



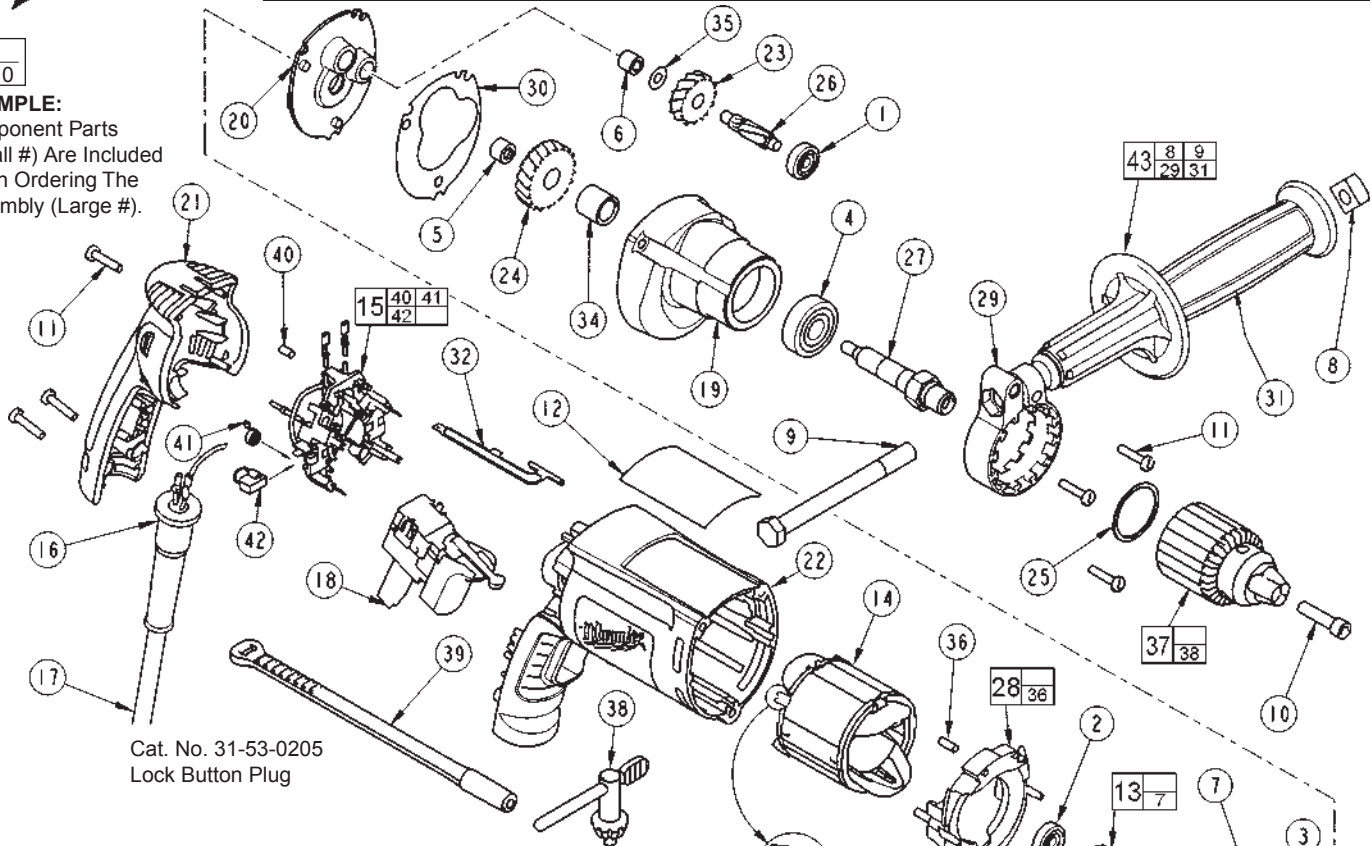
# SERVICE PARTS LIST

BULLETIN NO.  
54-06-0125

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS			REVISED BULLETIN
<b>1/2 INCH DRILL</b>			
CATALOG NO.	<b>0299-20</b>	STARTING SERIAL NO.	<b>A15A</b>
			WIRING INSTRUCTION <b>58-01-1805</b>

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**EXAMPLE:**  
Component Parts  
(Small #) Are Included  
When Ordering The  
Assembly (Large #).



Cat. No. 31-53-0205  
Lock Button Plug

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	02-04-0640	Ball Bearing	(1)
2	02-04-0645	Ball Bearing	(1)
3	02-04-0852	Ball Bearing	(1)
4	02-04-1229	Ball Bearing	(1)
5	02-50-1611	Needle Bearing	(1)
6	02-50-2400	Needle Bearing	(1)
7	22-84-0845	Fan	(1)
8	06-54-0325	3/8-16 Square Nut	(1)
9	06-75-2850	3/8-16 x 5-1/2 Hex Cap Screw	(1)
10	06-75-3150	1/4-20 x 1 L.H. Thread Slit. Screw	(1)
11	06-82-7275	7-18 x 3/4 Slotted Plastite T-20	(6)
12	12-99-2565	Service Nameplate	(1)
13	16-10-2210	Armature	(1)
14	18-07-2206	Field	(1)
15	22-18-1210	Brush Card Assembly	(1)
16	44-76-0210	Cord Protector	(1)
17	22-64-1130	Cord Set	(1)
18	23-66-2585	Switch	(1)
19	28-14-2390	Gearcase	(1)
20	28-28-2320	Diaphragm	(1)
21	31-15-2020	Handle Valve	(1)
22	31-50-2020	Motor Housing	(1)
23	32-40-0100	Intermediate Gear	(1)
24	32-75-0100	Spindle Gear	(1)
25	34-80-2300	Retaining Ring	(1)
26	36-66-0100	Intermediate Shaft	(1)
27	38-50-5735	Spindle	(1)
28	42-14-0450	Baffle Assembly	(1)
29	42-68-0800	Side Handle Clamp	(1)
30	43-44-0985	Gasket	(1)
31	43-62-0845	Side Handle	(1)
32	44-60-1700	Ground Pin	(1)
34	45-36-1095	Spindle Spacer	(1)
35	45-88-7990	Thrust Washer	(1)
36	45-30-0030	Slug	(2)
37	48-66-1355	1/2 Chuck	(1)

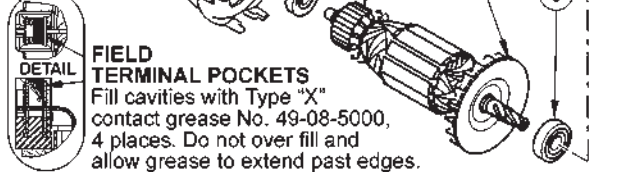


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
38	48-66-3280	Chuck Key	(1)
39	48-66-4040	Chuck Key Holder	(1)
40	45-30-0035	Slug	(1)
41	23-52-1610	Brush Spring	(2)
42	22-18-1310	Brush Assembly	(2)
43	49-15-0265	Side Handle Assembly	(1)

**LUBRICATION (Type "Y" Grease, No. 49-08-5270)**  
 • Place 5 gm. (.02 oz.) of grease on top of the inserted intermediate ball bearing (1) and on the intermediate pinion (26).

• After inserting all gearing, place 13 gm. (.46 oz.) of grease at the armature pinion location in the gearcase (19) and fill to the top of the intermediate gear (23). Grease must contact at least 25% of the intermediate gear teeth.

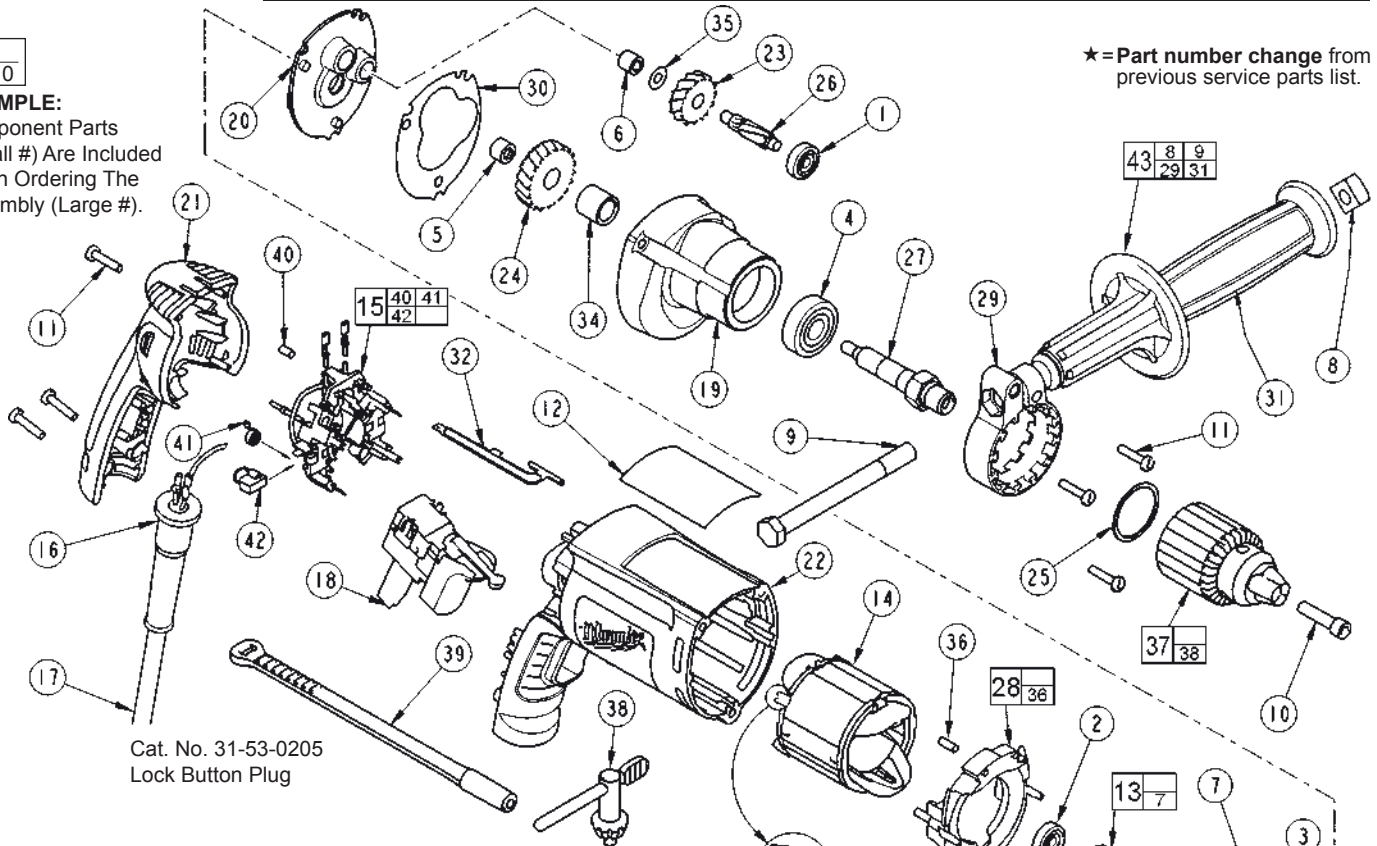
**Before assembly, lightly coat all press fit areas with lightweight spindle oil.**

**FIG. 4,24 NOTES:**  
 Support the output ball bearing inside the gearcase before pressing off the spindle gear.  
 5,6 Needle bearings to be pressed flush to .010 under flush from the end which has the vendors identification.

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS			REVISED BULLETIN
<b>1/2 INCH DRILL</b>			54-06-0125
<b>CATALOG NO.</b>	<b>0299-20</b>	<b>STARTING SERIAL NO.</b>	<b>WIRING INSTRUCTION</b>
		<b>A15B</b>	<b>58-01-1806</b>

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**EXAMPLE:**  
Component Parts  
(Small #) Are Included  
When Ordering The  
Assembly (Large #).



★=Part number change from previous service parts list.

Cat. No. 31-53-0205  
Lock Button Plug

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	02-04-0640	Ball Bearing	(1)
2	02-04-0645	Ball Bearing	(1)
3	02-04-0852	Ball Bearing	(1)
4	02-04-1229	Ball Bearing	(1)
5	02-50-1611	Needle Bearing	(1)
6	02-50-2400	Needle Bearing	(1)
7	22-84-0845	Fan	(1)
8	06-54-0325	3/8-16 Square Nut	(1)
9	06-75-2850	3/8-16 x 5-1/2 Hex Cap Screw	(1)
10	06-75-3150	1/4-20 x 1 L.H. Thread Slit. Screw	(1)
11	06-82-7275	7-18 x 3/4 Slotted Plastite T-20	(6)
12	12-99-2565	Service Nameplate	(1)
13	16-10-2210	Armature	(1)
14	18-07-2206	Field	(1)
15	22-18-1210	Brush Card Assembly	(1)
16	44-76-0210	Cord Protector	(1)
17	22-64-1130	Cord Set	(1)
★18	23-66-2605	Switch	(1)
19	28-14-2390	Gearcase	(1)
20	28-28-2320	Diaphragm	(1)
21	31-15-2020	Handle Valve	(1)
★22	31-50-4020	Motor Housing	(1)
23	32-40-0100	Intermediate Gear	(1)
24	32-75-0100	Spindle Gear	(1)
25	34-80-2300	Retaining Ring	(1)
26	36-66-0100	Intermediate Shaft	(1)
27	38-50-5735	Spindle	(1)
28	42-14-0450	Baffle Assembly	(1)
29	42-68-0800	Side Handle Clamp	(1)
30	43-44-0985	Gasket	(1)
31	43-62-0845	Side Handle	(1)
32	44-60-1700	Ground Pin	(1)
34	45-36-1095	Spindle Spacer	(1)
35	45-88-7990	Thrust Washer	(1)
36	45-30-0030	Slug	(2)
37	48-66-1355	1/2 Chuck	(1)

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
38	48-66-3280	Chuck Key	(1)
39	48-66-4040	Chuck Key Holder	(1)
40	45-30-0035	Slug	(1)
41	23-52-1610	Brush Spring	(2)
42	22-18-1310	Brush Assembly	(2)
43	49-15-0265	Side Handle Assembly	(1)

**LUBRICATION (Type "Y" Grease, No. 49-08-5270)**

- Place 5 gm. (.02 oz.) of grease on top of the inserted intermediate ball bearing (1) and on the intermediate pinion (26).
- After inserting all gearing, place 13 gm. (.46 oz.) of grease at the armature pinion location in the gearcase (19) and fill to the top of the intermediate gear (23). Grease must contact at least 25% of the intermediate gear teeth.

**Before assembly, lightly coat all press fit areas with lightweight spindle oil.**

**FIG. NOTES:**

- 4,24 Support the output ball bearing inside the gearcase before pressing off the spindle gear.
- 5,6 Needle bearings to be pressed flush to .010 under flush from the end which has the vendors identification.



# SERVICE PARTS LIST

**BULLETIN NO.**  
**54-06-0127**

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN 54-06-0126
<b>1/2" PISTOL GRIP DRILL</b>		
CATALOG NO. <b>0299-20</b>	STARTING SERIAL NO. <b>A15C</b>	WIRING INSTRUCTION <b>See Pages 2 &amp; 3</b>

**EXAMPLE:**  
Component Parts (Small #) Are Included When Ordering The Assembly (Large #).

★ = Part number change from previous service parts list.

