K Swivel Kit (40K Tab)
190-2367	100K Swivel Kit (100K Clevis)
190-2368	100K Swivel Kit (100K Tab)
190-2613	12K Static Kit (12K Tab)
400-2368	12K Static Kit (20K Tab)
190-2614	20K Static Kit (20K Tab)
190-2615	30K Static Kit (30K Tab)
190-2616	40K/60K Static Kit (40K Tab)
190-2617	100K Static Kit (100K Tab)

Note: Flanged swivel options for Compact Fluted HD and Kodiak backreamers.

Utilizing high-performance components to extend life and featuring a new clevis design, our flange swivel options eliminate the need for multiple connections between the reamer and product. They also position the product closer to the reamer, reducing the possibility of binding.



190-2615

COMPACT FLUTED HD BACKREAMERS

All of our Compact Fluted HD Backreamers are built with integrated swivel options that position the product closer to the reamer, which reduces the possibility of binding. Fluid distribution is enhanced with a replaceable hardened steel nozzle for flow flexibility allowing cuttings and fluid to flow behind the reamer over the product. The improved casting design and tapered base provide smooth pushback capability. As with all our tooling products, these backreamers feature heavy-duty components for extended life.



PART NUMBERS	CUT	SHAFT	DESCRIPTION	NPT/ORIFICE/NOZZLE QTY.	MODEL(S)
400-2652	4.5" / 114.3 mm	2.0"	1.10-5 F / 12K FLG	1/4" / .188 - 4	5K
400-2543	4.5" / 114.3 mm	2.75"	2.0 API-IF F / 12K FLG	1/4" / .188 - 4	9K - 20K
400-2544	6.5" / 165.1 mm	2.75"	2.0 API-IF F / 12K FLG	1/4" / .188 - 9	9K - 20K
400-2545	8" / 203.2 mm	2.75"	2.0 API-IF F / 20K FLG	1/4" / .188 - 12	9K - 20K
400-2546	10" / 254 mm	2.75"	2.0 API-IF F / 20K FLG	1/4" / .188 - 12	9K - 20K
400-2547	12" / 304.8 mm	2.75"	2.0 API-IF F / 20K FLG	1/4" / .188 - 15	9K - 20K
400-2683	6.5" / 165.1 mm	3.25"	2.38 API R F / 20K FLG	1/4" / .188 - 6	16K - 36K
400-2396	8" / 203.2 mm	3.25"	2.38 API R F / 20K FLG	1/4" / .188 - 12	16K - 36K
400-2397	10" / 254 mm	3.25"	2.38 API R F / 20K FLG	1/4" / .188 - 12	16K - 36K
400-2398	12" / 304.8 mm	3.25"	2.38 API R F / 30K FLG	1/4" / .188 - 15	16K - 36K
400-2399	14" / 355.6 mm	3.25"	2.38 API R F / 30K FLG	1/4" / .188 - 18	16K - 36K
400-2400	16" / 406.4 mm	3.25"	2.38 API R F / 30K FLG	1/4" / .188 - 18	16K - 36K
400-2401	18" / 457.2 mm	3.25"	2.38 API R F / 30K FLG	1/4" / .188 - 18	16K - 36K
400-2485	8" / 203.2 mm	4.25"	2.88 API R F / 20K FLG	1/4" / .188 - 12	40K - 60K
400-2486	10" / 254 mm	4.25"	2.88 API R F / 20K FLG	1/4" / .188 - 12	40K - 60K
400-2487	12" / 304.8 mm	4.25"	2.88 API R F / 30K FLG	1/4" / .188 - 15	40K - 60K
400-2488	14" / 355.6 mm	4.25"	2.88 API R F / 40K FLG	1/4" / .188 - 18	40K - 60K
400-2489	16" / 406.4 mm	4.25"	2.88 API R F / 40K FLG	1/4" / .188 - 18	40K - 60K
400-2490	18" / 457.2 mm	4.25"	2.88 API R F / 40K FLG	1/4" / .188 - 18	40K - 60K
400-2491	12" / 304.8 mm	4.75"	3.5 API-IF F / 30K FLG	1/4" / .188 - 15	70K - 100K
400-2492	14" / 355.6 mm	4.75"	3.5 API-IF F / 100K FLG	1/4" / .188 - 19	70K - 100K
400-2493	16" / 406.4 mm	4.75"	3.5 API-IF F / 100K FLG	1/4" / .188 - 19	70K - 100K
400-2494	18" / 457.2 mm	4.75"	3.5 API-IF F / 100K FLG	1/4" / .188 - 19	70K - 100K
400-2495	20" / 508 mm	4.75"	3.5 API-IF F / 100K FLG	1/4" / .188 - 22	70K - 100K
400-2496	22" / 558.8 mm	4.75"	3.5 API-IF F / 100K FLG	1/4" / .188 - 22	70K - 100K
400-2497	24" / 609.6 mm	4.75"	3.5 API-IF F / 100K FLG	1/4" / .188 - 25	70K - 100K
400-2498	26" / 660.4 mm	4.75"	3.5 API-IF F / 100K FLG	1/4" / .188 - 18	70K - 100K

Find your flanged swivel and static plate options on page 63.

Note: Swivel and static plate sold separately.



KODIAK™ HD



Its name says it all. The Kodiak is the ultimate backreamer for challenging conditions. Designed for extreme soils like rock, chunk rock and cobble, its spiraling flutes allow for cuttings and fluid to flow behind the reamer over the product. It also features an improved plate design and tapered tail end to better accommodate pushing back. The Kodiak is a great reamer for compacting and pushing chunk and cobble rock away from the bore path to make easier install of product.

