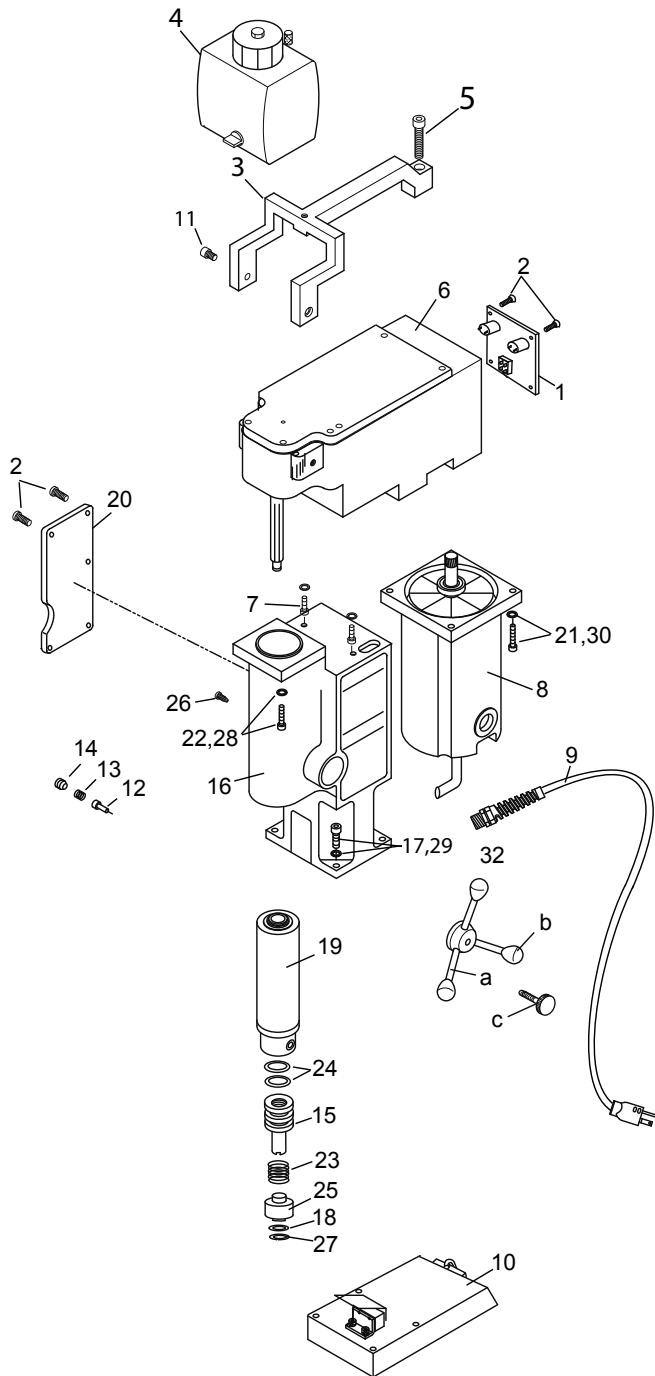
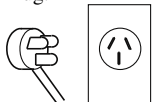


# HOUGEN HMD508 EXPLODED VIEW

0508102, 0508202, 0508302 & 0508402



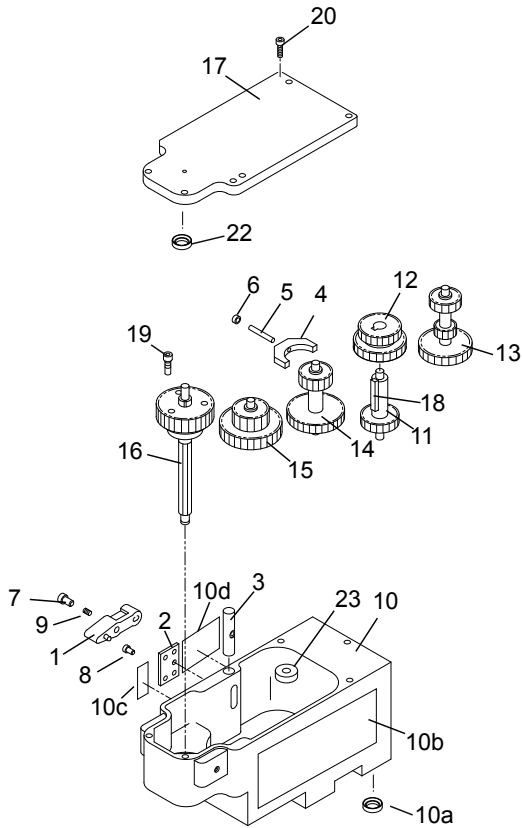
The **0505302** is assembled with a Type I Plug.



