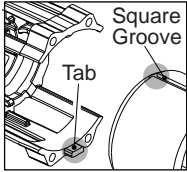




SERVICE PARTS LIST

BULLETIN NO.
54-40-2621

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN	DATE
18 Volt Sawzall®		54-40-2620	Aug. 2012
CATALOG NO.	2620-20	WIRING INSTRUCTION	
STARTING SERIAL NO.	B58B	SEE REVERSE SIDE	

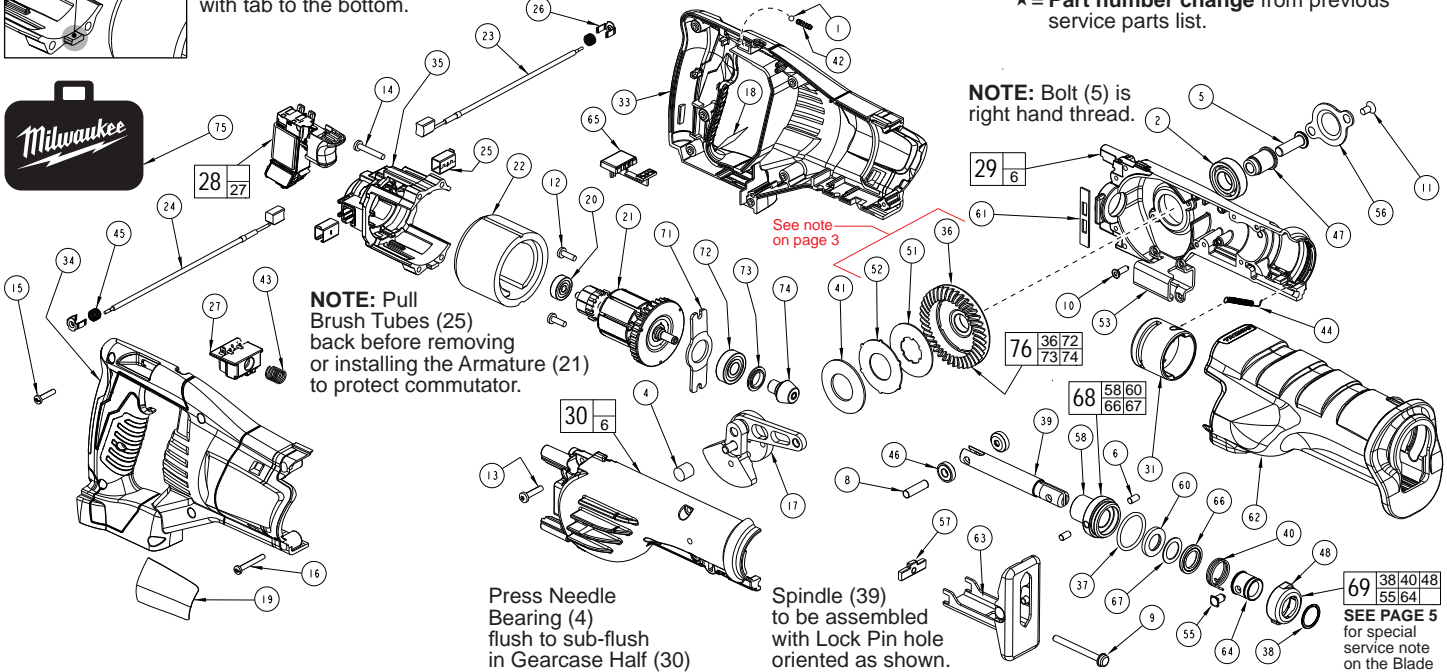


IMPORTANT
Field (22) to be assembled with taper to back and square groove to the top.

Motor Cage (35) must be oriented with tab to the bottom.

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

★ = Part number change from previous service parts list.



NOTE: Pull Brush Tubes (25) back before removing or installing the Armature (21) to protect commutator.

NOTE: Bolt (5) is right hand thread.

See note on page 3

Press Needle Bearing (4) flush to sub-flush in Gearcase Half (30)

Spindle (39) to be assembled with Lock Pin hole oriented as shown.

SEE PAGE 5 for special service note on the Blade Clamp Assy.