PART NUMBERS	CUT	SHAFT	DESCRIPTION	NPT/ORIFICE/NOZZLE QTY.	MODEL(S)
400-2599	8" / 203.2 mm	2.75"	2.0 API IF F / 12K FLG	1/4" / .250 - 12	9K - 20K
400-2600	10" / 254 mm	2.75"	2.0 API IF F / 20K FLG	1/4" / .250 - 15	9K - 20K
400-2601	12" / 304.8 mm	2.75"	2.0 API IF F / 20K FLG	1/4" / .250 - 18	9K - 20K
400-2357	8" / 203.2 mm	3.25"	2.38 API R F / 12K Flange	1/4" / .188 - 12	16K - 36K
400-2358	10" / 254 mm	3.25"	2.38 API R F / 20K Flange	1/4" / .188 - 15	16K - 36K
400-2359	12" / 304.8 mm	3.25"	2.38 API R F / 20K Flange	1/4" / .188 - 18	16K - 36K
400-2360	14" / 355.6 mm	3.25"	2.38 API R F / 30K Flange	1/4" / .188 - 21	16K - 36K
400-2361	16" / 406.4 mm	3.25"	2.38 API R F / 30K Flange	1/4" / .188 - 24	16K - 36K
400-2362	18" / 457.2 mm	3.25"	2.38 API R F / 30K Flange	1/4" / .188 - 27	16K - 36K
400-2500	10" / 254 mm	4.25"	2.88 API R F / 30K Flange	1/4" / .188 - 9	40K - 60K
400-2501	12" / 304.8 mm	4.25"	2.88 API R F / 30K Flange	1/4" / .188 - 15	40K - 60K
400-2502	14" / 355.6 mm	4.25"	2.88 API R F / 40K Flange	1/4" / .188 - 19	40K - 60K
400-2503	16" / 406.4 mm	4.25"	2.88 API R F / 40K Flange	1/4" / .188 - 22	40K - 60K
400-2504	18" / 457.2 mm	4.25"	2.88 API R F / 40K Flange	1/4" / .188 - 25	40K - 60K
400-2505	20" / 508 mm	4.25"	2.88 API R F / 40K Flange	1/4" / .188 - 22	40K - 60K
400-2506	24" / 609.6 mm	4.25"	2.88 API R F / 40K Flange	1/4" / .188 - 25	40K - 60K
400-2507	28" / 711.2 mm	4.25"	2.88 API R F / 40K Flange	1/4" / .188 - 28	40K - 60K
400-2588	12" / 304.8 mm	4.75"	3.5 API IF F / 30K Flange	1/4" / .250 - 12	70K - 100K
400-2589	14" / 355.6 mm	4.75"	3.5 API IF F / 40K Flange	1/4" / .250 - 16	70K - 100K
400-2590	16" / 406.4 mm	4.75"	3.5 API IF F / 100K Flange	1/4" / .250 - 19	70K - 100K
400-2591	18" / 457.2 mm	4.75"	3.5 API IF F / 100K Flange	1/4" / .250 - 22	70K - 100K
400-2592	20" / 508 mm	4.75"	3.5 API IF F / 100K Flange	1/4" / .250 - 22	70K - 100K
400-2593	24" / 609.6 mm	4.75"	3.5 API IF F / 100K Flange	1/4" / .250 - 22	70K - 100K
400-2594	28" / 711.2 mm	4.75"	3.5 API IF F / 100K Flange	1/4" / .250 - 25	70K - 100K
400-2595	30" / 762 mm	4.75"	3.5 API IF F / 100K Flange	1/4" / .250 - 28	70K - 100K
400-2596	34" / 863.6 mm	4.75"	3.5 API IF F / 100K Flange	1/4" / .250 - 31	70K - 100K
400-2597	36" / 914.4 mm	4.75"	3.5 API IF F / 100K Flange	1/4" / .250 - 31	70K - 100K

Find your flanged swivel and static plate options on page 63.

Note: Swivel and static options sold separately.



BEAVERTAIL HD BACKREAMER

With its low-weight design and low-resistance profile, the Beavertail allows for more efficient fluid-mixing capabilities downhole, requiring less horsepower for rotation. It features a replaceable, hardened-steel Allen-head nozzle for flow flexibility and consistent carbide Shark® teeth for improved life.



PART NUMBERS	CUT	SHAFT	DESCRIPTION	NPT/ORIFICE/NOZZLE QTY.	MODEL(S)
400-1439*	4.5" / 114.3 mm	2.0"	1.10-5 F / 12K TAB	7/16" / .188	5K
400-2602	6" / 152.4 mm	2.75"	2.0 API IF F / 20K TAB	1/4" / .188 - 13	9K - 20K
400-2603	8" / 203.2 mm	2.75"	2.0 API IF F / 20K TAB	1/4" / .188 - 13	9K - 20K
400-2604	10" / 254 mm	2.75"	2.0 API IF F / 20K TAB	1/4" / .188 - 13	9K - 20K
400-2605	12" / 304.8 mm	2.75"	2.0 API IF F / 20K TAB	1/4" / .188 - 13	9K - 20K
400-2606	14" / 355.6 mm	2.75"	2.0 API IF F / 20K TAB	1/4" / .188 - 13	9K - 20K
400-2607	16" / 406.4 mm	2.75"	2.0 API IF F / 20K TAB	1/4" / .188 - 13	9K - 20K
400-2608	18" / 457.2 mm	2.75"	2.0 API IF F / 20K TAB	1/4" / .188 - 13	9K - 20K
400-2609	20" / 508 mm	2.75"	2.0 API IF F / 20K TAB	1/4" / .188 - 13	9K - 20K
400-2974	6" / 152.4 mm	2.75"	2.38 API R F / 20K TAB	1/4" / .188 - 13	16K - 36K
400-2381	8" / 203.2 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 13	16K - 36K
400-2382	10" / 254 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 13	16K - 36K
400-2383	12" / 304.8 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 13	16K - 36K
400-2384	14" / 355.6 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 13	16K - 36K
400-2385	16" / 406.4 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 13	16K - 36K
400-2386	18" / 457.2 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 13	16K - 36K
400-2387	20" / 508 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 13	16K - 36K
400-2388	24" / 609.6 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 13	16K - 36K

*Nozzles included. See page 81 for optional replacements.

