



PORTABLE MAGNETIC DRILLS

OPERATOR'S MANUAL

HMD500



FOR USE WITH "12,000-SERIES" ROTABROACH® CUTTERS

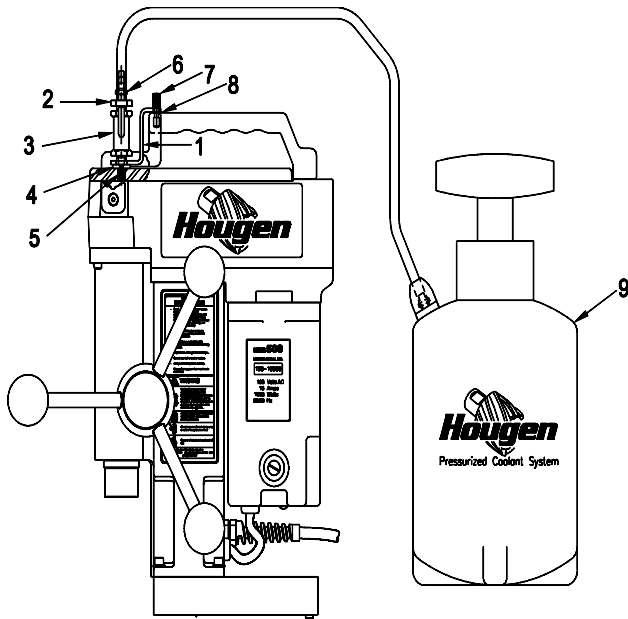
HOUGEN PORTABLE MAGNETIC DRILLS

Model No.	Description	Max. Hole Capacity, Inches		Cutters
		Dia.	Depth	
HMD100	Complete Drill* with carrying case, 450 rpm motor - 115V	1-1/16	3/4	Use "17,000-Series" Cutters
HMD500	Complete Drill* with carrying case, 250/450 rpm motor - 115V	2-3/8	3	Use "12,000-Series" Cutters
10904	Complete Drill* with 450 rpm motor - 115V	1-3/8	2	
10909	Complete Drill* with 350 rpm motor - 230V	2-1/16	3	
10909S	Complete Drill* with 350 rpm motor - 230V	2-1/16	3	
10914	Complete Drill* with 350 rpm motor - 115V	2-1/16	3	
10914S	Complete Drill* with 350 rpm motor - 115V	2-1/16	3	
10925	Power Feed Drill* with 350 rpm motor - 115V	2-1/16	3	
10926	Power Feed Drill* with 350 rpm motor - 230V	2-1/16	3	
10915	Complete Drill** with dual speeds, 115V motor	3-1/16	3	Use "42/43,000-Series" Cutters
10916	Complete Drill** with dual speeds, 230V motor	3-1/16	3	

* Complete drill includes Arbor, but does not include Cutters or Pilots.

**Complete drill includes Arbor, Pilot, and No.# 40040 Arbor Adapter, but does not include Cutters. Prices for additional gear sets available on request.

