



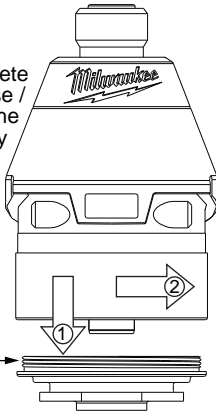
SERVICE PARTS LIST

BULLETIN NO.
54-26-2482

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN	DATE
M12™ Brushless 1/4" Hex Impact Driver		54-26-2481	July 2014
CATALOG NO.	2453-20	WIRING INSTRUCTION	
STARTING SERIAL NO.	E51C	SEE PAGES 2 and 3	

IMPORTANT NOTE: Gearcase end cap #25 is LEFT HAND THREAD!

As an aid to assembly, carefully lower the complete front end of tool (gearcase / impacting system) onto the gearcase end cap. Gently hand tighten front end assembly onto gearcase end cap. Be careful not to cross-thread! Once installed by hand, seat gearcase end cap with a good adjustable wrench using light pressure. Do not over tighten!

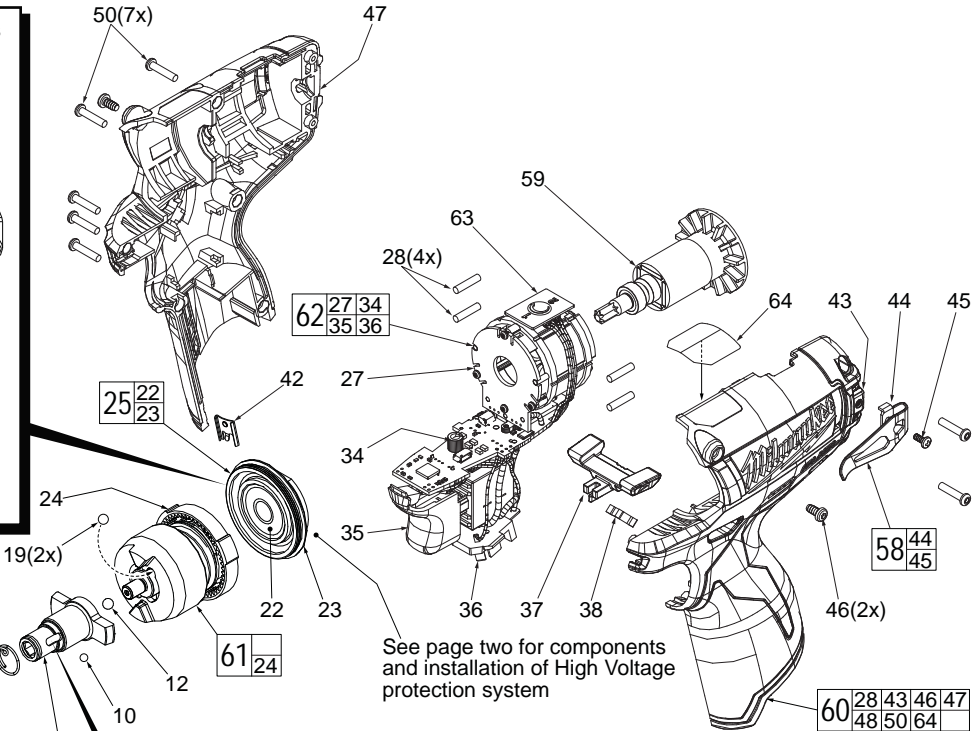
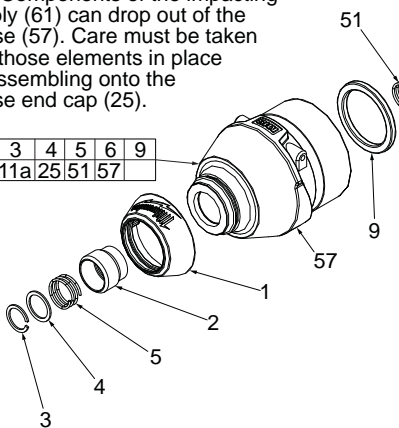


LEFT HAND THREAD

**Torque to 260 in/lbs ±24 in/lbs
(300 kgf-cm ±27 kgf-cm)**

NOTE: Components of the impacting assembly (61) can drop out of the gearcase (57). Care must be taken to hold those elements in place when assembling onto the gearcase end cap (25).

