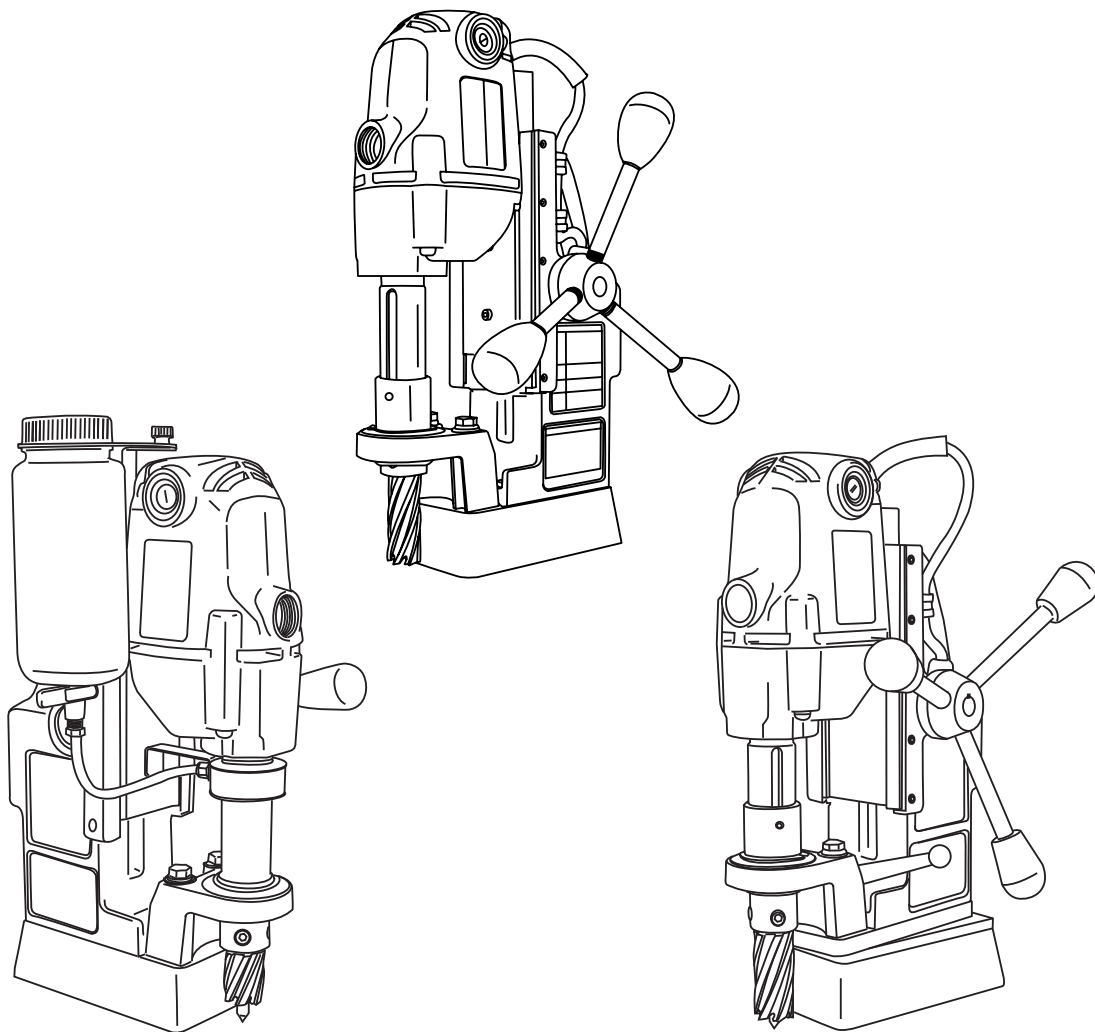




# HMD904 SERIES PORTABLE MAGNETIC DRILL

## OPERATOR'S MANUAL

COVERS DRILL PART NUMBER 0904301, 0904302, 0904303, 0904304,  
0904401, 0904402, 0904403 AND 0904404

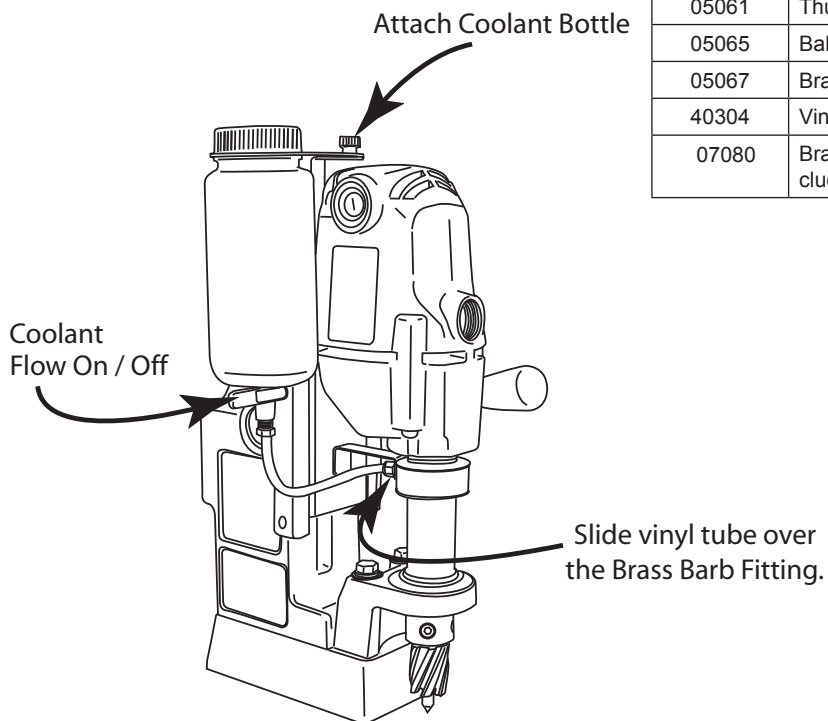


**FOR USE WITH HOUGEN<sup>®</sup> ROTABROACH<sup>®</sup> CUTTERS**

## COOLANT BOTTLE ASSEMBLY

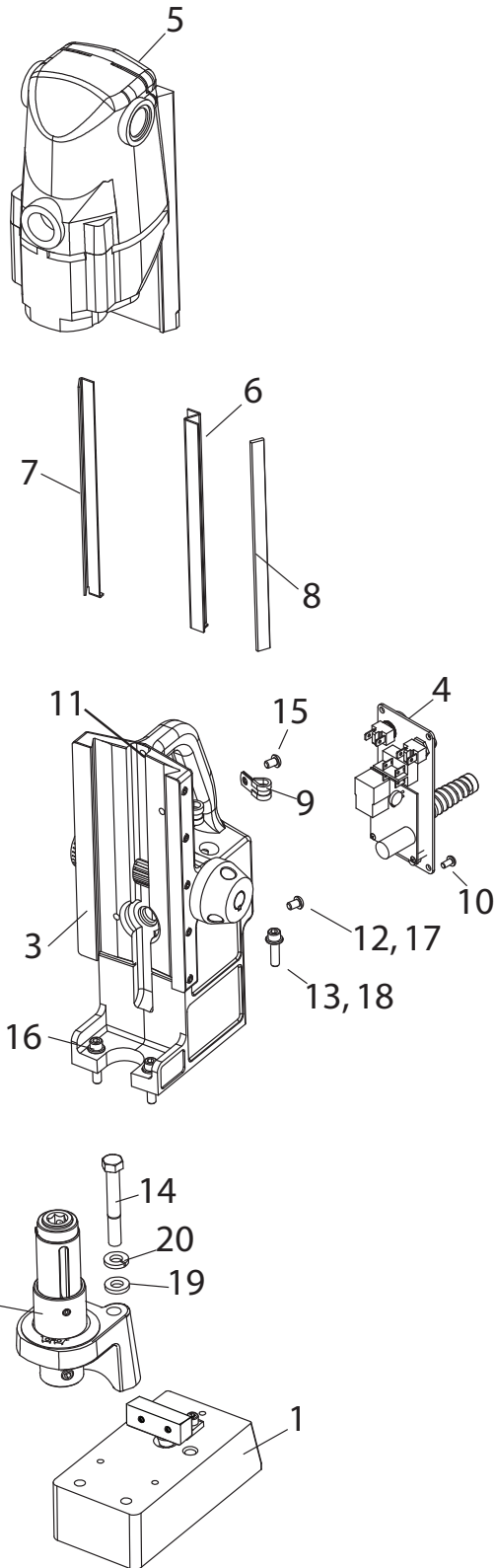
### 05060 Coolant Bottle Assembly

05064	Round Bottle
05059	Coolant Bottle Bracket (Bottle to Bracket)
05061	Thumb Screw (holds bottle bracket to mounting bracket)
05065	Ball Valve
05067	Brass Barb Fitting (bottom of the bottle)
40304	Vinyl Tube
07080	Brass Fitting (vinyl tube to coolant inducer) not included in 05060 kit.



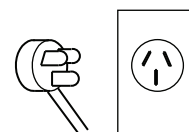
# 0904301 - HMD904 230v Type I Plug

# 0904401 - HMD904 230v, no plug



Item	Part #	Description	Qty
1	*05392	Magnet & Switch Assembly Standard Base <b>230v</b>	1
2	*05470	Arbor/Front Support Assembly	1
