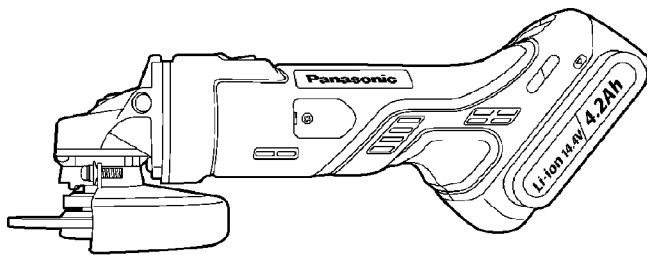


Service Manual

Cordless Angle Grinder

Model No. **EY46A2**

Europe
Oceania



⚠ 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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Panasonic

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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

Main Unit

Mounting wheel diameter	Φ125 mm	
Spindle thread size	M14	
Mounting wheel hole diameter	22 mm	
Weight	1.65 kg (main unit only)	
Overall length	300 mm (main unit only)	
Noise , Vibration	Typical Noise Emission Values according to EN 60745; Sound Pressure Level (L _{pA}): 77 dB (A) Sound Power Level (LWA): 88 dB (A) Uncertainty (K): 3 dB Typical Vibration according to EN 60745; ≤1.64 m/s ² Uncertainty (K): 1.5 m/s ²	
Motor voltage	DC 14.4 V	DC 18 V
Rated speed	8000 min ⁻¹ (rpm)	10000 min ⁻¹ (rpm)

Battery Pack

Model No.	EY9L41	EY9L42	EY9L44	EY9L45	EY9L50	EY9L51
Storage battery	Li-ion Battery					
Battery voltage	DC 14.4 V			DC 18 V		

Battery Charger

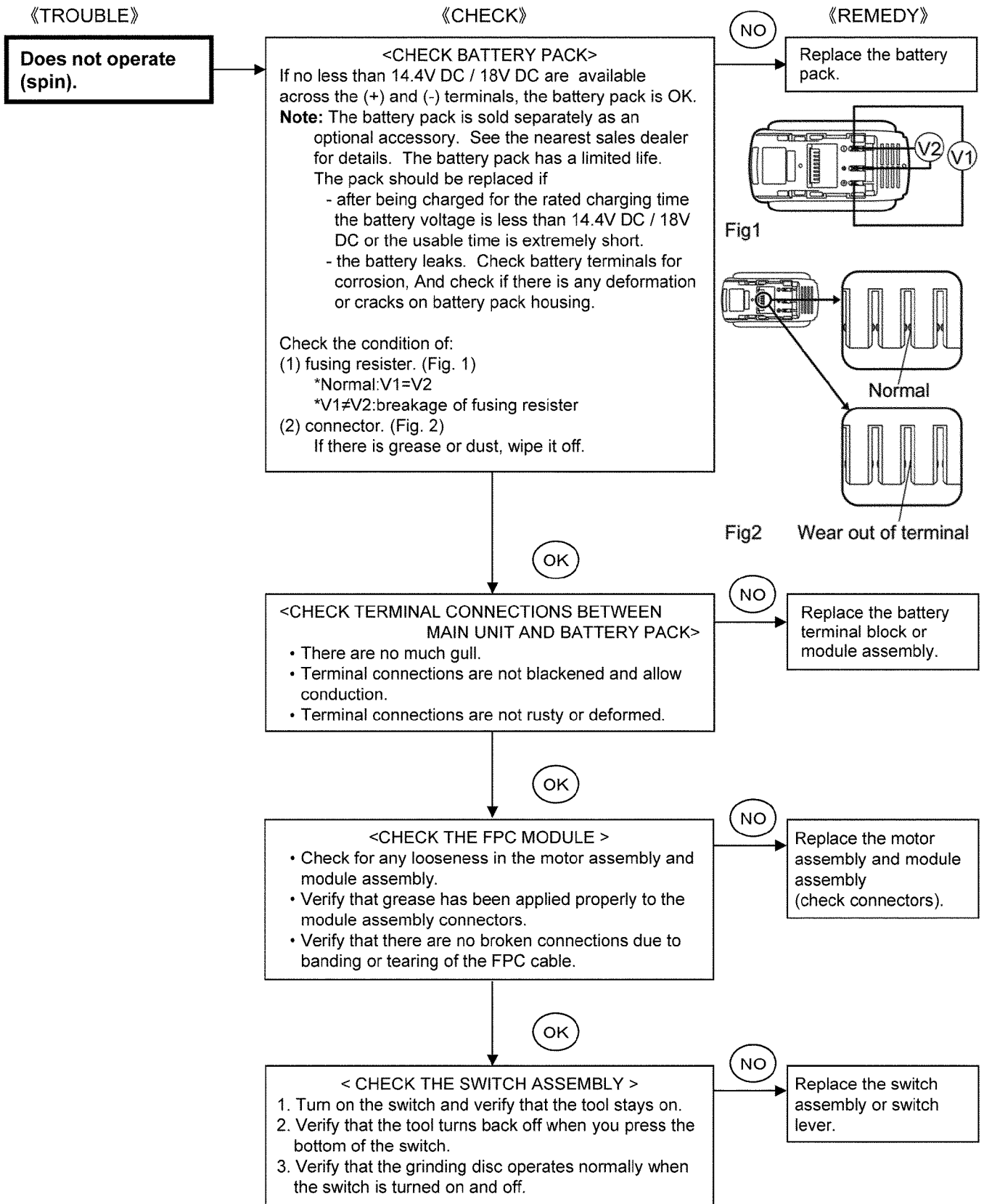
Model no.	EY0L82						
Electrical rating	See the rating plate on the bottom of the charger						
Weight	0.93 kg						
Charging time	Model No.	EY9L41	EY9L42	EY9L44	EY9L45	EY9L50	EY9L51
	Usable	35 min.	30 min.	40 min.	50 min.	40 min.	55 min.
	Full	50 min.	35 min.	55 min.	60 min.	55 min.	70 min.

NOTE:

