

Service Manual

Cordless Drill & Driver

Model No. EY1DD1

Europe



⚠ WARNING

This service manual is strictly meant to be used by experienced professional repair technicians only and is not designed for use by the general public. Products powered by electricity should be serviced and repaired only by experienced professional repair technicians ("Professionals"). Any attempt to service or repair the product by anyone else could result in serious injury and even death. Panasonic shall not be responsible, to the extent permitted by applicable law, for any damages, losses, costs, expenses, death, injury, claims, decree, proceedings, and/or judgment, arising out of, in connection with, or relating to, any use and/or misuse of this service manual by users other than Professionals.

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.

TABLE OF CONTENTS

| | PAGE | PAGE |
|--|------|------|
| 1 Warning----- | 2 | |
| 2 Specifications ----- | 2 | |
| 3 Troubleshooting Guide----- | 3 | |
| 4 Disassembly and Assembly Instructions ----- | 5 | |
| 5 Exploded View and Replacement Parts List ----- | 9 | |

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.

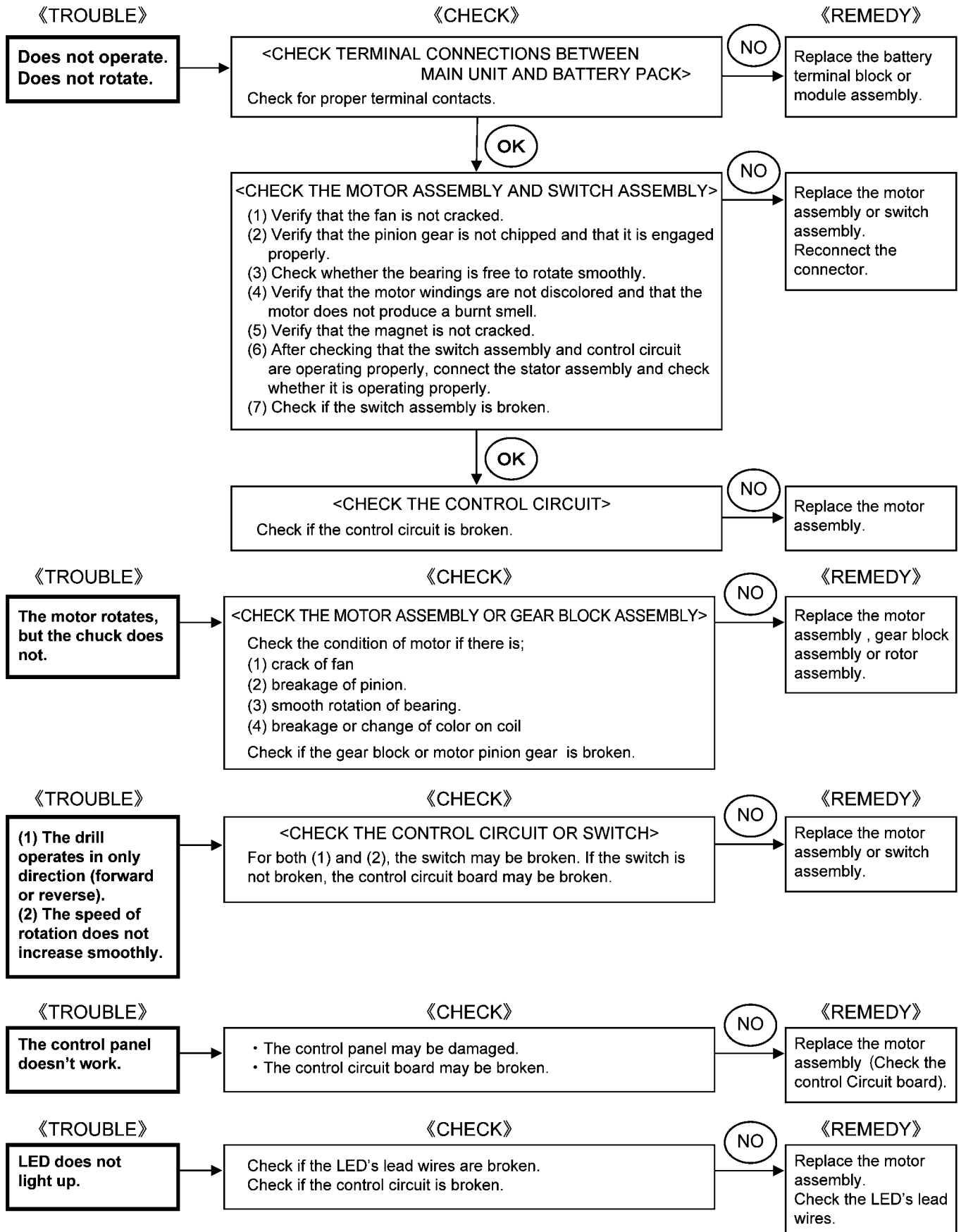
Less than 1 kg: indicated by 0.01 kg.