3	*04540	Housing Assembly <b>230v</b>	1
4	*05946	Panel Assembly <b>230v (0904301)</b>	1
	*05290	Panel Assembly <b>230v (0904401)</b>	1
5	Refer to the following pages for the Motor/Slide Assembly Breakdown		
6	02429	Brass Gib Right Hand	1
7	02430	Brass Gib Left Hand	1
8	02431	Steel Gib	1
9	02420	Cable Clamp	1
10	41044	Screw BHC #10-32 X 3/8	4
11	40432	Screw SHC 1/4-28 X 3/8	1
12	17002	Screw SHC #6-32 X 1/2 (ground)	1
13	40077	Screw SHC 1/4-20 X 1	1
14	02460	Hex Bolt 3/8-24 X 2-3/4	2
15	02461	Screw BHC 1/4-28 X 3/8	1
16	10553	Screw SHC 1/4-20 X 7/8	2
17	90052	Lock Washer	1
18	90028	Lock Washer	3
19	40392	Flat Washer	2
20	40391	Lock Washer	2
<b>Accessories Included</b>			
	10565	Hex Key 1/8 wrench	1
	10730	Safety Chain 3/16 X 5' w/Snap Hook	1
	04550	Carrying Case w/Label	1
	02635	Hex Key 3/16" T-Handle	1
<b>* See Following Pages for Detailed Breakdowns</b>			

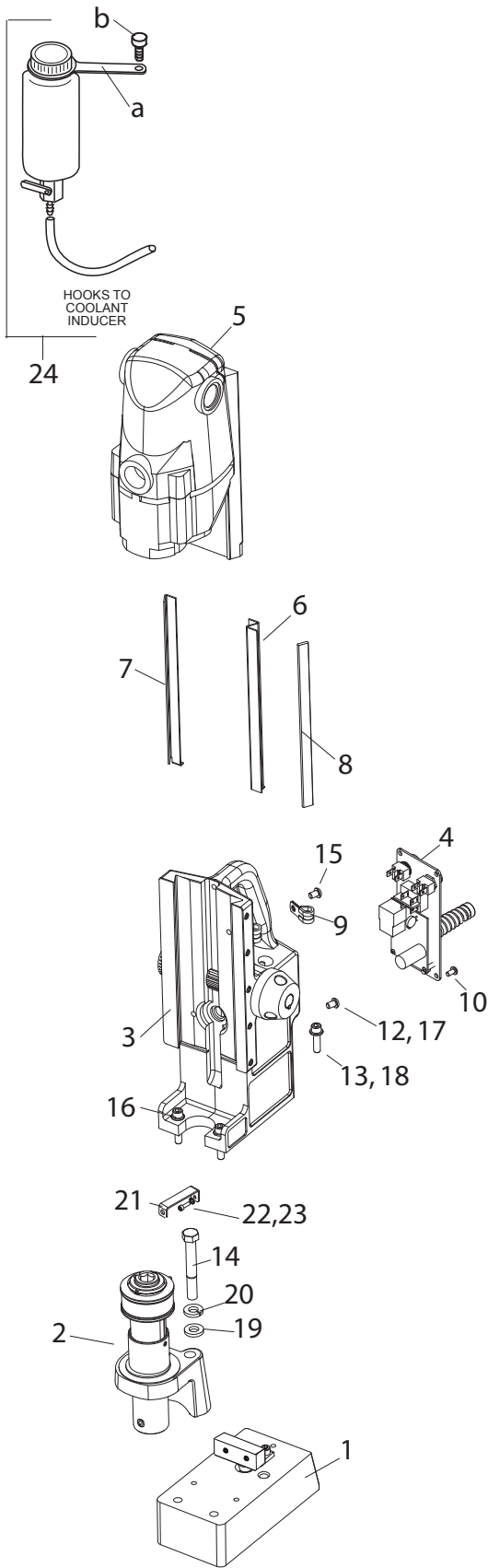
The **0904301** is assembled with a Type I Plug.