Note: Threaded connection options on page 77 and 79.

BEAVERTAIL HD BACKREAMER

○ SANDY SOIL
● SOFT SOIL
● MEDIUM SOIL
● HARD SOIL

PART NUMBERS	CUT	SHAFT	DESCRIPTION	NPT/ORIFICE/NOZZLE QTY.	MODEL(S)
400-2508	8" / 203.2 mm	4.25"	2.88 API R F / 2.88 API R F	3/8" / .250 - 13	40K - 60K
400-2509	10" / 254 mm	4.25"	2.88 API R F / 2.88 API R F	3/8" / .250 - 13	40K - 60K
400-2510	12" / 304.8 mm	4.25"	2.88 API R F / 2.88 API R F	3/8" / .250 - 13	40K - 60K
400-2511	14" / 355.6 mm	4.25"	2.88 API R F / 2.88 API R F	3/8" / .250 - 13	40K - 60K
400-2512	16" / 406.4 mm	4.25"	2.88 API R F / 2.88 API R F	3/8" / .250 - 13	40K - 60K
400-2513	18" / 457.2 mm	4.25"	2.88 API R F / 2.88 API R F	3/8" / .250 - 13	40K - 60K
400-2514	20" / 508 mm	4.25"	2.88 API R F / 2.88 API R F	3/8" / .250 - 13	40K - 60K
400-2515	24" / 609.6 mm	4.25"	2.88 API R F / 2.88 API R F	3/8" / .250 - 13	40K - 60K
400-2524	12" / 304.8 mm	4.75"	3.5 API IF F / 3.5 API IF F	3/8" / .250 - 13	60K - 100K
400-2525	14" / 355.6 mm	4.75"	3.5 API IF F / 3.5 API IF F	3/8" / .250 - 13	60K - 100K
400-2526	16" / 406.4 mm	4.75"	3.5 API IF F / 3.5 API IF F	3/8" / .250 - 13	60K - 100K
400-2527	18" / 457.2 mm	4.75"	3.5 API IF F / 3.5 API IF F	3/8" / .250 - 13	60K - 100K
400-2528	20" / 508 mm	4.75"	3.5 API IF F / 3.5 API IF F	3/8" / .250 - 13	60K - 100K
400-2529	24" / 609.6 mm	4.75"	3.5 API IF F / 3.5 API IF F	3/8" / .250 - 13	60K - 100K
400-2530	28" / 711.2 mm	4.75"	3.5 API IF F / 3.5 API IF F	3/8" / .250 - 13	60K - 100K
400-2531	30" / 762 mm	4.75"	3.5 API IF F / 3.5 API IF F	3/8" / .250 - 13	60K - 100K
400-2532	34" / 863.6 mm	4.75"	3.5 API IF F / 3.5 API IF F	3/8" / .250 - 13	60K - 100K
400-2533	36" / 914.4 mm	4.75"	3.5 API IF F / 3.5 API IF F	3/8" / .250 - 13	60K - 100K
400-2534	38" / 965.2 mm	4.75"	3.5 API IF F / 3.5 API IF F	3/8" / .250 - 13	60K - 100K
400-2535	40" / 1016 mm	4.75"	3.5 API IF F / 3.5 API IF F	3/8" / .250 - 13	60K - 100K
400-2536	42" / 1067 mm	4.75"	3.5 API IF F / 3.5 API IF F	3/8" / .250 - 13	60K - 100K

*Nozzles included. See page 81 for optional replacements.

Note: Threaded connection options on page 77 and 79.





SOIL CONDITION CHART

KEY ●=Best ○=Better ○=Good



WARTHOG™ HD BACKREAMER

WARTHOG™ HD BACKREAMER

The Warthog's dynamic cutting structure is designed to reduce drag and use lower torque pressures downhole for superior backreaming efficiency. Its carbide-reinforced Shark teeth carve through everything from hard, compacted soils to sandstone and shale. Along with its box design, allowing for flexibility in setting up ideal configurations, the Warthog features a through-flow shaft to accommodate stacking reamers for increased production.



PART NUMBERS	CUT	SHAFT	DESCRIPTION	NPT/ORIFICE/NOZZLE QTY.	MODEL(S)
400-2537	8" / 203.2 mm	2.75"	2.0 API R F / 20K Tab	1/4" / .188 - 5	9K - 20K
400-2538	10" / 254 mm	2.75"	2.0 API R F / 20K Tab	1/4" / .188 - 8	9K - 20K
400-2539	12" / 304.8 mm	2.75"	2.0 API R F / 20K Tab	1/4" / .188 - 14	9K - 20K
400-2540	14" / 355.6 mm	2.75"	2.0 API R F / 20K Tab	1/4" / .188 - 14	9K - 20K
400-2541	16" / 406.4 mm	2.75"	2.0 API R F / 20K Tab	1/4" / .188 - 17	9K - 20K
400-2542	18" / 457.2 mm	2.75"	2.0 API R F / 20K Tab	1/4" / .188 - 20	9K - 20K
400-2349	8" / 203.2 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 6	16K - 36K

*Nozzles included. See page 81 for optional replacements.

Note: Threaded connection options on page 77 and 79.

