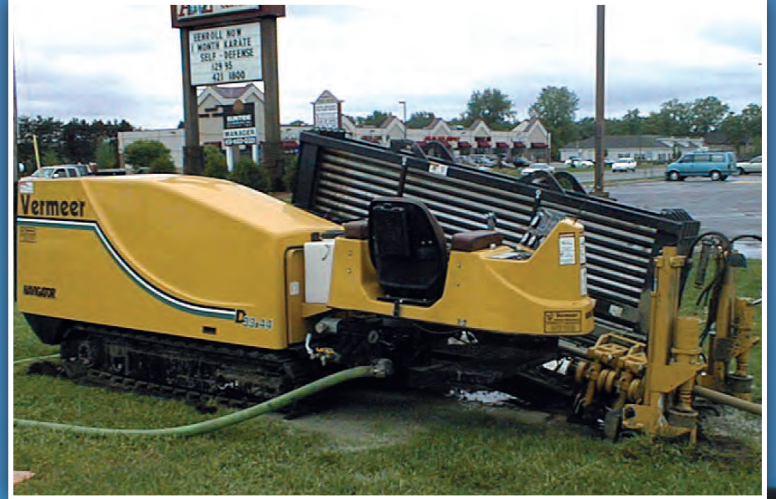


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Ditch Witch® Compatible Drill Rod Specifications

Rod Size	JT920	JT920L	JT921	JT922	JT1210
Manufacture Process	Forged IW	Forged IW	Forged IW	Forged IW	Forged IW
O.A.L. (S/S)	6 1/2'	10'	6 1/2'	6 1/2'	10'
Pipe Body O.D.	1.660"	1.660"	1.660"	1.660"	1.660"
Upset Diameter	2.000"	2.000"	2.000"	2.000"	2.000"
Wall Thickness	.240"	.240"	.240"	.240"	.240"
Bend Radius	98.1'	98.1'	98.1'	98.1'	98.1'
Weight	29 LBS	39 LBS	29 LBS	29 LBS	39 LBS

Rod Size	JT1220M1	JT1720	JT2020M1	JT2720	JT2720M1
Manufacture Process	Forged IW	Forged IW	Forged IW	Forged IW	Forged IW
O.A.L. (S/S)	10'	10'	10'	10'	10'
Pipe Body O.D.	1.900"	2.063"	2.063"	2.375"	2.375"
Upset Diameter	2.375"	2.500"	2.625"	2.750"	3.000"
Wall Thickness	.240"	.270"	.270"	.280"	.280"
Bend Radius	112.3'	121.9'	121.9'	140.4'	140.4'
Weight	56 LBS	59 LBS	59 LBS	78 LBS	85 LBS





Ditch Witch® JT920 Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT920DT	369-048	Drill Stem 1.660" O.D. X 6 1/2' Long



Ballantine Part No.	OEM Part Number	Description
BJT920DC	301-892	Saver Sub



Ballantine Part No.	OEM Part Number	Description
B106081	N/A	Saver Sub Bolt



Ballantine Part No.	OEM Part Number	Description
BJT920EZ2 *	400-070	EZ Connect 2 Assy. Includes all items with an asterisk *



Ballantine Part No.	OEM Part Number	Description
B400067 *	400-067	Transition Sub



Ballantine Part No.	OEM Part Number	Description
B157192 *	N/A	"O" Ring



Ballantine Part No.	OEM Part Number	Description
B400069HF *	N/A	Collar Octagon 2" Hard Faced



Ballantine Part No.	OEM Part Number	Description
B400069HFC	N/A	Collar Octagon 2" Hard Faced W/Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V4478003 *	N/A	Collar Bolt

Ditch Witch® JT920 Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT635025 **	N/A	Sonde - 2.750" Dia. Side Load API (B) 5 Hole - <i>Includes all items with double asterisks **</i>

THIS SONDE REQUIRES 5 HOLE PILOT BITS SHOWN ON PAGES 20 - 23



Ballantine Part No.	OEM Part Number	Description
BJT551010	N/A	Tail Piece EZ-2 (B) X 2" IF (P)



Ballantine Part No.	OEM Part Number	Description
BJT635030 **	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 **	N/A	Replacement Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
V129667010 **	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
93030123 **	N/A	Replacement Cover Cap Screw (Large 3 Required)



Ballantine Part No.	OEM Part Number	Description
B107277 **	N/A	Pilot Bit Bolts (5 required)



Ballantine Part No.	OEM Part Number	Description
PWF9-150	N/A	Rod Wiper For 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
B149578	149-578	Dual Rod Wiper For 1.660" Pipe

Ballantine Part No.	OEM Part Number	Description
120RC-171	149-578	Thrust/Pull Back Chain (Serial No. 2P0770 And Above, Also Converted Models.)

Ditch Witch® JT920L Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT920LDT	369-048	Drill Stem 1.660" O.D. X 10"



Ballantine Part No.	OEM Part Number	Description
BJT920DC	301-892	Saver Sub



Ballantine Part No.	OEM Part Number	Description
B106081	N/A	Saver Sub Bolt



Ballantine Part No.	OEM Part Number	Description
BJT920EZ2 *	400-070	EZ Connect 2 Assy. Includes all items with an asterisk *



Ballantine Part No.	OEM Part Number	Description
B400067 *	400-067	Transition Sub



Ballantine Part No.	OEM Part Number	Description
B157192 *	N/A	"O" Ring



Ballantine Part No.	OEM Part Number	Description
B400069HF *	N/A	Collar Octagon 2" Hard Faced



Ballantine Part No.	OEM Part Number	Description
B400069HFC	N/A	Collar Octagon 2" Hard Faced W/Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V4478003 *	N/A	Collar Bolt

Ditch Witch® JT920L Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT635025 **	N/A	Sonde - 2.750" Dia. Side Load API (B) 5 Hole - <i>Includes all items with double asterisks **</i>

THIS SONDE REQUIRES 5 HOLE PILOT BITS SHOWN ON PAGES 20 - 23



Ballantine Part No.	OEM Part Number	Description
BJT551010	N/A	Tail Piece EZ-2 (B) X 2" IF (P)



Ballantine Part No.	OEM Part Number	Description
BJT635030 **	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 **	N/A	Replacement Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
V129667010 **	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
93030123 **	N/A	Replacement Cover Cap Screw (Large 3 Required)



Ballantine Part No.	OEM Part Number	Description
B107277 **	N/A	Pilot Bit Bolts (5 required)



Ballantine Part No.	OEM Part Number	Description
PWF9-150	N/A	Rod Wiper For 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
B149578	N/A	Dual Rod Wiper For 1.660" Pipe

Ballantine Part No.	OEM Part Number	Description
120RC-215	N/A	Trust/Pull Back Chain

Ditch Witch® JT921 Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT920DT	369-048	Drill Stem 1.660" O.D. X 6 1/2' Long



Ballantine Part No.	OEM Part Number	Description
BJT920DC	301-892	Saver Sub



Ballantine Part No.	OEM Part Number	Description
B106081	N/A	Saver Sub Bolt



Ballantine Part No.	OEM Part Number	Description
BJT920EZ2 *	400-070	EZ Connect 2 Assy. Includes all items with an asterisk *



Ballantine Part No.	OEM Part Number	Description
B400067 *	400-067	Transition Sub



Ballantine Part No.	OEM Part Number	Description
B157192 *	N/A	"O" Ring



Ballantine Part No.	OEM Part Number	Description
B400069HF *	N/A	Collar Octagon 2" Hard Faced



Ballantine Part No.	OEM Part Number	Description
B400069HFC	N/A	Collar Octagon 2" Hard Faced W/Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V4478003 *	N/A	Collar Bolt

Ditch Witch® JT921 Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT635025 **	N/A	Sonde - 2.750" Dia. Side Load API (B) 5 Hole -

*Includes all items with double asterisks ***

THIS SONDE REQUIRES 5 HOLE PILOT BITS SHOWN ON PAGES 20 - 23



Ballantine Part No.	OEM Part Number	Description
BJT551010	N/A	Tail Piece EZ-2 (B) X 2" IF (P)



Ballantine Part No.	OEM Part Number	Description
BJT635030 **	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 **	N/A	Replacement Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
V129667010 **	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
93030123 **	N/A	Replacement Cover Cap Screw (Large 3 Required)



Ballantine Part No.	OEM Part Number	Description
B107277 **	N/A	Pilot Bit Bolts (5 required)



Ballantine Part No.	OEM Part Number	Description
PWF9-150	N/A	Rod Wiper For 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
B149578	149-578	Dual Rod Wiper For 1.660" Pipe

Ballantine Part No.	OEM Part Number	Description
120RC-171	149-578	Thrust/Pull Back Chain (Serial No. 2P0770 And Above, Also Converted Models.)

Ditch Witch® JT922 Using Fine Thread 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT922DT	400-1118	Drill Stem 1.66" X 6' Long Fine Thread



Ballantine Part No.	OEM Part Number	Description
BJT922DC	300-2340	Sub Saver Fine Thread



Ballantine Part No.	OEM Part Number	Description
BJT920EZ2 *	400-070	EZ Connect 2 Assy. Includes all items with an asterisk *



Ballantine Part No.	OEM Part Number	Description
B400067 *	N/A	Transition Sub EZ-2 Fine Thread



Ballantine Part No.	OEM Part Number	Description
B157192*	N/A	"O" Ring



Ballantine Part No.	OEM Part Number	Description
B400069HF *	N/A	Collar Octagon 2" Hard Faced



Ballantine Part No.	OEM Part Number	Description
B400069HFC	N/A	Collar Octagon 2" Hard Faced W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V4478003 *	N/A	Collar Bolt

Ditch Witch® JT922 Using Fine Thread 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT635025 **	N/A	Sonde - 2.750" Dia. Side Load API (B) 5 Hole -

*Includes all items with double asterisks ***

THIS SONDE REQUIRES 5 HOLE PILOT BITS SHOWN ON PAGES 20 - 23



Ballantine Part No.	OEM Part Number	Description
BJT551010	N/A	Tail Piece EZ-2 (B) X 2" IF (P)



Ballantine Part No.	OEM Part Number	Description
BJT635030 **	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 **	N/A	Replacement Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
V129667010 **	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
93030123 **	N/A	Replacement Cover Cap Screw (Large 3 Required)



Ballantine Part No.	OEM Part Number	Description
B107277 **	N/A	Pilot Bit Bolts (5 required)



Ballantine Part No.	OEM Part Number	Description
PWF9-150	N/A	Rod Wiper For 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
B149578	149-578	Dual Rod Wiper For 1.660" Pipe

Ditch Witch® JT1210 Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT920LDT	369-048	Drill Stem 1.660" O.D. x 10' Long



Ballantine Part No.	OEM Part Number	Description
BJT920DC	301-892	Saver Sub



Ballantine Part No.	OEM Part Number	Description
B106081	N/A	Saver Sub Bolt



Ballantine Part No.	OEM Part Number	Description
BJT920EZ2 *	400-070	EZ Connect 2 Assy. Includes all items with an asterisk *



Ballantine Part No.	OEM Part Number	Description
B400067 *	400-067	Transition Sub



Ballantine Part No.	OEM Part Number	Description
B157192*	N/A	"O" Ring



Ballantine Part No.	OEM Part Number	Description
B400069HF *	N/A	Collar Octagon 2" Hard Faced



Ballantine Part No.	OEM Part Number	Description
B400069HFC	N/A	Collar Octagon 2" Hard Faced W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V4478003 *	N/A	Collar Bolt

Ditch Witch® JT1210 Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT635025 **	N/A	Sonde - 2.750" Dia. Side Load API (B) 5 Hole - <i>Includes all items with double asterisks **</i>

THIS SONDE REQUIRES 5 HOLE PILOT BITS SHOWN ON PAGES 20 - 23



Ballantine Part No.	OEM Part Number	Description
BJT551010	N/A	Tail Piece EZ-2 (B) X 2" IF (P)



Ballantine Part No.	OEM Part Number	Description
BJT635030 **	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 **	N/A	Replacement Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
V129667010 **	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
93030123 **	N/A	Replacement Cover Cap Screw (Large 3 Required)