MAIN UNIT

| Model No. | | EY1DD1 | |
|------------------|--------|---|---|
| Motor voltage | | 14.4 V DC | 18 V DC |
| No load speed | LOW | Approx. 20 min ⁻¹ – 430 min ⁻¹ | Approx. 20 min ⁻¹ – 530 min ⁻¹ |
| | HIGH | Approx. 70 min ⁻¹ – 1450 min ⁻¹ | Approx. 70 min ⁻¹ – 1800 min ⁻¹ |
| Chuck capacity | | Φ 1.5 mm – Φ 13 mm | |
| Clutch torque | LOW | Approx. 3 N•m – 17 N•m | Approx. 3 N•m – 18 N•m |
| | HIGH | Approx. 3 N•m – 7 N•m | Approx. 3 N•m – 8 N•m |
| Overall length | | 160 mm | |
| Weight | EY9L47 | 1.52 kg | — |
| | EY9L49 | 1.75 kg | — |
| | EY9L53 | — | 1.65 kg |
| | EY9L54 | — | 1.88 kg |
| Noise, Vibration | | See the included sheet | |

3 Troubleshooting Guide

3.1. Troubleshooting Guide



3.2. Trial Operation (after checking Troubleshooting Guide).



Note:



- If you have any questions concerning operation, refer to the instruction manual and review its description of drill operation.
- If the drill fails to operate as described in the instruction manual, reassemble it and check for any improperly assembled or missing parts.

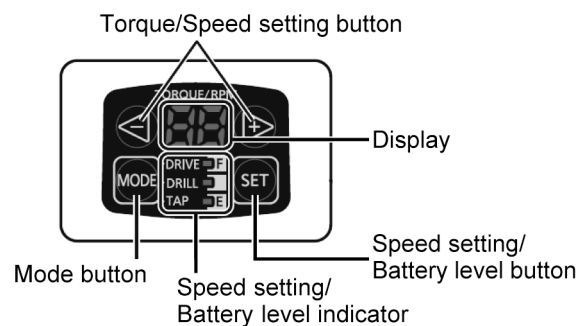
3.2.1. Assembly.




- Confirm if there is no gap between housing A and B by pinching lead wires.
- Make sure that the battery pack can be attached and detached smoothly.
- Confirm the smooth sliding of bit holder and to hold the firmly.
- Confirm all screws are tightened firmly.

3.2.2. Operation.

- Check whether the tool operates properly in both the forward and reverse directions.
- Check whether the tool speed increases continuously as the trigger is gradually engaged.
- Confirm if the rotation stops when releasing the switch handle.
- Check whether the drill operates properly in accordance with the control panel settings.
- Press the Mode button (N) and check whether the mode changes to drill mode, tap mode, drive mode.
- Set the operating mode to "Drill" mode and verify that the control panel display cycles through F → H1 → H2 → H3 each time the  button is pressed and through F → H3 → H2 → H1 each time the  button is pressed.

| Button | Display |
|--|------------------|
|  | F → H1 → H2 → H3 |
|  | F → H3 → H2 → H1 |



Set the operating mode to "Tapping" mode, press   buttons to display "1" on the control panel display, press the Speed setting/Battery level button, press the  button while the display is flashing, and verify that the control panel display cycles through F → A → L → L2 → L3 → L4 → L5 → L6 → L7 → L8 → L9.

