

Service Manual

Cordless Drill & Driver

Model No. **EY74A3**

Europe



WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

IMPORTANT SAFETY NOTICE


There are special components used in this equipment which are important for safety. These parts are marked by  in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

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1 Warning

Caution:

- Pb free solder has a higher melting point than standard solder; Typically the melting point is 50 - 70 °F (30 - 40 °C) higher. Please use a soldering iron with temperature control and adjust it to 750 ± 20 °F (400 ± 10 °C). In case of using high temperature soldering iron, please be careful not to heat too long.
- Pb free solder will tend to splash when heated too high (about 1100°F / 600 °C).

2 Specifications

NOTE:

Weight indication

Greater than or equal to 1 kg : indicated by 0.05 kg (0.11 lbs).

Less than 1 kg : indicated by 0.01 kg (0.02 lbs).

MAIN UNIT

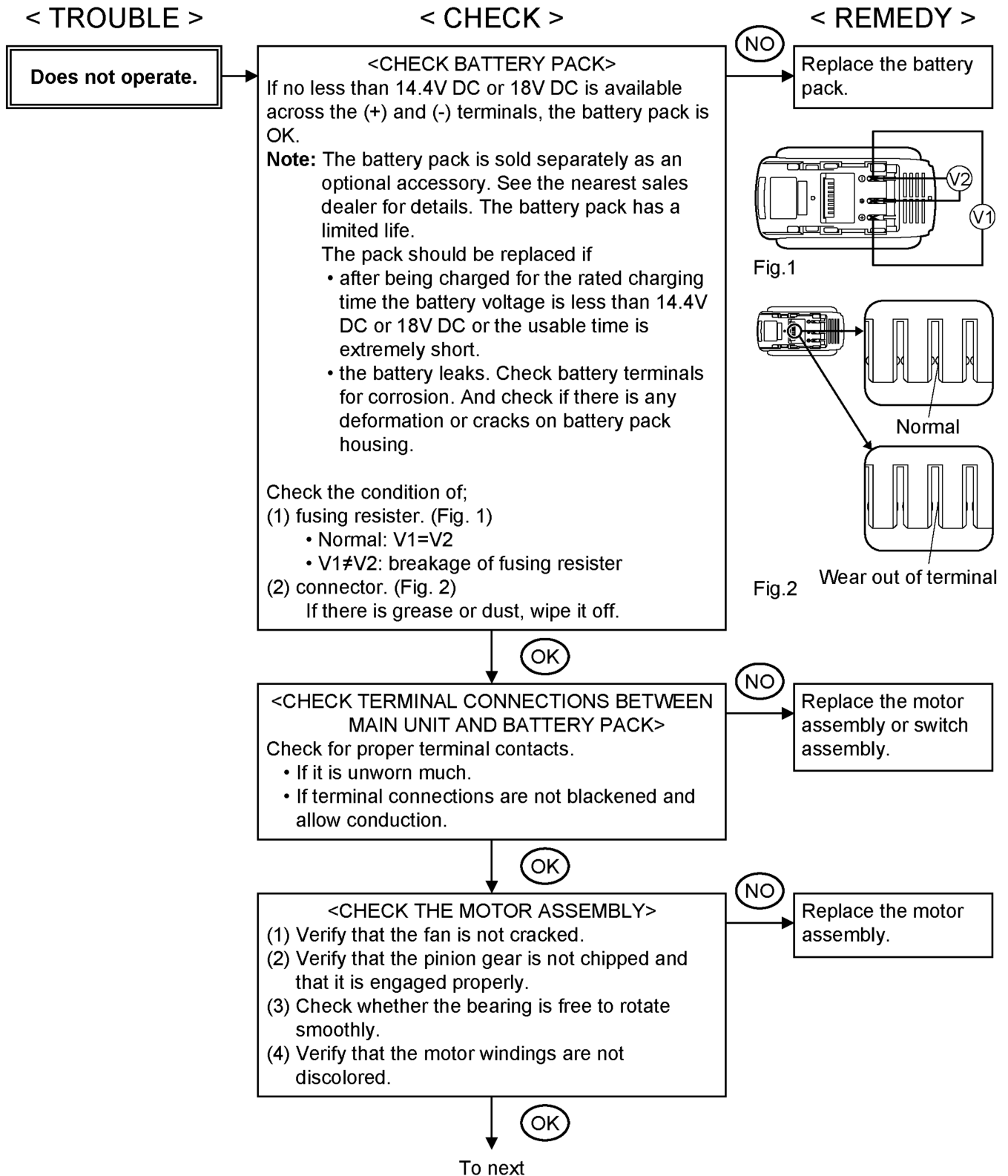
Model No.		EY74A3	
Motor voltage		14.4 V DC	18 V DC
No load speed	Low	20 – 430 min ⁻¹ (rpm)	20 – 530 min ⁻¹ (rpm)
	High	70 – 1450 min ⁻¹ (rpm)	70 – 1800 min ⁻¹ (rpm)
Chuck capacity		Φ 1.5 mm – Φ 13 mm	
Clutch torque		Approx. 0.5 N•m – 4.4 N•m	
Overall length		189 mm	
Weight With battery pack:	EY9L45	1.55 kg	—
	EY9L47	1.35 kg	—
	EY9L51	—	1.95 kg
	EY9L52	—	2.00 kg
	EY9L53	—	1.75 kg
	EY9L54	—	2.00 kg

