



M12 CIW12

SERVICE PARTS DIAGRAM

TTI Model Number: 018 079 081, 091

M12 FUEL™ 1/2" IMPACT WRENCH

Bulletin Date:

Mar-20

Starting Serial Number:

VERSION A - H2015

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

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 29.38 Nm \pm 2.71Nm
(300 kgf-cm \pm 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).

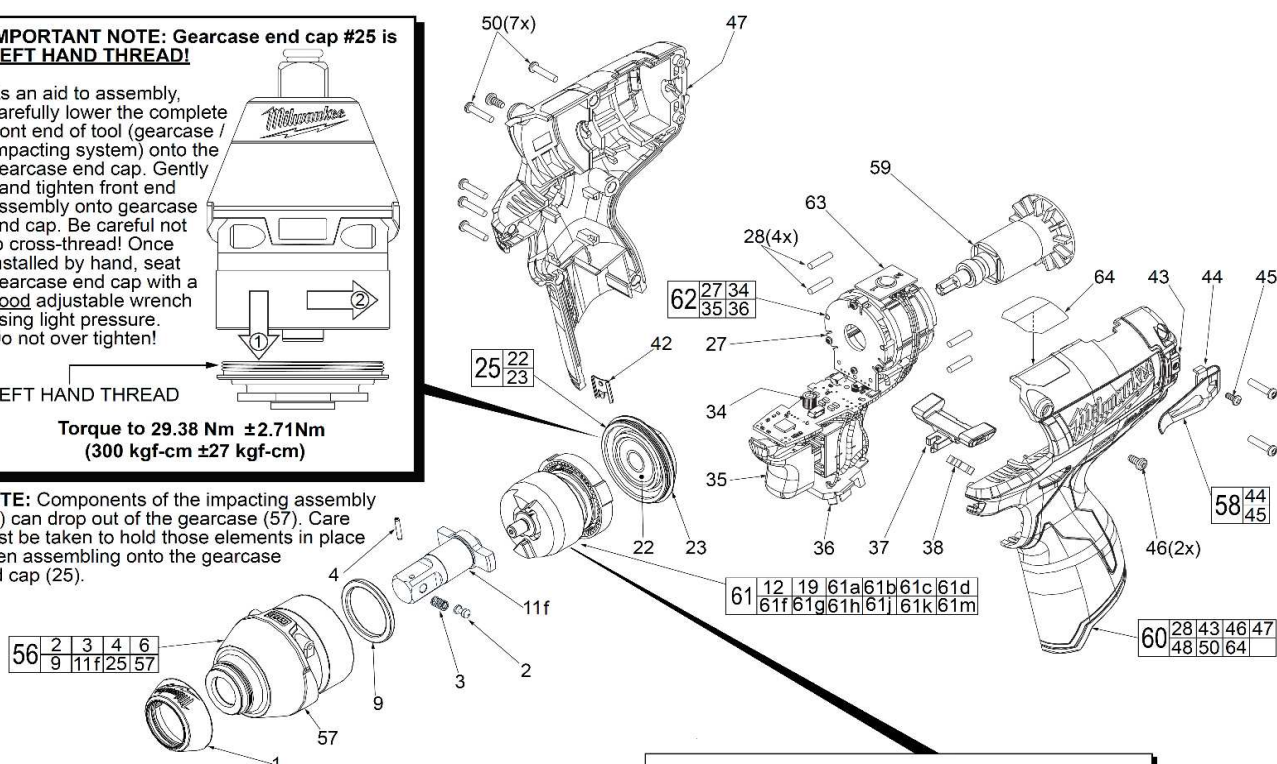
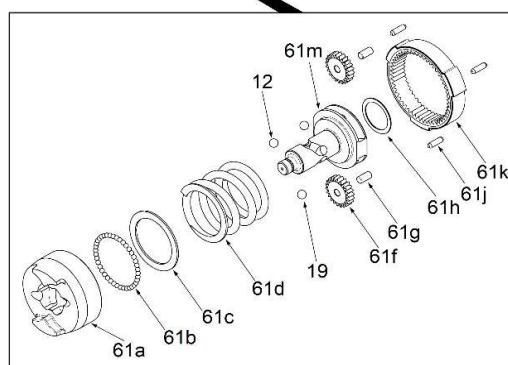


FIG. LUBRICATION (Type 'J' Grease, Item 1200):

- 11c Lightly coat front washer surface of anvil (11c) with grease.
- 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.