The **0904401** is assembled without an electrical plug at the end of the power cord.

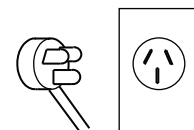
# 0904302 - HMD904 230v with Coolant, Type I Plug

# 0904402 - HMD904 230v with Coolant, No Plug



Item	Part #	Description	Qty
1	*05392	Magnet & Switch Assembly Standard Base	1
2	*07155	Arbor/Front Support Assembly	1
3	*04540	Housing Assembly	1
4	*05946	Panel Assembly <b>230v (0904302)</b>	1
	*05290	Panel Assembly <b>230v (0904402)</b>	1
5	Refer to the following pages for the Motor/Slide Assembly Breakdown		
6	02429	Brass Gib Right Hand	1
7	02430	Brass Gib Left Hand	1
8	02431	Steel Gib	1
9	02420	Cable Clamp	1
10	41044	Screw BHC #10-32 X 3/8	4
12	17002	Screw SHC #6-32 X 1/2 (ground)	1
13	40077	Screw SHC 1/4-20 X 1	1
14	02460	Hex Bolt 3/8-24 X 2-3/4	2
15	02461	Screw BHC 1/4-28 X 3/8	1
16	10553	Screw SHC 1/4-20 X 7/8	2
17	90052	Lock Washer	1
18	90028	Lock Washer	3
19	40392	Flat Washer	2
20	40391	Lock Washer	2
21	07163	Coolant Inducer Bracket	1
22	40038	Screw SHC #10-32 X 5/8	1
23	10560	Lock Washer	1
24	05060	Coolant Bottle Assembly	1
a	05059	Coolant Bottle Holder	1
b	05061	Thumb Screw	1
<b>Accessories Included</b>			
	10565	Hex Key 1/8 wrench	1
	10730	Safety Chain 3/16 X 5' w/Snap Hook	1
	04550	Carrying Case w/Label	1
	02635	Hex Key 3/16" T-Handle	1
	02677	3/4 Nom Pipe - Handle <b>0904402</b>	1
<b>* See Following Pages for Detailed Breakdowns</b>			

The **0904302** is assembled with a Type I Plug.

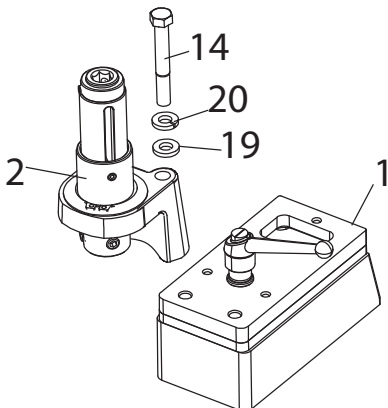
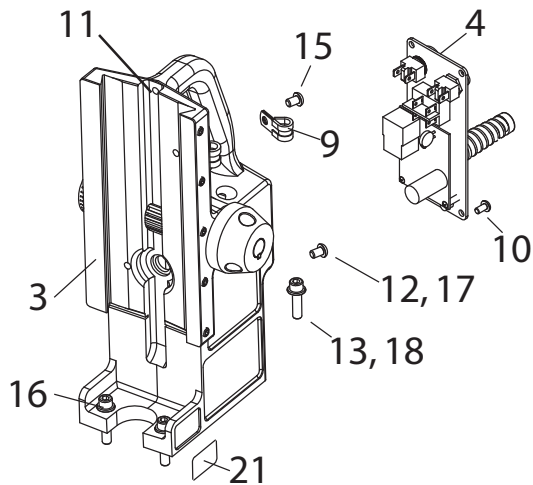
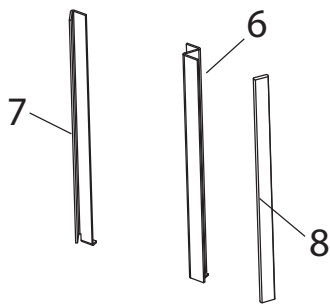
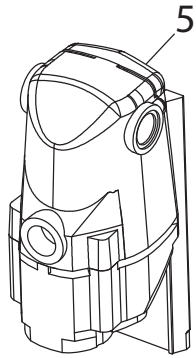


The **0904402** is assembled without an electrical plug at the end of the power cord.

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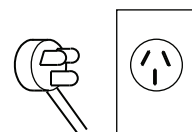
**0904303 - HMD904 230v, Swivel Base, Type I Plug**

**0904403 - HMD904 230v, Swivel Base, No Plug**



Item	Part #	Description	Qty
1	*05894	Magnet & Switch Assembly Swivel Base	1
2	*05733	Arbor/Front Support Assembly	1
3	*04540	Housing Assembly	1
4	*05946	Panel Assembly <b>230v (0904303)</b>	1
	*05290	Panel Assembly <b>230v (0904403)</b>	1
5	Refer to the following pages for the Motor/Slide Assembly Breakdown		
6	02429	Brass Gib Right Hand	1
7	02430	Brass Gib Left Hand	1
8	02431	Steel Gib	1
9	02420	Cable Clamp	1
10	41044	Screw BHC #10-32 X 3/8	4
11	40432	Screw SHC 1/4-28 X 3/8	1
12	17002	Screw SHC #6-32 X 1/2 (ground)	1
13	40077	Screw SHC 1/4-20 X 1	1
14	05736	Hex Bolt 3/8-24 X 2	2
15	02461	Screw BHC 1/4-28 X 3/8	1
16	10553	Screw SHC 1/4-20 X 7/8	2
17	90052	Lock Washer	1
18	90028	Lock Washer	3
19	40392	Flat Washer	2
20	40391	Lock Washer	2
21	07015	Swivel Base Label lock/unlock	1
<b>Accessories Included</b>			
	10565	Hex Key 1/8 wrench	1
	10730	Safety Chain 3/16 X 5' w/Snap Hook	1
	04550	Carrying Case w/Label	1
	02635	Hex Key 3/16" T-Handle	1
<b>* See Following Pages for Detailed Breakdowns</b>			