PART NUMBERS	CUT	SHAFT	DESCRIPTION	NPT/ORIFICE/NOZZLE QTY.	MODEL(S)
400-2350	10" / 254 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 9	16K - 36K
400-2351	12" / 304.8 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 15	16K - 36K
400-2352	14" / 355.6 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 15	16K - 36K
400-2353	16" / 406.4 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 18	16K - 36K
400-2354	18" / 457.2 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 21	16K - 36K
400-2355	20" / 508 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 21	16K - 36K
400-2356	24" / 609.6 mm	3.25"	2.38 API R F / 2.38 API R F	1/4" / .188 - 21	16K - 36K
400-2423	8" / 203.2 mm	4.25"	2.88 API R F / 2.88 API R F	1/4" / .188 - 5	40K - 60K
400-2424	10" / 254 mm	4.25"	2.88 API R F / 2.88 API R F	1/4" / .188 - 8	40K - 60K
400-2425	12" / 304.8 mm	4.25"	2.88 API R F / 2.88 API R F	1/4" / .188 - 8	40K - 60K
400-2427	14" / 355.6 mm	4.25"	2.88 API R F / 2.88 API R F	1/4" / .188 - 14	40K - 60K
400-2426	16" / 406.4 mm	4.25"	2.88 API R F / 2.88 API R F	1/4" / .188 - 17	40K - 60K
400-2428	18" / 457.2 mm	4.25"	2.88 API R F / 2.88 API R F	1/4" / .188 - 20	40K - 60K
400-2429	20" / 508 mm	4.25"	2.88 API R F / 2.88 API R F	1/4" / .188 - 20	40K - 60K
400-2430	24" / 609.6 mm	4.25"	2.88 API R F / 2.88 API R F	1/4" / .188 - 20	40K - 60K
400-2431	28" / 711.2 mm	4.25"	2.88 API R F / 2.88 API R F	1/4" / .188 - 20	40K - 60K
400-2432	30" / 762 mm	4.25"	2.88 API R F / 2.88 API R F	1/4" / .188 - 20	40K - 60K
400-2447	12" / 304.8 mm	4.75"	3.5 API I F F / 3.5 API I F F	1/4" / .188 - 8	60K - 100K
400-2448	14" / 355.6 mm	4.75"	3.5 API I F F / 3.5 API I F F	1/4" / .188 - 8	60K - 100K
400-2449	16" / 406.4 mm	4.75"	3.5 API I F F / 3.5 API I F F	1/4" / .188 - 17	60K - 100K
400-2450	18" / 457.2 mm	4.75"	3.5 API I F F / 3.5 API I F F	1/4" / .188 - 17	60K - 100K
400-2451	20" / 508 mm	4.75"	3.5 API I F F / 3.5 API I F F	1/4" / .188 - 20	60K - 100K
400-2452	24" / 609.6 mm	4.75"	3.5 API I F F / 3.5 API I F F	1/4" / .188 - 20	60K - 100K
400-2453	28" / 711.2 mm	4.75"	3.5 API I F F / 3.5 API I F F	1/4" / .188 - 20	60K - 100K
400-2454	30" / 762 mm	4.75"	3.5 API I F F / 3.5 API I F F	1/4" / .188 - 20	60K - 100K
400-2455	34" / 863.6 mm	4.75"	3.5 API I F F / 3.5 API I F F	1/4" / .188 - 26	60K - 100K
400-2456	36" / 914.4 mm	4.75"	3.5 API I F F / 3.5 API I F F	1/4" / .188 - 26	60K - 100K

*Nozzles included. See page 81 for optional replacements.

Note: Threaded connection options on page 77 and 79.



SOIL CONDITION CHART

KEY ● = Best ○ = Better ○ = Good



SANDHOG HD BACKREAMER

The Sandhog Backreamer is a triple-action backreamer designed for aggressive cutting, mixing and packing, giving you the best-prepared bore path for pullback in sandy and soft soils. It's strategically engineered to cut the hole to allow the barrel-shaped body to compact true to size and give maximum capacity for fluid flow for product pullback in unstable soil conditions.



PART NUMBERS	CUT	PACK	SHAFT	DESCRIPTION	NOZZLE/QT.Y.	MODEL(S)
400-2964	6" / 152.4 mm	4	2.75"	2.0 IF / 20K Tab	1/4" / .188 - 8	9K - 20K
400-2965	8" / 203.2 mm	6	2.75"	2.0 IF / 20K Tab	1/4" / .188 - 8	9K - 20K
400-2966	10" / 254 mm	8	2.75"	2.0 IF / 20K Tab	1/4" / .188 - 8	9K - 20K
400-2967	12" / 304.8 mm	10	2.75"	2.0 IF / 20K Tab	1/4" / .188 - 14	9K - 20K
400-2968	6" / 152.4 mm	4	3.25"	2.38 API-R / 20K Tab	1/4" / .188 - 8	16K - 36K
400-2969	8" / 203.2 mm	6	3.25"	2.38 API-R / 20K Tab	1/4" / .188 - 8	16K - 36K
400-2970	10" / 254 mm	8	3.25"	2.38 API-R / 20K Tab	1/4" / .188 - 8	16K - 36K
400-2971	12" / 304.8 mm	10	3.25"	2.38 API-R / 20K Tab	1/4" / .188 - 14	16K - 36K

SWAB REAMER

The Swab reamer is designed for direct pullback for All Terrain drills in rocky and hard soils. This backreamer directly connects to All Terrain drill pipe without the use of connectors, increasing productivity and jobsite efficiency.