3.2.3. Integrity.

- 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

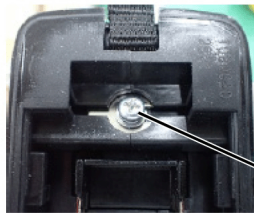
[Strictly observe] Check and understand the disassembly/assembly procedures and exploded view in advance.

[Strictly observe] To reduce the risk of injury, always remove battery pack before removing/installing the tool.

[Strictly observe] Manage all parts and make sure that no parts are left unattached at the time of assembling.

[Note] Work while keeping information on the disassembly process using a digital camera as needed.

4.1. Removing the Plate Hook.



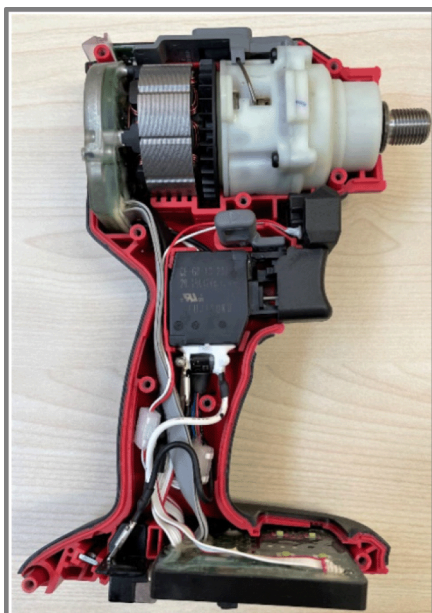
Screw(M4-14)

1. Removing M4-14 screw.
2. Removing the plate hook.

4.2. Removing the Keyless Chuck.

Please refer to EY74A2 service manual.

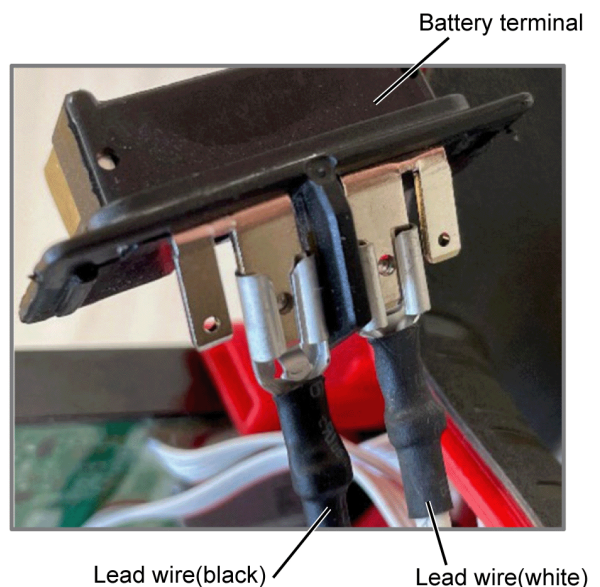
4.3. Removing the Housing.



Note:

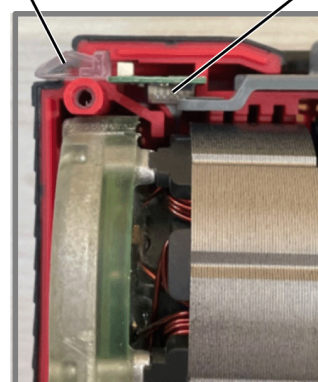
Create a record of the lead wire routing as necessary, for example by taking a Picture with a digital camera.