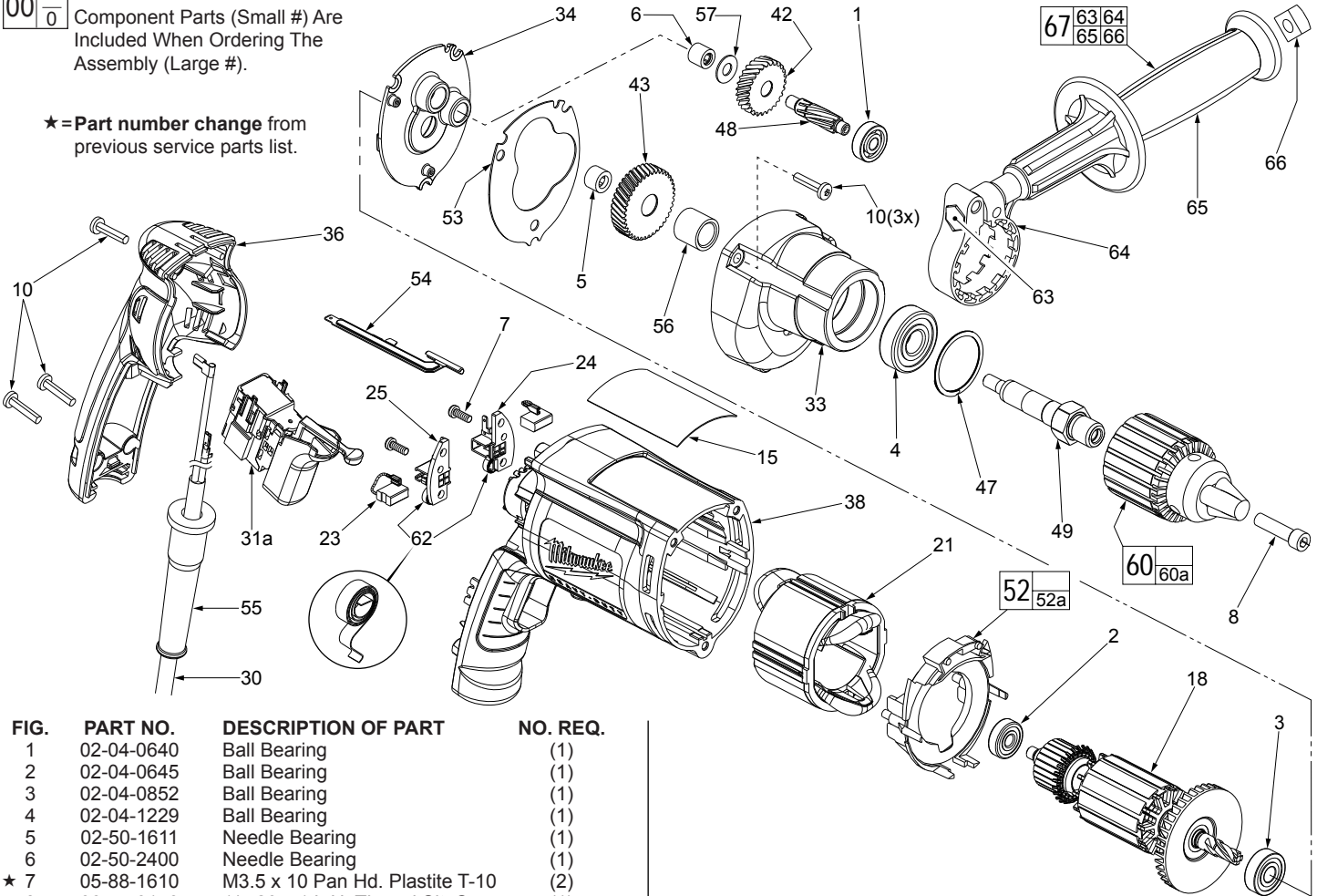


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	02-04-0640	Ball Bearing	(1)
2	02-04-0645	Ball Bearing	(1)
3	02-04-0852	Ball Bearing	(1)
4	02-04-1229	Ball Bearing	(1)
5	02-50-1611	Needle Bearing	(1)
6	02-50-2400	Needle Bearing	(1)
★ 7	05-88-1610	M3.5 x 10 Pan Hd. Plastite T-10	(2)
8	06-75-3150	1/4-20 x 1 L.H. Thread Slit. Screw	(1)
10	06-82-7275	7-18 x 3/4 Slotted Plastite T-20	(6)
15	12-99-2565	Service Nameplate	(1)
18	16-10-2210	Armature	(1)
★ 21	18-07-7220	Field	(1)
23	22-18-1310	Brush Assembly	(2)
★ 24	22-20-0090	Left Brush Holder	(1)
★ 25	22-20-0095	Right Brush Holder	(1)
30	22-64-1130	Cord Set	(1)
31a	23-66-2605	Switch (Defond) See page 2 wiring	(1)
31b	23-66-2585	Switch (Marquardt) See page 3 wiring	(1)
33	28-14-2390	Gearcase	(1)
34	28-28-2320	Diaphragm	(1)
36	31-15-2020	Handle Halve	(1)
★ 38	31-50-3020	Motor Housing	(1)
42	32-40-0100	Intermediate Gear	(1)
43	32-75-0100	Spindle Gear	(1)
47	34-80-2300	Retaining Ring	(1)
48	36-66-0100	Intermediate Shaft	(1)
49	38-50-5735	Spindle	(1)
52	42-14-0450	Baffle Assembly	(1)
52a	45-30-0030	Slug (Not shown)	(2)
53	43-44-0985	Gasket	(1)
54	44-60-1700	Ground Pin	(1)
55	44-76-0210	Cord Protector	(1)
56	45-36-1095	Spindle Spacer	(1)
57	45-88-7990	Thrust Washer	(1)
60	48-66-1355	1/2" Chuck	(1)
60a	48-66-3280	Chuck Key (Not Shown)	(1)
62	23-52-1610	Brush Spring	(2)
63	06-75-2850	3/8-16 x 5-1/2" Hex Cap Screw	(1)
64	42-68-0800	Side Handle Clamp	(1)
65	43-62-0845	Side Handle	(1)

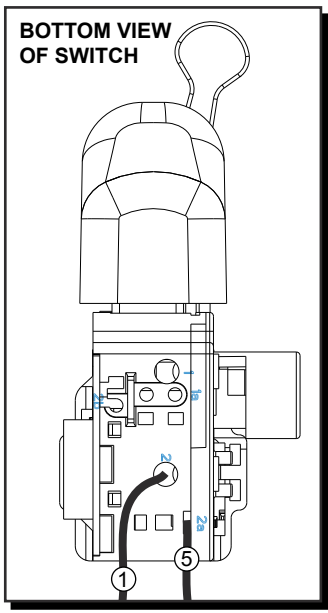
FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
66	06-54-0325	3/8-16 Square Nut	(1)
67	49-15-0265	Side Handle Assembly	(1)
★	23-94-0490	White Leadwire Assy. (See pages 2 & 3)	(1)
★	23-94-0495	Red Leadwire Assy. (See pages 2 & 3)	(1)
	48-66-4040	Chuck Key Holder (Not Shown)	(1)
	31-53-0205	Lock Button Plug (Not Shown)	(1)

**LUBRICATION (Type "Y" Grease, No. 49-08-5270)**

- Place 5 gm. (.02 oz.) of grease on top of the inserted intermediate ball bearing (1) and on the intermediate pinion (48).
- After inserting all gearing, place 13 gm. (.46 oz.) of grease at the armature pinion location in the gearcase (33) and fill to the top of the intermediate gear (42). Grease must contact at least 25% of the intermediate gear teeth.

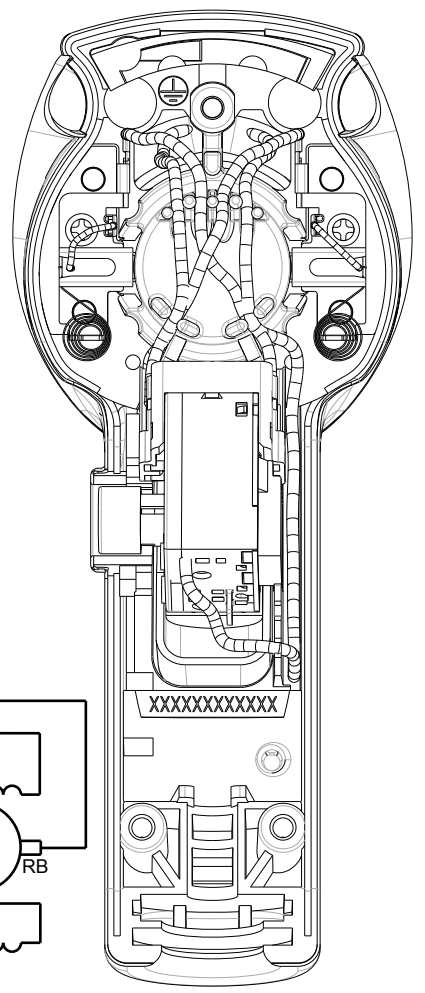
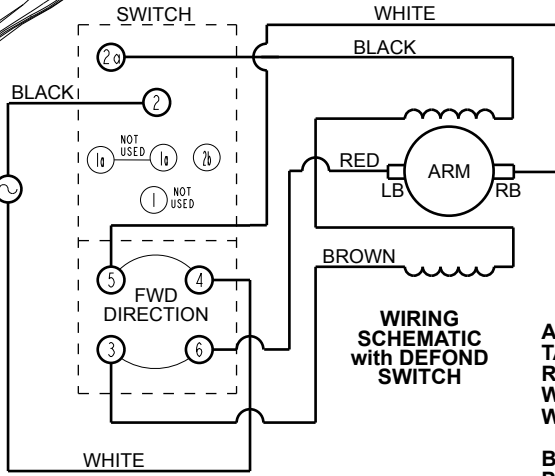
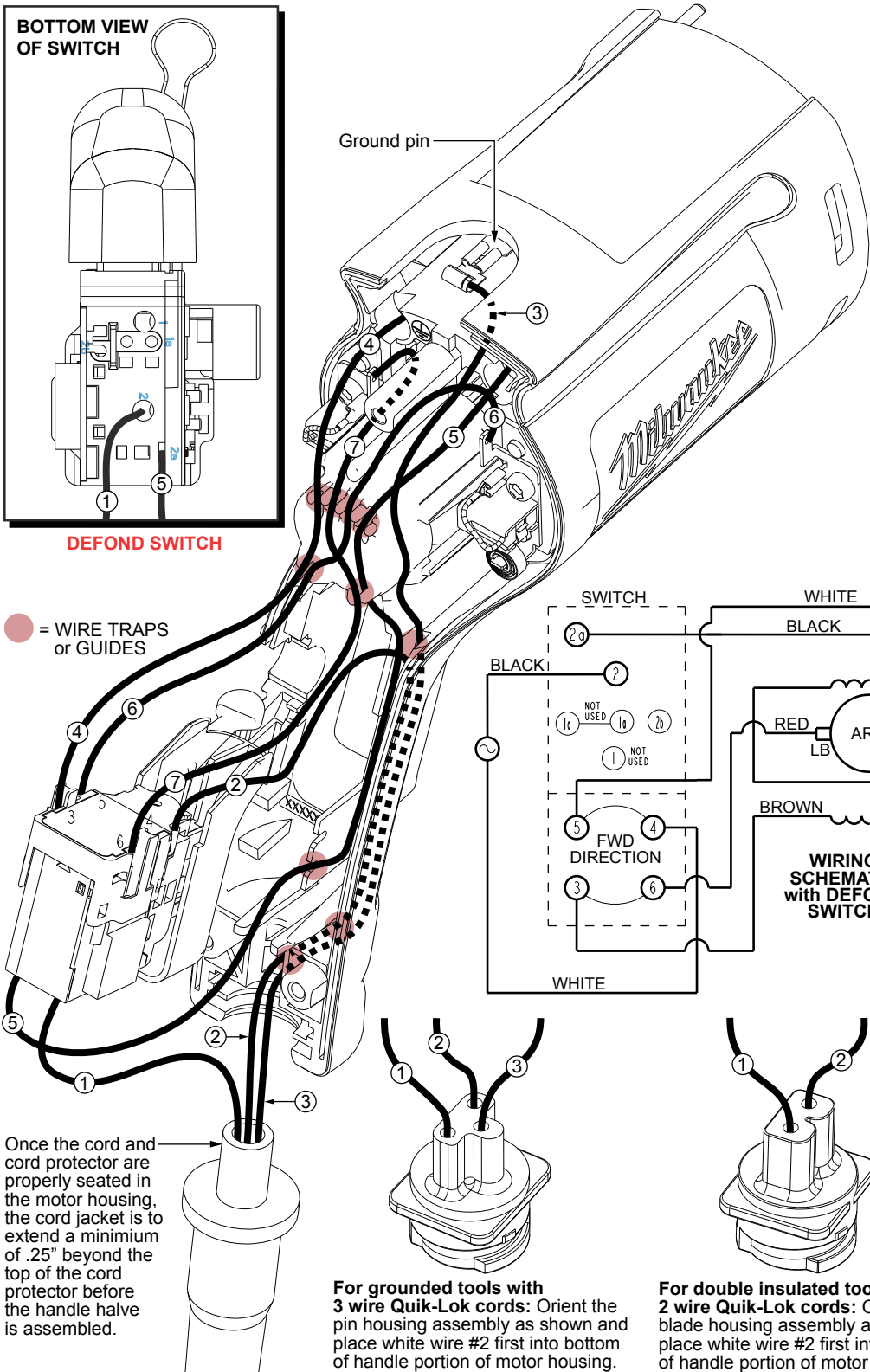
**Before assembly, lightly coat all press fit areas with lightweight spindle oil.**

- FIG. NOTES:**
- 4,43 Support the output ball bearing inside the gearcase before pressing off the spindle gear.
- 5,6 Needle bearings to be pressed flush to .010 under flush from the end which has the vendors identification.



**DEFOND SWITCH**

● = WIRE TRAPS or GUIDES



AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

BE CAREFUL AND AVOID PINCHING WIRES BETWEEN HANDLE HALVES WHEN ASSEMBLING.

FOR DOUBLE INSULATED TOOLS DISREGARD GREEN GROUND WIRE #3 AND GROUND PIN.

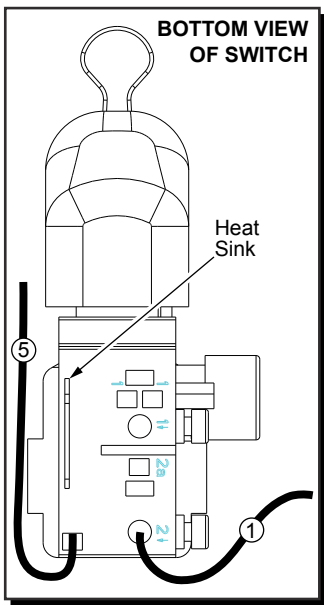
Once the cord and cord protector are properly seated in the motor housing, the cord jacket is to extend a minimum of .25" beyond the top of the cord protector before the handle half is assembled.

**For grounded tools with 3 wire Quik-Lok cords:** Orient the pin housing assembly as shown and place white wire #2 first into bottom of handle portion of motor housing.

**For double insulated tools with 2 wire Quik-Lok cords:** Orient the blade housing assembly as shown and place white wire #2 first into the bottom of handle portion of motor housing.

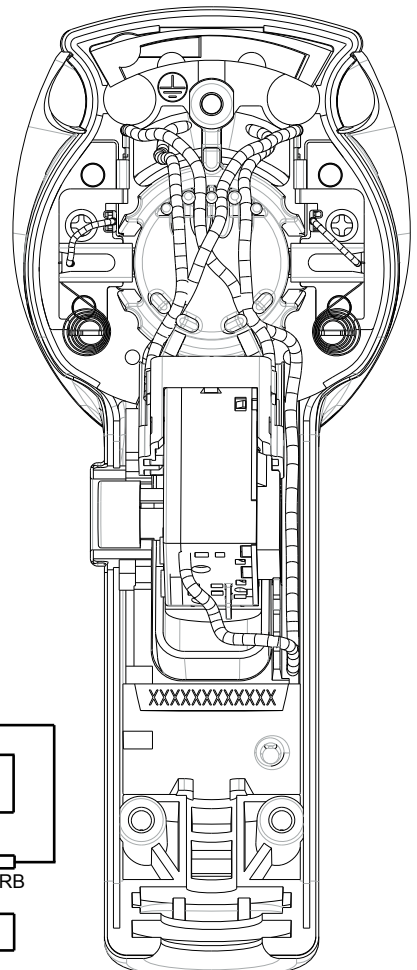
**WIRING SPECIFICATIONS**

Wire No.	Wire Color	Origin or Gauge	Length	Terminals, Connectors and 1 or 2 End Wire Preparation
1	Black	*	----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #2 on switch bottom.
2	White	*	----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #4 on switch top.
3	Green	*	----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to male tab on ground terminal.
4	Brown	Field	----	Component of field. Connect to #3 on switch top.
5	Black	Field	----	Component of field. Connect to #2a on switch bottom.
6	White	23-94-0490	----	Leadwire assembly. Connect to right brush holder and #5 on switch top.
7	Red	23-94-0495	----	Leadwire assembly. Connect to left brush holder and #6 on switch top.

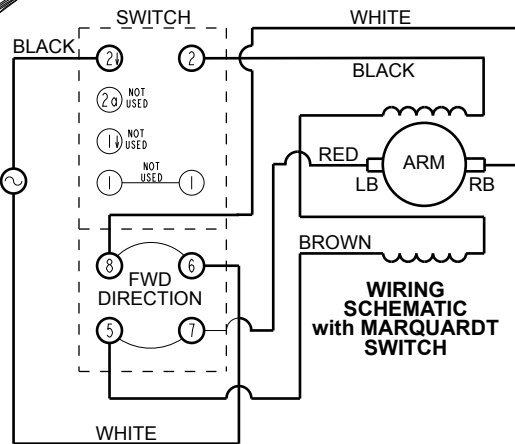
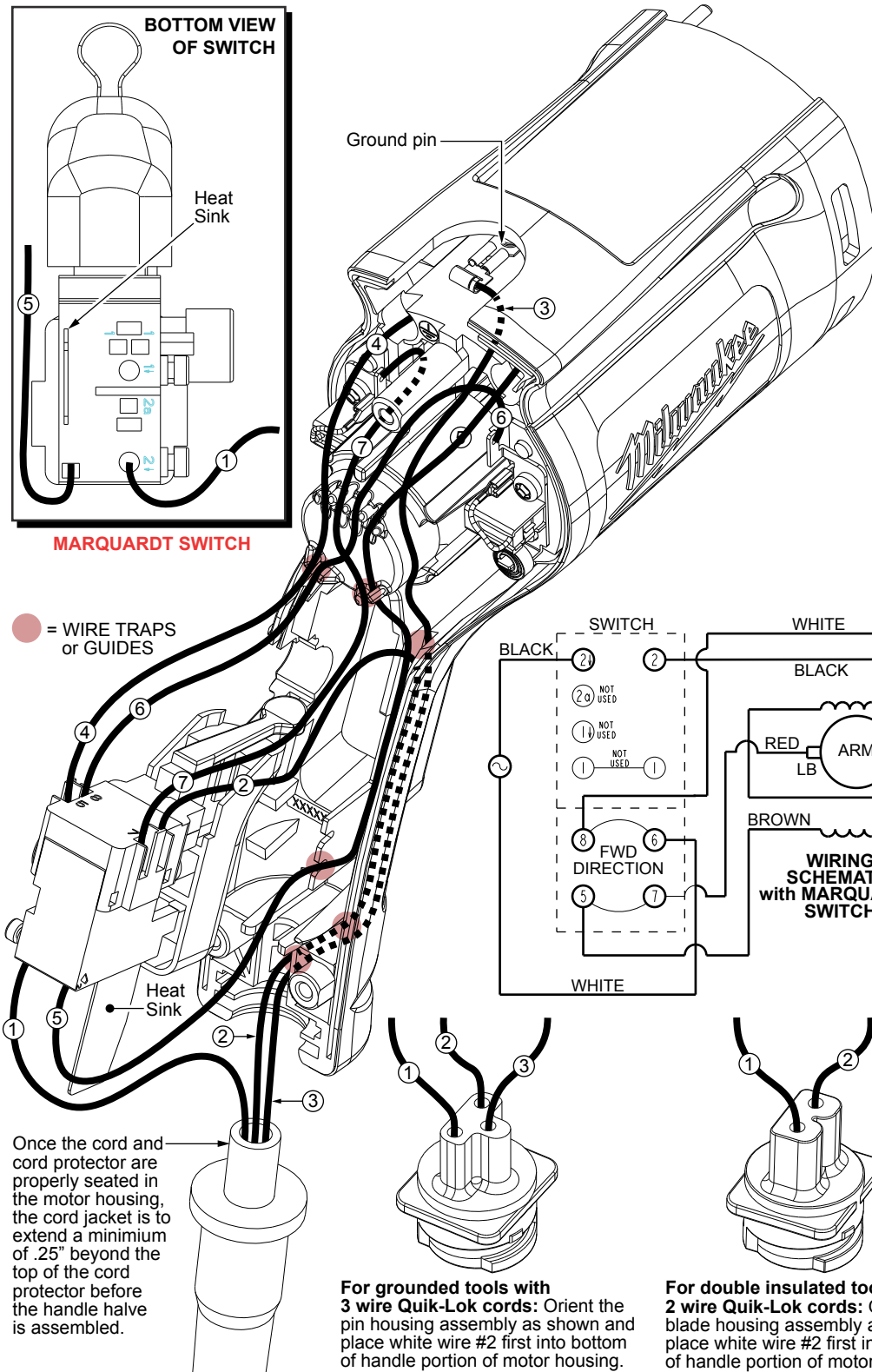


**MARQUARDT SWITCH**

Ground pin



● = WIRE TRAPS or GUIDES

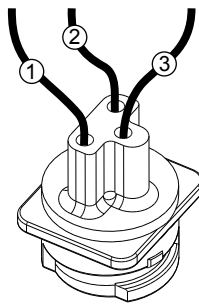


AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

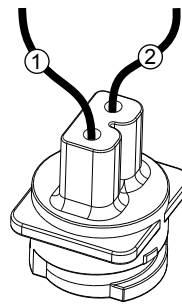
BE CAREFUL AND AVOID PINCHING WIRES BETWEEN HANDLE HALVES WHEN ASSEMBLING.