The **0505402** is assembled without an electrical plug at the end of the power cord.

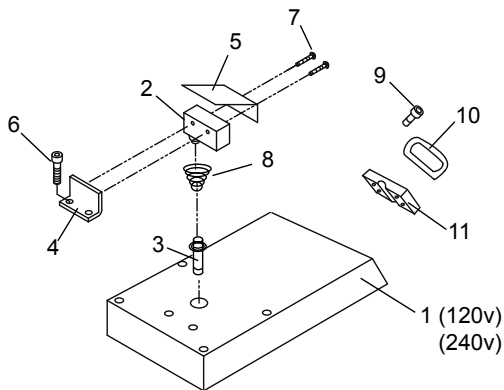
Item	Part #	Description	Qty
*1	04613	End Panel Assembly <b>120v</b>	1
	04663	End Panel Assembly <b>240v</b>	1
2	41044	B.H.C Screw #10-32 X 1/2	9
3	24033	Carrying Handle	1
4	24228	Coolant Bottle Assembly	1
5	40108	S.H.C Screw 1/4 X 1-1/4	1
*6	05994	Gear Box Assembly	1
7	04159	S.H.C Screw #10-32 X 5/8	2
*8	07000	Motor Assembly <b>120v</b>	1
	07002	Motor Assembly <b>240v</b>	1
9	24073	Power Cord Assembly <b>120v</b> (0508102)	1
	24213	Power Cord Assembly <b>240v</b> (0508202)	1
	24214	Power Cord Assembly <b>240v</b> (0508302 type I plug)	1
	24227	Power Cord Assembly <b>240v</b> (0508402 no plug)	1
*10	24223	Magnet/Safety Switch Assem. <b>120v</b>	1
	24219	Magnet/Safety Switch Assem. <b>240v</b>	1
11	10971	SHC Screw 1/4-20 X 1/2	2
12	24051	Quill Stop	1
13	24125	Spring	1
14	04207	Set Screw 3/8-16 X 3/8	1
15	24193	Spline Shaft Extension	1
16	05400	Housing Assembly	1
17	40077	SHC Screw 1/4-20 X 1"	4
18	24198	Seal 1/2 ID X 11/16 OD	1
*19	24199	Quill / Arbor Assembly	1
20	04620	Front Panel Assembly <b>120v</b>	1
	04665	Front Panel Assembly <b>240v</b>	1
21	01116	SHC Screw #10-32 X 1	4
22	24077	SHC Screw #10-32 X 7/8	4
23	24195	Spring	1
24	24126	O-Ring	2
25	24194	Spring Plunger	1
26	04158	SCR Self-Tap 10-24 X 3/8	1
27	10517	Retaining Ring	1
28	50038	#10 Lock Washer	4
29	90028	1/4" Lock washer	4
30	04307	#10 Flat washer	4
31	05372	Grease, Lubplate	.01oz
32	24011	Feed Hub Assembly (includes a-c)	1
a	04558	Feed Handle	3
b	04532	Handle Knob	3
c	24007	Feed Hub Knob	1