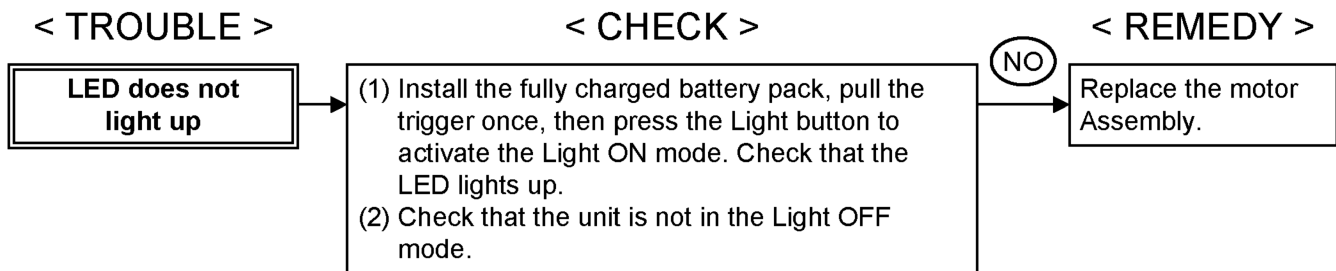
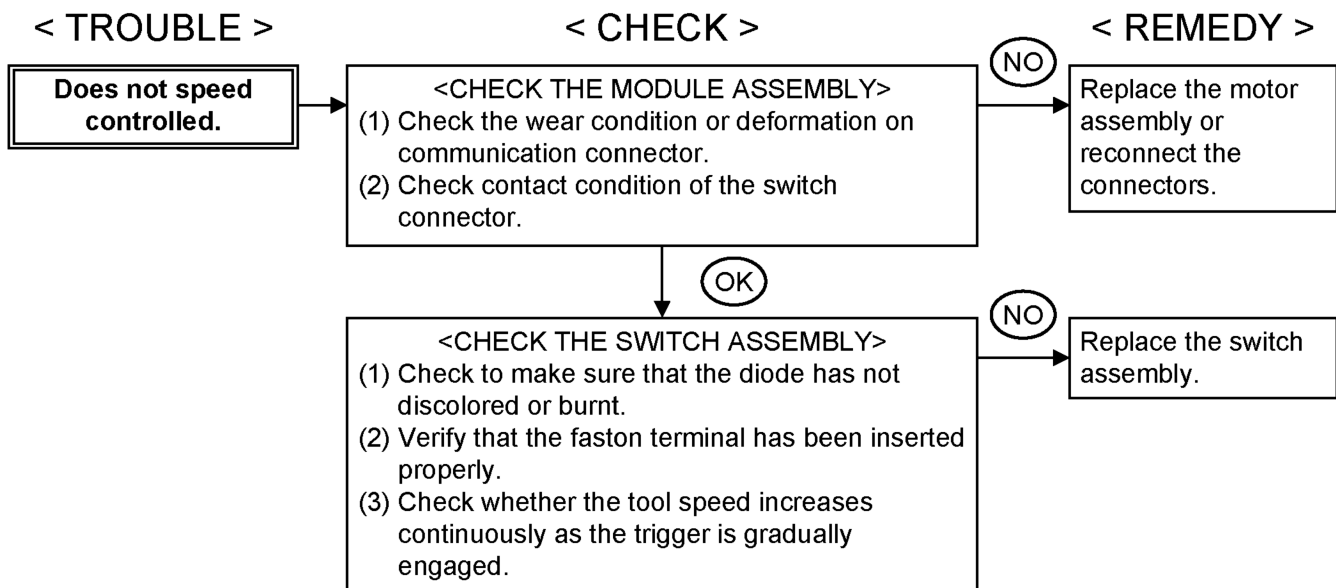
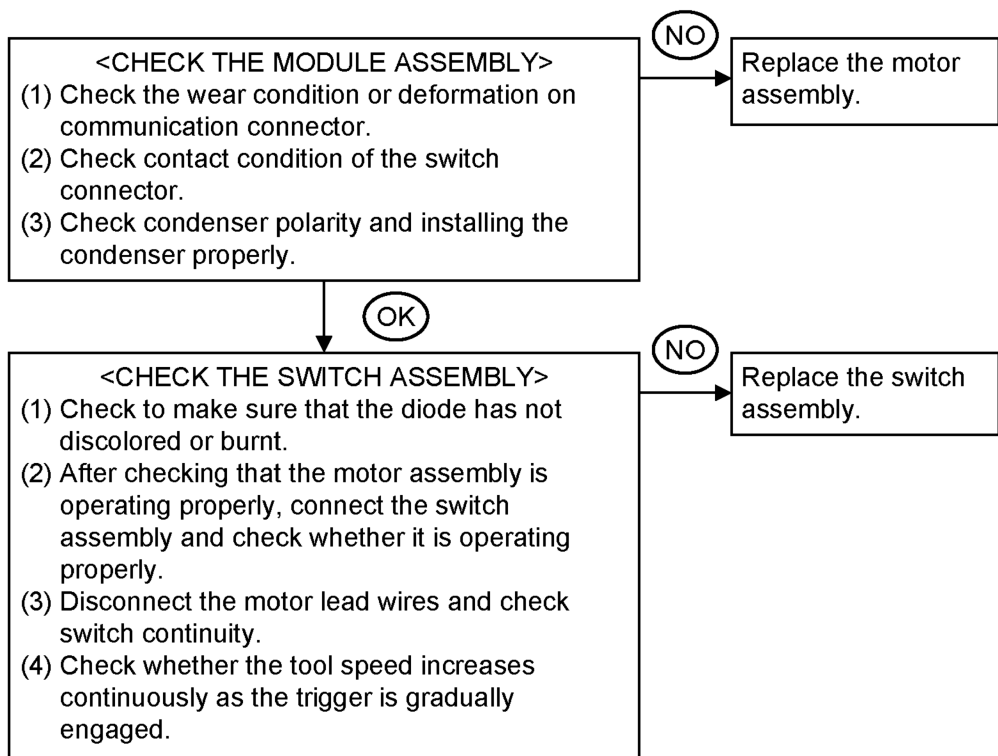
MAXIMUM RECOMMENDED CAPACITIES