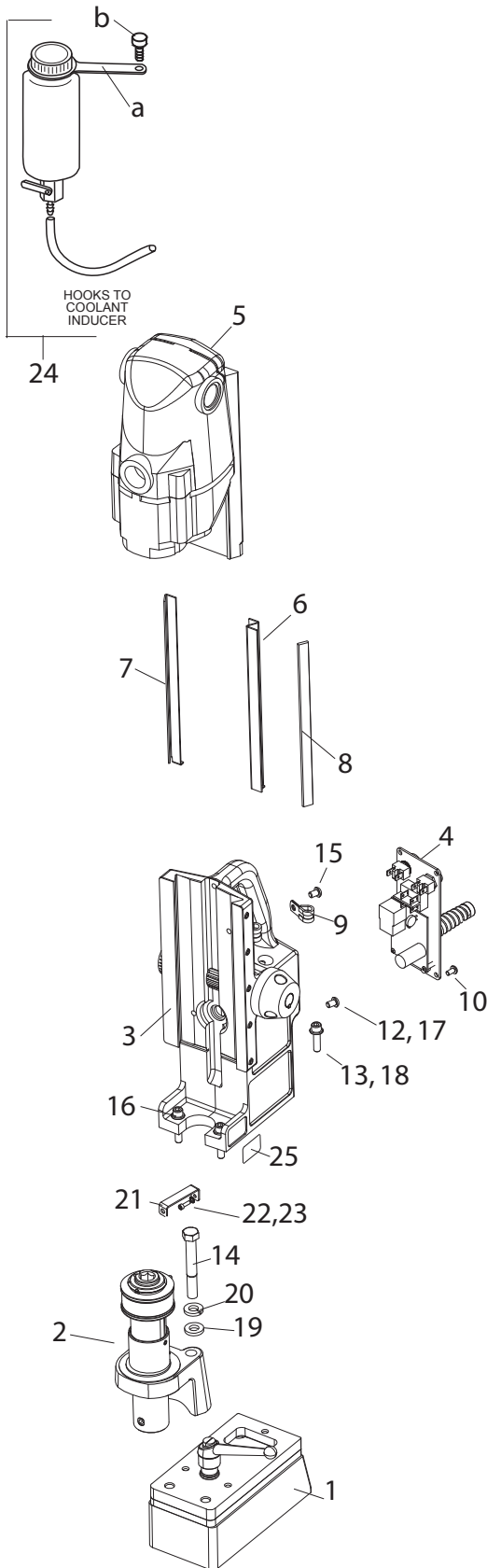
The **0904303** is assembled with a Type I Plug.



The **0904403** is assembled without an electrical plug at the end of the power cord.

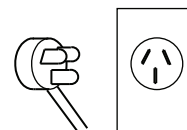
**0904304** - HMD904 230v, Coolant, Swivel Base with Type I Plug

**0904404** - HMD904 230v, Coolant & Swivel Base for Singapore



Item	Part #	Description	Qty
1	*05894	Magnet & Switch Assembly Swivel Base	1
2	*07156	Arbor/Front Support Assembly	1
3	*04540	Housing Assembly	1
4	*05946	Panel Assembly <b>0904304</b>	1
	*05290	Panel Assembly <b>0904404</b>	1
5	Refer to the following pages for the Motor/Slide Assembly Breakdown		
6	02429	Brass Gib Right Hand	1
7	02430	Brass Gib Left Hand	1
8	02431	Steel Gib	1
9	02420	Cable Clamp	1
10	41044	Screw BHC #10-32 X 3/8	4
12	17002	Screw SHC #6-32 X 1/2 (ground)	1
13	40077	Screw SHC 1/4-20 X 1	1
14	05736	Hex Bolt 3/8-24 X 2	2
15	02461	Screw BHC 1/4-28 X 3/8	1
16	10553	Screw SHC 1/4-20 X 7/8	2
17	90052	Lock Washer	1
18	90028	Lock Washer	3
19	40392	Flat Washer	2
20	40391	Lock Washer	2
21	07163	Coolant Inducer Bracket	1
22	40038	Screw SHC #10-32 X 5/8	1
23	10560	Lock Washer	1
24	05060	Coolant Bottle Assembly	1
a	05059	Coolant Bottle Holder	1
b	05061	Thumb Screw	1
25	07015	Swivel Label lock/unlock	1
<b>Accessories Included</b>			
	10565	Hex Key 1/8 wrench	1
	10730	Safety Chain 3/16 X 5' w/Snap Hook	1
	04550	Carrying Case w/Label	1
	02635	Hex Key 3/16" T-Handle	1
	02677	3/4 Nom. Pipe <b>0904404</b>	1
* See Following Pages for Detailed Breakdowns			

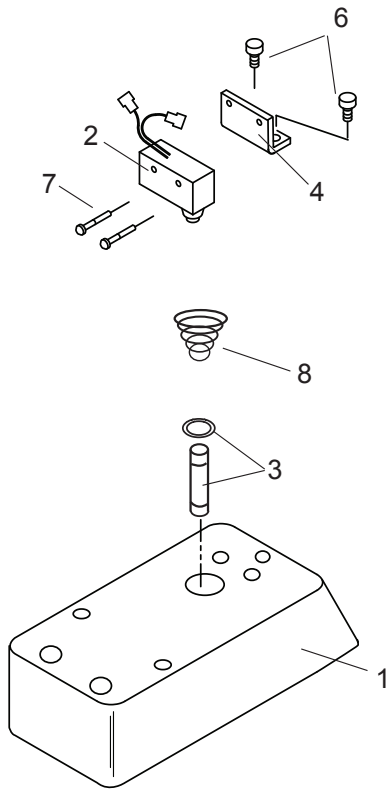
The **0904304** is assembled with a Type I Plug.



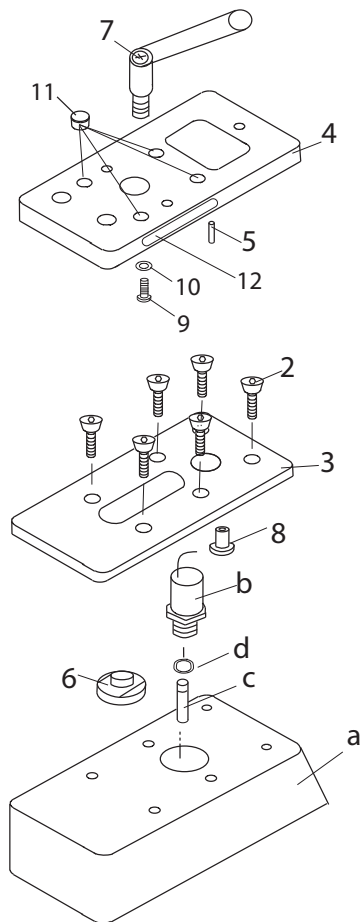
The **0904404** is assembled without an electrical plug at the end of the power cord.