56	2	3	4	5	6	9
10	11a	25	51	57		



See page two for components and installation of High Voltage protection system

NOTE: Place anvil spring (51) onto anvil (11a) with curled end inserted in slot of anvil as shown. Place ball (10) in anvil slot in front of spring.

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



FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	31-12-0575	Rubber Cap	(1)
2	45-22-2653	Sleeve	(1)
3	34-60-0725	Retaining Ring	(1)
4	45-88-1880	Washer	(1)
5	40-50-1470	Spring	(1)
6	-----	Anvil Bushing (Not Shown)	(1)
9	45-88-2135	Plastic Washer	(1)
10	02-02-0170	3.5mm Steel Ball	(1)
11a	42-06-0720	1/4" Hex Anvil	(1)
12	02-02-1300	5mm Steel Ball	(1)
19	02-02-0180	4.7mm Steel Ball	(2)
22	-----	Ball Bearing	(1)
23	-----	Gearcase End Cap	(1)
24	-----	Ring Gear	(1)
25	44-66-1065	Gearcase End Cap Assembly	(1)
27	-----	Stator Assembly	(1)
28	45-30-0300	Rubber Slug	(4)
34	-----	PCBA	(1)
35	-----	On-Off Switch	(1)
36	-----	Terminal Block Assembly	(1)
37	45-24-0810	Fwd/Rev Shuttle	(1)
38	40-50-1135	Spring	(1)
42	42-70-0058	Housing Connection Clip	(1)
★43	-----	Left Handle Halve with Fuel Gauge	(1)
44	42-70-0580	Belt Clip	(1)
45	-----	Belt Hook Screw	(1)
46	06-82-1090	M3 x 7mm Pan Hd. Plastite Screw	(2)
47	-----	Right Handle Halve	(1)

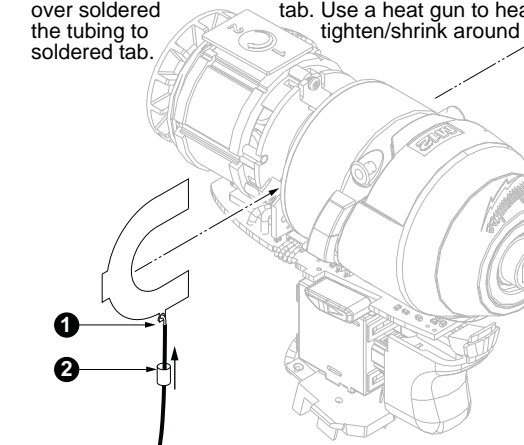
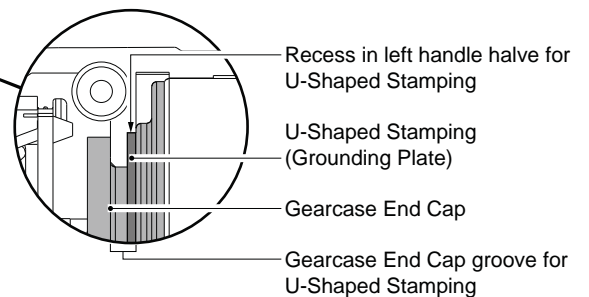
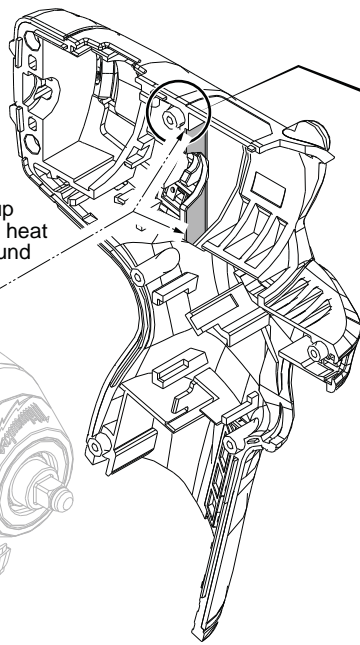
FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
48	12-20-2435	Service Nameplate (Not Shown)	(1)
49	42-55-1060	Carrying Case	(1)
50	06-82-7236	4-20 x 5/8" Pan Hd. Plastite T-10 Scr	(7)
51	40-50-0012	Anvil Spring	(1)
56	14-30-1170	Gearcase Assembly	(1)
57	28-50-0920	Front Gearcase with Bushing	(1)
58	42-70-0490	Belt Clip Assembly	(1)
59	16-07-0420	Rotor Assembly	(1)
60	31-44-2453	Handle Assembly	(1)
61	14-30-1200	Impacting Assembly	(1)
62	14-20-1520	Electronics Assembly	(1)
63	23-66-2455	POP Switch	(1)
64	10-20-2845	Spanish/French Warning Label	(1)
★70	23-94-2120	U-Shaped Stamping/Wire Kit (Page 2)	(1)