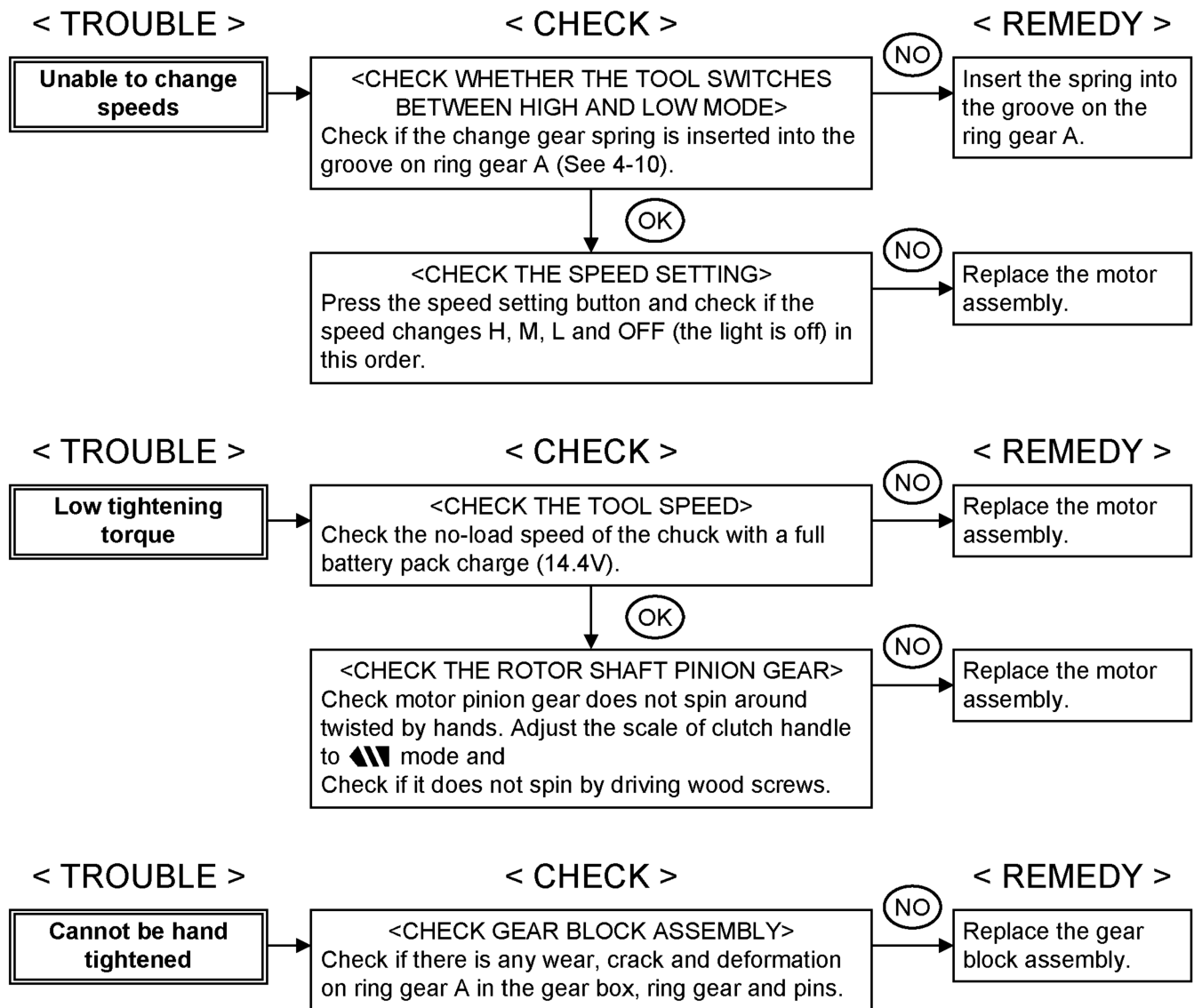
Model No.		EY74A3	
Motor voltage		14.4 V DC	18 V DC
Screw driving	Machine screw	M5	
	Wood screw	Φ 6.8 mm	Φ 8 mm
Drilling	Self-drilling screw	Φ 6 mm	
	For Wood	Φ 35 mm	Φ 38 mm
	For Metal	Φ 13 mm	

3 Troubleshooting Guide

3.1. Troubleshooting Guide







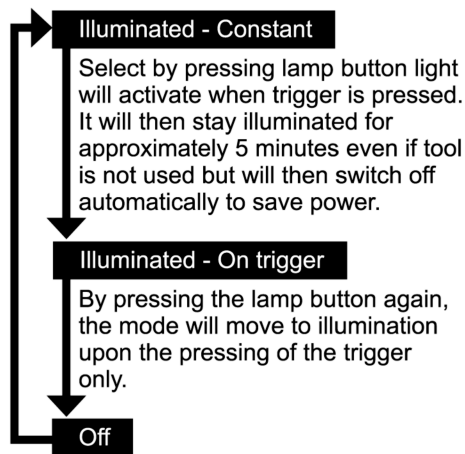
3.2. Trial Operation (after checking Troubleshooting Guide).


3.2.1. Assembly

- Confirm if there is no gap between housing A, B and C by pinching lead wires.
- There is no dust or deformation on battery terminals.

3.2.2. Operation

- Check whether the tool operates properly in both the forward and reverse directions.
- Press the light button on the operation panel to confirm that the LED lights up.



- Check whether the tool speed increases continuously as the trigger is gradually engaged.
- Rotate the clutch handle and check whether the clutch switches properly.
- Check if the rotation speed is normal rated value.
High: 1800/min (rpm) at 18V, 1450/min (rpm) at 14.4V
Low: 530/min (rpm) at 18V, 430/min (rpm) at 14.4V
- Pull the trigger all the way back and check whether the tool stops rotating immediately when it is released.
- Set the clutch handle to the [] mark and check whether the tool rotates without any clutch operation.
- Operate (rotate) the keyless chuck and check whether the chuck's three jaws move smoothly.

3.2.3. Integrity

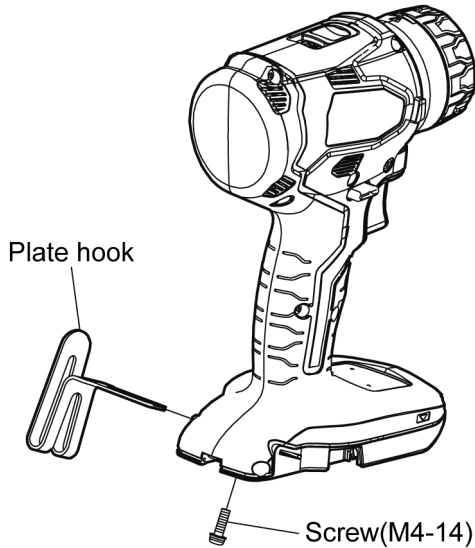
- With the switch activated, shake the tool back and forth and up and down and verify that its sound does not change excessively.
- Check for the presence of any dirt or foreign matter from the repair process on the outside of the tool.

4 Disassembly and Assembly Instructions

* To reduce the risk of injury, always remove battery pack before removing/installing the tool.

* To assemble the tool, start with 4-9 and proceed to 4-1.

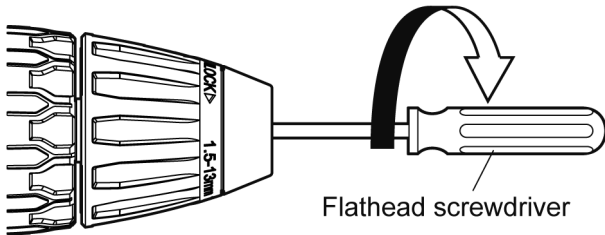
4.1. Removing the Plate Hook.



1. Remove the M4-14 screw.

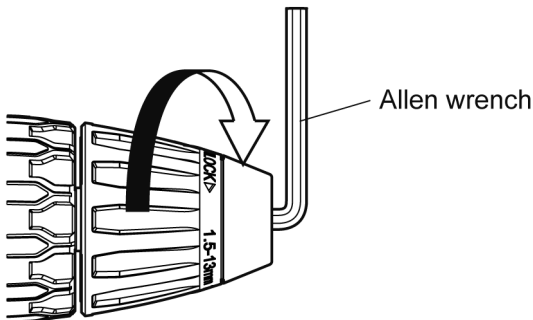
2. Remove the plate hook.