Ballantine Part No.	OEM Part Number	Description
B107277 **	N/A	Pilot Bit Bolts (5 required)



Ballantine Part No.	OEM Part Number	Description
PWF9-150	N/A	Rod Wiper For 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
B149578	N/A	Dual Rod Wiper For 1.660" Pipe

Ballantine Part No.	OEM Part Number	Description
120RC-215	N/A	Thrust/Pull Back Chain

Ditch Witch® JT1220 Mach 1 Using 1.900" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT1220DTM1	401-239	Drill Stem 1.900" O.D. X 10'



Ballantine Part No.	OEM Part Number	Description
BJT1220DC	400-604	Sub Saver



Ballantine Part No.	OEM Part Number	Description
B106642	106-642	Sub Saver Bolt (8 Required)



Ballantine Part No.	OEM Part Number	Description
B106396	106-396	Sub Saver Washer (16 Required)



Ballantine Part No.	OEM Part Number	Description
B105894	105-894	Sub Saver Nut (8 required)



Ballantine Part No.	OEM Part Number	Description
B157019	157-019	Sub Saver "O" Ring



Ballantine Part No.	OEM Part Number	Description
BJT1220EZ3	N/A	Ez Connect 3 Assy. Incudes All Items With An Asterisk *



Ballantine Part No.	OEM Part Number	Description
B400917 *	400-019	Transition Sub EZ 3



Ballantine Part No.	OEM Part Number	Description
B157192 *	157-192	"O" Ring



Ballantine Part No.	OEM Part Number	Description
B400926HF *	400-926	Collar Octagon 2 1/4" I.D. Hard Faced



Ballantine Part No.	OEM Part Number	Description
B107540	107-540	Collar Bolt

Ditch Witch® JT1220 Mach 1 Using 1.900" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT635025 **	N/A	Sonde - 2.750" Dia. Side Load API (B) 5 Hole -

*Includes all items with double asterisks ***

THIS SONDE REQUIRES 5 HOLE PILOT BITS SHOWN ON PAGES 20 - 23



Ballantine Part No.	OEM Part Number	Description
BJT551015	N/A	Tail Piece For EZ 3 Transition Sub



Ballantine Part No.	OEM Part Number	Description
BJT635030 **	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 **	N/A	Replacement Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
V129667010 **	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
93030123 **	N/A	Replacement Cover Cap Screw (Large 3 Required)



Ballantine Part No.	OEM Part Number	Description
B107277 **	N/A	Pilot Bit Bolts (5 required)



Ballantine Part No.	OEM Part Number	Description
PWF9-175	N/A	Rod Wiper For 1.900" Pipe



Ballantine Part No.	OEM Part Number	Description
B149974	149-974	Dual Rod Wiper For 1.900" Pipe

Ditch Witch® JT1720 Using 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT1720DT	400-843	Drill Stem 2.063" O.D. X 10'



Ballantine Part No.	OEM Part Number	Description
BJT1720DC	301-892	Sub Saver



Ballantine Part No.	OEM Part Number	Description
B106081	106-801	Sub Saver Bolt (8 Required)



Ballantine Part No.	OEM Part Number	Description
BJT1720EZ2	N/A	Ez Connect 2 Assy. Includes all items with an asterisk *



Ballantine Part No.	OEM Part Number	Description
B369998 *	369-998	Transition Sub



Ballantine Part No.	OEM Part Number	Description
B157194 *	157-194	"O" Ring



Ballantine Part No.	OEM Part Number	Description
B369154HF *	369-154	Collar Octagon 2 1/2" I.D. Hard Faced



Ballantine Part No.	OEM Part Number	Description
B369154HFC	N/A	Collar Octagon 2 1/2" Hard Faced W/ carbide cutters



Ballantine Part No.	OEM Part Number	Description
B107521 *	107-521	Collar Bolt

Ditch Witch® JT1720 Using 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT635025 **	N/A	Sonde - 2.750" Dia. Side Load API (B) 5 Hole - <i>Includes all items with double asterisks **</i>

THIS SONDE REQUIRES 5 HOLE PILOT BITS SHOWN ON PAGES 20 - 23



Ballantine Part No.	OEM Part Number	Description
BJT551020	N/A	Tail Piece



Ballantine Part No.	OEM Part Number	Description
BJT635030 **	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 **	N/A	Replacement Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
V129667010 **	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
93030123 **	N/A	Replacement Cover Cap Screw (Large 3 Required)



Ballantine Part No.	OEM Part Number	Description
B107277 **	N/A	Pilot Bit Bolts (5 required)



Ballantine Part No.	OEM Part Number	Description
PWF9-187	N/A	Rod Wiper For 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
B149973	149-973	Dual Rod Wiper For 2.063" Pipe

Ballantine Part No.	OEM Part Number	Description
RC120H-225	N/A	Thrust/Pull Back Chain Requires 2 Connecting Links

Ballantine Part No.	OEM Part Number	Description
B120HCL	N/A	Connecting Link

Ditch Witch® JT1720M1 Using 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT1720DTM1	400-843	Drill Stem 2.063" O.D. X 10'



Ballantine Part No.	OEM Part Number	Description
BJT1720DC	301-892	Sub Saver



Ballantine Part No.	OEM Part Number	Description
B106081	106-801	Sub Saver Bolt (8 Required)



Ballantine Part No.	OEM Part Number	Description
BJT1720EZ2	N/A	Ez Connect 2 Assy. Includes all items with an asterisk *



Ballantine Part No.	OEM Part Number	Description
B369998 *	369-998	Transition Sub



Ballantine Part No.	OEM Part Number	Description
B157194 *	157-194	"O" Ring



Ballantine Part No.	OEM Part Number	Description
B369154HF *	369-154	Collar Octagon 2 1/2" I.D. Hard Faced



Ballantine Part No.	OEM Part Number	Description
B369154HFC	N/A	Collar Octagon 2 1/2" Hard Faced W/ carbide cutters



Ballantine Part No.	OEM Part Number	Description
B107521 *	107-521	Collar Bolt

Ditch Witch® JT1720M1 Using 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT635025 **	N/A	Sonde - 2.750" Dia. Side Load API (B) 5 Hole -

*Includes all items with double asterisks ***

THIS SONDE REQUIRES 5 HOLE PILOT BITS SHOWN ON PAGES 20 - 23



Ballantine Part No.	OEM Part Number	Description
BJT551020	N/A	Tail Piece



Ballantine Part No.	OEM Part Number	Description
BJT635030 **	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 **	N/A	Replacement Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
V129667010 **	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
93030123 **	N/A	Replacement Cover Cap Screw (Large 3 Required)



Ballantine Part No.	OEM Part Number	Description
B107277 **	N/A	Pilot Bit Bolts (5 required)



Ballantine Part No.	OEM Part Number	Description
PWF9-187	N/A	Rod Wiper For 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
B149973	149-973	Dual Rod Wiper For 2.063" Pipe

Ballantine Part No.	OEM Part Number	Description
RC120H-225	N/A	Thrust/Pull Back Chain Requires 2 Connecting Links

Ballantine Part No.	OEM Part Number	Description
B120HCL	N/A	Connecting Link

Ditch Witch® JT2020 Mach 1 Using 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT2020DTM1	401-339	Drill Stem 2.063" O.D. X 10'



Ballantine Part No.	OEM Part Number	Description
BJT2020M1EZ2	N/A	EZ Connect 2 Assy. Includes all items with an asterisk *



Ballantine Part No.	OEM Part Number	Description
B401301 *	401-301	Transition Sub



Ballantine Part No.	OEM Part Number	Description
B157194 *	157-194	"O" Ring



Ballantine Part No.	OEM Part Number	Description
B369154HF *	N/A	Collar Octagon 2 1/2" I.D. Hard Faced



Ballantine Part No.	OEM Part Number	Description
B369154HFC	N/A	Collar Octagon 2 1/2" Hard Faced w/ carbide cutters



Ballantine Part No.	OEM Part Number	Description
B107521 *	107-521	Collar Bolt



Ditch Witch® JT2020 Mach 1 Using 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT635025 **	N/A	Sonde - 2.750" Dia. Side Load API (B) 5 Hole -

*Includes all items with double asterisks ***

THIS SONDE REQUIRES 5 HOLE PILOT BITS SHOWN ON PAGES 20 - 23



Ballantine Part No.	OEM Part Number	Description
BJT551020	N/A	Tail Piece



Ballantine Part No.	OEM Part Number	Description
BJT635030 **	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 **	N/A	Replacement Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
V129667010 **	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
93030123 **	N/A	Replacement Cover Cap Screw (Large 3 Required)



Ballantine Part No.	OEM Part Number	Description
B107277 **	N/A	Pilot Bit Bolts (5 required)



Ballantine Part No.	OEM Part Number	Description
PWF9-187	N/A	Rod Wiper For 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
B149973	149-973	Dual Rod Wiper For 2.063" Pipe

Ditch Witch® JT2720 Using 2.375" Pipe



Ballantine Part No.	OEM Part Number	Description
BJT2720DT	400-844	Drill Stem 2.375" O.D. X 10'



Ballantine Part No.	OEM Part Number	Description
BJT2720DC	343-275	Sub Saver



Ballantine Part No.	OEM Part Number	Description
B106797	106-797	Sub Saver Bolt (6 Required)



Ballantine Part No.	OEM Part Number	Description
BJT2720EZ2 *	400-002	EZ Connect 2 Assy. Includes all items with an asterisk *



Ballantine Part No.	OEM Part Number	Description
B400134 *	400-134	Transition Sub



Ballantine Part No.	OEM Part Number	Description
B157194 *	157-194	"O" Ring



Ballantine Part No.	OEM Part Number	Description
B369154HF *	N/A	Collar Octagon 2 1/2" I.D. Hard Faced



Ballantine Part No.	OEM Part Number	Description
B369154HFC	N/A	Collar Octagon 2 1/2" I.D. Hard Faced W/ carbide cutters



Ballantine Part No.	OEM Part Number	Description
B107521 *	107-521	Collar Bolt



Ballantine Part No.	OEM Part Number	Description
PWF9-200	N/A	Rod Wiper For 2.375" Pipe



Ballantine Part No.	OEM Part Number	Description
B149973	N/A	Dual Rod Wiper For 2.375" Pipe

Ditch Witch® JT2720 Using 2.375" Pipe

SONDE HOUSING USING 6 HOLE BITS



Ballantine Part No.	OEM Part Number	Description
BJT635005 **	N/A	Sonde - 3.250" Dia. Side Load API (B) 6 Hole
<i>Includes all items with double asterisks **</i>		

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 20 - 23



Ballantine Part No.	OEM Part Number	Description
BJT550105	N/A	Tail Piece



Ballantine Part No.	OEM Part Number	Description
BJT635030 **	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 **	N/A	Replacement Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
V129667010 **	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
93030123 **	N/A	Replacement Cover Cap Screw (Large 3 Required)



Ballantine Part No.	OEM Part Number	Description
B107277 **	N/A	Pilot Bit Bolts (5 required)

SONDE HOUSING USING 5 HOLE BITS



Ballantine Part No.	OEM Part Number	Description
BJT635015 **	N/A	Sonde - 3.250" Dia. Side Load API (B) 5 Hole
<i>Includes all items with double asterisks **</i>		

THIS SONDE REQUIRES 5 HOLE PILOT BITS SHOWN ON PAGES 20 - 23



Ballantine Part No.	OEM Part Number	Description
BJT550105	N/A	Tail Piece



Ballantine Part No.	OEM Part Number	Description
BJT635030 **	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 **	N/A	Replacement Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
V129667010 **	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
93030123 **	N/A	Replacement Cover Cap Screw (Large 3 Required)



Ballantine Part No.	OEM Part Number	Description
B107277 **	N/A	Pilot Bit Bolts (6 required)

Pilot Bit Application Chart

Ballantine offers a comprehensive line of HDD pilot bits that, when matched correctly to the specific application, will maximize your drill rig's production capabilities. All of our bits are constructed of premium abrasion resistant alloy steel. Many of these bits feature our robotically applied Terminator® weave tungsten carbide-mesh hardfacing which is proven to extend tool life up to 30% longer than competitors' hardfacing.