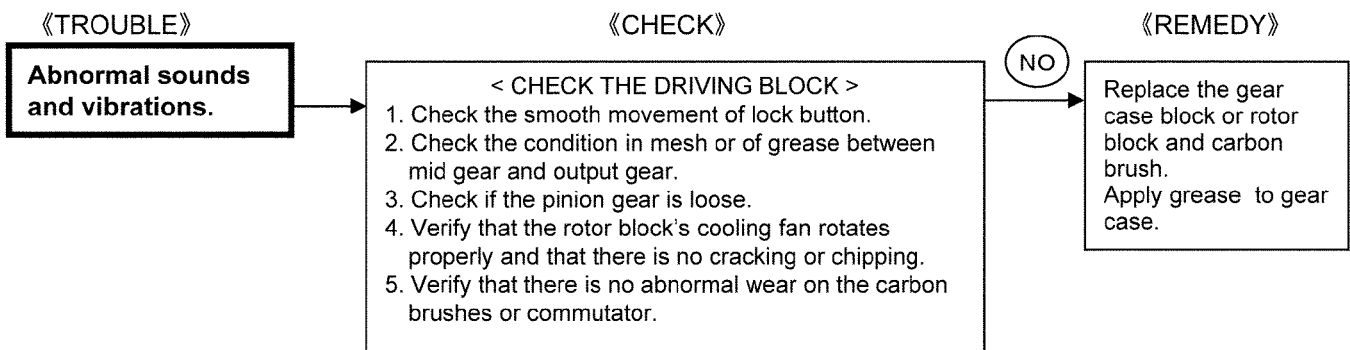
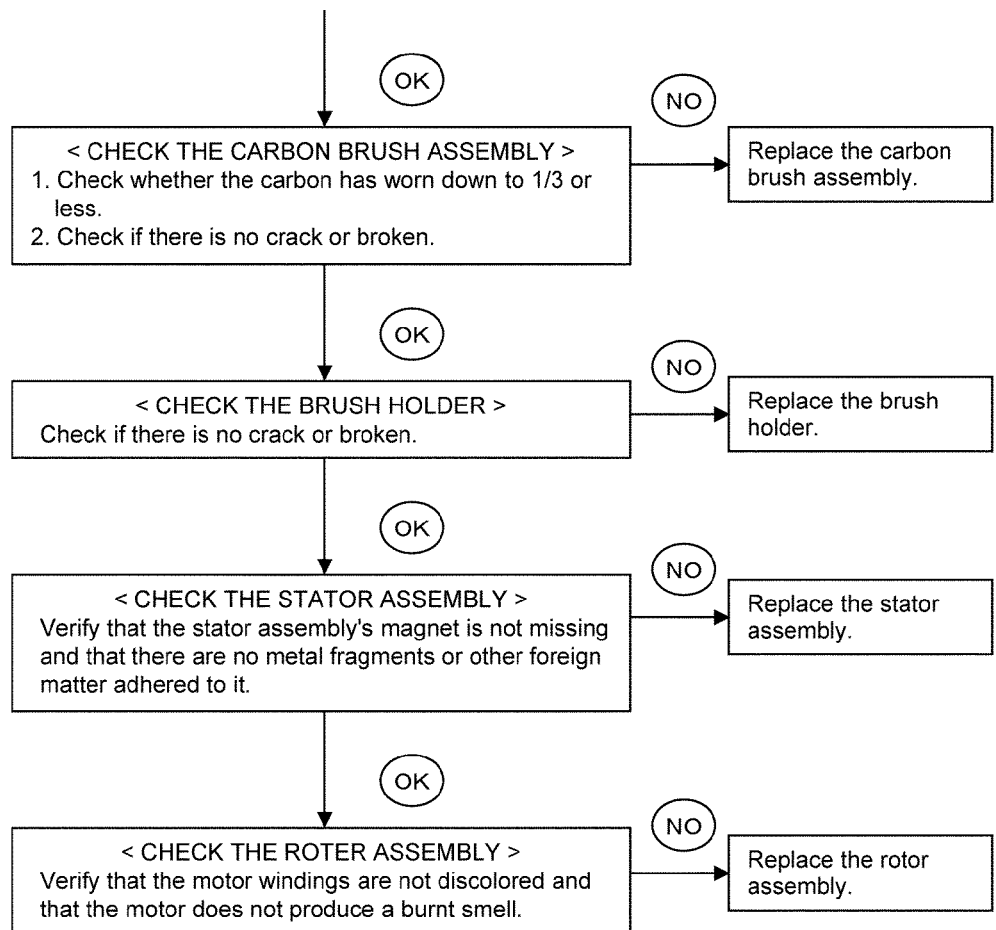
This chart may include models that are not available in your area.
 Please refer to the latest general catalogue.
 For the dealer name and address, please see the included warranty card.

3 Troubleshooting Guide

3.1. Troubleshooting Guide



To next page



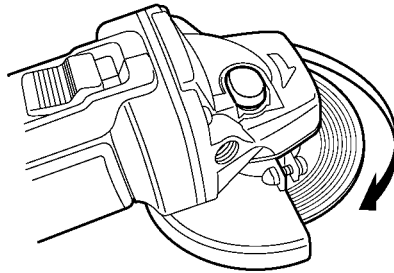
3.2. Trial Operation (After Checking Troubleshooting Guide)

3.2.1. Assembly

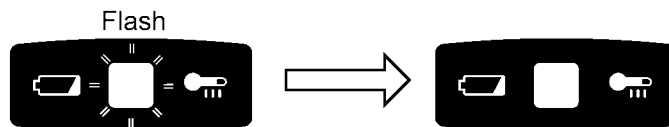
- Confirm if there is no gap between housing A and B by pinching lead wires.
- There is no dust or deformation on tool's battery terminal.
- Verify that the motor winding does not produce a burnt smell.
- Verify that the cooling fan is not cracked, torn, or otherwise damaged.
- Verify that the stator magnets are not cracked.

3.2.2. Operation

- Check whether the switch function operate properly.
- Check whether the blade is spinning clockwise when the switch is turned on.



- Check the smooth movement of switch button.
- Check whether the tool become hot in a short operation.
- Check for any abnormal sounds during tool operation.
- Insert the battery pack with the switch in the “on” position and verify that the indicator lamp flashes red and that the on lock start prevention function operates. Then turn off the switch and verify that the indicator lamp turns off when you turn the switch back on again.



3.2.3. Integrity

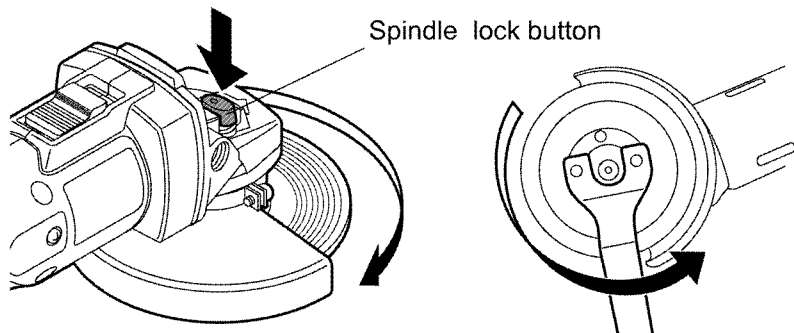
- With the switch activated, shake the tool back and forth and up and down and verify that its sound does not change excessively.
- Verify that there is no dirt, scratching, or other damage on the tool's exterior from the repair process.

4 Disassembly and Assembly Instructions

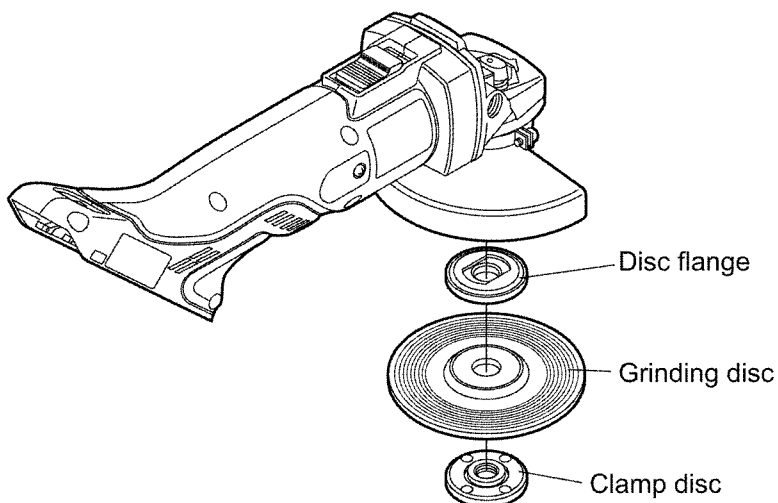
* To reduce the risk of injury, always remove battery pack before removing/installing the disc.