\* See Following Pages For Assembly Breakdowns

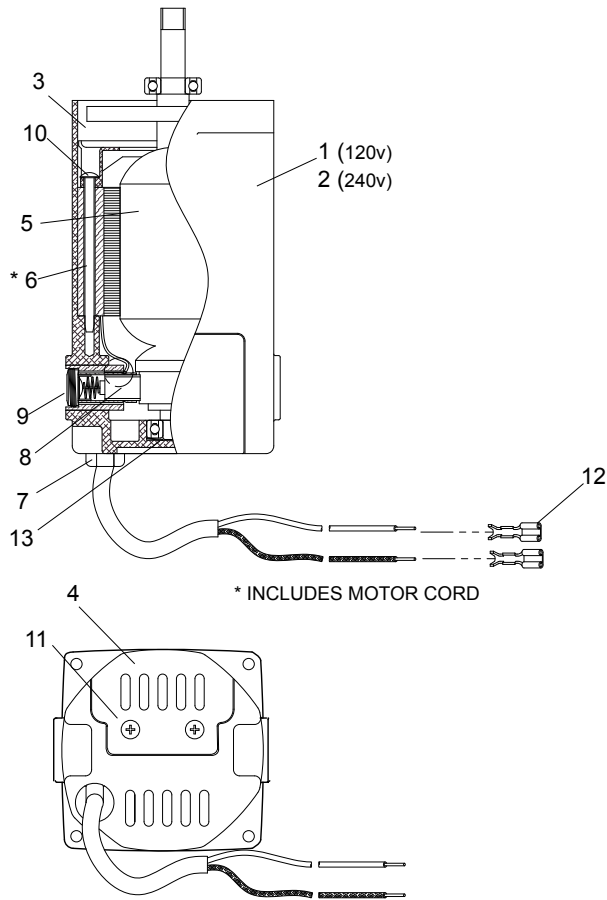


\*These Parts Are Included In Kit 24230.

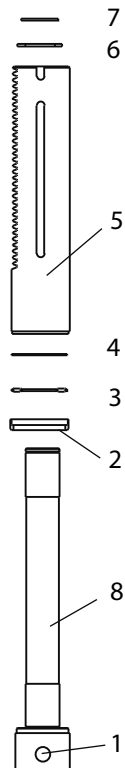
05994 Gear Box Assembly			
Item	Part #	Description	Qty
*1	24229	Gear Shift Handle	1
*2	24046	Gear Switch Plate	1
3	24038	Gear Shift Pin	1
4	24039	Gear Shift Yoke	1
5	24037	Dowel Pin 3/16 X 1-1/4	1
6	24036	Gear Shift Spacer	2
*7	24101	SHSLD Screw 1/4 X 3/8	1
8	04157	FHSC Screw #10-32 X 3/8	4
*9	05740	Spring	1
10	05993	Gear Box Assembly (includes a-d)	1
10a	24096	Lip Seal	1
10b	05181	Hougen Label	1
10c	05991	Drill Speed Label	1
10d	07129	Carbide Speed Label	1
11	24027	Gear & Shaft Assembly	1
12	05989	Gear 32/39 Tooth	1
13	05992	Gear & Shaft Assembly 15/20 Tooth	1
14	24104	Gear & Shaft Assembly 14 Tooth	1
15	24103	Gear & Shaft Assembly 15 Tooth	1
16	24102	Spline Shaft Assembly	1
17	04623	Cover & Bearing Assembly	1
18	24030	Key 3/16 sq. X 1.70	1
19	24082	SHC Screw 6-32 X 3/8	3
20	40038	SHC Screw 10-32 X 5/8	6
21	24152	Grease Lubriplate GR132	
22	24095	Lip Seal	1
23	24100	Ball Bearing	4



24223 120v Magnet Assembly 24219 240v Magnet Assembly			
Item	Part #	Description	Qty
1	24222	Magnet Assembly 120v	1
	24220	Magnet Assembly 240v	1
2	10990	Safety Switch Assy.	1
3	24221	Plunger Assembly	1
4	04909	Safety Switch Bracket	1
5	10983	Shield	1
6	10971	Screw SHC 1/4-20 X 1/2	2
7	10972	Screw BHC 6-32 X 7/8	2
8	17271	Spring	1
9	41046	Screw SHC 10-32 X 1/2	2
10	24144	"D" Ring 1" Wide	1
11	04698	Plate - Chain Hold down	1