PART NUMBERS	CUT	SHAFT	DESCRIPTION	NPT/ORIFICE/NOZZLE/QT.Y.	MODEL(S)
400-2614	5.5" / 139.7 mm	3.25"	2.77 M / 20K Tab	1/4" NPT / .100/3	30K
400-2799	5.5" / 139.7 mm	4.375"	2.95 M / 20K Tab	1/4" NPT / .100/3	AT40
400-3066	6.5" / 165.1 mm	4.375"	2.95 M / 20K Tab	1/4" NPT / .100/3	AT40
400-2716	6.5" / 165.1 mm	4.375"	3.25 M / 20K Tab	1/4" NPT / .100/3	AT4020 / AT60
400-2719	6.5" / 165.1 mm	4.375"	3.44 M / 20K Tab	1/4" NPT / .100/3	AT100

*Nozzles included. See page 81 for optional replacements.



ROCK MONSTER™ HD BACKREAMER

Engineered to improve longevity in a variety of drilling environments, the Ditch Witch® Rock Monster HD backreamer is equipped with EdgeGuard™ protection that includes strategically placed tungsten carbide disks and patented High Energy Tumbling (HET™) inserts. The Rock Monster HD is designed for smooth cutting downhole and is available in multiple sizes to maximize your effectiveness and productivity when drilling rock.



PART NUMBERS	CUT	IADC	SHAFT	FRONT CONNECTION	REAR CONNECTION	NOZZLE QUANTITY
400-2993	10" / 254 mm	517	3.75"	2.875" API-REG	40K Tab	4
400-3036	12" / 304.8 mm	517	3.75"	2.875" API-REG	40K Tab	4
400-3037	14" / 355.6 mm	537	4.75"	3.5" API-IF	3.5" API-IF	4
400-3038	14" / 355.6 mm	517	4.75"	3.5" API-IF	3.5" API-IF	5
400-3039	16" / 406.4 mm	537	4.75"	3.5" API-IF	3.5" API-IF	5
400-2735	18" / 457 mm	537	4.75"	3.5" API-IF	3.5" API-IF	5
400-2736	20" / 508 mm	537	4.75"	3.5" API-IF	3.5" API-IF	6
400-2737	22" / 559 mm	537	4.75"	3.5" API-IF	3.5" API-IF	6
400-1647	24" / 610 mm	537	4.75"	3.5" API-IF	3.5" API-IF	6

ROCK MONSTER™ REAMER NOZZLES

PART NUMBERS	DESCRIPTION	ORIFICE SIZE	RETENTION TYPE	COMPATIBLE REAMERS
159-1022	Jet Nozzle	.375	Snap Ring	400-2993
159-1025	Jet Nozzle	.125	Snap Ring	400-2993
159-1026	Jet Nozzle	.25	Snap Ring	400-2993
159-1027	Jet Nozzle	.25	Snap Ring	400-3037, 400-3038, 400-3039, 400-2735, 400-2736, 400-2737, 400-2738
159-1028	Jet Nozzle	.375	Snap Ring	400-3037, 400-3038, 400-3039, 400-2735, 400-2736, 400-2737, 400-2738

Note: Sold in quantities of three.



EZ BACKREAMER

Designed for direct connections to the EZ connect assembly, this backreamer is a simple, effective and fast-connecting tool for small diameter installations in soft to medium-hard soil conditions.



PART NUMBERS	CUT	SHAFT	DESCRIPTION	NPT/ORIFICE/NOZZLE/QT.Y.	MODEL(S)
400-2579	6" / 152.4 mm	3.25"	2.00-6 F, EZ2 / 30K Tab	1/4" NPT / .100/3	JT20
400-2584	8" / 203.2 mm	3.25"	2.00-6 F, EZ2 / 30K Tab	1/4" NPT / .100/3	JT20
400-2699	6" / 152.4 mm	3.25"	2.25-6 F, EZ3 / 30K Tab	1/4" NPT / .100/3	JT25 / JT30
400-2700	8" / 203 mm	3.25"	2.25-6 F, EZ3 / 30K Tab	1/4" NPT / .100/3	JT25 / JT30
400-2732	6" / 152.4 mm	3.25"	1.63-6 F, EZ2 / 30K Tab	1/4" NPT / .100/3	JT10

*Nozzles included. See pg 81 for optional replacement.

Note: Threaded connection options on page 77 and 79.



SOIL CONDITION CHART KEY ●=Best ○=Better ○=Good

ROCKMASTER® HOLE OPENER

Designed for heavy or solid rock bores, the RockMaster reamer body is available in four reamer body sizes. Features include replaceable Mill Tooth or TCI (Tungsten Carbide Insert) cutters that are field-replaceable and gauge-protected for extended life. Hole diameters range from 6" (152 mm) to 22" (559 mm), depending on the reamer body and cutters used.



