



## SERVICE PARTS LIST

**BULLETIN NO.**  
**54-46-0440**

**SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS**

**REVISED BULLETIN**

**DATE**  
Apr. 2018

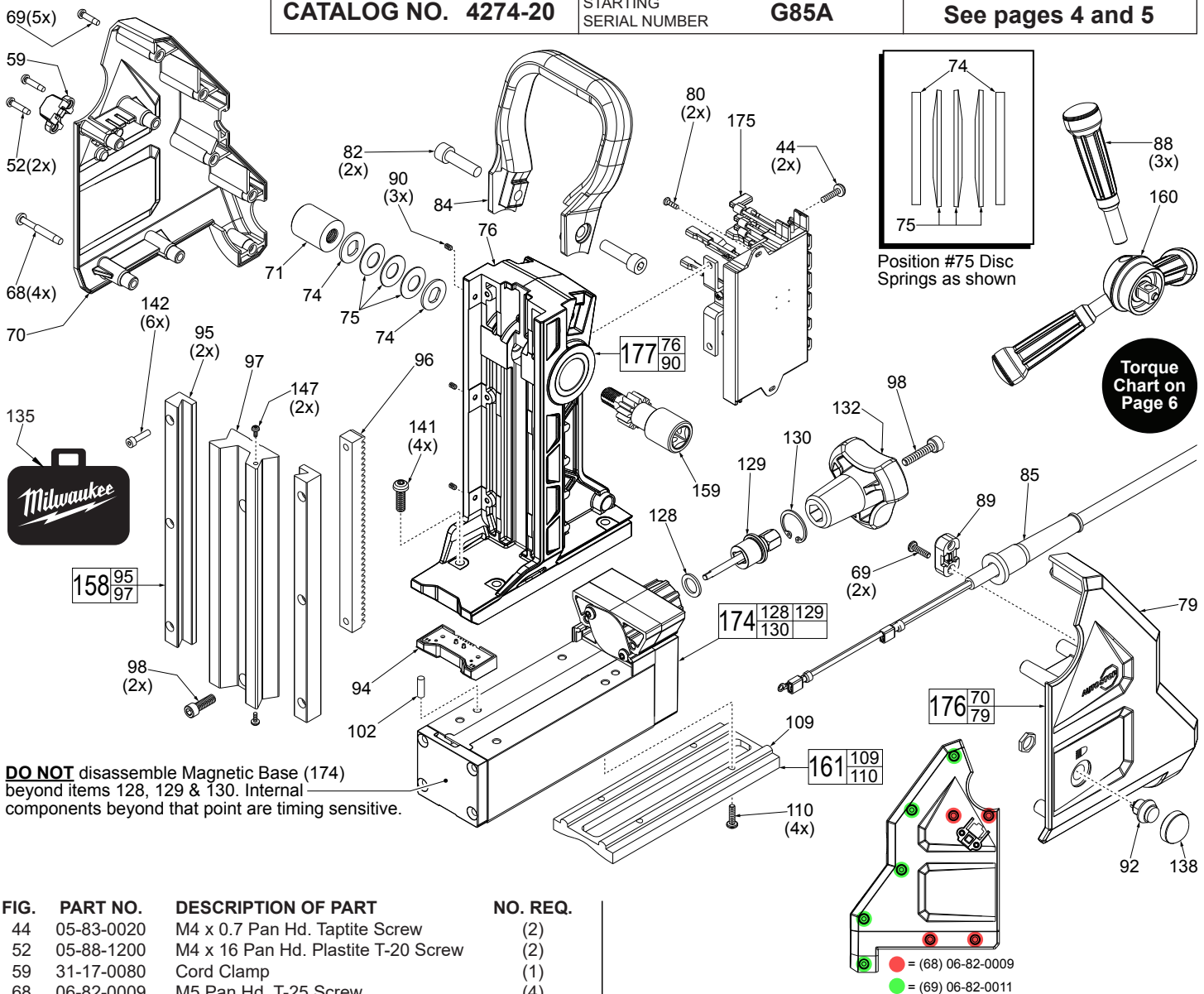
### 120V Permanent Magnet Drill

**CATALOG NO. 4274-20**

**STARTING  
SERIAL NUMBER**

**G85A**

**WIRING INSTRUCTION**  
**See pages 4 and 5**



**DO NOT** disassemble Magnetic Base (174) beyond items 128, 129 & 130. Internal components beyond that point are timing sensitive.