	Sandy	Light	Medium	Hard	Rocky	Soft Rock	Med. Rock	Hard Rock
Hurricane Tip	5	4	2	1	1	2	2	5
Duckbill	1	1	2	3	4	5	5	5
Steep Taper	5	3	2	1	1	3	5	5
Tough Bit	4	2	1	1	2	2	4	5
Power Tip	3	2	2	1	3	2	4	5

1 = Best 2 = Good 3 = Fair 4 = Less Recommended 5 = Not Recommended

Sandy	Loose Sand, Sandy Loams or any soil that is predominately comprised of sand
Light	Loams, Clay, Silt, Soft to medium soils that contain moisture
Medium	Consolidated Loams & Clays, Semi-compacted soils
Hard	Hardpan, Gumbo, Compacted Soils
Rocky	Cobble, Chunk Rock, Gravel, Glacial Till (any non-consistent type of rock)
Soft Rock	Caliche, Slate, Soft Limestone, Sandstone, Shale's, Certain Corral (0-9,000 psi)
Medium Rock	Certain Limestone, Sandstone, Some Dolomite, Shale's, Coral, (9,000-16,000 psi)
Hard Rock	Hard Limestone, Granite, Schist, Trap Rock, Quartzite (Above 16,000 psi)

*The above chart is designed as a reference guide only. Soil conditions often vary though out a pilot bore which may affect actual performance in the field. Contact your local Ballantine dealer or Ballantine direct for specific recommendations regarding soil conditions and pilot bit selection.

Duck Bill Hard-Faced Pilot Bits

Precisely Machined Steel Unibody Design.

Proprietary Heat Treatment For Superior Abrasion Resistance And Ultimate Toughness.

Premium TERMINATOR Tungsten Carbide Hardfacing Strategically Placed In All High Wear Areas.

Universal Pull Back Hole For Quick And Easy Installation When Backreaming Is Not Required.



Ditch Witch® Duck Bill Hard-Faced Pilot Bits

Part Number	Bolt Holes	Width	Thickness
D65DH40	5	4"	3/4"
D65DH50	5	5"	3/4"
D66DH40	6	4"	3/4"
D66DH45	6	4 1/2"	3/4"
D66DH50	6	5"	3/4"
D66DH60	6	6"	3/4"

Steep Taper Hard-Faced Pilot Bits

Precisely Machined Steel Unibody Design.

Proprietary Heat Treatment For Superior Abrasion Resistance And Ultimate Toughness.

Premium TERMINATOR Tungsten Carbide Hardfacing Strategically Placed In All High Wear Areas.

Unique Arrowhead Design Allows For Superior Burrowing In Tough Cobble And Light Rock Conditions.

Universal Pull Back Hole For Quick And Easy Installation When Backreaming Is Not Required.



Ditch Witch® Steep Taper Hard faced Pilot Bits

Part Number	Bolt Holes	Width	Thickness
D65ST40	5	4"	3/4"
D65ST50	5	5"	3/4"
D66ST40	6	4"	3/4"
D66ST50	6	5"	3/4"

Hurricane Tip Pilot Bits

Precisely Machined Steel Unibody Design.

Proprietary Heat Treatment For Superior Abrasion Resistance And Ultimate Toughness.

Premium Conical Carbide Teeth Set Along The Leading Taper Edge At An Optimal Offset For Superior Steering And Wear Resistance.

Universal 1" Pull Back Hole For Quick And Easy Installation When Backreaming Is Not Required.



Ditch Witch® Hurricane Tip Pilot Bit

Part Number	Bolt Holes	Width	Thickness
D65HT40	5	4"	3/4"
D65HT45	5	4 1/2"	3/4"
D65HT50	5	5"	3/4"
D66HT40	6	4"	3/4"
D66HT45	6	4 1/2"	3/4"
D66HT50	6	5"	3/4"

Tough Bit Pilot Bits

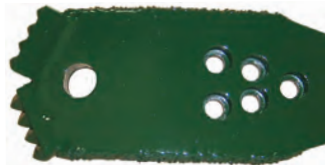
Precisely Machined Steel Unibody Design.

Proprietary Heat Treatment For Superior Abrasion Resistance And Ultimate Toughness.

Offset V- Faced Carbide Of Optimum Cutting And Impact Absorption.

Premium TERMINATOR Tungsten Carbide Hardfacing Strategically Placed In All High Wear Areas.

Universal Pull Back Hole For Quick And Easy Installation When Backreaming Is Not Required.



Ditch Witch® Tough Bit Pilot Bits

Part Number	Bolt Holes	Width	Thickness
D65TB40	5	4"	3/4"
D65TB45	5	4 1/2"	3/4"
D65TB50	5	5"	3/4"
D66TB40	6	4"	3/4"
D66TB45	6	4 1/2"	3/4"
D66TB50	6	5"	3/4"

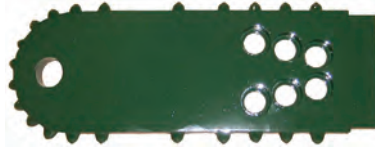
Power Tip Pilot Bits

Precisely Machined Steel Unibody Design.

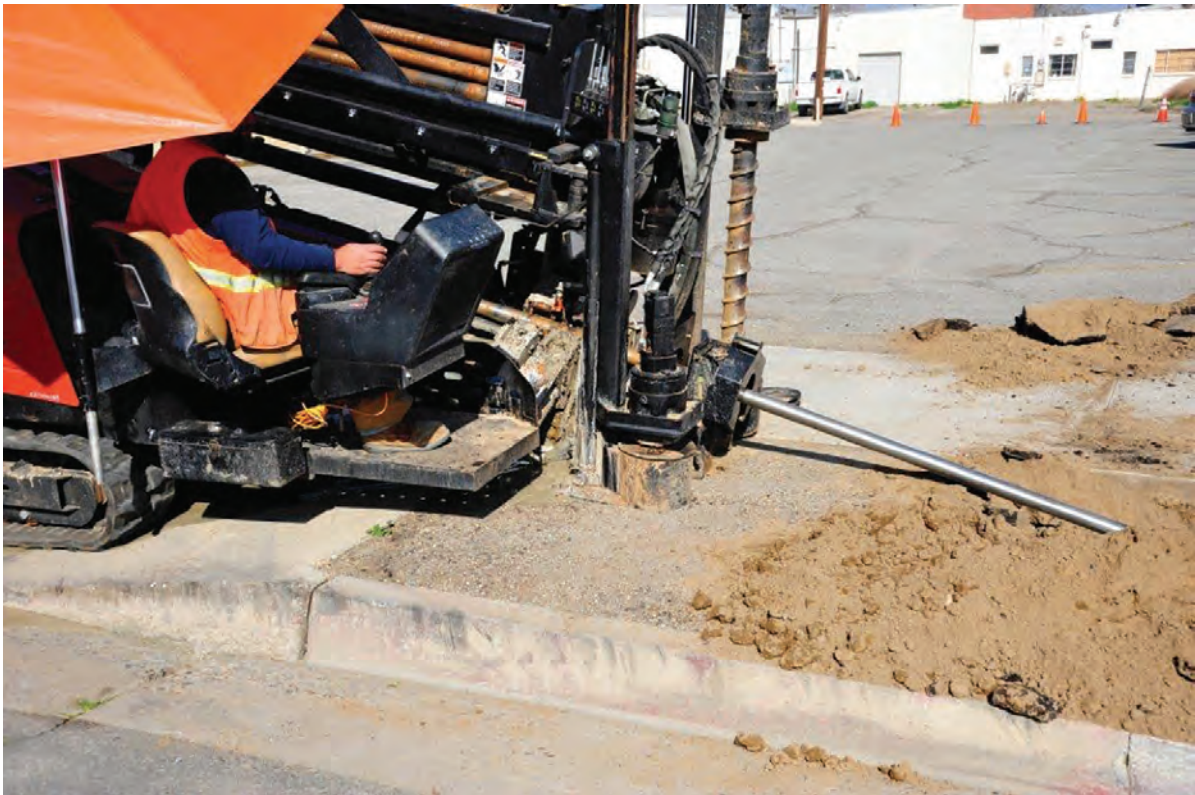
Proprietary Heat Treatment For Superior Abrasion Resistance And Ultimate Toughness.

Exceptionally Secure Press Fit And Brazed Carbide Points Allow For Premium Performance And Ultimate Durability.

Universal 1" Pull Back Hole For Quick And Easy Installation When Backreaming Is Not Required.



Ditch Witch® Power Tip Pilot Bit			
Part Number	Bolt Holes	Width	Thickness
D65PT40	5	4"	3/4"
D65PT45	5	4 1/2"	3/4"
D65PT50	5	5"	3/4"
D66PT40	6	4"	3/4"
D66PT45	6	4 1/2"	3/4"
D66PT50	6	5"	3/4"



Vermeer® Compatible Drill Rod Specifications

Rod Size	D7X11	D7X11A	D7X11 Series II	D9X13 Series II	D10X15
Manufacture Process	Forged IW	Forged IW	Forged IW	Forged IW	Forged IW
O.A.L. (S/S)	6'	6'	6'	6'	10'
Pipe Body O.D.	1.660"	1.660"	1.660"	1.660"	1.660"
Upset Diameter	1.880"	1.880"	1.880"	1.880"	1.880"
Wall Thickness	.240"	.240"	.240"	.240"	.240"
Bend Radius	98.1'	98.1'	98.1'	98.1'	98.1'
Weight	21 LBS	21 LBS	21 LBS	21 LBS	35 LBS

Rod Size	D16X20	D16X20A	D18X22 - Using 1.900" Pipe	D18X22 - Using 2.063" Pipe	D20X22 - Using 1.900" Pipe
Manufacture Process	Forged IW	Forged IW	Forged IW	Forged IW	Forged IW
O.A.L. (S/S)	10'	10'	10'	10'	10'
Pipe Body O.D.	1.900"	1.900"	1.900"	2.063"	1.900"
Upset Diameter	2.125"	2.125"	2.125"	2.250"	2.125"
Wall Thickness	.240"	.240"	.240"	.240"	.240"
Bend Radius	112.3'	112.3'	112.3'	121.9'	112.3'
Weight	49 LBS	49 LBS	49 LBS	56 LBS	49 LBS

Rod Size	D16X20	D16X20A	D18X22 - Using 1.900" Pipe	D18X22 - Using 2.063" Pipe	D20X22 - Using 1.900" Pipe
Manufacture Process	Forged IW	Forged IW	Forged IW	Forged IW	Forged IW
O.A.L. (S/S)	10'	10'	10'	10'	10'
Pipe Body O.D.	2.063"	2.063"	2.375"	2.375"	2.375"
Upset Diameter	2.250"	2.250"	2.625"	2.625"	2.625"
Wall Thickness	.240"	.240"	.280"	.280"	.280"
Bend Radius	121.9'	121.9'	140.4'	140.4'	140.4'
Weight	56 LBS	56 LBS	78 LBS	78 LBS	78 LBS



**Drive Chuck
Flange**



**Hex Collar
Hardfaced**



Pilot Bit



Sonde Housing



Sub Saver



Starter Rod



Tail Piece

Vermeer® D7X11 Navigator Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BD7X11DT	216492001	Drill Stem 1.660" O.D. X 6' Long FS1



Ballantine Part No.	OEM Part Number	Description
BD7X11DC-2	N/A	Drive Chuck Assembly (Includes Drive Chuck Flange And Sub Saver)



Ballantine Part No.	OEM Part Number	Description
BD7X11DCF	N/A	Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD7X11SS	296255351	Sub Saver

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
V235737001	235737-001	Drive Chuck Flange Bolt (8 Req)



Ballantine Part No.	OEM Part Number	Description
V72898001	72897-001	"O" Ring Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD7X11SR	276261001	Starter Rod 2" O.D. Hex 20" Long



Ballantine Part No.	OEM Part Number	Description
BD7X11HCHF	289274001	Hex Collar Hard Faced 6" Long



Ballantine Part No.	OEM Part Number	Description
BD7X11HCHFC	N/A	Hex Collar Hard Faced 6" Long W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V4478003	4478003	Bolt - Collar - 3/8"