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SERVICE PARTS LIST

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ITEM	PART NUMBER	PART DESCRIPTION	QTY (PCS)
1	562971002	RUBBER CAP	1
2	673160010	DETENT PIN	1
3	693164009	SPRING	1
4	673021007	COILED PIN	1
6	-	ANVIL BUSHING (NOT SHOWN)	1
9	524651001	PLASTIC WASHER	1
11f	621352097	ANVIL	1
12	670219001	5MM STEEL BALL	1
19	680015001	4.7MM STEEL BALL	2
22	680676001	BALL BEARING	1
23	641918001	GEARCASE END CAP	1
25	202183001	GEARCASE END CAP ASSEMBLY	1
27	298066003	STATOR ASSEMBLY	1
28	562968001	RUBBER SLUG	4
34	280332008	PCBA	1
35	760469049	ON-OFF SWITCH	1
36	-	TERMINAL BLOCK ASSEMBLY	1
37	524499002	FWD/REV SHUTTLE	1
38	633852003	SPRING	1
42	631542001	HOUSING CLIP	1
43	-	LEFT HANDLE HALVE WITH FUEL GAUGE	1
44	634097001	BELT CLIP	1
45	661703001	M2.5 X 6MM SCREW	1
46	661746002	M3 X 7MM SCREW	2
47	-	RIGHT HANDLE HALVE	1
48	941048038	SERVICE NAMEPLATE (NOT SHOWN)	1
49	305425001	CARRYING CASE	1
50	660570005	4-20 X 5/8" SCREW	7
56	202180007	GEARCASE ASSEMBLY	1
57	202181004	FRONT GEARCASE WITH BUSHING	1
58	202186001	BELT CLIP ASSEMBLY	1
59	202184001	ROTOR ASSEMBLY	1
60	202434001	HANDLE ASSEMBLY	1
61	202182002	IMPACTING ASSEMBLY	1
61a	693116053	HAMMER	1
61b	670221001	3.0MM STEEL BALL	27
61c	634290001	WASHER	1
61d	693164004	SPRING	1

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ITEM	PART NUMBER	PART DESCRIPTION	QTY (PCS)
61f	611575003	PLANET GEAR	2
61g	671565005	PLANET GEAR PIN	2
61h	680335064	WASHER	1
61j	563131001	RUBBER BUMPER	3
61k	611574002	RING GEAR	1
61m	621338045	CAM SHAFT	1
62	202185002	ELECTRONICS ASSEMBLY	1
63	291114001	POP SWITCH	1
64	940221348	WARNING LABEL	1
1200	-	TYPE J GREASE	1



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SERVICE INSTRUCTION

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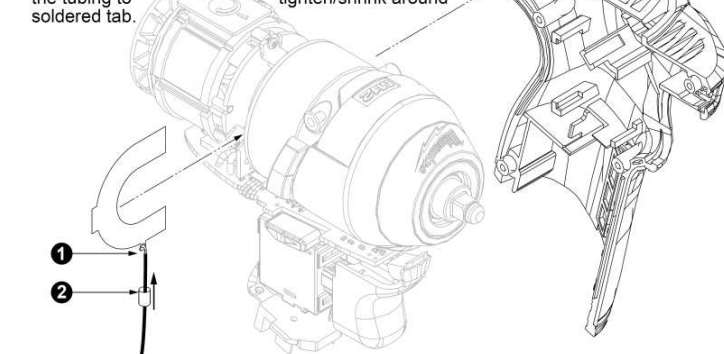
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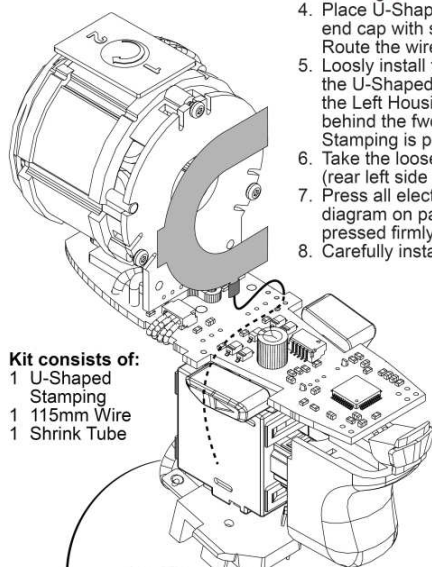
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To assemble U-Shaped Stamping/Wire Kit

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.

