



SERVICE PARTS LIST

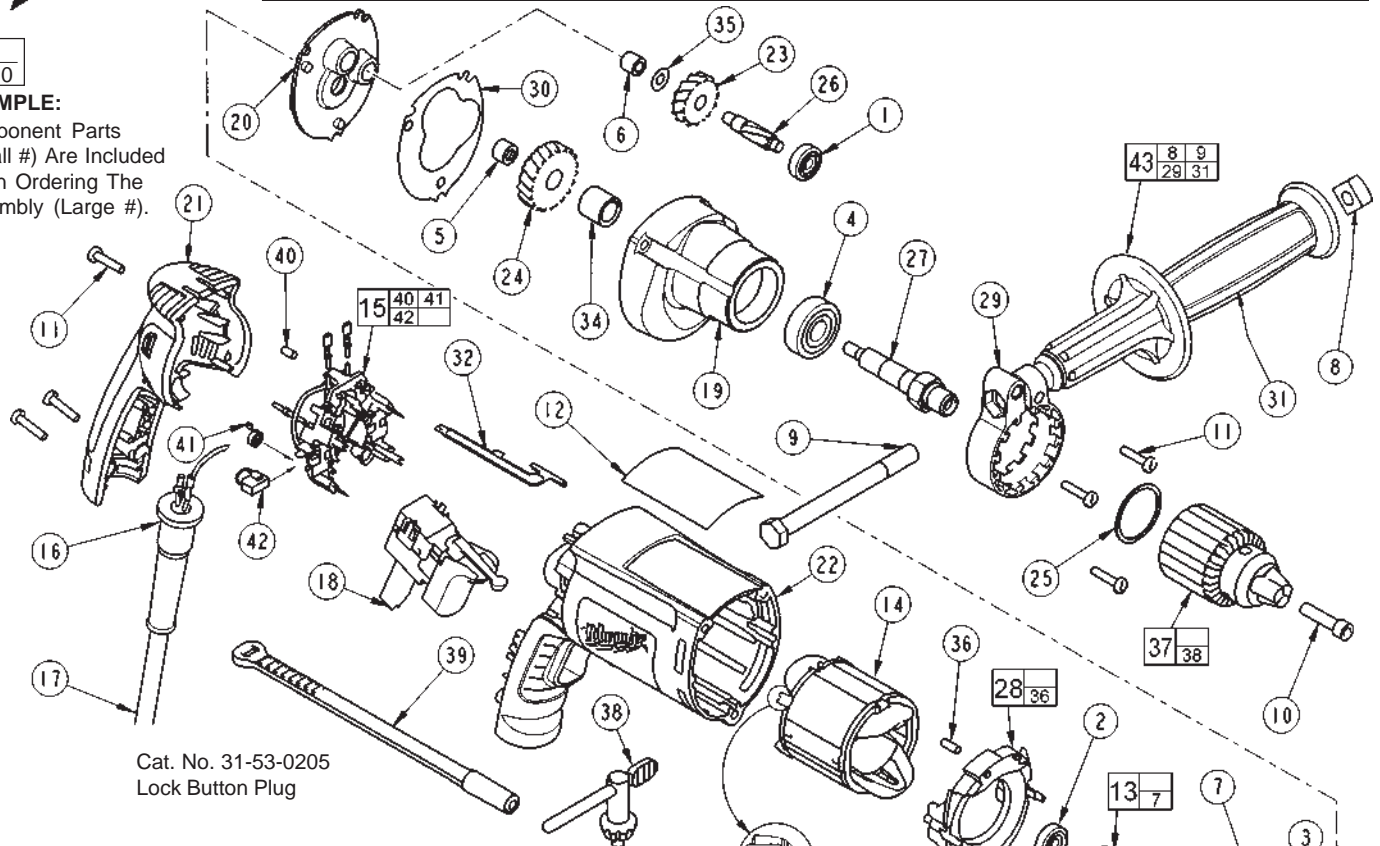
BULLETIN NO.
54-06-2850

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN
3/8 INCH DRILL		WIRING INSTRUCTION
CATALOG NO. 0200-20	STARTING SERIAL NO. 065A	58-01-1805

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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	06-81-2925	Chuck Retaining Screw	(1)
11	06-82-7275	7-18 x 3/4 Slotted Plastite T-20	(6)
12	12-99-2565	Service Nameplate	(1)
13	16-10-2215	Armature	(1)
14	18-07-2200	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	31-15-2010	Handle Halve	(1)
22	31-50-2050	Motor Housing	(1)
23	32-40-0100	Intermediate Gear	(1)
24	32-75-0105	Spindle Gear	(1)
25	34-80-2300	Retaining Ring	(1)
26	36-66-0110	Intermediate Shaft	(1)
27	38-50-5735	Spindle	(1)
28	42-14-0460	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	48-66-0806	3/8 Chuck	(1)



**FIELD
DETAIL
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.
38	48-66-3080	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

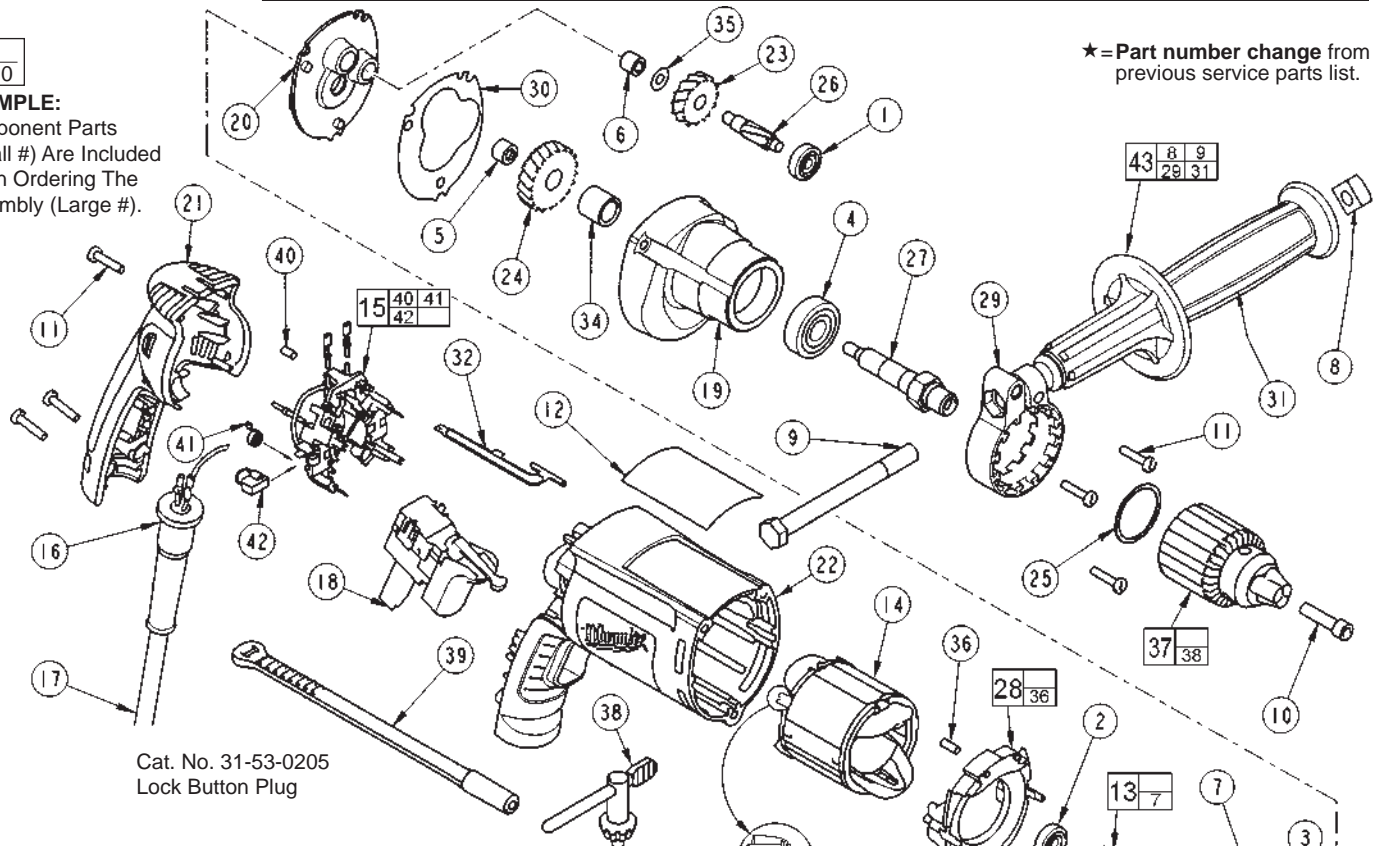
BULLETIN NO.
54-06-2851

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS			REVISED BULLETIN 54-06-2850
3/8 INCH DRILL			
CATALOG NO.	0200-20	STARTING SERIAL NO.	065B
			WIRING INSTRUCTION 58-01-1806

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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	06-81-2925	Chuck Retaining Screw	(1)
11	06-82-7275	7-18 x 3/4 Slotted Plastite T-20	(6)
12	12-99-2565	Service Nameplate	(1)
13	16-10-2215	Armature	(1)
14	18-07-2200	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	31-15-2010	Handle Halve	(1)
★ 22	31-50-4050	Motor Housing	(1)
23	32-40-0100	Intermediate Gear	(1)
24	32-75-0105	Spindle Gear	(1)
25	34-80-2300	Retaining Ring	(1)
26	36-66-0110	Intermediate Shaft	(1)
27	38-50-5735	Spindle	(1)
28	42-14-0460	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	48-66-0806	3/8 Chuck	(1)

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
38	48-66-3080	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.
54-06-2852

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN 54-06-2851
3/8" PISTOL GRIP DRILL		
CATALOG NO. 0200-20	STARTING SERIAL NO. 065C	WIRING INSTRUCTION See Pages 2 & 3

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

★ = Part number change from previous service parts list.