FIG. LUBRICATION (Type 'J' Grease, No. 49-08-4220):

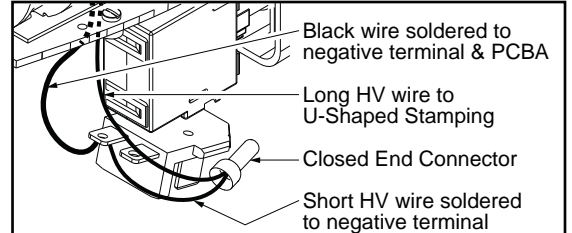
10,11a	Lightly coat front washer surface of anvil (11a) with grease, place a dab in the ball slot of anvil.
24,61	Lightly coat the I.D. of the ring gear (24) and the center of the planet gears of impacting assembly with grease.
57	Coat inside of bushing inside front gearcase with grease.
59	Coat pinion of rotor assembly (59) with grease.

**To assemble U-Shaped Stamping/Wire Kit
No. 23-94-2120:**

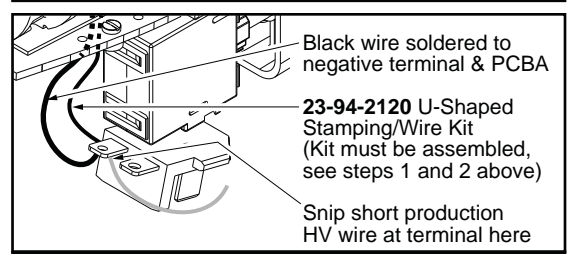
1. Trim any excess wire stranding from 115mm wire. Place wire through hole in small tab of stamping. Twist metal strands to temporarily hold wire to stamping. Trim any excess wire stranding. **Be sure to position wire straight down at the 6:00 position.** Secure with minimal solder to the strands.
2. Feed heat shrink tubing over the wire and slide up over soldered tab. Use a heat gun to heat tighten/shrink around soldered tab.



Route wire around PCBA and fwd./rev. shuttle (See below). Solder this end of wire to rear left terminal on battery connector block.
NOTE: Switch and connector block are shown without wires for clarity.