* To assemble the tool, start with 4-11 and proceed to 4-1.

4.1. Removing the driving block

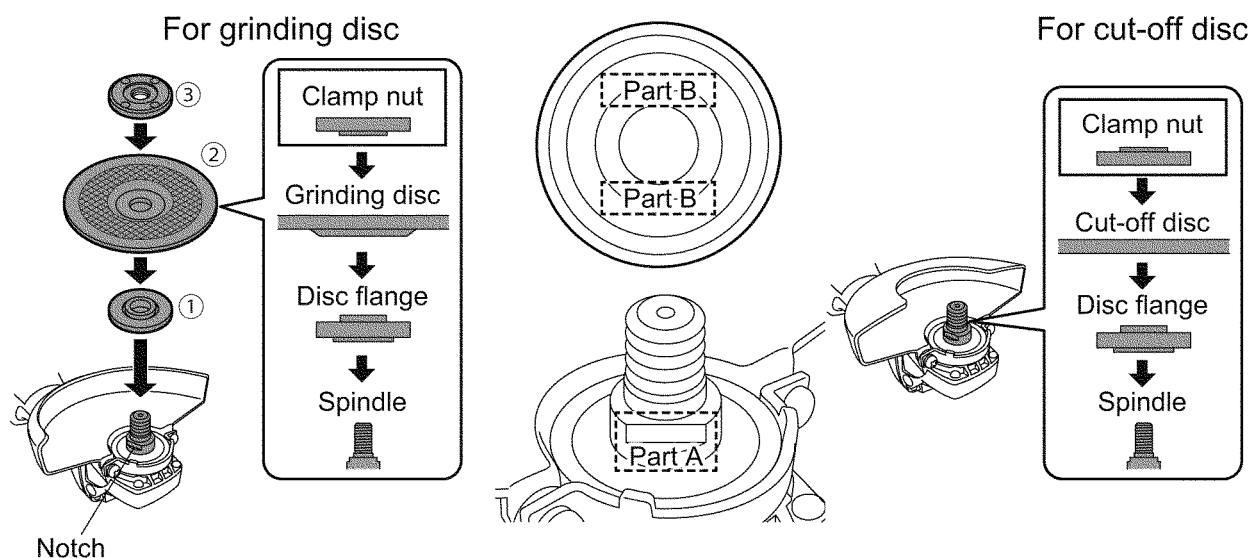


1. Push the spindle lock button to secure the spindle in place, and then use the clamp nut wrench to loosen the clamp nut.



2. Remove the disc from the spindle and the disc flange.
3. Remove the grinding disc.

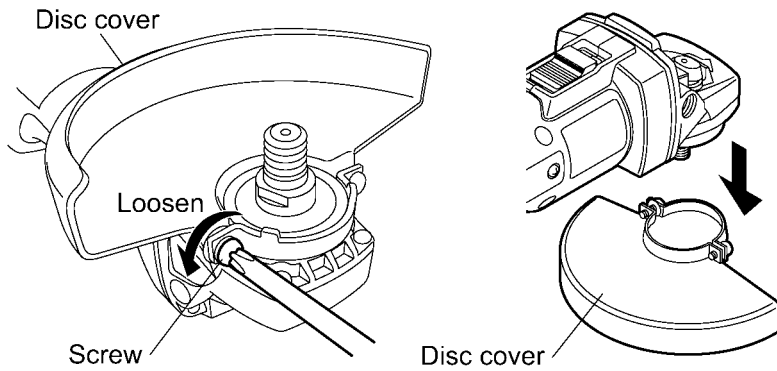
* Precautions when attaching the grinding disc and cut-off disc.



Attach the grinding disc so that the protruding part of the clamp nut is on the disc side.

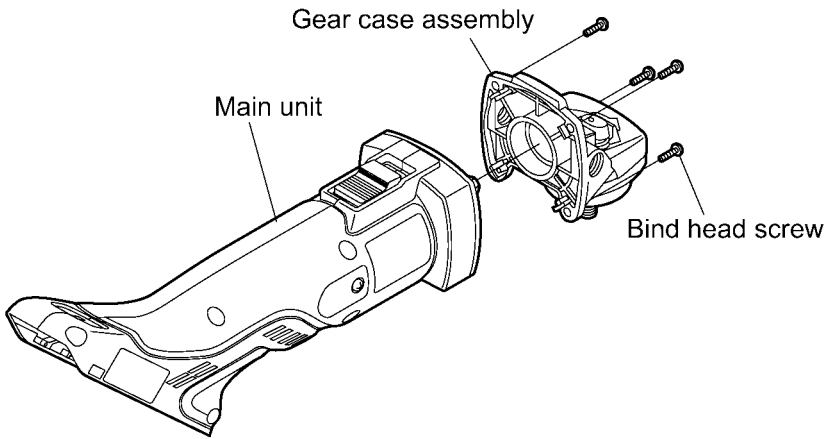
Attach so that part A of the spindle is aligned with part B of the disc flange.

Attach so that the protruding part of the clamp nut is facing up.