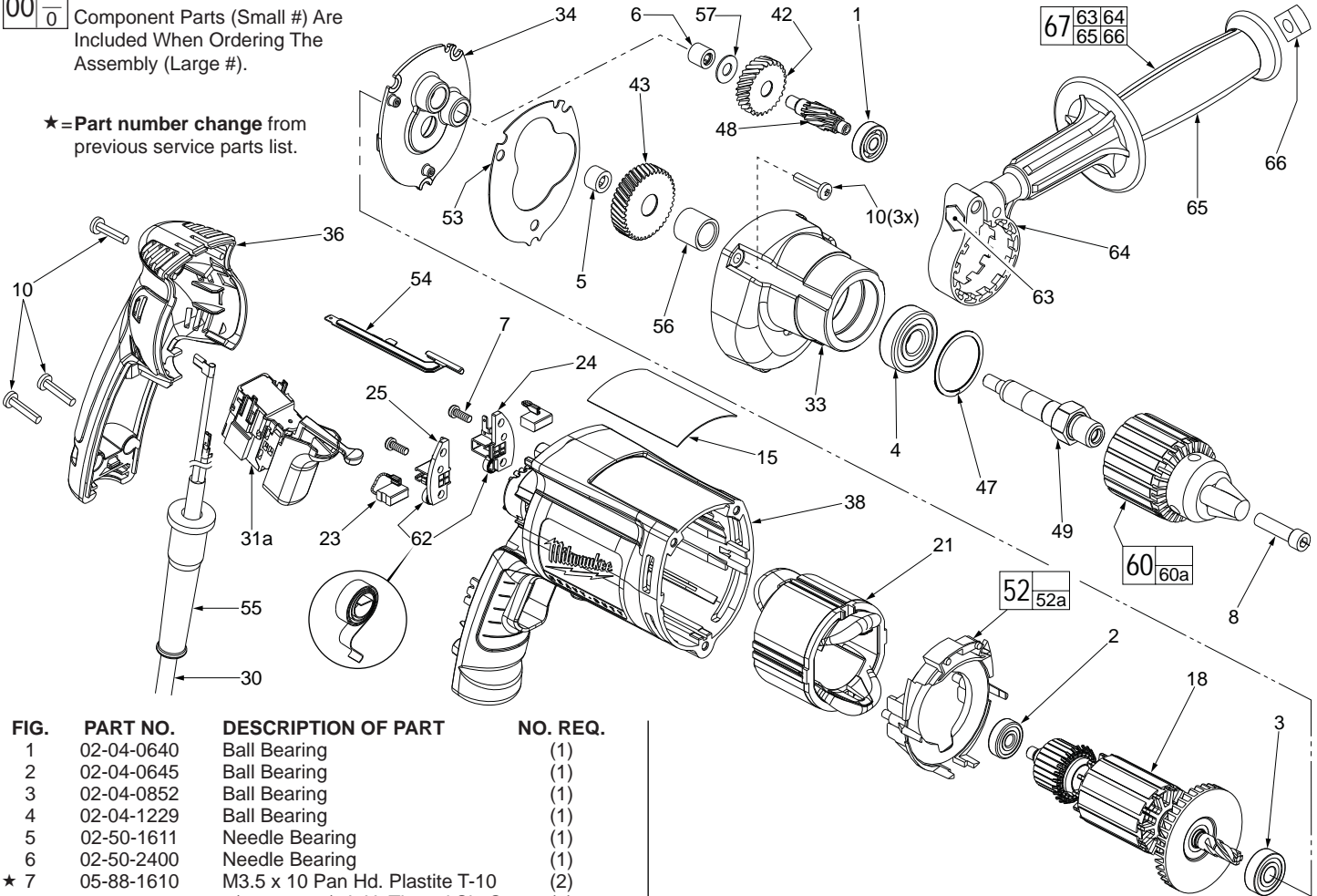


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	02-04-0640	Ball Bearing	(1)
2	02-04-0645	Ball Bearing	(1)
3	02-04-0852	Ball Bearing	(1)
4	02-04-1229	Ball Bearing	(1)
5	02-50-1611	Needle Bearing	(1)
6	02-50-2400	Needle Bearing	(1)
★ 7	05-88-1610	M3.5 x 10 Pan Hd. Plastite T-10	(2)
8	06-81-2925	1/4-20 x 1-1/8 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	16-10-2215	Armature	(1)
★ 21	18-07-7210	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	31-15-2010	Handle Halve	(1)
★ 38	31-50-3050	Motor Housing	(1)
42	32-40-0100	Intermediate Gear	(1)
43	32-75-0105	Spindle Gear	(1)
47	34-80-2300	Retaining Ring	(1)
48	36-66-0110	Intermediate Shaft	(1)
49	38-50-5735	Spindle	(1)
52	42-14-0460	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	48-66-0806	3/8" Chuck	(1)
60a	48-66-3080	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).

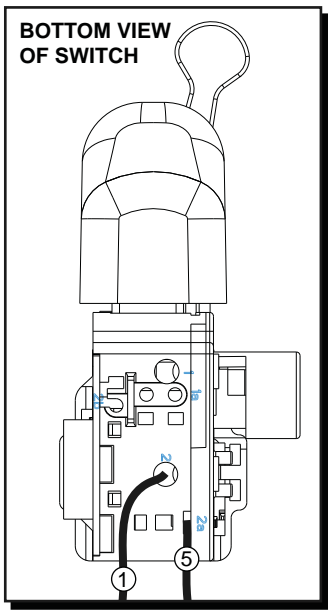
- After inserting all gearing, place 13 gm. (.46 oz.) of grease at the armature pinion location in the gearcase (33) and fill to the top of the intermediate gear (42). Grease must contact at least 25% of the intermediate gear teeth.

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

FIG. NOTES:

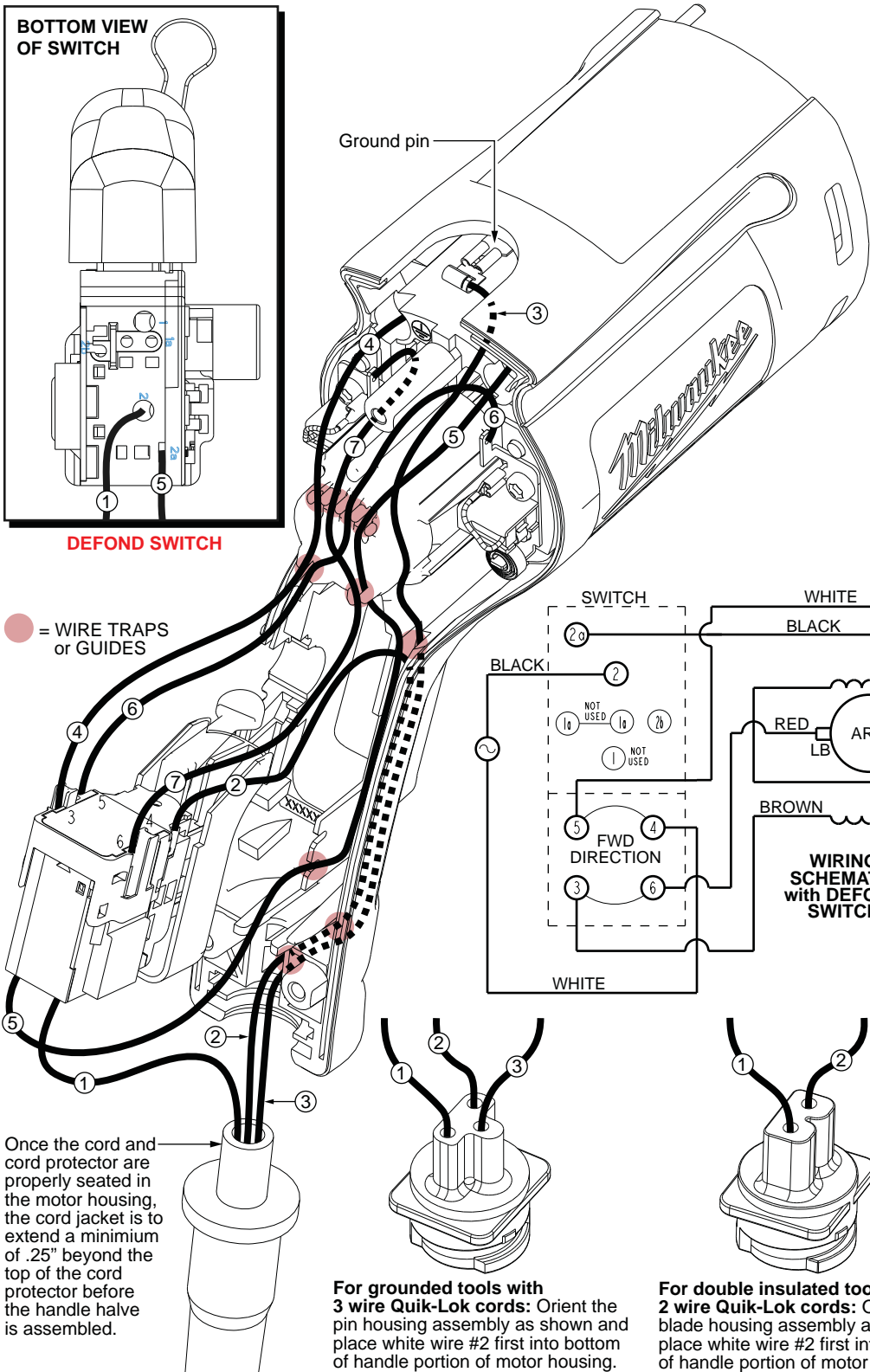
4,43 Support the output ball bearing inside the gearcase before pressing off the spindle gear.

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

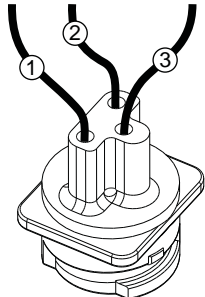
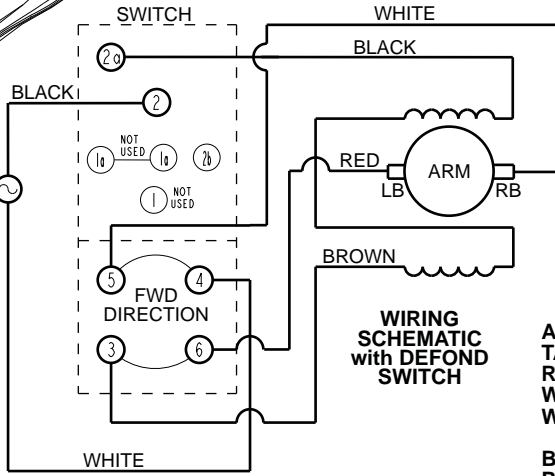


DEFOND SWITCH

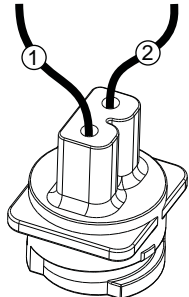
● = WIRE TRAPS or GUIDES



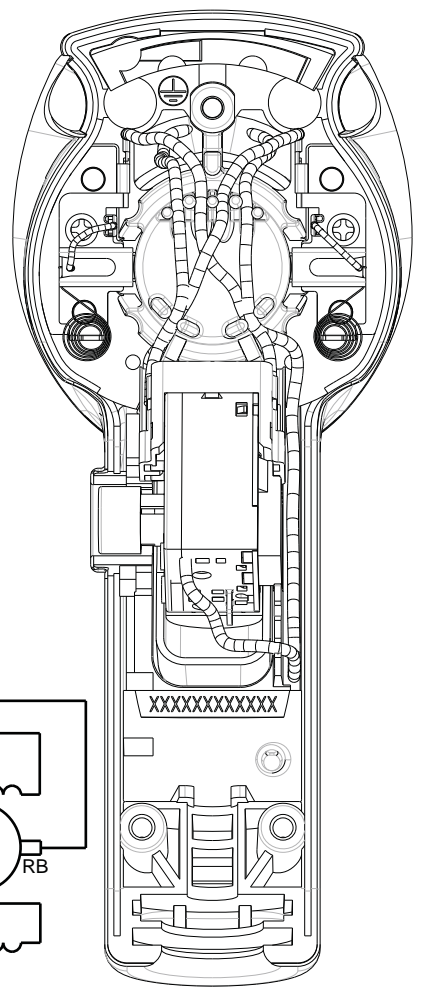
Once the cord and cord protector are properly seated in the motor housing, the cord jacket is to extend a minimum of .25" beyond the top of the cord protector before the handle half is assembled.



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.



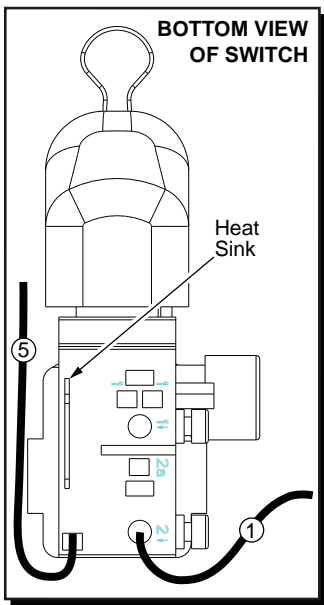
AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

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.



