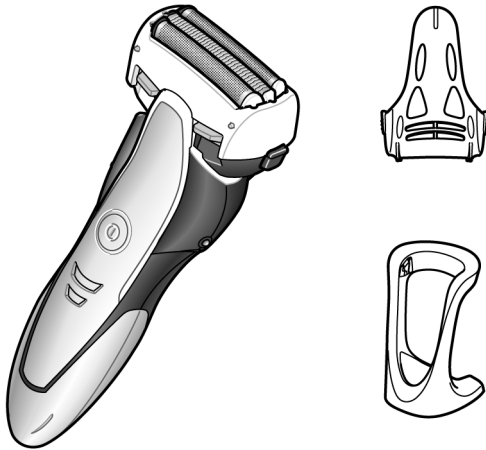


Service Manual

Rechargeable Shaver

Model No. **ES-ST25**

Asia
Middle East



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

| | |
|-------------------|----------------------------|
| Power source | AC 120-240V, 50-60Hz |
| Power consumption | 6W (when charging) |
| Motor voltage | 3.6V |
| Charging time | Approx. 1 hour |
| Weight | Approx. 145g (without cap) |

| | |
|----------------------|----------------|
| Supplied accessories | Charging stand |
| | Cleaning brush |
| | Oil |

3 Troubleshooting Guide

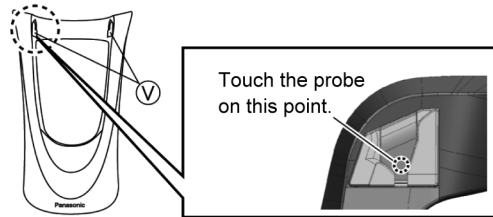
3.1. Main unit and charging adaptor

| <TROUBLE> | <CHECK.> | <REMEDY> |
|---|--|--------------------------|
| Motor does not rotate. Does not charge. Functions for a moment and stops. | <p align="center"><CHECK AC ADAPTOR.></p> Connect the rated voltage and measure the output voltage. OK if it is approximately 6V with no-load operation. Check the continuity of AC adaptor. | NO → Replace AC adaptor. |

↓ OK

| <CHECK CHARGING STAND.> | <REMEDY> |
|--|------------------------------|
| Connect the normal AC adaptor with charging stand. Apply the rated voltage and measure if the output voltage is approximately DC6 under no-load operation. Confirm if there is no dirt or dust around the contacting area. | NO → Replace charging stand. |

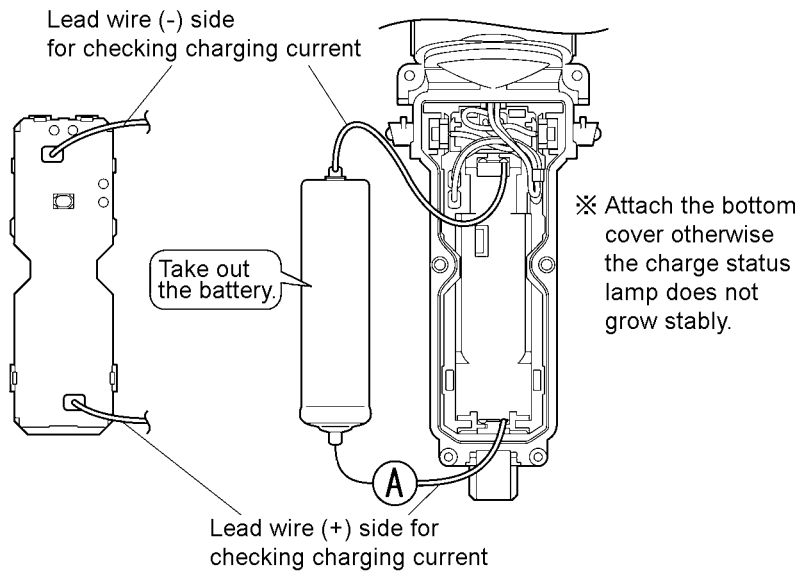
↓ OK

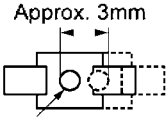


| <CHECK RECHARGEABLE BATTERY.> | <REMEDY> |
|---|------------------------------------|
| Okay if the voltage of rechargeable battery is more than approximately 3.6V DC between (+) and (-) terminals. | NO → Replace rechargeable battery. |