1. Remove nine screws(K3*20) that attach housings.
2. Remove the associated parts.



3. Remove the lead wires from the battery terminal.

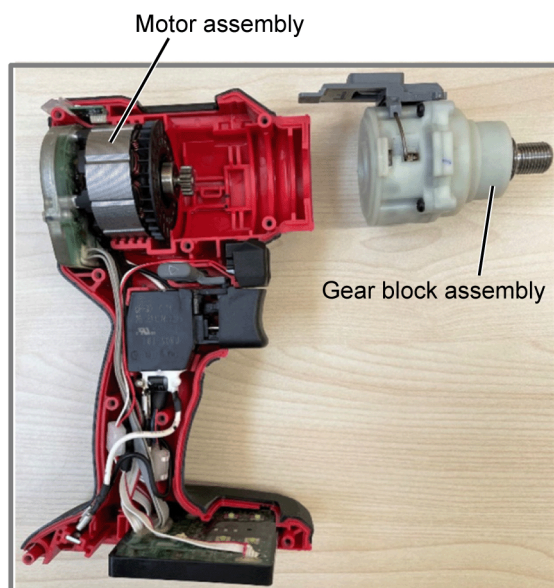
LED light guide Control circuit



Note:

Exercise care when assembling the housing as this product has a transparent part that transmits light from the LED and a circuit board at the top of the housing.

4.4. Removing the Gear block assembly.

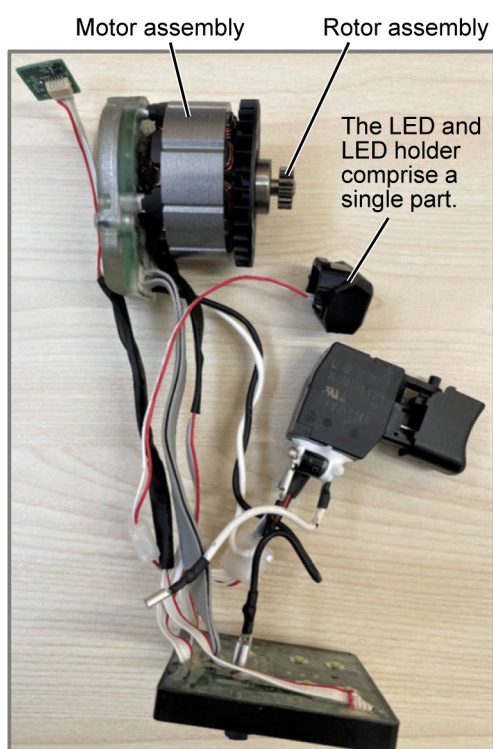


Holding the motor assembly, remove the entire motor mounting plate, including the gear box assembly from the motor assembly.

Note: (When Assembling)

Make sure that the rotors move smoothly.

4.5. Removing the Switch assembly, Motor assembly and module from the housing.



1. Remove the switch assembly, motor assembly and module from the housing.

*You can remove the rotor (from the motor) by pulling it out.

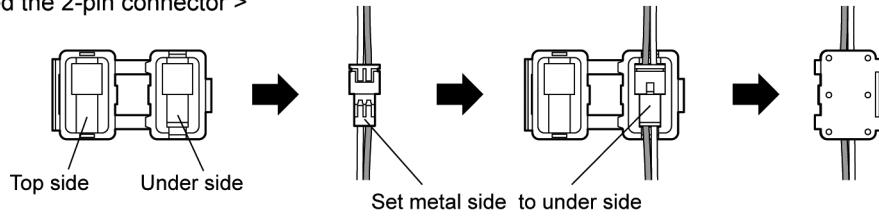


2. Remove the connector from the switch assembly.
3. Remove the connector(6-pin/2-pin) covers.

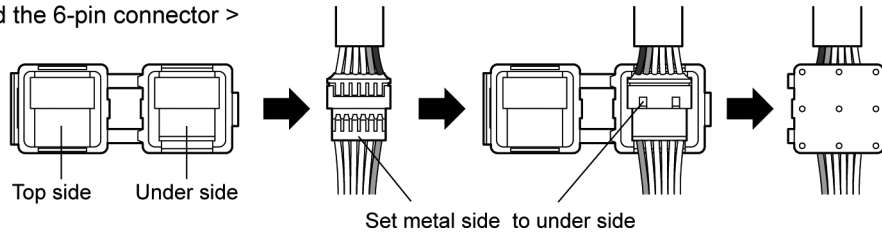
Note: (when assembling)

The connect cover cannot be reused after being repaired.