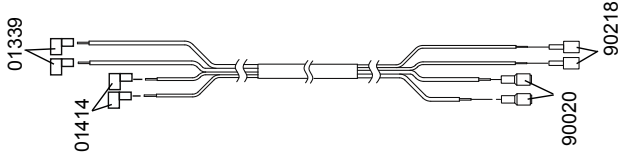
07000 120v Motor Assembly 07002 240v Motor Assembly			
Item	Part #	Description	Qty
1	05999	Motor Housing Assy. <b>120v</b>	1
1a	05996	HMD508 Label	1
1b	05997	Motor Specs Label <b>120v</b>	1
2	07001	Motor Housing Assy. <b>240v</b>	1
2a	05996	HMD508 Label	1
2b	05995	Motor Specs Label <b>240v</b>	1
3	24114	Motor Baffle	1
4	24066	Access Door	1
5	24041	Armature <b>120v</b>	1
	24207	Armature <b>240v</b>	1
6	24042	Field Assembly <b>120v</b>	1
	24206	Field Assembly <b>240v</b>	1
7	40373	Strain Relief	2
8	24045	Carbon Brushes <b>120v/240v</b>	2
9	24044	Brush Cap	2
10	24080	Screw #10 X 3-1/4 Self Tapping	2
11	24153	Screw #10 X 1/2 Self Tapping	2
12	90019	16-14 Connector	2
13	24093	Spring Washer	1



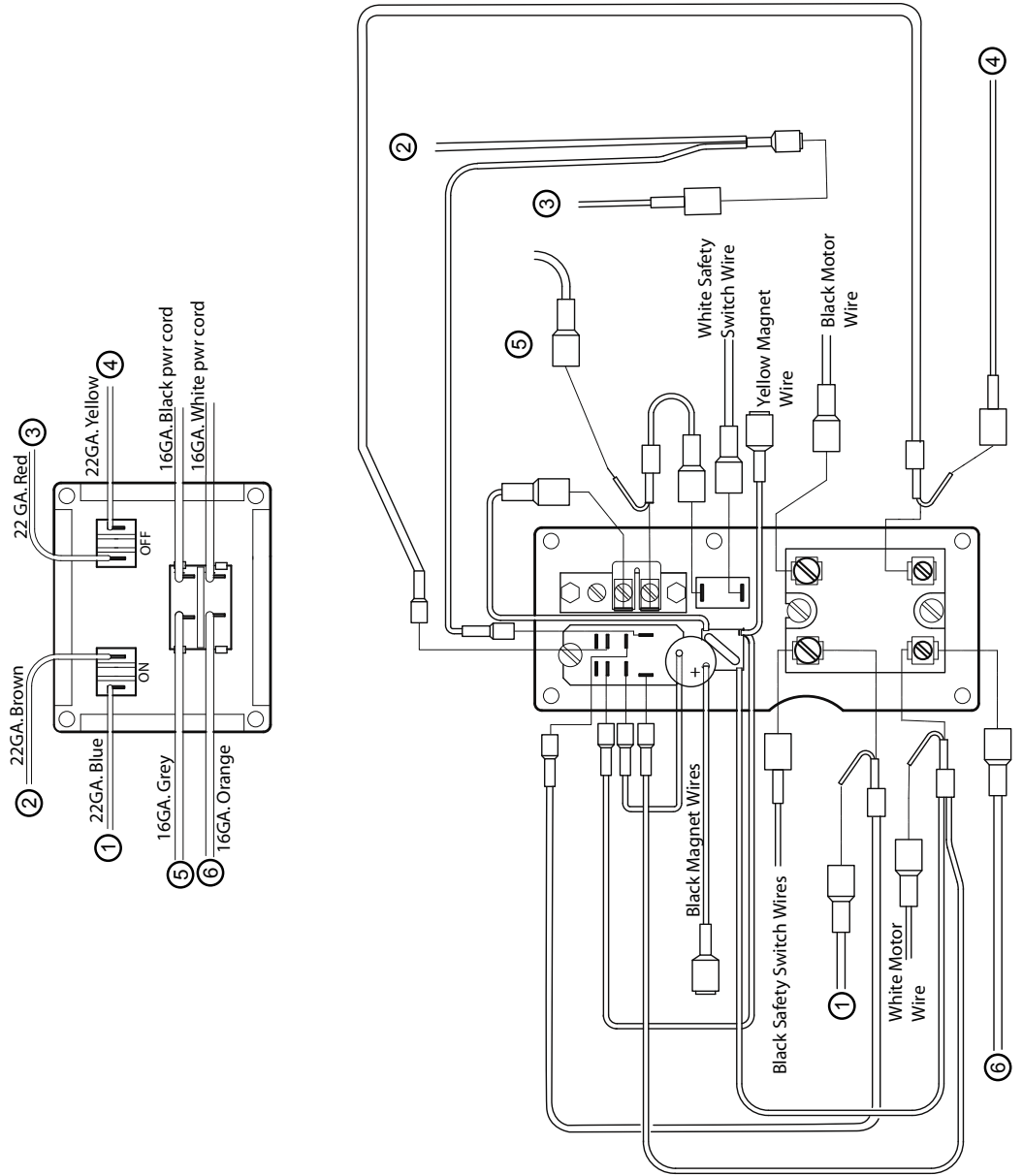
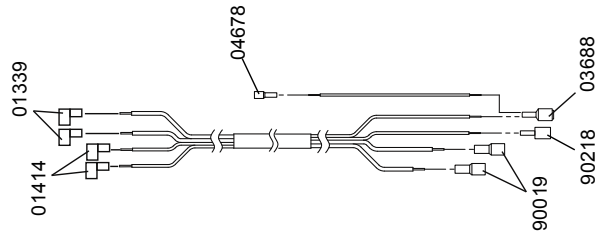
24199 Arbor / Quill Assembly			
Item	Part #	Description	Qty
1	40222	Set Screw 7/16-14 X .305	2
2	24013	Thrust Bearing Seal	1
3	24094	Thrust Bearing	1
4	24091	Thrust Washer	1
5	24016	Quill	1
6	24165	Washer	1
7	24164	Retaining Ring	1