FOR DOUBLE INSULATED TOOLS DISREGARD GREEN WIRE #3 AND GROUND PIN.

Once the cord and cord protector are properly seated in the motor housing, the cord jacket is to extend a minimum of .25" beyond the top of the cord protector before the handle half is assembled.



**For grounded tools with 3 wire Quik-Lok cords:** Orient the pin housing assembly as shown and place white wire #2 first into bottom of handle portion of motor housing.



**For double insulated tools with 2 wire Quik-Lok cords:** Orient the blade housing assembly as shown and place white wire #2 first into the bottom of handle portion of motor housing.

**WIRING SPECIFICATIONS**

Wire No.	Wire Color	Origin or Gauge	Length	Terminals, Connectors and 1 or 2 End Wire Preparation
1	Black	*	-----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #2↓ on switch bottom.
2	White	*	-----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #6 on switch top.
3	Green	*	-----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to male tab on ground terminal.
4	Brown	Field	-----	Component of field. Connect to #5 on switch top.
5	Black	Field	-----	Component of field. Connect to #2 on switch bottom.
6	White	23-94-0490	-----	Leadwire assembly. Connect to right brush holder and #8 on switch top.
7	Red	23-94-0495	-----	Leadwire assembly. Connect to left brush holder and #7 on switch top.



# SERVICE PARTS LIST

**BULLETIN NO.**  
**54-06-0128**

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN 54-06-0127
<b>1/2" PISTOL GRIP DRILL</b>		
CATALOG NO. <b>0299-20</b>	STARTING SERIAL NO. <b>A15D</b>	WIRING INSTRUCTION <b>See Pages 2 &amp; 3</b>

**EXAMPLE:**  
Component Parts (Small #) Are Included When Ordering The Assembly (Large #).

★ = Part number change from previous service parts list.

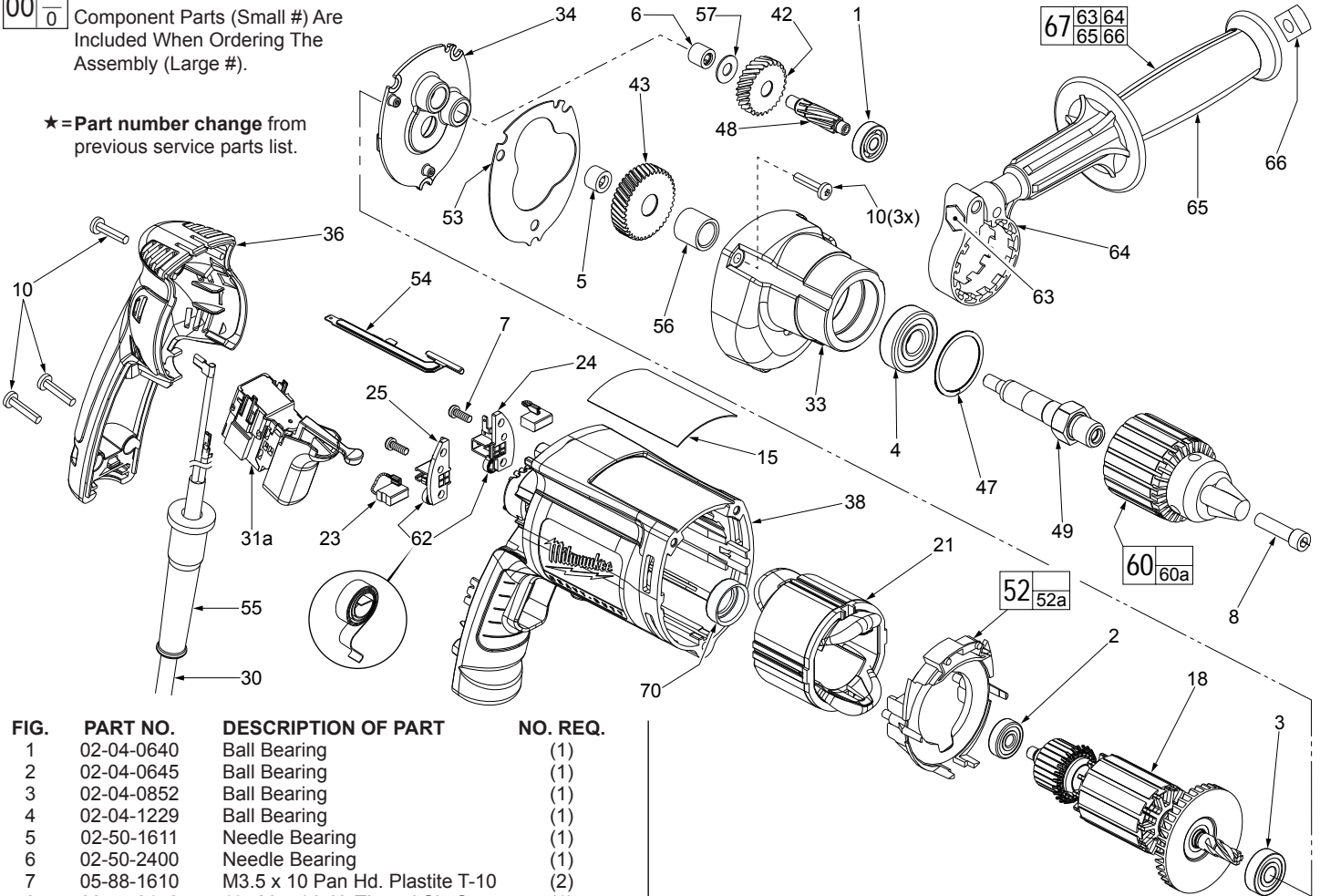


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	02-04-0640	Ball Bearing	(1)
2	02-04-0645	Ball Bearing	(1)
3	02-04-0852	Ball Bearing	(1)
4	02-04-1229	Ball Bearing	(1)
5	02-50-1611	Needle Bearing	(1)
6	02-50-2400	Needle Bearing	(1)
7	05-88-1610	M3.5 x 10 Pan Hd. Plastite T-10	(2)
8	06-75-3150	1/4-20 x 1 L.H. Thread Slit. Screw	(1)
10	06-82-7275	7-18 x 3/4 Slotted Plastite T-20	(6)
15	12-99-2565	Service Nameplate	(1)
18	16-10-2210	Armature	(1)
21	18-07-7220	Field	(1)
23	22-18-1310	Brush Assembly	(2)
24	22-20-0090	Left Brush Holder	(1)
25	22-20-0095	Right Brush Holder	(1)
30	22-64-1130	Cord Set	(1)
31a	23-66-2605	Switch (Defond) See page 2 wiring	(1)
31b	23-66-2585	Switch (Marquardt) See page 3 wiring	(1)
33	28-14-2390	Gearcase	(1)
34	28-28-2320	Diaphragm	(1)
36	31-15-2020	Handle Halve	(1)
★ 38	31-50-0527	Motor Housing	(1)
42	32-40-0100	Intermediate Gear	(1)
43	32-75-0100	Spindle Gear	(1)
47	34-80-2300	Retaining Ring	(1)
48	36-66-0100	Intermediate Shaft	(1)
49	38-50-5735	Spindle	(1)
52	42-14-0450	Baffle Assembly	(1)
52a	45-30-0030	Slug (Not shown)	(2)
53	43-44-0985	Gasket	(1)
54	44-60-1700	Ground Pin	(1)
55	44-76-0210	Cord Protector	(1)
56	45-36-1095	Spindle Spacer	(1)
57	45-88-7990	Thrust Washer	(1)
60	48-66-1355	1/2" Chuck	(1)
60a	48-66-3280	Chuck Key (Not Shown)	(1)
62	23-52-1610	Brush Spring	(2)
63	06-75-2850	3/8-16 x 5-1/2" Hex Cap Screw	(1)
64	42-68-0800	Side Handle Clamp	(1)
65	43-62-0845	Side Handle	(1)

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
66	06-54-0325	3/8-16 Square Nut	(1)
67	49-15-0265	Side Handle Assembly	(1)
★ 70	43-86-0125	Bearing Cup	(1)
	23-94-0490	White Leadwire Assy. (See pages 2 & 3)	(1)
	23-94-0495	Red Leadwire Assy. (See pages 2 & 3)	(1)
	48-66-4040	Chuck Key Holder (Not Shown)	(1)

**LUBRICATION (Type "Y" Grease, No. 49-08-5270)**

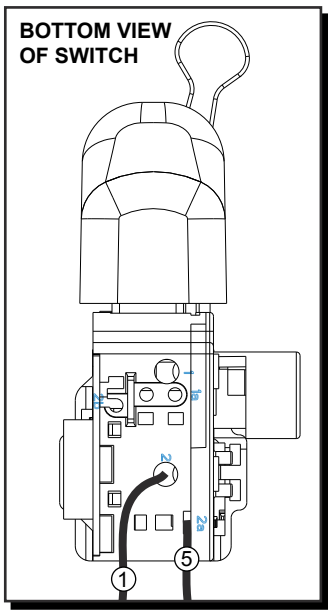
- Place 5 gm. (.02 oz.) of grease on top of the inserted intermediate ball bearing (1) and on the intermediate pinion (48).

- After inserting all gearing, place 13 gm. (.46 oz.) of grease at the armature pinion location in the gearcase (33) and fill to the top of the intermediate gear (42). Grease must contact at least 25% of the intermediate gear teeth.

**Before assembly, lightly coat all press fit areas with lightweight spindle oil.**

**FIG. NOTES:**

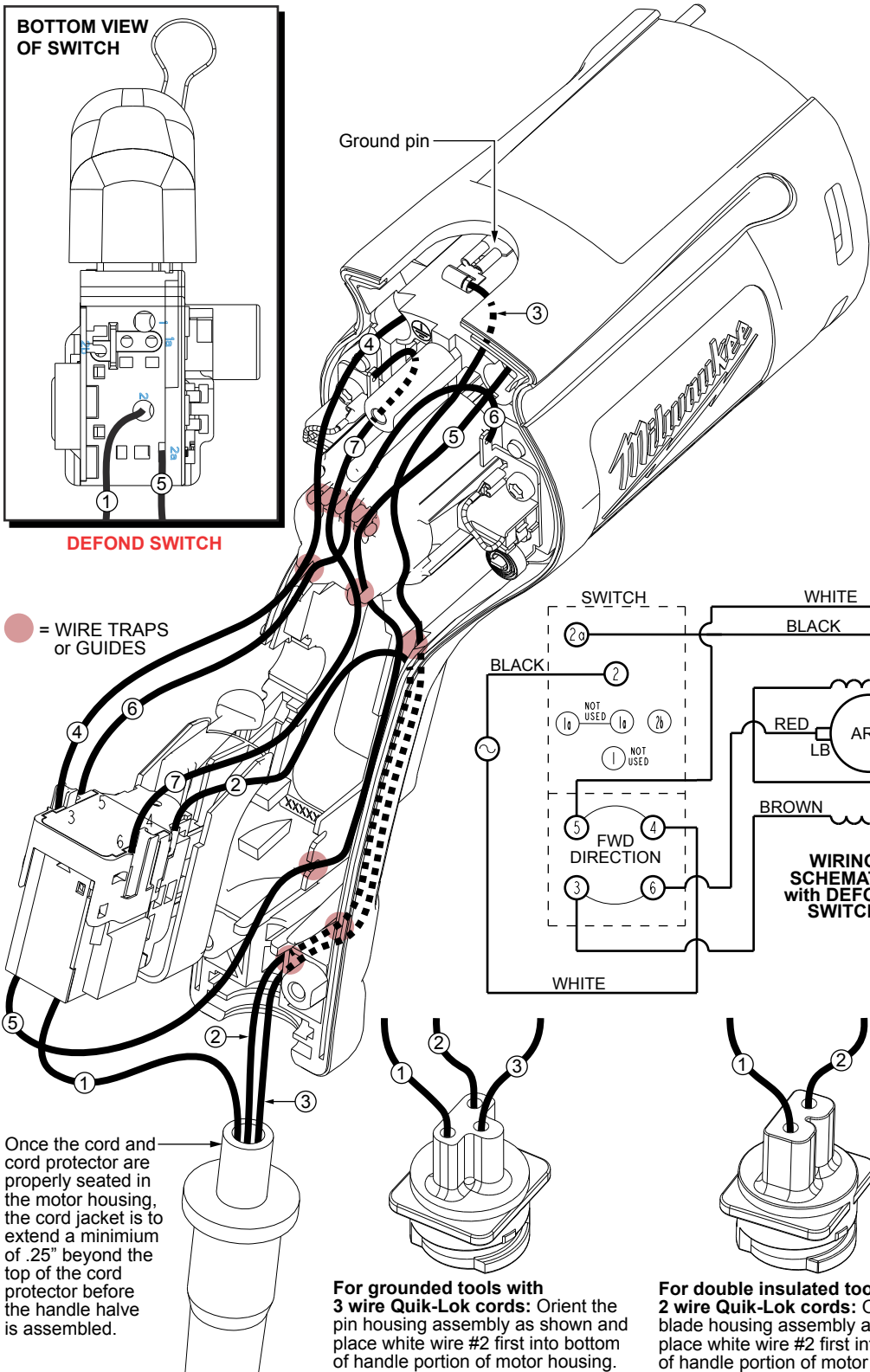
- 4,43 Support the output ball bearing inside the gearcase before pressing off the spindle gear.
- 5,6 Needle bearings to be pressed flush to .010 under flush from the end which has the vendors identification.



**BOTTOM VIEW OF SWITCH**

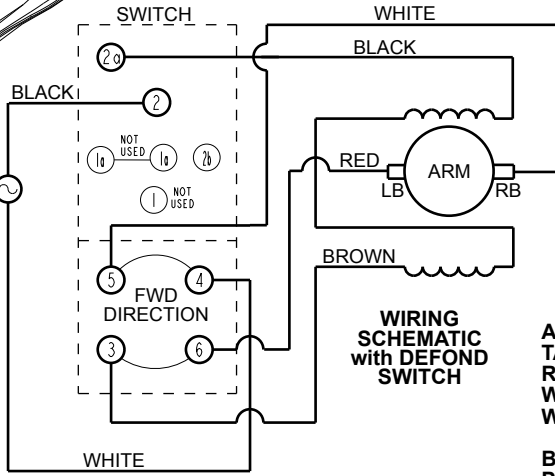
**DEFOND SWITCH**

Ground pin

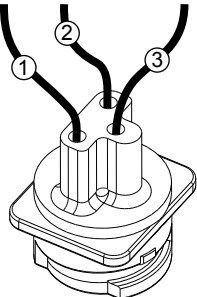


● = WIRE TRAPS or GUIDES

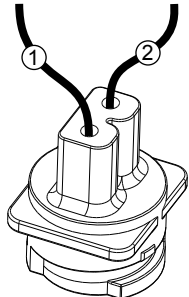
Once the cord and cord protector are properly seated in the motor housing, the cord jacket is to extend a minimum of .25" beyond the top of the cord protector before the handle half is assembled.



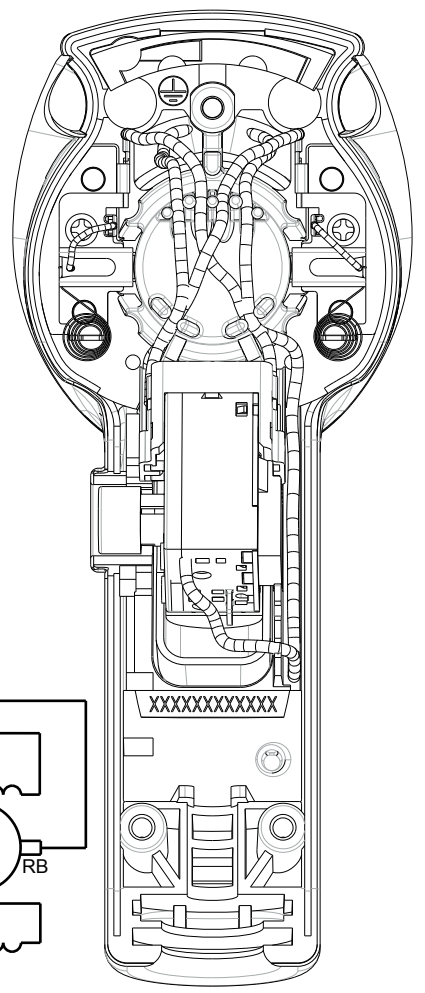
**WIRING SCHEMATIC with DEFOND SWITCH**



**For grounded tools with 3 wire Quik-Lok cords:** Orient the pin housing assembly as shown and place white wire #2 first into bottom of handle portion of motor housing.



**For double insulated tools with 2 wire Quik-Lok cords:** Orient the blade housing assembly as shown and place white wire #2 first into the bottom of handle portion of motor housing.