PART NUMBERS	CUT	SERIES	SHAFT	DESCRIPTION	MODEL(S)
190-1403	6" / 152.4 mm	TCI	2.75"	2.59 F / 30K Tab	27K - 30K Drills
190-1404	6" / 152.4 mm	MT200	2.75"	2.59 F / 30K Tab	27K - 30K Drills
190-1391	8" / 203.2 mm	TCI	4"	2.59 F / 40K Soc	27K - 40K Drills
190-1392	8" / 203.2 mm	MT200	4"	2.59 F / 40K Soc	27K - 40K Drills
190-1393	10" / 254 mm	TCI	4"	2.59 F / 40K Soc	27K - 40K Drills
190-1394	10" / 254 mm	MT200	4"	2.59 F / 40K Soc	27K - 40K Drills
190-1395	12" / 304.8 mm	TCI	4"	2.59 F / 40K Soc	27K - 40K Drills
190-1396	12" / 304.8 mm	MT200	4"	2.54 F / 40K	27K - 40K Drills
368-380	Body Only	N/A	4"	2.59 F / 40K	27K - 40K Drills
190-1397	10" / 254 mm	TCI	5.75"	3.5 API M / 30K Tab	60K - 100K Drills
190-1398	10" / 254 mm	MT200	5.75"	3.5 API M / 30K Tab	60K - 100K Drills
190-1399	12" / 304.8 mm	TCI	5.75"	3.5 API M / 30K Tab	60K - 100K Drills
190-1400	12" / 304.8 mm	MT200	5.75"	3.5 API M / 30K Tab	60K - 100K Drills
190-1401	14" / 355.6 mm	TCI	5.75"	3.5 API M / 30K Tab	60K - 100K Drills
190-1402	14" / 355.6 mm	MT200	5.75"	3.5 API M / 30K Tab	60K - 100K Drills
368-236	Body Only	N/A	5.75"	3.5 API M / 30K Tab	60K - 100K Drills
190-1405	16" / 406.4 mm	TCI 500	8"	3.27 F / 100K Tab	60K - 100K Drills
190-1406	16" / 406.4 mm	TCI 700	8"	3.27 F / 100K Tab	60K - 100K Drills
190-1407	18" / 457.2 mm	TCI 500	8"	3.27 F / 100K Tab	60K - 100K Drills
190-1408	18" / 457.2 mm	TCI 700	8"	3.27 F / 100K Tab	60K - 100K Drills
190-1409	20" / 508 mm	TCI 500	8"	3.27 F / 100K Tab	60K - 100K Drills
190-1410	20" / 508 mm	TCI 700	8"	3.27 F / 100K Tab	60K - 100K Drills
190-1411	22" / 558.8 mm	TCI 500	8"	3.27 F / 100K Tab	60K - 100K Drills
190-1412	22" / 558.8 mm	TCI 700	8"	3.27 F / 100K Tab	60K - 100K Drills
400-973	Body Only	N/A	8"	3.27 F / 100K Tab	60K - 100K Drills

Note: MT = Mill Tooth and TCI = Tungsten Carbide Inserts

REPLACEMENT CUTTER SETS

PART NUMBERS	CONE HEIGHT	SERIES	SHAFT	CUT
369-301	1.8"	TCI 500	2.75"	6" / 125.4 mm
369-302	1.8"	MILL	2.75"	6" / 125.4 mm
400-809	1.8"	TCI 600	2.75"	6" / 125.4 mm
400-078	2.3"	TCI 500	4"/5.75"	8/10" / 203.2 / 254 mm
400-079	2.3"	MILL	4"/5.75"	8/10" / 203.2 / 254 mm
400-080	3.2"	TCI 500	4"/5.75"	10/12" / 254 / 304.8 mm
400-081	3.2"	MILL	4"/5.75"	10/12" / 254 / 304.8 mm
400-082	4.1"	TCI 500	4"/5.75"	12/14" / 304.8 / 355.6 mm
400-083	4.1"	MILL	4"/5.75"	12/14" / 304.8 / 355.6 mm
400-810	2.3"	TCI 600	4"/5.75"	8/10" / 203.2 / 254 mm
400-811	3.2"	TCI 600	4"/5.75"	10/12" / 254 / 304.8 mm
400-812	4.1"	TCI 600	4"/5.75"	12/14" / 304.8 / 355.6 mm
400-974		TCI 500	8"	16" / 406.4 mm
400-975		TCI 700	8"	16" / 406.4 mm
400-976		TCI 500	8"	18" / 457.2 mm
400-977		TCI 700	8"	18" / 457.2 mm
400-978		TCI 500	8"	20" / 508 mm
400-979		TCI 700	8"	20" / 508 mm
400-980		TCI 500	8"	22" / 558.8 mm
400-981		TCI 700	8"	22" / 558.8 mm

CENTERING CONE

PART NUMBERS	SIZE	ALL TERRAIN MODEL(S)	DESCRIPTION	NOZZLE QUANTITY
400-3011	6"	AT30 / AT40	2.88 API R F/M	8
400-3012	8"	AT30 / AT40	2.88 API R F/M	8
400-2998	10"	AT30 / AT40	2.88 API R F/M	8
400-3013	12"	AT30 / AT40	2.88 API R F/M	8
400-3014	14"	AT30 / AT40	2.88 API R F/M	8
400-3015	16"	AT30 / AT40	2.88 API R F/M	8
400-3016	18"	AT30 / AT40	2.88 API R F/M	8
400-3023	10"	AT60 / AT100	3.5 API IF F/M	8
400-3024	12"	AT60 / AT100	3.5 API IF F/M	8
400-3025	14"	AT60 / AT100	3.5 API IF F/M	8
400-3026	16"	AT60 / AT100	3.5 API IF F/M	8
400-3027	18"	AT60 / AT100	3.5 API IF F/M	8

Note: Replaceable nozzles on page 81.



DURABLE AS THE DRILLS THAT PULL THEM.



A weak link can cripple your entire jobsite. That's why you can't skimp on important components like pullers, swivels and tabs. Ditch Witch® one-piece pullers provide a reliable connection you can count on bore after bore. Our swivels are built to last up to four times longer than aftermarket counterparts. And our pulling tabs are made from hardened steel and tested to perform up to the demanding Ditch Witch standards.

BIT PULLING ACCESSORIES



PART NUMBERS	DESCRIPTION
369-709	Bit Clevis - JT5 bits only
400-242*	Bit Pull Eye Assembly
400-2668	Pull Tool (small)
906-1828	Shackle 3/8 screw pin anchor
400-2669	Pull Tool with shackle

*See Bit Page for Application.