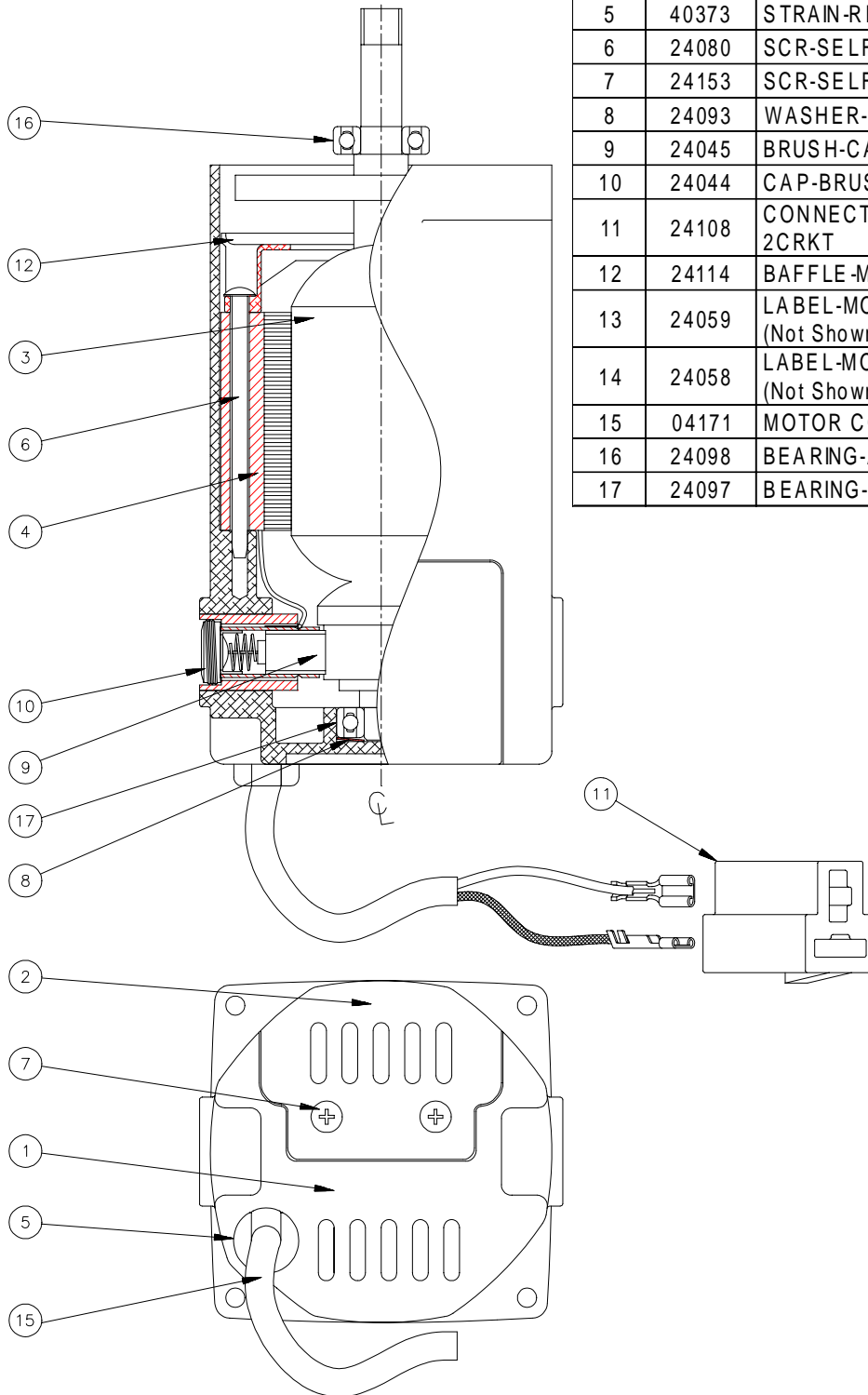
OPTIONAL PRESSURIZED COOLANT BOTTLE ASSEMBLY Part Number 24140



Item No.	Description	Qty Req'd.	Part No.
1	Bracket	1	24133
2	Barbed Insert	1	24148
3	Valve	1	24128
4	Adaptor	1	24132
5	"O" Ring	1	24123
6	Clamp	1	24149
7	Captive Screw	1	24110
8	Nylon Washer	1	24168
9	Bottle, 1 gallon	1	24127