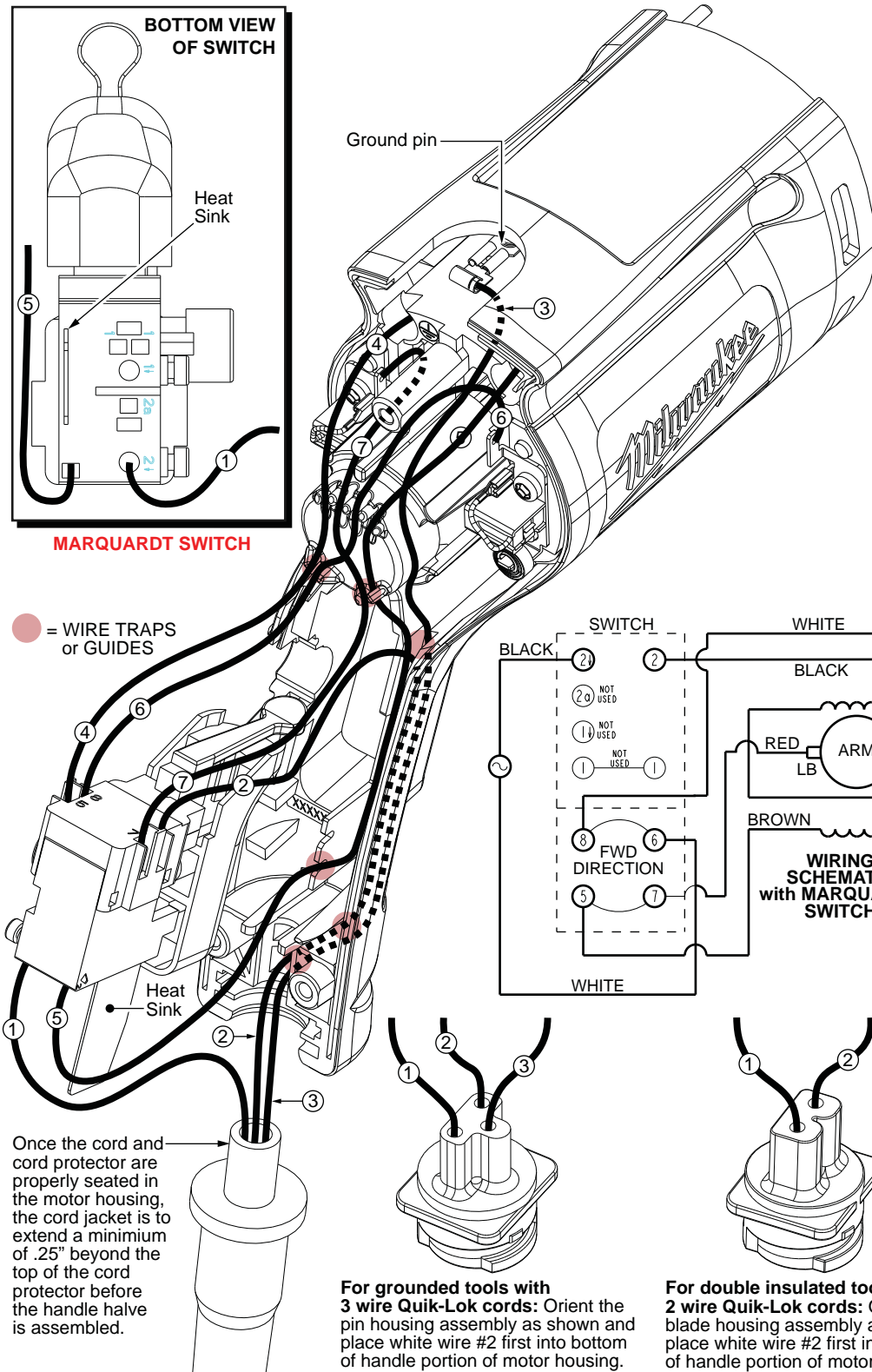
BOTTOM VIEW OF SWITCH

Heat Sink

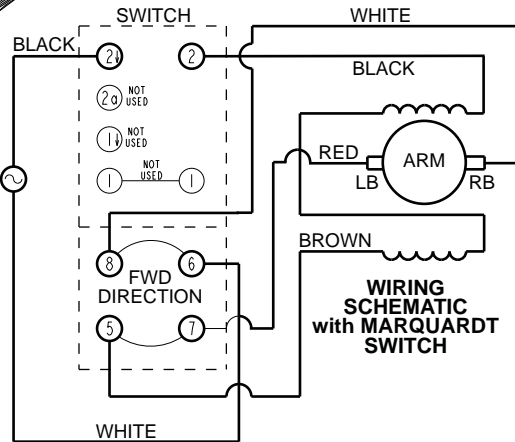
MARQUARDT SWITCH

Ground pin

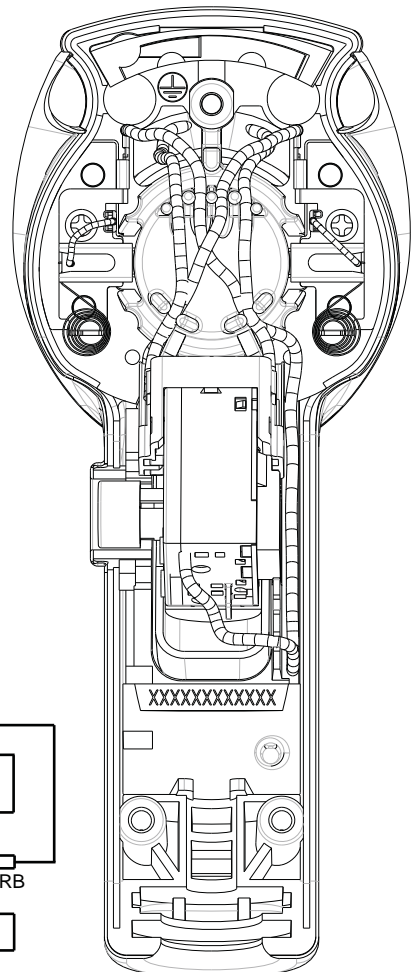
● = WIRE TRAPS or GUIDES



Heat Sink



WIRING SCHEMATIC with MARQUARDT SWITCH

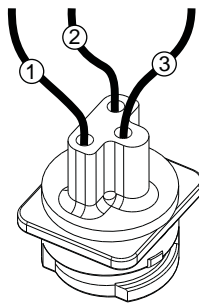


AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

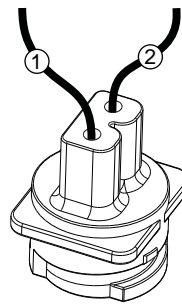
BE CAREFUL AND AVOID PINCHING WIRES BETWEEN HANDLE HALVES WHEN ASSEMBLING.

FOR DOUBLE INSULATED TOOLS DISREGARD GREEN 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.
54-06-2853

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN 54-06-2852
3/8" PISTOL GRIP DRILL		
CATALOG NO. 0200-20	STARTING SERIAL NO. 065D	WIRING INSTRUCTION See Pages 2 & 3

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

★ = Part number change from previous service parts list.

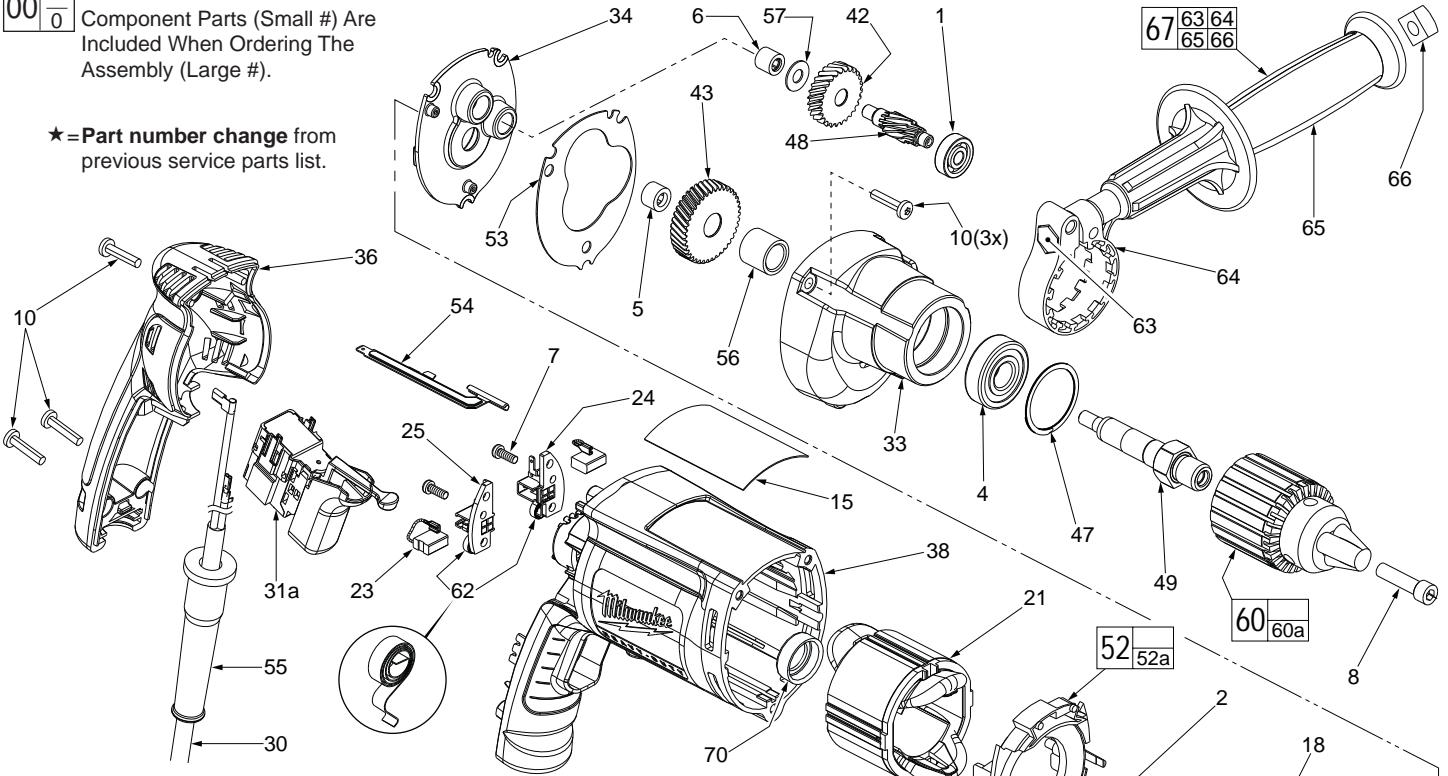


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	02-04-0640	Ball Bearing	(1)
2	02-04-0645	Ball Bearing	(1)
3	02-04-0852	Ball Bearing	(1)
4	02-04-1229	Ball Bearing	(1)
5	02-50-1611	Needle Bearing	(1)
6	02-50-2400	Needle Bearing	(1)
7	05-88-1610	M3.5 x 10 Pan Hd. Plastite T-10	(2)
8	06-81-2925	1/4-20 x 1-1/8 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	16-10-2215	Armature	(1)
21	18-07-7210	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	31-15-2010	Handle Halve	(1)
★ 38	31-50-0528	Motor Housing	(1)
42	32-40-0100	Intermediate Gear	(1)
43	32-75-0105	Spindle Gear	(1)
47	34-80-2300	Retaining Ring	(1)
48	36-66-0110	Intermediate Shaft	(1)
49	38-50-5735	Spindle	(1)
52	42-14-0460	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	48-66-0806	3/8" Chuck	(1)
60a	48-66-3080	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)
	31-53-0205	Lock Button Plug (Not Shown)	(1)

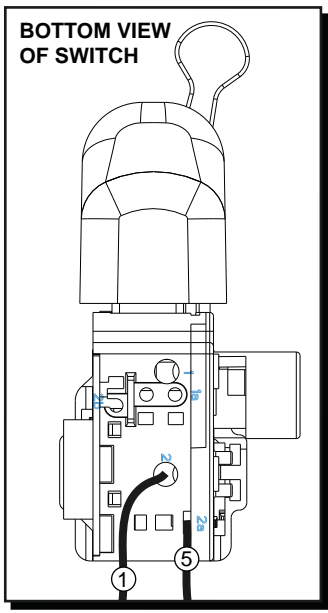
LUBRICATION (Type "Y" Grease, No. 49-08-5270)

- 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.