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
44	05-83-0020	M4 x 0.7 Pan Hd. Taptite Screw	(2)
52	05-88-1200	M4 x 16 Pan Hd. Plastite T-20 Screw	(2)
59	31-17-0080	Cord Clamp	(1)
68	06-82-0009	M5 Pan Hd. T-25 Screw	(4)
69	06-82-0011	M4 Pan Hd. T-20 Screw	(7)
70	-----	Housing Cover	(1)
71	43-12-0055	Handle Square Driver	(1)
74	45-88-0028	Washer	(2)
75	40-50-0029	Disc Spring	(3)
76	-----	Magstand Base with Bushings	(1)
79	-----	Housing Support	(1)
80	05-81-1290	M2.3 x 0.4-6g Washer Hd. T-8 Screw	(2)
82	05-74-0014	M8 x 1.125, 6mm Hex Socket Hd. Cap Scr.	(2)
84	43-62-0017	Carrying Handle	(1)
85	22-64-0012	120V Power Cord Assembly	(1)
88	43-62-0022	Feed Handle	(3)
89	31-17-0085	Cord Clamp	(1)
90	06-83-0015	2mm Hex Set Screw	(3)
92	23-66-0017	LED Switch Assembly	(1)
94	22-09-0042	Lower Control Board with LED	(1)
95	-----	Dovetail Rail	(2)
96	44-80-0061	Rack	(1)
97	-----	Slide	(1)
98	06-75-3050	1/4-20 x 3/4", 3/16" Hex Socket Hd. Screw	(3)
102	44-60-0002	Alignment Pin	(1)
109	-----	Insert Adapter	(1)
110	-----	8-32 Screw	(4)
128	45-88-0039	Rubber Washer	(1)

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
129	45-08-0018	Spindle Lock Shaft	(1)
130	34-40-0029	Retaining Ring	(1)
132	43-98-0044	Magnet Control Knob	(1)
135	42-55-0130	Blow Molded Carrying Case	(1)
138	22-68-0020	Switch Cover	(1)
141	05-81-2787	1/4-20 x 1", 4.5mm Hex Button Hd. Screw	(4)
142	05-74-0013	3mm Hex Socket Head Cap Screw	(6)
146	45-56-0017	Safety Strap (Not Shown)	(1)
147	05-80-2787	M3 Flat Head Machine Screw	(2)
158	44-81-0070	Dovetail and Rail Kit	(1)
159	36-18-0030	Rack/Gear Shaft Assembly	(1)
160	43-78-0032	Quick Connect Hub Assembly	(1)
161	48-10-0130	Pipe Adapter Insert Kit (Accessory)	(1)
174	42-20-2787	Magnetic Base/Rear Gearcase Assembly	(1)
175	22-09-0100	PCBA/Electronics Assembly	(1)
176	43-76-4274	Housing Assembly	(1)
177	42-20-0025	Support Housing	(1)
	10-20-0496	Danger Label	(1)
	12-20-4274	Service Nameplate (Not Shown)	(1)
	49-96-0035	Hex Key (Not Shown)	(1)