↓ OK

| <CHECK MODULE.> | <REMEDY> |
|---|--|
| Wire the main unit returned from a customer as shown below and connect the normal AC adaptor. Check if; The charge status lamp (RED) is lit when connecting the rated voltage. Disconnect the main unit from charging stand and confirm if motor rotates when switching ON. Check charging current, if it is in approximately 600mA when initial charging from empty condition. | NO → Repair the soldering points. ↓ OK Replace module. ↓ OK Replace Linear motor assembly. |

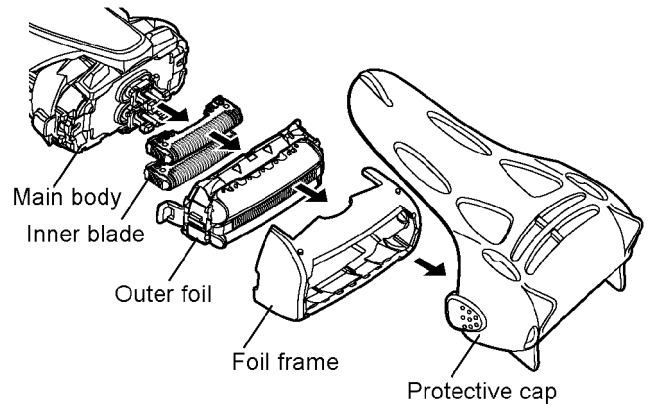


| <TROUBLE> | <CHECK> | <REMEDY> |
|---|--|--|
| Noise is too loud. Amplitude is too small. | Check if there is any deformation with the outer foil. | NO → Replace outer foil or oiling a drop on the foil. |
| | ↓ OK | |
| | <CHECK DRIVING BARS.> Check if there is any deformation with trimmer driving bar, and slit blade driving bar or they are set firmly. | NO → Replace trimmer driving bar or slit blade driving bar. |
| | ↓ OK | |
| | <CHECK DRIVING HEAD AMPLITUDE.> Turn the switch ON, and measure the amplitude by checking a pin of driving head. (See the figure shown below.) | NO → Replace linear motor assembly or module. |
| | ↓ OK |  <p>Approx. 3mm φ 1.4 (when viewed from the top)</p> |
| | <CHECK TREMBLE LINEAR MOTOR.> Confirm 6 screws where tightened the housing and 2 screws on the linear motor assembly are tightened firmly. And no tremble on the driving head or suspension. | NO → Re-tighten screws. |
| | <CHECK TREMBLE LINEAR MOTOR.> Confirm 6 screws where tightened the housing and 2 screws on the linear motor assembly are tightened firmly. And no tremble on the driving head or suspension. | NO → Re-tighten screws. |
| Does not push the main switch. | Check if the switch button is pushed down more than 0.5mm. | NO → Replace housing A. |
| | ↓ OK | |
| | <CHECK MODULE.> Take out module and chassis assembly from housing A. And confirm if motor rotates when pushing the tact switch. | NO → Check module refer to the procedure explained the previous page. |
| | ↓ OK | |
| | Replace housing A. | |
| Does not work shaving sensor. | <CHECK SHAVING SENSOR MODE.> Confirm the different sound between selecting Shaving sensor mode and Normal mode. | NO → Replace outer foil and inner blades. |
| | | ↓ NO |
| | | Replace linear motor assembly or module. |