5. Removing a screw securing the disc cover.

*Tightening torque value;
1.7-2.1N·m {17.5-21.5Kgf·cm}

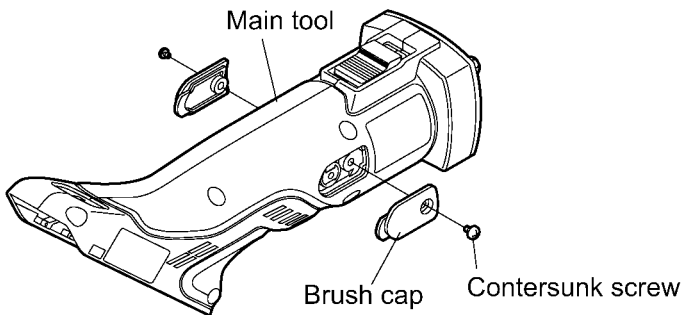


6. Removing the 4 bind head screws that attach the gear case assembly.

*Tightening torque value;
1.3-1.7N·m {13.5-17.5Kgf·cm}

7. Removing the gear case assembly from the main tool.

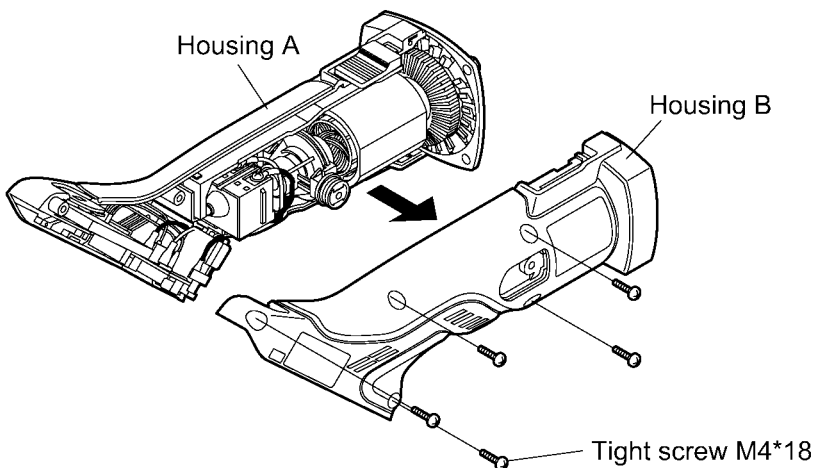
4.2. Removing the housing B



1. Removing the 2 countersunk screws that attach the brush cap.

*Tightening torque value;
0.39-0.59N·m {4-6Kgf·cm}

2. Removing the 2 brush caps.

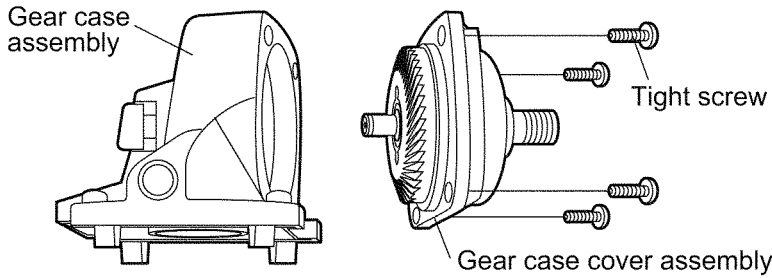


3. Removing the 5 tight screws.

*Tightening torque value;
1.3-1.7N·m {13.5-17.5Kgf·cm}

4. Removing the housing B.

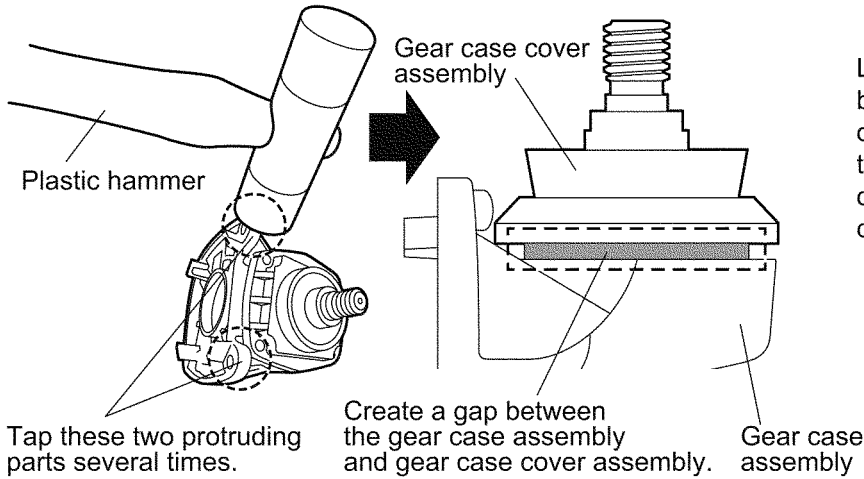
4.3. Removing the gear case cover assembly from the gear case assembly



1. Removing the 4 tight screws securing the gear case cover assembly.

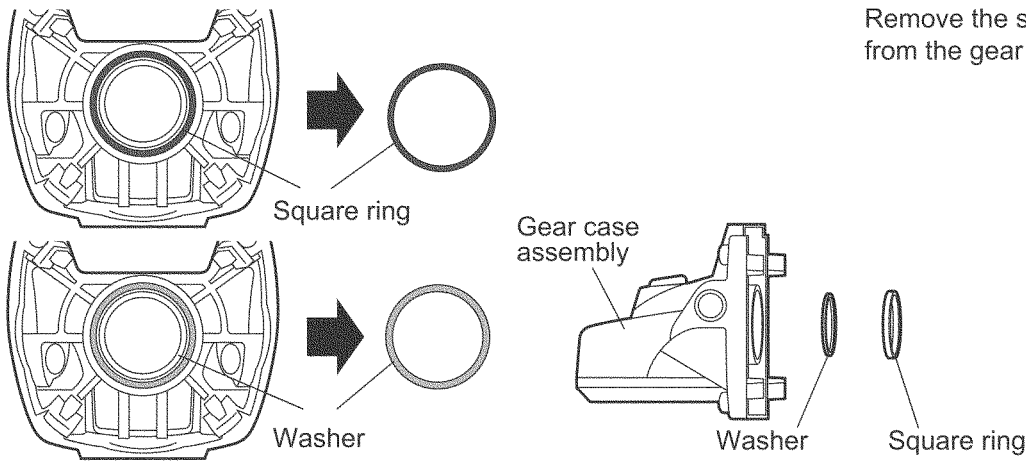
*Tightening torque value;
1.3-1.7N·m {13.5-17.5Kgf·cm}

* If you are unable to remove the gear case cover assembly from the gear case assembly



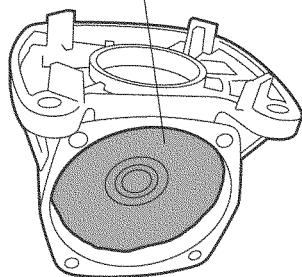
Loosen the gear case cover assembly by tapping on the left and right edges of the gear case assembly several times each with a plastic hammer or other tool and then remove the gear case cover assembly

4.4. Removing the corner ring and washer from the gear case assembly



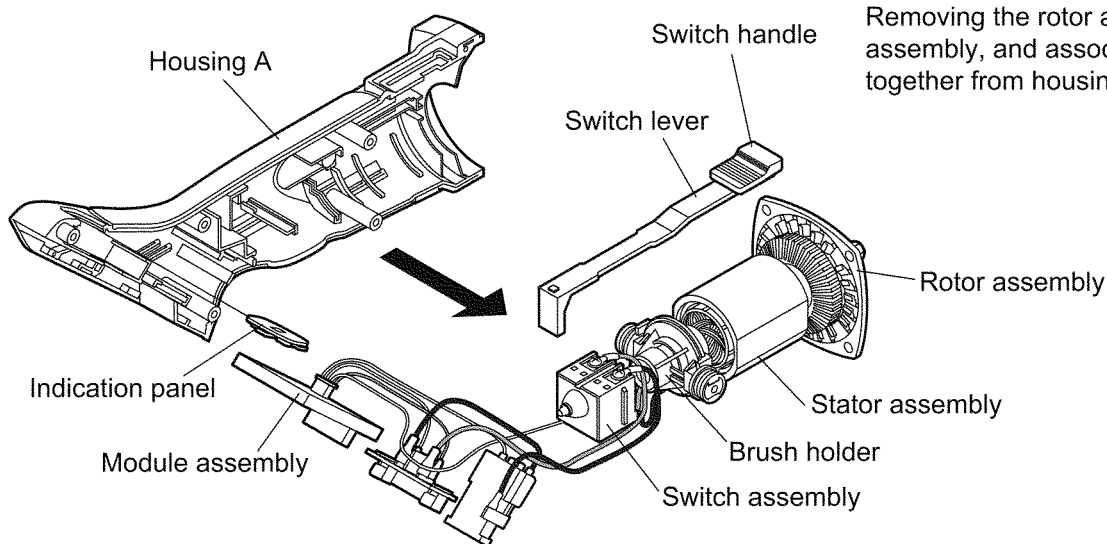
Remove the square ring and washer from the gear case assembly.

Apply grease (NIPPECO MP-1)

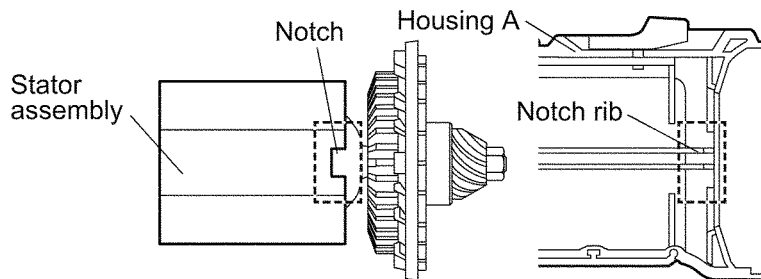


*During the assembly, check to make sure that an appropriate amount of grease(NIPPECO MP-1) has been applied. If the amount of grease is insufficient, add grease as shown in the left figure.