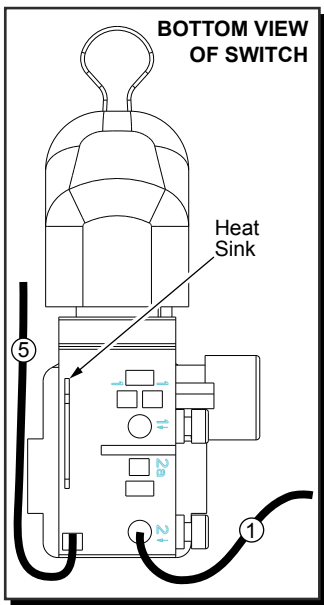
**AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.**

**BE CAREFUL AND AVOID PINCHING WIRES BETWEEN HANDLE HALVES WHEN ASSEMBLING.**

**FOR DOUBLE INSULATED TOOLS DISREGARD GREEN GROUND WIRE #3 AND GROUND PIN.**

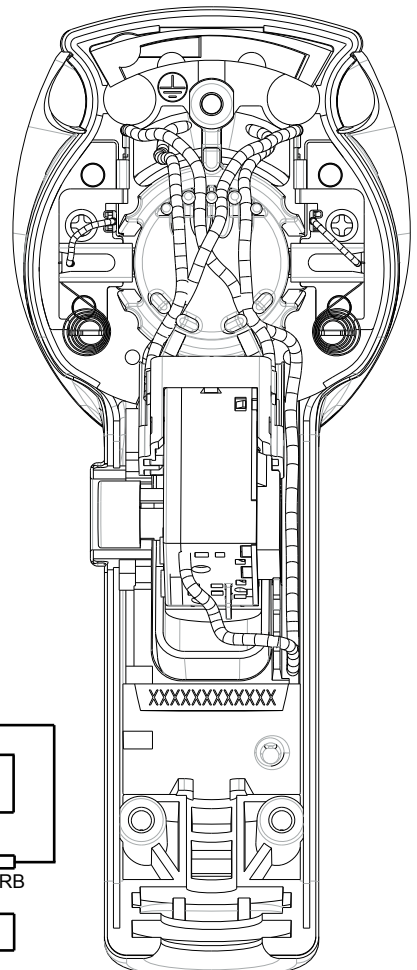
**WIRING SPECIFICATIONS**

Wire No.	Wire Color	Origin or Gauge	Length	Terminals, Connectors and 1 or 2 End Wire Preparation
1	Black	*	----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #2 on switch bottom.
2	White	*	----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #4 on switch top.
3	Green	*	----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to male tab on ground terminal.
4	Brown	Field	----	Component of field. Connect to #3 on switch top.
5	Black	Field	----	Component of field. Connect to #2a on switch bottom.
6	White	23-94-0490	----	Leadwire assembly. Connect to right brush holder and #5 on switch top.
7	Red	23-94-0495	----	Leadwire assembly. Connect to left brush holder and #6 on switch top.

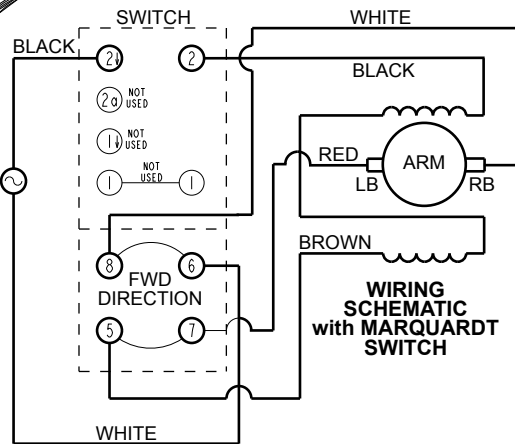
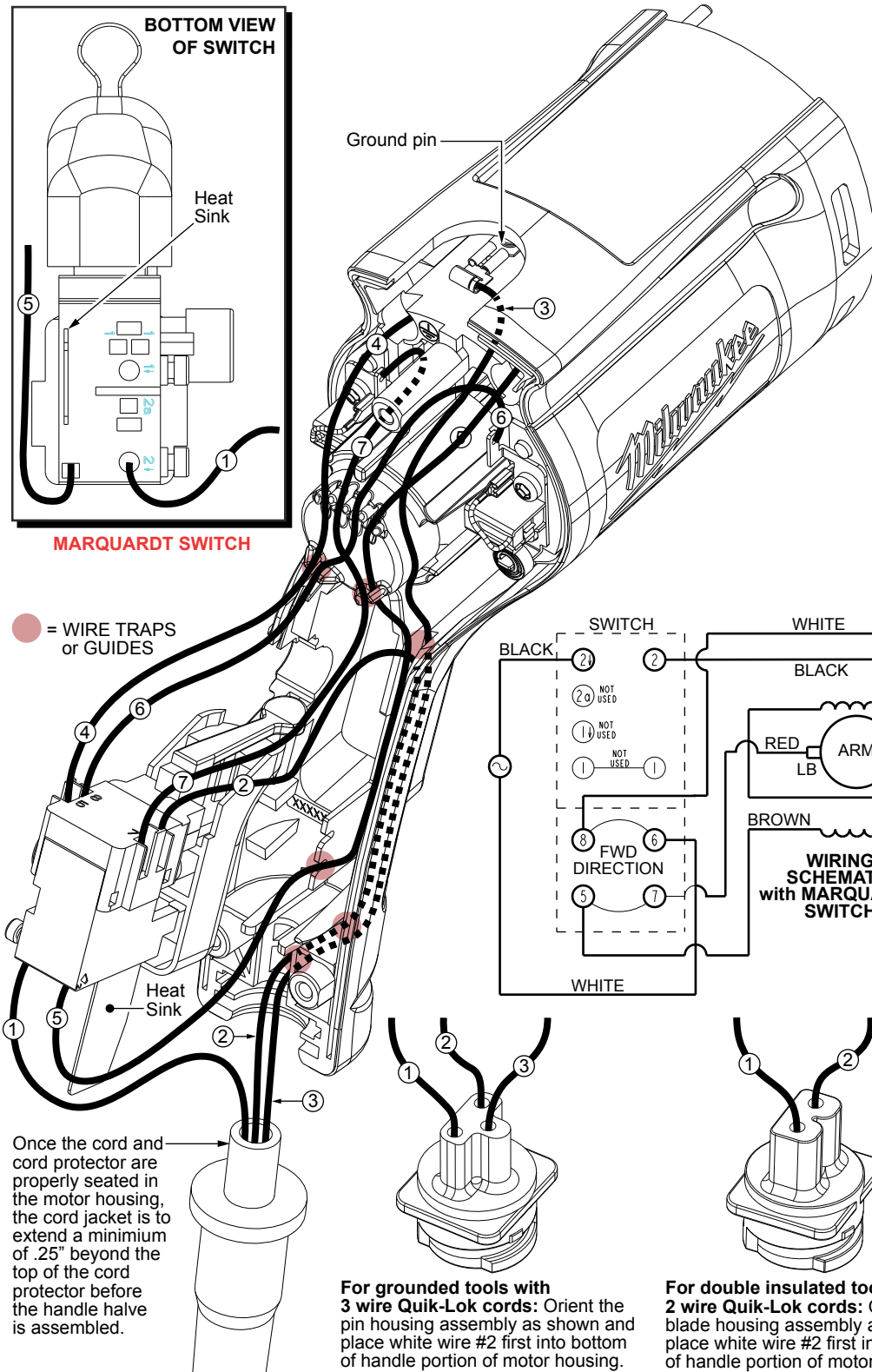


**MARQUARDT SWITCH**

Ground pin



● = WIRE TRAPS or GUIDES

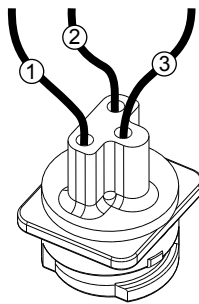


AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

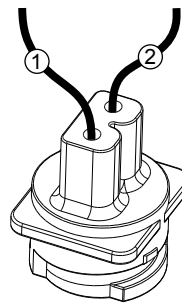
BE CAREFUL AND AVOID PINCHING WIRES BETWEEN HANDLE HALVES WHEN ASSEMBLING.

FOR DOUBLE INSULATED TOOLS DISREGARD GREEN WIRE #3 AND GROUND PIN.

Once the cord and cord protector are properly seated in the motor housing, the cord jacket is to extend a minimum of .25" beyond the top of the cord protector before the handle half is assembled.



**For grounded tools with 3 wire Quik-Lok cords:** Orient the pin housing assembly as shown and place white wire #2 first into bottom of handle portion of motor housing.



**For double insulated tools with 2 wire Quik-Lok cords:** Orient the blade housing assembly as shown and place white wire #2 first into the bottom of handle portion of motor housing.

**WIRING SPECIFICATIONS**

Wire No.	Wire Color	Origin or Gauge	Length	Terminals, Connectors and 1 or 2 End Wire Preparation
1	Black	*	-----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #2 on switch bottom.
2	White	*	-----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #6 on switch top.
3	Green	*	-----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to male tab on ground terminal.
4	Brown	Field	-----	Component of field. Connect to #5 on switch top.
5	Black	Field	-----	Component of field. Connect to #2 on switch bottom.
6	White	23-94-0490	-----	Leadwire assembly. Connect to right brush holder and #8 on switch top.
7	Red	23-94-0495	-----	Leadwire assembly. Connect to left brush holder and #7 on switch top.

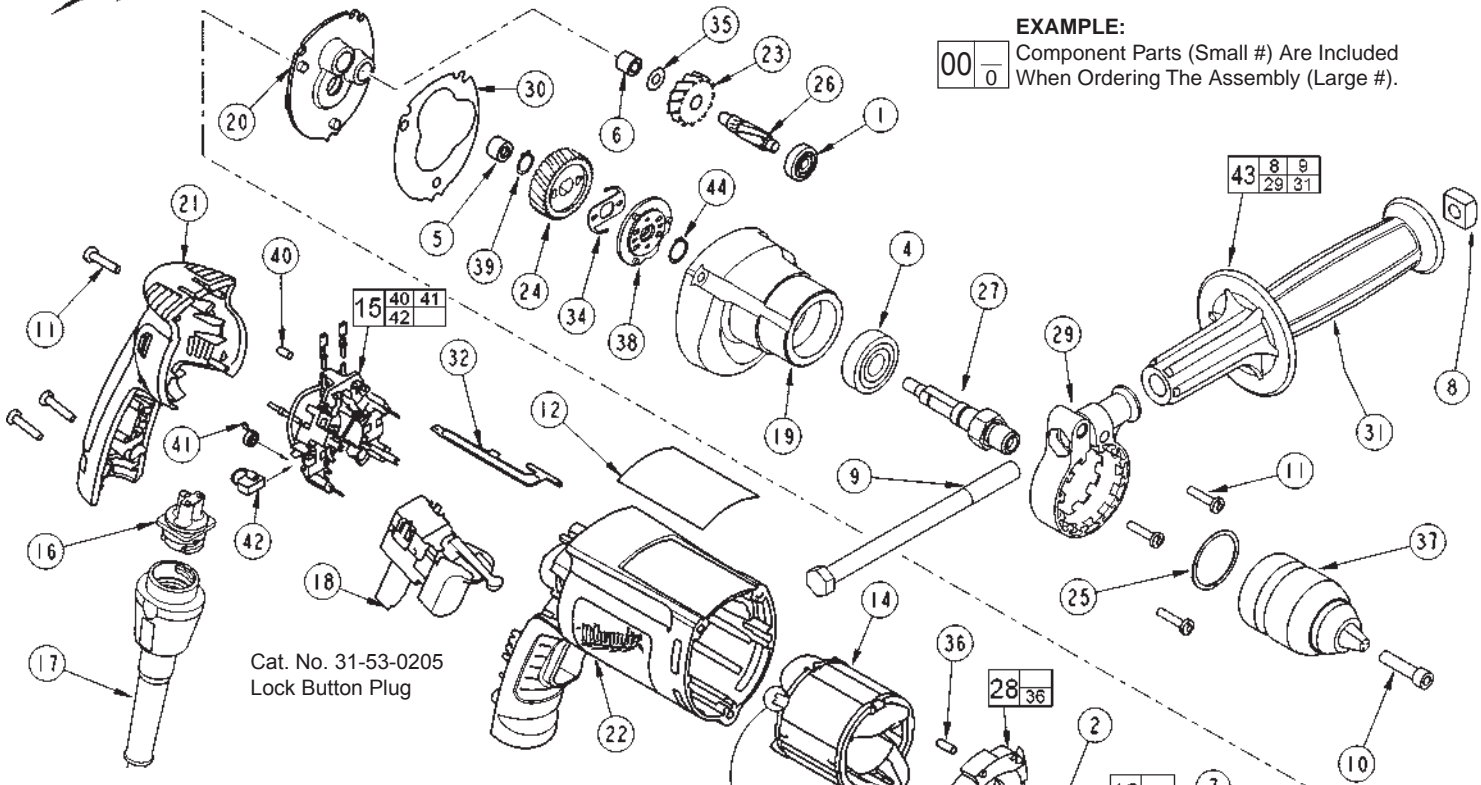




# SERVICE PARTS LIST

BULLETIN NO.  
54-06-2975

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN
<b>1/2 INCH DRILL with SPINDLE LOCK</b>		
CATALOG NO. <b>0302-20</b>	STARTING SERIAL NO. <b>084A</b>	WIRING INSTRUCTION <b>58-01-1805</b>



**EXAMPLE:**  

00	0
----	---

 Component Parts (Small #) Are Included When Ordering The Assembly (Large #).

Cat. No. 31-53-0205  
Lock Button Plug

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	02-04-0640	Ball Bearing	(1)
2	02-04-0645	Ball Bearing	(1)
3	02-04-0852	Ball Bearing	(1)
4	02-04-1229	Ball Bearing	(1)
5	02-50-1611	Needle Bearing	(1)
6	02-50-2400	Needle Bearing	(1)
7	22-84-0845	Fan	(1)
8	06-54-0325	3/8-16 Square Nut	(1)
9	06-75-2850	3/8-16 x 5-1/2 Hex Cap Screw	(1)
10	06-81-2925	1/4-20 x 1-1/8 L.H. Flat Hd. Screw	(1)
11	06-82-7275	7-18 x 3/4 Slotted Plastite T-20	(6)
12	12-99-2565	Service Nameplate	(1)
13	16-10-2210	Armature	(1)
14	18-07-2206	Field	(1)
15	22-18-1210	Brush Card Assembly	(1)
16	22-56-1010	Pin Housing Assembly	(1)
17	48-76-4008	Quik-Lok Cord Set	(1)
18	23-66-2585	Switch	(1)
19	28-14-2390	Gearcase	(1)
20	28-28-2320	Diaphragm	(1)
21	31-15-2030	Handle Halve	(1)
22	31-50-2040	Motor Housing	(1)
23	32-40-0100	Intermediate Gear	(1)
24	32-75-0101	Spindle Gear Assembly	(1)
25	34-80-2300	Retaining Ring	(1)
26	36-66-0100	Intermediate Shaft	(1)
27	38-50-5752	Spindle	(1)
28	42-14-0450	Baffle Assembly	(1)
29	42-68-0800	Side Handle Clamp	(1)
30	43-44-0985	Gasket	(1)
31	43-62-0845	Side Handle	(1)
32	44-60-1700	Ground Pin	(1)
34	40-50-8525	Click Spring	(1)
35	45-88-7990	Thrust Washer	(1)
36	45-30-0030	Slug	(2)
37	48-66-1575	1/2" Keyless Chuck	(1)
38	14-29-0040	Spindle Lock Assembly	(1)
39	34-60-0810	External Retaining Ring	(1)



**FIELD TERMINAL POCKETS**  
 Fill cavities with Type "X" contact grease No. 49-08-5000, 4 places. Do not over fill and allow grease to extend past edges.

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
40	45-30-0035	Slug	(1)
41	23-52-1610	Brush Spring	(2)
42	22-18-1310	Brush Assembly	(2)
43	49-15-0265	Side Handle Assembly	(1)
44	34-60-0900	External Retaining Ring	(1)

**LUBRICATION (Type "Y" Grease, No. 49-08-5270)**

- Place 5 gm. (.02 oz.) of grease on top of the inserted intermediate ball bearing (1).
- After inserting the pinion subassembly, place 13 gm. (.46 oz.) of grease at the armature pinion location in the gearcase (19) and fill to slightly above the intermediate gear (23).

**Before assembly, lightly coat all press fit areas with lightweight spindle oil.**

**FIG. NOTES:**

- 4,24 Support the output ball bearing inside the gearcase before pressing off the spindle gear.
- 5,6 Needle bearings to be pressed flush to .010 under flush from the end which has the vendors identification.