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# Magnet Assembly Breakdowns

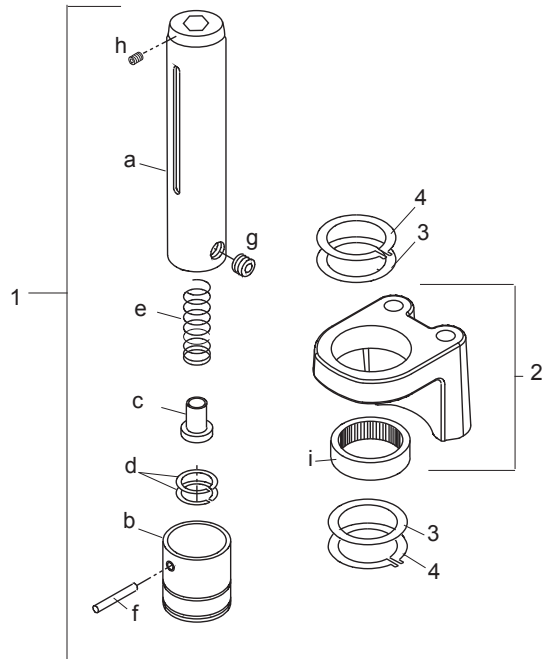


05392 Magnet Assembly 230v			
Item	Part #	Description	Qty
1	05391	Magnet Assembly 230v	1
2	04885	Safety Switch Assembly	1
3	04910	Plunger Assembly	1
4	04909	Safety Switch Bracket	1
6	10971	Screw SHC 1/4-20 X 1/2	2
7	10972	Screw BHC #6-32 X 7/8	2
8	17271	Tapered Spring	1

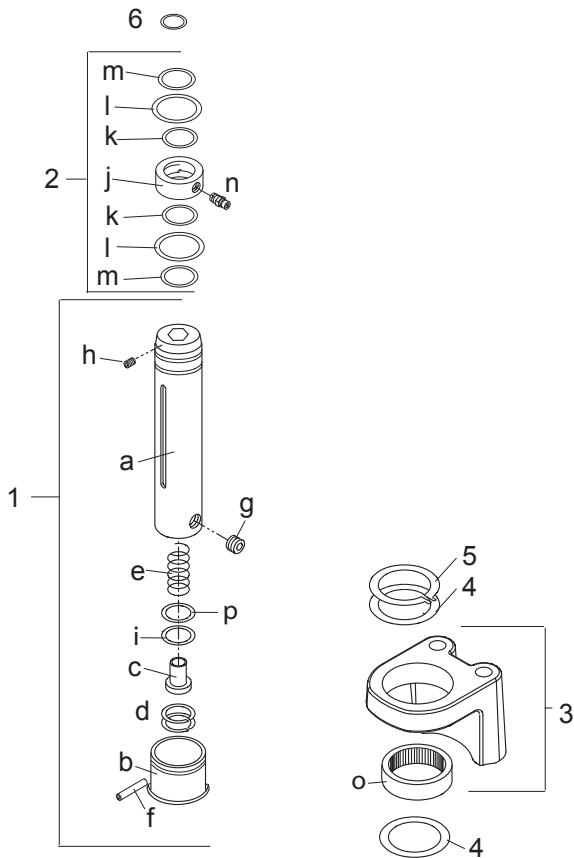


05894 Swivel Magnet Assembly 230v			
Item	Part #	Description	Qty
1	05895	Magnet/Safety Switch Assembly 230v includes a-c	
a	05896	Magnet Assembly 230v	1
b	05652	Ball Switch Assembly	1
c	05653	Plunger	1
d	05670	Retain. Ring	1
2	05743	Screw FHC 1/4-20 X 3/4	6
3	05657	Slide Housing	1
4	05656	Swivel Housing	1
5	02898	Dowel Pin	1
6	05658	Pivot Rod	1
7	05659	Clamp Handle Assembly	1
8	07215	Bushing Flange	1
9	41044	Screw BHC #10-32 X 3/8	1
10	90237	Flat Washer #10	1
11	07216	9/16 Hole Plug	4
12	07230	Safety Label	1

# Arbor/Front Support Assembly Breakdowns



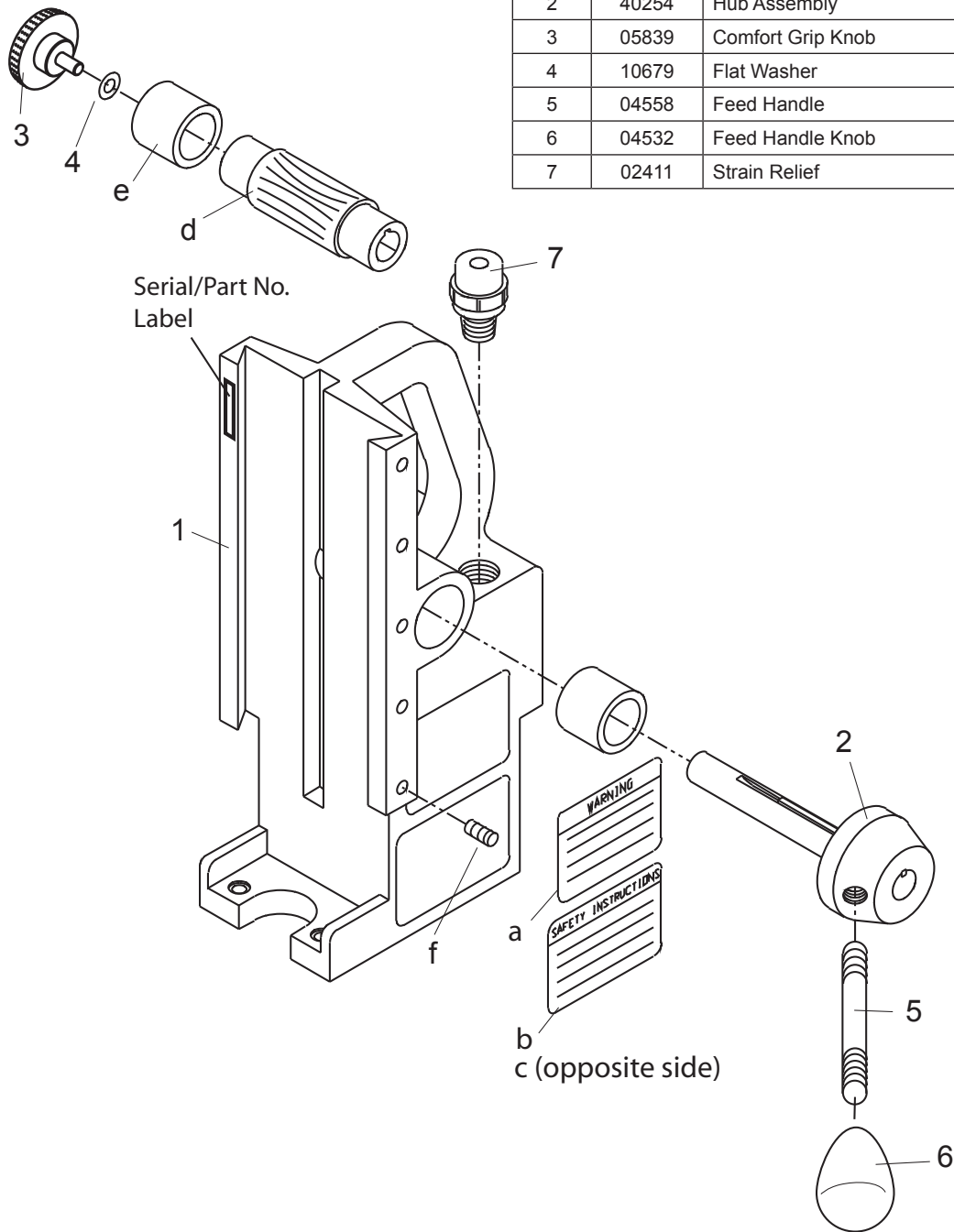
<b>05470 Arbor &amp; Front Support Bracket Assy. non-swivel</b>			
<b>05733 Arbor &amp; Front Support Bracket Assy. swivel</b>			
Item	Part #	Description	Qty
1	05469	Arbor & Collar Assembly (swivel & non-swivel base)	1
a	05458	Arbor Body	1
b	01441	Ejection Collar	1
c	01439	Spring Seat	1
d	10517	Retain. Ring	2
e	05049	Spring	1
f	40312	Roll Pin	1
g	10506	Set Screws 3/8-24 X .305	2
h	05628	Set Screw 1/4-28 X 3/8	2
2	04375	Front Support Bracket (non-swivel)	1
	05734	Front Support Bracket (swivel)	1
j	40232	Needle Bearing	1
3	40234	Thrust Washer	2
4	40398	Retain. Ring	2