**MILWAUKEE ELECTRIC TOOL CORPORATION**

13135 W. Lisbon Road, Brookfield, WI 53005

Drwg. 2

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	44-60-0433	Telescoping Pin for 2" Cutters	(1)
2	44-60-0007	Ejector Pin Assembly	(1)
3	48-66-0025	Chuck Collar	(1)
3a	34-60-0003	Retainer	(1)
3b	42-76-0017	Spindle Collar	(1)
3c	40-50-0336	Torsion Spring	(1)
3d	40-50-0097	Spring	(2)
3e	43-96-0015	Spindle Key	(1)
3f	32-75-0018	Spindle with Pin	(1)
3g	44-60-0004	Pin	(1)
4	-----	Spindle Plug	(1)
5	-----	Spring	(1)
6	34-60-0007	Retaining Ring	(1)
7	02-04-0011	Ball Bearing	(1)
8	06-82-7455	8-16 x 2.38 Pan Hd. Plastite T-20 Screw	(4)
9	05-81-1410	M4 x 16 Pan Hd. T-20 Screw	(1)
10	31-17-0030	Cord Clamp	(1)
11	44-10-0016	Adjustment Lever Assembly	(1)

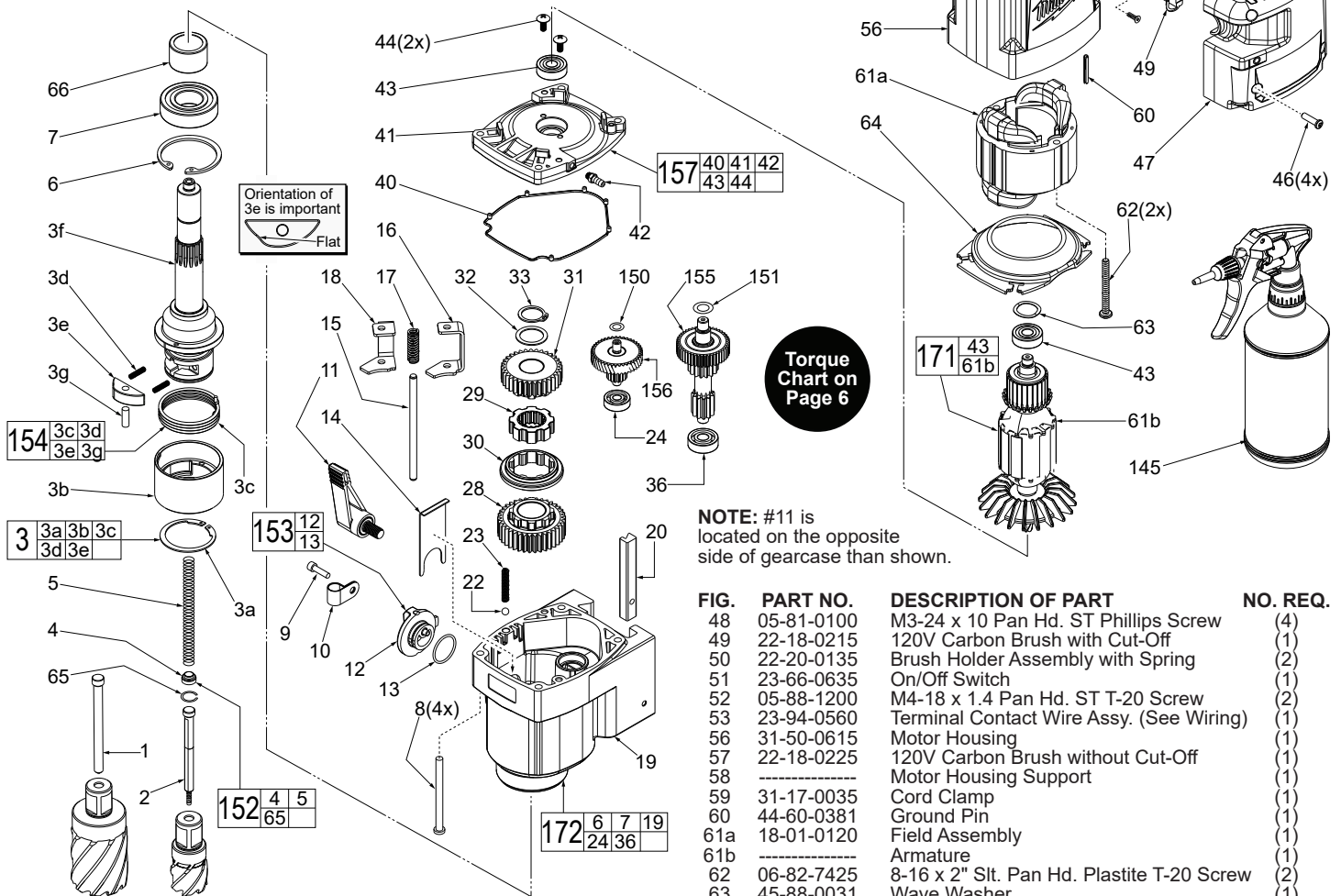


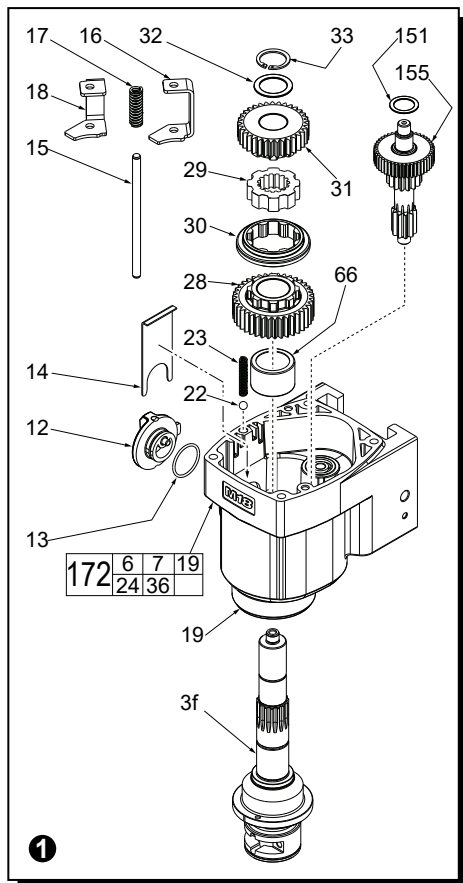
FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