# HMD508 Wiring Diagram 120v & 240v

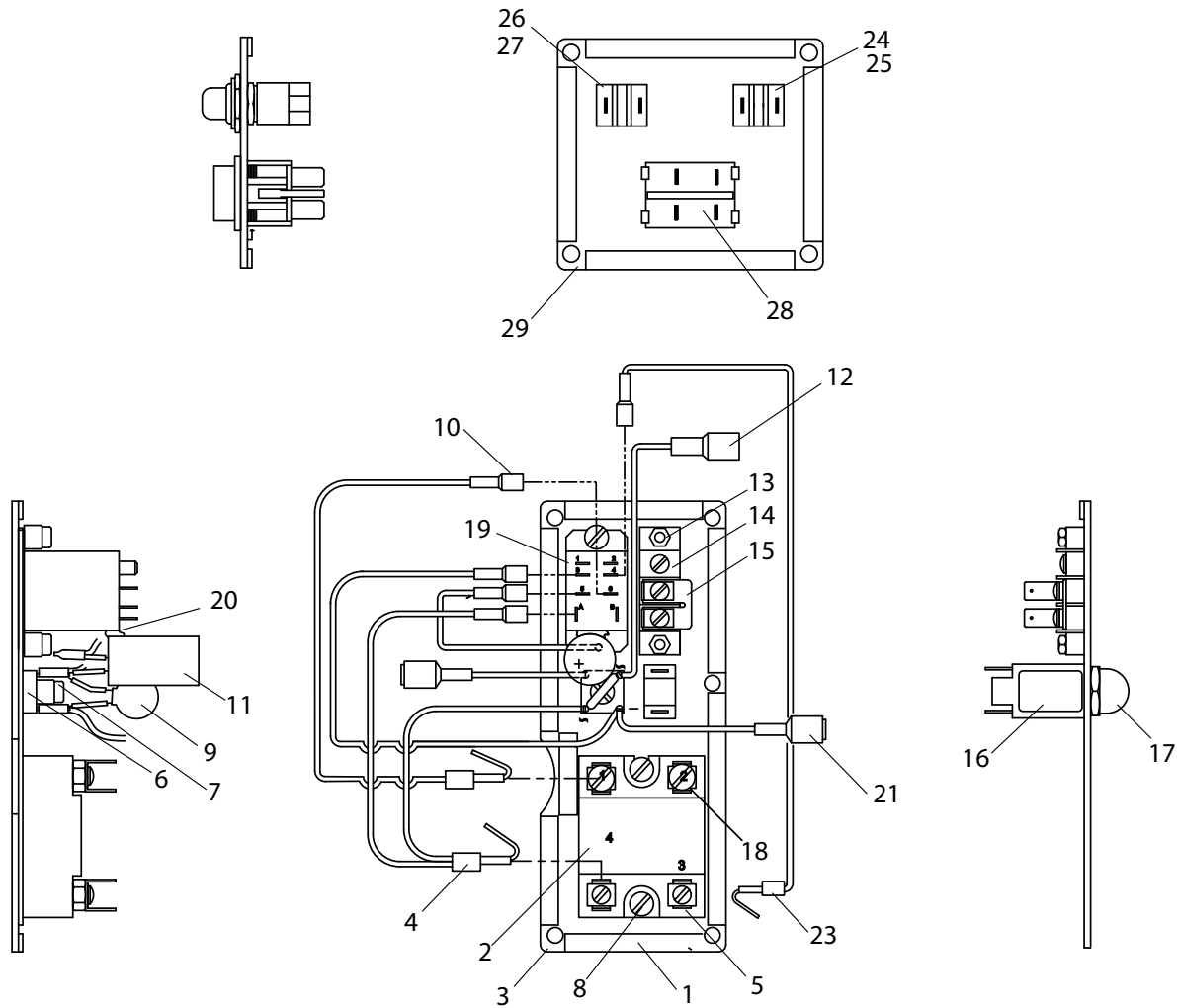
04647 WIRE HARNESS



04689 WIRE HARNESS



# HMD508 PANEL PARTS



Item	Part #	Description	Qty	Item	Part #	Description	Qty
1	40296	Sponge Seal	1	16	24141	Circuit Breaker 14A (120v)	1
2	04387	Relay	1		24216	Circuit Breaker 7A (240v)	1
3	04621	Faceplate Front	1	17	24142	Cover	1
4	90020	Terminal Piggy Back	2	18	04622	Double Terminal	3
5	01945	Terminal Spade	5	19	04690	Relay 15A (120v)	1
6	10705	Rectifier	1		07119	Relay 15A (240v)	1
7	01835	Nylon Nut	3	20	90036	Adhesive	1
8	40374	Nut #6-32 Jam	2	21	03688	Terminal Male Insulator	2
9	10718	Surge Suppressor (120v)	1	22	90019	Female terminal 16/14 GA.	1
	10760	Surge Suppressor (240v)	1	23	01310	Terminal Piggy Back	2
10	04678	Female Terminal 22/18 GA	5	24	04646	Switch Off	1
11	02916	Capacitor (120v)	1	25	04643	Red Seal	1
	07210	Capacitor (240v)	1	26	04645	Switch On	1
12	90218	Terminal Female	1	27	04644	Green Seal	1
13	01496	Spacer	2	28	04614	Rocker Switch (120v)	1
14	01547	Terminal Strip	1		04664	Rocker Switch (240v)	1
15	01944	Terminal Jumper	1	29	04615	Faceplate End	1