Vermeer® D7X11 Navigator Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BD625030 *	N/A	Sonde - 2.625" Dia. Side Load, 2.000" API Box, 6 Hole - Includes All Items With An Asterisk *

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD555100	N/A	Tail Piece 1.625" LP Hex (P) X 2.000" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625035 *	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 *	N/A	Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 Required)



Ballantine Part No.	OEM Part Number	Description
PWF9-150	235920001	Rod Wiper For 1.660" O.D. Pipe



Ballantine Part No.	OEM Part Number	Description
B9874	236076001	Jaw Die Stationary Side



Ballantine Part No.	OEM Part Number	Description
B9874C	236090001	Jaw Die Cylinder Side



Ballantine Part No.	OEM Part Number	Description
BL644-147	219122-147	Leaf Chain 147 Pitches W/ Male Links Both Ends

Ballantine Part No.	OEM Part Number	Description
BL644-223	219122-223	Leaf Chain 223 Pitches W/ Male Links Both Ends

Ballantine Part No.	OEM Part Number	Description
BBL644CL	219122-001	Connecting Link

Vermeer® D7X11/A Navigator Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BD7X11DT	216492001	Drill Stem 1.660" O.D. X 6' Long FS1



Ballantine Part No.	OEM Part Number	Description
BD7X11DC-2	N/A	Drive Chuck Assembly (Includes Drive Chuck Flange And Sub Saver)



Ballantine Part No.	OEM Part Number	Description
BD7X11DCF	N/A	Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD7X11SS	296255351	Sub Saver

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
V235737001	75381-012	Drive Chuck Flange Bolt (8 Req)



Ballantine Part No.	OEM Part Number	Description
V72898001	72897-001	"O" Ring Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD7X11SR	276261001	Starter Rod 2" O.D. Hex 20" Long



Ballantine Part No.	OEM Part Number	Description
BD7X11HCHF	289274001	Hex Collar Hard Faced 6" Long



Ballantine Part No.	OEM Part Number	Description
BD7X11HCHFC	N/A	Hex Collar Hard Faced 6" Long W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V4478003	4478003	Bolt - Collar - 3/8"

Vermeer® D7X11/A Navigator Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BD625030 *	NA	Sonde - 2.625" Dia. Side Load, 2.000" API Box, 6 Hole - <i>Includes All Items With An Asterisk *</i>

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD555100	N/A	Tail Piece 1.625" LP Hex (P) X 2.000" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625035 *	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 *	N/A	Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 Required)



Ballantine Part No.	OEM Part Number	Description
PWF9-150	235920001	Rod Wiper For 1.660" O.D. Pipe



Ballantine Part No.	OEM Part Number	Description
B9874	N/A	Jaw Die Stationary Side



Ballantine Part No.	OEM Part Number	Description
B9874C	N/A	Jaw Die Cylinder Side



Ballantine Part No.	OEM Part Number	Description
BL644-147	219122-147	Leaf Chain 147 Pitches W/ Male Links Both Ends

Ballantine Part No.	OEM Part Number	Description
BL644-223	219122-223	Leaf Chain 223 Pitches W/ Male Links Both Ends

Ballantine Part No.	OEM Part Number	Description
BBL644CL	219122-001	Connecting Link

Vermeer® D7X11 Series II Navigator Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BD7X11DT	216492001	Drill Stem 1.660" O.D. X 6' Long FS1



Ballantine Part No.	OEM Part Number	Description
BD7X11SS-L	296276507	Sub Saver

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
BD7X11SR	276261001	Starter Rod 2" O.D. Hex 20" Long



Ballantine Part No.	OEM Part Number	Description
BD7X11HCHF	289274001	Hex Collar Hard Faced 6" Long



Ballantine Part No.	OEM Part Number	Description
BD7X11HCHFC	N/A	Hex Collar Hard Faced 6" Long W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V4478003	4478003	Bolt - Collar - 3/8"

Vermeer® D7X11 Series II Navigator Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BD625030 *	NA	Sonde - 2.625" Dia. Side Load, 2.000" API Box, 6 Hole - <i>Includes All Items With An Asterisk *</i>

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD555100	N/A	Tail Piece 1.625" LP Hex (P) X 2.000" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625035 *	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 *	N/A	Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 required) Required



Ballantine Part No.	OEM Part Number	Description
PWF9-150	235920001	Rod Wiper For 1.660" O.D. Pipe



Ballantine Part No.	OEM Part Number	Description
B9874	N/A	Jaw Die Stationary Side



Ballantine Part No.	OEM Part Number	Description
B9874C	N/A	Jaw Die Cylinder Side



Ballantine Part No.	OEM Part Number	Description
BL644-147	218252-147	Leaf Chain 147 Pitches W/ Male Links Both Ends

Ballantine Part No.	OEM Part Number	Description
BL644-223	219122-223	Leaf Chain 223 Pitches W/ Male Links Both Ends

Ballantine Part No.	OEM Part Number	Description
BBL644CL	219122-001	Connecting Link



Ballantine Part No.	OEM Part Number	Description
BD7X11DT	216492001	Drill Stem 1.660" O.D. X 6' FS1



Ballantine Part No.	OEM Part Number	Description
BD7X11SS-L	296276507	Sub Saver

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
BD7X11SR	276261001	Starter Rod 2" O.D. Hex 20" Long



Ballantine Part No.	OEM Part Number	Description
BD7X11HCHF	289274001	Hex Collar Hard Faced 6" Long



Ballantine Part No.	OEM Part Number	Description
BD7X11HCHFC	N/A	Hex Collar Hard Faced 6" Long W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V4478003	4478003	Bolt - Collar - 3/8"

Vermeer® D9X13 Series II Navigator Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BD625030 *	NA	Sonde - 2.625" Dia. Side Load, 2.000" API Box, 6 Hole -

*Includes All Items With An Asterisk **

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD555100	N/A	Tail Piece 1.625" LP Hex (P) X 2.000" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625035 *	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 *	N/A	Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 required) Required



Ballantine Part No.	OEM Part Number	Description
PWF9-150	235920001	Rod Wiper For 1.660" O.D. Pipe



Ballantine Part No.	OEM Part Number	Description
B9874	236076001	Jaw Die Stationary Side



Ballantine Part No.	OEM Part Number	Description
B9874C	236090001	Jaw Die Cylinder Side

Vermeer® D10X15 Navigator Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BD10X15DT	219006001	Drill Stem 1.660" O.D. X 10' Long



Ballantine Part No.	OEM Part Number	Description
BD10X15DC-2	296255363	Drive Chuck Assembly (Includes Drive Chuck Flange And Sub Saver)



Ballantine Part No.	OEM Part Number	Description
BD10X15DCF	N/A	Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD10X15SS	296255351	Sub Saver

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
V235737001	235737001	Drive Chuck Flange Bolt (8 Req)



Ballantine Part No.	OEM Part Number	Description
V72898001	72898001	"O" Ring Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD10X15SR	276261001	Starter Rod 2" Hex



Ballantine Part No.	OEM Part Number	Description
BD7X11HCHF	289274001	Hex Collar Hard Faced 6" Long



Ballantine Part No.	OEM Part Number	Description
BD7X11HCHFC	N/A	Hex Collar Hard Faced 6" Long W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V4478003	4478003	Bolt - Collar - 3/8"

Vermeer® D10X15 Navigator Using 1.660" Pipe



Ballantine Part No.	OEM Part Number	Description
BD625030 *	NA	Sonde - 2.625" Dia. Side Load, 2.000" API Box, 6 Hole - <i>Includes All Items With An Asterisk *</i>

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD555100	N/A	Tail Piece 1.625" LP Hex (P) X 2.000" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625035 *	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627000 *	N/A	Water Nozzle 1/8"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 required) Required



Ballantine Part No.	OEM Part Number	Description
PWF9-150	235920001	Rod Wiper For 1.660" O.D. Pipe



Ballantine Part No.	OEM Part Number	Description
B9874	236076001	Jaw Die Stationary Side



Ballantine Part No.	OEM Part Number	Description
B9874C	236090001	Jaw Die Cylinder Side



Ballantine Part No.	OEM Part Number	Description
BL844-170	96676-170	Leaf Chain 170 Pitches W/ Male Links Both Ends

Ballantine Part No.	OEM Part Number	Description
BL844-254	96676-254	Leaf Chain 254 Pitches W/ Male Links Both Ends

Ballantine Part No.	OEM Part Number	Description
BL844-CL	102632-001	Connecting Link

Vermeer® D16X20 Navigator Using 1.900" Pipe



Ballantine Part No.	OEM Part Number	Description
BD16X20DT	2309930011	Drill Stem 1.90" O.D. X 10' Long



Ballantine Part No.	OEM Part Number	Description
BD16X20DC2	296255364	Drive Chuck Assembly (Includes Drive Chuck Flange And Sub Saver)



Ballantine Part No.	OEM Part Number	Description
BD16X20DCF	N/A	Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD16X20SS	296255351	Sub Saver

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
V235737001	N/A	Drive Chuck Flange Bolt (8 Req)



Ballantine Part No.	OEM Part Number	Description
V72898001	N/A	"O" Ring Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD16X20SR	234840001	Starter Rod



Ballantine Part No.	OEM Part Number	Description
BD16X20HCHF	289273001	Hex Collar Hard Faced 7 1/2" Long



Ballantine Part No.	OEM Part Number	Description
BD24X40HCHFC	N/A	Hex Collar Hard Faced 7 1/2" Long W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V240591001	240591001	Bolt - Collar - 1/2"

Vermeer® D16X20 Navigator Using 1.900" Pipe



Ballantine Part No.	OEM Part Number	Description
BD625020 *	NA	Sonde - 2.750" Dia. Side Load 2.000" API Box 6 Hole - <i>Includes All Items With An Asterisk *</i>

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD555200	N/A	Tail Piece 2.125" LP Hex (P) X 2.000" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625025 *	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627005 *	N/A	Water Nozzle 3/16"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 required) Required



Ballantine Part No.	OEM Part Number	Description
PWF9-175	N/A	Rod Wiper For 1.900" O.D. Pipe



Ballantine Part No.	OEM Part Number	Description
B9875	N/A	Jaw Die



Ballantine Part No.	OEM Part Number	Description
B9875C	N/A	Jaw Die Stationary Side



Ballantine Part No.	OEM Part Number	Description
B9875CT	N/A	Jaw Die Cylinder Side



Ballantine Part No.	OEM Part Number	Description
BD16X20JDK	N/A	Jaw Die Kit - Includes (2) B9875, (1) B9875C, (1) B9875CT



Ballantine Part No.	OEM Part Number	Description
BL844-170	96676-170	Leaf Chain 170 Pitches W/ Male Both Ends

Ballantine Part No.	OEM Part Number	Description
BL844-254	96676-254	Leaf Chain 254 Pitches W/ Male Both Ends

Ballantine Part No.	OEM Part Number	Description
BBL844CL	102632-001	Connecting Link

Vermeer® D16X20A Navigator Using 1.900" Pipe



Ballantine Part No.	OEM Part Number	Description
BD16X20DT	2309930011	Drill Stem 1.90" O.D. X 10' Long



Ballantine Part No.	OEM Part Number	Description
BD16X20DC2	N/A	Drive Chuck Assembly (Includes Drive Chuck Flange And Sub Saver)



Ballantine Part No.	OEM Part Number	Description
BD16X20DCF	N/A	Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD16X20SS	296255352	Sub Saver

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
V235737001	N/A	Drive Chuck Flange Bolt (8 Req)



Ballantine Part No.	OEM Part Number	Description
V72898001	N/A	"O" Ring Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD16X20SR	234840001	Starter Rod



Ballantine Part No.	OEM Part Number	Description
BD16X20HCHF	289273001	Hex Collar Hard Faced 7 1/2" Long



Ballantine Part No.	OEM Part Number	Description
BD24X40HCHFC	N/A	Hex Collar Hard Faced 7 1/2" Long W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V240591001	240591001	Bolt - Collar - 1/2"