12	-----	Speed Knob	(1)
13	34-40-1570	O-Ring	(1)
14	44-90-0006	Shift Knob Retainer	(1)
15	44-94-0017	Guide Rod	(1)
16	42-36-0011	Shift Bracket 'B'	(1)
17	40-50-0023	Shift Spring	(1)
18	42-36-0018	Shift Bracket 'A'	(1)
19	-----	Gear Case with Pin	(1)
20	44-20-0021	Dovetail Lock Block	(1)
22	02-02-0103	Steel Ball	(1)
23	40-50-0038	Detent Spring	(1)
24	02-04-0640	Ball Bearing	(1)
28	32-40-0115	3rd Intermediate Gear, Low	(1)
29	43-12-0065	Drive Hub	(1)
30	42-90-0015	Coupler	(1)
31	32-40-0130	3rd Intermediate Gear, High	(1)
32	45-88-3140	Washer	(1)
33	34-60-0009	Retaining Ring	(1)
36	02-04-0820	Ball Bearing	(1)
40	43-44-0031	Gasket	(1)
41	-----	Diaphragm	(1)
42	43-33-0025	Lube Hose Fitting with O-Ring	(1)
43	02-04-0620	Ball Bearing	(2)
44	05-83-0020	M4 x 0.7 Round Head Phillips Screw	(2)
46	06-81-5383	M4 x 35mm Pan Hd. Plast. T-20 Screw	(4)
47	-----	Motor Housing Cover	(1)