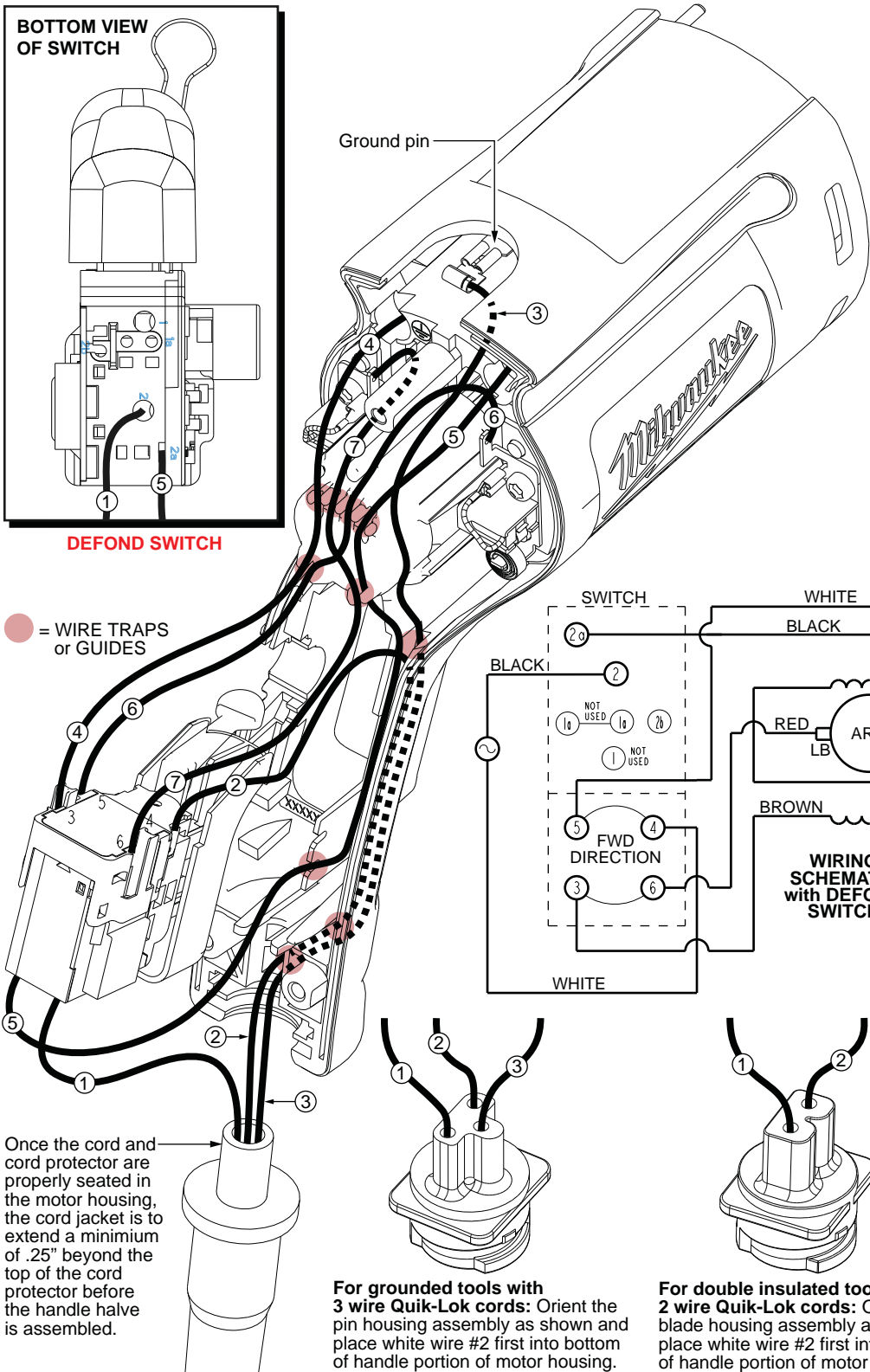
FIG. NOTES:

- 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.

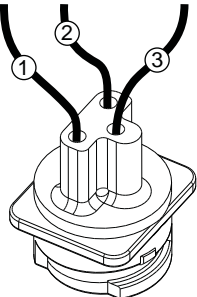


DEFOND SWITCH

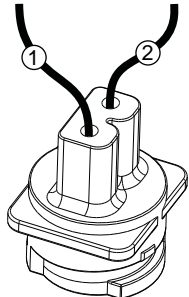
● = WIRE TRAPS or GUIDES



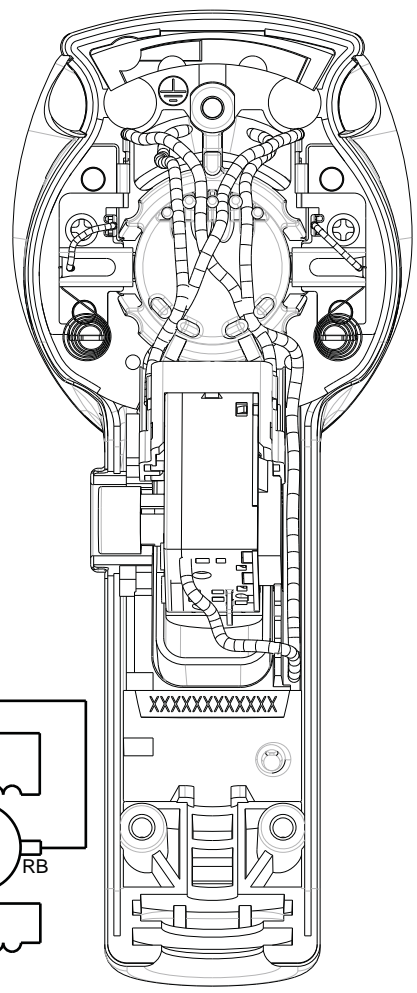
Once the cord and cord protector are properly seated in the motor housing, the cord jacket is to extend a minimum of .25" beyond the top of the cord protector before the handle half is assembled.



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.



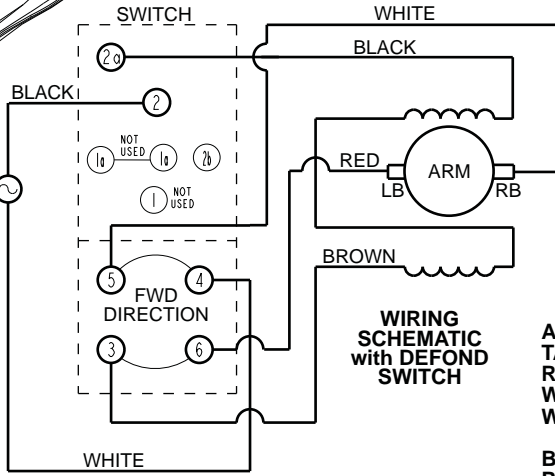
For double insulated tools with 2 wire Quik-Lok cords: Orient the blade housing assembly as shown and place white wire #2 first into the bottom of handle portion of motor housing.



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

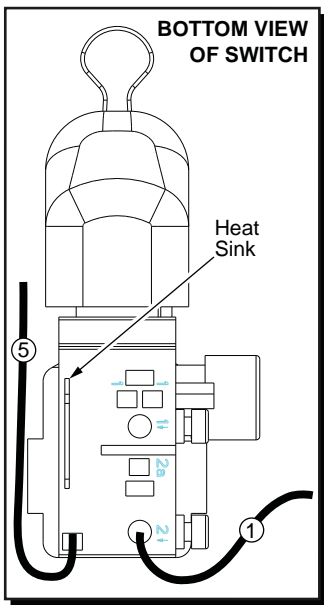
BE CAREFUL AND AVOID PINCHING WIRES BETWEEN HANDLE HALVES WHEN ASSEMBLING.

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.



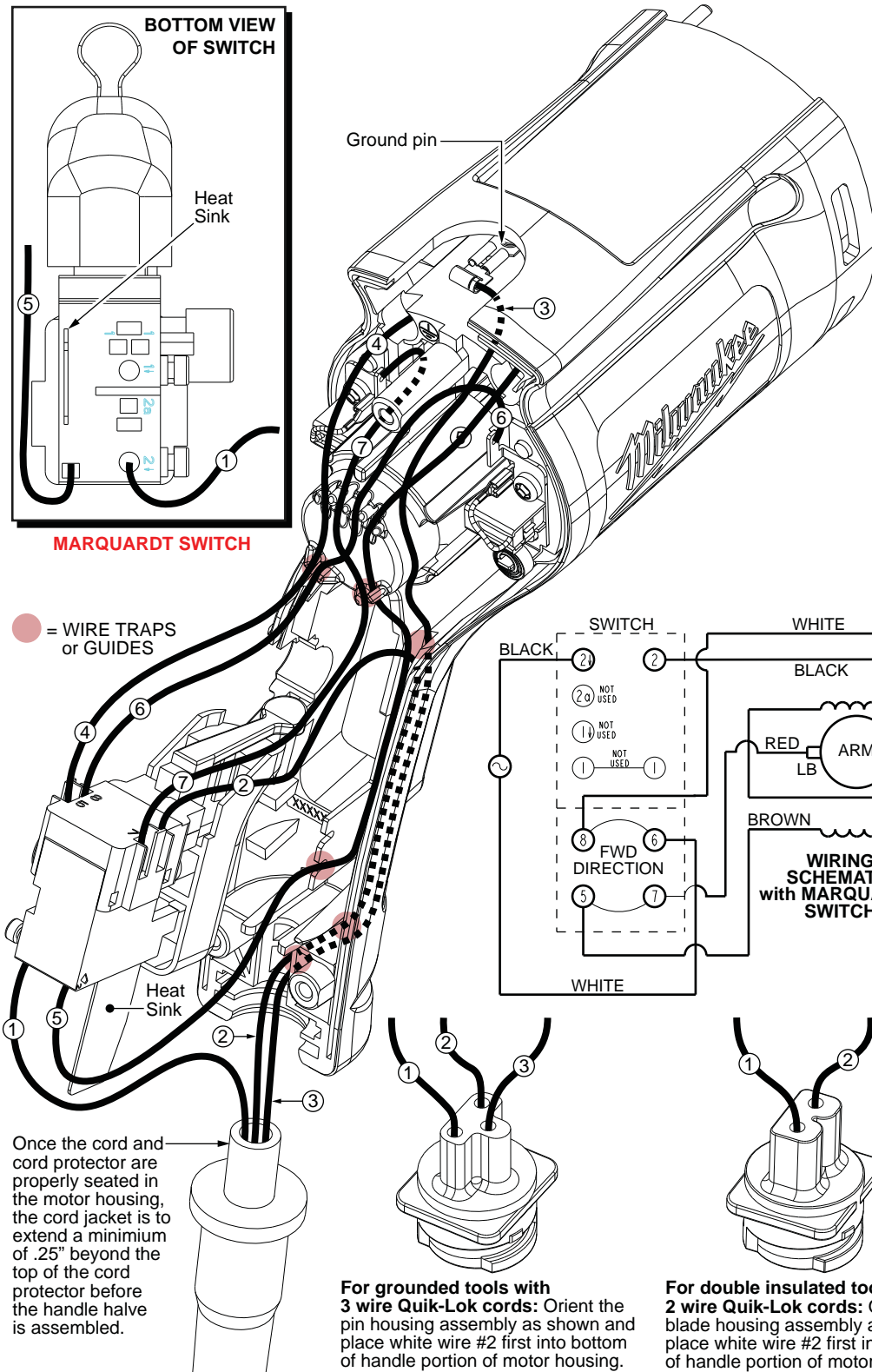
BOTTOM VIEW OF SWITCH

Heat Sink

MARQUARDT SWITCH

Ground pin

● = WIRE TRAPS or GUIDES

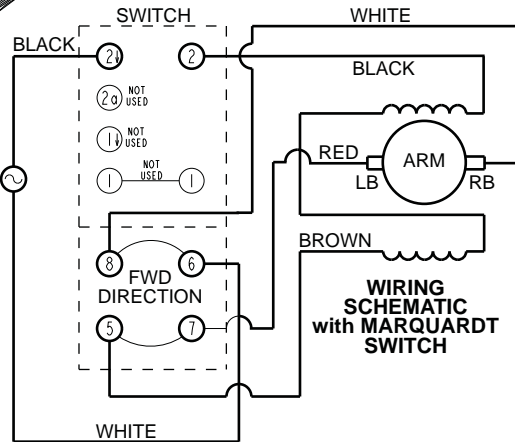


Heat Sink

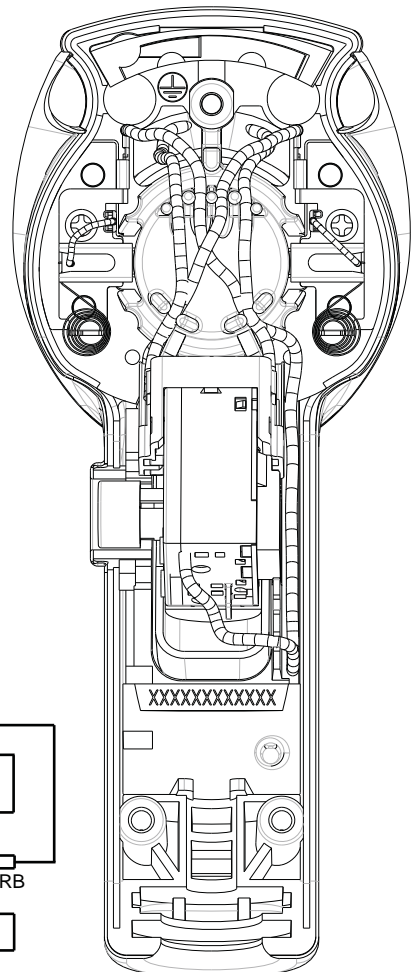
Once the cord and cord protector are properly seated in the motor housing, the cord jacket is to extend a minimum of .25" beyond the top of the cord protector before the handle half is assembled.

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 SCHEMATIC with MARQUARDT 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 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 #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.