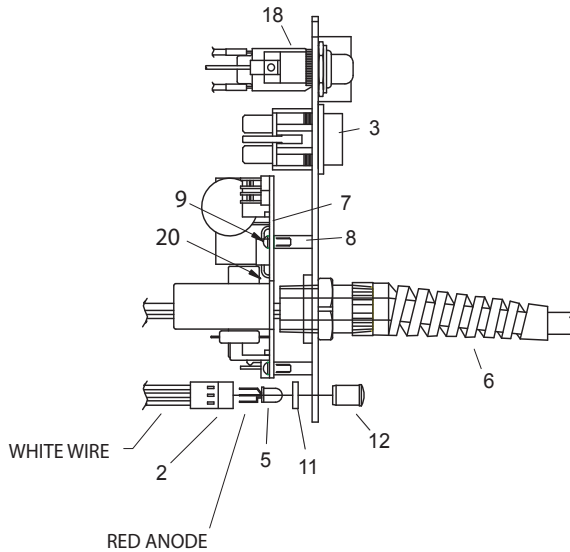
<b>07155 Coolant Arbor Assembly</b>			
<b>07156 Coolant Arbor Assembly</b>			
Item	Part #	Description	Qty
1	07157	Arbor & Collar Assembly	1
a	07159	Arbor Body	1
b	07162	Ejection Collar	1
c	07161	Spring Seat	1
d	10517	Retain. Ring	2
e	05049	Spring	1
f	40312	Roll Pin	1
g	10506	Set Screws 3/8-24 X .305	2
h	05628	Set Screw 1/4-28 X 3/8	2
i	07436	Rubber Washer	1
p	07440	Shim Washer	1
2	07158	Coolant Inducer Assembly	1
j	07160	Inducer Ring	1
k	40300	O-Ring	2
l	40301	Washer	2
m	40302	Retain Ring	2
n	07080	Hose Fitting	1
3	04375	Front Support Bracket Assembly for the <b>07155</b>	1
	05734	Front Support Bracket Assembly for the <b>07156</b>	1
o	40232	Needle Bearing	1
4	40234	Thrust Washer	2
5	40398	Retain. Ring	1
6	04391	O-Ring	1

# Housing Assembly Breakdown

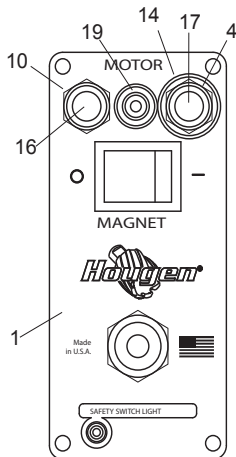
04540 Housing Assembly			
Item	Part #	Description	Qty
1	04541	Housing Assembly for 04540 assy. (includes a-f)	1
a	04530	Warning Label for 04540 assy.	2
b	04529	Safety Label (shown)	1
c	04553	Safety Chain Label for 04540 assy	1
d	40229	Feed Gear	1
e	40231	Bronze Bushing	2
f	40237	Gib Screws	5
2	40254	Hub Assembly	1
3	05839	Comfort Grip Knob	1
4	10679	Flat Washer	1
5	04558	Feed Handle	3
6	04532	Feed Handle Knob	3
7	02411	Strain Relief	1



# Control Panel Breakdown 230v

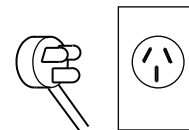


NOTE: WHEN INSERTING L.E.D. DETAIL#5 INTO HARNESS DETAIL#2 MAKE SURE FLAT ON BULB LINES UP WITH WHITE WIRE ON HARNESS.