Vermeer® D16X20A Navigator Using 1.900" Pipe



Ballantine Part No.	OEM Part Number	Description
BD625020 *	NA	Sonde - 2.750" Dia. Side Load 2.000" API Box 6 Hole -

*Includes All Items With An Asterisk **

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD555200	N/A	Tail Piece 2.125 LP Hex (P) X 2.000" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625025 *	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627005 *	N/A	Water Nozzle 3/16"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 required) Required



Ballantine Part No.	OEM Part Number	Description
PWF9-175	235922001	Rod Wiper For 1.90" O.D. Pipe



Ballantine Part No.	OEM Part Number	Description
B9875	236111001	Jaw Die Stationary Side



Ballantine Part No.	OEM Part Number	Description
B9875C	236112001	Jaw Die Cylinder Side



Ballantine Part No.	OEM Part Number	Description
B9875CT	236112001	Jaw Die Cylinder Side W/ Guide Tab



Ballantine Part No.	OEM Part Number	Description
BD16X20JDK	N/A	Jaw Die Kit - Includes (2) B9875, (1) B9875C, (1) B9875CT



Ballantine Part No.	OEM Part Number	Description
BL844-170	96676-170	Leaf Chain 170 Pitches W/ Male Both Ends



Ballantine Part No.	OEM Part Number	Description
BL844-254	96676-254	Leaf Chain 254 Pitches W/ Male Both Ends

Ballantine Part No.	OEM Part Number	Description
BBL844CL	102632-001	Connecting Link

Vermeer® D18X22 Navigator Using 1.900" Pipe



Ballantine Part No.	OEM Part Number	Description
BD16X20DT	2309930011	Drill Stem 1.90" O.D. X 10' Long



Ballantine Part No.	OEM Part Number	Description
BD16X20DC2	296255364	Drive Chuck Assembly (Includes Drive Chuck Flange And Sub Saver)



Ballantine Part No.	OEM Part Number	Description
BD16X20DCF	N/A	Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD16X20SS	296255352	Sub Saver

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
V235737001	N/A	Drive Chuck Flange Bolt (8 Req)



Ballantine Part No.	OEM Part Number	Description
V72898001	N/A	"O" Ring Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD16X20SR	234840001	Starter Rod



Ballantine Part No.	OEM Part Number	Description
BD16X20HCHF	289273001	Hex Collar Hard Faced 7 1/2" Long



Ballantine Part No.	OEM Part Number	Description
BD24X40HCHFC	N/A	Hex Collar Hard Faced 7 1/2" Long W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V240591001	240591001	Bolt - Collar - 1/2"

Vermeer® D18X22 Navigator Using 1.900" Pipe



Ballantine Part No.	OEM Part Number	Description
BD625020 *	NA	Sonde - 2.750" Dia. Side Load 2.000" API Box 6 Hole - <i>Includes All Items With An Asterisk *</i>

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD555200	N/A	Tail Piece 2.125" LP Hex (P) X 2.000" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625025 *	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627005 *	N/A	Water Nozzle 3/16"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 required) Required



Ballantine Part No.	OEM Part Number	Description
PWF9-175	235922001	Rod Wiper For 1.90" O.D. Pipe



Ballantine Part No.	OEM Part Number	Description
B9875	236111001	Jaw Die Stationary Side



Ballantine Part No.	OEM Part Number	Description
B9875C	236112001	Jaw Die Cylinder Side



Ballantine Part No.	OEM Part Number	Description
B9875CT	236112001	Jaw Die Cylinder Side W/ Guide Tab



Ballantine Part No.	OEM Part Number	Description
BD16X20JDK	N/A	Jaw Die Kit - Includes (2) B9875, (1) B9875C, (1) B9875CT



Ballantine Part No.	OEM Part Number	Description
BL844-170	96676-170	Leaf Chain 170 Pitches W/ Male Links Both Ends



Ballantine Part No.	OEM Part Number	Description
BL844-254	96676-254	Leaf Chain 254 Pitches W/ Mal Links Both Ends

Ballantine Part No.	OEM Part Number	Description
BBL844CL	102632-001	Connecting Link

Vermeer® D18X22 Navigator Using 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
BD24/D24X26DT	221628001	Drill Stem 2.063" O.D. X 10'



Ballantine Part No.	OEM Part Number	Description
BD24/24X26DC	240932001	Drive Chuck Assembly (Includes Drive Chuck Flange And Sub Saver)



Ballantine Part No.	OEM Part Number	Description
BD24/24X26DCF	N/A	Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD24/24X26SS	249137001	Sub Saver

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
V235737001	N/A	Drive Chuck Flange Bolt (8 Req)



Ballantine Part No.	OEM Part Number	Description
V72898001	N/A	"O" Ring Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD24/D24X26SR	N/A	Starter Rod 2 1/2" Hex 2.063 Pipe



Ballantine Part No.	OEM Part Number	Description
BD24X26HCHF	N/A	Hex Collar Hard Faced 7 1/2" Long



Ballantine Part No.	OEM Part Number	Description
BD24X40HCHFC	N/A	Hex Collar Hard Faced 7 1/2" Long W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V240591001	240591001	Bolt - Collar - 1/2"

Vermeer® D18X22 Navigator Using 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
BD625020 *	NA	Sonde - 2.750" Dia. Side Load 2.000" API Box 6 Hole -

*Includes All Items With An Asterisk **

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD555200	N/A	Tail Piece 2.125" LP Hex (P) X 2.000" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625025 *	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627005 *	N/A	Water Nozzle 3/16"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 required) Required)



Ballantine Part No.	OEM Part Number	Description
PWF9-187	235922001	Rod Wiper For 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
B9879	N/A	Jaw Die



Ballantine Part No.	OEM Part Number	Description
BL866-164	238741-164	Leaf Chain 164 Pitches W/ Male Both Ends



Ballantine Part No.	OEM Part Number	Description
BL866-253	86104-253	Leaf Chain 253 Pitches W/ Male Both Ends

Ballantine Part No.	OEM Part Number	Description
BBL866CL	98422-001	Connecting Link

Vermeer® D20X22 Navigator Using 1.900" Pipe



Ballantine Part No.	OEM Part Number	Description
BD16X20DT	2309930011	Drill Stem 1.90" O.D. X 10' Long



Ballantine Part No.	OEM Part Number	Description
BD16X20DC2	N/A	Drive Chuck Assembly (Includes Drive Chuck Flange And Sub Saver)



Ballantine Part No.	OEM Part Number	Description
BD16X20DCF	N/A	Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD16X20SS	296255352	Sub Saver

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
V235737001	N/A	Drive Chuck Flange Bolt (8 Req)



Ballantine Part No.	OEM Part Number	Description
V72898001	N/A	"O" Ring Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD16X20SR	234840001	Starter Rod



Ballantine Part No.	OEM Part Number	Description
BD16X20HCHF	289273001	Hex Collar Hard Faced 7 1/2" Long



Ballantine Part No.	OEM Part Number	Description
BD24X40HCHFC	N/A	Hex Collar Hard Faced 7 1/2" Long W/ Carbide Cutters



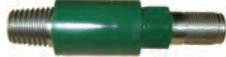
Ballantine Part No.	OEM Part Number	Description
V240591001	240591001	Bolt - Collar - 1/2"

Vermeer® D20X22 Navigator Using 1.900" Pipe



Ballantine Part No.	OEM Part Number	Description
BD625020 *	NA	Sonde - 2.750" Dia. Side Load 2.000" API Box 6 Hole - <i>Includes All Items With An Asterisk *</i>

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD555200	N/A	Tail Piece 2.125" LP Hex (P) X 2.000" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625025 *	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627005 *	N/A	Water Nozzle 3/16"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 required) Required



Ballantine Part No.	OEM Part Number	Description
PWF9-175	235922001	Rod Wiper For 1.90" O.D. Pipe



Ballantine Part No.	OEM Part Number	Description
B9875	236111001	Jaw Die Stationary Side



Ballantine Part No.	OEM Part Number	Description
B9875C	236112001	Jaw Die Cylinder Side



Ballantine Part No.	OEM Part Number	Description
B9875CT	N/A	Jaw Die Cylinder Side W/ Guide Tab



Ballantine Part No.	OEM Part Number	Description
BD16X20JDK	N/A	Jaw Die Kit - Includes (2) B9875, (1) B9875C, (1) B9875CT



Ballantine Part No.	OEM Part Number	Description
BL844-170	N/A	Leaf Chain 170 Pitches W/ Male Links Both Ends

Ballantine Part No.	OEM Part Number	Description
BL844-254	N/A	Leaf Chain 254 Pitches W/ Male Links Both Ends

Ballantine Part No.	OEM Part Number	Description
BBL844	N/A	Connecting Link

Vermeer® D20X22 Navigator Using 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
BD24/D24X26DT	221628001	Drill Stem 2.063" O.D. X 10' Long



Ballantine Part No.	OEM Part Number	Description
BD24/24X26DC	240932001	Drive Chuck Assembly (Includes Drive Chuck Flange And Sub Saver)



Ballantine Part No.	OEM Part Number	Description
BD24/24X26DCF	N/A	Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD24/24X26SS	249137001	Sub Saver

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
V235737001	N/A	Drive Chuck Flange Bolt (8 Req)



Ballantine Part No.	OEM Part Number	Description
V72898001	N/A	"O" Ring Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD24/D24X26SR	N/A	Starter Rod



Ballantine Part No.	OEM Part Number	Description
BD24X26HCHF	N/A	Hex Collar Hard Faced 7 1/2" Long



Ballantine Part No.	OEM Part Number	Description
BD24X40HCHFC	N/A	Hex Collar Hard Faced 7 1/2" Long W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V240591001	240591001	Bolt - Collar - 1/2"

Vermeer® D20X22 Navigator Using 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
BD625020 *	NA	Sonde - 2.750" Dia. Side Load 2.000" API Box 6 Hole - <i>Includes All Items With An Asterisk *</i>

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD555200	N/A	Tail Piece 2.125" LP Hex (P) X 2.000" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625025 *	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627005 *	N/A	Water Nozzle 3/16"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 required) Required)



Ballantine Part No.	OEM Part Number	Description
PWF9-187	235922001	Rod Wiper For 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
V296279701	296279701	Jaw Die Stationary Side



Ballantine Part No.	OEM Part Number	Description
B9875C	236112001	Jaw Die Cylinder Side



Ballantine Part No.	OEM Part Number	Description
V296279704	296279704	Jaw Die Cylinder Side W/ Guide Tab



Ballantine Part No.	OEM Part Number	Description
BL866-164	238741-164	Leaf Chain 164 Pitches W/ Male Links Both Ends



Ballantine Part No.	OEM Part Number	Description
BL866-253	86104-253	Leaf Chain 253 Pitches W/ Male Links Both Ends

Ballantine Part No.	OEM Part Number	Description
BBL866CL	98422-001	Connecting Link

Vermeer® D24X26 Navigator Using 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
BD24/D24X26DT	221628001	Drill Stem 2.063" O.D. X 10' Long



Ballantine Part No.	OEM Part Number	Description
BD24/24X26DC	240932001	Drive Chuck Assembly (Includes Drive Chuck Flange And Sub Saver)



Ballantine Part No.	OEM Part Number	Description
BD24/24X26DCF	N/A	Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD24/24X26SS	249137001	Sub Saver

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
V235737001	N/A	Drive Chuck Flange Bolt (8 Req)



Ballantine Part No.	OEM Part Number	Description
V72898001	N/A	"O" Ring Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD24/D24X26SR	N/A	Starter Rod



Ballantine Part No.	OEM Part Number	Description
BD24X26HCHF	N/A	Hex Collar Hard Faced 7 1/2" Long



Ballantine Part No.	OEM Part Number	Description
BD24X40HCHFC	N/A	Hex Collar Hard Faced 7 1/2" Long W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V240591001	240591001	Bolt - Collar - 1/2"

Vermeer® D24X26 Navigator Using 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
BD625020 *	NA	Sonde - 2.750" Dia. Side Load 2.000" API Box 6 Hole - <i>Includes All Items With An Asterisk *</i>

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD555200	N/A	Tail Piece 2.125" LP Hex (P) X 2.000" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625025 *	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627005 *	N/A	Water Nozzle 3/16"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 required) Required