PULLING GRIPS

WITH SWIVEL

PART NUMBERS	SIZE
185-901	1/4 - 1/2"
185-902	1/2 - 3/4"
185-903	3/4 - 1-1/4"
185-904	1-1/4 - 2"
185-906	2 - 2-3/4"
185-907	2-3/4 - 3-1/2"
185-913	3-1/2 - 4-1/4"
185-914	4-1/4 - 4-3/4"

WITHOUT SWIVEL

PART NUMBERS	SIZE
185-917	3/4 - 1-1/4"
185-918	1-1/4 - 2"
185-919	2 - 2-3/4"
185-920	2-3/4 - 3-1/2"
185-921	3-1/2 - 4-1/4"

HEAVY-DUTY PULLING GRIP

PART NUMBERS	SIZE
185-922	3/4 - 1-1/4"
185-923	1-1/4 - 2"
185-924	2 - 2-3/4"
185-925	2-3/4 - 3-1/2"
185-926	3-1/2 - 4-1/4"



ANCHOR SHACKLES



PART NUMBERS	SIZE	BOLT SIZE	WIDTH	LOAD LIMIT
110-289	5/16"	3/8"	.53"	1K
110-509	1/2"	5/8"	.815"	4K
110-969	5/8"	3/4"	1.065"	6.5K
110-040	3/4"	7/8"	1.25"	9.5K
110-987	7/8"	1"	1.44"	13K
110-847	1"	1-1/8"	1.69"	17K
111-018	1-1/4"	1-3/8"	2.03"	24K
111-019	1-1/2"	1-5/8"	2.375"	34K
369-709	Bit Clevis	1/2"	N/A	
908-1828	3/8"	7/16"	.66"	2K



SLEEVED PULLERS

PART NUMBERS	SIZE	MIN - MAX ID	SDR RANGE
902-2100	1"	1.050 - 1.200" ID	11 - 17
902-2200	1.25"	1.200 - 1.500" ID	9 - 17
902-2300	1.5"	1.530 - 1.620" ID	11 - 13.5
902-2400	2"	1.900 - 2.050" ID	11 - 13.5
902-2500	2.5"	2.310 - 2.700" ID	11 - 17
902-2600	3"	2.825 - 3.070" ID	11 - 17
902-2700	4"	3.620 - 4.090" ID	11 - 21
902-2800	5"	4.470 - 5.160" ID	11 - 26
902-2900	6"	5.320 - 6.040" ID	11 - 21



CARROT PULLER

Made of high-quality alloys, carrot pullers are designed for quick and reliable connections. They feature extra thread reliefs that create a clean, precise thread on the pipe to ensure a superior connection.

PART NUMBERS	SIZE	MIN - MAX ID	SDR RANGE
901-0102	.5 - 1"	0.38 - 1.08" ID	9 - 11
901-0105	1"	0.90 - 1.21" ID	7.3 - 17
901-0122	1 - 1.25"	1 - 1.39" ID	9 - 13.5
901-0125	1.25"	1.27 - 1.51" ID	9 - 17
901-0152	1.25 - 1.5"	1.1 - 1.66" ID	7 - 17
901-0150	1.5"	1.52 - 1.67" ID	11 - 17
901-0202	2.0"	1.82 - 2.10" ID	9 - 17



NON-SLEEVED PULLERS

The economical choice for trenchless installation professionals, Ditch Witch® Non-Sleeved Pullers offer the secure connection you need for pullback in tough downhole conditions. Non-sleeved pullers are made of high-quality alloys and feature a durable pulling eye for reliable performance every time. Like our sleeved puller, non-sleeved pullers can be quickly and easily installed into HDPE, PVC and other types of pipe.

PART NUMBERS	SIZE	MIN - MAX ID	SDR RANGE
902-0010	1"	1.050 - 1.200" ID	11 - 17
902-0101	1.25"	1.200 - 1.500" ID	9 - 17
902-0151	1.5"	1.530 - 1.620" ID	11 - 13.5
902-0201	2"	1.900 - 2.050" ID	11 - 13.5
902-0251	2.5"	2.310 - 2.700" ID	11 - 17
902-0301	3"	2.825 - 3.070" ID	11 - 17
902-0401	4"	3.620 - 4.090" ID	11 - 21
902-0501	5"	4.470 - 5.160" ID	11 - 26
902-0601	6"	5.320 - 6.040" ID	11 - 21
902-0801	8"	7.050 - 7.750" ID	11 - 21
902-1001	10"	8.670 - 9.875" ID	11 - 26
902-1201	12"	10.430 - 11.960" ID	11 - 23.5



SLIM LINE SWIVELS

Featuring heavy-duty contact bearings and exposed grease fittings for easy application, Ditch Witch® Slim-Line swivels are compatible with a variety of pull tabs, collars and HammerHead® pulling sleeves.

PART NUMBERS	CAPACITY
400-1588	5K Swivel
400-3056	10K Swivel
400-2744	20K Swivel
400-3059	30K Swivel



THREADED SWIVELS

PART NUMBERS	CONNECTION	CAPACITY
369-195	1.94-4F / 12K Tab	10K
400-111	1.94-4M / 12K Tab	10K
400-112	1.94-4M / 20K Tab	20K
400-236	1.94-4F / 20K Tab	20K
300-1160	1.94-4F / 30K Tab	20K
400-2558	2.38 API R M / 20K Clevis	40K
400-2559	2.38 API R M / 20K Tab	40K
400-2560	2.38 API R M / 30K Clevis	40K
400-2561	2.38 API R M / 30K Tab	40K
400-1390	3.44-4M SS / 30K Tab	40K
400-2562	2.88 API R M / 30K Clevis	60K
400-2563	2.88 API R M / 30K Tab	60K
400-2564	2.88 API R M / 40K Clevis	60K
400-2565	2.88 API R M / 40K Tab	60K
400-2566	3.5 API IF M / 40K Clevis	100K
400-2567	3.5 API IF M / 40K Tab	100K
400-2568	3.5 API IF M / 100K Clevis	100K
400-2569	3.5 API IF M / 100K Tab	100K