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.	FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	02-02-1100	4mm Ball	(1)	41	40-50-0595	Disc Spring	(1)
2	02-04-1516	Ball Bearing	(1)	42	40-50-0930	Compression Spring	(1)
4	02-50-1640	Needle Bearing	(1)	43	40-50-1090	Compression Spring	(1)
★ 5	06-08-0018	3/16" Hex Drive Hub Bolt-RH Thread	(1)	44	40-50-8805	Extension Spring	(1)
6	-----	Pivot Pin	(2)	45	40-50-8840	Brush Spring	(2)
8	06-65-2995	Pin	(1)	46	42-40-0020	Spindle Pin Bushing	(2)
9	06-81-0065	10-32 x 2" Bolt	(1)	★ 47	42-40-0077	Spacer	(1)
10	06-82-3830	8-32 x 1/2" Csk Macine Screw	(3)	48	-----	Front Cam	(1)
11	06-82-3900	3/8" DG50 Thread Form Screw	(2)	51	43-06-0025	Metal Plate	(1)
12	06-82-5316	8-32 x 1/2" Pan Hd. Taptite T-20 Screw	(2)	52	43-06-0030	Metal Plate	(1)
13	06-82-5346	8-32 x 3/4" Pan Hd. Taptite T-20 Screw	(5)	53	43-56-0035	Orbit Slot	(1)
14	06-82-5362	8-32 x 1" Pan Hd. Taptite T-20 Screw	(4)	54	-----	Drive Hub	(1)
15	06-82-7261	6-19 x 11/16" Pan Hd. Slit. Plast. T-15	(6)	55	44-60-1750	Lock Pin	(1)
16	06-82-7290	6-19 x 1-1/8" Pan Hd. Slit. Plast. T-15	(2)	56	44-66-0280	Bearing Retaining Plate	(1)
★ 17	14-09-0185	Crank Assembly-Right Hand Thread	(1)	57	44-66-0285	Retaining Plate	(1)
18	10-15-0955	Warning Label	(1)	58	-----	Front Bushing Carrier	(1)
19	12-20-2620	Service Nameplate Kit	(1)	60	-----	Felt Seal	(1)
20	02-04-5130	Ball Bearing	(1)	61	45-06-0790	Seal	(1)
21	16-01-0025	Service Armature with Fan	(1)	62	45-12-0025	Gearcase Insulator	(1)
22	18-01-0070	Service Field	(1)	63	45-16-0025	Shoe Assembly	(1)
23	22-18-0110	Carbon Brush Assembly - Black	(1)	64	45-22-0175	Sleeve	(1)
24	22-18-0135	Carbon Brush Assembly - Red	(1)	65	45-24-0045	Shuttle Switch	(1)
25	22-20-0860	Brush Tube	(2)	66	-----	Bushing Cap	(1)
26	22-32-0400	Brush Spring Clip	(2)	67	-----	Washer	(1)
27	22-56-0025	Terminal Block Assembly	(1)	68	38-50-6490	Front Bushing Carrier Assembly	(1)
28	23-66-0284	Switch Assembly	(1)	69	42-68-1200	Blade Clamp Assembly (See Page 5)	(1)
29	28-14-0035	Gearcase Assembly - Left	(1)	71	44-66-5335	Bearing Retainer Plate	(1)
30	28-14-0060	Gearcase Assembly - Right	(1)	72	02-04-0999	Ball Bearing	(1)
31	31-11-0105	Barrel Cam	(1)	73	45-28-0025	Grease Slinger	(1)
33	31-44-2620	Handle - Left	(1)	★ 74	32-60-0135	Pinion Gear	(1)
34	31-44-2625	Handle - Right	(1)	75	42-55-2620	Accessory Carrying Case	(1)
35	31-50-0040	Motor Cage	(1)	★ 76	14-29-0390	Gear Assembly	(1)
★ 36	32-05-0115	Spiral Bevel Gear	(1)				
37	34-40-0035	O-Ring	(1)				
38	34-60-3700	Retaining Ring	(1)				
39	38-50-0260	Spindle	(1)				
40	-----	Torsion Spring	(1)				

SEE ADDITIONAL SERVICE NOTES ON FOLLOWING PAGES

MILWAUKEE ELECTRIC TOOL CORPORATION
13135 W. Lisbon Road, Brookfield, WI 53005
Drwg. 5

Exercise caution when removing Right Handle Half (34), not shown. The 4mm Steel Ball (1) may be dislodged from Switch Shuttle (65) by Spring (42).

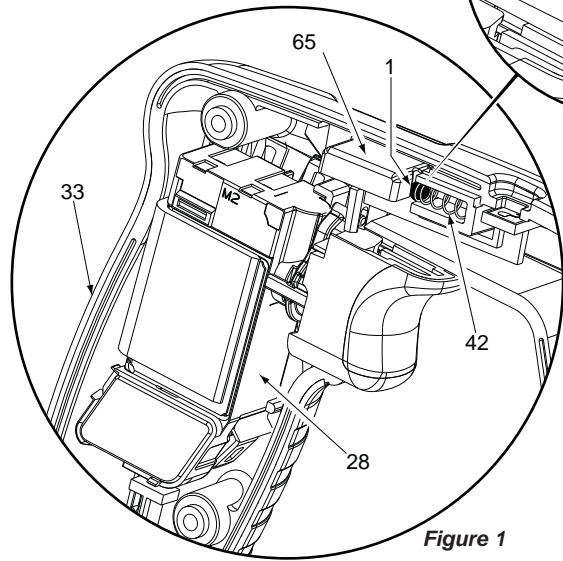
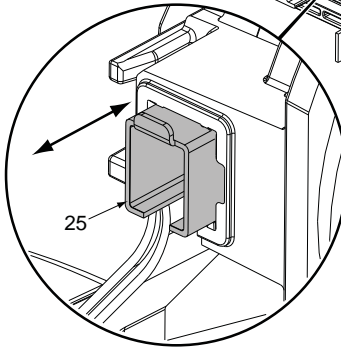
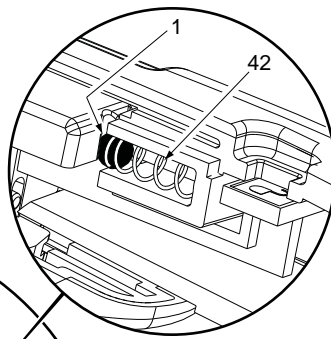


Figure 1



Before installing or removing Armature, to prevent damage to the brush tubes or commutator, push / move Brush Tubes (25) flush to inside brush tube openings of Motor Cage (35) prior to removing the Armature from Motor Cage (35) / Field (22).