4.2. Removing the Keyless Chuck.



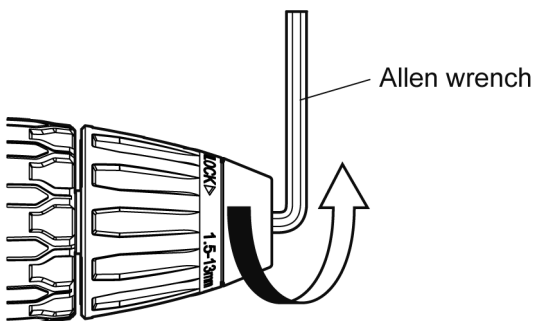
1. Use a screwdriver to turn the chuck fastening screw inside the chuck clockwise direction, and remove the screw.

* in case of the chuck does not come loose;



NOTE:

If the chuck fastening screw will not come loose, insert the allen wrench into the chuck and lightly tap in the clockwise direction to tighten the chuck, and then loosen the chuck fastening screw.

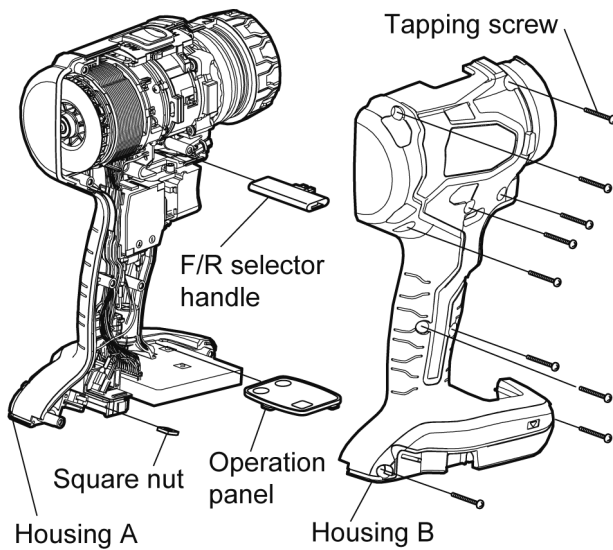


2. Insert the allen wrench into the chuck, and turn counterclockwise direction with holding the unit by the vise to remove the chuck.

NOTE:

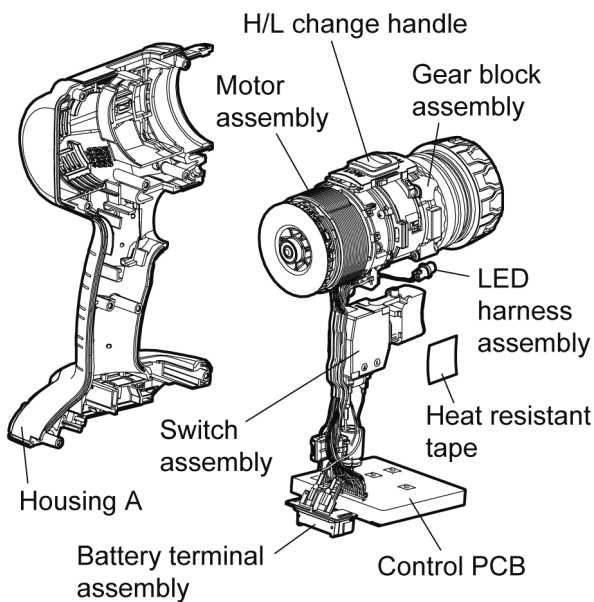
If the chuck is broken, use a allen wrench and turn counterclockwise direction to remove the chuck.

4.3. Removing the Housing.



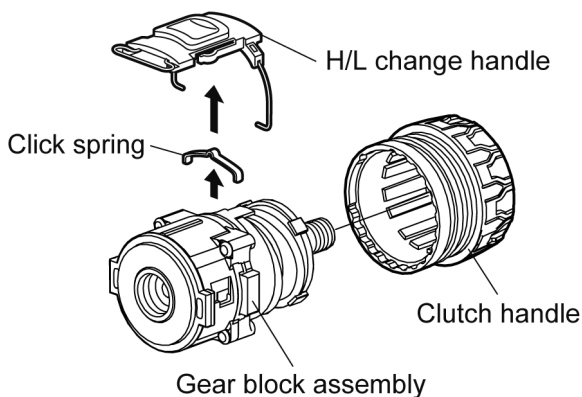
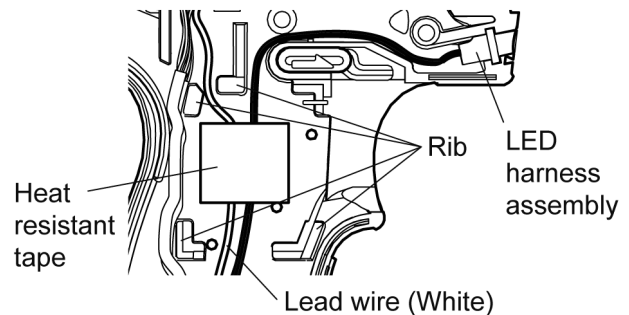
1. Remove nine screws.
2. Remove housing B.
3. Remove the F/R selector handle.
4. Remove the operation panel.
5. Remove the square nut.

4.4. Removing the Interior Components.



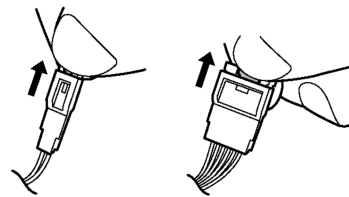
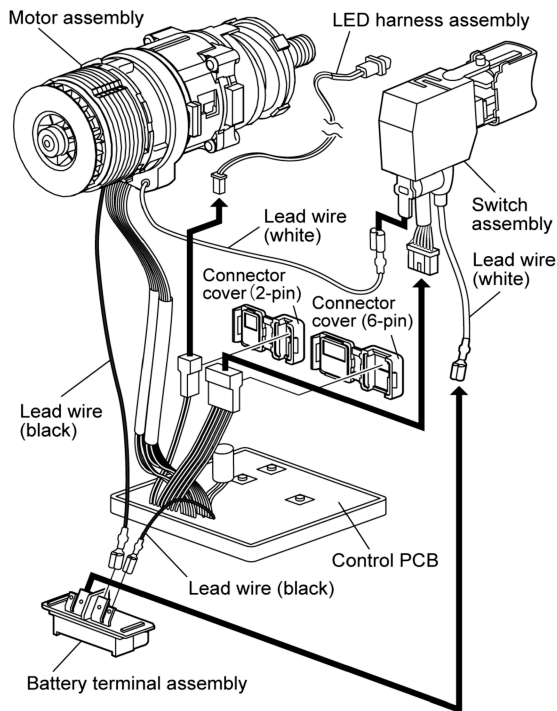
1. Remove the heat resistant tape and remove the interior components from the housing A.

* Precautions when securing LED harness assembly in place using the resistant tape.
Attach the heat resistant tape at the location shown in the figure below.