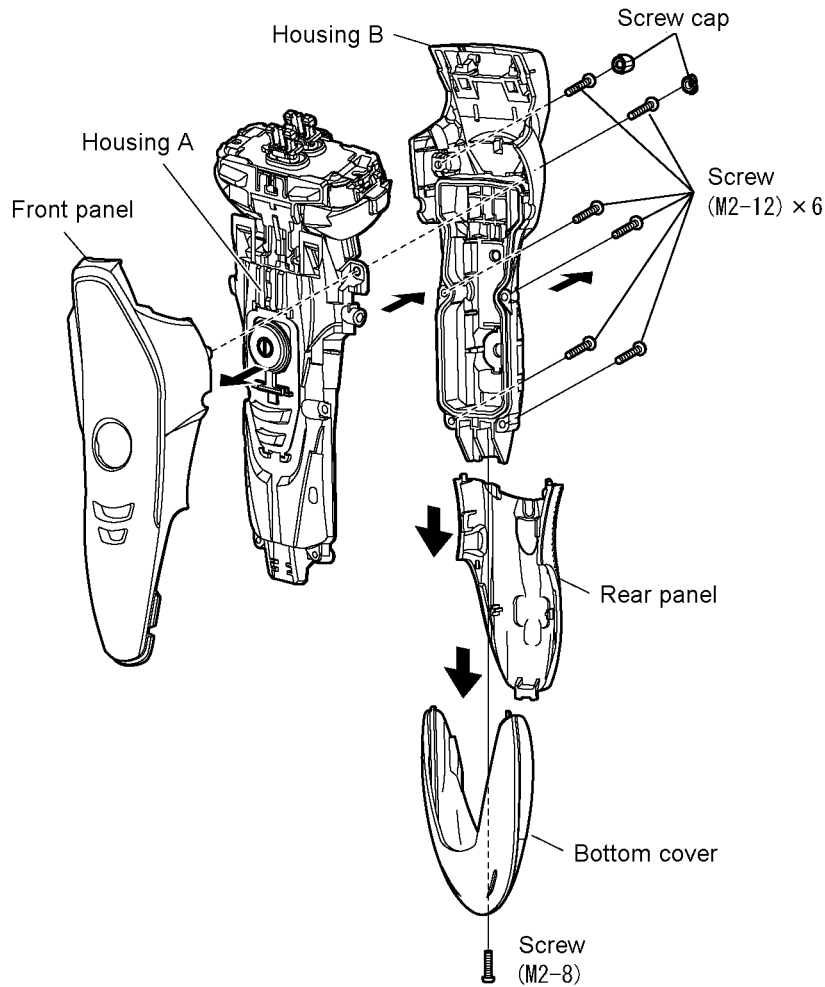
4 Disassembly and Assembly Instructions

Follow the procedure below to disassemble the main unit.

1. Remove the cap, the outer foil with foil frame and the inner blades.



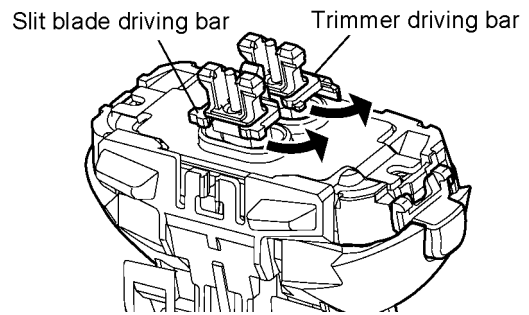
2. Loosen one screw and take out the bottom cover.
3. Take out the screw caps and rear panel.
4. Loosen six screws from housing.
5. Remove the front panel and separate housing A and B.



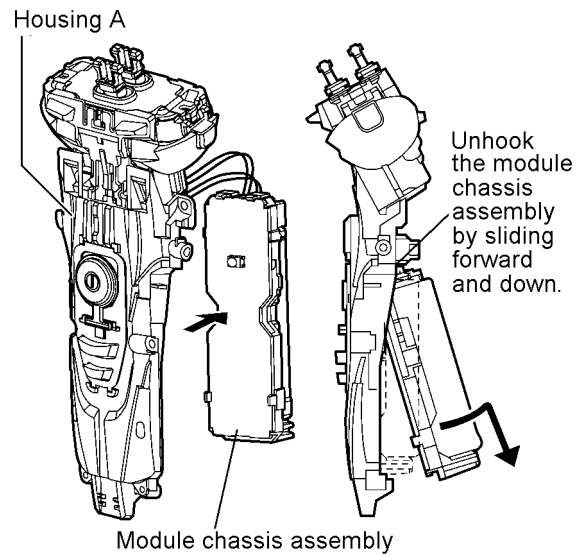
6. Remove the trimmer driving bar or the slit blade driving bar with pressing bars outward.