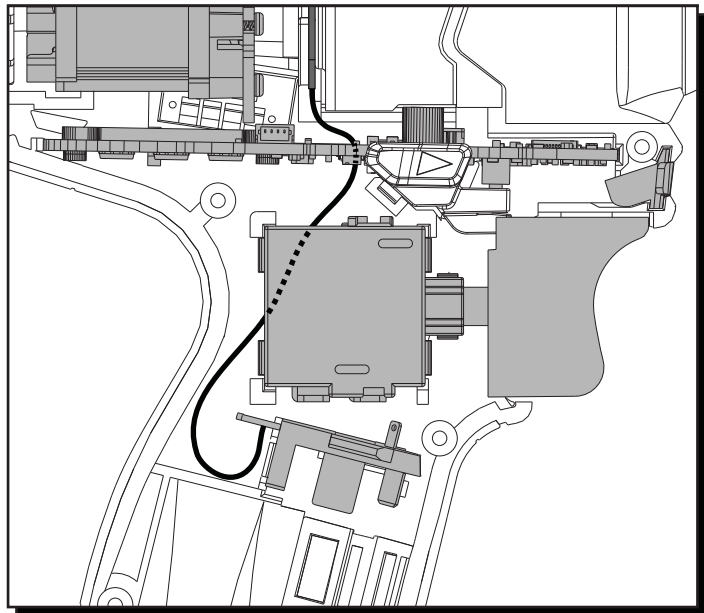
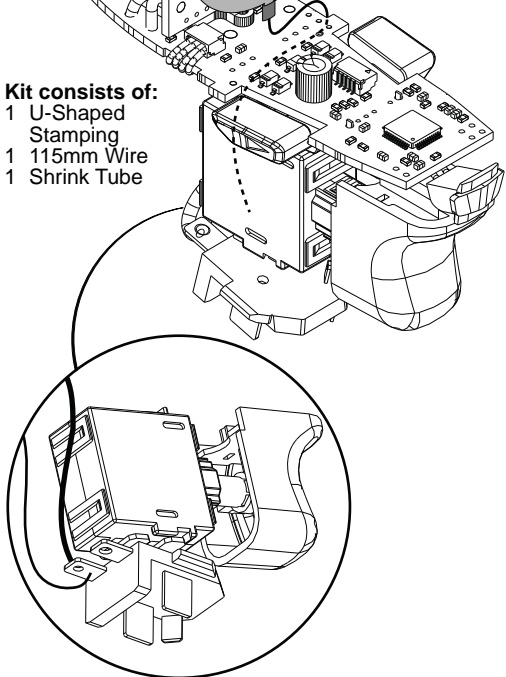
PRODUCTION WIRING- For ease in production, the Electronics Assembly (Switch, Stator, PCBA and Battery Terminal Block) has a short HV wire pre-soldered to the negative terminal. During production a longer HV wire (with a U-Shaped Stamping) is joined to short wire with an closed end connector.



SERVICE WIRING- When installing a service replacement U-Shaped Stamping/Wire Kit (23-94-2120) it is recommended to snip old HV wire system at battery terminal. Remove and discard that short wire, closed end connector and longer wire with U-Shaped Stamping. Follow instructions to install new wire kit.

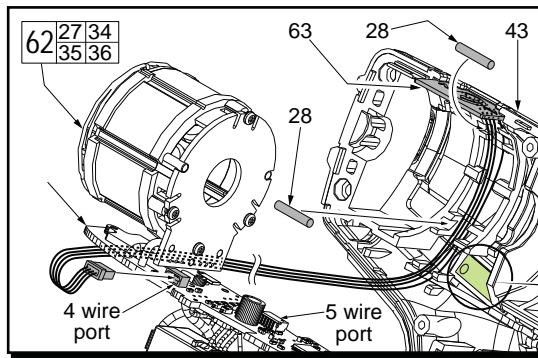
3. Remove Electronic/Gearcase Assemblies from housing halves.
4. Place U-Shaped Stamping onto groove of gearcase end cap with small tab/wire positioned at the bottom. Route the wire to the left side (behind) the PCBA.
5. Loosly install the Electronic/Gearcase Assembly (with the U-Shaped Stamping/Wire Assembly in place) into the Left Housing Halve. Wire is to be positioned behind the fwd./rev. shuttle. Be sure the U-Shaped Stamping is properly seated in the recess of the housing. (See detail above).
6. Take the loose end of the kit wire and place metal wire strands onto negative terminal of the battery terminal block (rear left side with black wire attached to it). Secure that end with a minimal amount of solder.
7. Press all electronic components in place and route all wires in the left handle half according to the wiring diagram on page two. Be sure all mechanical and electrical components are firmly seated. Be sure all wires are pressed firmly down in traps. Be sure that the fwd./rev. shuttle and spring are reinstalled and function properly.
8. Carefully install Right Housing Halve being sure that there are no interferences. Secure with existing screws.