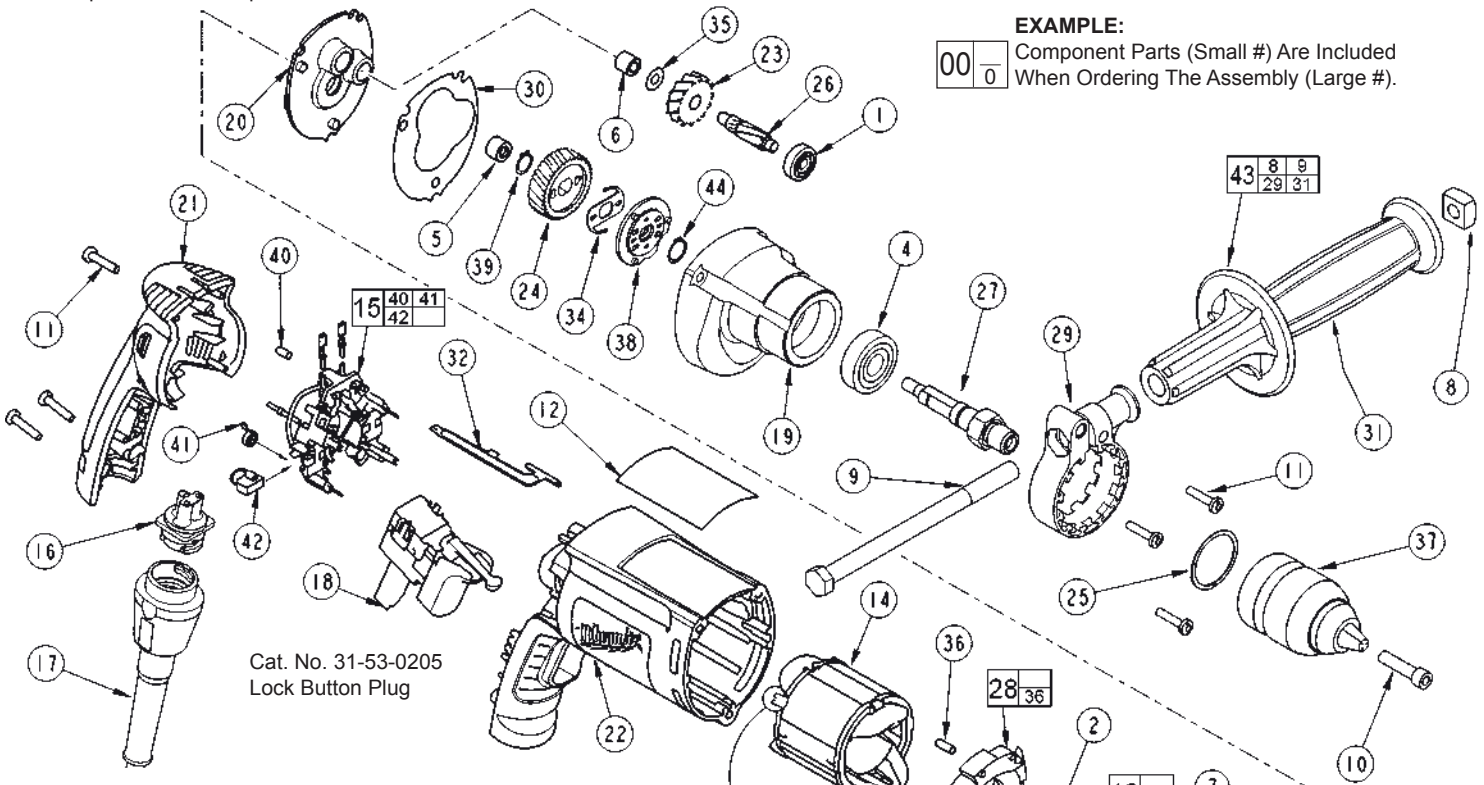


# SERVICE PARTS LIST

**BULLETIN NO.**  
**54-06-2976**

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN 54-06-2975
<b>1/2 INCH DRILL with SPINDLE LOCK</b>		
CATALOG NO. <b>0302-20</b>	STARTING SERIAL NO. <b>084B</b>	WIRING INSTRUCTION <b>58-01-1806</b>

★ = Part number change from previous service parts list.



Cat. No. 31-53-0205  
Lock Button Plug

**EXAMPLE:**

00 0 Component Parts (Small #) Are Included When Ordering The Assembly (Large #).

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	02-04-0640	Ball Bearing	(1)
2	02-04-0645	Ball Bearing	(1)
3	02-04-0852	Ball Bearing	(1)
4	02-04-1229	Ball Bearing	(1)
5	02-50-1611	Needle Bearing	(1)
6	02-50-2400	Needle Bearing	(1)
7	22-84-0845	Fan	(1)
8	06-54-0325	3/8-16 Square Nut	(1)
9	06-75-2850	3/8-16 x 5-1/2 Hex Cap Screw	(1)
10	06-81-2925	1/4-20 x 1-1/8 L.H. Flat Hd. Screw	(1)
11	06-82-7275	7-18 x 3/4 Slotted Plastite T-20	(6)
12	12-99-2565	Service Nameplate	(1)
13	16-10-2210	Armature	(1)
14	18-07-2206	Field	(1)
15	22-18-1210	Brush Card Assembly	(1)
16	22-56-1010	Pin Housing Assembly	(1)
17	48-76-4008	Quik-Lok Cord Set	(1)
★ 18	23-66-2605	Switch	(1)
19	28-14-2390	Gearcase	(1)
20	28-28-2320	Diaphragm	(1)
21	31-15-2030	Handle Halve	(1)
★ 22	31-50-4040	Motor Housing	(1)
23	32-40-0100	Intermediate Gear	(1)
24	32-75-0101	Spindle Gear Assembly	(1)
25	34-80-2300	Retaining Ring	(1)
26	36-66-0100	Intermediate Shaft	(1)
27	38-50-5752	Spindle	(1)
28	42-14-0450	Baffle Assembly	(1)
29	42-68-0800	Side Handle Clamp	(1)
30	43-44-0985	Gasket	(1)
31	43-62-0845	Side Handle	(1)
32	44-60-1700	Ground Pin	(1)
34	40-50-8525	Click Spring	(1)
35	45-88-7990	Thrust Washer	(1)
36	45-30-0030	Slug	(2)
37	48-66-1575	1/2" Keyless Chuck	(1)
38	14-29-0040	Spindle Lock Assembly	(1)
39	34-60-0810	External Retaining Ring	(1)



**FIELD TERMINAL POCKETS**

Fill cavities with Type "X" contact grease No. 49-08-5000, 4 places. Do not over fill and allow grease to extend past edges.

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
40	45-30-0035	Slug	(1)
41	23-52-1610	Brush Spring	(2)
42	22-18-1310	Brush Assembly	(2)
43	49-15-0265	Side Handle Assembly	(1)
44	34-60-0900	External Retaining Ring	(1)

**LUBRICATION (Type "Y" Grease, No. 49-08-5270)**

- Place 5 gm. (.02 oz.) of grease on top of the inserted intermediate ball bearing (1).
- After inserting the pinion subassembly, place 13 gm. (.46 oz.) of grease at the armature pinion location in the gearcase (19) and fill to slightly above the intermediate gear (23).

**Before assembly, lightly coat all press fit areas with lightweight spindle oil.**

**FIG. NOTES:**

- 4,24 Support the output ball bearing inside the gearcase before pressing off the spindle gear.
- 5,6 Needle bearings to be pressed flush to .010 under flush from the end which has the vendors identification.

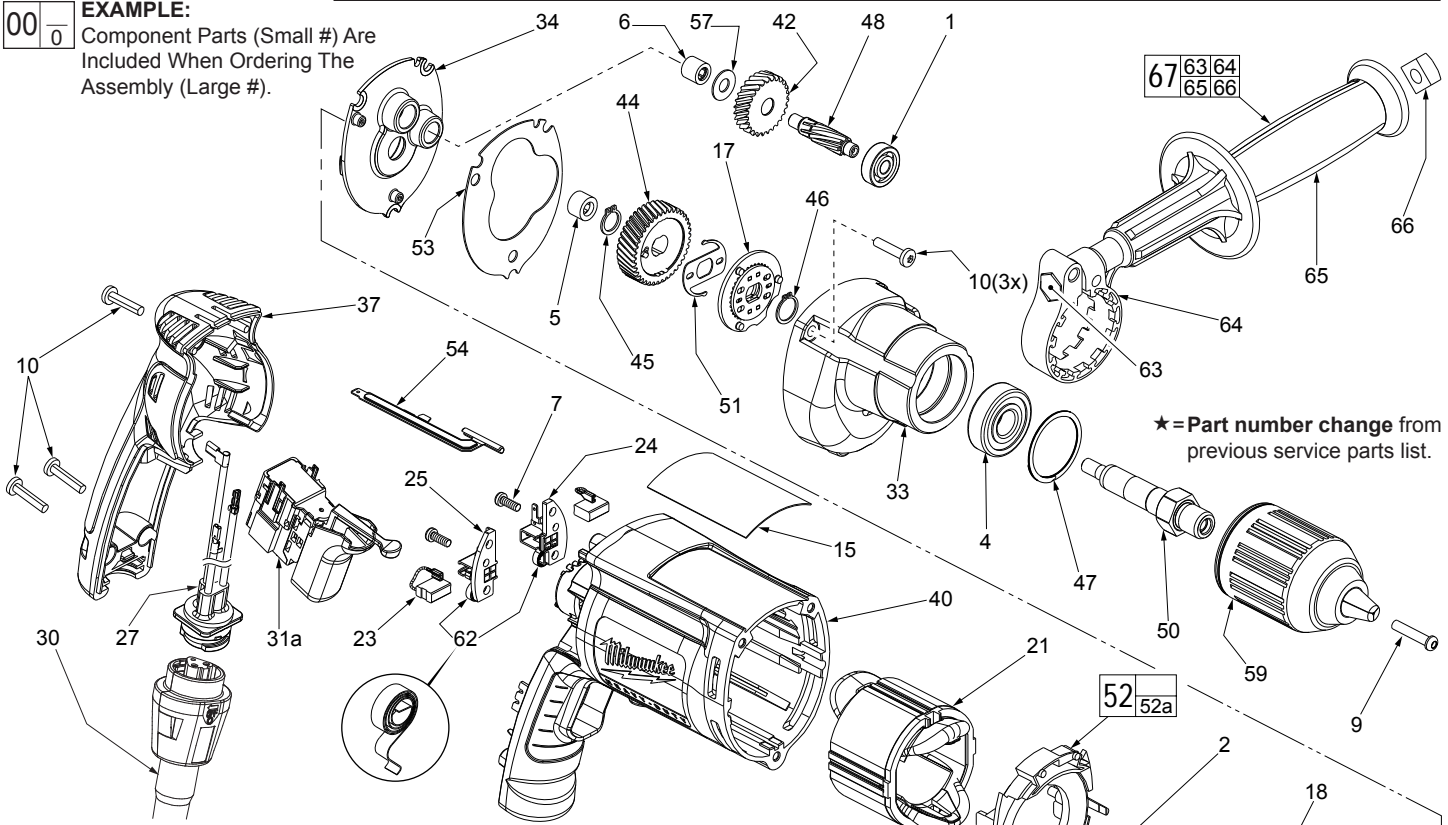


# SERVICE PARTS LIST

**BULLETIN NO.**  
**54-06-2977**

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN
<b>1/2" PISTOL GRIP DRILL with SPINDLE LOCK</b>		54-06-2976
CATALOG NO. <b>0302-20</b>	STARTING SERIAL NO. <b>084C</b>	WIRING INSTRUCTION <b>See Pages 2 &amp; 3</b>

**EXAMPLE:**  
Component Parts (Small #) Are Included When Ordering The Assembly (Large #).



★ = Part number change from previous service parts list.

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	02-04-0640	Ball Bearing	(1)
2	02-04-0645	Ball Bearing	(1)
3	02-04-0852	Ball Bearing	(1)
4	02-04-1229	Ball Bearing	(1)
5	02-50-1611	Needle Bearing	(1)
6	02-50-2400	Needle Bearing	(1)
★ 7	05-88-1610	M3.5 x 10 Pan Hd. Plastite T-10	(2)
9	06-81-2925	1/4-20 x 1-1/8" L.H. Flat Hd. Screw	(1)
10	06-82-7275	7-18 x 3/4 Slotted Plastite T-20	(6)
15	12-99-2565	Service Nameplate	(1)
17	14-29-0040	Spindle Lock Assembly	(1)
18	16-10-2210	Armature	(1)
★ 21	18-07-7220	Field	(1)
23	22-18-1310	Brush Assembly	(2)
★ 24	22-20-0090	Left Brush Holder	(1)
★ 25	22-20-0095	Right Brush Holder	(1)
27	22-56-1010	Pin Housing Assembly	(1)
30	48-76-4008	Quik-Lok Cord Set	(1)
31a	23-66-2605	Switch (Defond) See page 2 wiring	(1)
31b	23-66-2585	Switch (Marquardt) See page 3 wiring	(1)
33	28-14-2390	Gearcase	(1)
34	28-28-2320	Diaphragm	(1)
37	31-15-2030	Handle Halve	(1)
★ 40	31-50-3040	Motor Housing	(1)
42	32-40-0100	Intermediate Gear	(1)
44	32-75-0101	Spindle Gear	(1)
45	34-60-0810	External Retaining Ring	(1)
46	34-60-0900	External Retaining Ring	(1)
47	34-80-2300	Retaining Ring	(1)
48	36-66-0100	Intermediate Shaft	(1)
50	38-50-5752	Output Spindle	(1)
51	40-50-8525	Click Spring	(1)
52	42-14-0450	Baffle Assembly	(1)
52a	45-30-0030	Slug (Not shown)	(2)
53	43-44-0985	Gasket	(1)
54	44-60-1700	Ground Pin	(1)
57	45-88-7990	Thrust Washer	(1)
59	42-66-0755	1/2" Keyless Chuck	(1)
62	23-52-1610	Brush Spring	(2)
63	06-75-2850	3/8-16 x 5-1/2" Hex Cap Screw	(1)
64	42-68-0800	Side Handle Clamp	(1)

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
65	43-62-0845	Side Handle	(1)
66	06-54-0325	3/8-16 Square Nut	(1)
67	49-15-0265	Side Handle Assembly	(1)
★	23-94-0490	White Leadwire Assy. (See pages 2 & 3)	(1)
★	23-94-0495	Red Leadwire Assy. (See pages 2 & 3)	(1)
	31-53-0205	Lock Button Plug (Not Shown)	(1)

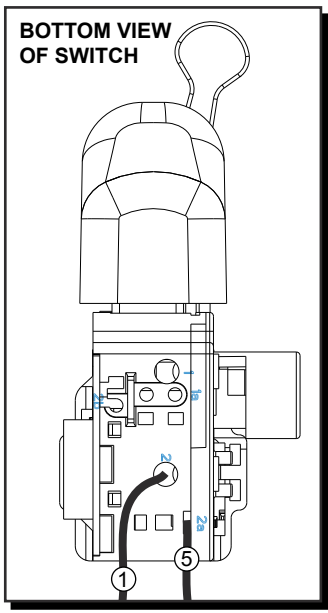
**LUBRICATION (Type "Y" Grease, No. 49-08-5270)**  
 • Place 5 gm. (.02 oz.) of grease on top of the inserted intermediate ball bearing (1) and on the intermediate pinion (48).

• After inserting all gearing, place 13 gm. (.46 oz.) of grease at the armature pinion location in the gearcase (33) and fill to the top of the intermediate gear (42). Grease must contact at least 25% of the intermediate gear teeth.

**Before assembly, lightly coat all press fit areas with lightweight spindle oil.**

**FIG. NOTES:**  
 4,44 Support the output ball bearing inside the gearcase before pressing off the spindle gear.

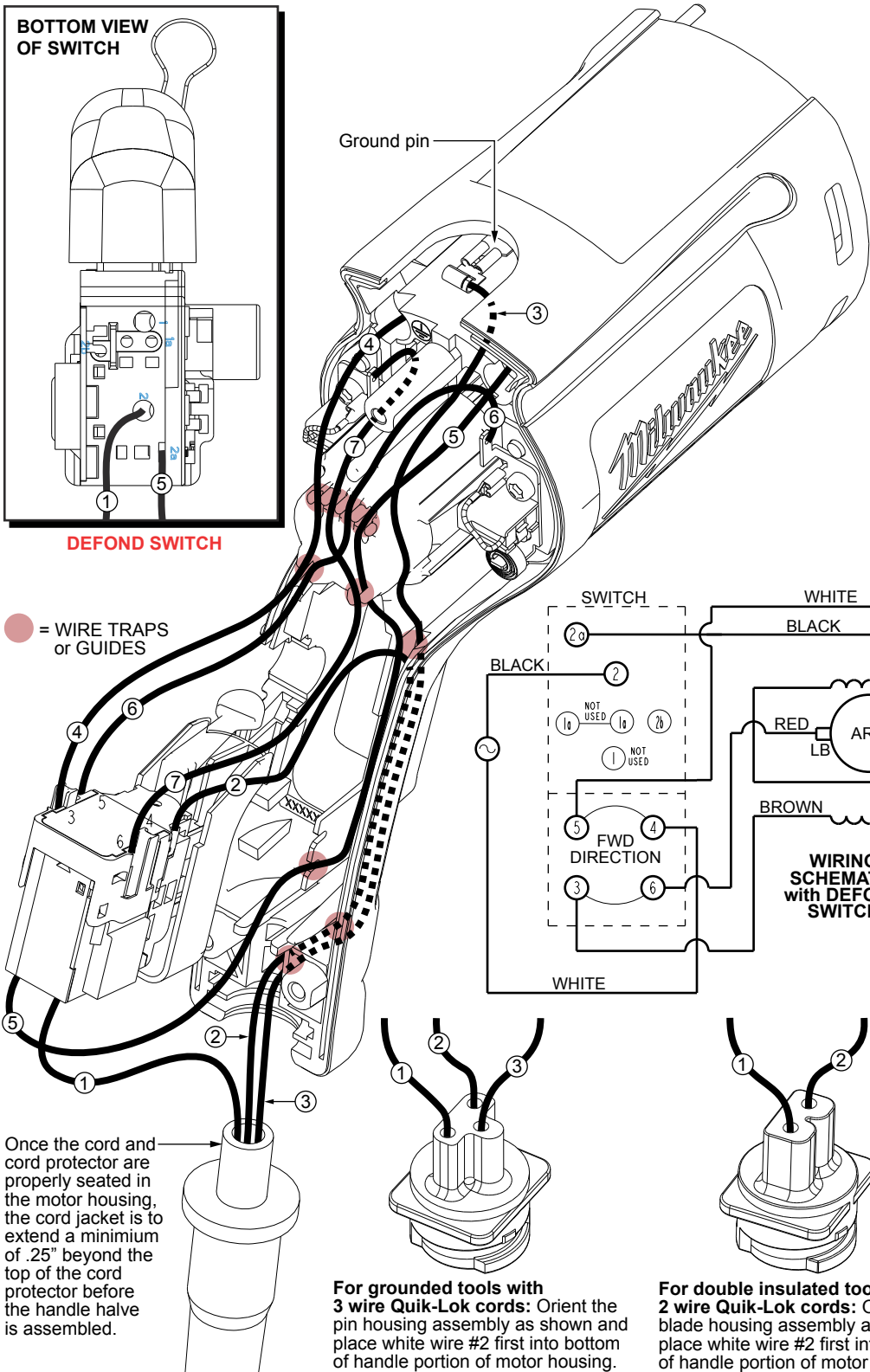
5,6 Needle bearings to be pressed flush to .010 under flush from the end which has the vendors identification.