NOTE:

Driving bars replacement is required only when replacing the linear motor assembly.



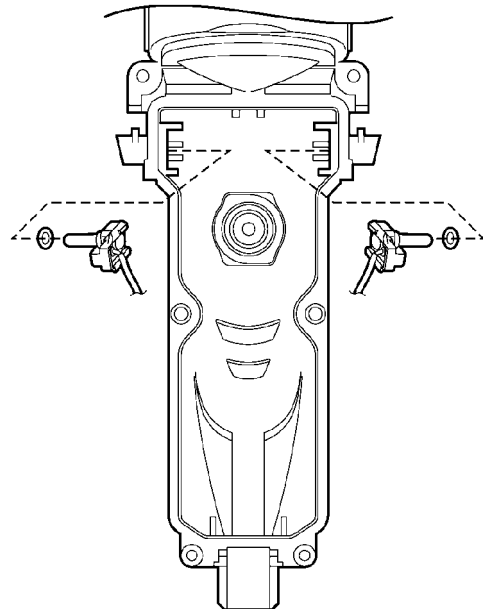
7. Remove the module and chassis assembly from the housing A.



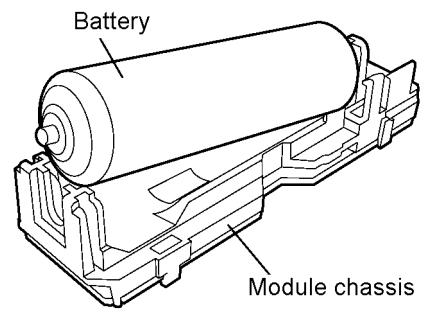
8. Remove the side terminals from the housing A.

NOTE:

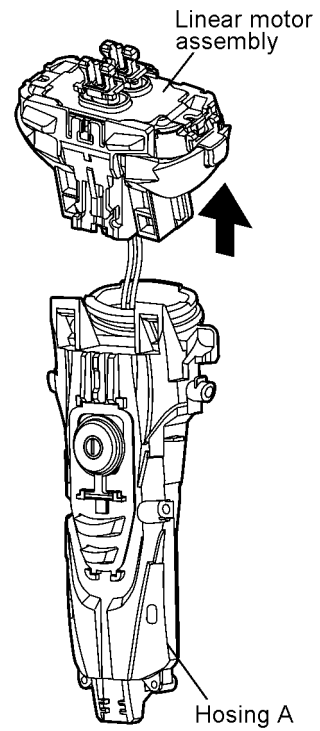
Make sure not to loose O-rings.



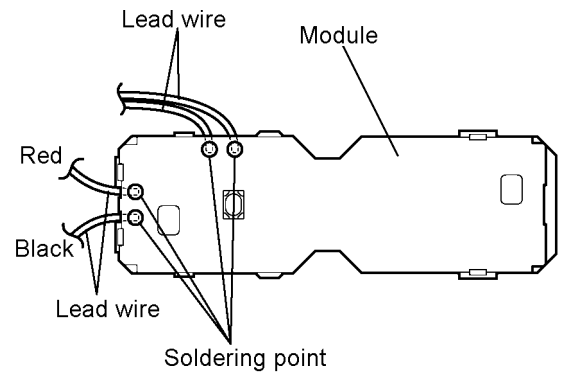
9. Remove the battery from the chassis.



10. Remove the linear motor assembly from the hosing A.



11. Unsolder the lead wires.



5 Disassembly Instructions

NOTE:

When reassembling, replace the new waterproof rubber. Make sure whether there is NO foreign substance sticking around a part covered with water seal.