Kit consists of:
1 U-Shaped Stamping
1 115mm Wire
1 Shrink Tube



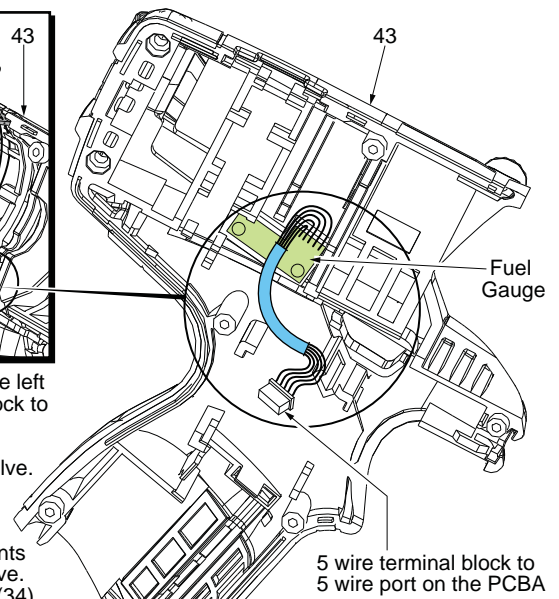
AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

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

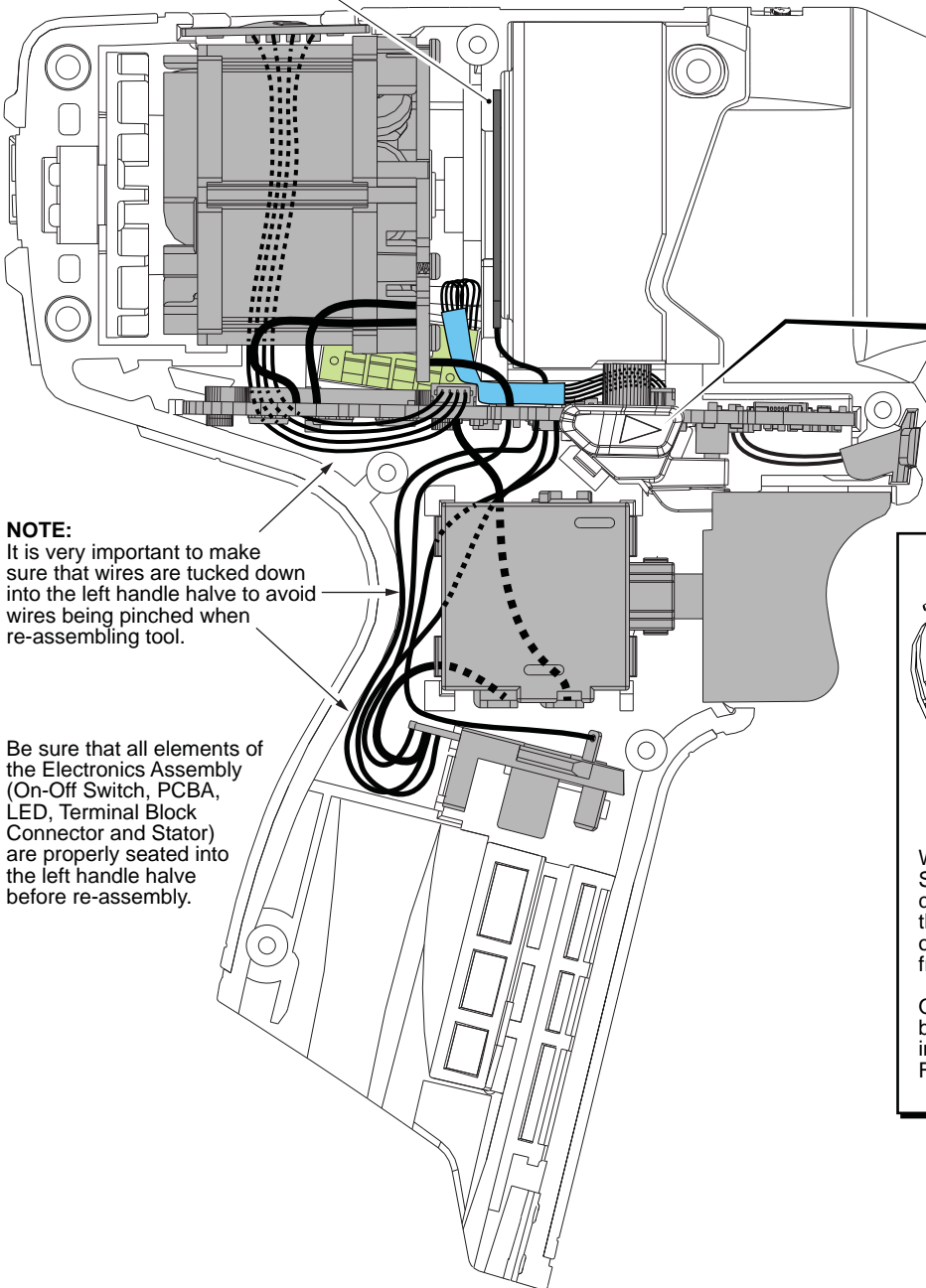


The fuel gauge assembly is a fixed component of the left handle half (43). Connect the five wire terminal block to the corresponding five wire port on the PCBA.

Place POP Switch (63) into top slot of left handle half. Be sure that the '2' is positioned to the back of tool. Route the four wires through the channel along the inside wall as shown. Trap the wires in place using two Rubber Slugs (28). Carefully place all components of the Electronics Assembly (62) into the handle half. Connect the four wire terminal to the port on PCBA (34).