**BOTTOM VIEW OF SWITCH**

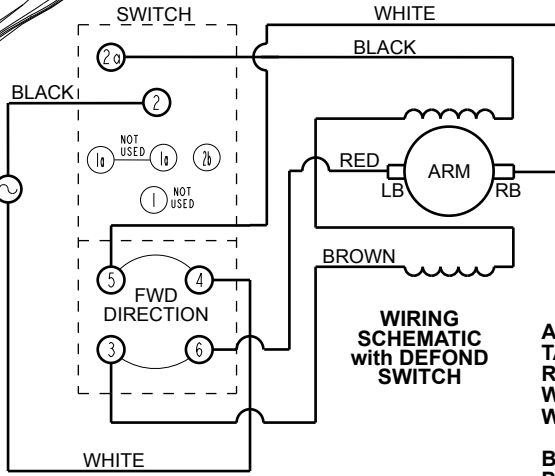
**DEFOND SWITCH**

Ground pin

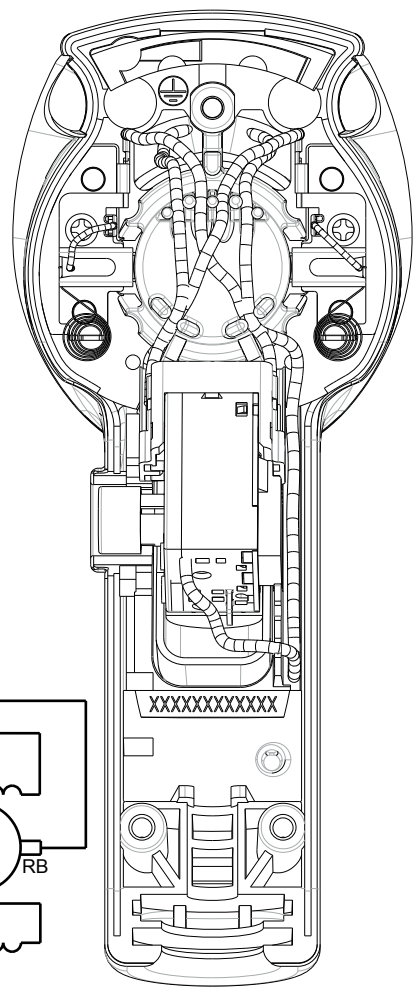


● = WIRE TRAPS or GUIDES

Once the cord and cord protector are properly seated in the motor housing, the cord jacket is to extend a minimum of .25" beyond the top of the cord protector before the handle half is assembled.



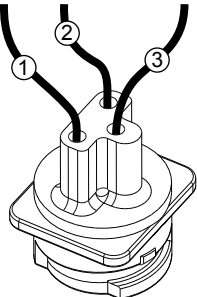
**WIRING SCHEMATIC with DEFOND SWITCH**



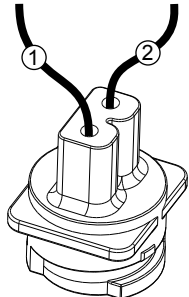
AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

BE CAREFUL AND AVOID PINCHING WIRES BETWEEN HANDLE HALVES WHEN ASSEMBLING.

FOR DOUBLE INSULATED TOOLS DISREGARD GREEN GROUND WIRE #3 AND GROUND PIN.



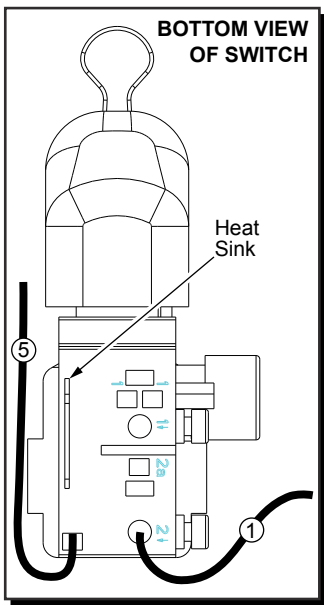
**For grounded tools with 3 wire Quik-Lok cords:** Orient the pin housing assembly as shown and place white wire #2 first into bottom of handle portion of motor housing.



**For double insulated tools with 2 wire Quik-Lok cords:** Orient the blade housing assembly as shown and place white wire #2 first into the bottom of handle portion of motor housing.

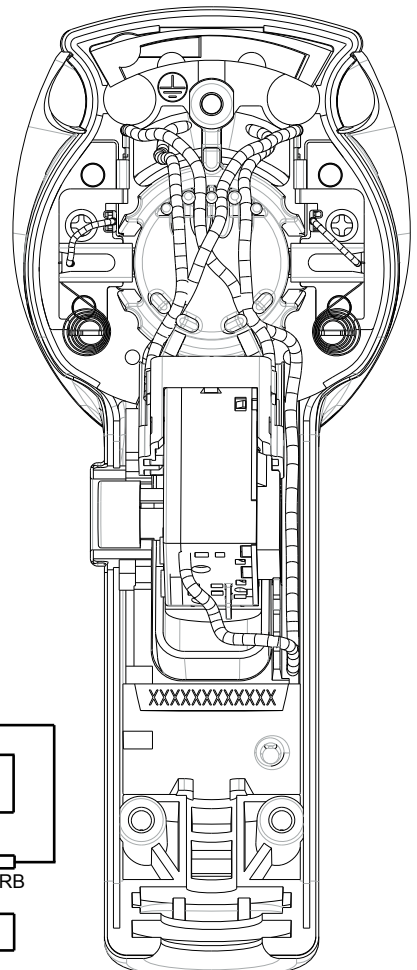
**WIRING SPECIFICATIONS**

Wire No.	Wire Color	Origin or Gauge	Length	Terminals, Connectors and 1 or 2 End Wire Preparation
1	Black	*	----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #2 on switch bottom.
2	White	*	----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #4 on switch top.
3	Green	*	----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to male tab on ground terminal.
4	Brown	Field	----	Component of field. Connect to #3 on switch top.
5	Black	Field	----	Component of field. Connect to #2a on switch bottom.
6	White	23-94-0490	----	Leadwire assembly. Connect to right brush holder and #5 on switch top.
7	Red	23-94-0495	----	Leadwire assembly. Connect to left brush holder and #6 on switch top.

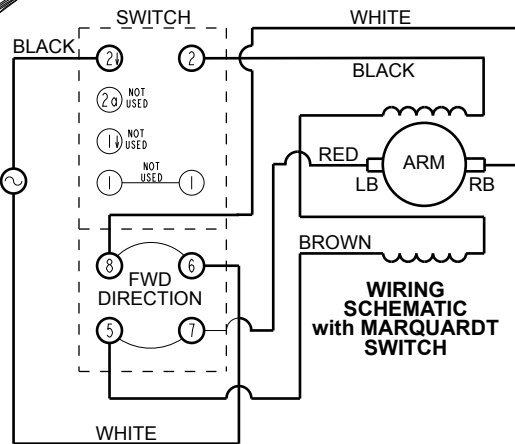
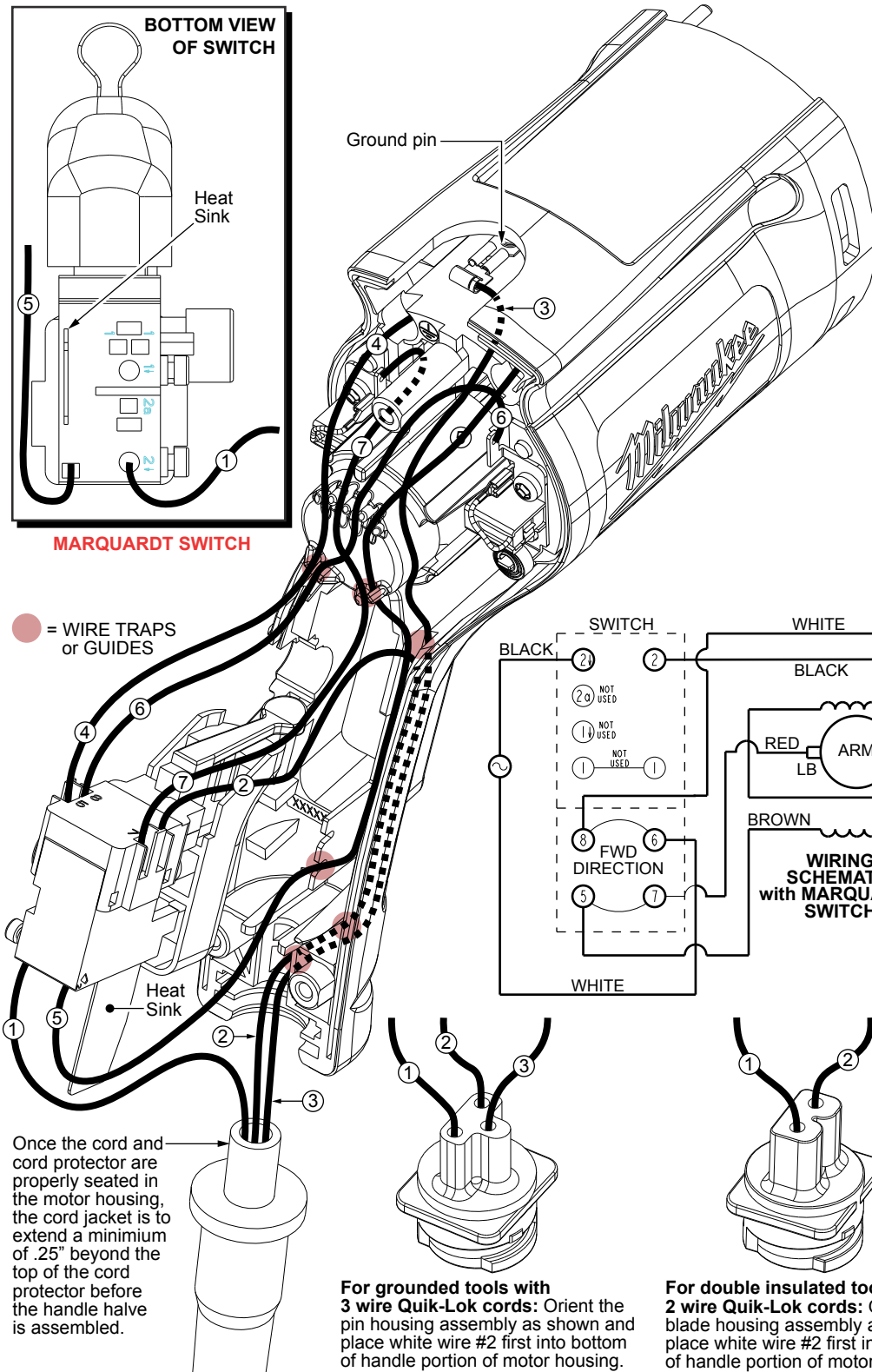


**MARQUARDT SWITCH**

Ground pin



● = WIRE TRAPS or GUIDES

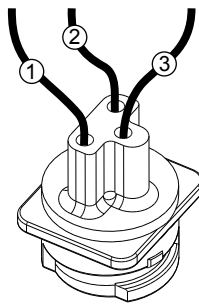


AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

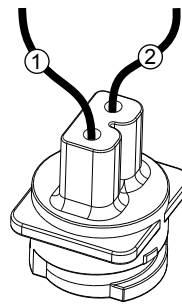
BE CAREFUL AND AVOID PINCHING WIRES BETWEEN HANDLE HALVES WHEN ASSEMBLING.

FOR DOUBLE INSULATED TOOLS DISREGARD GREEN WIRE #3 AND GROUND PIN.

Once the cord and cord protector are properly seated in the motor housing, the cord jacket is to extend a minimum of .25" beyond the top of the cord protector before the handle half is assembled.



**For grounded tools with 3 wire Quik-Lok cords:** Orient the pin housing assembly as shown and place white wire #2 first into bottom of handle portion of motor housing.



**For double insulated tools with 2 wire Quik-Lok cords:** Orient the blade housing assembly as shown and place white wire #2 first into the bottom of handle portion of motor housing.

**WIRING SPECIFICATIONS**

Wire No.	Wire Color	Origin or Gauge	Length	Terminals, Connectors and 1 or 2 End Wire Preparation
1	Black	*	-----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #2 on switch bottom.
2	White	*	-----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #6 on switch top.
3	Green	*	-----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to male tab on ground terminal.
4	Brown	Field	-----	Component of field. Connect to #5 on switch top.
5	Black	Field	-----	Component of field. Connect to #2 on switch bottom.
6	White	23-94-0490	-----	Leadwire assembly. Connect to right brush holder and #8 on switch top.
7	Red	23-94-0495	-----	Leadwire assembly. Connect to left brush holder and #7 on switch top.



# SERVICE PARTS LIST

**BULLETIN NO.**  
**54-06-2978**

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN 54-06-2977
<b>1/2" PISTOL GRIP DRILL with SPINDLE LOCK</b>		
CATALOG NO. <b>0302-20</b>	STARTING SERIAL NO. <b>084D</b>	WIRING INSTRUCTION <b>See Pages 2 &amp; 3</b>

**EXAMPLE:**  
Component Parts (Small #) Are Included When Ordering The Assembly (Large #).

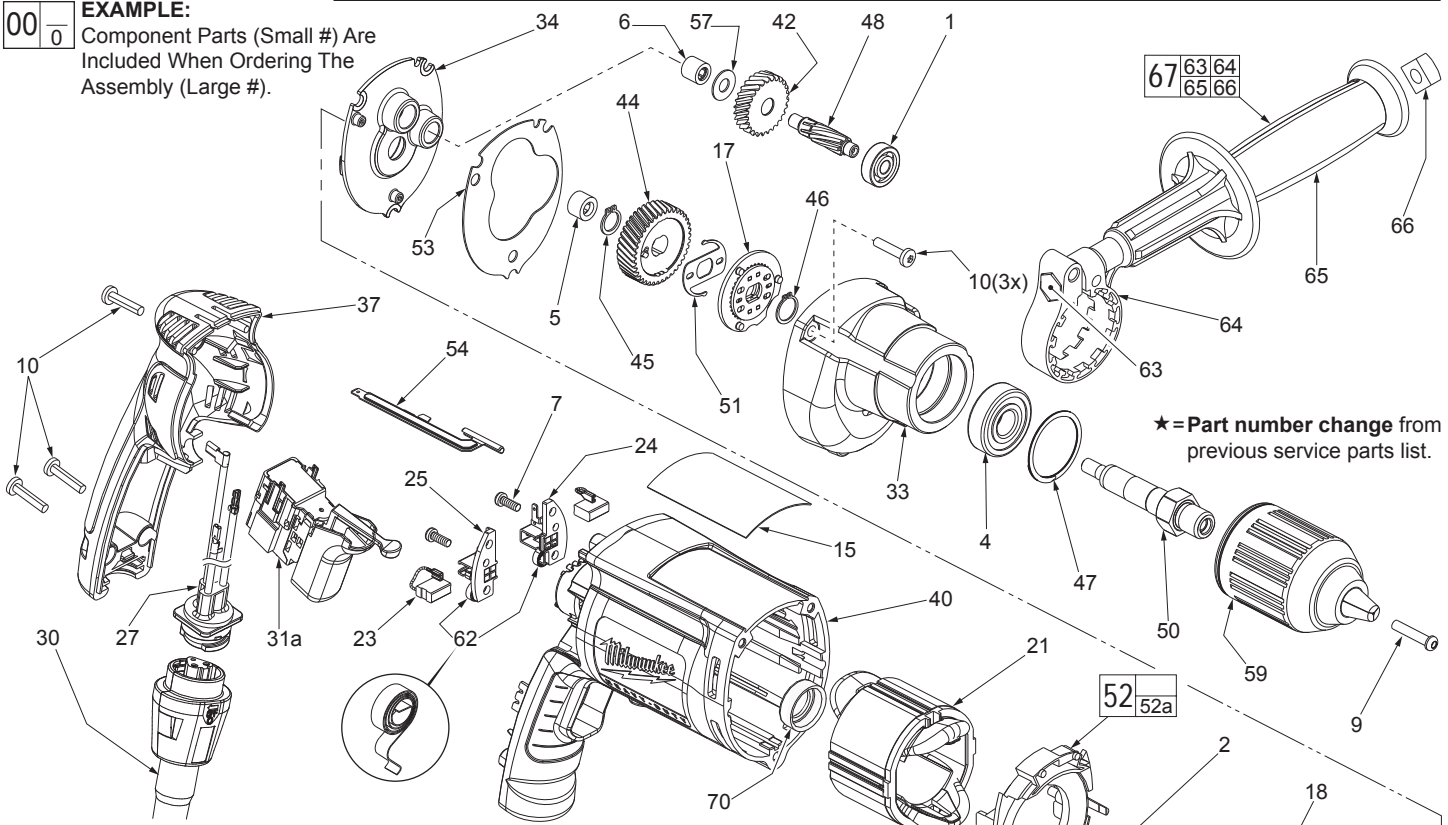


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	02-04-0640	Ball Bearing	(1)
2	02-04-0645	Ball Bearing	(1)
3	02-04-0852	Ball Bearing	(1)
4	02-04-1229	Ball Bearing	(1)
5	02-50-1611	Needle Bearing	(1)
6	02-50-2400	Needle Bearing	(1)
7	05-88-1610	M3.5 x 10 Pan Hd. Plastite T-10	(2)
9	06-81-2925	1/4-20 x 1-1/8" L.H. Flat Hd. Screw	(1)
10	06-82-7275	7-18 x 3/4 Slotted Plastite T-20	(6)
15	12-99-2565	Service Nameplate	(1)
17	14-29-0040	Spindle Lock Assembly	(1)
18	16-10-2210	Armature	(1)
21	18-07-7220	Field	(1)
23	22-18-1310	Brush Assembly	(2)
24	22-20-0090	Left Brush Holder	(1)
25	22-20-0095	Right Brush Holder	(1)
27	22-56-1010	Pin Housing Assembly	(1)
30	48-76-4008	Quik-Lok Cord Set	(1)
31a	23-66-2605	Switch (Defond) See page 2 wiring	(1)
31b	23-66-2585	Switch (Marquardt) See page 3 wiring	(1)
33	28-14-2390	Gearcase	(1)
34	28-28-2320	Diaphragm	(1)
37	31-15-2030	Handle Halve	(1)
★ 40	31-50-0525	Motor Housing	(1)
42	32-40-0100	Intermediate Gear	(1)
44	32-75-0101	Spindle Gear	(1)
45	34-60-0810	External Retaining Ring	(1)
46	34-60-0900	External Retaining Ring	(1)
47	34-80-2300	Retaining Ring	(1)
48	36-66-0100	Intermediate Shaft	(1)
50	38-50-5752	Output Spindle	(1)
51	40-50-8525	Click Spring	(1)
52	42-14-0450	Baffle Assembly	(1)
52a	45-30-0030	Slug (Not shown)	(2)
53	43-44-0985	Gasket	(1)
54	44-60-1700	Ground Pin	(1)
57	45-88-7990	Thrust Washer	(1)
59	42-66-0755	1/2" Keyless Chuck	(1)
62	23-52-1610	Brush Spring	(2)
63	06-75-2850	3/8-16 x 5-1/2" Hex Cap Screw	(1)
64	42-68-0800	Side Handle Clamp	(1)

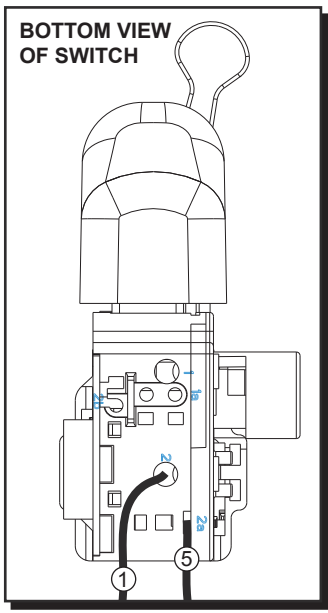
FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
65	43-62-0845	Side Handle	(1)
66	06-54-0325	3/8-16 Square Nut	(1)
67	49-15-0265	Side Handle Assembly	(1)
★ 70	43-86-0125	Bearing Cup	(1)
	23-94-0490	White Leadwire Assy. (See pages 2 & 3)	(1)
	23-94-0495	Red Leadwire Assy. (See pages 2 & 3)	(1)

**LUBRICATION (Type "Y" Grease, No. 49-08-5270)**  
 • Place 5 gm. (.02 oz.) of grease on top of the inserted intermediate ball bearing (1) and on the intermediate pinion (48).