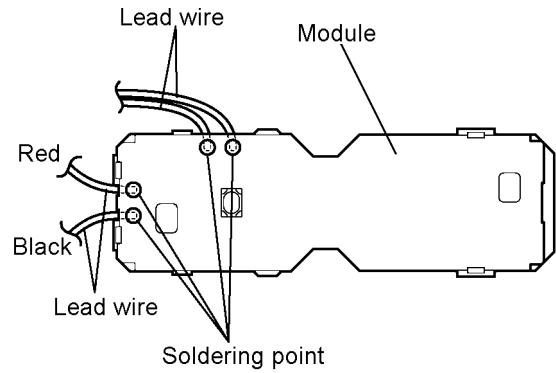
1. Solder the lead wires.

NOTE:

Make sure of the polarity.

NOTE:

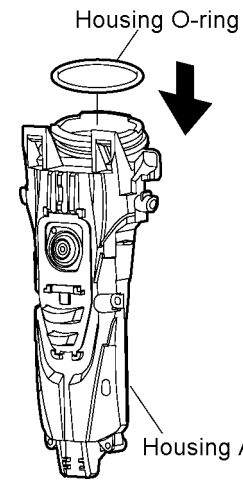
Use lead-free solder. Set the temperature of soldering iron between 350-380°C and touch within three seconds.



2. Attach the housing O-ring.

NOTE:

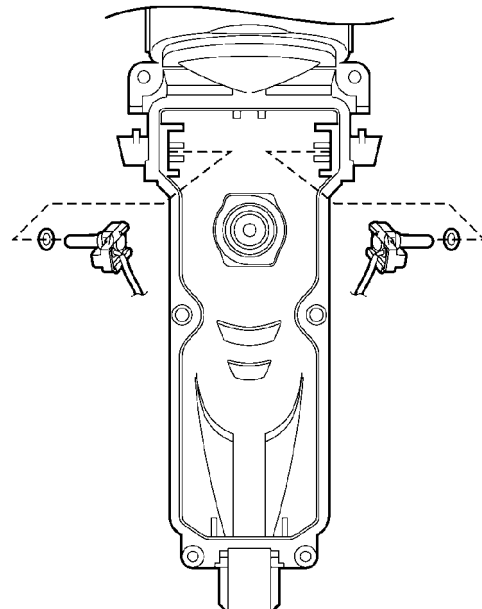
Make sure of the position and no foreign substance.



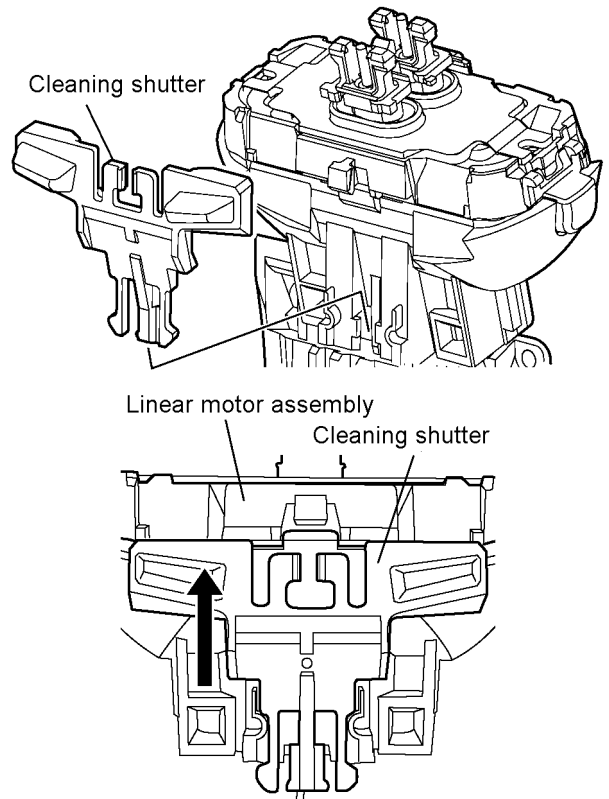
3. Attach the O-ring to the housing A first. And assemble the side terminals on both sides.

