

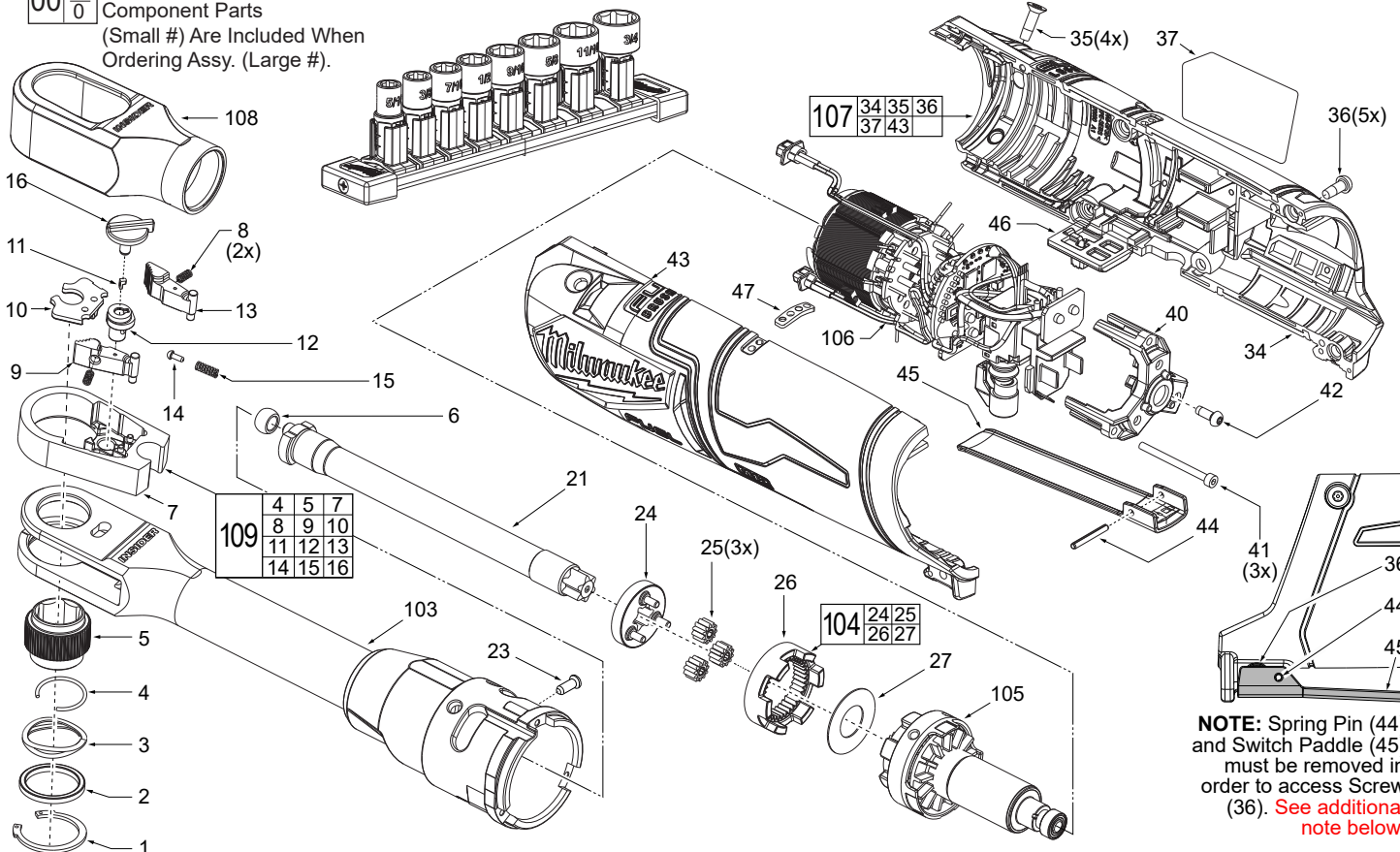


SERVICE PARTS LIST

BULLETIN NO.
54-47-0535

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN	DATE
M12 FUEL™ INSIDER™ Extended Reach Box Ratchet			Aug. 2024
CATALOG NO.	3050-20	SERIAL NUMBER	N77A
		WIRING INSTRUCTION See Pages 2 and 3	

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



NOTE: Spring Pin (44)
and Switch Paddle (45)
must be removed in
order to access Screw
(36). See additional
note below.