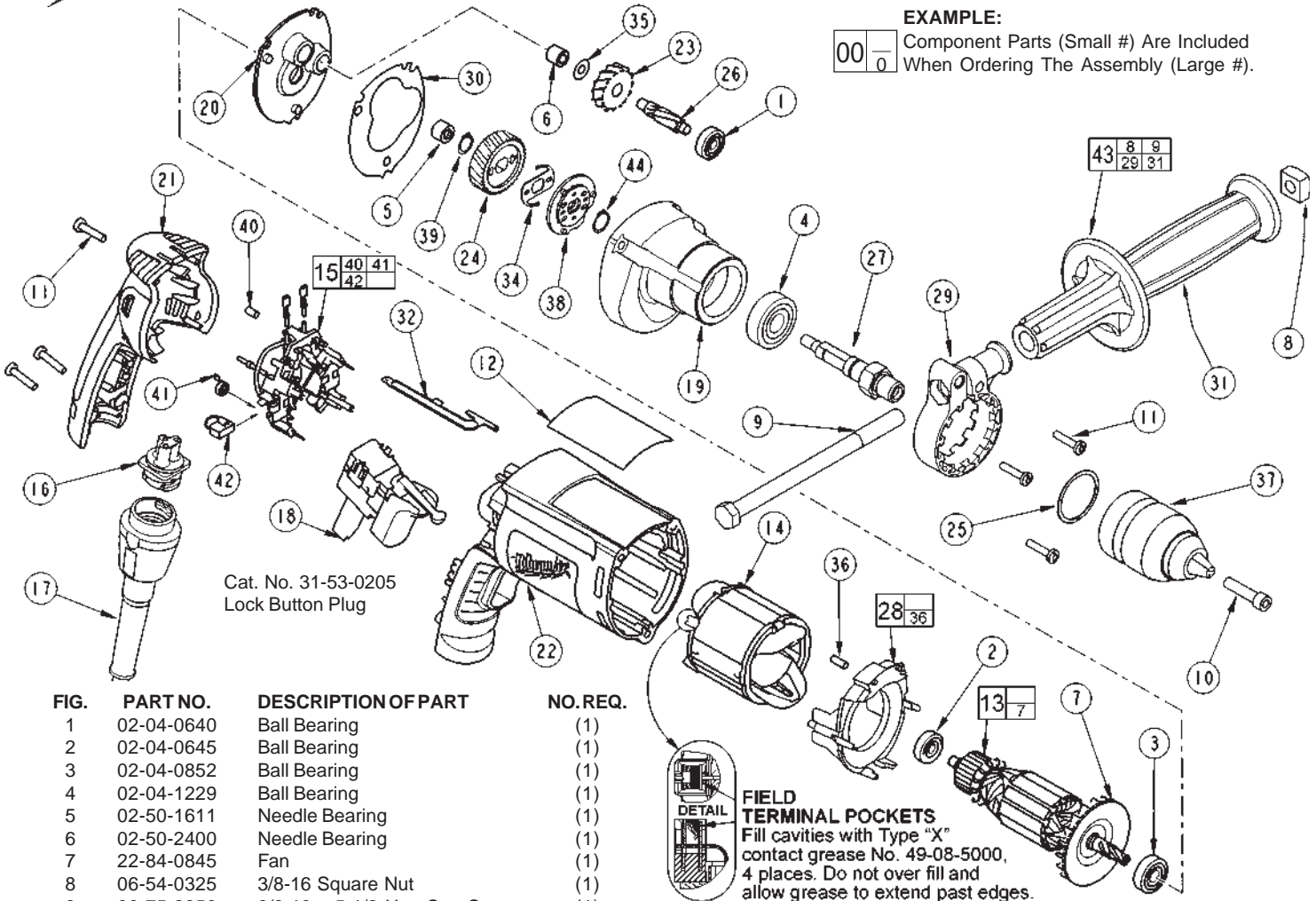
SERVICE PARTS LIST

BULLETIN NO.
54-06-2900

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN
3/8 INCH DRILL with SPINDLE LOCK		WIRING INSTRUCTION
CATALOG NO. 0202-20	STARTING SERIAL NO. 069A	58-01-1805

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	16-10-2215	Armature	(1)
14	18-07-2200	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	32-75-0106	Spindle Gear	(1)
25	34-80-2300	Retaining Ring	(1)
26	36-66-0110	Intermediate Shaft	(1)
27	38-50-5752	Spindle	(1)
28	42-14-0460	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	48-66-1520	3/8 Single Sleeve Keyless Chuck	(1)
38	14-29-0040	Spindle Lock Assembly	(1)
39	34-60-0810	External Retaining Ring	(1)

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.
54-06-2901

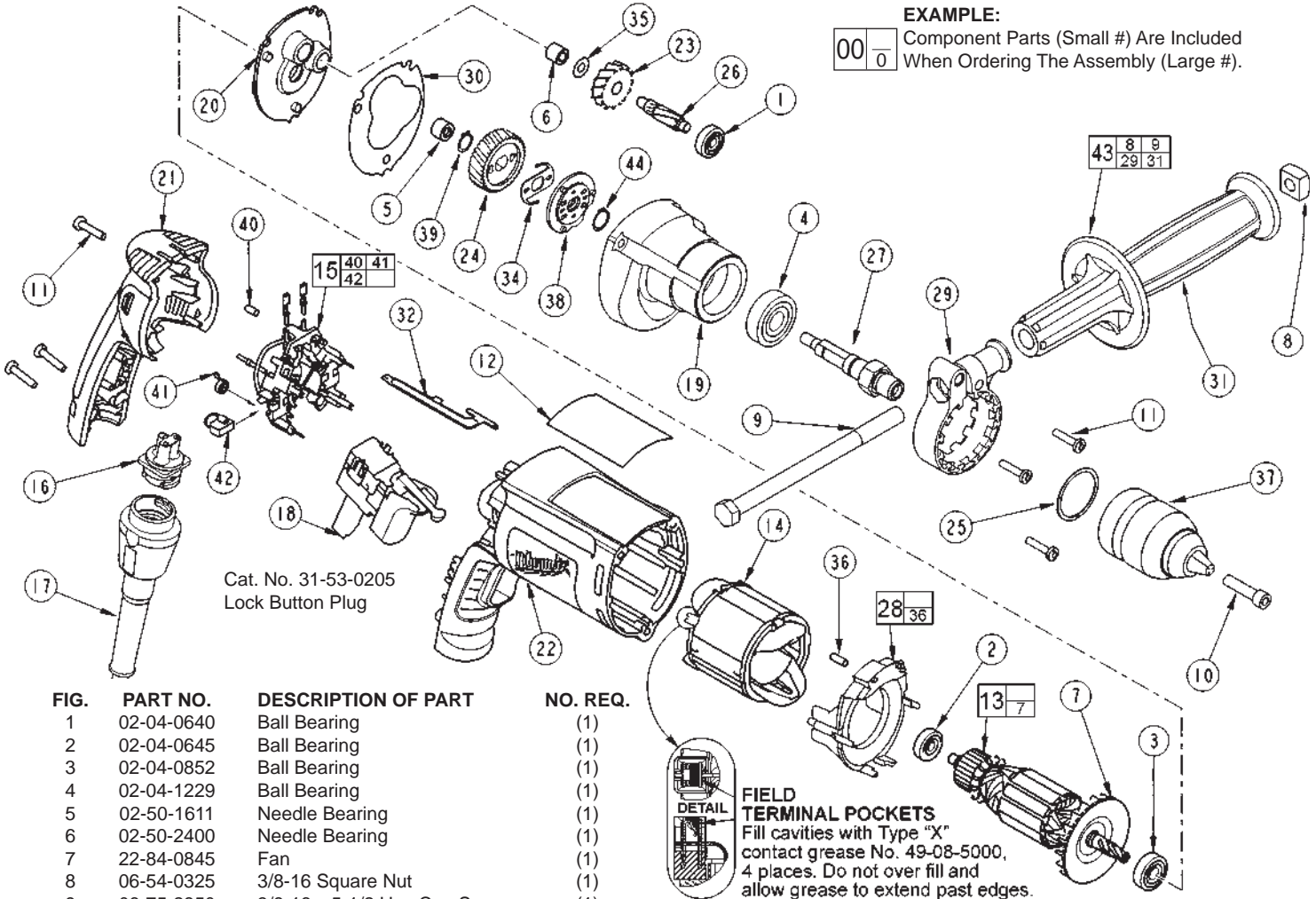
SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN 54-06-2900
3/8 INCH DRILL with SPINDLE LOCK		
CATALOG NO. 0202-20	STARTING SERIAL NO. 069B	WIRING INSTRUCTION 58-01-1806

★ = Part number change from previous service parts list.

EXAMPLE:

00	0
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 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	16-10-2215	Armature	(1)
14	18-07-2200	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	32-75-0106	Spindle Gear	(1)
25	34-80-2300	Retaining Ring	(1)
26	36-66-0110	Intermediate Shaft	(1)
27	38-50-5752	Spindle	(1)
28	42-14-0460	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	48-66-1520	3/8 Single Sleeve 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.
54-06-2902

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN 54-06-2901
3/8" PISTOL GRIP DRILL with SPINDLE LOCK		
CATALOG NO. 0202-20	STARTING SERIAL NO. 069C	WIRING INSTRUCTION See Pages 2 & 3

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

★ = Part number change from previous service parts list.

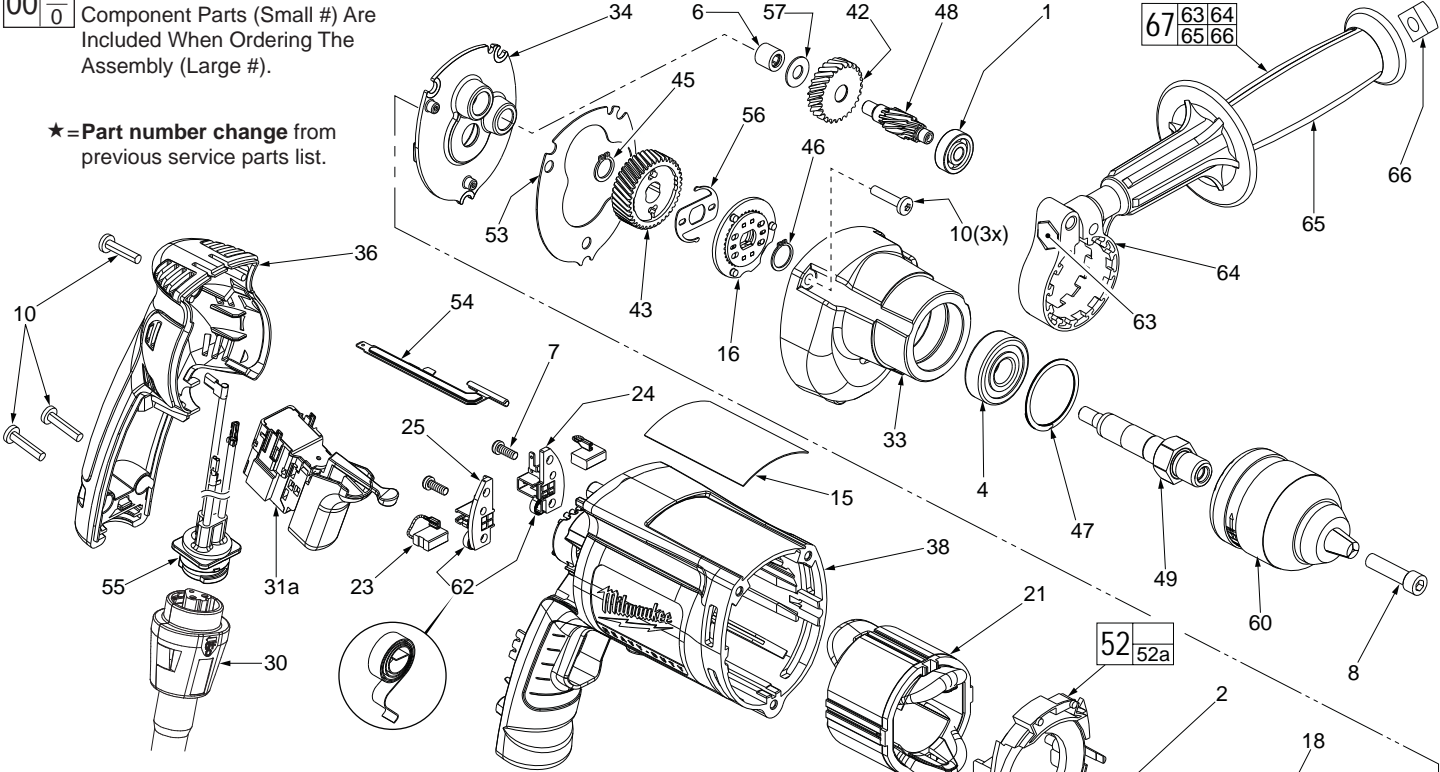


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	02-04-0640	Ball Bearing	(1)
2	02-04-0645	Ball Bearing	(1)
3	02-04-0852	Ball Bearing	(1)
4	02-04-1229	Ball Bearing	(1)
5	02-50-1611	Needle Bearing	(1)
6	02-50-2400	Needle Bearing	(1)
★ 7	05-88-1610	M3.5 x 10 Pan Hd. Plastite T-10	(2)
8	06-81-2925	1/4-20 x 1-1/8 L.H. Thread Slt. Screw	(1)
10	06-82-7275	7-18 x 3/4 Slotted Plastite T-20	(6)
15	12-99-2565	Service Nameplate	(1)
16	14-29-0040	Spindle Lock Assembly	(1)
18	16-10-2215	Armature	(1)
★ 21	18-07-7210	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	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)
36	31-15-2030	Handle Halve	(1)
★ 38	31-50-3040	Motor Housing	(1)
42	32-40-0100	Intermediate Gear	(1)
43	32-75-0106	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	36-66-0110	Intermediate Shaft	(1)
49	38-50-5752	Spindle	(1)
52	42-14-0460	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	22-56-1010	Pin Housing Assembly	(1)
56	40-50-8525	Click Spring	(1)
57	45-88-7990	Thrust Washer	(1)
60	48-66-1520	3/8" Single Sleeve 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)