4.5. Removing the interior components

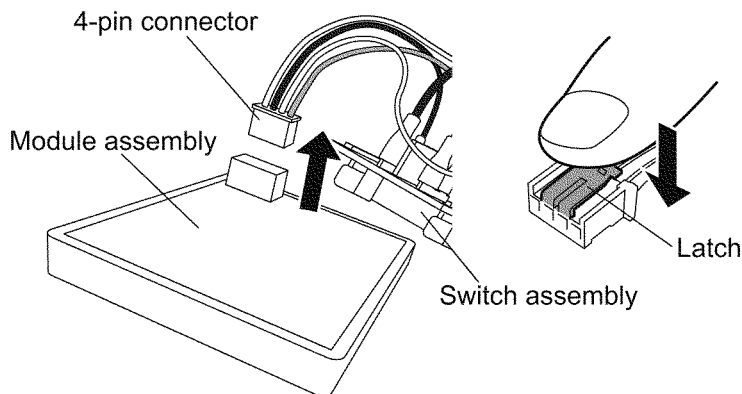


Removing the rotor assembly, stator assembly, and associated parts together from housing A.



*When assembling the stator assembly, combine the parts so that the notch on the stator assembly lines up with the notch rib on housing A.

4.6. Removing the module assembly



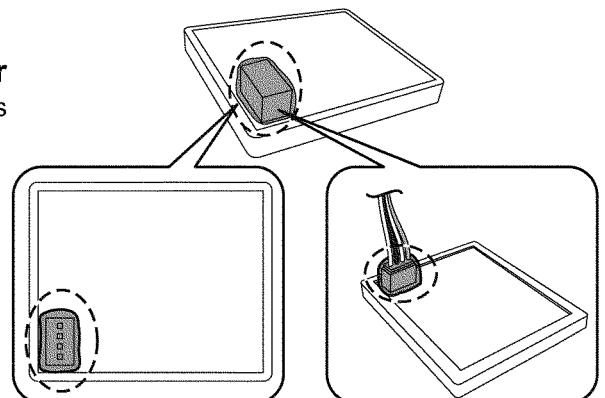
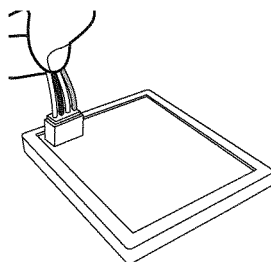
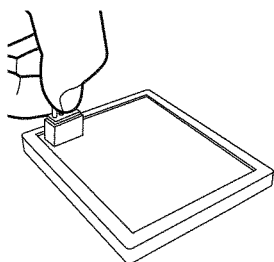
Disconnect the switch assembly's 4-pin connector from the module assembly.

*Before connection the switch connector to the module assembly, supply a liberal amount of grease into the connector on the module assembly.

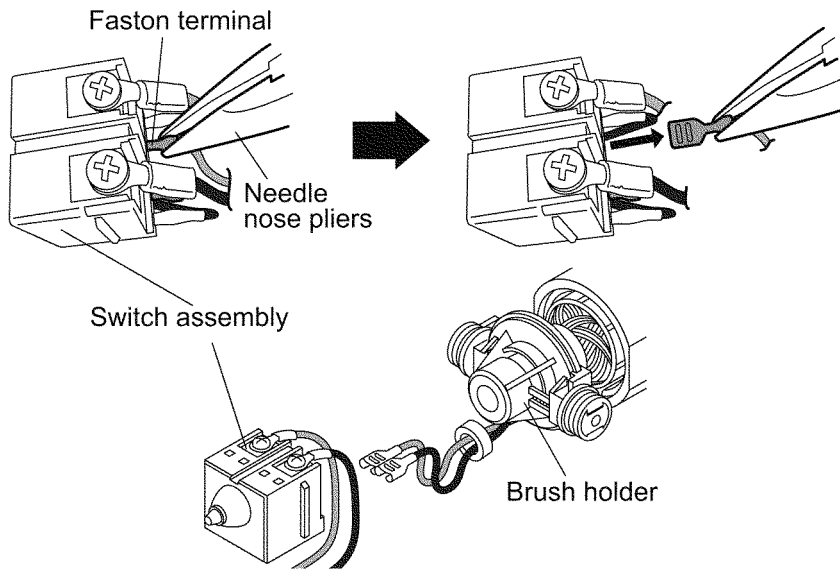
GREASE: PERMALUB CPL 501
ORDER No: WEY003W8957

Connecting and disconnecting the connector

○ Grip the connector as its base and pull it out. ✗ Pulling on the lead wires will break the wires.

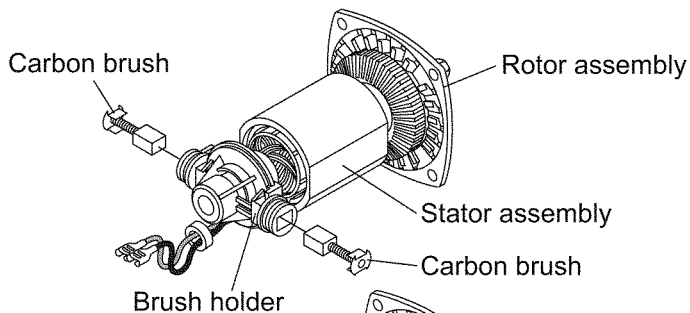
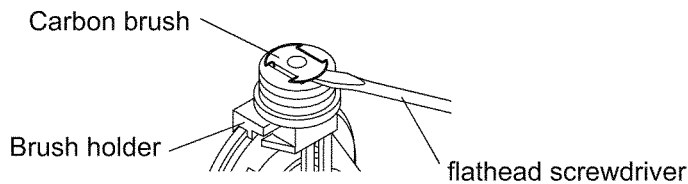


4.7. Removing the switch assembly

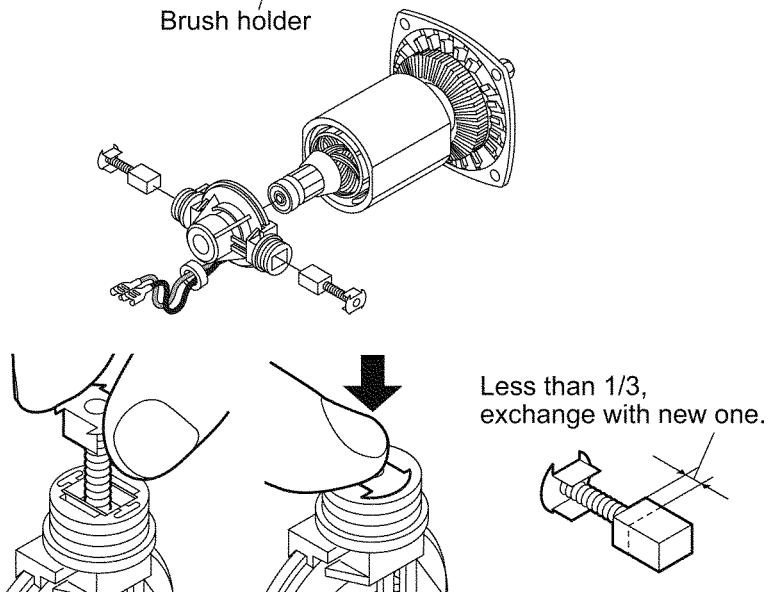


1. Grip the base of the faston terminal protruding from the holder with a pair of needle nose pliers and pull the faston terminal straight out without prying.
2. Pull out the two faston terminals (positive and negative).