Ballantine Part No.	OEM Part Number	Description
PWF9-187	235922001	Rod Wiper For 2.063" Pipe



Ballantine Part No.	OEM Part Number	Description
B9879	N/A	Jaw Die



Ballantine Part No.	OEM Part Number	Description
BL866-164	238741-164	Leaf Chain 164 Pitches W/ Male Both Ends



Ballantine Part No.	OEM Part Number	Description
BL866-253	86104-253	Leaf Chain 253 Pitches W/ Male Both Ends

Ballantine Part No.	OEM Part Number	Description
BBL866CL	98422-001	Connecting Link

Vermeer® D24X40 Navigator Using 2.375" Pipe



Ballantine Part No.	OEM Part Number	Description
BD24X40DTIW	BD24X40DTIW	Drill Stem 2.375" O.D. X 10



Ballantine Part No.	OEM Part Number	Description
BD24X40DC-S	230980001	Drive Chuck Assembly (Includes Drive Chuck Flange And Sub Saver) S/N 383 And Below



Ballantine Part No.	OEM Part Number	Description
BD24X40DC-L	249169001	Drive Chuck Assembly S/N 384 & Above (Includes Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD24X40DCF	N/A	Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD24X40SSS	230945001	Sub Saver S/N 383 & Below



Ballantine Part No.	OEM Part Number	Description
BD24X40SSL	230945001	Sub Saver S/N 384 & Below

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
V24033001	N/A	Drive Chuck Flange Bolt (8 Req)



Ballantine Part No.	OEM Part Number	Description
V485025	N/A	Drive Chuck Flange Washer (8 Req)



Ballantine Part No.	OEM Part Number	Description
V72898001	N/A	"O" Ring Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD24X40SR	N/A	Starter Rod 2 1/2" Hex



Ballantine Part No.	OEM Part Number	Description
BD24X40HCHF	289273001	Hex Collar Hard Faced 7 1/2" Long



Ballantine Part No.	OEM Part Number	Description
BD24X40HCHFC	N/A	Hex Collar Hard Faced 7 1/2" Long W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V240591001	240591001	Bolt - Collar - 1/2"

Vermeer® D24X40 Navigator Using 2.375" Pipe



Ballantine Part No.	OEM Part Number	Description
BD6250000	NA	Sonde - 3.250" Dia. Side Load 2.375" API Box 6 Hole - <i>Includes All Items With An Asterisk *</i>

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD550005	N/A	Tail Piece 2.125" LP Hex (P) X 2.375" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625005 *	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627005 *	N/A	Water Nozzle 3/16"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 required) Required



Ballantine Part No.	OEM Part Number	Description
PWF9-225	235922001	Rod Wiper For 2.375" Pipe



Ballantine Part No.	OEM Part Number	Description
B9872	N/A	Jaw Die



Ballantine Part No.	OEM Part Number	Description
BL866-163	86104-164	Leaf Chain 163 Pitches W/ Male Both Ends



Ballantine Part No.	OEM Part Number	Description
BL866-253	86104-253	Leaf Chain 253 Pitches W/ Male Both Ends

Ballantine Part No.	OEM Part Number	Description
BBL866CL	98422-001	Connecting Link

Vermeer® D24X40A Navigator Using 2.375" Pipe



Ballantine Part No.	OEM Part Number	Description
BD24X40DTIW	BD24X40DTIW	Drill Stem 2.375" O.D. X 10



Ballantine Part No.	OEM Part Number	Description
BD24X40DC-S	230980001	Drive Chuck Assembly (Includes Drive Chuck Flange And Sub Saver) S/N 383 And Below



Ballantine Part No.	OEM Part Number	Description
BD24X40DC-L	249169001	Drive Chuck Assembly S/N 384 & Above (Includes Drive Chuck Flange and Sub Saver)



Ballantine Part No.	OEM Part Number	Description
BD24X40DCF	N/A	Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD24X40SSS	230945001	Sub Saver S/N 383 & Below



Ballantine Part No.	OEM Part Number	Description
BD24X40SSL	230945001	Sub Saver S/N 384 & Below

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
V24033001	N/A	Drive Chuck Flange Bolt (8 Req)



Ballantine Part No.	OEM Part Number	Description
V485025	N/A	Drive Chuck Flange Washer (8 Req)



Ballantine Part No.	OEM Part Number	Description
V72898001	N/A	"O" Ring Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD24X40SR	N/A	Starter Rod 2 1/2" Hex



Ballantine Part No.	OEM Part Number	Description
BD24X40HCHF	289273001	Hex Collar Hard Faced 7 1/2" Long



Ballantine Part No.	OEM Part Number	Description
BD24X40HCHFC	N/A	Hex Collar Hard Faced 7 1/2" Long W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V240591001	240591001	Bolt - Collar - 1/2"

Vermeer® D24X40A Navigator Using 2.375" Pipe



Ballantine Part No.	OEM Part Number	Description
BD625000 *	NA	Sonde - 3.250" Dia. Side Load 2.375" API Box 6 Hole - <i>Includes All Items With An Asterisk *</i>

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD550005	N/A	Tail Piece 2.125" LP Hex (P) X 2.375" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625005 *	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627005 *	N/A	Water Nozzle 3/16"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 required) Required



Ballantine Part No.	OEM Part Number	Description
PWF9-225	235922001	Rod Wiper For 2.375" Pipe



Ballantine Part No.	OEM Part Number	Description
B9872	N/A	Jaw Die



Ballantine Part No.	OEM Part Number	Description
BL866-165	245009-165	Leaf Chain 165 Pitches W/ Male Both Ends



Ballantine Part No.	OEM Part Number	Description
BL866-257	86104-257	Leaf Chain 257 Pitches W/ Male Both Ends

Ballantine Part No.	OEM Part Number	Description
BBL866CL	98422-001	Connecting Link

Vermeer® D24X40 Navigator Series II Using 2.375" Pipe



Ballantine Part No.	OEM Part Number	Description
BD24X40DTIW	222276001	Drill Stem 2.375" O.D. X 10



Ballantine Part No.	OEM Part Number	Description
BD24X40DCSII	N/A	Drive Chuck Assembly Series II Only



Ballantine Part No.	OEM Part Number	Description
BD24X40DCF	N/A	Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD24X40SSII	N/A	Sub Saver Series 11 Only

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	247261985	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
V24033001	N/A	Drive Chuck Flange Bolt (8 Req)



Ballantine Part No.	OEM Part Number	Description
V485025	N/A	Drive Chuck Flange Washer (8 Req)



Ballantine Part No.	OEM Part Number	Description
V72898001	N/A	"O" Ring Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BD24X40SR	N/A	Starter Rod 2 1/2" Hex



Ballantine Part No.	OEM Part Number	Description
BD24X40HCHF	289273001	Hex Collar Hard Faced 7 1/2" Long



Ballantine Part No.	OEM Part Number	Description
BD24X40HCHFC	N/A	Hex Collar Hard Faced 7 1/2" Long W/ Carbide Cutters



Ballantine Part No.	OEM Part Number	Description
V240591001	240591001	Bolt - Collar - 1/2"

Vermeer® D24X40 Navigator Series II Using 2.375" Pipe



Ballantine Part No.	OEM Part Number	Description
BD625000 *	NA	Sonde - 3.250" Dia. Side Load 2.375" API Box 6 Hole - <i>Includes All Items With An Asterisk *</i>

THIS SONDE REQUIRES 6 HOLE PILOT BITS SHOWN ON PAGES 56 - 59



Ballantine Part No.	OEM Part Number	Description
BD550005	N/A	Tail Piece 2.125" LP Hex (P) X 2.375" API (P)



Ballantine Part No.	OEM Part Number	Description
BD625005	N/A	Replacement Cover



Ballantine Part No.	OEM Part Number	Description
BD627005 *	N/A	Water Nozzle 3/16"



Ballantine Part No.	OEM Part Number	Description
93030123 *	N/A	Replacement Cover Cap Screw (Small 1 Required)



Ballantine Part No.	OEM Part Number	Description
V240591001 *	N/A	Replacement Cover Cap Screw (Large 2 Required)



Ballantine Part No.	OEM Part Number	Description
V129667010 *	N/A	Pilot Bit Bolts (6 required) Required



Ballantine Part No.	OEM Part Number	Description
PWF9-225	235922001	Rod Wiper For 2.375" Pipe



Ballantine Part No.	OEM Part Number	Description
B9872	N/A	Jaw Die



Ballantine Part No.	OEM Part Number	Description
BL866-165	245009-165	Leaf Chain 165 Pitches W/ Male Both Ends



Ballantine Part No.	OEM Part Number	Description
BL866-257	86104-257	Leaf Chain 257 Pitches W/ Male Both Ends

Ballantine Part No.	OEM Part Number	Description
BBL866CL	98422-001	Connecting Link

Pilot Bit Application Chart

Ballantine offers a comprehensive line of HDD pilot bits that, when matched correctly to the specific application, will maximize your drill rig's production capabilities. All of our bits are constructed of premium abrasion resistant alloy steel. Many of these bits feature our robotically applied Terminator® weave tungsten carbide-mesh hardfacing which is proven to extend tool life up to 30% longer than competitors' hardfacing.

	Sandy	Light	Medium	Hard	Rocky	Soft Rock	Med. Rock	Hard Rock
Hurricane Tip	5	4	2	1	1	2	2	5
Duckbill	1	1	2	3	4	5	5	5
Steep Taper	5	3	2	1	1	3	5	5
Tough Bit	4	2	1	1	2	2	4	5
Power Tip	3	2	2	1	3	2	4	5

1 = Best 2 = Good 3 = Fair 4 = Less Recommended 5 = Not Recommended

Sandy	Loose Sand, Sandy Loams or any soil that is predominately comprised of sand
Light	Loams, Clay, Silt, Soft to medium soils that contain moisture
Medium	Consolidated Loams & Clays, Semi-compacted soils
Hard	Hardpan, Gumbo, Compacted Soils
Rocky	Cobble, Chunk Rock, Gravel, Glacial Till (any non-consistent type of rock)
Soft Rock	Caliche, Slate, Soft Limestone, Sandstone, Shale's, Certain Corral (0-9,000 psi)
Medium Rock	Certain Limestone, Sandstone, Some Dolomite, Shale's, Coral, (9,000-16,000 psi)
Hard Rock	Hard Limestone, Granite, Schist, Trap Rock, Quartzite (Above 16,000 psi)

*The above chart is designed as a reference guide only. Soil conditions often vary though out a pilot bore which may affect actual performance in the field. Contact your local Ballantine dealer or Ballantine direct for specific recommendations regarding soil conditions and pilot bit selection.

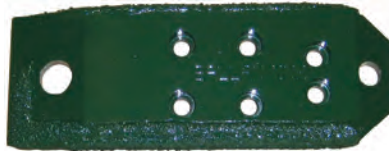
Duck Bill Hard-Faced Pilot Bits

Precisely Machined Steel Unibody Design.

Proprietary Heat Treatment For Superior Abrasion Resistance And Ultimate Toughness.

Premium TERMINATOR Tungsten Carbide Hardfacing Strategically Placed In All High Wear Areas.

Universal Pull Back Hole For Quick And Easy Installation When Backreaming Is Not Required.



Vermeer® Duck Bill Hard-Faced Pilot Bits

Part Number	Bolt Holes	Width	Thickness	Length
V67DH30S	7	3"	3/4"	10 3/8"
V67DH35S	7	3 1/2"	3/4"	10 3/8"
V67DH40S	7	4"	3/4"	10 3/8"
V67DH45S	7	4 1/2"	3/4"	10 3/8"
V67DH40L	7	4"	3/4"	11 5/8"
V67DH45L	7	4 1/2"	3/4"	11 5/8"
V67DH50L	7	5"	3/4"	11 5/8"
V67DH60L	7	6"	3/4"	11 5/8"

Steep Taper Hard-Faced Pilot Bits

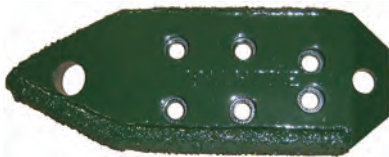
Precisely Machined Steel Unibody Design.