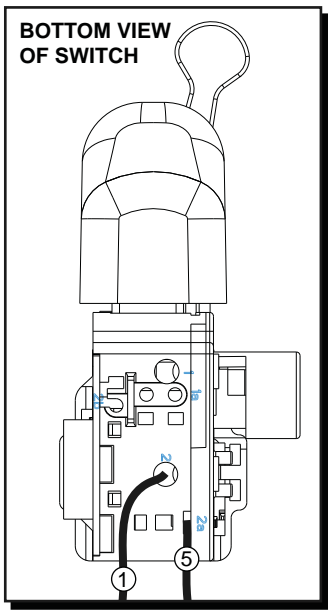
FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
64	42-68-0800	Side Handle Clamp	(1)
65	43-62-0845	Side Handle	(1)
66	06-54-0325	3/8-16 Square Nut	(1)
67	49-15-0265	Side Handle Assembly	(1)
★	23-94-0490	White Leadwire Assy. (See pages 2 & 3)	(1)
★	23-94-0495	Red Leadwire Assy. (See pages 2 & 3)	(1)

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.

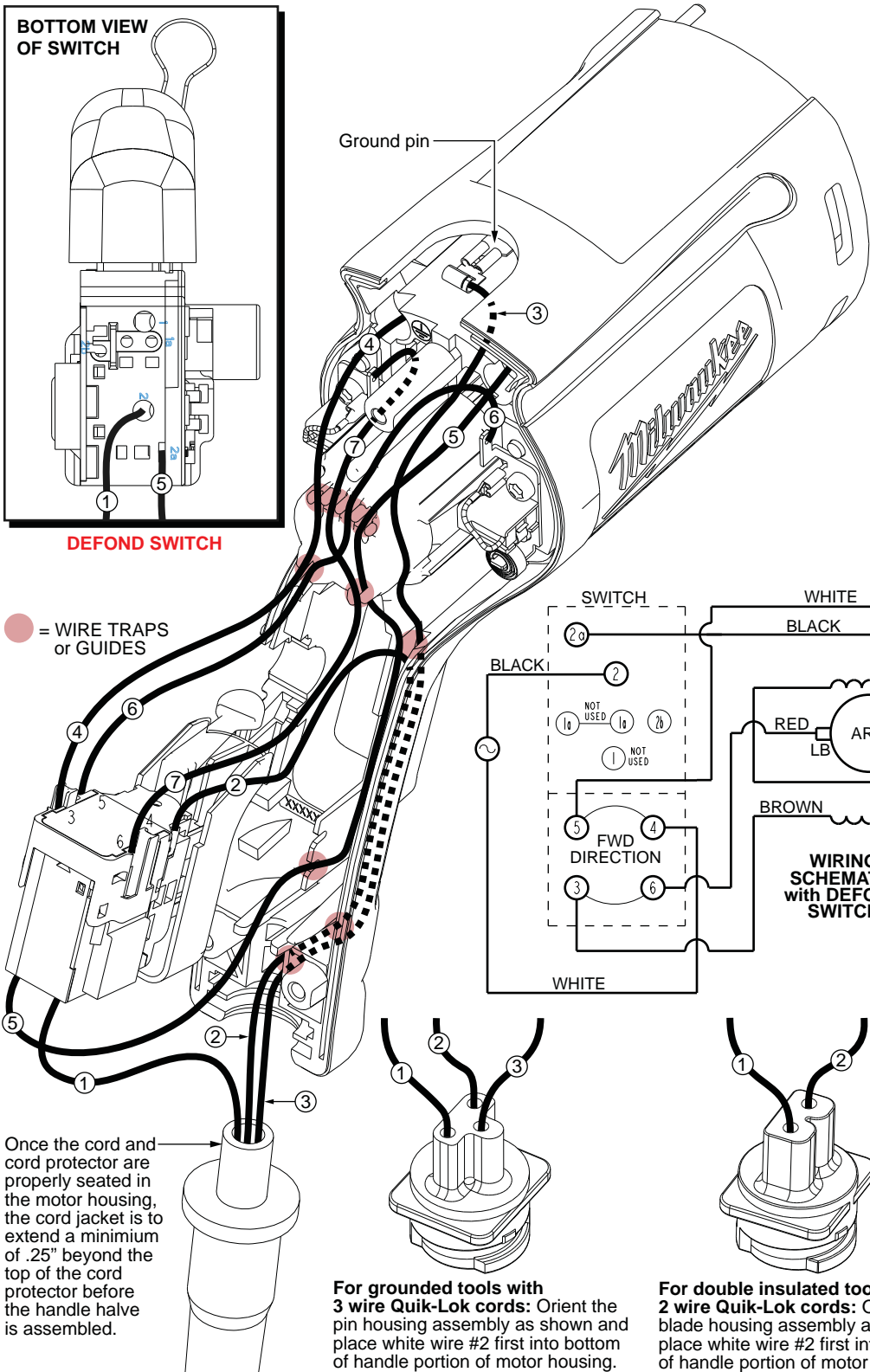
Before assembly, lightly coat all press fit areas with lightweight spindle oil.

- 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.

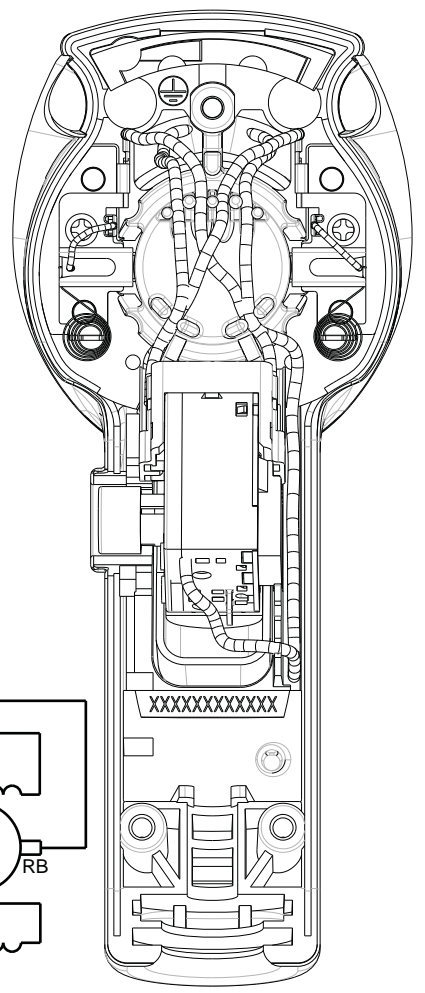
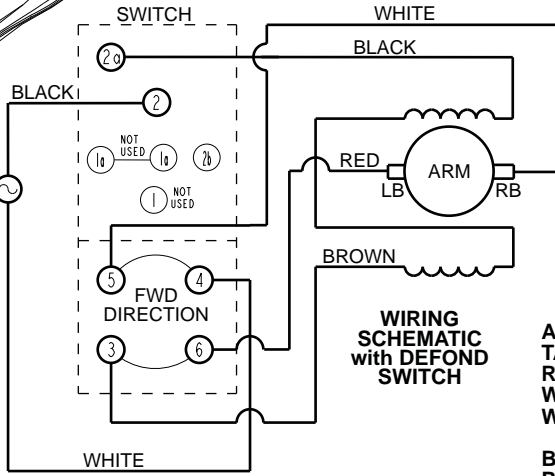


DEFOND SWITCH

● = WIRE TRAPS or GUIDES



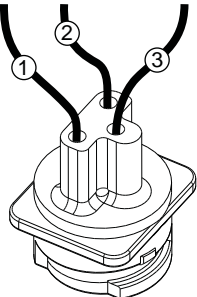
Once the cord and cord protector are properly seated in the motor housing, the cord jacket is to extend a minimum of .25" beyond the top of the cord protector before the handle half is assembled.



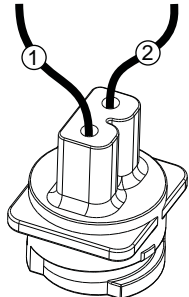
AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

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

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



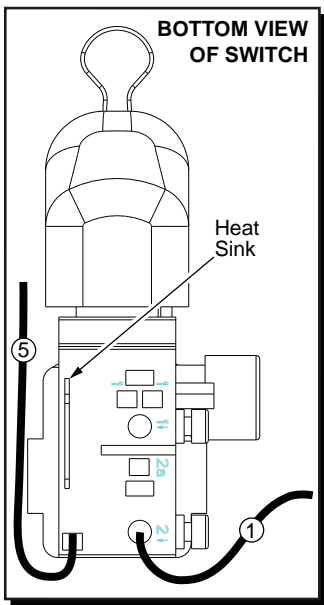
For grounded tools with 3 wire Quik-Lok cords: Orient the pin housing assembly as shown and place white wire #2 first into bottom of handle portion of motor housing.



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.