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	44-86-0032	Inverted Retaining Ring	(1)
2	45-88-0191	Friction Plate	(1)
3	45-88-0223	Wave Washer	(1)
4	-----	Friction Ring	(1)
5	-----	Spline	(1)
6	42-40-0017	Bushing	(1)
7	-----	Yoke	(1)
8	-----	Pawl Spring	(2)
9	-----	Left Pawl	(1)
10	-----	Pawl Cover	(1)
11	-----	"Seven" Key	(1)
12	-----	Front/Reverse Shuttle	(1)
13	-----	Right Pawl	(1)
14	-----	Front/Reverse Ball Pin	(1)
15	-----	Front/Reverse Spring	(1)
16	43-98-0072	Front/Reverse Knob	(1)
21	36-17-0017	Crank Shaft	(1)
23	44-60-0890	Drive Pin	(1)
24	28-23-1010	3-Pin Carrier	(1)
25	32-62-0085	Planet Gear	(3)
26	32-64-0130	Ring Gear	(1)
27	05-90-0230	Washer	(1)
35	05-81-0594	M4 Flat Hd. T-20 Screw	(4)
36	05-71-0017	M4 x 10mm Pan Hd. T-20 Screw	(5)
37	12-20-3002	Service Nameplate	(1)
40	44-66-1006	Motor Plate	(1)
41	05-84-0205	M2.5 x .3 Hex Recess Screw	(3)
42	06-82-2310	M3 Flat Hd. T-10 Screw	(1)
44	44-60-0575	Rivet Pin	(1)
45	44-10-0034	Paddle	(1)
46	42-42-0119	Switch Lock-Out	(1)
47	10-22-0315	Fuel Gauge Label	(1)
103	14-30-0296	Yoke Housing Service Assembly	(1)
104	28-23-2500	Gear Set Service Assembly	(1)
105	16-01-2560	Rotor Service Assembly	(1)
106	14-20-0202	Electronics Assembly	(1)
107	14-38-0097	Housing Service Kit	(1)
108	49-16-3050	Rubber Boot (Optional)	(1)
109	14-46-3050	Pawl and Spline Service Kit	(1)

FIG. 34, 37 Prior to installing a new service nameplate, apply isopropyl alcohol to the handle cover with a clean, lint free applicator & allowed to dry.

44 Use a thin blunt punch with the same OD or a similar tool like a finishing nail with the same OD and the pointed tip ground down to remove spring pin from the handle halves and switch paddle. **As an aid, be sure to prop up that corner end of ratchet to support the tapping out of the spring pin.** When reinstalling pin, align the holes and carefully press or tap pin in place.

BOX RATCHET SOCKETS (Optional)

PART NO.	DESCRIPTION OF PART	QTY.
49-16-1608	8mm Pass-Thru Socket	(1)
49-16-1609	9mm Pass-Thru Socket	(1)
49-16-1610	10mm Pass-Thru Socket	(1)
49-16-1611	11mm Pass-Thru Socket	(1)
49-16-1612	12mm Pass-Thru Socket	(1)
49-16-1613	13mm Pass-Thru Socket	(1)
49-16-1614	14mm Pass-Thru Socket	(1)
49-16-1615	15mm Pass-Thru Socket	(1)
49-16-1616	16mm Socket	(1)
49-16-1617	17mm Socket	(1)
49-16-1618	18mm Socket	(1)
49-16-1619	19mm Socket	(1)
49-16-1621	21mm Socket	(1)
49-16-1641	5/16" Pass-Thru Socket	(1)
49-16-1642	3/8" Pass-Thru Socket	(1)
49-16-1643	7/16" Pass-Thru Socket	(1)
49-16-1644	1/2" Pass-Thru Socket	(1)
49-16-1645	9/16" Pass-Thru Socket	(1)
49-16-1646	5/8" Socket	(1)
49-16-1647	11/16" Socket	(1)
49-16-1648	3/4" Socket	(1)
49-16-1640	SAE Pass-Thru Socket Set (shown above)	(1)
49-16-1667	1/4" Anvil Adapter	(1)
49-16-1668	3/8" Anvil Adapter	(1)
49-16-1666	1/2" Anvil Adapter	(1)
49-16-1663	1/4" Hex Adapter	(1)

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Drwg. 3

NOTE:
Wires of the electronics assembly (104) are routed in traps and cavities in the right handle half (34).