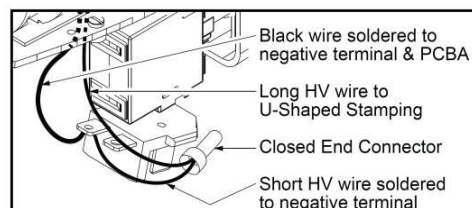
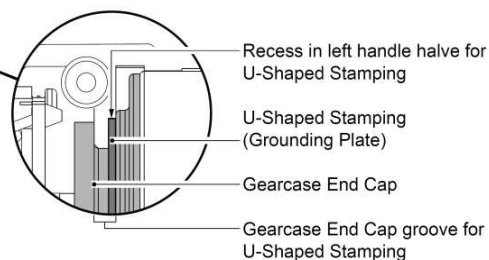
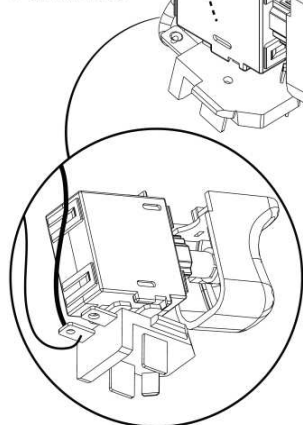


Route wire around PCBA and fwd./rev. shuttle (See below). Solder this end of wire to rear left terminal on battery connector block.
NOTE: Switch and connector block are shown without wires for clarity.

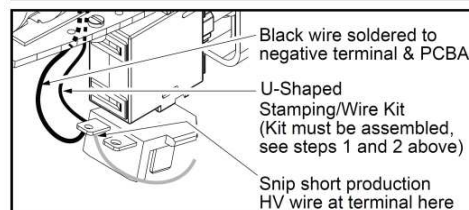


Kit consists of:

- 1 U-Shaped Stamping
- 1 115mm Wire
- 1 Shrink Tube

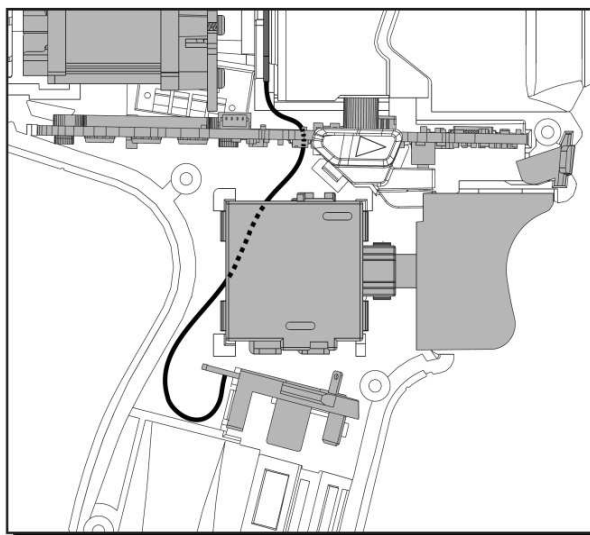


PRODUCTION WIRING- For ease in production, the Electronics Assembly (Switch, Stator, PCBA and Battery Terminal Block) has a short HV wire pre-soldered to the negative terminal. During production a longer HV wire (with a U-Shaped Stamping) is joined to short wire with an closed end connector.



SERVICE WIRING- When installing a service replacement U-Shaped Stamping/Wire Kit 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. Loosely install the Electronic/Gearcase Assembly (with the U-Shaped Stamping/Wire Assembly in place) into the Left Housing Half. 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 Half being sure that there are no interferences. Secure with existing screws.