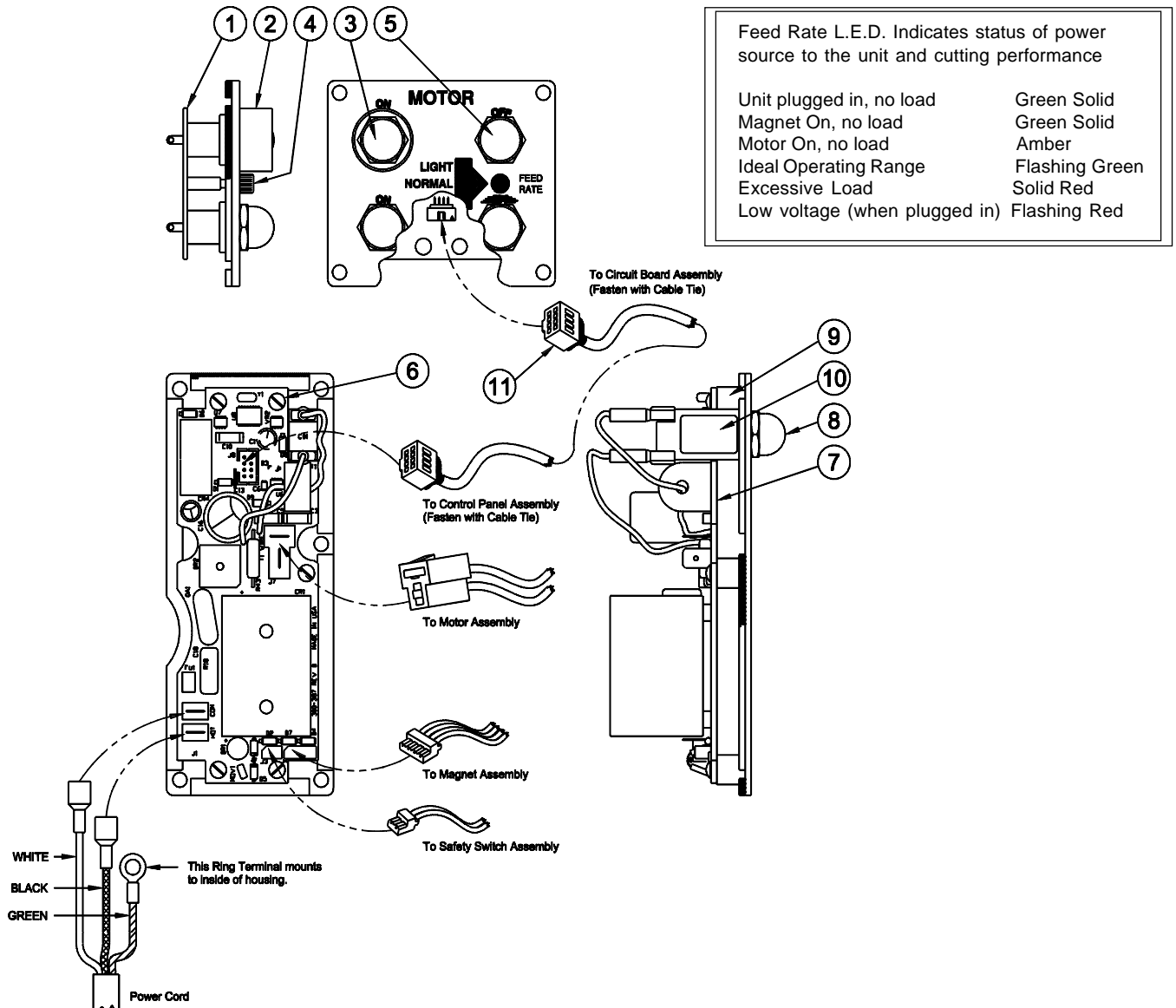
HMD500 MOTOR ASSEMBLY

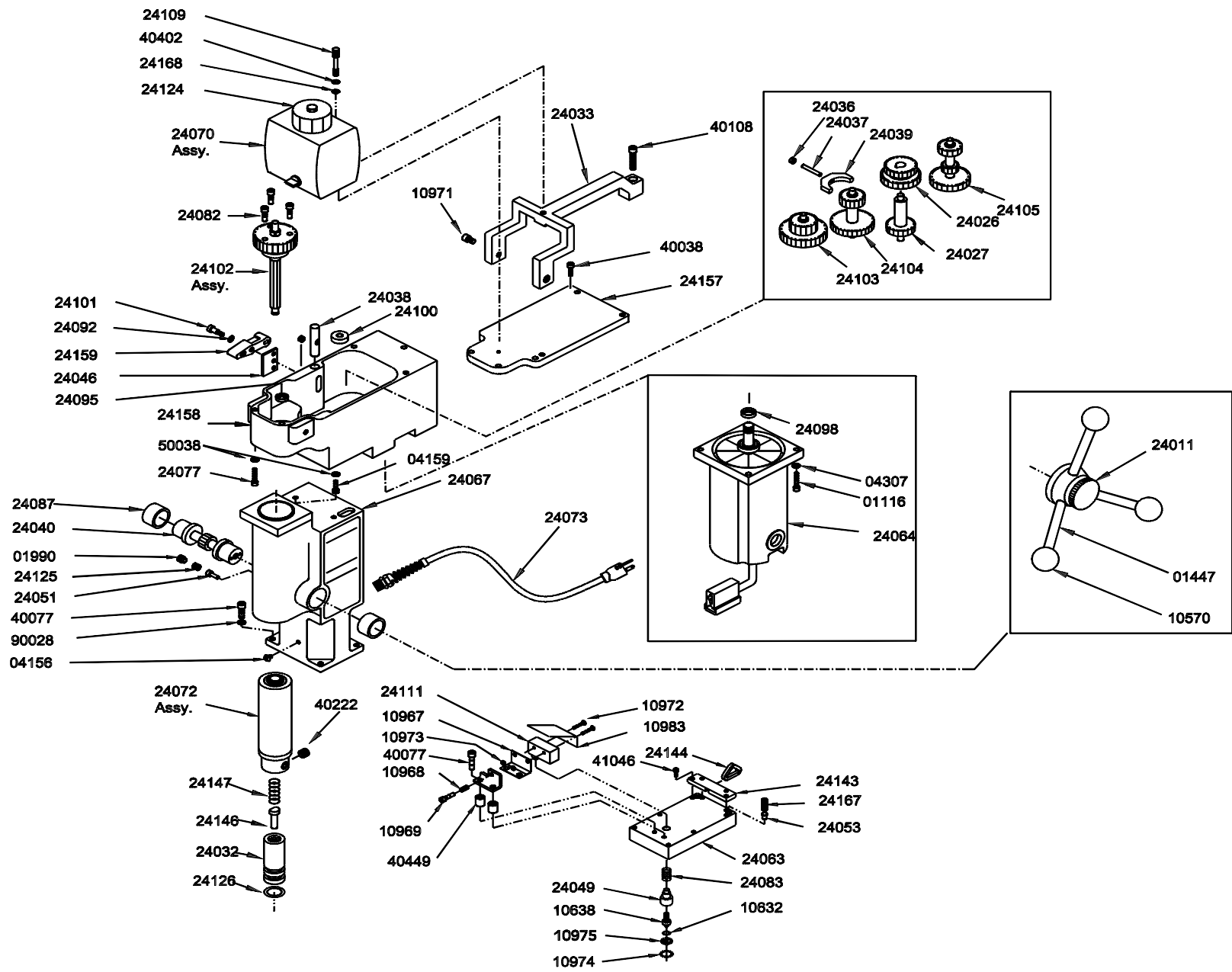
Det.	Part No.	Description	Req'd.
1	24156	HOUSING-MOTOR w/BRUSH HOLDER	1
2	24066	DOOR-ACCESS (MOTOR HOUSING	1
3	24041	ARMATURE-PQ FRAME ASSY	1
4	24042	FIELD- PQ FRAME w/MOTOR CORD	1
5	40373	STRAIN-RELIEF FOR .340 OD CORD	1
6	24080	SCR-SELF TAP #10 X 3-1/4 TYPAB	2
7	24153	SCR-SELF TAPPING #10X1/2"PN HD	2
8	24093	WASHER-SPRING 26MM OD.41MM THK	1
9	24045	BRUSH-CARBON	2
10	24044	CAP-BRUSH	2
11	24108	CONNECTOR-RECEPTACLE HSG 2CRKT	1
12	24114	BAFFLE-MOTOR (NYLON 6/6)	1
13	24059	LABEL-MOTOR ROTABROACH (Not Shown)	1
14	24058	LABEL-MOTOR SPECIFICATIONS (Not Shown)	1
15	04171	MOTOR CORD ASSEMBLY	1
16	24098	BEARING-ARMATURE -GEARBOX	1
17	24097	BEARING-ARMATURE-MOTOR HOUSING	1



HMD500 HOOK - UP DIAGRAM

Det.	Part No.	Description	Req'd.
Control Panel Assembly (P/N 24130)			
1	24117	CIRCUIT BOARD - PUSH BUTTON	1
2	01226	GUARD-PUSHBUTTON SWITCH	1
3	02409	SEAL-SWITCH 15/32-32 GREEN	2
4	24135	L.E.D.-CLEAR LENS COVER	1
5	01228	SEAL-SWITCH 15/32-32 RED	2
Circuit Board Assembly (P/N 24191)			
6	03868	SCR-PAN HD #6-32 X 3/16 ZINC	5
7	24190	CIRCUIT BOARD - POWER	1
8	24142	COVER-WATER SPLASH-CIRC. BRKR.	1
9	03995	VIBRATION MOUNT	5
10	24141	CIRCUIT BREAKER - 14 AMP	1
Wire Harness Assembly			
11	24008	WIRE HARNESS ASSEMBLY	1