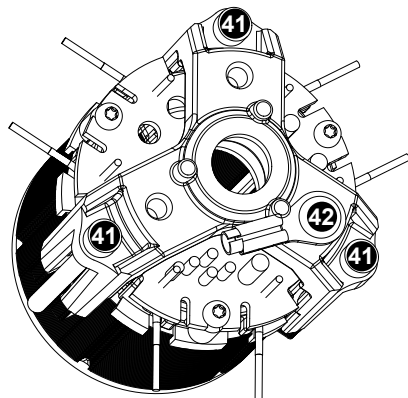
To replace the Electronics Assembly (106):

Remove five T-20 handle screws (36) from right handle half (34) and two T-20 handle/gear case screws (35) from right handle half.

Gently turn tool over and remove two T-20 handle/gear case screws (35) from left handle half (33).

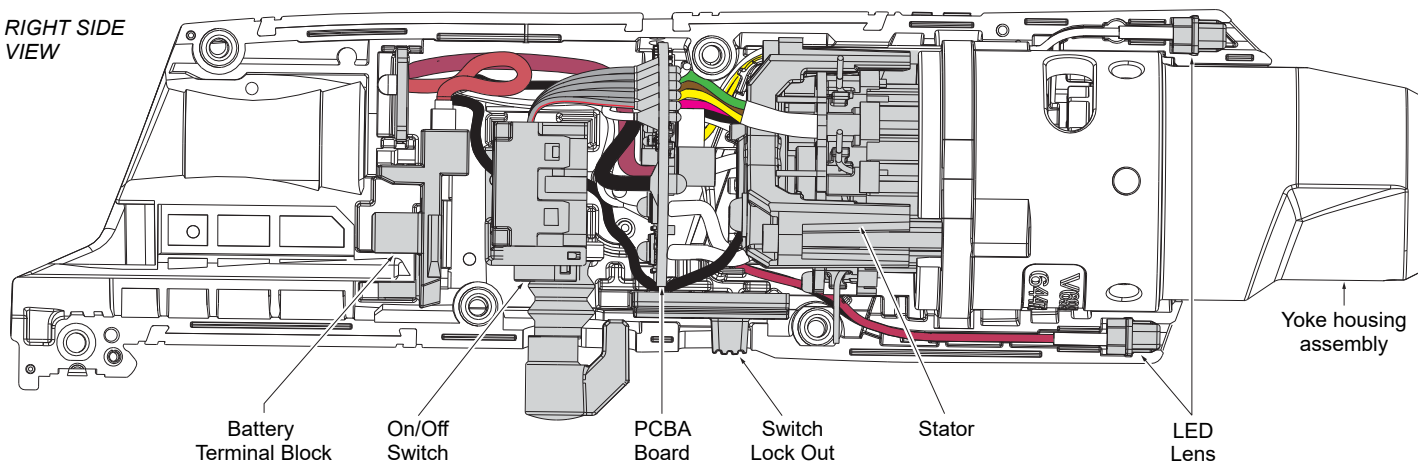
Carefully remove the left handle half to expose the electronics assembly.

Use a hex key to remove the three socket head screws (41) and a T-10 bit to remove the ground screw (42). Slide stator/rotor/motor mount plate out of yoke housing assembly.