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
48	05-81-0100	M3-24 x 10 Pan Hd. ST Phillips Screw	(4)
49	22-18-0215	120V Carbon Brush with Cut-Off	(1)
50	22-20-0135	Brush Holder Assembly with Spring	(2)
51	23-66-0635	On/Off Switch	(1)
52	05-88-1200	M4-18 x 1.4 Pan Hd. ST T-20 Screw	(2)
53	23-94-0560	Terminal Contact Wire Assy. (See Wiring)	(1)
56	31-50-0615	Motor Housing	(1)
57	22-18-0225	120V Carbon Brush without Cut-Off	(1)
58	-----	Motor Housing Support	(1)
59	31-17-0035	Cord Clamp	(1)
60	44-60-0381	Ground Pin	(1)
61a	18-01-0120	Field Assembly	(1)
61b	-----	Armature	(1)
62	06-82-7425	8-16 x 2" Slit. Pan Hd. Plastite T-20 Screw	(2)
63	45-88-0031	Wave Washer	(1)
64	42-14-0045	Fan Baffle	(1)
65	44-90-0012	Retainer	(1)
66	42-40-0101	Bushing	(1)
67	23-94-0032	120V Connection Cord	(1)
133	48-66-1355	Chuck	(1)
134	48-66-3280	Chuck Key	(1)
143	48-66-4040	Chuck Key Holder	(1)
144	-----	Chuck Adapter	(1)
145	42-51-0100	Lubricant Bottle	(1)
150	45-88-0621	Washer	(1)
151	45-88-0631	Washer	(1)
152	14-46-2787	Ejector Spring Kit	(1)
153	43-98-0071	Speed Knob Assembly	(1)
154	43-96-0091	Spring/Key Kit	(1)
155	14-29-0135	Pinion/2nd Intermediate Gear Assembly	(1)
156	14-29-0115	Pinion/1st Intermediate Gear Assembly	(1)
157	14-13-0040	Diaphragm Assembly w/ Bearings and Seal	(1)
170	42-42-0625	Switch Button Assembly	(1)
171	16-01-0120	Armature Assembly	(1)
172	14-30-0165	Gear Case Assembly	(1)
173	31-44-1265	Housing Support/Cover Assembly	(1)
191	49-59-0020	3/4" Weldon to 1/2" Chuck Adapter w/ Key	(1)

## LUBRICATION:

**Type "Y" Grease, No. 49-08-5270** (6 oz. tube)  
Use approximately 85 grams, 3 ounces

**LUBRICATION NOTE:** When servicing the drill motor, 90-95% of old grease must be removed prior to new grease being added.