SLEEVED PULLER REPLACEMENT PARTS

REPLACEMENT PART	1" (25 MM) 902-2100	1.25" (32 MM) 902-2200	1.5" (40 MM) 902-2300	2" (50 MM) 902-2400	2.5" (63 MM) 902-2500	3" (75 MM) 902-2600	4" (120 MM) 902-2700	6" (160 MM) 902-2800
Stem	902-2101	902-2201	902-2301	902-2401	902-2401	902-2610	902-2610	902-2901
O-Ring Kit	902-2103	902-2203	902-2303	902-2403	902-2503	902-2603	902-2703	902-2904
Sleeve Assembly	902-2102	902-2202	902-2302	902-2402	902-2502	902-2601	902-2701	902-2902
Jaw Set	902-2114	902-2212	902-2315	902-2414	902-2513	902-2602	902-2713	902-2915
Expander Cone	902-0009	902-0109	902-0158	902-0209	902-0209	902-0302	902-0302	902-0619
Nut	n/a	n/a	n/a	n/a	n/a	2921	2921	2921
Eyebolt	30304	30304	51290	51290	51290	30291	30291	30291

PULLERS, SWIVELS & TABS



DOUBLE CLEVIS

PART NUMBERS	CONNECTION	CAPACITY
185-935	5K Clevis / 5K Clevis	10K
401-283	20K Clevis / 20K Clevis	20K
300-1164	30K Clevis / 30K Clevis	30K
401-294	100K Clevis / 100K Clevis	40K

CLEVIS TO TAB

PART NUMBERS	CONNECTION	CAPACITY
368-513	12K Clevis / 12K Tab	10K
368-634	20K Clevis / 20K Tab	20K
369-712	30K Clevis / 20K Tab	20K
300-1157	30K Clevis / 30K Tab	30K
400-748	40K Clevis / 40K Tab	60K
369-971	70K Clevis / 40K Tab	60K
369-972	100K Clevis / 70K Tab	100K



PULL TAB & PULL CLEVIS

PART NUMBERS	DESCRIPTION	MODEL(S)
369-308	1.21 M / 5K Tab	JT520
369-309	1.31 F / 5K Tab	JT520
400-1432	1.33 F / 5K Tab	JT5
368-352	1.41 M / 12K Tab	JT920 / JT920L / JT921 / JT921S / JT922
400-921	1.88 F / 10K Tab	JT1220M1
401-007	1.88 F / 20K Tab	JT1220M1
369-864	1.94 M / 10K Tab	JT920L / JT1220M1
369-865	1.94 M / 20K Tab	JT920 / JT920L / JT921 / JT921S / JT922 / JT1220M1 / JT1720M1 / JT2020M1
400-2554	2.38 API R M / 20K Tab	16K - 36K
400-2419	2.38 API R M / 30K Tab	16K - 36K
400-760	DS 2.77 M / 30K Tab	AT2720 / AT30
400-803	SS 2.77 M / 30K Tab	AT2720 / AT30 Cobble
400-2555	2.88 API R M / 30K Tab	40K - 70K
400-2518	2.88 API R M / 40K Tab	40K - 70K
401-246	3.25 M / 30K Tab	AT4020 / AT60
400-818	3.25 M / 40K Tab	AT4020 / AT60
400-820	3.25 F / 60K Tab	AT60
369-123	3.27 M / 70K Tab	JT8020M1 / JT100M1
369-122	3.27 F / 70K Tab	JT8020M1 / JT100M1
400-2556	3.5 API IF M / 40K Tab	70K - 100K
400-2519	3.5 API IF M / 100K Tab	70K - 100K
400-583	40K Socket / 30K Tab	3.5" Shaft Reamers
400-704	40K Socket / 40K Tab	JT4020M1 / AT4020
369-854	70K Clevis / 40K Tab	JT4020M1 / JT8020M1 / JT100M1 / JT60
400-781	2.77" 4 DS AT F / 30K	AT30
400-2557*	2.88 API R M / 40K Socket	40K / 60K
400-3121	2.95 M / 40K Tab	AT40

DS = Double Shoulder

SS = Single Shoulder

* Converts threaded HD reamers to 40K socket, connections and swivels.



SOCKETS

PART NUMBERS	CONNECTION	CAPACITY
300-1159	40K Socket F / 30K Tab	30K
400-221	40K Socket / 40K Tab	60K



RUGGED CONSTRUCTION. PRECISION PERFORMANCE. MAXIMUM EFFICIENCY.

Whether manufactured from heat-treated steel or fabricated with carbide inserts, our nozzles can take what the jobsite dishes out, while still regulating and directing fluid flow with precision. Available with varying flows and pressures, we have a nozzle that will help maximize the efficiency of your directional drill in virtually any application.

BEACON HOUSING & BACKREAMER NOZZLES

PART NUMBERS	THREAD SIZE	ORIFICE SIZE
105-2635	1/8 NPT	Plug
908-0766	1/8 NPT	.155"
159-1006	1/4 NPT	.1"
159-1007	1/4 NPT	.125"
159-1008	1/4 NPT	.188"
159-1009	1/4 NPT	.25"
908-0043	1/4 NPT	.203"
149-200	1/4 NPT	.07"
149-201	1/4 NPT	.1"
149-202	1/4 NPT	.15"
149-203	1/4 NPT	.2"
149-204	1/4 NPT	.25"
906-2673	1/4 NPT	.25"
105-2637	1/4 NPT	Plug
159-1010	3/8 NPT	.125"
159-1011	3/8 NPT	.188"
159-1012	3/8 NPT	.25"
114-002	3/8 NPT	Plug
906-1526	3/8 NPT	.312"