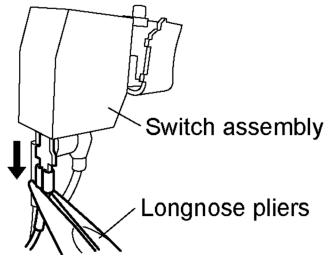


2. Remove the clutch handle, H/L change handle and click spring from the gear block assembly.

4.5. Removing the Switch Assembly, LED Assembly and Battery Terminal.

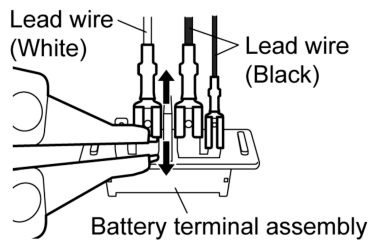


1. Remove the 2-pin connector.
2. Remove the 6-pin connector.



3. Pull the faston terminal directly out from the switch assembly.

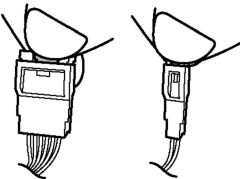
* Exercise care not to bend the terminal fitting.



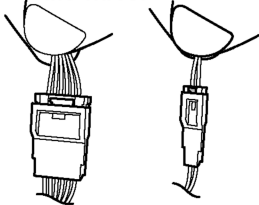
4. Remove the lead wires from the battery terminal.

Connecting and disconnecting the connector

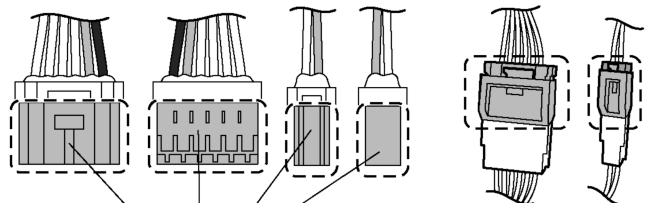
- Press the claw on the connector to disconnect.



- ✗ Pulling on the lead wires will break the wires.

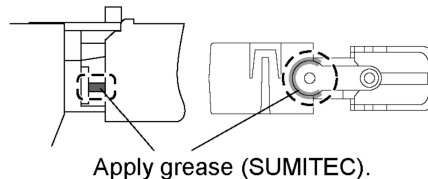


* Precautions when attaching the connectors

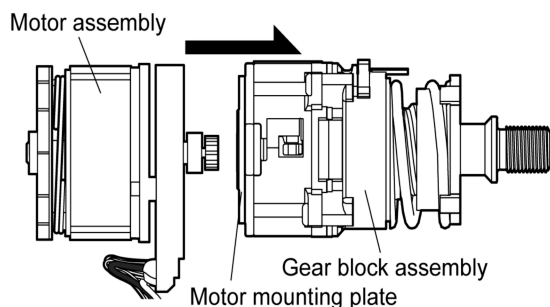


Apply grease (SUMITEC).

Apply the grease (SUMITEC) to the 2-pin and 6-pin male connectors and the outer surfaces of the connectors.

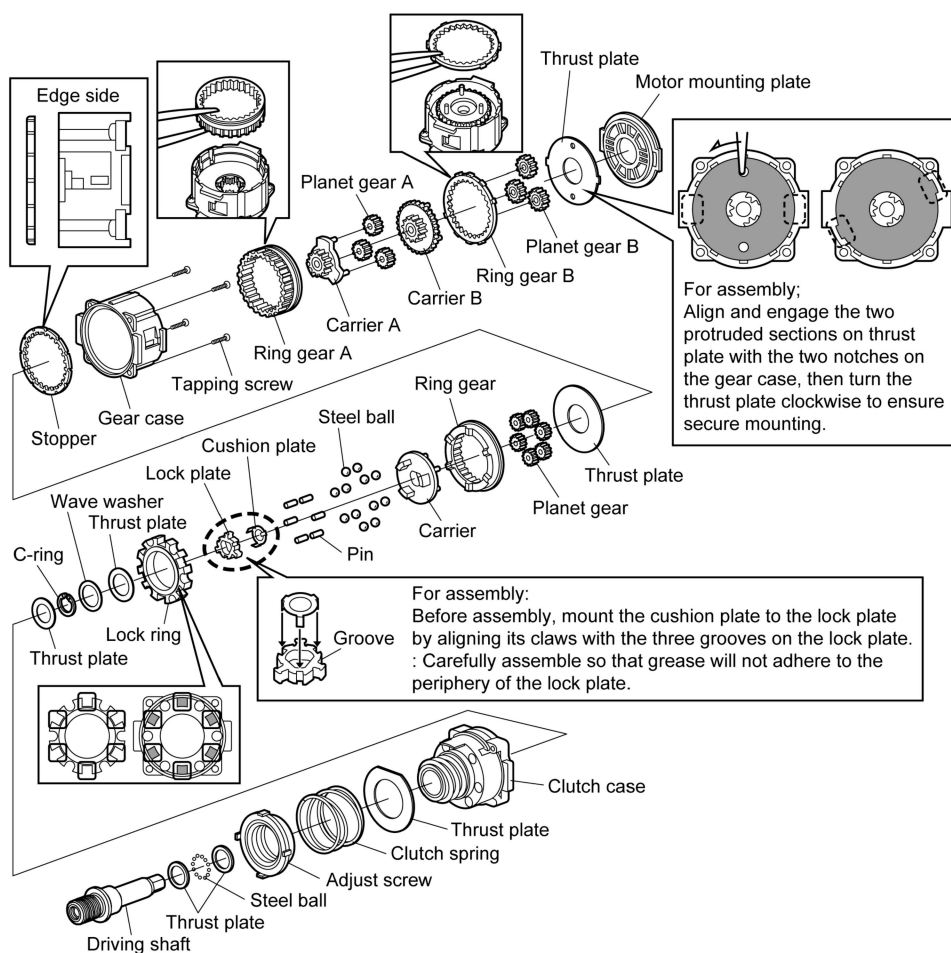


4.6. Removing the Gear Case Assembly from the Module Assembly.

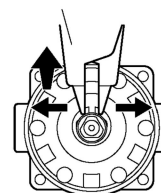


Holding the motor assembly, remove the entire motor mounting plate, including the gear box assembly from the motor assembly.