**1** Install parts shown into/onto Gear Case Assembly (172) prior to applying any lubrication.

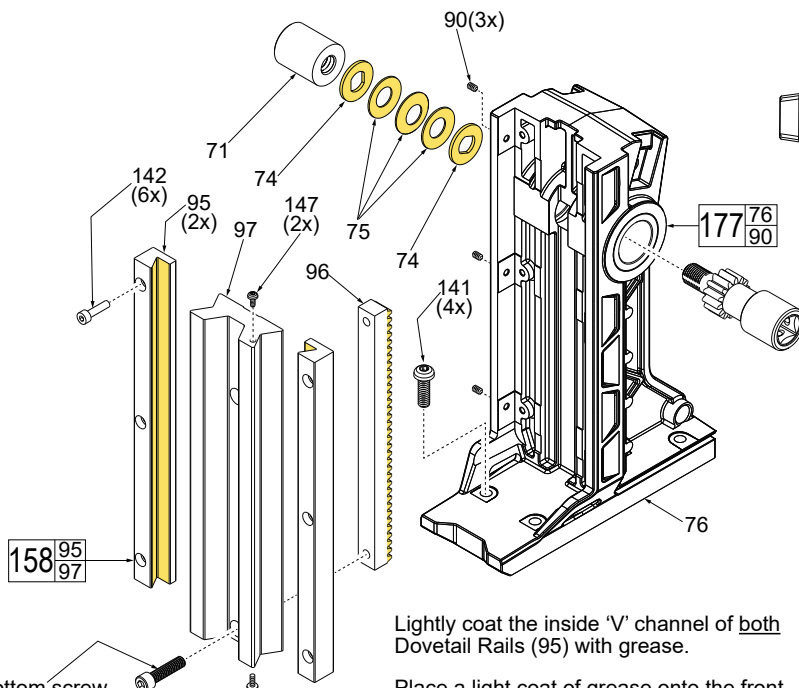
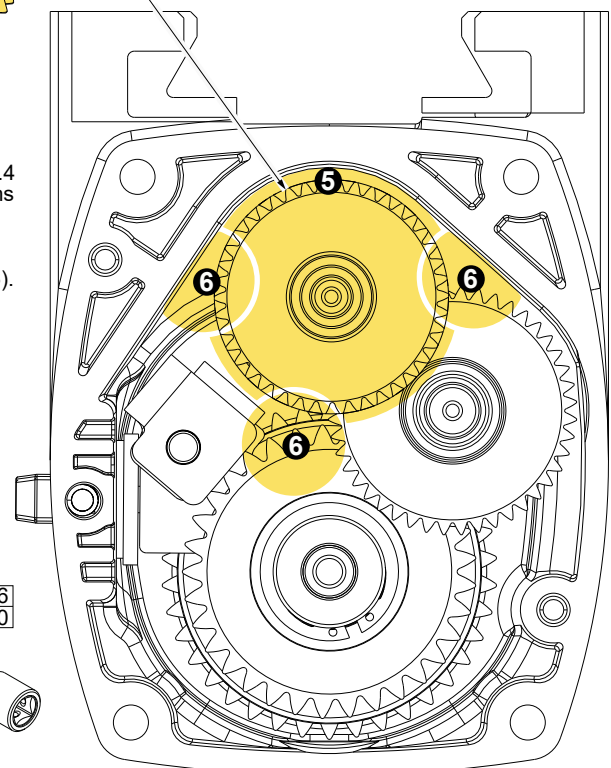
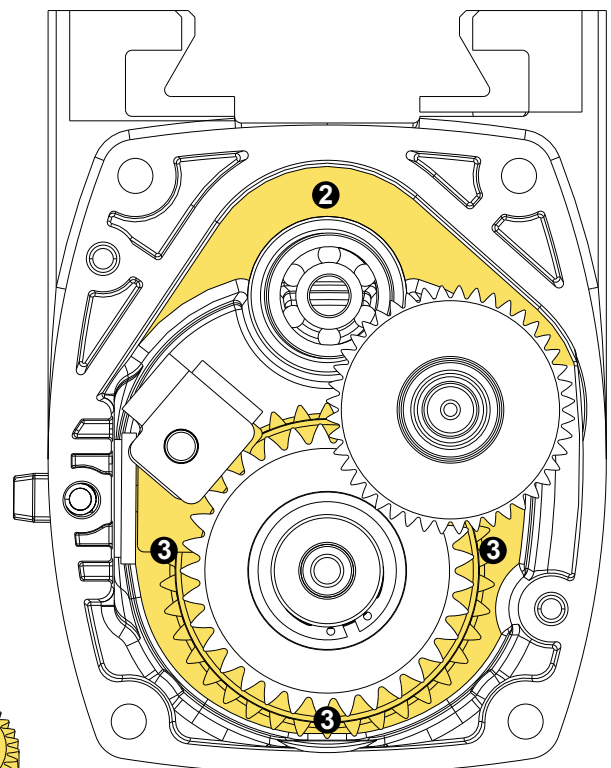
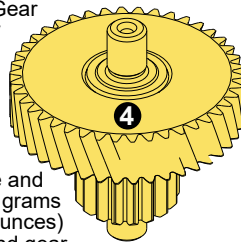
**2** Apply 13 grams (approximately .45 ounces) of grease in this area of the gear case prior to installing the Pinion/1st Intermediate Gear Assembly (156).

**3** With the aid of a grease gun, place 26 grams (approximately .9 ounces) in and around the gear case cavity for the 3rd Intermediate Gear system (28, 29, 30 and 31).

**4** Apply a heavy coating of grease over the entire Pinion/1st Intermediate Gear Assembly (156).

**5** Install the assembly (156) into gear case and place 5-8 grams (.17-.28 ounces) fully around gear space.

**6** This step will require 39 grams (1.4 ounces) of grease. Place 13 grams (approximately .45 ounces) of grease at each of three positions over and around the Pinion/1st Intermediate Gear Assembly (156).



This bottom screw (98) must be loosened 3 to 4 turns in order to remove the Slide (97) and the Rack (96).