Proprietary Heat Treatment For Superior Abrasion Resistance And Ultimate Toughness.

Premium TERMINATOR Tungsten Carbide Hardfacing Strategically Placed In All High Wear Areas.

Unique Arrowhead Design Allows For Superior Burrowing In Tough Cobble And Light Rock Conditions.

Universal Pull Back Hole For Quick And Easy Installation When Backreaming Is Not Required.



Vermeer® Steep Taper Hard-Faced Pilot Bits

Part Number	Bolt Holes	Width	Thickness
D65ST40	7	4"	3/4"
D65ST50	7	5"	3/4"

Hurricane Tip Pilot Bits

Precisely Machined Steel Unibody Design.

Proprietary Heat Treatment For Superior Abrasion Resistance And Ultimate Toughness.

Premium Conical Carbide Teeth Set Along The Leading Taper Edge At An Optimal Offset For

Superior Steering And Wear Resistance.

Universal 1" Pull Back Hole For Quick And Easy Installation When Backreaming Is Not Required.



Vermeer® Hurricane Tip Pilot Bit

Part Number	Bolt Holes	Width	Thickness
V67HT40	7	4"	3/4"
V67HT45	7	4 1/2"	3/4"
V57HT50	7	5"	3/4"

Tough Bit Pilot Bits

Precisely Machined Steel Unibody Design.

Proprietary Heat Treatment For Superior Abrasion Resistance And Ultimate Toughness.

Offset V- Faced Carbide Of Optimum Cutting And Impact Absorption.

Premium TERMINATOR Tungsten Carbide Hardfacing Strategically Placed In All High Wear Areas.

Universal Pull Back Hole For Quick And Easy Installation When Backreaming Is Not Required.



Vermeer® Tough Bit Pilot Bits

Part Number	Bolt Holes	Width	Thickness
V67TB40	7	4"	3/4"
V67TB45	7	4 1/2"	3/4"
V67TB50	7	5"	3/4"
V67TB60	7	6"	3/4"

Power Tip Pilot Bits

Precisely Machined Steel Unibody Design.

Proprietary Heat Treatment For Superior Abrasion Resistance And Ultimate Toughness.

Exceptionally Secure Press Fit And Brazed Carbide Points Allow For Premium Performance And Ultimate Durability.

Universal 1" Pull Back Hole For Quick And Easy Installation When Backreaming Is Not Required.



Vermeer® Power Tip Pilot Bit			
Part Number	Bolt Holes	Width	Thickness
V67PT40	7	4"	3/4"
V67PT45	7	4 1/2"	3/4"
V67PT50	7	5"	3/4"



TT Technologies® Grundodrill 4X®



Ballantine Part No.	OEM Part Number	Description
TT4XDT	N/A	Drill Stem 1.66" X 5' Long



Ballantine Part No.	OEM Part Number	Description
BTT4XDC-2	N/A	Drive Chuck Assembly (Includes Drive Chuck Flange And Sub Saver)



Ballantine Part No.	OEM Part Number	Description
BTT4XDCF	N/A	Drive Chuck Flange



Ballantine Part No.	OEM Part Number	Description
BTT4XSS	N/A	Sub Saver

Ballantine Part No.	OEM Part Number	Description
THREAD LOCK	N/A	Thread Lock 2 ML Tube



Ballantine Part No.	OEM Part Number	Description
BTTXSH	N/A	Sonde Housing

Grundodrill 4X® Tough Bit



Ballantine Part No.	OEM Part Number	Description
TT45TB35	N/A	Tough Bit 3 1/2" Cut



Ballantine Part No.	OEM Part Number	Description
12201FSCS	N/A	Pilot Bit Bolt



Ballantine Part No.	OEM Part Number	Description
BTT4XJD	N/A	Jaw Die



Ballantine Part No.	OEM Part Number	Description
PWF9-150	N/A	Rod Wiper For 1.660" O.D. Pipe

Grundodrill 4X® Hold Down Auger



Ballantine Part No.	OEM Part Number	Description
B10138	N/A	Hold Down Auger

16,000 FEET AND STILL DRILLING

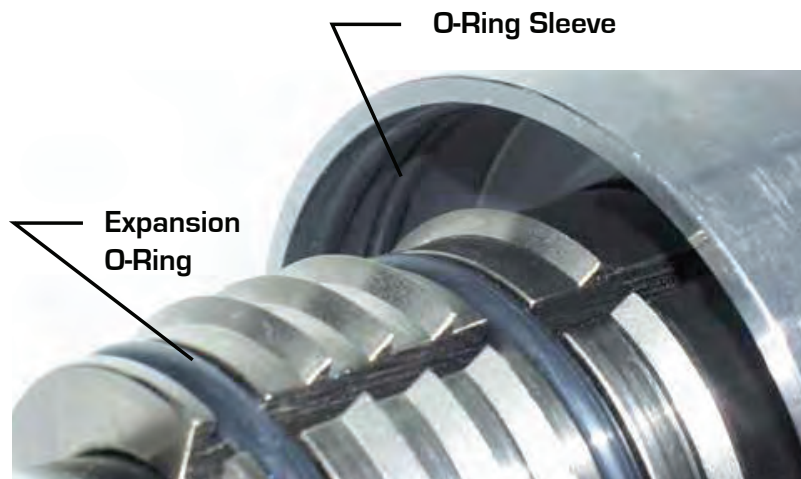


**Hurricane Bit*

American Made. American Strong.™

Condux® PE and PVC Pulling Eyes

Part No.	Size in (mm)	Length in (mm)	Conduit I.D. in (mm)		Lead Cone I.D. in (mm)	Duct Type	Nom. Duct I.D. in (mm)
			Min.	Max.			
08220612	1.00 (25)	6.23 (158)	1.00 (25)	1.25 (32)	1.415 (36)	1.00 SDR 11.0	1.075 (27)
						1.00 SDR 13.5	1.121 (28)
08220600	1.25 (32)	6.23 (158)	1.25 (32)	1.50 (38)	1.76 (48)	1.25 SDR 11.0	1.33 (34)
						1.25 Sch 40	1.38 (35)
						1.25 SDR 13.5	1.39 (35)
						1.25 SDR 15.5	1.43 (36)
						1.25 SDR 17.0	1.44 (37)
						1.25 SDR 21.0	1.50 (38)
08220601	1.50 (38)	6.23 (158)	1.50 (38)	1.75 (44)	2.01 (51)	1.5 SDR 11.0	1.53 (39)
						1.5 SDR 13.5	1.60 (41)
						1.5 Sch 40	1.61 (41)
						1.5 SDR 15.5	1.63 (41)
						1.5 SDR 17.0	1.66 (42)
						1.5 SDR 21.0	1.72 (44)
08220602	2 (51)	8.18 (208)	1.88 (48)	2.15 (55)	2.45 (62)	2.0 SDR 11.0	1.92 (49)
						2.0 SDR 13.5	2.00 (51)
						2.0 SDR 15.5	2.05 (52)
						2.0 Sch 40	2.07 (53)
						2.0 SDR 17.0	2.08 (53)
						2.0 SDR 21.0	2.15 (55)
08220609	2.5 (64)	8.80 (224)	2.31 (59)	2.56 (65)	3.01 (76)	2.5 SDR 11.0	2.32 (59)
						2.5 SDR 13.5	2.42 (61)
						2.5 Sch 40	2.47 (63)
						2.5 SDR 15.5	2.49 (63)
						2.5 SDR 17.0	2.51 (64)
08220603	3 (76)	11.89 (302)	2.69 (68)	3.13 (79)	3.63 (92)	3.0 SDR 11.0	2.83 (72)
						3.0 SDR 13.5	2.95 (75)
						3.0 SDR 15.5	3.02 (77)
						3.0 SDR 17.0	3.06 (78)
						3.0 Sch 40	3.07 (78)
						4.0 SDR 11.0	3.63 (92)
08220604	4 (102)	14.11 (358)	3.50 (89)	4.06 (103)	4.63 (118)	4.0 SDR 13.5	3.79 (96)
						4.0 Sch 80	3.83 (97)
						4.0 SDR 15.5	3.89 (99)
						4.0 SDR 17.0	3.94 (100)
						4.0 Sch 40	4.03 (102)
						4.0 SDR 21.0	4.05 (103)
08220605	5 (127)	18.45 (469)	4.25 (108)	5.06 (129)	5.63 (143)	5.0 SDR 11.0	4.49 (114)
						5.0 SDR 13.5	4.69 (119)
						5.0 SDR 15.5	4.80 (122)
						5.0 SDR 17.0	4.87 (124)
						5.0 SDR 21.0	5.00 (127)
						5.0 Sch 40	5.05 (128)
08220606	6 (152)	19.60 (498)	5.06 (129)	6.00 (152)	6.76 (172)	6.0 SDR 11.0	5.35 (136)
						6.0 SDR 13.5	5.58 (142)
						6.0 SDR 15.5	5.72 (145)
						6.0 SDR 17.0	5.80 (147)
						6.0 SDR 21.0	5.96 (151)
08220608	8 (203)	21.53 (547)	6.63 (168)	7.69 (195)	8.84 (224)	8.0 SDR 11.0	6.96 (177)
						8.0 SDR 13.5	7.27 (185)
						8.0 SDR 15.5	7.45 (189)
						8.0 SDR 17.0	7.55 (192)
08220613	8 (203)	21.53 (547)	7.63 (194)	8.25 (209)	9.25 (235)	Boreguard	7.981 (203)
						Heavy wall schedule 40	7.981 (203)



Eye Part Number	Expansion O-Ring Part No.	Qty Per Eye	O-Rings in Sleeve Part No.	Qty Per Eye
08220612	02288918	2	02289886	2
08220600	02269636	2	02288994	2
08220601	08010414	2	02288920	2
08220602	02269625	2	02288921	2
08220609	02269633	3	02288993	2
08220603	02269624	3	02288922	2
08220604	02269621	3	02288888	2
08220605	02269626	6	02288927	2
08220606	02269622	6	02288890	2
08220608	02269631	6	02288923	2
08220613	02269631	6	02288923	2
08220020	02269625	2	-	-
08220030	02269624	3	-	-
08220611	02269621	3	-	-
08220050	02269626	6	-	-
08220060	02269622	6	-	-

Condux® Clevis Head Innerduct Pulling Eye

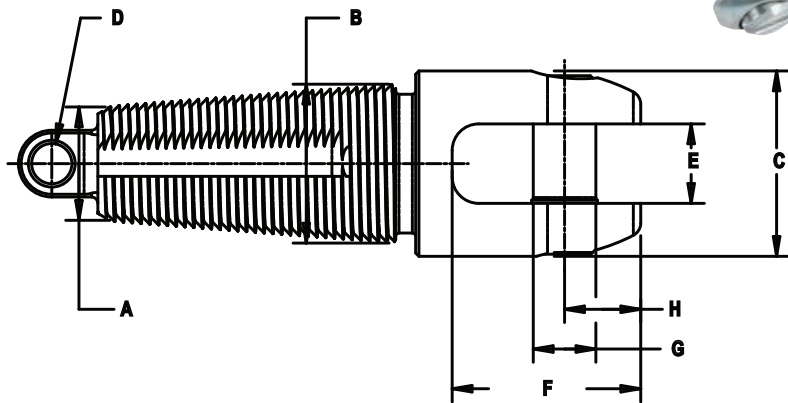
Clevis Head Innerduct Pulling Eye

Same tapered threads as the standard innerduct pulling eye, these pulling eyes feature a slotted head with clevis pin to permit direct attachment to any Condux multiple pulling harness leg ends. When properly sized and installed, these eyes will not pull out of the innerduct until the pulling tensions have greatly exceeded the maximum pulling tensions recommended by the innerduct manufacturers.

NOTE: To determine correct pulling eye size, obtain the actual innerduct inside diameter (I.D.). The I.D. measurement must be greater than dimension A and smaller than dimension B.