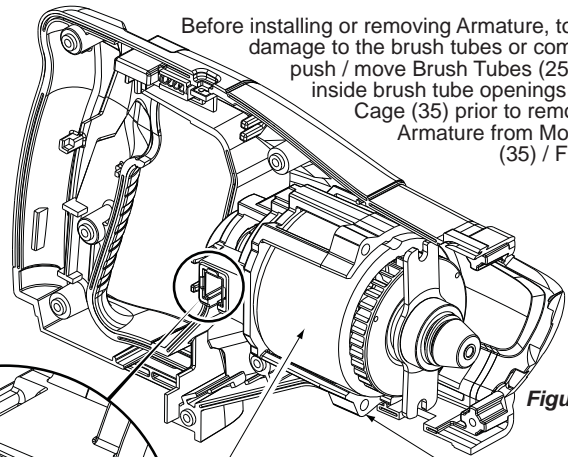
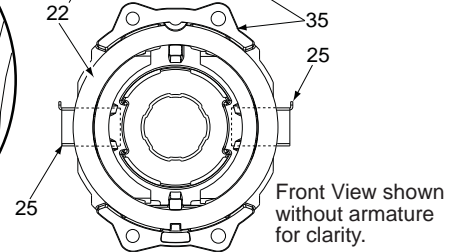
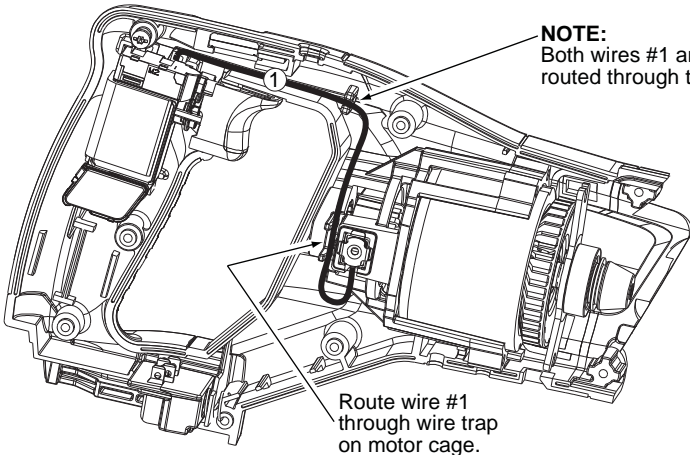


Figure 2



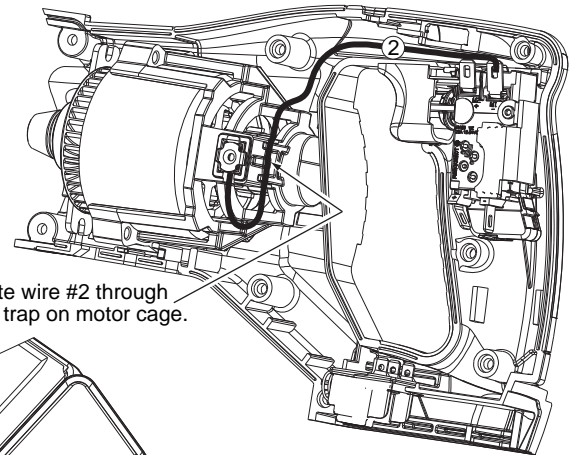
Front View shown without armature for clarity.

WIRING INSTRUCTIONS

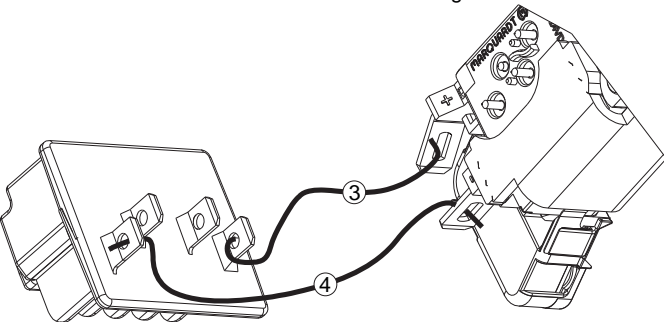


Route wire #1 through wire trap on motor cage.