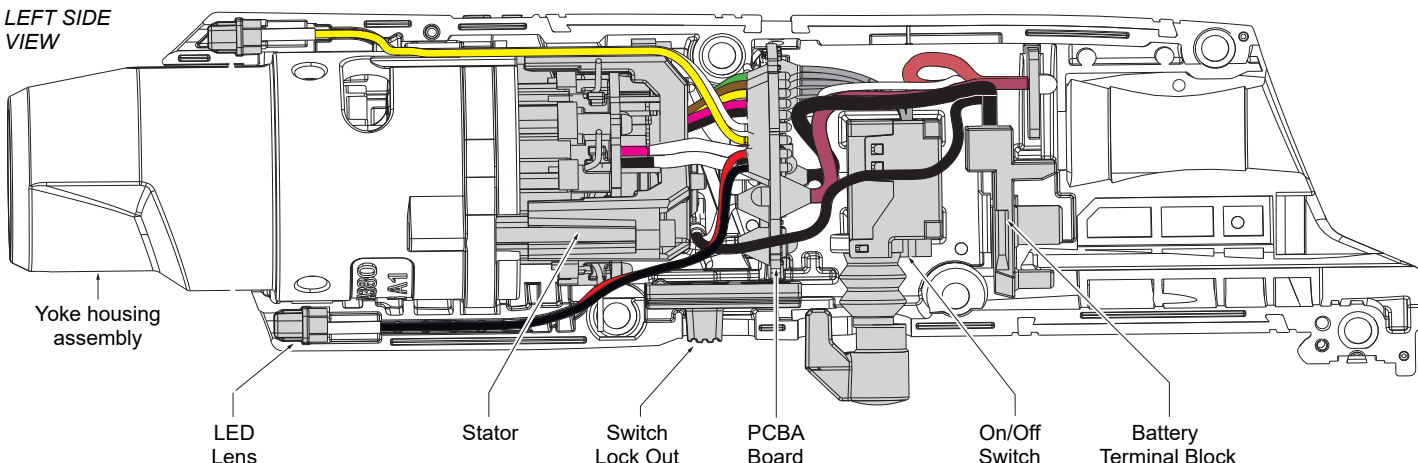


SCREW TORQUE SPECIFICATIONS				
FIG.	PART NO.	WHERE USED	SEAT TORQUE	
			(kgf-cm)	(lb-in)
35	-----	Housing Cover	16-20	14-17
36	-----	Housing Support	10-12	9-10
41	05-84-0205	Motor Plate	5-7	4-6
42	06-82-2310	Electronics Assy.	12-15	10-13

RIGHT SIDE VIEW



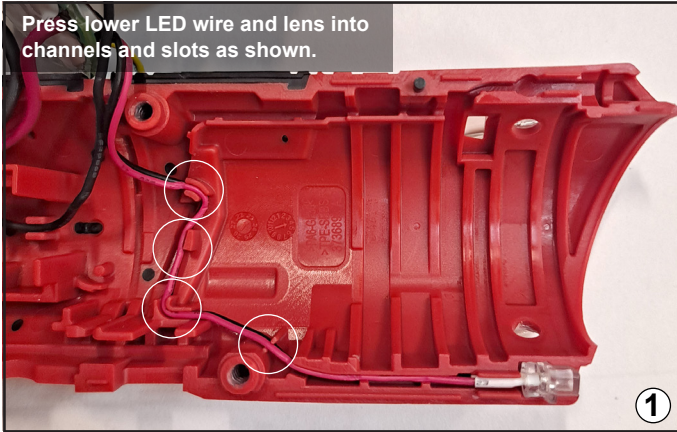
LEFT SIDE VIEW



SEE NEXT PAGE FOR SERVICE INSTRUCTIONS TO AID WITH THE REMOVAL AND INSTALLATION OF ELECTRONICS ASSEMBLY (106).

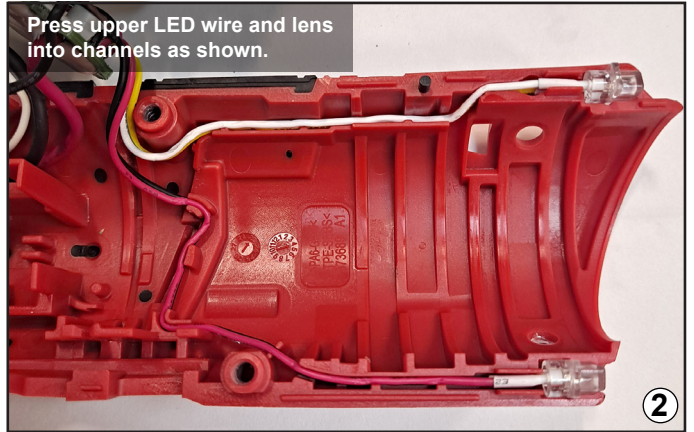
Wiring Instructions

Press lower LED wire and lens into channels and slots as shown.



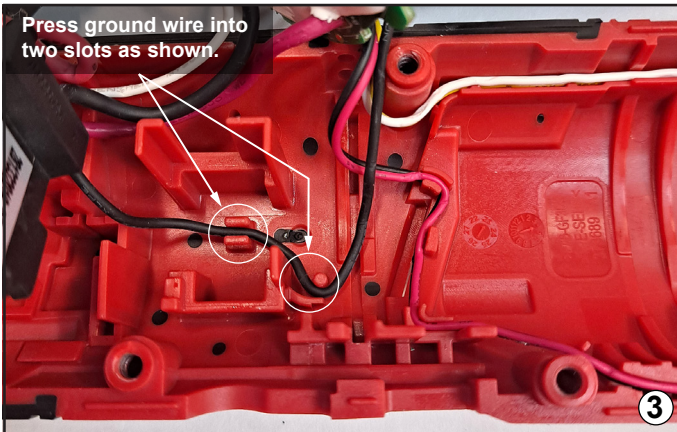
①

Press upper LED wire and lens into channels as shown.