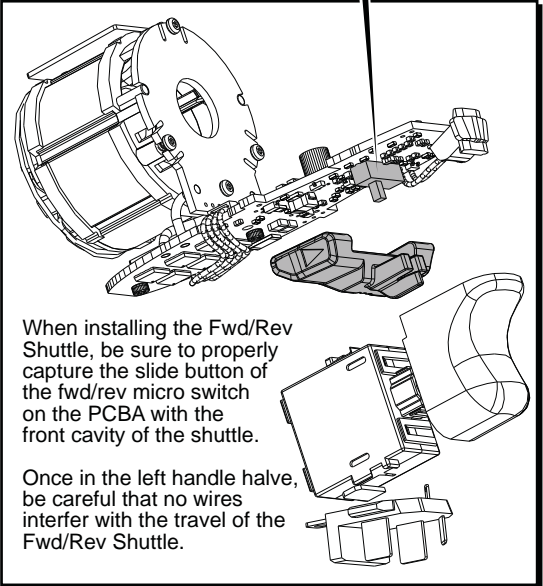
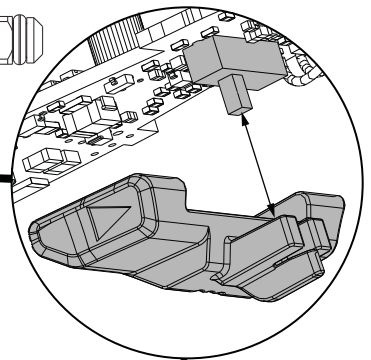


U-Shaped Stamping (Ground Plate) placed in center groove of gearcase end cap



NOTE:
It is very important to make sure that wires are tucked down into the left handle half to avoid wires being pinched when re-assembling tool.

Be sure that all elements of the Electronics Assembly (On-Off Switch, PCBA, LED, Terminal Block Connector and Stator) are properly seated into the left handle half before re-assembly.



When installing the Fwd/Rev Shuttle, be sure to properly capture the slide button of the fwd/rev micro switch on the PCBA with the front cavity of the shuttle.

Once in the left handle half, be careful that no wires interfere with the travel of the Fwd/Rev Shuttle.