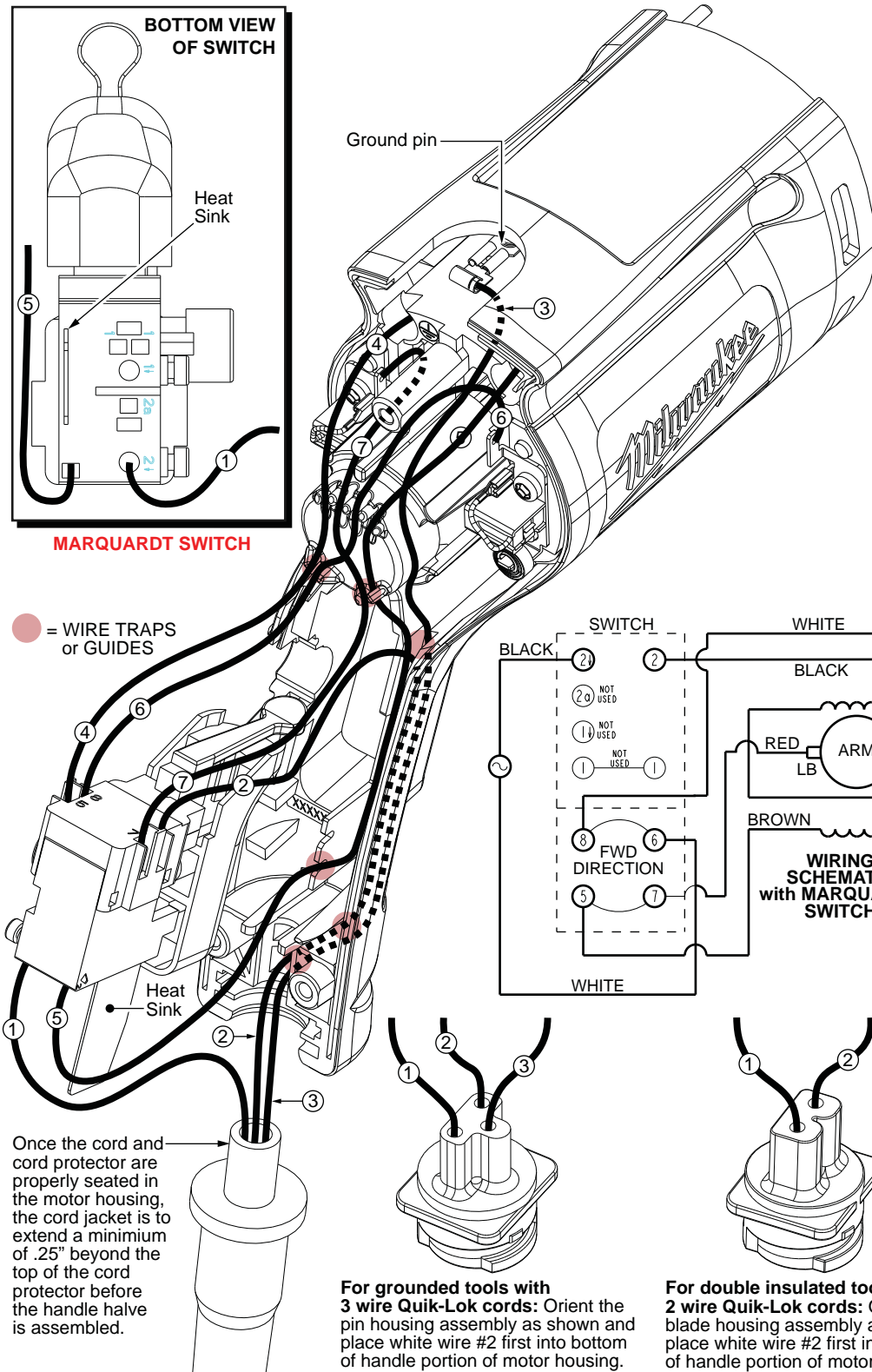
BOTTOM VIEW OF SWITCH

Heat Sink

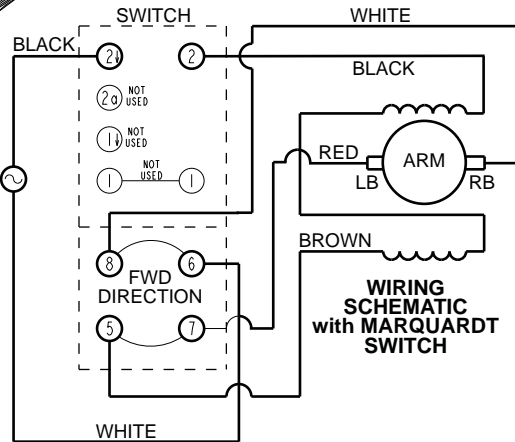
MARQUARDT SWITCH

Ground pin

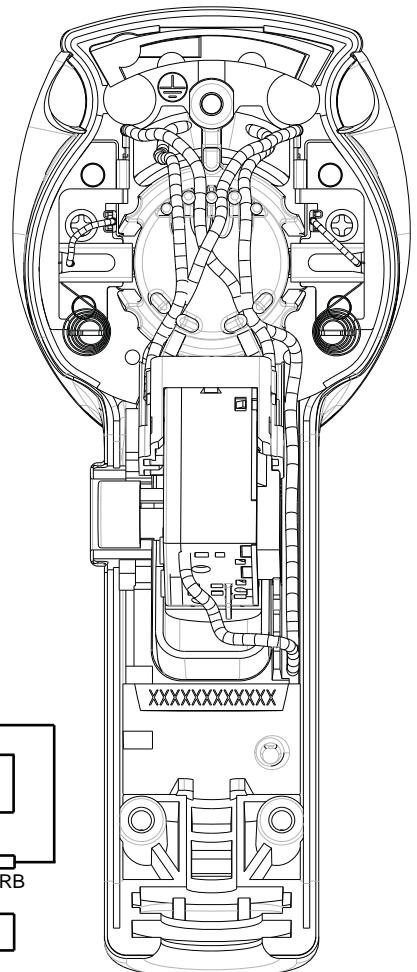
● = WIRE TRAPS or GUIDES



Heat Sink



WIRING SCHEMATIC with MARQUARDT SWITCH

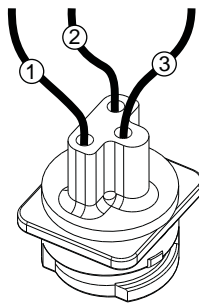


AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

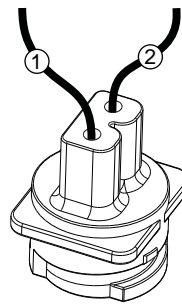
BE CAREFUL AND AVOID PINCHING WIRES BETWEEN HANDLE HALVES WHEN ASSEMBLING.

FOR DOUBLE INSULATED TOOLS DISREGARD GREEN 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.
54-06-2903

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN 54-06-2902
3/8" PISTOL GRIP DRILL with SPINDLE LOCK		WIRING INSTRUCTION See Pages 2 & 3
CATALOG NO. 0202-20	STARTING SERIAL NO. 069D	

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

★ = Part number change from previous service parts list.

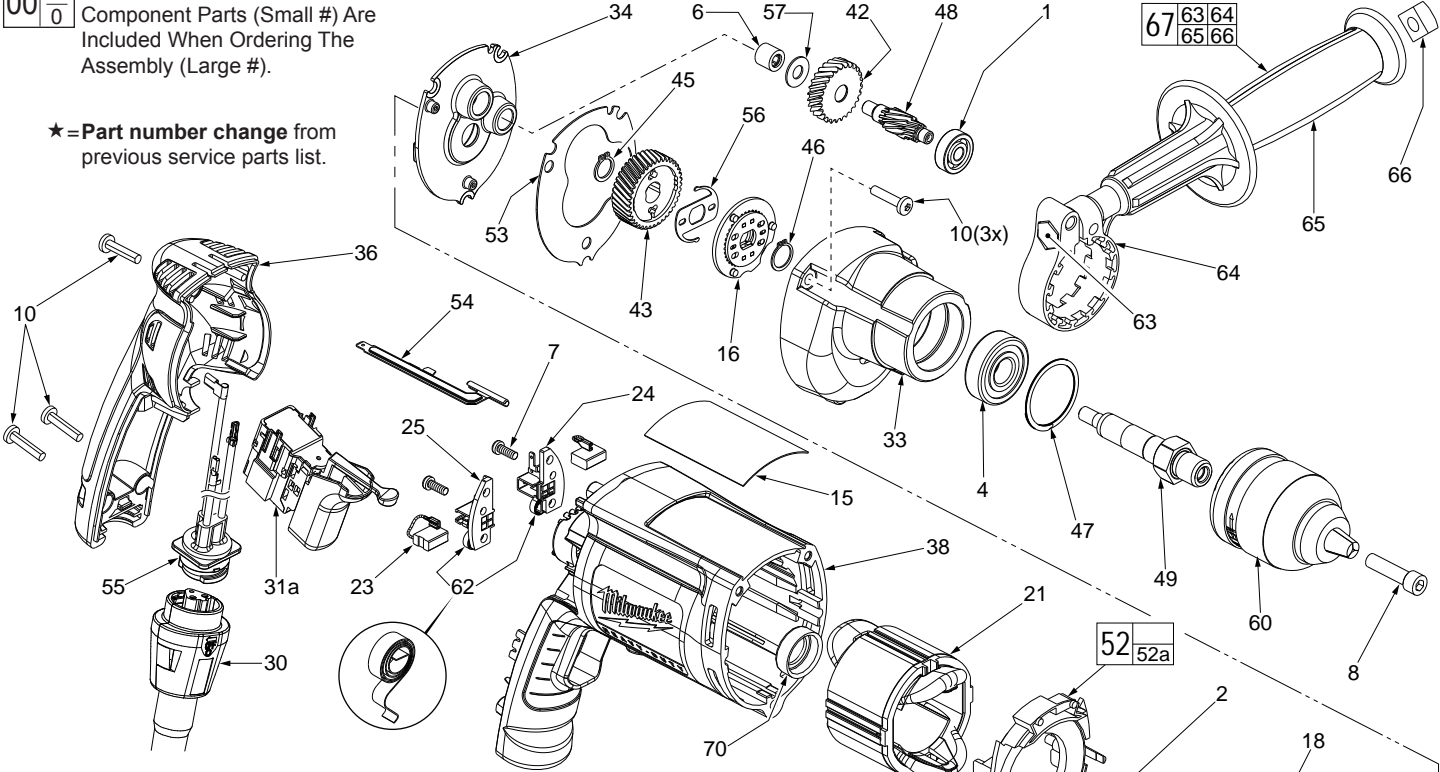


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	02-04-0640	Ball Bearing	(1)
2	02-04-0645	Ball Bearing	(1)
3	02-04-0852	Ball Bearing	(1)
4	02-04-1229	Ball Bearing	(1)
5	02-50-1611	Needle Bearing	(1)
6	02-50-2400	Needle Bearing	(1)
7	05-88-1610	M3.5 x 10 Pan Hd. Plastite T-10	(2)
8	06-81-2925	1/4-20 x 1-1/8 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)
16	14-29-0040	Spindle Lock Assembly	(1)
18	16-10-2215	Armature	(1)
21	18-07-7210	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	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)
36	31-15-2030	Handle Halve	(1)
★ 38	31-50-0525	Motor Housing	(1)
42	32-40-0100	Intermediate Gear	(1)
43	32-75-0106	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	36-66-0110	Intermediate Shaft	(1)
49	38-50-5752	Spindle	(1)
52	42-14-0460	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	22-56-1010	Pin Housing Assembly	(1)
56	40-50-8525	Click Spring	(1)
57	45-88-7990	Thrust Washer	(1)
60	48-66-1520	3/8" Single Sleeve 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)

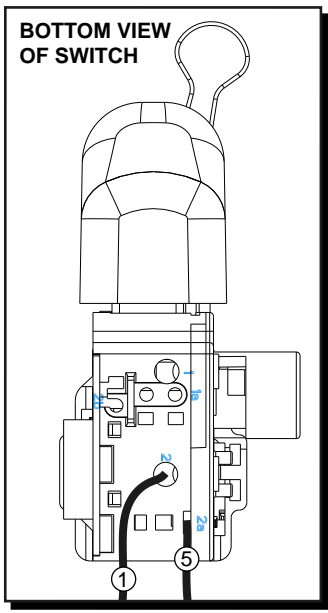
FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
64	42-68-0800	Side Handle Clamp	(1)
65	43-62-0845	Side Handle	(1)
66	06-54-0325	3/8-16 Square Nut	(1)
67	49-15-0265	Side Handle Assembly	(1)
★ 70	43-86-0125	Bearing Cup	(1)
	23-94-0490	White Leadwire Assy. (See pages 2 & 3)	(1)
	23-94-0495	Red Leadwire Assy. (See pages 2 & 3)	(1)
	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.