Lightly coat the inside 'V' channel of both Dovetail Rails (95) with grease.

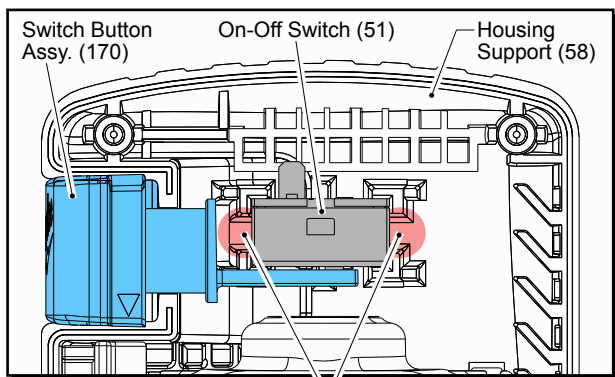
Place a light coat of grease onto the front teeth of the Rack (96).

Lightly coat both sides of the two Washers (74) and three Disc Springs (75).

**SERVICE FIXTURES:**  
61-30-2787  
Rotor Press Fixture  
61-30-2788  
Spindle Bushing Press Fixture  
61-30-2789  
Rotor Removal Fixture





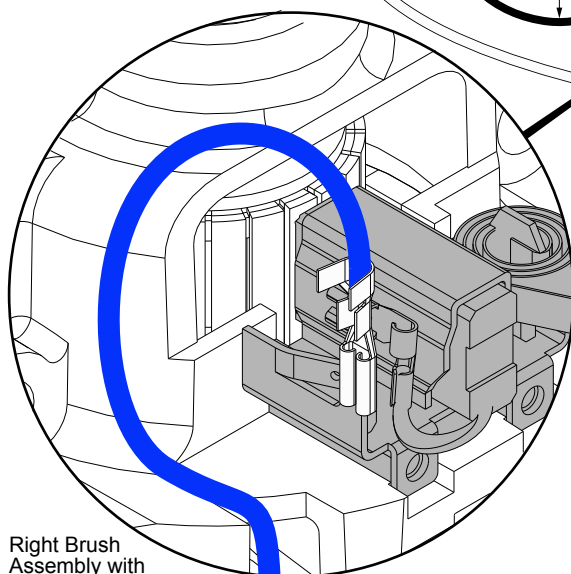


Prior to installing the Switch (51), place the connected insulated terminals of the white wires in back of switch cavity of Motor Housing Support (58). Be sure that terminals are firmly press to the back and the wires are routed out the cavity side slots. Place the connected insulated terminals of the black wires over the white terminals and routed wires out the cavity side slots. Place the switch over the white and black wire assemblies. Insert tab on bottom of switch into corresponding hole on arm of Switch Button Assembly (170).

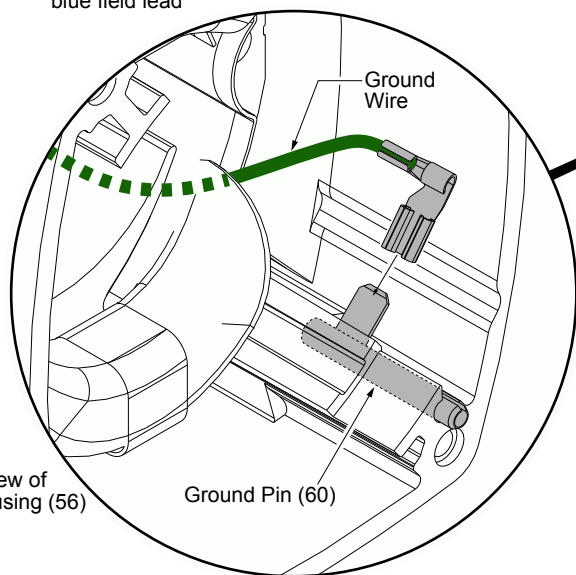
Connection Cord (67)

On/Off Switch (51)