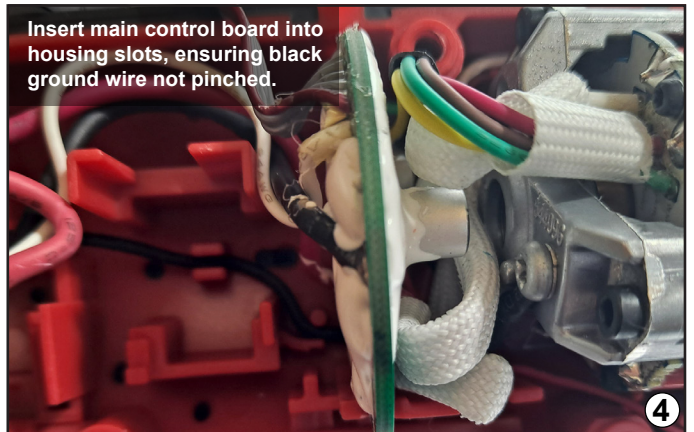
②

Press ground wire into two slots as shown.



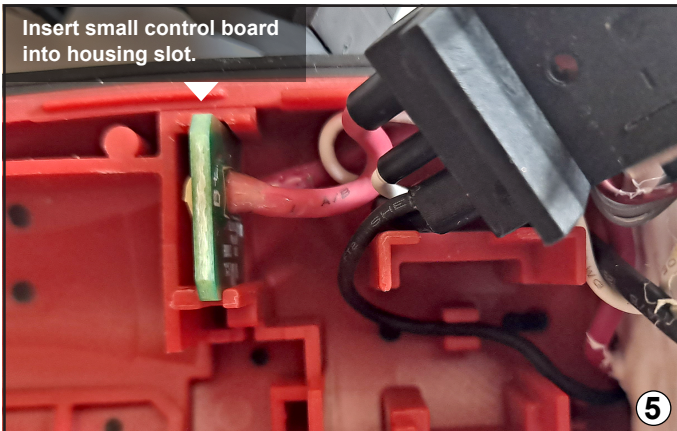
③

Insert main control board into housing slots, ensuring black ground wire not pinched.



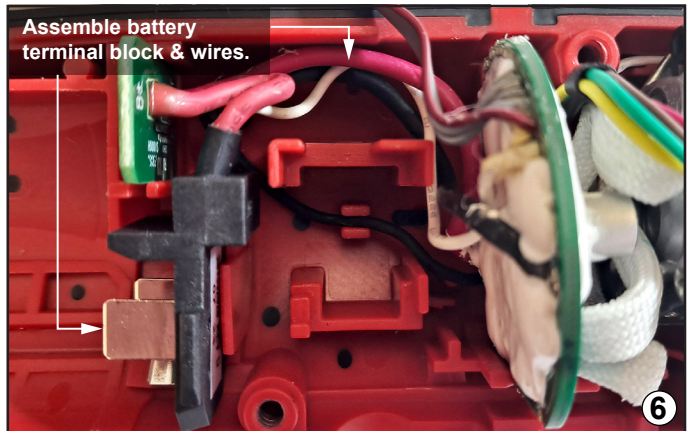
④

Insert small control board into housing slot.



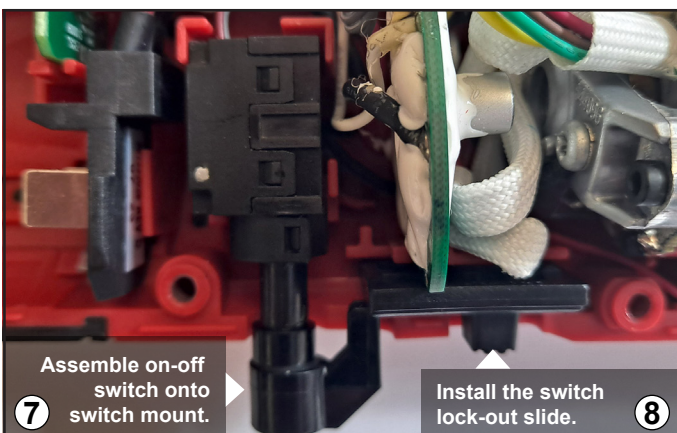
⑤

Assemble battery terminal block & wires.