NOTE:

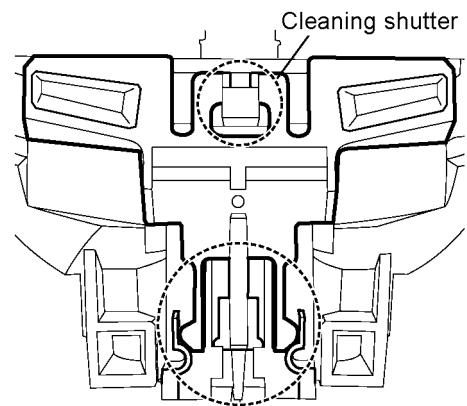
Do not attach the O-ring to the side terminal first as it makes pinching the O-ring when assembling the housing.



- Before assembling the linear motor assembly to the housing A, attach the cleaning shutter from the bottom side.



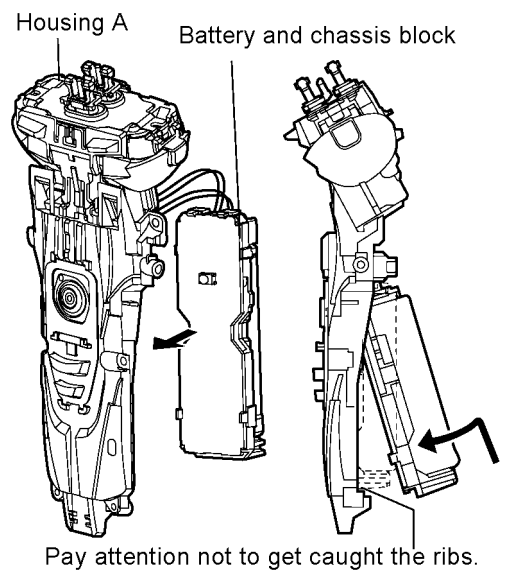
- Slid up the cleaning shutter and confirm whether two hooks are assembled firmly.



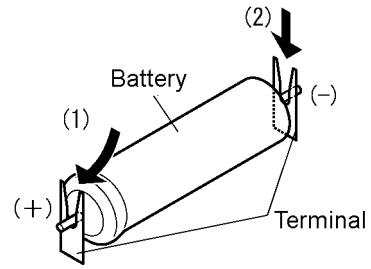
- Assemble the battery and chassis block into the housing.

NOTE:

Make sure not to scratch or deform the module.



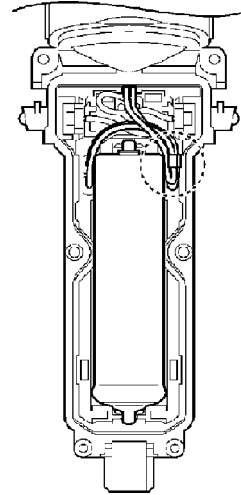
7. Insert the rechargeable battery into chassis. Confirm the direction of battery. Once battery is disassembled, the battery is reset. Connect the battery with the charging adaptor about 10 seconds first.



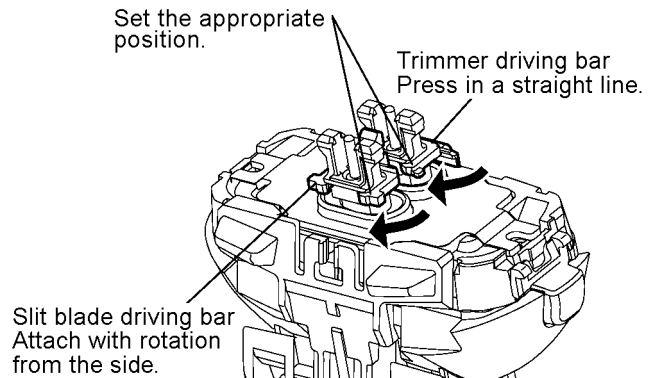
8. Place the wire as shown the figure.

NOTE:

Press fit the lead wire neatly to avoid any pinching.