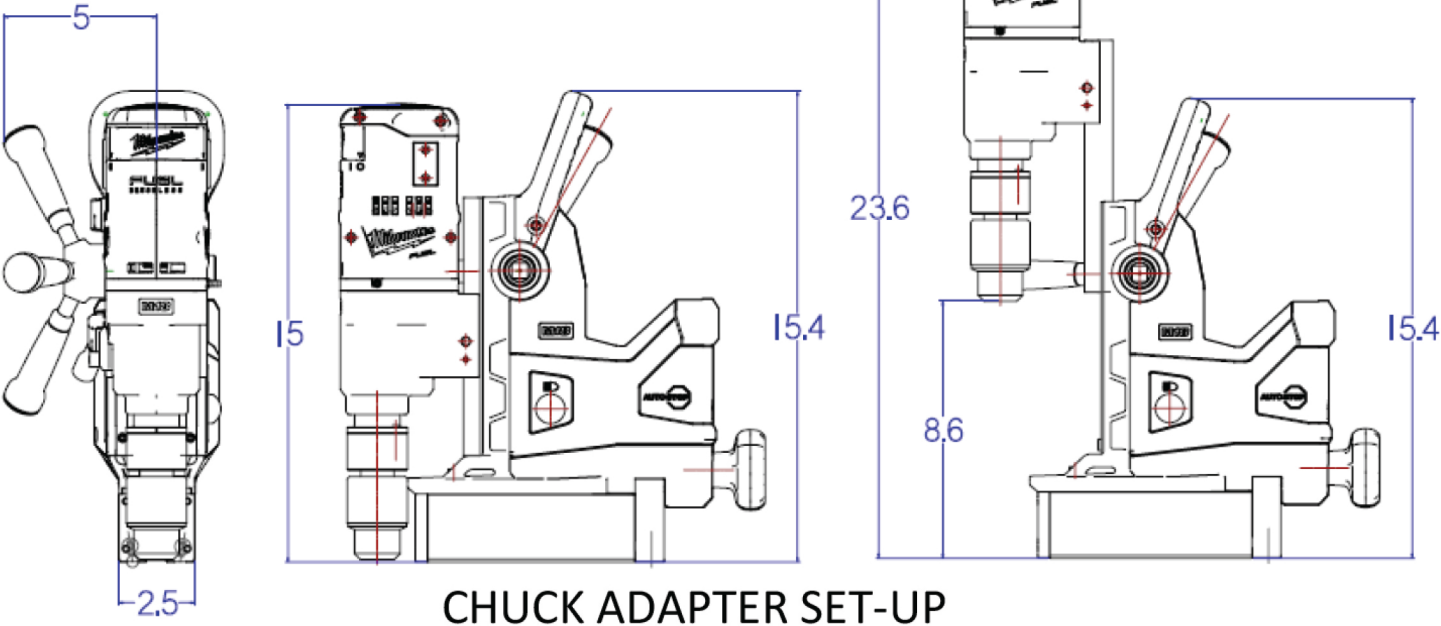
Terminal Contact Wire Assy. (53)



Left Brush Assembly with red field lead



Bottom View of Motor Housing (56)



SCREW TORQUE CHART			
		Seat Torque	
Item	Part Number	(Kg./cm.)	(In./lbs.)
7	06-82-0040	28-33	24-28
15	05-81-1410	4-6	3-5
16a	-----	6-10	5-8
38	43-33-0025	4-8	3-7
41	05-83-0020	15-20	13-17
46	06-81-0007	7-10	6-8
48	06-82-3006	13-17	11-14
52	05-78-0910	12-18	10-15
59	06-82-1080	10-15	8-13
61	06-82-0018	15-20	13-17
64	06-82-0009	28-33	24-28
65	06-82-0011	15-20	13-17
68	43-12-0055	460	399
76	05-74-0014	35-40	30-34
79	05-83-0010	3-7	2-6
83	06-83-0015	4	3
84	05-81-2787	28-33	24-28
89	06-75-3050	28-33	24-28
99	-----	20-25	17-21
127	05-74-0013	25-30	21-26
133	05-80-2787	10-15	8-13
187	42-04-0200	50-75	43-65