< How to attached the 2-pin connector >

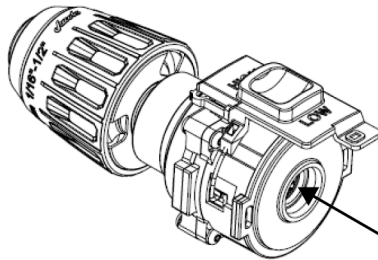


< How to attached the 6-pin connector >

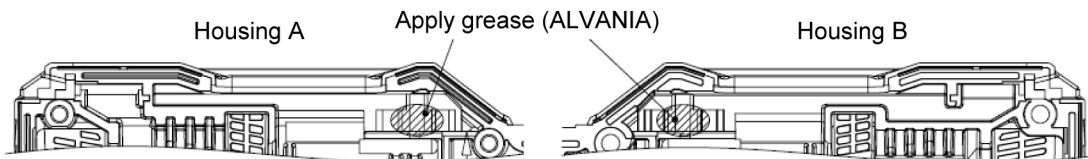


4.6. Applying grease.

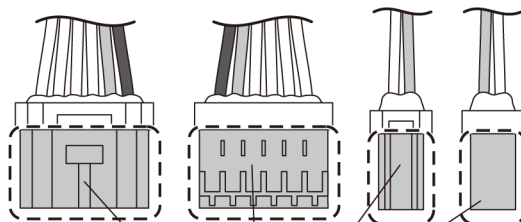
Gear block assembly



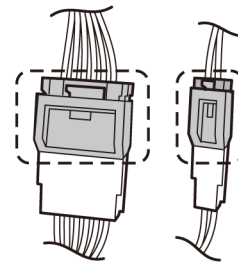
Apply CALFOREX to the motor pinion gear teeth.



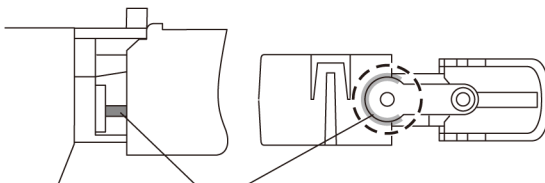
Apply grease(ALVANIA) to the indicated by the shaded area.
(inside of H/L change handle).



Apply grease (SUMITEC).



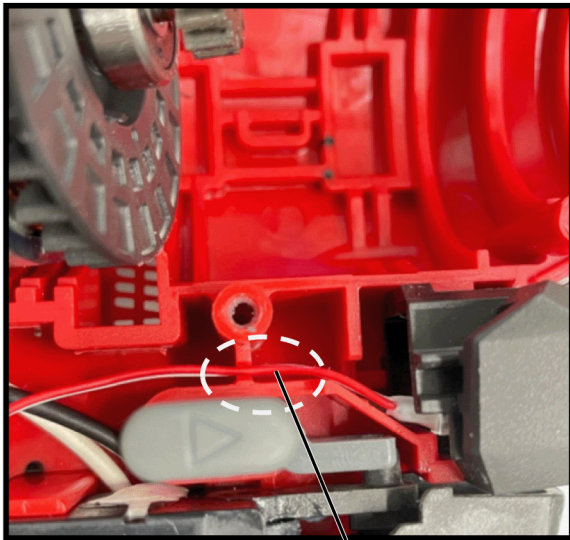
Apply the grease (SUMITEC) to the 2-pin and 6-pin male connectors and the outer surfaces of the connectors.



Apply grease (SUMITEC).

4.7. Wiring and Assembly Points.

Pass the LED lead wire between the ribs.

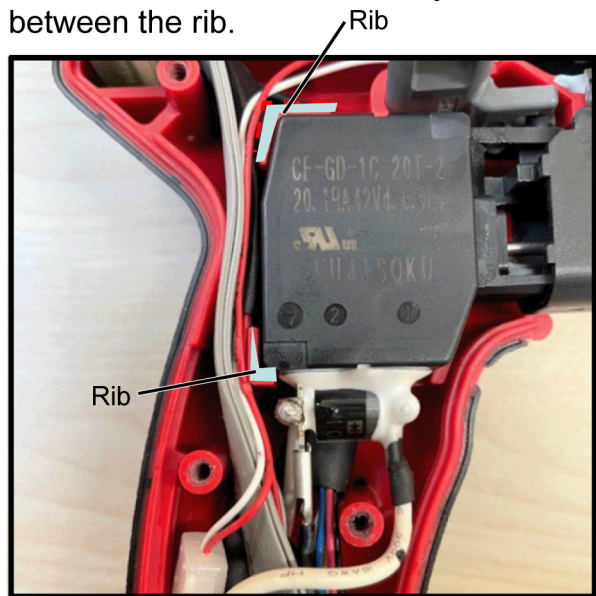


LED lead wire.