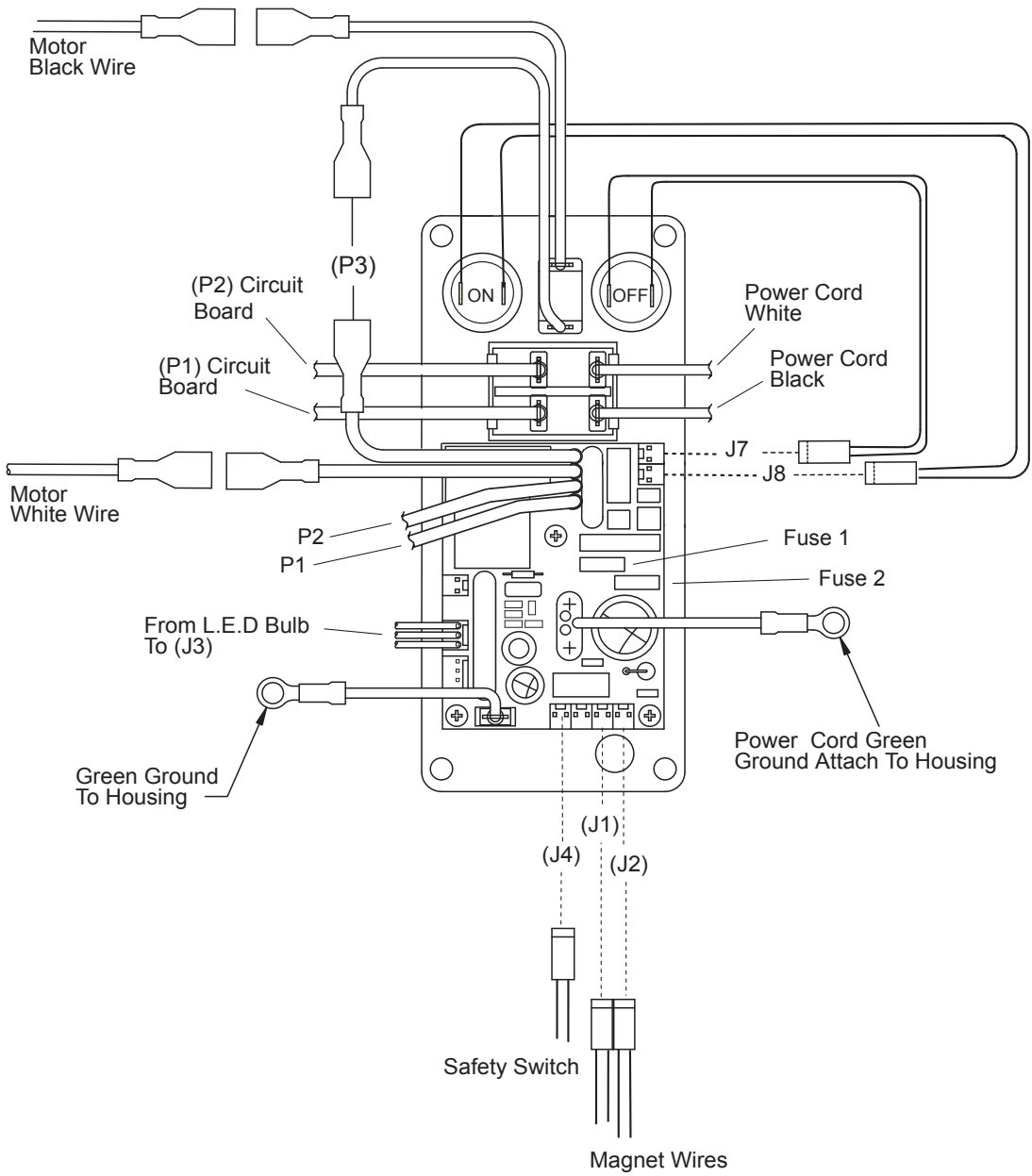
<b>05946</b> 230v Control Panel, Type I Plug (0904301,0904302,0904303 & 0904304) <b>05290</b> 230v Control Panel, Standard Plug (0904401,0904402,0904403 & 0904404)			
Item	Part #	Description	Qty.
1	05929	Faceplate	1
2	04877	Wire Harness	1
3	04664	Magnet Switch	1
4	01334	Motor ON Switch	1
5	04881	Bulb L.E.D	1
6	04498	Power Cord ( <b>230v</b> ) for the <b>05946</b>	1
	05424	Power Cord ( <b>230v</b> ) for the <b>05290</b>	1
7	05827	Circuit Board (230v)	1
8	02548	Stand-Off 3/16 x 9/16 LG	3
9	02547	#4-40X5/16 Phillips Head Screw	3
10	01335	Motor OFF Switch	1
11	04878	Spacer	1
12	04879	Clear Lens	1
13	*90690	Cable Tie	1
14	01226	Switch Guard	1
15	*05205	Wire Harness (board to housing)	1
16	01228	Red Switch Cover	1
17	02409	Green Switch Cover	1
18	05926	Circuit Breaker	1
19	05928	Rubber Boot Seal	1
20	07522	Fuse	2
		*not shown	

The **05946** is assembled with a Type I Plug.

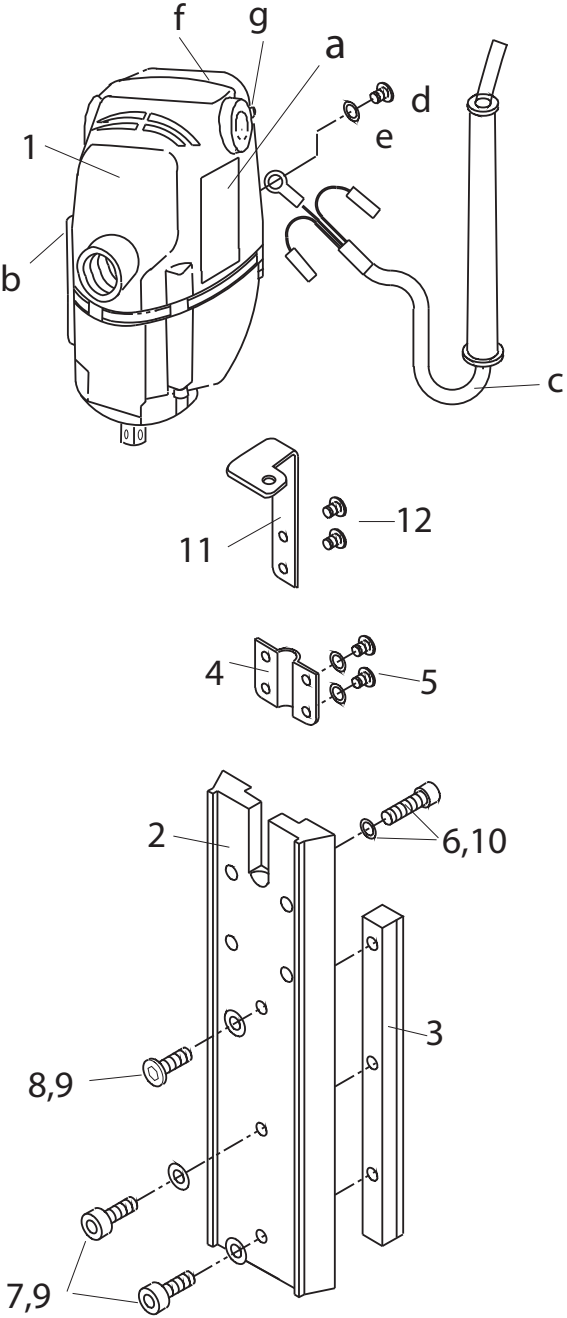


The **05290** is assembled with a standard U.S.A 230v Plug at the end of the Power Cord. When installing the 05290 Control Panel or 05424 Power Cord into a 0904401, 0904402, 0904403 & 0904404 this plug will need to be changed.