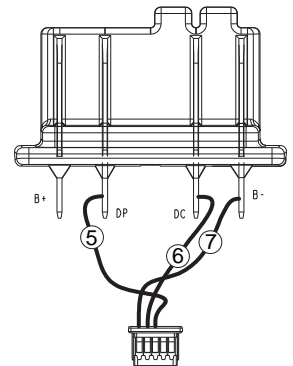
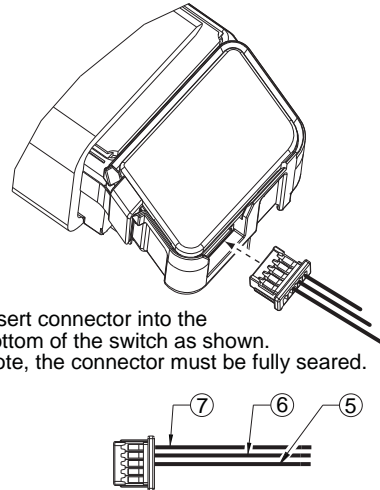
NOTE: Both wires #1 and #2 are to be routed through this wire trap.



Route wire #2 through wire trap on motor cage.



Insert connector into the bottom of the switch as shown. Note, the connector must be fully seated.



WIRING SPECIFICATIONS

Wire No.	Wire Color	Origin or Gauge	Length	Terminals, Connectors and 1 or 2 End Wire Preparation
1	Red	22-18-0135	-----	Carbon Brush Assembly - right side.
2	Black	22-18-0110	-----	Carbon Brush Assembly - left side.
3	Red	23-66-0284	-----	Component of the Switch Assembly.
4	Black	23-66-0284	-----	Component of the Switch Assembly.
5	White	23-66-0284	-----	Component of the Switch Assembly.
6	Red	23-66-0284	-----	Component of the Switch Assembly.
7	Black	23-66-0284	-----	Component of the Switch Assembly.

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.

Remove Crank Assembly (17) from Left Gearcase Assembly (29) by separating / removing Right Housing Half (30). Remove Bearing Retaining Plate Screws (11) and Bearing Plate (56) from Left Gearcase Assembly (29). Place a 3/16" diameter x 1-1/2" long steel rod down through the opening in the Counter Balance until it bottoms out through the 3/16" hole in the Drive Hub.

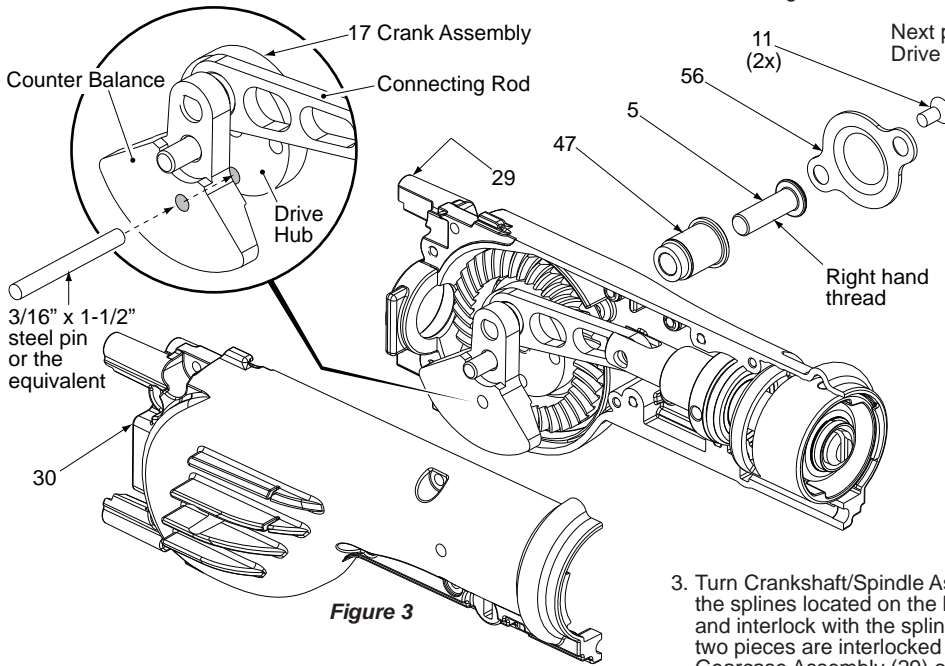


Figure 3

Next place a 3/16 hex key into Drive Hub Bolt (5) and turn Drive Hub Bolt slowly in a counter-clockwise direction until 3/16" steel pin rest against Connecting Rod. 3/16" hex key can now be turned counter-clockwise to loosen and remove RH Drive Hub Bolt (5).

When reinstalling / tightening Right Hand Drive Hub Bolt (5):

1. Place lubricated Gear Assembly (36, 41, 51 & 52) into Left Gearcase Assembly (29). See Figure 4 on page 3 for assembly instructions with correct Disc/Plate orientation).
2. Position assembled Spindle/Crank Assembly (17, 39, 8, 46, 53, 68, 37 & 69) into Left Gearcase. (Spindle components should be pre-lubricated with a light coating of grease prior to reassembly). *It is also beneficial to have the Barrel Cam (31) and Extension Spring (44) installed in Left Gearcase (29).* Once the Spindle/Crank Assembly is in the Left Gearcase, position/seat the Front Bushing Carrier (58) over Pivot Pin (6) that's pressed into Left Gearcase Assembly. Secure Orbit Slot (53) to the Left Gearcase Assembly using the three Screws (10) removed in disassembly.