⑥

Assemble on-off switch onto switch mount.



⑦

Install the switch lock-out slide.

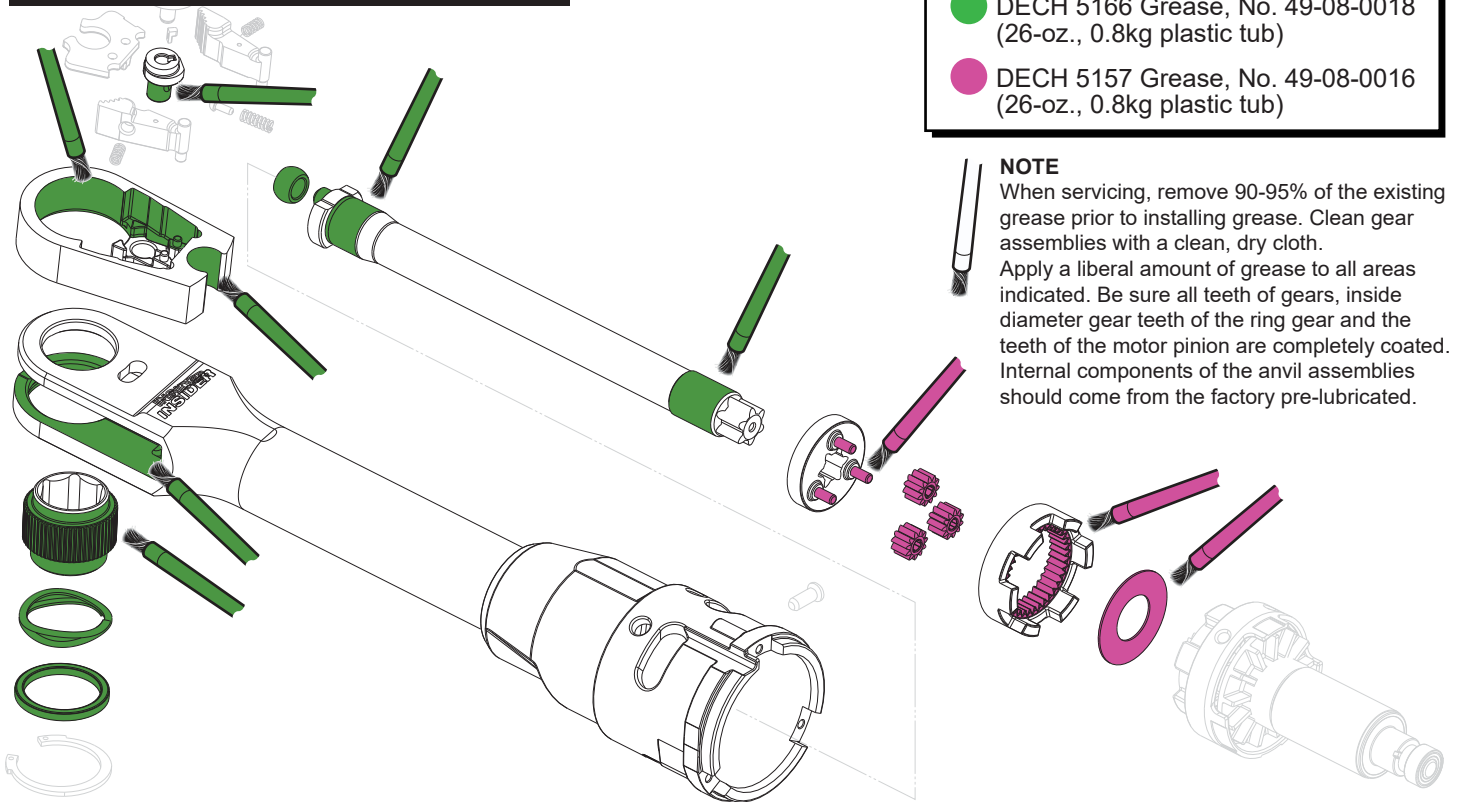
⑧

Prior to installing the housing cover onto the housing support, be sure that there are no interferences.