• After inserting all gearing, place 13 gm. (.46 oz.) of grease at the armature pinion location in the gearcase (33) and fill to the top of the intermediate gear (42). Grease must contact at least 25% of the intermediate gear teeth.

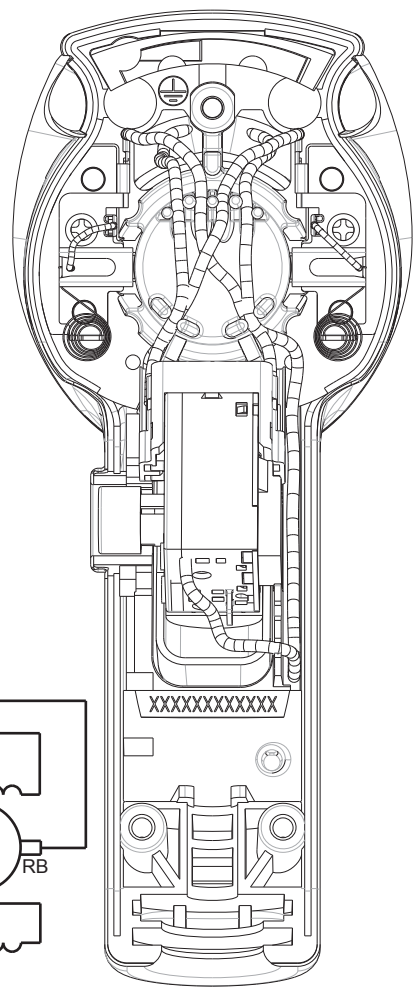
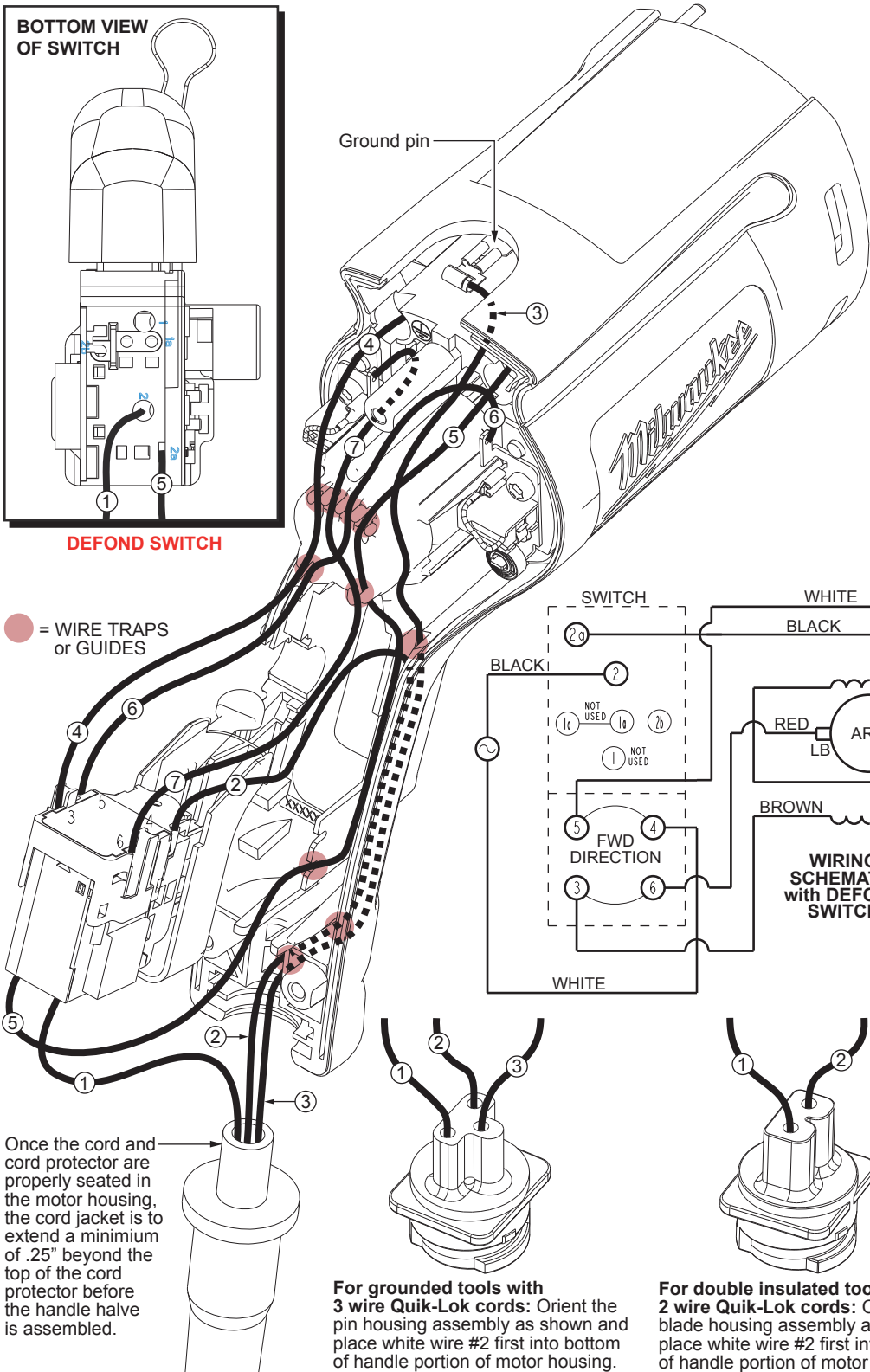
**Before assembly, lightly coat all press fit areas with lightweight spindle oil.**

- FIG. NOTES:**  
 4,44 Support the output ball bearing inside the gearcase before pressing off the spindle gear.  
 5,6 Needle bearings to be pressed flush to .010 under flush from the end which has the vendors identification.



**DEFOND SWITCH**

● = WIRE TRAPS or GUIDES



AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

BE CAREFUL AND AVOID PINCHING WIRES BETWEEN HANDLE HALVES WHEN ASSEMBLING.

FOR DOUBLE INSULATED TOOLS DISREGARD GREEN GROUND WIRE #3 AND GROUND PIN.

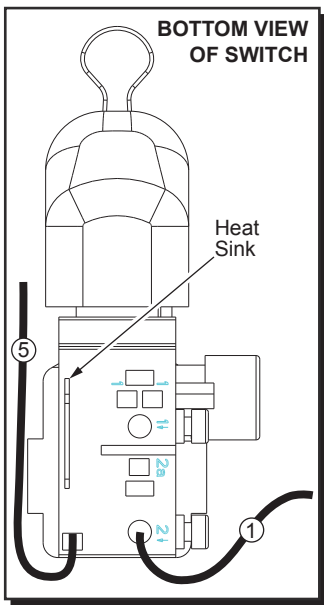
Once the cord and cord protector are properly seated in the motor housing, the cord jacket is to extend a minimum of .25" beyond the top of the cord protector before the handle halve is assembled.

**For grounded tools with 3 wire Quik-Lok cords:** Orient the pin housing assembly as shown and place white wire #2 first into bottom of handle portion of motor housing.

**For double insulated tools with 2 wire Quik-Lok cords:** Orient the blade housing assembly as shown and place white wire #2 first into the bottom of handle portion of motor housing.

**WIRING SPECIFICATIONS**

Wire No.	Wire Color	Origin or Gauge	Length	Terminals, Connectors and 1 or 2 End Wire Preparation
1	Black	*	----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #2 on switch bottom.
2	White	*	----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #4 on switch top.
3	Green	*	----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to male tab on ground terminal.
4	Brown	Field	----	Component of field. Connect to #3 on switch top.
5	Black	Field	----	Component of field. Connect to #2a on switch bottom.
6	White	23-94-0490	----	Leadwire assembly. Connect to right brush holder and #5 on switch top.
7	Red	23-94-0495	----	Leadwire assembly. Connect to left brush holder and #6 on switch top.

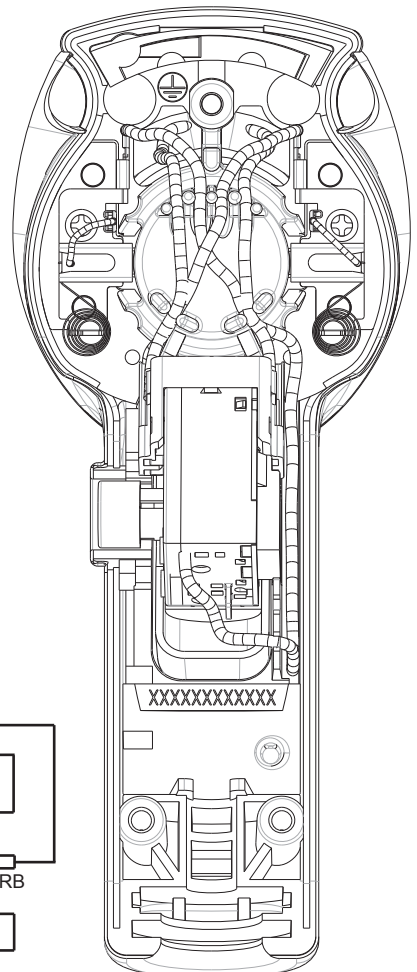


**BOTTOM VIEW OF SWITCH**

Heat Sink

**MARQUARDT SWITCH**

Ground pin

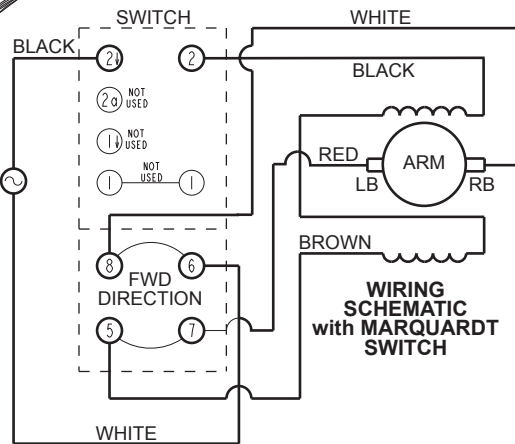


AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

BE CAREFUL AND AVOID PINCHING WIRES BETWEEN HANDLE HALVES WHEN ASSEMBLING.

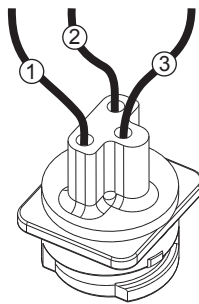
FOR DOUBLE INSULATED TOOLS DISREGARD GREEN WIRE #3 AND GROUND PIN.

● = WIRE TRAPS or GUIDES

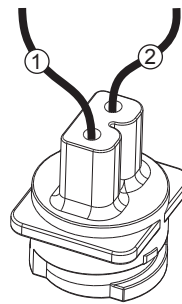


**WIRING SCHEMATIC with MARQUARDT SWITCH**

Once the cord and cord protector are properly seated in the motor housing, the cord jacket is to extend a minimum of .25" beyond the top of the cord protector before the handle half is assembled.



**For grounded tools with 3 wire Quik-Lok cords:** Orient the pin housing assembly as shown and place white wire #2 first into bottom of handle portion of motor housing.



**For double insulated tools with 2 wire Quik-Lok cords:** Orient the blade housing assembly as shown and place white wire #2 first into the bottom of handle portion of motor housing.

**WIRING SPECIFICATIONS**

Wire No.	Wire Color	Origin or Gauge	Length	Terminals, Connectors and 1 or 2 End Wire Preparation
1	Black	*	-----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #2↓ on switch bottom.
2	White	*	-----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to #6 on switch top.
3	Green	*	-----	*Component of cord set, pin hsg. assy. or blade hsg. assy. Connect to male tab on ground terminal.
4	Brown	Field	-----	Component of field. Connect to #5 on switch top.
5	Black	Field	-----	Component of field. Connect to #2 on switch bottom.
6	White	23-94-0490	-----	Leadwire assembly. Connect to right brush holder and #8 on switch top.
7	Red	23-94-0495	-----	Leadwire assembly. Connect to left brush holder and #7 on switch top.





# SERVICE PARTS LIST

**BULLETIN NO.  
54-06-6050**

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN
<b>1/2" MAGNUM HOLE-SHOOTER w/SPINDLE LOCK</b>		
CATALOG NO. <b>0235-21</b>	STARTING SERIAL NUMBER <b>056A</b>	WIRING INSTRUCTION <b>58-01-1650</b>

**EXAMPLE:**

00/0

Component Parts (Small #)  
Are Included When Ordering  
The Assembly (Large #).

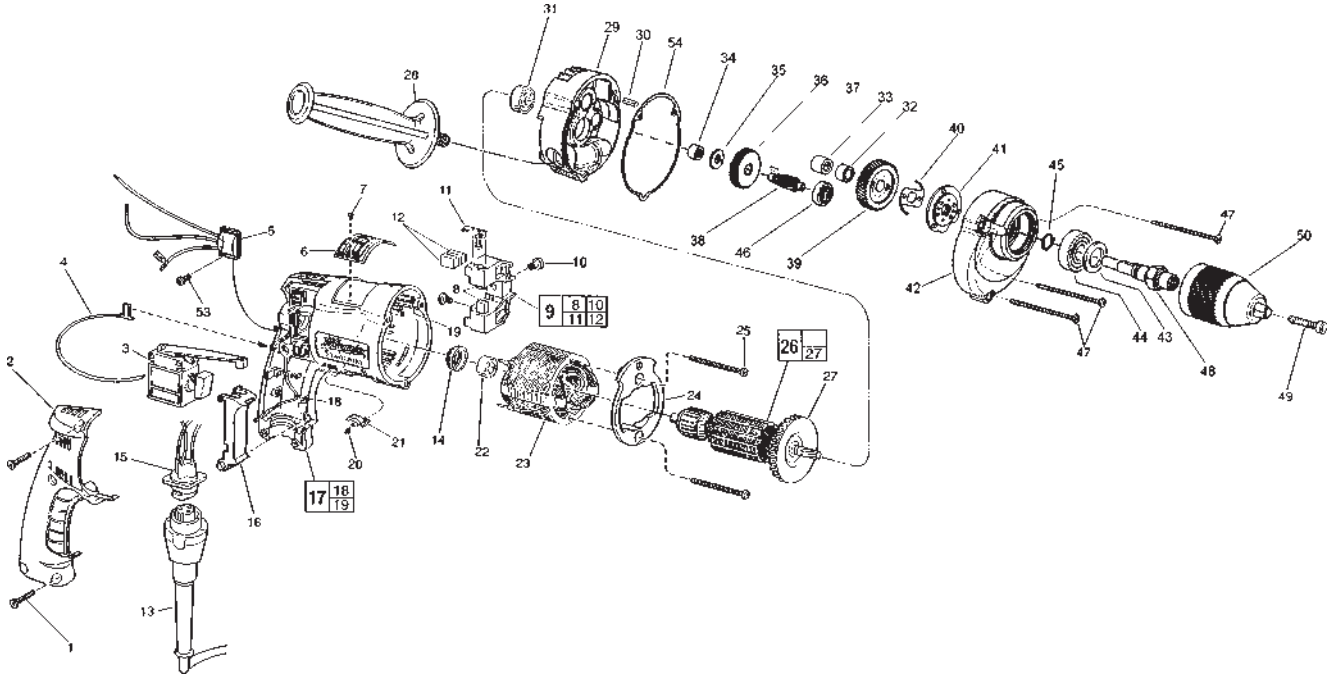


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.	FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	06-82-7266	7-1/8" x 11/16" Pan Hd. Plastite T-20	(5)	31	02-04-0847	Ball Bearing	(1)
2	31-15-0402	Handle Cover	(1)	32	45-22-0600	Retaining Sleeve	(1)
3	23-66-1666	Trigger Speed Control Reversing Switch	(1)	33	02-50-2020	Needle Bearing	(1)
4	23-94-6247	2-1/4" Lead Assembly	(1)	34	02-50-1620	Needle Bearing	(1)
5	14-20-0795	Remote Electronic Assembly	(1)	35	45-88-7721	Thrust Washer	(1)
6	12-99-0071	Nameplate Blank	(1)	36	32-40-1815	Intermediate Gear	(1)
7	06-72-1720	Nameplate Rivet	(2)	37	06-42-0400	Woodruff Key	(1)
8	22-16-0275	Carbon Brush	(2)	38	36-66-4285	Intermediate Pinion	(1)
9	22-22-0351	Brush Holder Assembly	(1)	39	32-75-2806	Spindle Gear Assembly	(1)
10	31-75-0040	Brush Holder Screw	(2)	40	40-50-8525	Click Spring	(1)
11	22-20-0345	Brush Spring Assembly	(2)	41	14-29-0040	Spindle Lock Assembly	(1)
12	22-16-0275	Carbon Brush (Spares)	(2)	42	28-14-1850	Gear Case	(1)
13	48-76-4008	Cord Set	(1)	43	34-80-2300	Retaining Ring	(1)
14	22-72-0100	Bearing Cup	(1)	44	02-04-1229	Ball Bearing	(1)
15	22-56-0807	Pin Housing Assembly	(1)	45	34-60-0900	Exterior Retaining Ring	(1)
16	45-72-0081	Trigger	(1)	46	02-04-0640	Ball Bearing	(1)
17	14-38-0540	Motor Housing Assembly	(1)	47	06-82-7411	7-18 x 2-3/16" Pan Hd. Plastite T-20	(3)
18	23-94-9960	Ground Wire Assembly	(1)	48	38-50-5255	Spindle	(1)
19	44-60-1290	Grounding Pin	(1)	49	06-81-2925	1/4-20 x 1" Flat Hd. Screw L.H. Thd.	(1)
20	40-50-0085	Lock Button Spring	(1)	50	48-66-1510	Keyless Chuck	(1)
21	42-42-0460	Lock Button	(1)	53	06-82-7212	4-20 x 1/4" Pan Hd. Plastite T-10	(1)
22	02-04-0645	Ball Bearing	(1)	54	43-44-0913	Gasket	(1)
23	18-11-0075	120 Volt Field	(1)		23-94-6232	4" Lead Assembly	(1)
24	42-14-0390	Baffle	(1)		23-94-6237	4-1/8" Lead Assembly	(1)
25	06-82-7398	7-18 x 2-1/16" Pan Hd. Plastite T-20	(2)		23-94-6242	3-3/8" Lead Assembly	(1)
26	16-10-0800	120 Volt Armature Assembly	(1)		10-98-5986	Warning Label	(1)
27	22-84-0880	Fan Assembly	(1)				
28	43-62-0885	Side Handle	(1)				
29	28-28-2015	Diaphragm	(1)				
30	06-65-0880	Pin	(1)				

FIG.	LUBRICATION
43	49-08-4122 1-1/2 oz. Type "E" Grease



# SERVICE PARTS LIST

**BULLETIN NO.  
54-06-6051**

<b>SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS</b>		REVISED BULLETIN 54-06-6050
<b>1/2" MAGNUM HOLE-SHOOTER w/SPINDLE LOCK</b>		WIRING INSTRUCTION <b>58-01-1650</b>
<b>CATALOG NO. 0235-21</b>	<b>SERIAL NUMBER PREFIX AND BREAK 056B</b>	

**EXAMPLE:**



Component Parts (Small #)  
Are Included When Ordering  
The Assembly (Large #).