3. Turn Crankshaft/Spindle Assembly by hand, applying a downward pressure until the splines located on the bottom of the Crank Assembly Drive Hub drop down and interlock with the splined notches in the I.D. of Metal Plate (51). Once the two pieces are interlocked together, hold the assembly down tight and turn Gearcase Assembly (29) over to enable the Right Handed Drive Bolt (5) and Spacer (47) to be slid through Ball Bearing (2). (Before installing Drive Hub Bolt (5) be sure to apply Blue Loctite® to bolt threads). Place the 3/16" x 1-1/2" long steel rod used in disassembly, back through the Counter Balance of Crankshaft Assembly (17) and slowly turn Right Handed Drive Bolt (5) in a clockwise direction until 3/16" long steel rod rests against Connecting Rod. Before tightening Drive Hub Bolt (5), make sure the raised notches located on the O.D. of Metal Plate (52) are engaged with corresponding recess in Spiral Bevel Gear (36), see Figure 4. Using an inch pound torque wrench and a 3/16" hex key, torque Drive Hub Bolt (5) to 210 in./lbs. or bolt can be tightened using a foot pound torque wrench to 17-18 ft./lbs.

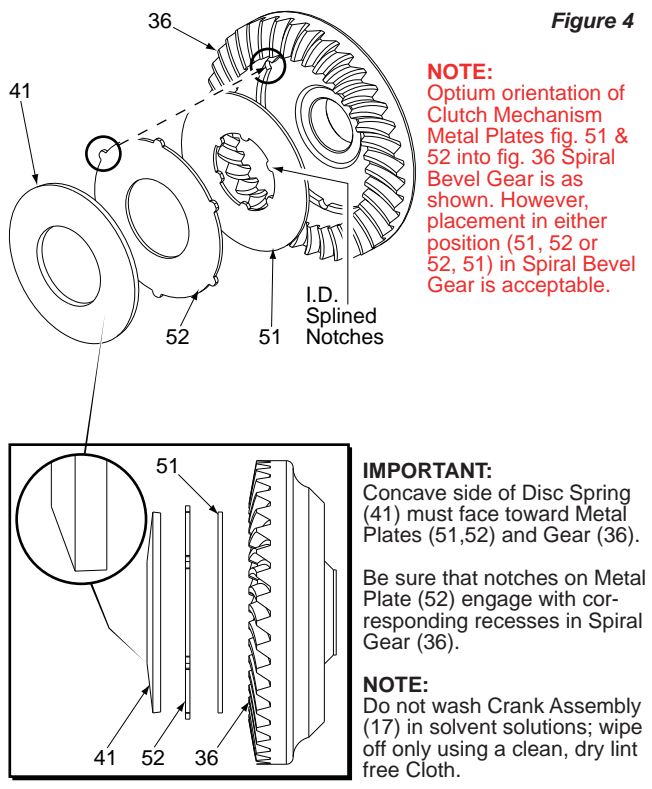


Figure 4

NOTE:
Optium orientation of Clutch Mechanism Metal Plates fig. 51 & 52 into fig. 36 Spiral Bevel Gear is as shown. However, placement in either position (51, 52 or 52, 51) in Spiral Bevel Gear is acceptable.

IMPORTANT:
Concave side of Disc Spring (41) must face toward Metal Plates (51,52) and Gear (36).

Be sure that notches on Metal Plate (52) engage with corresponding recesses in Spiral Gear (36).

NOTE:
Do not wash Crank Assembly (17) in solvent solutions; wipe off only using a clean, dry lint free Cloth.

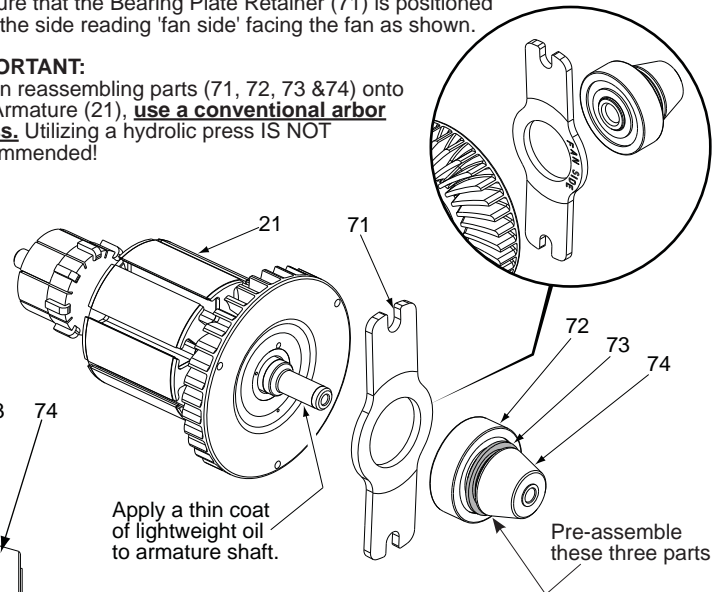
NOTE:

To achieve the proper press dimension shown below, pre-assemble / press together Ball Bearing (72), Grease Slinger (73) and Pinion Gear (74) prior to assembly onto the Armature (21).