4.8. Removing the carbon brush assembly

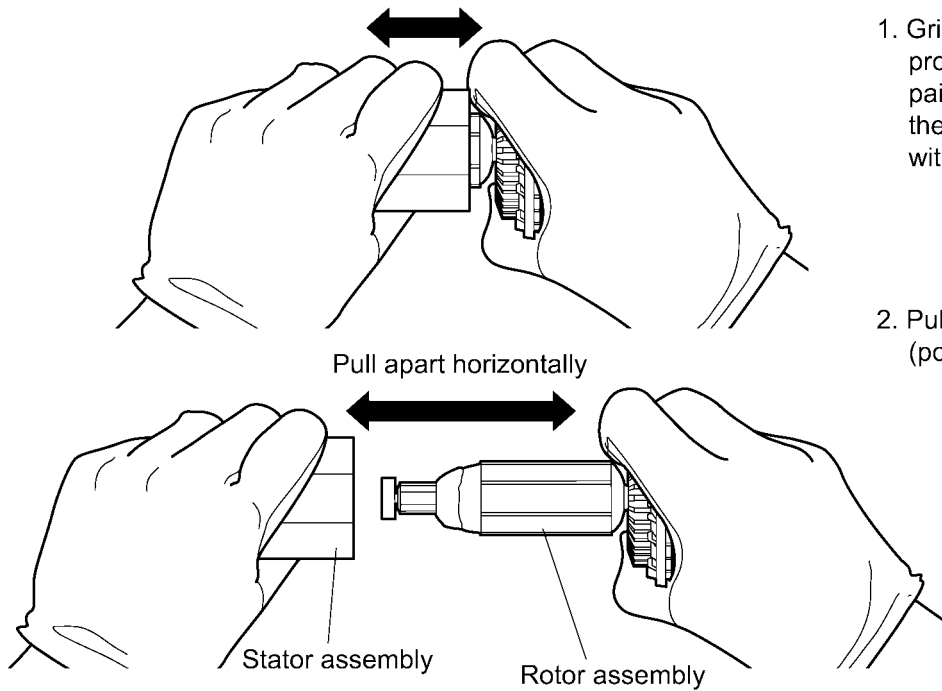


1. Pop off the carbon brushes with a flathead screwdriver.
2. The carbon brushes will pop out on their springs. Remove both the left and right carbon brushes.
3. Once you have removed the carbon brushes, remove the brush holder assembly from the motor.



*If the thickness of the carbon brush has worn to 1/3 (about 3 mm) or less, be sure to replace both brushes at the same time. (Two carbon brushes make one set).

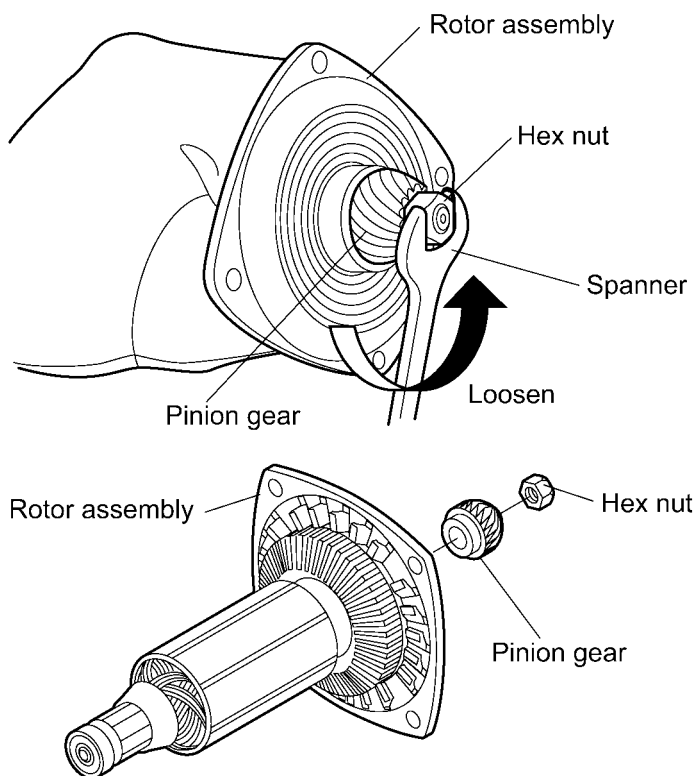
4.9. Removing the rotor assembly and stator assembly



1. Grip the base of the faston terminal protruding from the holder with a pair of needle nose pliers and pull the faston terminal straight out without prying.