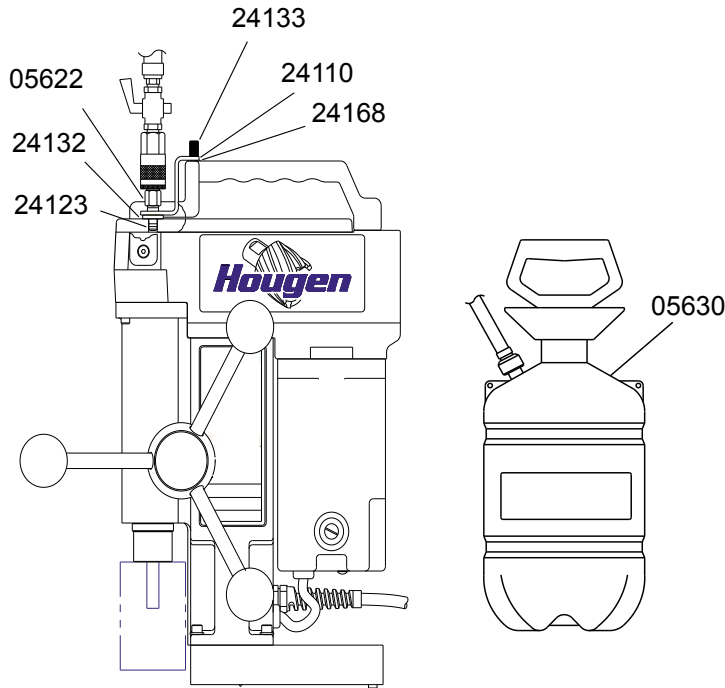
<b>"12,000-SERIES" HOUGEN CUTTERS</b>				
Cutter Diameter	Decimal Equivalent	Part Number		
		1" DOC	2" DOC	3" DOC
Use with Pilot		10531	10532	
7/16	.4375	12114	12214	-----
12mm	.4724	12312	12412	-----
Use with Pilot		10533	10534	
1/2	.5000	12116	12216	-----
13mm	.5118	12313	12413	-----
14mm	.5512	12314	12414	-----
9/16	.5625	12118	12218	-----
15mm	.5906	12315	12415	-----
5/8	.6250	12120	12220	-----
16mm	.6299	12316	12416	-----
17mm	.6693	12317	12417	-----
11/16	.6875	12122	12222	-----
18mm	.7087	12318	12418	-----
Use with Pilot		10527	10528	24131
19mm	.7480	12319	12419	12519
3/4	.7500	12124	12224	3-12224
20mm	.7874	12320	12420	12520
13/16	.8125	12126	12226	3-12226
21mm	.8268	12321	12421	12521
22mm	.8661	12322	12422	12522
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

<b>"Copperhead<sup>TM</sup>"</b>		
Cutter Diameter	Decimal Equivalent	Part Number (2" D.O.C)
Use with Pilot 10530		
14mm	.5512	18414
9/16	.5625	18218
15mm	.5906	18415
16mm	.6299	18416
11/16	.6875	18222
18mm	.7087	18418
20mm	.7874	18420
13/16	.8125	18226
22mm	.8661	18422
7/8	.8750	18228
15/16	.9375	18230
24mm	.9449	18424
25mm	.9843	18425
1	1.000	18232
26mm	1.0236	18426
1-1/16	1.0625	18234
28mm	1.1024	18428
1-1/8	1.1250	18236
30mm	1.1811	18430
1-3/16	1.1875	18238
1-1/4	1.250	18240
32mm	1.2598	18432
1-5/16	1.3125	18242
34mm	1.3386	18434
1-3/8	1.3750	18244
36mm	1.4173	18436
38mm	1.4961	18438
1-1/2	1.5000	18248
40mm	1.5743	18440

<b>RECOMMENDED RPM'S</b>	
<b>450 RPM</b>	<b>750 RPM</b>
7/16" - 1-1/16" H.S.S. Cutters 12mm - 22mm H.S.S. Cutters	9/16" - 1-1/2 Carbide Cutters 14mm - 40mm Carbide Cutters

# OPTIONAL PRESSURIZED COOLANT BOTTLE 24140

Part #	Description	Qty
05622*	QUICK CONNECT	1
05630*	COLLANT BOTTLE ASSY	1
24110*	SCREW, CAPTIVE	1
24123*	"O" RING	1
24132*	ADAPTER	1
24133*	BRACKET	1
24168*	NYLON FLAT WASHER	1
* PARTS INCLUDED WITH 24140		



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 1 year and   
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To obtain warranty service, return the item(s), transportation prepaid, to your nearest Factory Authorized Warranty Repair Center or to Hougen Manufacturing, Inc., 3001 Hougen Drive, Swartz Creek, Michigan 48473.

Hougen Drills are warranted against manufacturing defects only. Subject to Hougen Manufacturing inspection.

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