Place a thin coat of lightweight oil onto the fan end of the armature shaft to aid in the pressing of the pre-assembled parts. Prior to assembly with the Armature, be sure that the Bearing Plate Retainer (71) is positioned with the side reading 'fan side' facing the fan as shown.

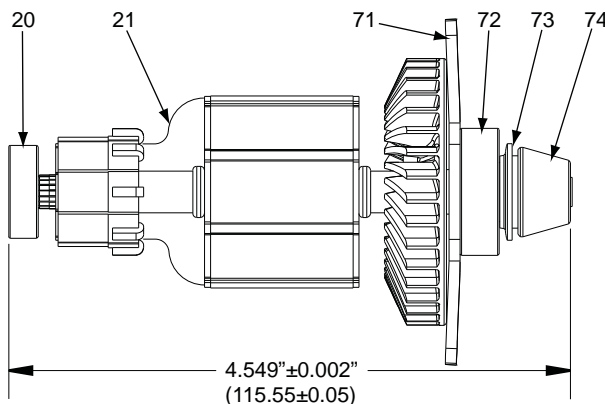
IMPORTANT:

When reassembling parts (71, 72, 73 & 74) onto the Armature (21), use a conventional arbor press. Utilizing a hydraulic press IS NOT recommended!



Apply a thin coat of lightweight oil to armature shaft.

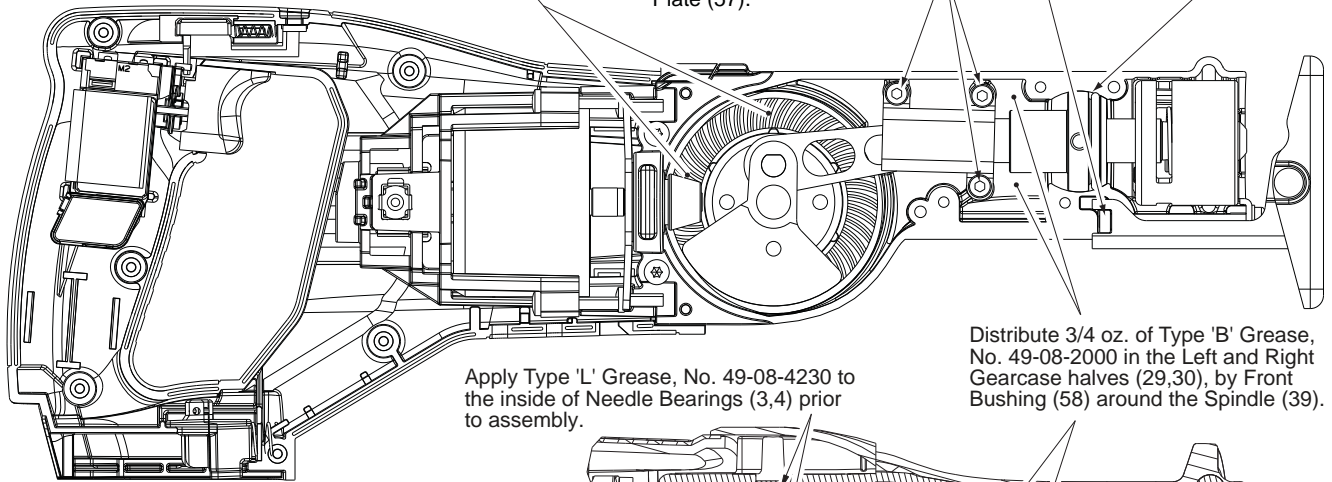
Pre-assemble these three parts



Coat front bushing pocket area in both Gearcase Halves (29,30) with a light film of Type 'B' Grease prior to assembly.

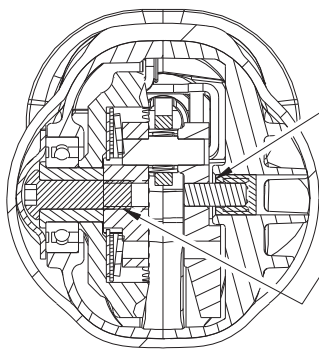
Distribute 1 oz. of Type 'L' Grease on top of Spiral Bevel Gear (36) and at Gear/Connection Rod (59) interface.

Apply Green Loctite® 620 or equivalent to threads of Orbit Slot Screws (3 & 10) and inside threads of Retaining Plate (57).