2. Pull out the two faston terminals (positive and negative).

4.10. Removing the pinion gear from the rotor assembly

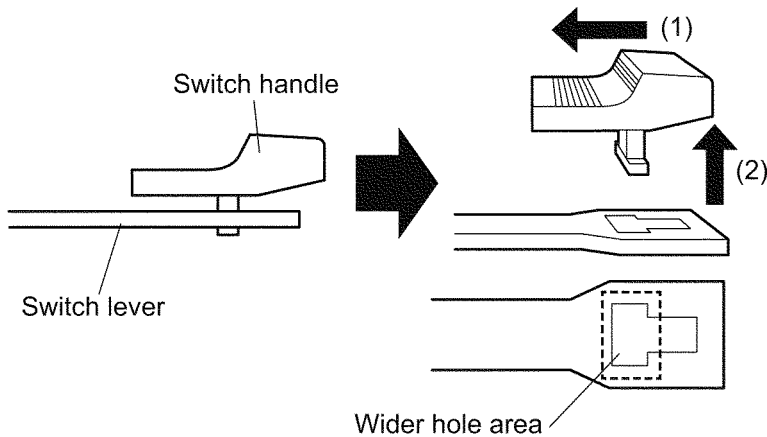


1. Holding the rotor assembly and remove the hex nut using a spanner.

2. Removing the pinion gear from the rotor assembly.

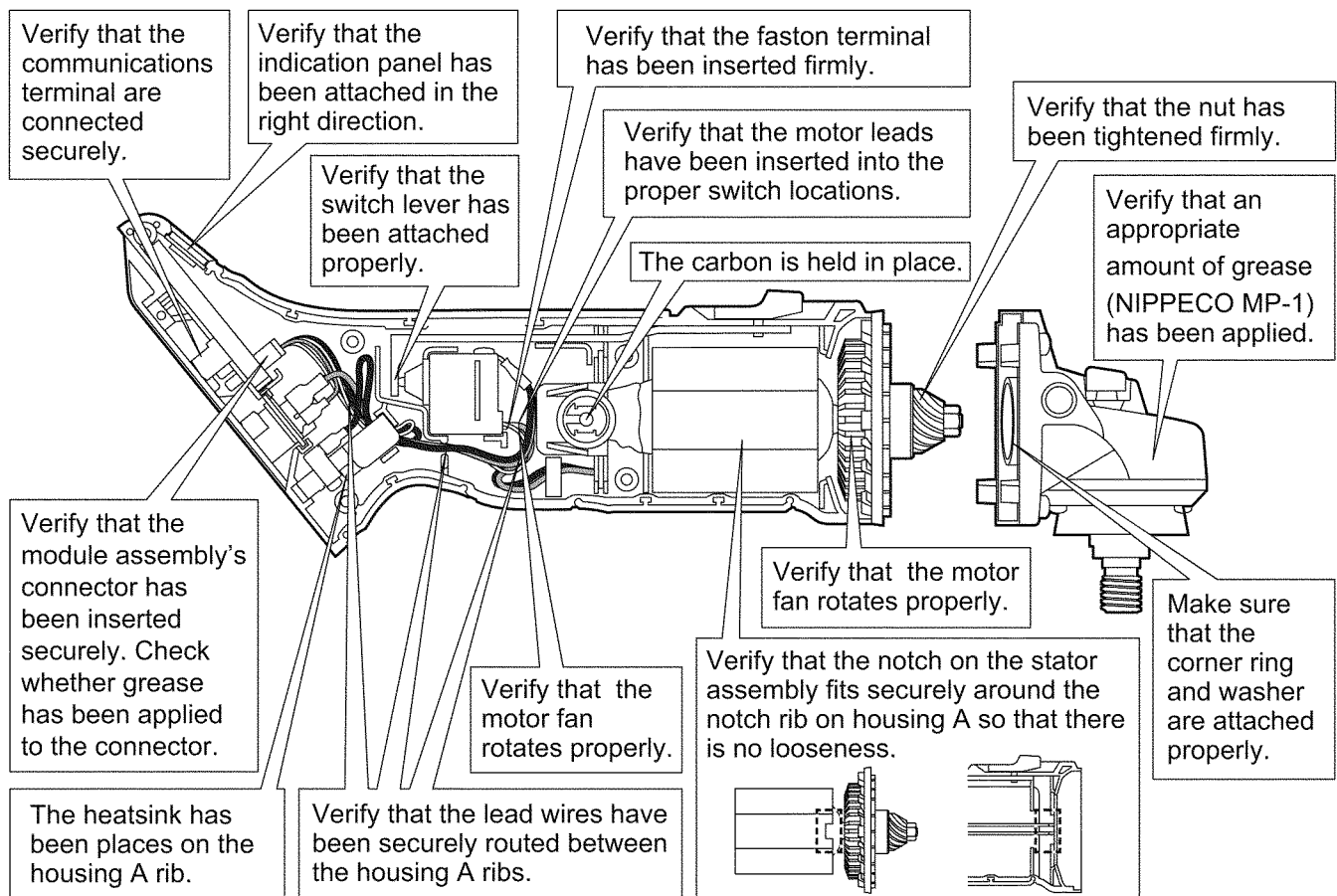
*Hex nut tightening torque value;
 $5 \pm 0.5 \text{ N} \cdot \text{m}$ { $50 \pm 5 \text{ Kg} \cdot \text{cm}$ }

4.11. Removing the switch handle

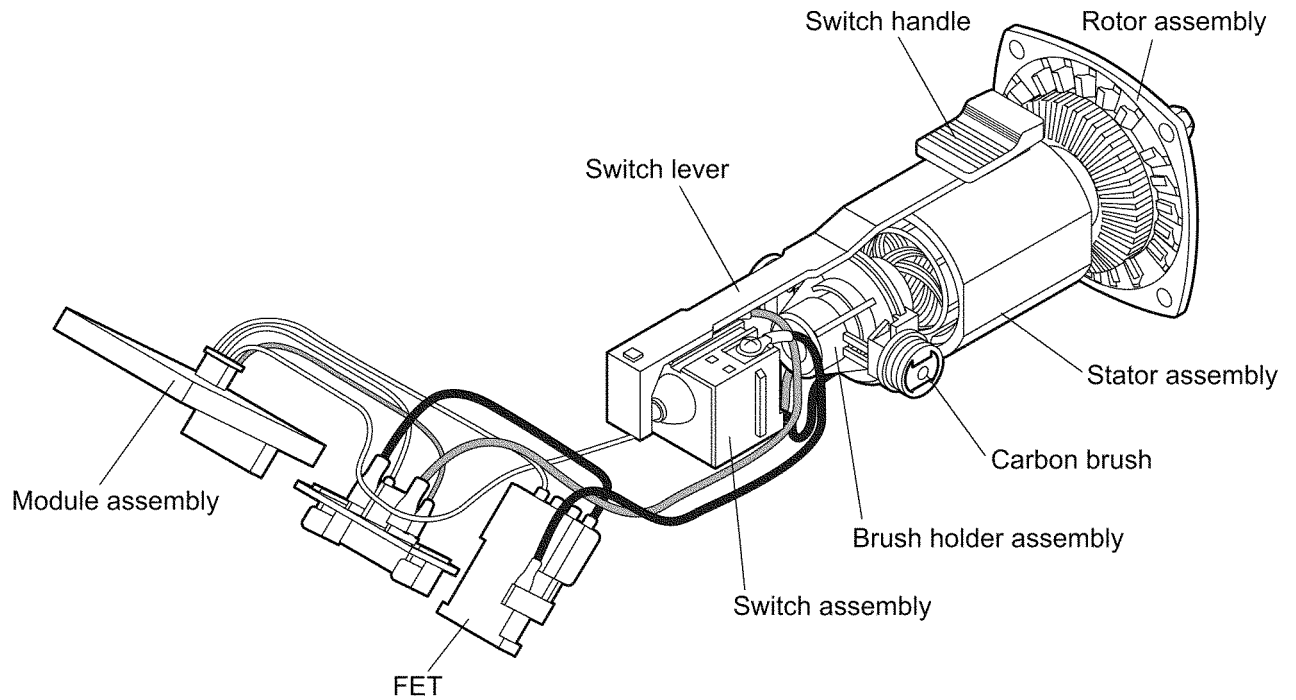


1. Slide the switch handle until the hook of switch handle comes to the wider hole area of switch lever.
2. Pull the switch handle up.