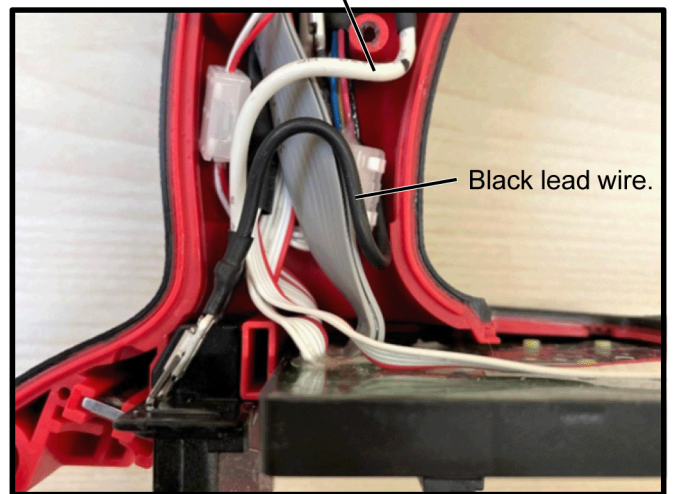
Lead wires have been securely routed between the rib.



Lead wires have been securely routed between the rib.

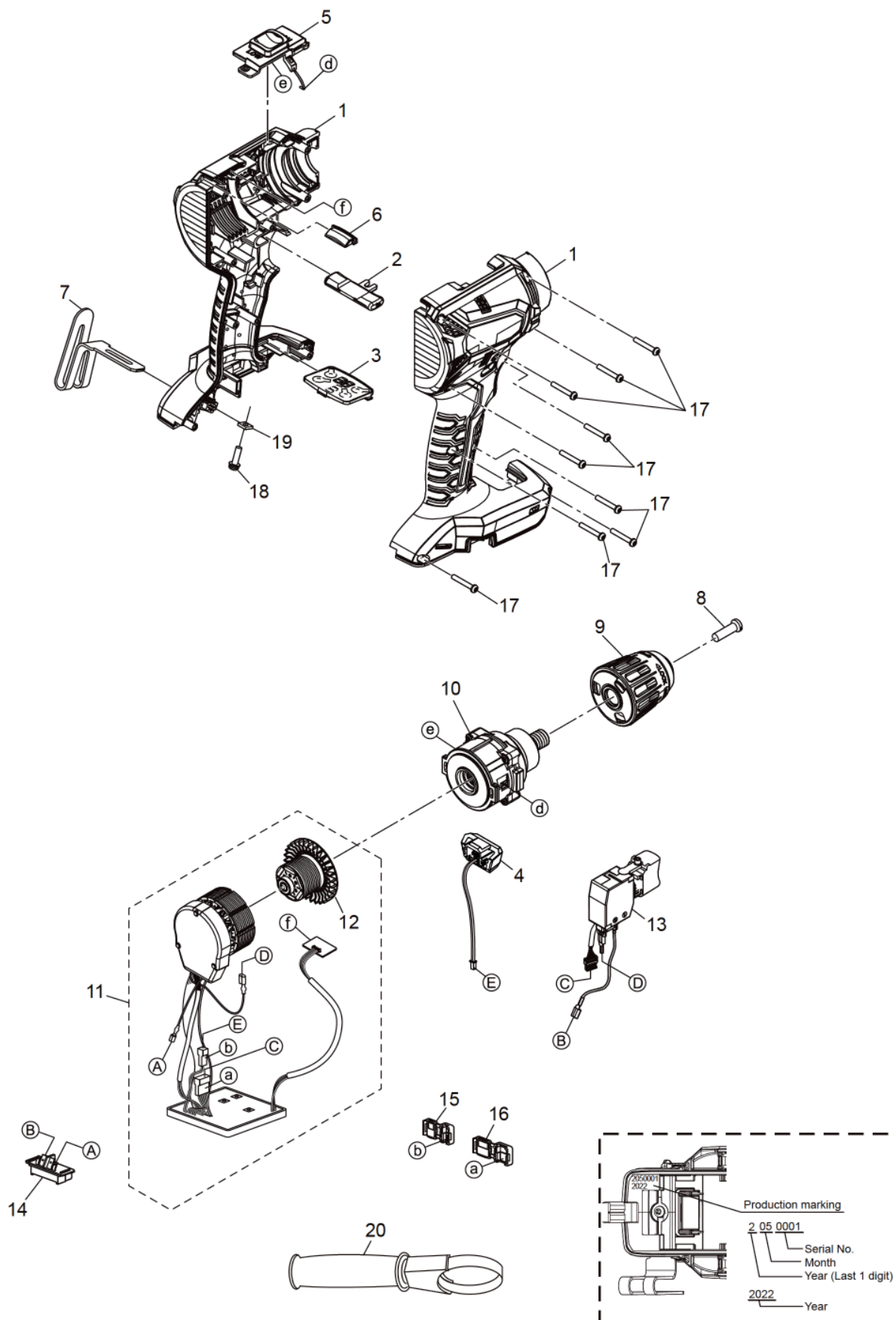


White lead wire.



5 Exploded View and Replacement Parts List

Model No. : EY1DD1 Exploded View



Model No. : EY1DD1 Parts List

| Change | Safe | Ref.No. | Part No. | Part Name & Description | Quantity | Remarks |
|--------|------|---------|--------------|---------------------------|----------|---------|
| EY1DD1 | | | | | | |
| | | 1 | WEY1DD1K3002 | HOUSING AB SET | 1 | |
| | | 2 | WEY1PD1H3101 | F/R SELECTOR HANDLE | 1 | |
| | | 3 | WEY1DD1L3102 | OPERATION PLATE | 1 | |
| | | 4 | WEY1DD1K3101 | LED COVER BLOCK | 1 | |
| | | 5 | WEY1DD1H3001 | H/L CHANGE HANDLE | 1 | |
| | | 6 | WEY1DD1K3201 | LED LIGHTGUIDE | 1 | |
| | | 7 | WEY7543K3187 | PLATE FOOK | 1 | |