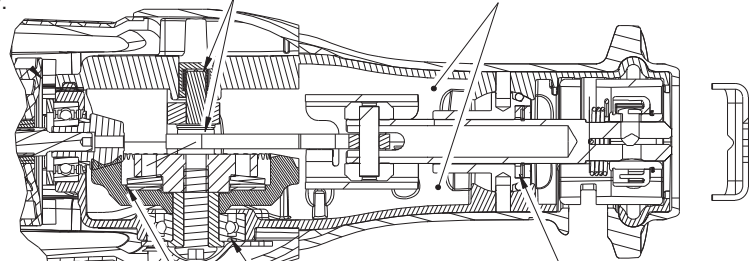
Apply Type 'L' Grease, No. 49-08-4230 to the inside of Needle Bearings (3,4) prior to assembly.

Distribute 3/4 oz. of Type 'B' Grease, No. 49-08-2000 in the Left and Right Gearcase halves (29,30), by Front Bushing (58) around the Spindle (39).



Press Needle Bearing (4) .030" minimum subflush.

Apply Green Loctite® 620 or equivalent to threads of LH Drive Hub Bolt (5).

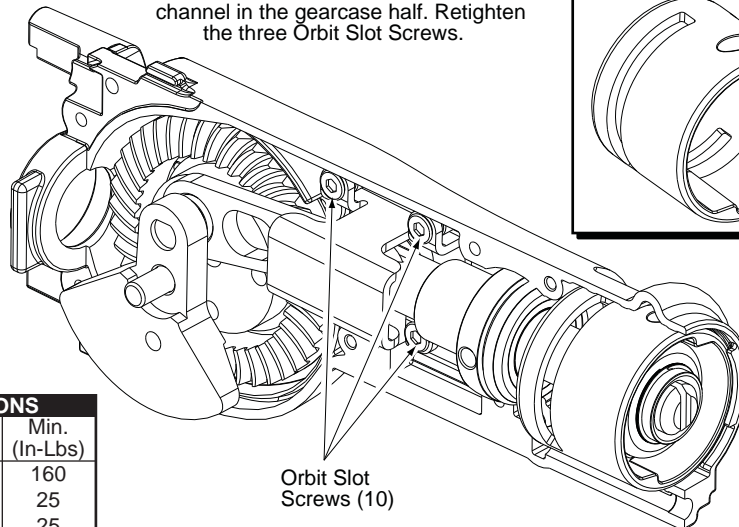
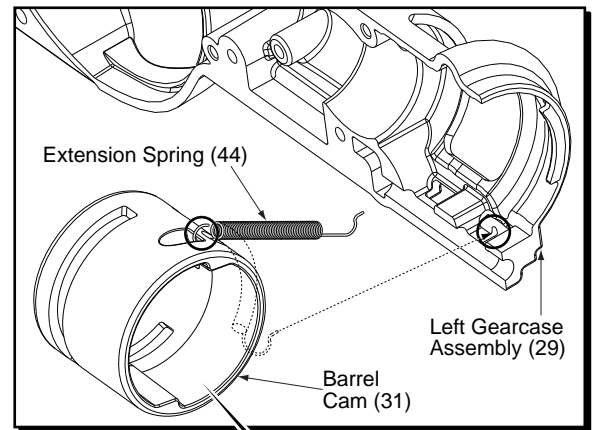


Bearing seal direction

Apply Type 'L' Grease to all rubbing surfaces in clutch: Disc Spring (41) and Metal Plates (51,52).

Prior to assembly, saturate the Felt Seal (60) with a lightweight oil.

As an aid to install Extension Spring (44), assemble gearcase components as shown. Loosen but do not remove the three Orbit Slot Screws (10). This will allow for the front end assembly, including the Barrel Cam (31) to pivot away from the Left Gearcase (29). There should be enough room to attach the Extension Spring to the top recess area in the Barrel Cam and small hole in the bottom front of the Left Gearcase. Spring should wrap around the side of the Barrel Cam and rest inside channel in the gearcase half. Retighten the three Orbit Slot Screws.



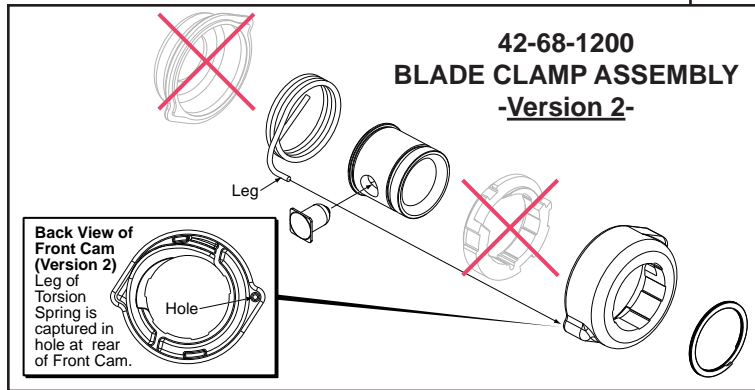
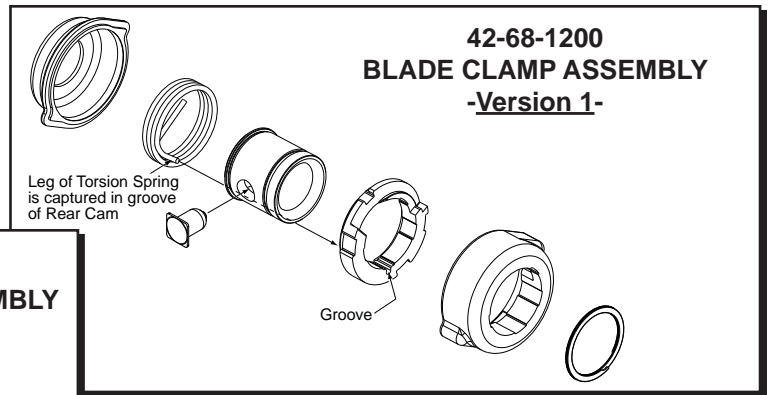
Orbit Slot Screws (10)