HMD500 PARTS LIST

Part No.	Description	Req'd.
01116	SCR-SHC #10-32 X 1	4
01447	HANDLE-FEED; .50 DIA. X 4.94 OAL	3
04156	SCR-BHSCS 5/16-18 X 1/4" LONG	1
04158	SCR-SELF-THD #10-24 X 3/8 TYPE F	1
04159	SCR-LHSCS #10-32 X 5/8"	2
04207	SCR SOC SET 3/8-16	1
04307	WASHER FLAT #10	4
10560	WASHER-#10 EXT. TOOTH LOCK	1
10570	KNOB-FEED 1-23/32 DIA. 1/2-20 THD.	3
10632	RING-RETAINING .656 NOM. I.D.	1
10638	BEARING-ASSY SAFETY SWITCH	1
10967	CLIP-MICROSWITCH MOUNTING	1
10968	SPG. .045 X .30 O.D.	1
10969	SCR-SHC #10-32	2
10970	BRACKET	1
10971	SCR-SHC 1/4-20	2
10972	SCR-BHC #6-32	2
10973	NUT-HEX #6-32	2
10974	RING-RETAINING 1.00 NOM I.D.	1
10975	SEAL-ASSY SAFETY SWITCH	1
10983	SHIELD MICROSWITCH	1
24011	HUB ASSY- FEED	1
24017	GEAR SHIFT HANDLE	1
24026	GEAR- 32 & 39 TOOTH	1
24027	GEAR & SHAFT ASS'Y #2	1
24032	SPLINE SHAFT EXTENSION	1
24033	HANDLE, CARRYING-MACHINED	1
24036	WASHER GEAR SHIFT SPACER	2
24037	PIN-DOWEL 3/16 X 1-1/4	1
24038	GEAR SHIFT PIN	1
24039	GEAR SHIFT YOLK	1
24040	FEED GEAR	1
24046	GEAR SWITCH PLATE	1
24049	PLUNGER BODY-SAFETY SWITCH	1
24051	STOP-QUILL TRAVEL	1
24053	SPRING PLUNGER NOSE	2
24063	MAGNET ASSEMBLY	1
24064	MOTOR ASSEMBLY	1
24067	HOUSING ASSEMBLY	1
24070	COOLANT BOTTLE ASSEMBLY	1
24072	QUILL & ARBOR ASSY	1

Part No.	Description	Req'd.
24073	POWER CORD ASSY	1
24077	SCR-SHCS #10-32 X 7/8" LONG	4
24087	BEARING BUSHING	2
24082	SCR-SHCS #6-32	3
24083	SPRING-COMPRESSION .845 OD	1
24092	SPRING WASHER	1
24095	LIP SEAL	1
24100	BALL BEARING	9
24101	SCR-SHSLD 1/4-3/8	1
24102	SPLINE SHAFT ASSY.	1
24103	SPUR GEAR & SHAFT ASSY 15 TOOTH	1
24104	SPUR GEAR & SHAFT ASSY 14 TOOTH	1
24105	SPUR GEAR & SHAFT ASSY 15-20 TOOTH	1
24109	SCR-CAPT. THUMB 1/4-20	1
24111	MICRO-SWITCH ASSEMBLY	1
24115	CASE-CARRYING HMD500 DRILL	1
24124	CAP-COOLANT BOTTLE W/VENT	1
24125	SPRING-COMP .30 OD .38L .047 WD	1
24126	O-RING-7/16 ID 5/8 OD 3/32 W	1
24130	PUSH BUTTON ASSEMBLY	1
24143	PLATE-SPRING & CHAIN HOLDDOWN	1
24144	RING-"D" X 1" WIDE	1
24146	EXTENSION PLUNGER	1
24147	SPRING-COMP .30 OD X 1.13 LG X .03	1
24157	COVER AND BEARING ASSY.	1
24158	GEAR BOX AND BEARING ASSY.	1
24159	GEAR SWITCH AND PLUNGER ASSY.	1
24167	SPRING 1.25 X .051	2
24168	WASHER FLAT NYLON	1
24191	CIRCUIT ASSEMBLY	1
40038	SCR-SHC #10-32 X 5/8	6
40077	SCR-SHC 1/4-20 X 1	7
40108	SCR-SHC 1/4-20 X 1-1/4	1
40222	SCR- SOC SET 7/16-14	2
40402	WASHER FLAT	1
40449	SPACER	2
41044	SCR-BHC #10-32 X 3/8	9
41046	SCR-SHC #10-32 X 1/2	4
50038	WASHER HELICAL #10	4
51042	SCR-SHC 1/4-20 X 3/8	2
90028	WASHER HELICAL 1/4"	4