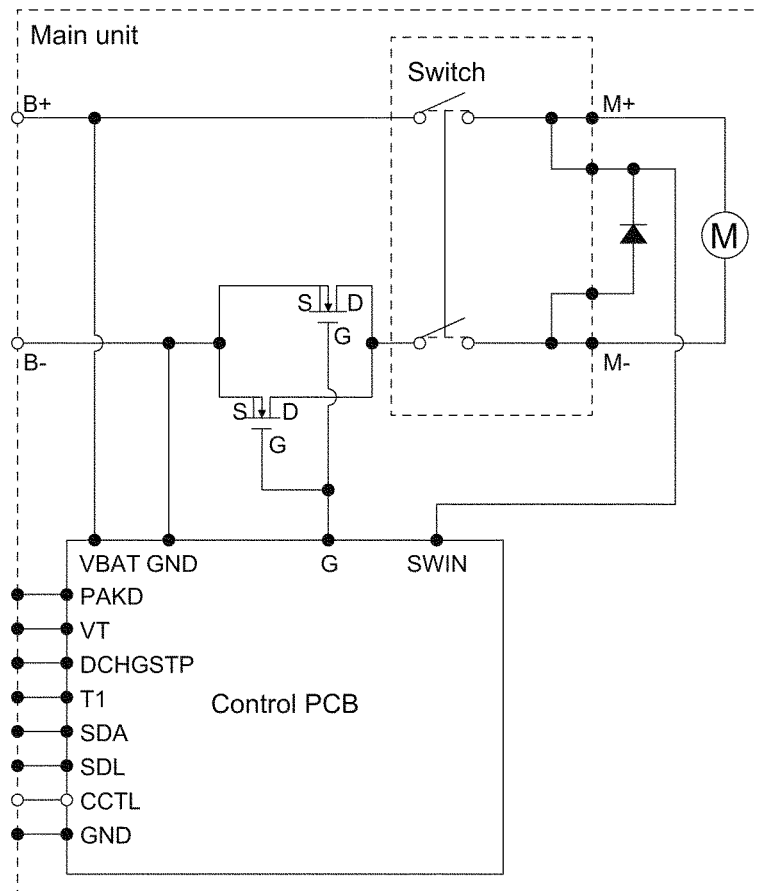
4.12. Wiring and Assembly Points



5 Wiring Connection Diagram

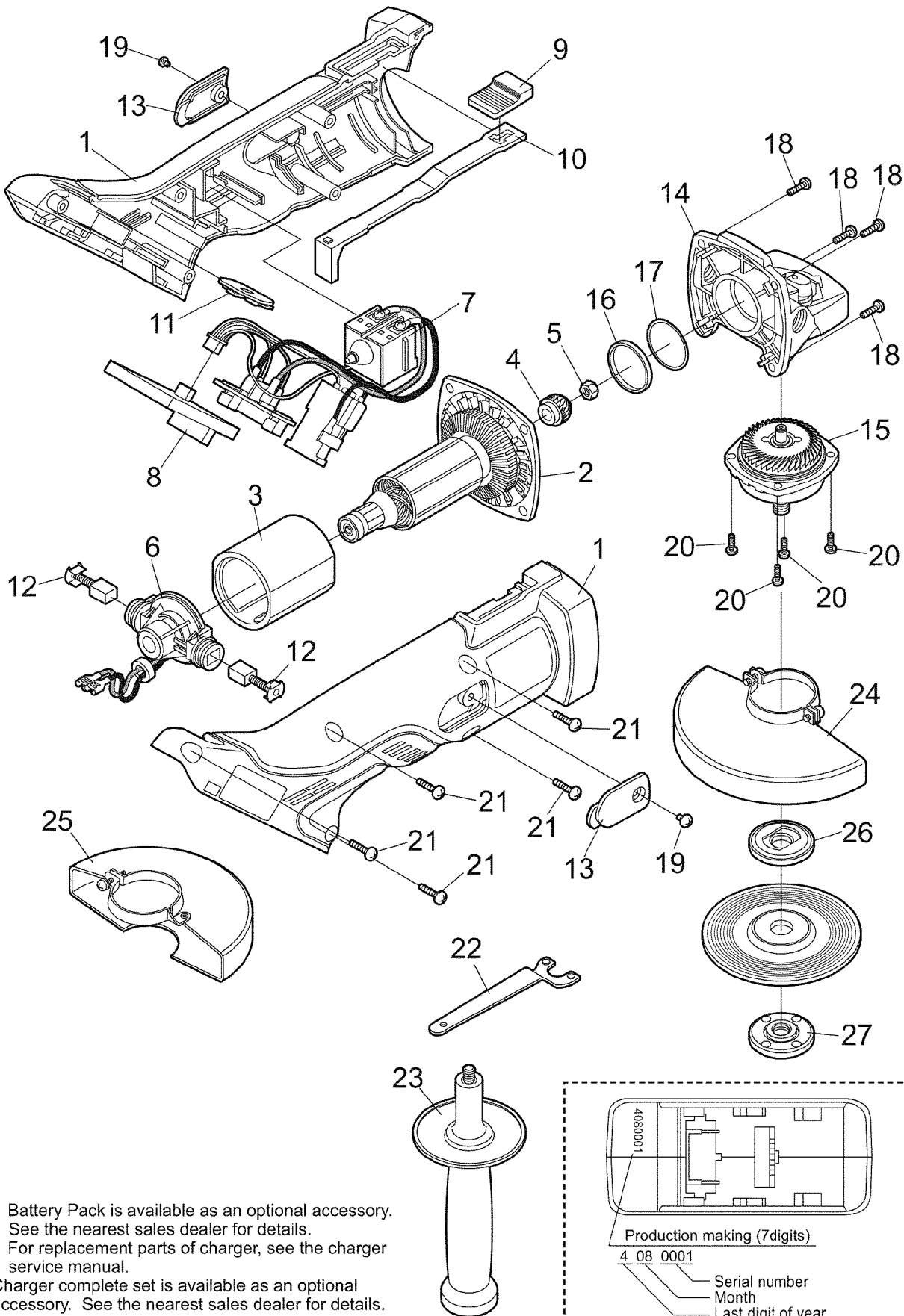


6 Schematic Diagram



7 Exploded View and Replacement Parts List

7.1. Exploded View



* Battery Pack is available as an optional accessory. See the nearest sales dealer for details.
 * For replacement parts of charger, see the charger service manual.
 Charger complete set is available as an optional accessory. See the nearest sales dealer for details.

7.2. Replacement Prts List

Safety	Ref. No.	Part No.	Part Name & Description	Quantity	Remarks
	1	WEY46A2H3079	HOUSING AB SET	1	(for EUROPE)
	1	WEY46A2H3070	HOUSING AB SET	1	(for OCEANIA)
	2	WEY46A1L1007	ROTOR ASSEMBLY	1	
	3	WEY46A1L1587	STATOR ASSEMBLY	1	
	4	WEY46A1L1457	PINION GEAR	1	
	5	WEY4640L6427	HEX NUT	1	(M6), (5PCS/PK)
	6	WEY46A1K1038	BRUSH HOLDER	1	(2PCS/PK)
	7	WEY46A1K2007	SWITCH ASSEMBLY	1	
	8	WEY46A1L2107	MODULE ASSEMBLY	1	
	9	WEY4640L2017	SWITCH HANDLE	1	
	10	WEY4640L2917	SWITCH LEVER	1	
	11	WEY4640L3588	INDICATION PANEL	1	
	12	WEYT510L2317	BRUSH ASSEMBLY	2	(2pcs/PK)
	13	WEY46A1K3107	BRUSH CAP COVER	1	
	14	WEY46A1S4127	GEAR CASE ASSEMBLY	1	
	15	WEY46A2K1778	GEAR CASE COVER ASSEMBLY	1	
	16	WEY46A1K0977	SQUARE RING	1	
	17	WEY46A1S0847	WASHER	1	
	18	WEY46A1K9447	BIND HEAD SCREW	4	(4pcs/PK)
	19	WEY46A1K6097	CONTERSUNK SCREW	2	(M3*6), (2pcs/PK)
	20	WEY46A1K9137	TIGHT SCREW	4	(M4*14), (5pcs/PK)
	21	WEYT510L9447	TIGHT SCREW	5	(M4*18), (5pcs/PK)
	22	WEY4640S7868	DISC WRENCH	1	
	23	WEY4640K3237	SUPPORT HANDLE	1	
	24	WEY4640K1168	DISC FLANGE	1	
	25	WEY4640K1178	CLAMP NUT	1	
	26	WEY46A2K3747	GRINDING DISC GUARD	1	
	27	WEY46A2K3137	CUT-OFF DISC GUARD	1	
	28	WEY9L40R2788	BATTERY PACK COVER	1	
	-	WEY9661K7018	TOOL CASE	1	
	-	WEY46A2K8108	OPERATING INSTRUCTIONS	1	
	-	WEY4640L8917	GREASE	1	