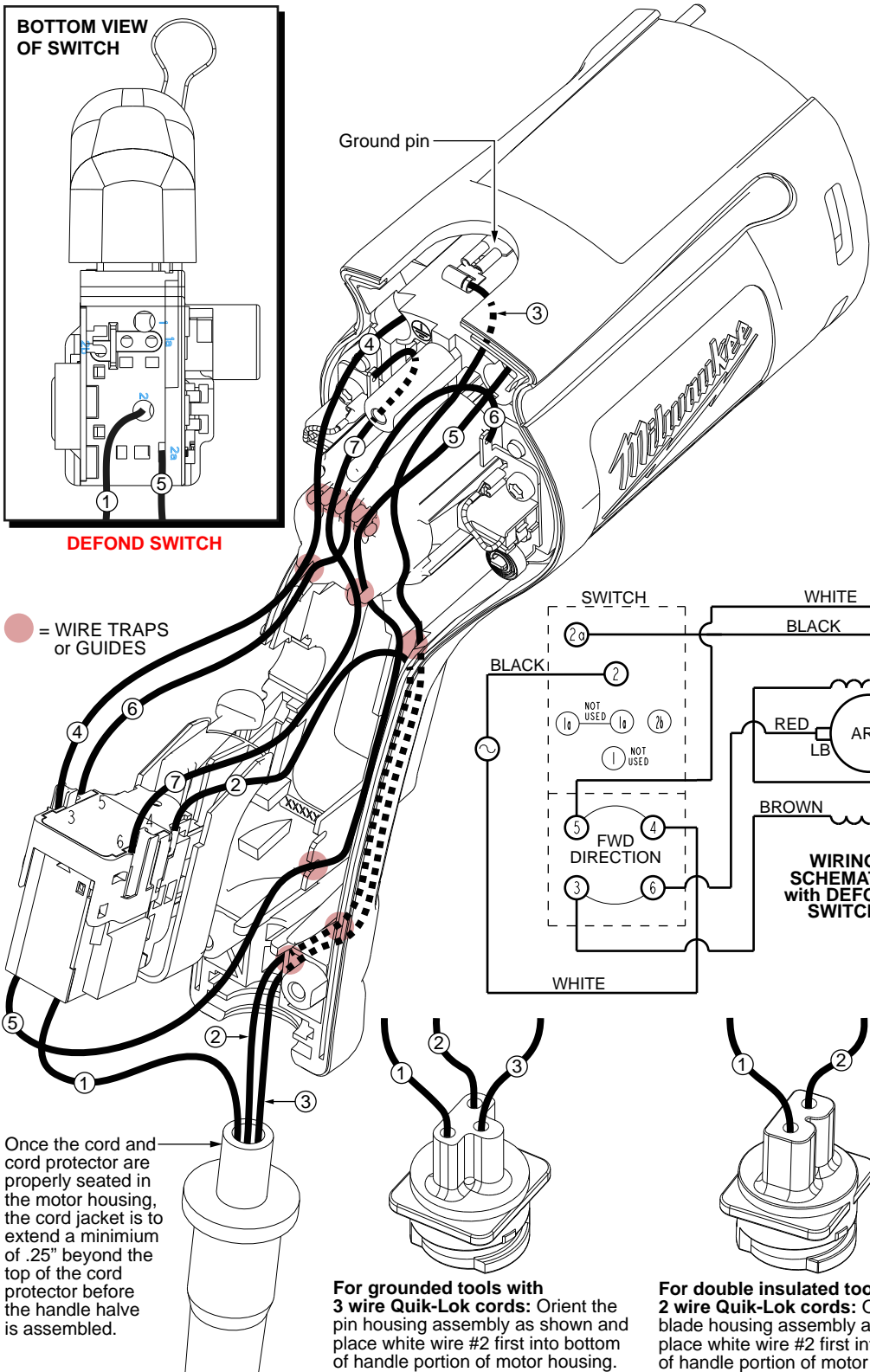
FIG. NOTES:
 4,43 Support the output ball bearing inside the gearcase before pressing off the spindle gear.
 5,6 Needle bearings to be pressed flush to .010 under flush from the end which has the vendors identification.



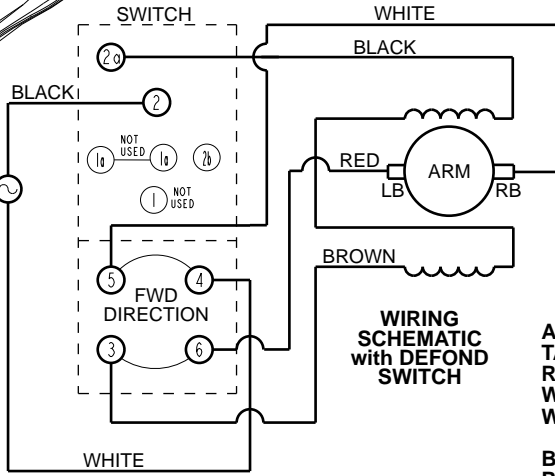
BOTTOM VIEW OF SWITCH

DEFOND SWITCH

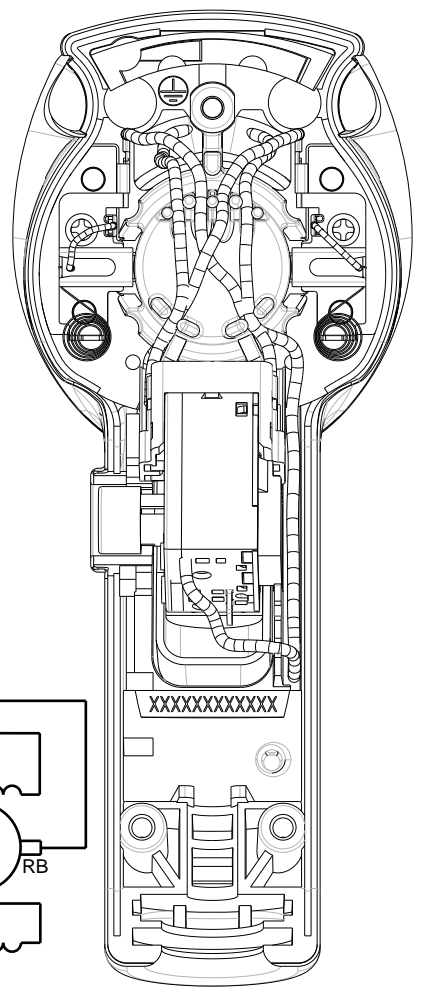
● = WIRE TRAPS or GUIDES



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.



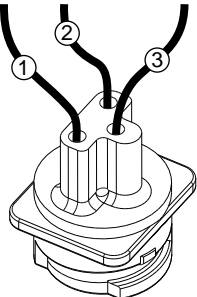
WIRING SCHEMATIC with DEFOND SWITCH



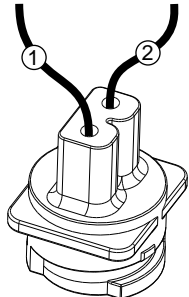
AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

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

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



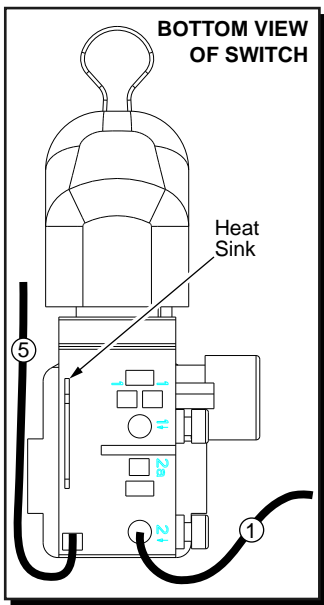
For grounded tools with 3 wire Quik-Lok cords: Orient the pin housing assembly as shown and place white wire #2 first into bottom of handle portion of motor housing.



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.

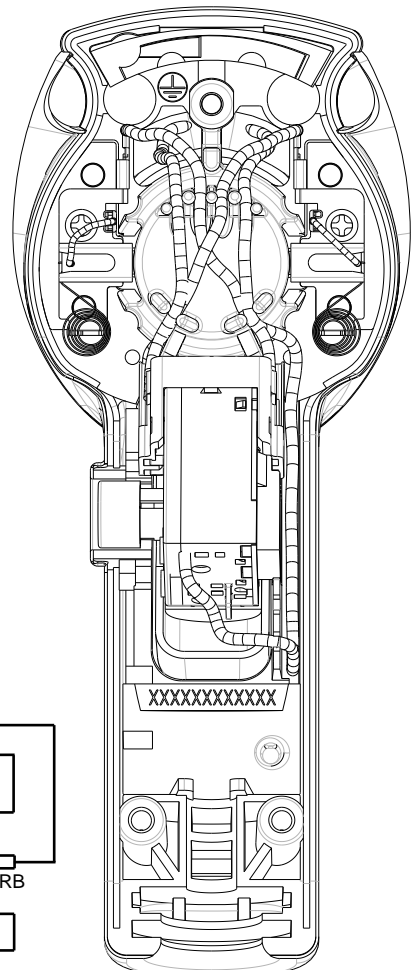
WIRING SPECIFICATIONS

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.

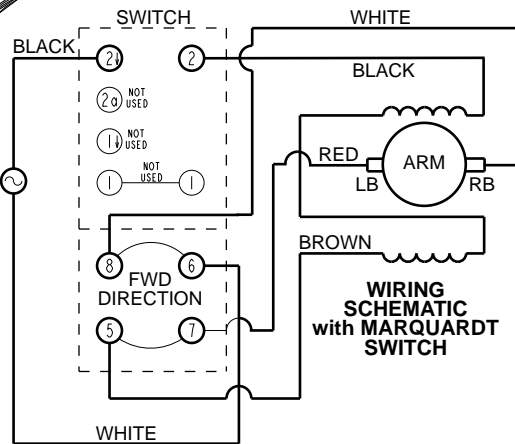
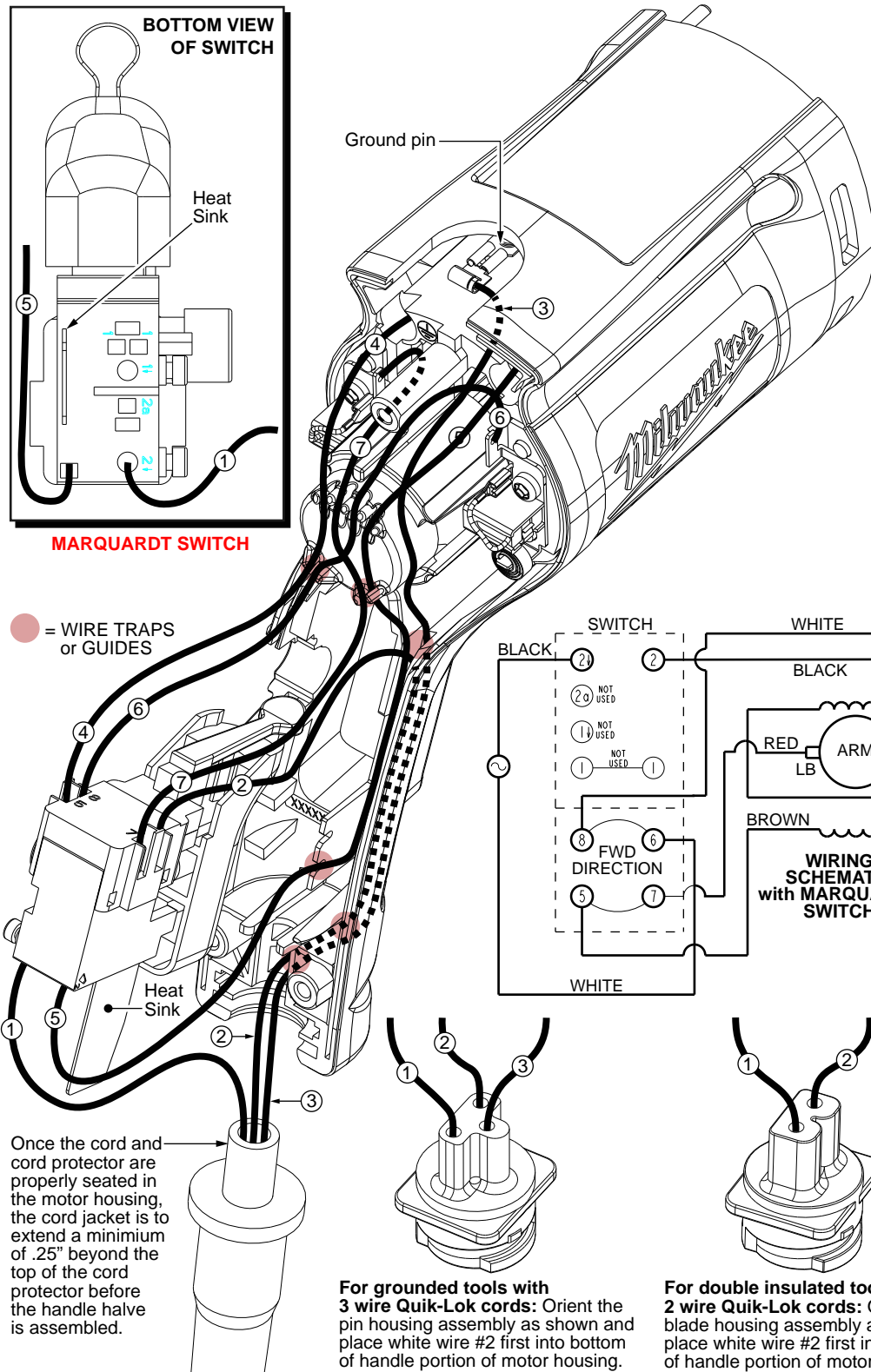


MARQUARDT SWITCH

Ground pin



● = WIRE TRAPS or GUIDES

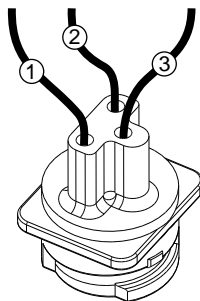


AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

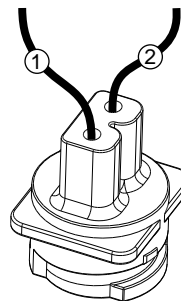
BE CAREFUL AND AVOID PINCHING WIRES BETWEEN HANDLE HALVES WHEN ASSEMBLING.

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.

BULK LEAD WIRE - BULLETIN NO. 58-01-0003

Rely on premium drills and drivers by Milwaukee if you're looking for quality and efficiency.