“12,000-Series” Rotabroach Cutters

Dia. (in./mm)	Dec. Equiv.	Part No. 1" D.O.C.	Part No. 2" D.O.C.	Part No. 3" D.O.C.
3/4" Diameter Shank Cutters Use with Pilot 10531 or 10532				
7/16	.4375	12114	12214	--
12mm	.4724	12312	12412	--
3/4" Diameter Shank Cutters Use with Pilot 10533 or 10534				
1/2	.5000	12116	12216	--
9/16	.5625	12118	12218	--
5/8	.6250	12120	12220	--
11/16	.6875	12122	12222	--
13mm	.5118	12313	12413	--
14mm	.5512	12314	12414	--
15mm	.5906	12315	12415	--
16mm	.6299	12316	12416	--
17mm	.6693	12317	12417	--
18mm	.7087	12318	12418	--
3/4" Diameter Shank Cutters Use with Pilot 10527, 10528 or 24131				
3/4	.7500	12124	12224	3-12224
13/16	.8125	12126	12226	3-12226
7/8	.8750	12128	12228	3-12228
15/16	.9375	12130	12230	3-12230
1	1.0000	12132	12232	3-12232
1-1/16	1.0625	12134	12234	3-12234
1-1/8	1.1250	12136	12236	3-12236
1-3/16	1.1875	12138	12238	3-12238
1-1/4	1.2500	12140	12240	3-12240
1-5/16	1.3125	12142	12242	3-12242
1-3/8	1.3750	12144	12244	3-12244
1-7/16	1.4375	12146	12246	3-12246
1-1/2	1.5000	12148	12248	3-12248
1-9/16	1.5625	12150	12250	3-12250
1-5/8	1.6250	12152	12252	3-12252
1-11/16	1.6875	12154	12254	3-12254
1-3/4	1.7500	12156	12256	3-12256
1-13/16	1.8125	12158	12258	3-12258
1-7/8	1.8750	12160	12260	3-12260
1-15/16	1.9375	12162	12262	3-12262
2	2.0000	12164	12264	3-12264
2-1/16	2.0625	--	12266	--
2-1/8	2.1250	--	12268	--
2-3/16	2.1875	--	12270	--
2-1/4	2.2500	--	12272	--
2-5/16	2.3125	--	12274	--
2-3/8	2.3750	--	12276	--

Dia. (in./mm)	Dec. Equiv.	Part No. 1" D.O.C.	Part No. 2" D.O.C.	Part No. 3" D.O.C.
3/4" Diameter Shank Cutters Use with Pilot 10527, 10528 OR 24131				
19mm	.7480	12319	12419	12519*
20mm	.7874	12320	12420	12520*
21mm	.8268	12321	12421	12521*
22mm	.8661	12322	12422	12522*
23mm	.9055	12323	12423	12523*
24mm	.9449	12324	12424	12524*
25mm	.9843	12325	12425	12525*
26mm	1.0237	12326	12426	12526*
27mm	1.0630	12327	12427	12527*
28mm	1.1020	12328	12428	12528*
29mm	1.1417	12329	12429	12529*
30mm	1.1812	12330	12430	12530*
31mm	1.2205	12331	12431	12531*
32mm	1.2598	12332	12432	12532*
33mm	1.2993	12333	12433	12533*
34mm	1.3386	12334	12434	12534*
35mm	1.3779	12335	12435	12535*
36mm	1.4174	12336	12436	12536*
37mm	1.4567	12337	12437	12537*
38mm	1.4961	--	12438	12538*
39mm	1.5354	--	12439	12539*
40mm	1.5748	--	12440	12540*
41mm	1.6142	--	12441	12541*
42mm	1.6535	--	12442	12542*
43mm	1.6929	--	12443	12543*
44mm	1.7323	--	12444	12544*
45mm	1.7717	--	12445	12545*
46mm	1.8110	--	12446	12546*
47mm	1.8504	--	12447	12547*
48mm	1.8898	--	12448	12548*
49mm	1.9291	--	12449	12549*
50mm	1.9685	--	12450	12550*
51mm	2.0079	--	12451	12551*

“12,000-Series” Cutter Pilots

Pilots for Cutter Dia.	Part No. 1" D.O.C.	Part No. 2" D.O.C.	Part No. 3" D.O.C.
7/16" & 12mm	10531	10532	--
1/2 -11/16" & 13 - 18mm	10533	10534	--
3/4 - 2-3/8" & 19 - 51mm	10527	10528	24131
3/4 - 2-3/8" & 19 - 51mm	24131 NEW		

Note: Part No. 24131 for use with spring-loaded ejection on Model HMD500

“12,000-Series” Tap Drills

NEW	Cutter Diameter (inches)	Thread	Dec. Equiv.	Part No. 1" D.O.C.	Part No. 2" D.O.C.
	7/16	1/2-13	.4375	12114	12214
	35/64	5/8-11	.5469	12117	12217
	21/32	3/4-10	.6563	12121	12221
	25/32	7/8-9	.7812	12125	12225