| | | 8 | WEY6450L6806 | CHUCK FASTENING SCREW | 1 | |
| | | 9 | WEY1DD1L0101 | CHUCK | 1 | |
| | | 10 | WEY1DD1L1101 | GEAR BLOCK ASSEMBLY | 1 | |
| | | 11 | WEY1DD1L2101 | MOTOR ASSEMBLY | 1 | |
| | | 12 | WEY1DD1L2201 | ROTOR ASSEMBLY | 1 | |
| | | 13 | WEY75A8L2007 | SWITCH ASSEMBLY | 1 | |
| | | 14 | WEY75A7K2157 | BATTERY TERMINAL ASSEMBLY | 1 | |
| | | 15 | WEY75A8W3117 | CONNECTOR COVER 2P | 1 | |
| | | 16 | WEY75A8W3127 | CONNECTOR COVER 6P | 1 | |
| | | 17 | WEY6230K9216 | TORX TAPPING SCREW | 9 | (K3*20) |
| | | 18 | WEY7441K6217 | SCREW | 1 | (K4*14) |
| | | 19 | WEY7441L6487 | NUT | 1 | (M4) |
| | | 20 | WEY1DD1F7001 | SUPPORT HANDLE | 1 | |
| | | - | WEY1DD1L8002 | OPERATING INSTRUCTIONS | 1 | |
| | | - | WEY004X8967 | CALFOREX | 1 | |
| | | - | WEY001T8907 | GREASE (ALVANIA) | 1 | |
| | | - | WEY7543X5517 | GREASE (SUMITEC) | 1 | |