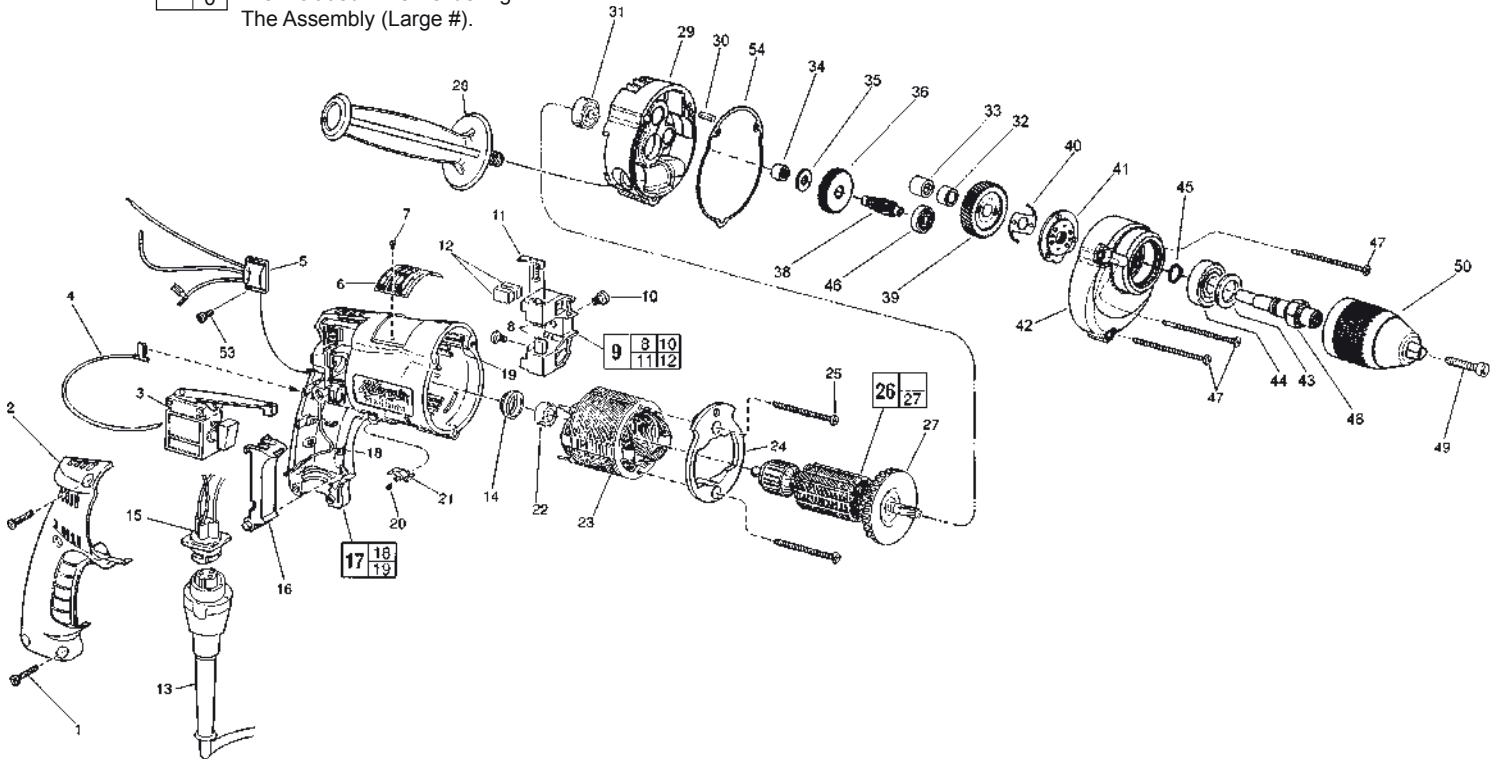


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	06-82-7266	7-1/8" x 11/16" Pan Hd. Plastite T-20	(5)
2	31-15-0402	Handle Cover	(1)
3	23-66-1666	Trigger Speed Control Reversing Switch	(1)
4	23-94-6247	2-1/4" Lead Assembly	(1)
5	14-20-0795	Remote Electronic Assembly	(1)
6	12-99-0071	Nameplate Blank	(1)
7	06-72-1720	Nameplate Rivet	(2)
8	22-16-0275	Carbon Brush	(2)
9	22-22-0351	Brush Holder Assembly	(1)
10	31-75-0040	Brush Holder Screw	(2)
11	22-20-0345	Brush Spring Assembly	(2)
12	22-16-0275	Carbon Brush (Spares)	(2)
13	48-76-4008	Cord Set	(1)
14	22-72-0100	Bearing Cup	(1)
15	22-56-0807	Pin Housing Assembly	(1)
16	45-72-0081	Trigger	(1)
17	14-38-0540	Motor Housing Assembly	(1)
18	23-94-9960	Ground Wire Assembly	(1)
19	44-60-1290	Grounding Pin	(1)
20	40-50-0085	Lock Button Spring	(1)
21	42-42-0460	Lock Button	(1)
22	02-04-0645	Ball Bearing	(1)
23	18-11-0075	120 Volt Field	(1)
24	42-14-0390	Baffle	(1)
25	06-82-7398	7-18 x 2-1/16" Pan Hd. Plastite T-20	(2)
26	16-10-0800	120 Volt Armature Assembly	(1)
27	22-84-0880	Fan Assembly	(1)
28	43-62-0885	Side Handle	(1)
29	28-28-2015	Diaphragm	(1)
30	06-65-0880	Pin	(1)
31	02-04-0847	Ball Bearing	(1)
32	45-22-0600	Retaining Sleeve	(1)

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
★33	02-50-2435	Needle Bearing	(1)
34	02-50-1620	Needle Bearing	(1)
35	45-88-7721	Thrust Washer	(1)
★36	32-40-1816	Intermediate Gear	(1)
★38	36-66-4286	Intermediate Pinion	(1)
39	32-75-2806	Spindle Gear Assembly	(1)
40	40-50-8525	Click Spring	(1)
41	14-29-0040	Spindle Lock Assembly	(1)
42	28-14-1850	Gear Case	(1)
43	34-80-2300	Retaining Ring	(1)
44	02-04-1229	Ball Bearing	(1)
45	34-60-0900	Exterior Retaining Ring	(1)
46	02-04-0640	Ball Bearing	(1)
47	06-82-7411	7-18 x 2-3/16" Pan Hd. Plastite T-20	(3)
48	38-50-5255	Spindle	(1)
49	06-81-2925	1/4-20 x 1" Flat Hd. Screw L.H. Thd.	(1)
★50	48-66-1575	Keyless Chuck	(1)
53	06-82-7212	4-20 x 1/4" Pan Hd. Plastite T-10	(1)
54	43-44-0913	Gasket	(1)
	23-94-6232	4" Lead Assembly	(1)
	23-94-6237	4-1/8" Lead Assembly	(1)
	23-94-6242	3-3/8" Lead Assembly	(1)
	10-98-5986	Warning Label	(1)
★	10-98-5984	French/Spanish Warning Label	(1)

**FIG. LUBRICATION**

43 49-08-4122 1-1/2 oz. Type "E" Grease.



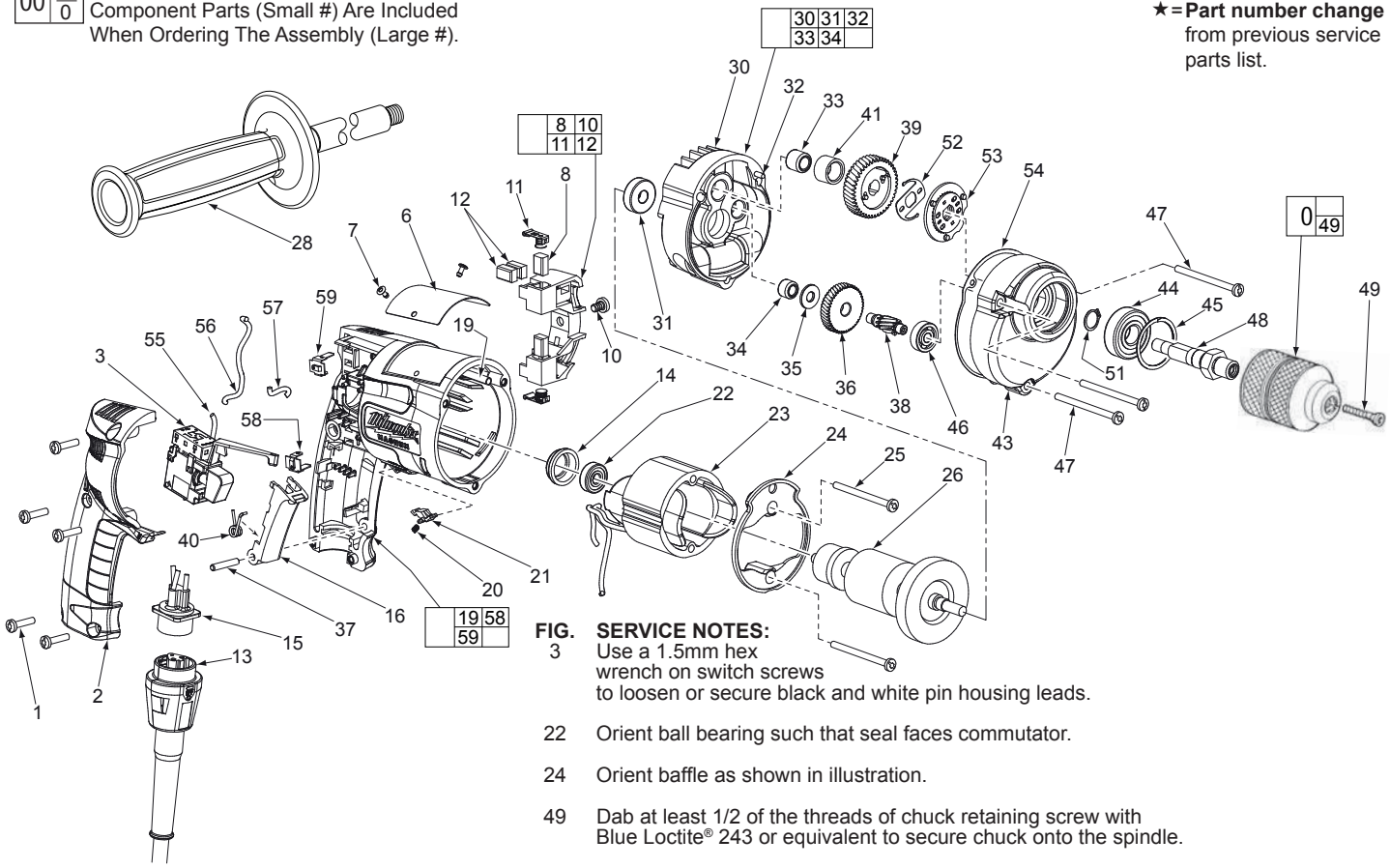
# SERVICE PARTS LIST

**BULLETIN NO.**  
**54-06-6052**

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN 54-06-6051
<b>1/2" MAGNUM HOLE-SHOOTER w/ SPINDLE LOCK</b>		
CATALOG NO. <b>0235-21</b>	STARTING SERIAL NO. <b>056C</b>	WIRING INSTRUCTION <b>58-01-1651</b>

**EXAMPLE:**  
Component Parts (Small #) Are Included  
When Ordering The Assembly (Large #).

★ = Part number change  
from previous service  
parts list.



**FIG. 3 SERVICE NOTES:**  
Use a 1.5mm hex wrench on switch screws to loosen or secure black and white pin housing leads.

- 22 Orient ball bearing such that seal faces commutator.
- 24 Orient baffle as shown in illustration.
- 49 Dab at least 1/2 of the threads of chuck retaining screw with Blue Loctite® 243 or equivalent to secure chuck onto the spindle.

FIG.	PART NO.	DESCRIPTION OF PART	NO.	REQ.
1	06-82-7266	7-1/8 x 11/16" Pan Hd. Plastite T-20	(5)	
★ 2	31-15-0405	Handle Cover	(1)	
★ 3	23-66-1705	Trigger Speed Control Reversing Switch	(1)	
★ 6	12-99-0077	Nameplate Blank	(1)	
7	06-72-1720	Nameplate Rivet	(2)	
★ 8	22-16-0295	Carbon Brush	(2)	
★ 9	22-22-0352	Brush Holder Assembly	(1)	
★ 10	23-44-0200	Brush Holder Screw	(1)	
11	22-20-0345	Brush Spring Assembly	(2)	
★ 12	22-16-0295	Carbon Brush (Spares)	(2)	
13	48-76-4008	Quik-Lok Cord Set	(1)	
14	22-72-0100	Bearing Cup	(1)	
★ 15	22-56-0845	Pin Housing Assembly	(1)	
★ 16	45-72-0085	Trigger	(1)	
★ 17	14-38-0541	Motor Housing Assembly	(1)	
19	44-60-1290	Grounding Pin	(1)	
20	40-50-0085	Lock Button Spring	(1)	
21	42-42-0460	Lock Button	(1)	
22	02-04-0645	Ball Bearing	(1)	
★ 23	18-11-0076	120 Volt Field	(1)	
★ 24	42-14-0393	Baffle	(1)	
25	06-82-7398	7-18 x 2-1/16" Pan Hd. Plast. T-20	(2)	
★ 26	16-10-0801	120 V. Armature Assembly	(1)	
★ 28	43-62-0886	Side Handle Assembly	(1)	
★ 29	14-13-0499	Diaphragm Assembly	(1)	
30	-----	Diaphragm	(1)	
★ 31	02-04-0851	Ball Bearing	(1)	
32	06-65-0880	1/8 x 1/2 Groove Pin No. 5	(1)	
33	02-50-2435	Needle Bearing	(1)	
34	02-50-1620	Needle Bearing	(1)	
35	45-88-7721	Heat Treated Washer	(1)	
36	32-40-1816	Intermediate Gear	(1)	
★ 37	06-65-0105	4 x 22 Pin	(1)	

FIG.	PART NO.	DESCRIPTION OF PART	NO.	REQ.
38	36-66-4286	Intermediate Pinion	(1)	
39	32-75-2806	Spindle Gear Assembly	(1)	
★ 40	40-50-0525	Torsion Spring	(1)	
41	45-22-0600	Retaining Sleeve	(1)	
43	28-14-1850	Gearcase	(1)	
44	02-04-1229	Ball Bearing	(1)	
45	34-80-2300	Retaining Ring	(1)	
46	02-04-0640	Ball Bearing	(1)	
47	06-82-7411	7-18 x 2-3/16" Pan Hd. Plast. T-20	(3)	
48	38-50-5255	Spindle - Double Reduction	(1)	
49	06-81-2925	1/4-20 x 1-1/8" Flat Hd. Hex Skt - L.H.	(1)	
50	48-66-1575	1/2" Keyless Chuck	(1)	
51	34-60-0900	Retaining Ring	(1)	
52	40-50-8525	Click Spring	(1)	
53	14-29-0040	Spindle Lock Assembly	(1)	
54	43-44-0913	Gasket	(1)	
★ 55	23-94-6248	Leadwire Assembly, Blue	(1)	
★ 56	23-94-6336	Leadwire Assembly, Black	(1)	
★ 57	23-94-6405	Leadwire Assembly, White	(1)	
★ 58	23-74-1030	Terminal, Lower	(1)	
★ 59	23-74-1040	Terminal, Upper	(1)	
	10-98-5996	Warning Label (Not Shown)	(1)	

**FIG. LUBRICATION** (Type 'E' Grease, No. 49-08-4122):

26,36, 38,39 Apply grease to all teeth of armature pinion, spindle gear, intermediate gear and intermediate pinion.

42 Place 42.6gm ±.5gm (approx. 1-1/2 oz) grease in gearcase cavity near ball bearing #46.