4.7. Removing the Gear Case Assembly.



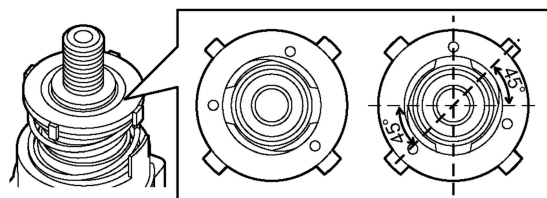
1. Rotate the motor mounting plate to the left and remove it from the gear case.
 2. Remove the thrust plate, planet gear B, ring gear B, carrier B, planet gear A, carrier A, and the ring gear A (in that order).
 3. Remove 4 screws.
 4. Remove the gear case, stopper, thrust plate, planet gear, ring gear, carrier, steel balls, pin, cushion plate, lock plate, lock ring, thrust plate, wave washer and thrust plate (in that order).
 5. Insert the jaws of snap ring into two holes on the C-ring. Open the jaws and lift up on the ring to remove it.
- * The C-ring cannot be reused after being repaired or otherwise adjusted.



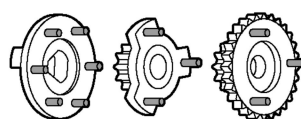
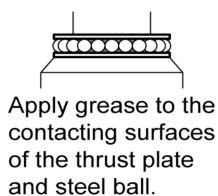
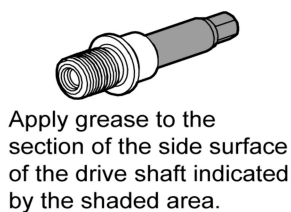
6. Remove the driving shaft, thrust plate, steel balls, thrust plate, adjust screw, clutch spring and thrust plate from the clutch case.

* Assembly precautions

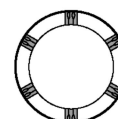
1. Exercise care when attaching the lock ring, ring gear, stopper, and ring gear A to align them in the proper orientation (as shown in the above figure).
2. When installing the gear case to the clutch case, be sure to align the protruding ribs on the clutch case with the recessed ribs on the gear case.
3. When installing the motor mounting plate to the gear case, align and engage the two protruded sections on motor mounting plate with the two notches on the gear case, then turn the motor mounting plate clockwise until a clicking sound is produced to ensure secure mounting.
4. When installing the adjusting screw, make sure that the narrow protrusion is on the right and flush with the clutch case surface.



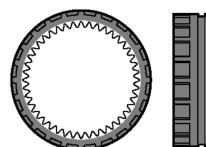
5. Precautions when applying the grease (ALVANIA).



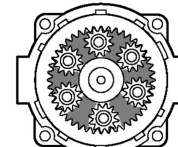
Apply grease to the carrier pins.



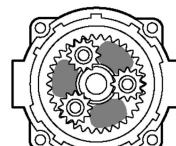
Apply a liberal amount of grease to the clutch section of the ring gear.



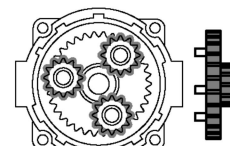
Apply grease to the outer circumference of ring gear A.



Apply grease to the area between the ring gear and carrier.



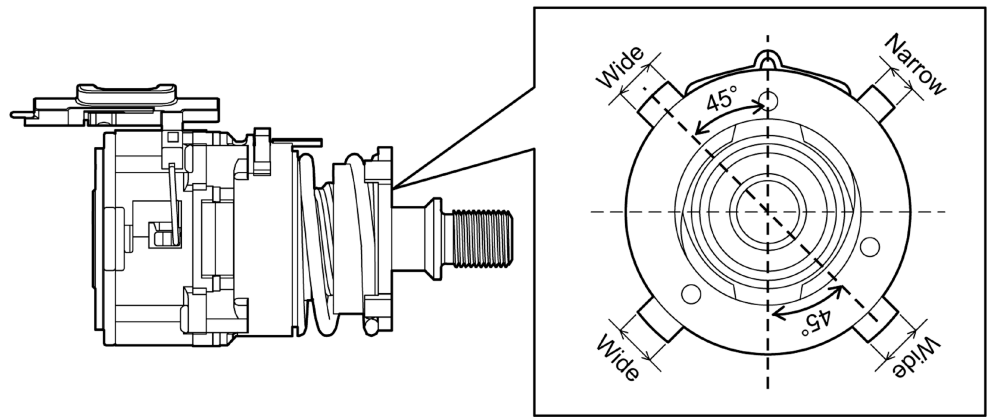
Apply grease to the area between the ring gear A and carrier A.



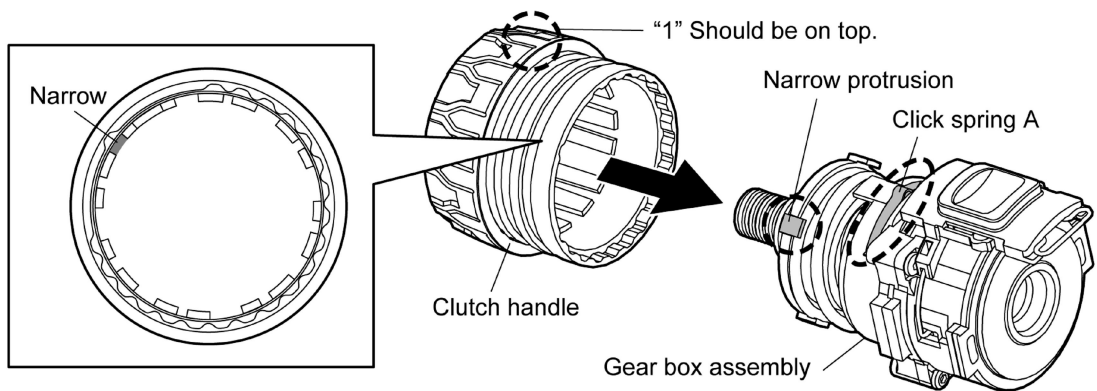
Apply grease to all the teeth of planet gear B and to the center section of carrier.