TORQUE SPECIFICATIONS

Fig.	Part No.	Max. (In-Lbs)	Min. (In-Lbs)
5	06-08-0015	190	160
9	06-81-0065	30	25
10	06-82-3830	35	25
11	06-82-3900	40	30
12	06-82-5316	35	25
13	06-82-5346	35	25
14	06-82-5362	15	10
15	06-82-7261	20	10
16	06-82-7290	20	10

SERVICE NOTE:

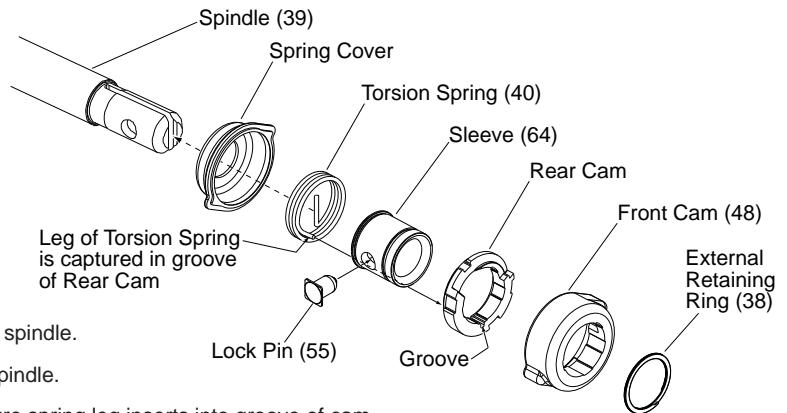
There are two versions of the 42-68-1200 Blade Clamp Assembly. Although Version 2 has two fewer parts, Version 1 and Version 2 are completely interchangeable.

**REMOVING THE STEEL QUIK-LOK® BLADE CLAMP - VERSION 1**

- Remove external retaining ring (38) and pull front cam (48) off.
- Pull lock pin (55) out and remove remainder of parts and discard.

REASSEMBLY OF THE STEEL QUIK-LOK® BLADE CLAMP

- Coat new lock pin with powdered graphite.
- Hold tool in a vertical position.
- Place spring cover onto spindle.
- Slide torsion spring (40) onto spindle with spring leg on hole side of spindle.
- Slide sleeve (64) onto spindle aligning hole on sleeve with hole in spindle.
- Slide rear cam over sleeve until it bottoms on sleeve shoulder, ensure spring leg inserts into groove of cam.
- Rotate rear cam in the direction of the arrows located on spring cover until there is clearance for lock pin (55) to be inserted into sleeve/spindle holes. Insert lock pin.
- Align front cam (48) inner ribs with rear cam outer slots and slide front cam onto sleeve until it bottoms. Retaining ring groove should be completely visible.
- Attach retaining ring (38) by separating coils and inserting end of ring into groove, then wind remainder of ring into groove. Ensure ring is seated in groove.
- Blade clamp should rotate freely. During normal usage, debris may not allow blade clamp to rotate freely. The use of spray lubricant can help free blade clamp. In extreme conditions, follow these instructions to remove, clean and reassemble blade clamp.

**REMOVING THE STEEL QUIK-LOK® BLADE CLAMP - VERSION 2**

- Remove external retaining ring (38) and pull front cam (48) off.
- Pull lock pin (55) out and remove remainder of parts and discard.

REASSEMBLY OF THE STEEL QUIK-LOK® BLADE CLAMP

- Coat new lock pin with powdered graphite.
- Hold tool in a vertical position.
- Slide torsion spring (40) onto spindle with spring leg on hole side of spindle.
- Slide sleeve (64) onto spindle aligning hole on sleeve with hole in spindle.
- Insert lock pin.
- Slide front cam (48) onto sleeve and insert leg of spring (40) into small hole in the back of the cam (see detail above) until it bottoms. Retaining ring groove on the sleeve (64) should be completely visible.
- Attach retaining ring (38) by separating coils and inserting end of ring into groove, then wind remainder of ring into groove. Ensure ring is seated in groove.
- Blade clamp should rotate freely. During normal usage, debris may not allow blade clamp to rotate freely. The use of spray lubricant can help free blade clamp. In extreme conditions, follow these instructions to remove, clean and reassemble blade clamp.