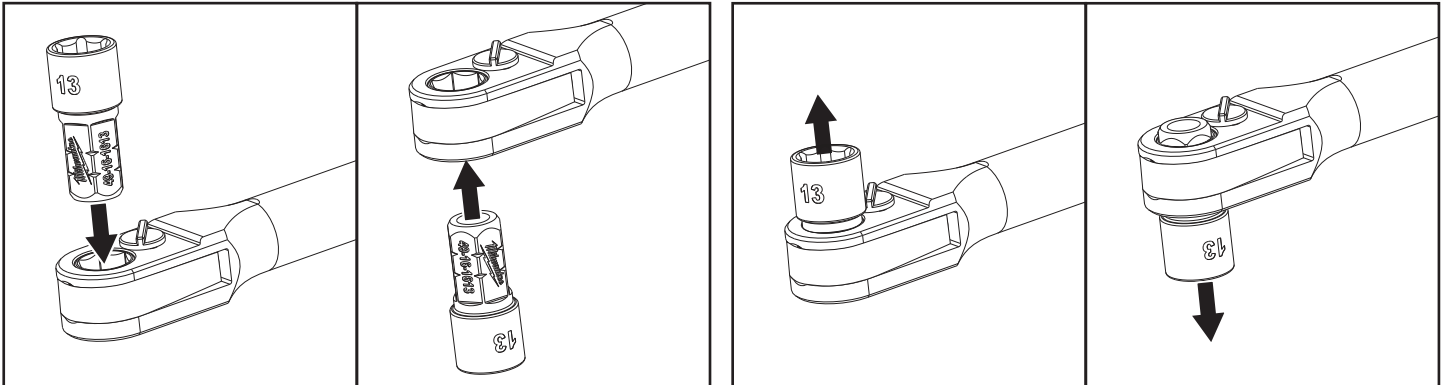


⑨

LUBRICATION INSTRUCTIONS



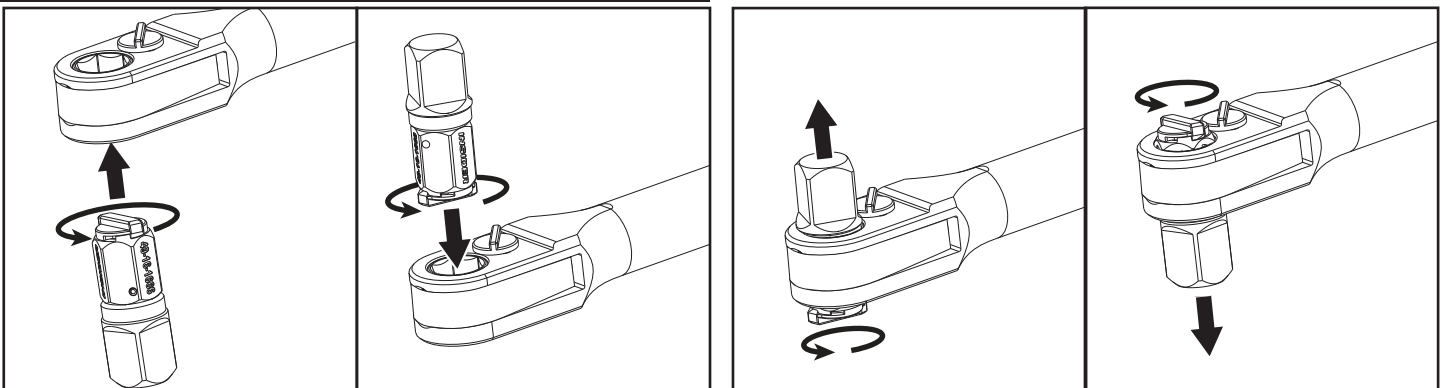
ATTACHING AND REMOVING SOCKETS



Remove battery to avoid starting the tool. To **insert** the socket into the ratchet, line up the socket with the spline opening on the ratchet, and push firmly until they click together. Insert from the bottom or top of the tool, as shown.

To **remove** the socket or accessory, pull firmly away from the tool.

ATTACHING AND REMOVING ADAPTERS



Remove battery to avoid starting the tool. To **insert** the adapter, line up the adapter with the spline, twist counterclockwise, and push the adapter into the spline. The adapter auto-locks once fully inserted and is secure in the tool.

To **remove** the adapter, the adapter knob will need to be fully rotated counterclockwise and then pushed or pulled out of the spline firmly away from the tool.