4.8. Assembly of the Gear Case Assembly and the Clutch Handle.

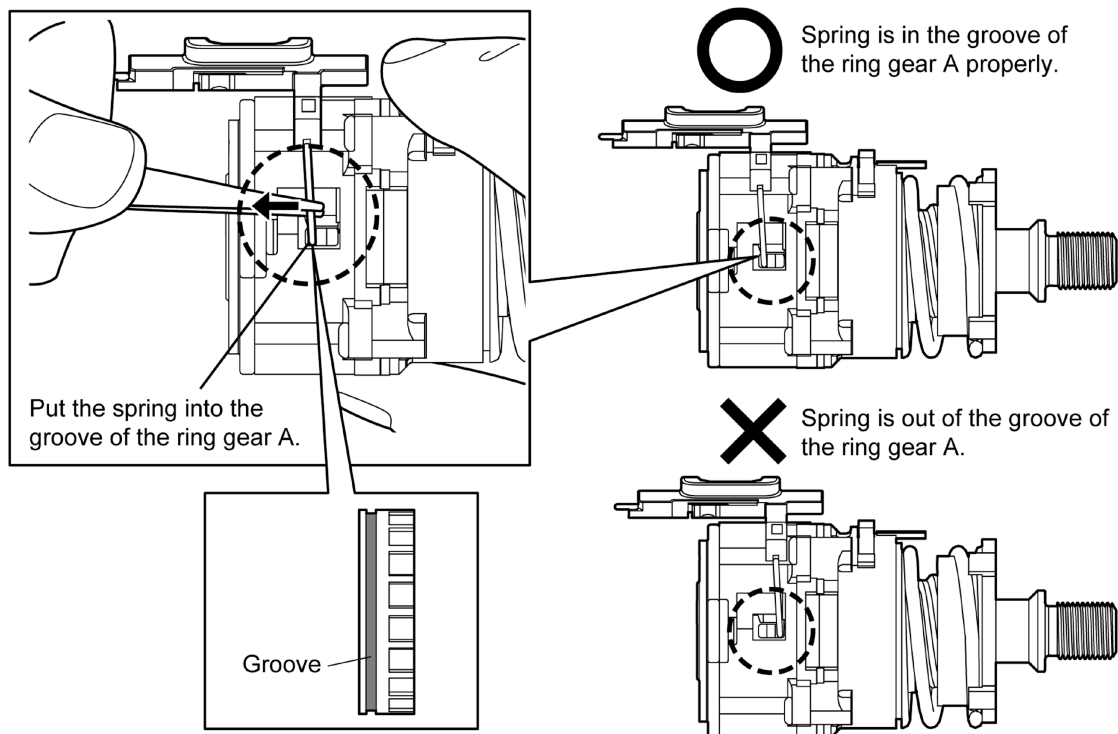
Align the gear case assembly's adjusting screw as shown in the figure.



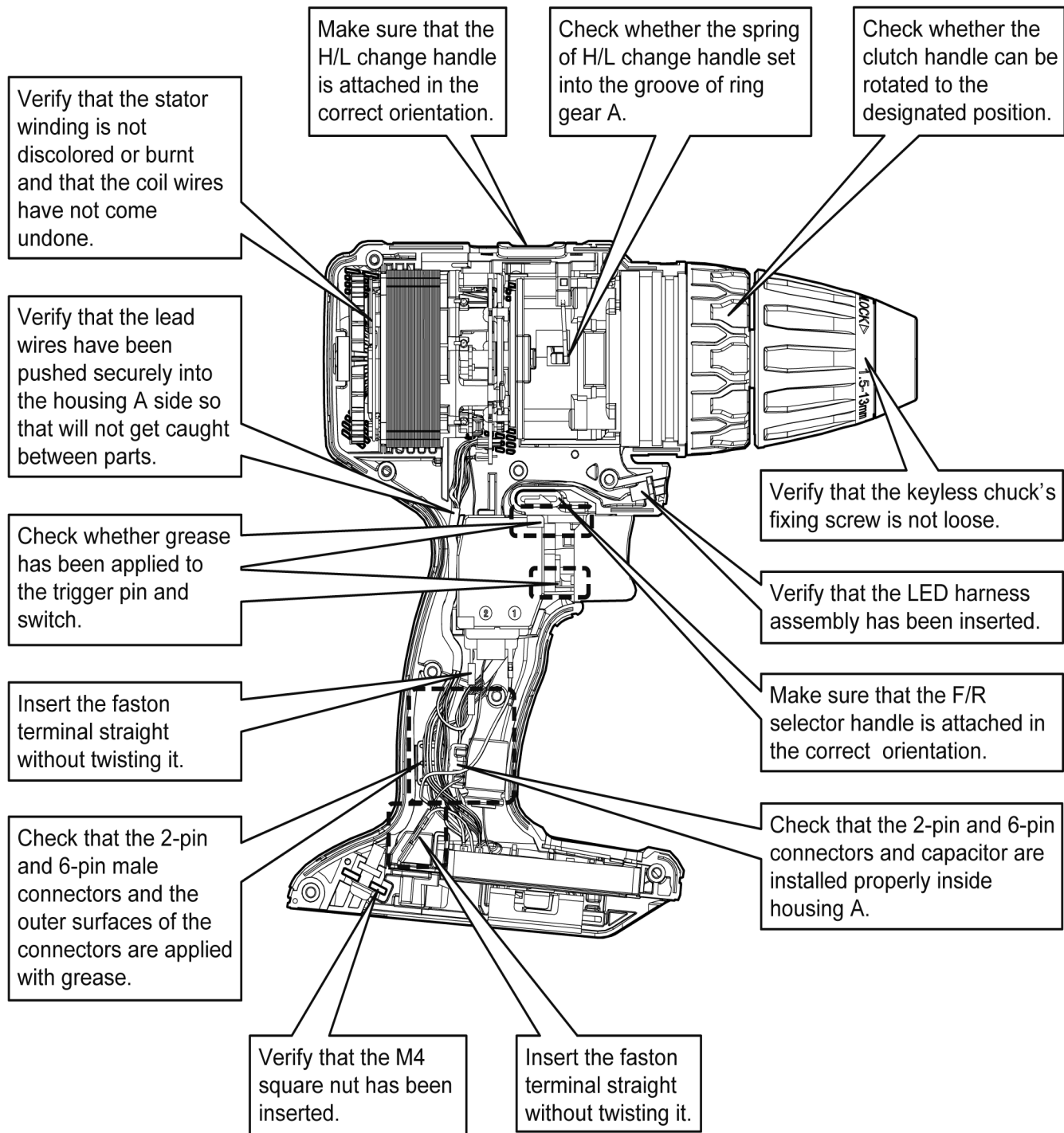
Position so that the [1] mark on the clutch handle is Aligned with the center of click spring A.