# 230v Wiring Diagram

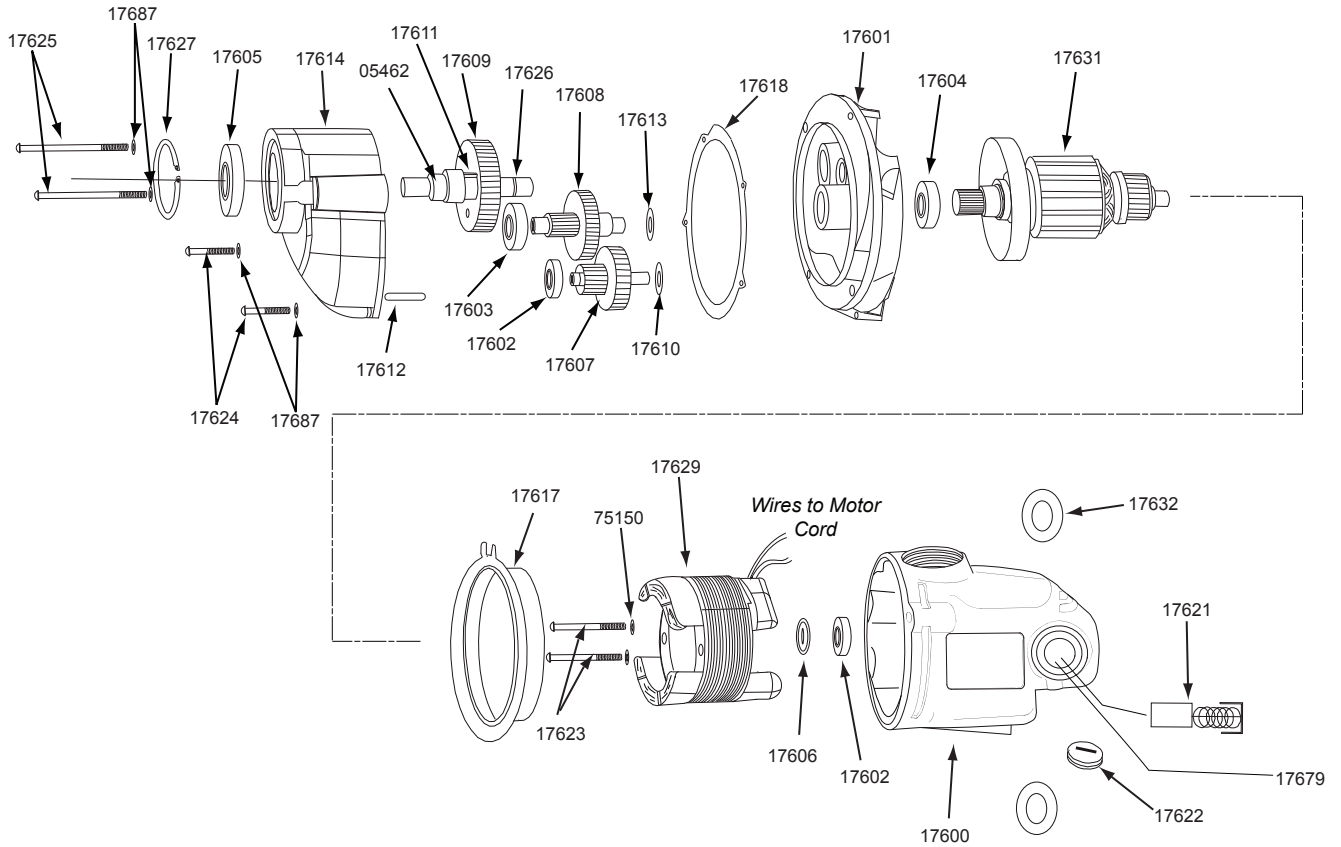


# Motor Slide Assembly Breakdown



Motor & Slide Assemblies 230v			
Item	Part #	Description	Qty
1	07181	Motor Assembly <b>230v</b>	1
a	04527	Motor Label	1
b	04042	Specs Label <b>230v</b>	1
c	02413	Motor Cord	1
d	11053	Screw BHS #8-32 X 3/16	1
e	10538	Lock Washer	1
f	04502	Inspection Cover	1
g	75289	Screw Pan Head M5 X 8MM	2
2	04500	Slide for <b>0904301, 302, 401 &amp; 402</b>	1
	05824	Slide for <b>0904303, 304, 403 &amp; 404</b>	1
3	02428	Rack Gear for <b>0904301, 302, 401 &amp; 402</b>	1
	05825	Rack Gear for <b>0904303, 304, 403 &amp; 404</b>	1
4	02422	Motor Cord Bracket	1
5	41044	Screw BHC #10-32 X 3/8	4
6	75156	Screw SHC M6 X 1 X 15mm	4
7	40038	Screw SHC #10-32 X 5/8	2
8	90077	Screw BHC #10-32 X 1/2	1
9	10560	Lock Washer	3
10	90028	Lock Washer	4
<b>Items 11 &amp; 12 are used with 0904302, 402, 304 &amp; 404</b>			
11	05057	Bottle Holder Bracket	1
12	05988	Screw FHC #10-32 X 1/2	2

# Motor Parts Diagram 230v



Part #	Description	Qty	Part #	Description	Qty
05462	Hex Spindle	1	17617	Fan Guide	1
17600	Field Case	1	17618	Gasket	1
17601	Gear Housing	1	17621	Carbon Brush (Pair)	1
17602	Ball Bearing	2	17622	Brush Cap	2
17603	Ball Bearing	1	17623	Pan Head Screw	2
17604	Ball Bearing	1	17624	Pan Head Screw Short	2
17605	Ball Bearing	1	17625	Pan Head Screw Long	2
17606	Dust Seal	1	17626	Retaining Ring	1
17607	1st Inter. Gear Assy	1	17627	Retaining Ring	1
17608	2nd Inter. Gear Assy	1	17629	Field	1
17609	Spur Gear	1	17631	Armature	1
17610	Flat Washer	1	17632	Paper Washer	2
17611	Key	1	17679	Brush Holder	2
17612	Dowel Pin	1	17687	Lock Washer	4
17613	Flat Washer	1	75150	Lock Washer	2
17614	Gear Housing	1			