Replacement Clevis Pins for Clevis Head Innerduct Pulling Eyes

Part Number	Replacement Part Number
08914310	08081046
08914320	08081036
08914330	08210135
08914340	08081016
08914350	08081016
08914360	08081006



Part Number	Nominal Size		Innerduct I.D. Range		Max O.D. C		Hole Dia. D		Slot Width E		Slot Depth F		Pin Dia. G		Pin Center H	
	(in)	(mm)	A-B (in)	A-B (mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
08914310*	3/4	19	.71-.87	18-22	1.25	32	.25	6	.56	14	1.34	34	.38	10	.59	15
08914320*	1	25	.93-1.06	24-27	1.38	35	.25	6	.56	14	1.34	34	.44	11	.56	14
08914330*	1 1/4	32	1.06-1.43	27-37	1.75	44	.38	10	.75	19	1.78	45	.63	16	.81	21
08914340*	1 1/2	38	1.37-1.68	35-43	2.00	51	.38	10	.75	19	1.78	45	.63	16	.72	18
08914350*	1 3/4	44	1.68-1.81	43-46	2.25	57	.38	10	.75	19	1.78	45	.63	16	.72	18
08914360**	2	51	1.93-2.12	49-54	2.50	62	.38	10	.75	19	2.50	62	.88	22	1.23	31

* Will fit all Condux pulling harnesses.

** Will fit the Condux 3/8" and 1/2" cable pulling harnesses.

Condux® Innerduct Swivel Head Pulling Eye



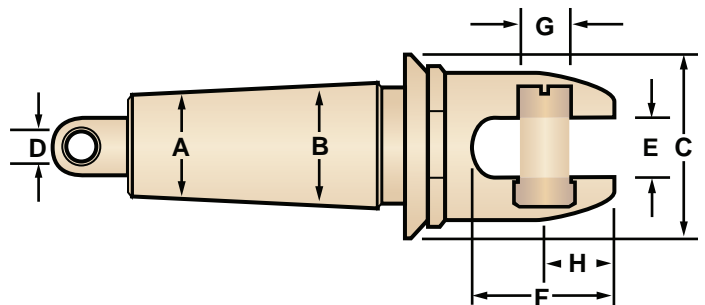
Swivel Head Innerduct Pulling Eye

The Innerduct Pulling Eye is a hybrid tool that combines features from standard innerduct pulling eyes and Condux swivels. A swivel head prevents twisting and binding of the innerduct as it is installed. It eliminates the need for a separate swivel on each pulling eye when installing single innerducts into individual conduits or multiple innerducts into a single conduit. Its short length is an advantage on tight bends compared to using a separate swivel and pulling eye. Easily installed using a 1 3/8" deep socket or adjustable wrench.

NOTE: To determine correct pulling eye size, obtain the actual innerduct inside diameter (I.D.). The I.D. measurement must be greater than dimension A and smaller than dimension B.

Replacement Clevis Pins for Swivel Head Innerduct Pulling Eyes

Part Number	Replacement Part Number
08960712	08081036
08960715	08081036
08960720	08081036



Part Number	Nominal Size		Innerduct I.D. Range		Max O.D. C		Hole Dia. D		Slot Width E		Slot Depth F		Pin Dia. G		Pin Center H	
	(in)	(mm)	A-B (in)	A-B (mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
08960712*	1-1 1/4	25-32	1.06-1.43	27-37	1.75	44	.44	11	.56	14	1.31	33	.44	11	.56	14
08960715*	1 1/2	38	1.37-1.68	35-43	2.00	51	.44	11	.56	14	1.31	33	.44	11	.56	14
08960720*	2	51	1.93-2.12	49-54	2.44	62	.44	11	.56	14	1.31	33	.44	11	.56	14

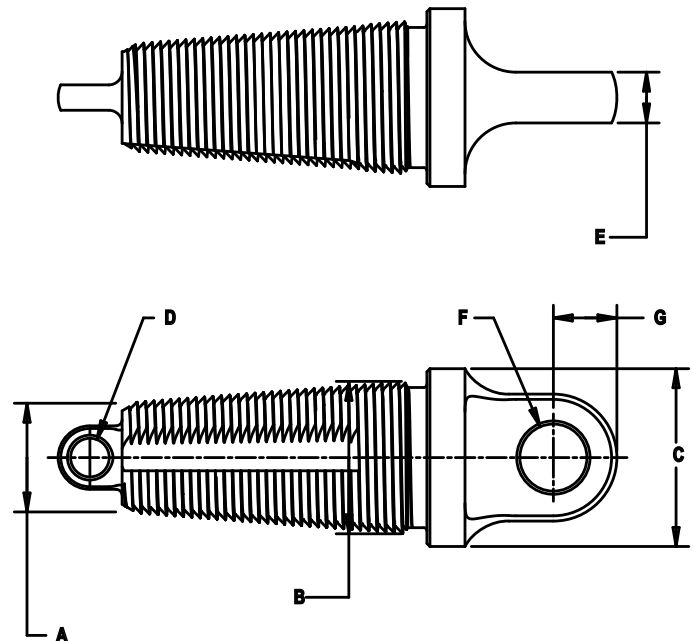
* Will fit all Condux pulling harnesses.



Fixed Head Innerduct Pulling Eye

Tapered buttress threads thread into the innerduct for maximum pulling strength. These eyes connect directly to a Condux swivel (see page 46). When properly sized and installed, these eyes will not pull out of the innerduct until the pulling tensions have greatly exceeded the maximum pulling tensions recommended by the innerduct manufacturers.

NOTE: To determine correct pulling eye size, obtain the actual innerduct inside diameter (I.D.). The I.D. measurement must be greater than dimension A and smaller than dimension B.



Part Number	Nominal Size		Innerduct I.D. Range		Max O.D.		Hole Dia.		Tang Thickness		Tang Hole Diameter		Tang Hole Location	
	(in)	(mm)	A-B (in)	A-B (mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
08914110	3/4	19	.71-.87	18-22	1.25	32	.25	6	.38	10	.50	13	.50	13
08914120	1	25	.93-1.06	24-27	1.38	35	.25	6	.38	10	.50	13	.50	13
08914130	1 1/4	32	1.06-1.43	27-37	1.75	44	.38	10	.50	13	.66	17	.63	16
08914140	1 1/2	38	1.37-1.68	35-43	2.00	51	.38	10	.50	13	.66	17	.63	16
08914150	1 3/4	44	1.68-1.81	43-46	2.25	57	.38	10	.50	13	.66	17	.75	19
08914160	2	51	1.93-2.12	49-54	2.50	62	.38	10	.50	13	.81	21	.75	19

Heavy Duty Sealed Greasable Swivels



These Heavy duty sealed greasable swivels, are designed for Directional drilling, overhead and underground applications that require a greasable swivel. These swivels are manufactured to the highest standards and are a reliable choice.

PLEASE GREASE THE SWIVEL BEFORE AND AFTER EVERY USE.

Part Number	Working Load lbs.	Length	Body Diameter	Pin Diameter	Jaw Opening
BHDS5400	5,400	5 1/6"	1 1/8"	7/16"	1/2"
BHDS9000	9,000	6 5/8"	1 7/16"	1/2"	5/8"
BHDS12000	12,000	7 3/4"	1 5/8"	5/8"	5/8"
BHDS21000	21,000	9"	2"	3/4"	3/4"
BHDS30000	30,000	10 1/4"	2 3/8"	7/8"	7/8"



Premium Grade Tungsten Carbide Tipped Backreamer Teeth



Part Number	Description
2913-1	Reamer Tooth: 3.5" Long X .500" Square
2911-1	Reamer Tooth: 3.5" Long X .500" Square
2911-2	Reamer Tooth: 3.5" Long X .500" Square
SCCP	Reamer Tooth: 3.75" Long X 1.0" Wide X .500 Thick
BD1065-50	Reamer Tooth: 1.065" Tall X .735" Long X .500 Thick
TT1654LP	Reamer Tooth: 1.25" Tall X 1" Long X .500 Thick
TT1654S	Reamer Tooth: 1.80" Tall X 1.30" Long X .500 Thick
TT1654	Reamer Tooth: 1.75" Tall X 1.69" Long X .562" Thick
T20078	Reamer Tooth: 2.25" Tall X 2.87" Long X .750" Thick
T20078LP	Reamer Tooth: 1.80" Tall X 1.50" Long X .750 Thick
TT45D24	Reamer Tooth: .813" Long X .750 Diameter Angled Bottom
TTRB	Reamer Tooth: 1.25" Long X .750 Diameter Flat Bottom
TT99045D	Reamer Tooth: 1.25" Long X 1.07" Diameter Angled Bottom
B1710	Reamer Tooth Pocket 1.31" Tall X .95 Wide X .687" Base Length
B17	Reamer Tooth: 2.56" Long X .563 Diameter
B17D	Locking Ring

Wire Mesh Pulling Grip



Model A Single Weave Or Double Weave

Part Number	Size	Work Load	Weave	Mesh Length	Eye
A-SW-18	3/4" - 1 1/4"	1,000 lbs.	Single	18"	3"
A-SW-24	3/4" - 1 1/4"	1,000 lbs.	Single	24"	3"
A-DW-18	3/4" - 1 1/4"	2,000 lbs.	Double	18"	3"
A-DW-24	3/4" - 1 1/4"	2,000 lbs.	Double	24"	3"

Model B Triple Weave

Part Number	Size	Work Load	Weave	Mesh Length	Eye
B-TW-26	1 1/4" - 2"	2,500 lbs.	Triple	26"	3 1/4"
B-TW-32	1 1/4" - 2"	3,500 lbs.	Triple	32"	3 1/4"

Model C Triple Weave

Part Number	Size	Work Load	Weave	Mesh Length	Eye
C-TW-32	2" - 2 3/4"	3,500 lbs.	Triple	32"	3 1/2"
C-TW-32	2" - 2 3/4"	4,500 lbs.	Triple	38"	3 1/2"

Model D Triple Weave

Part Number	Size	Work Load	Weave	Mesh Length	Eye
D-TW-38	2 3/4" - 3 1/2"	4,500 lbs.	Triple	38"	3 3/4"
D-TW-46	2 3/4" - 3 1/2"	5,500 lbs.	Triple	46"	3 3/4"



KOPR-KOTE® Premium Drill Pipe Compound

Jet-Lube's heavy duty, environmentally preferred drill pipe compound provides maximum protection against galling, seizing and downhole make-up under even the most challenging of drilling conditions.

Part Number	Description
10050	14 OZ Cartridge
10023	1 Gallon Pail
10012	2 Gallon Pail

JET-LUBE 21® Drill Pipe Compound

Jet-Lube 21 is a medium priced compound and a professional product of choice for all intermediate drilling applications.

Part Number	Description
10923	1 Gallon Pail
10912JL	2 Gallon Pail
10915	5 Gallon Pal

ECO-SAFE® Drill Pipe Compound (Biodegradable)

With ECO-SAFE, “metal free” doesn’t mean “low performance”. It facilitates a consistent, easy make up on par with traditional thread compounds without the cost volatility and environmental concerns associated with metallic compounds. Extreme-pressure additives provide additional protection against seizing and galling.

Part Number	Description
14523	1 Gallon Pail
14512	2 Gallon Pail
14515	5 Gallon Pail

JET-LUBE 21® Arctic Pipe Compound

JET-LUBE® 21® ARCTIC is recommended for the entire drill string in most drilling conditions. Typical applications would include high angle holes, problem holes, whip stocks, and horizontal drilling applications in moderate to low temperature regions. JET-LUBE® 21® ARCTIC prevents high stress in drill pipe connections which shortens their useful life.

Part Number	Description
11223	1 Gallon Pail
11213	2 1/2 Gallon Pail

Lubricants

Part Number	Description
31050	CB-25 Super Lithium Grease 14OZ Cartridge
37750	Alco EP 73 Plus - Premium Grease
34041	WRL Wire Rope & Chain Lube

Thread Lock

Part Number	Description
170	Thread Lock Compound 1/2 LB. Kit
60845-1	Thread Lock - Handy Pak 2 OZ Packet
Thread Lock	Thread Lock 2 ML Tube

Dope Brushes

Part Number	Description
3000	Dope Brush 15" Long
2500	Dope Brush 27" Long

BALLANTINE

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