4.9. Assembly of the H/L Change Handle.

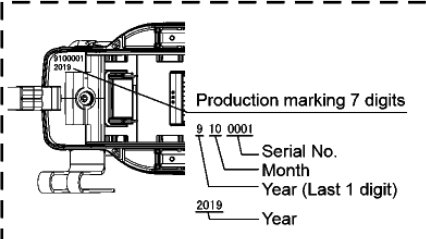
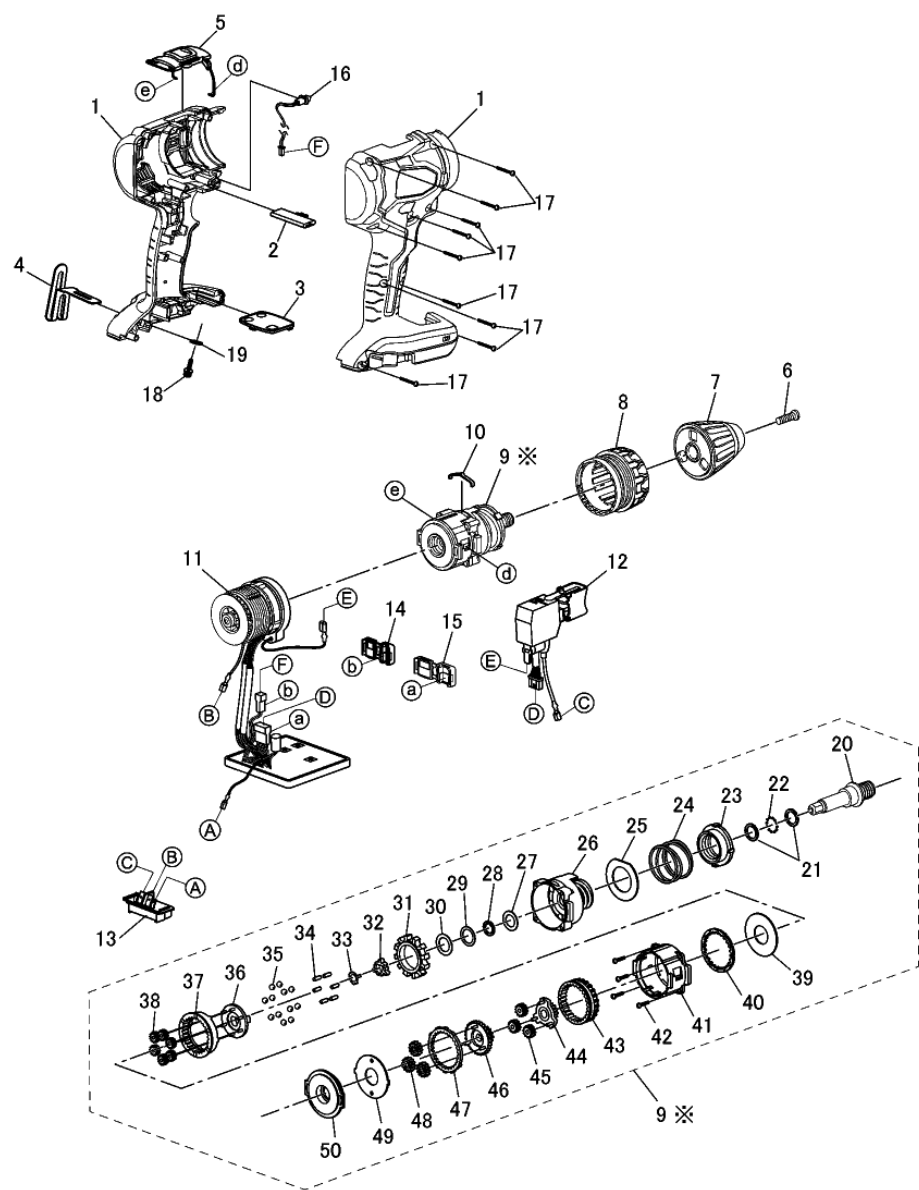


4.10. Wiring and Assembly Points.



5 Exploded View and Replacement Parts List

Model No. : EY74A3 Exploded View



Model No. : EY74A3 Parts List

Change	Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
		1	WEY74A3K3102	HOUSING AB SET	1	
		2	WEY75A7H3247	F/R SELECTOR HANDLE	1	
		3	WEY74A3L3202	OPERATION PLATE	1	
		4	WEY7543K3187	PLATE HOOK	1	
		5	WEY74A2H3237	H/L CHANGE HANDLE	1	
		6	WEY6450L6806	CHUCK FASTENING SCREW	1	
		7	WEY74A3L0101	CHUCK	1	
		8	WEY74A3L0201	CLUTCH HANDLE	1	
		9	WEY74A3L1101	GEAR BLOCK ASSEMBLY	1	
		10	WEY74A1L0178	CLICK SPRING A	1	
		11	WEY74A3L1201	MOTOR ASSEMBLY	1	
		12	WEY75A8L2007	SWITCH ASSEMBLY	1	
		13	WEY75A7K2157	BATTERY TERMINAL ASSEMBLY	1	
		14	WEY75A8W3117	CONNECTOR COVER 2P	1	
		15	WEY75A8W3127	CONNECTOR COVER 6P	1	
		16	WEY75A8L2337	LED HARNESS ASSEMBLY	1	
		17	WEY7441K9038	TAPPING SCREW	9	(K3*20)
		18	WEY7441K6217	SCREW	1	(4*14)
		19	WEY7441L6487	NUT	1	(M4)
		20	WEY74A3L1111	DRIVING SHAFT	1	
		21	WEY74A2L0847	THRUST PLATE	2	(14.9 DIA)
		22	WEY74A2L1917	STEEL BALL	15	(2.5 DIA)
		23	WEY74A2F0637	ADJUST SCREW	1	
		24	WEY74A2S0167	CLUTCH SPRING	1	
		25	WEY74A2L0577	THRUST PLATE	1	
		26	WEY74A2F3297	CLUTCH CASE ASSEMBLY	1	
		27	WEY74A2L0857	THRUST PLATE	1	
		28	WEY74A2L6768	C RING	1	
		29	WEY74A2S6097	WAVE WASHER	1	
		30	WEY74A2L0867	THRUST PLATE	1	
		31	WEY74A2S0647	LOCK RING	1	
		32	WEY74A2S0207	LOCK PLATE	1	
		33	WEY74A2S0317	CUSHION PLATE	1	
		34	WEY74A2S0507	PIN	6	
		35	WEY74A2S1927	STEEL BALL	12	(5 DIA)
		36	WEY74A2L1647	CARRIER	1	
		37	WEY74A2L1477	RING GEAR	1	
		38	WEY74A2S1357	PLANET GEAR	6	
		39	WEY74A2K0847	THRUST PLATE	1	
		40	WEY74A2S0397	STOPPER	1	
		41	WEY74A2F1767	GEAR CASE	1	
		42	WEY74A2K9037	TAPPING SCREW	4	(3*12)
		43	WEY74A2L1467	RING GEAR A	1	
		44	WEY74A2L1417	CARRIER A	1	
		45	WEY74A2L1368	PLANET GEAR A	3	
		46	WEY74A2L1457	CARRIER B	1	
		47	WEY74A2L1487	RING GEAR B	1	
		48	WEY74A2L1397	PLANET GEAR B	3	
		49	WEY74A2K0857	THRUST PLATE	1	
		50	WEY74A2F0027	MOTOR MOUNTING PLATE	1	
		-	WEY74A3K8108	OPERATING INSTRUCTIONS	1	
		-	WEY001T8907	GREASE (ALVANIA)	1	
		-	WEY003W8957	GREASE (PERMALUB)	1	
		-	WEY7443W0957	HEAT RESISTANT TAPE	1	