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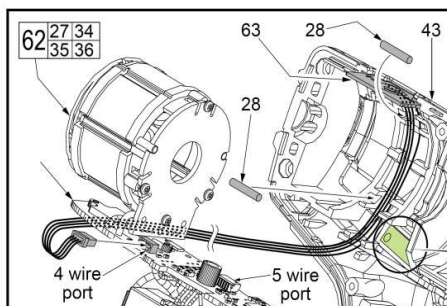
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AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

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

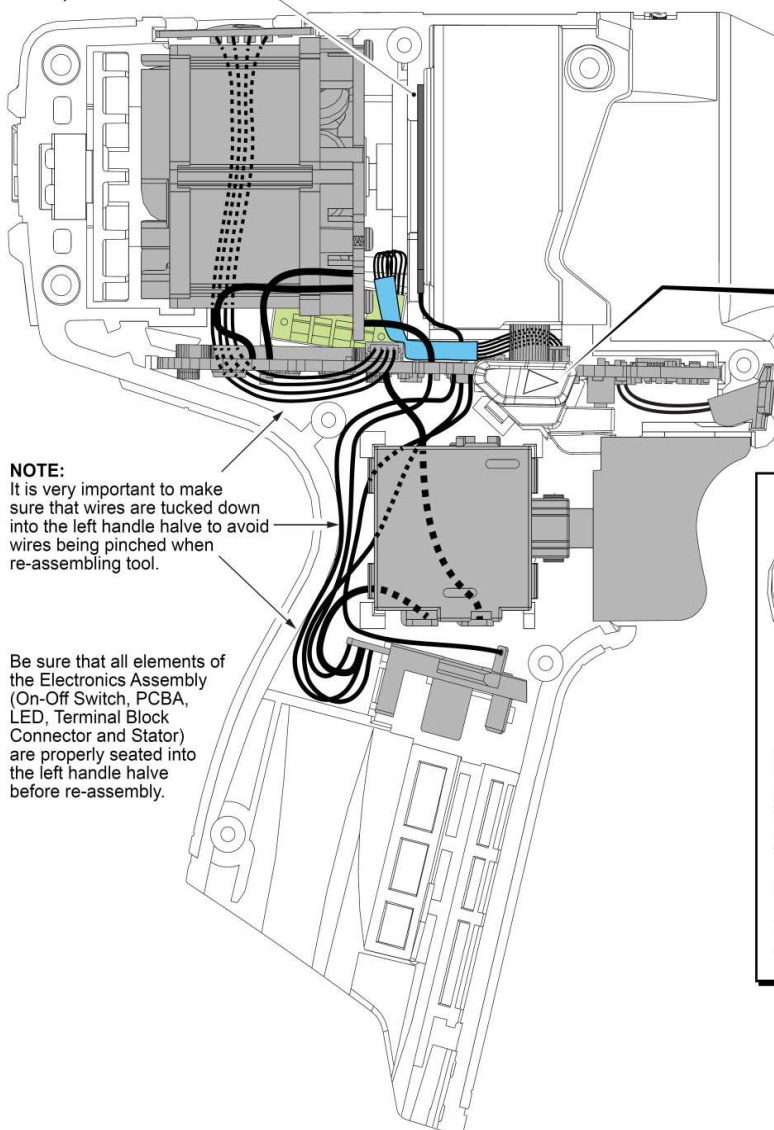


The fuel gauge assembly is a fixed component of the left handle half (43). Connect the five wire terminal block to the corresponding five wire port on the PCBA.

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).

Fuel Gauge
5 wire terminal block to 5 wire port on the PCBA

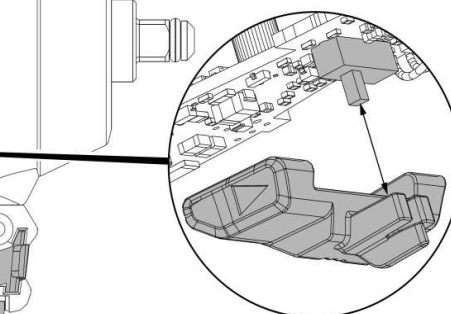
U-Shaped Stamping (Ground Plate) placed in center groove of gearcase end cap



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.