9. Set the trimmer driving bar and the slit blade driving bar.

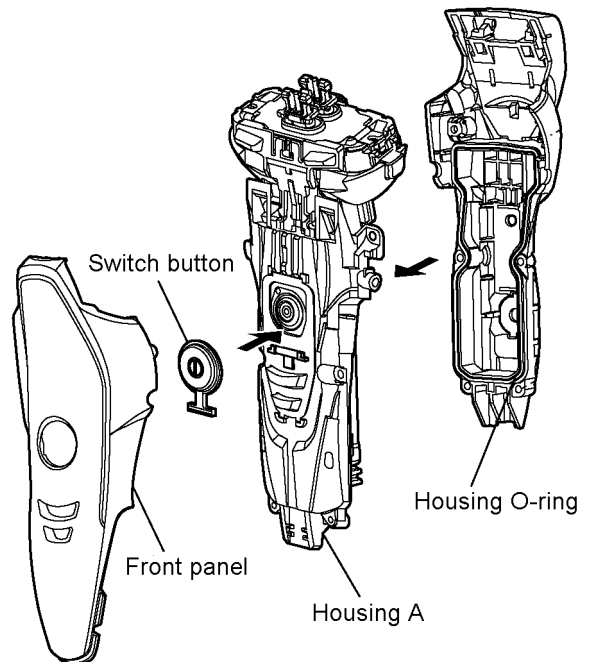


10. Place fit the housing O-ring.

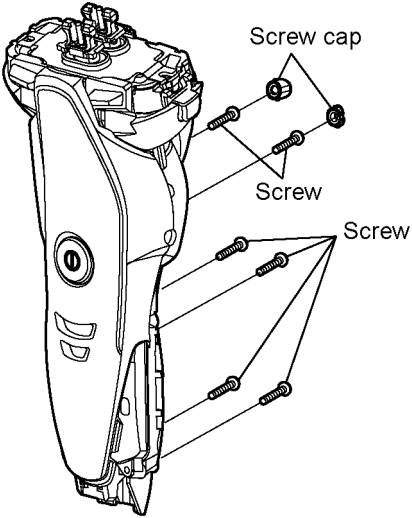
NOTE:

Make sure if there is no foreign substance sticking around and not to pinching.

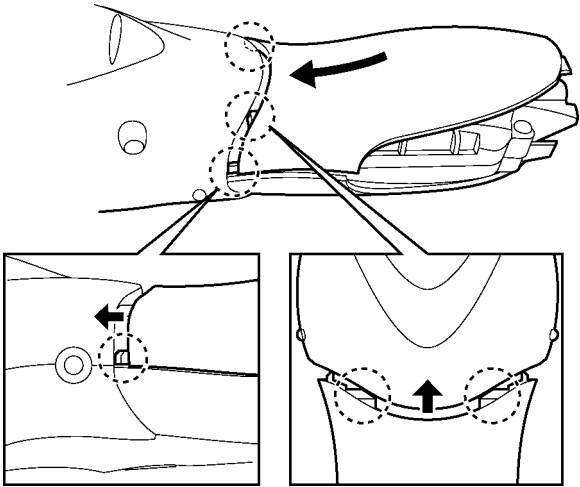
11. Attach the switch button to the housing A and assemble the front panel.



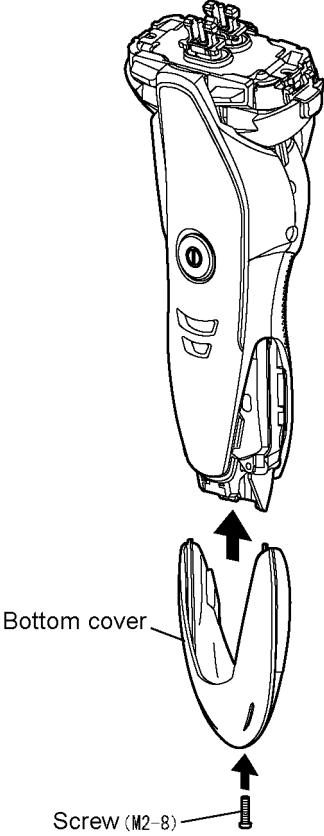
12. Tighten six screws and attach the screw caps.



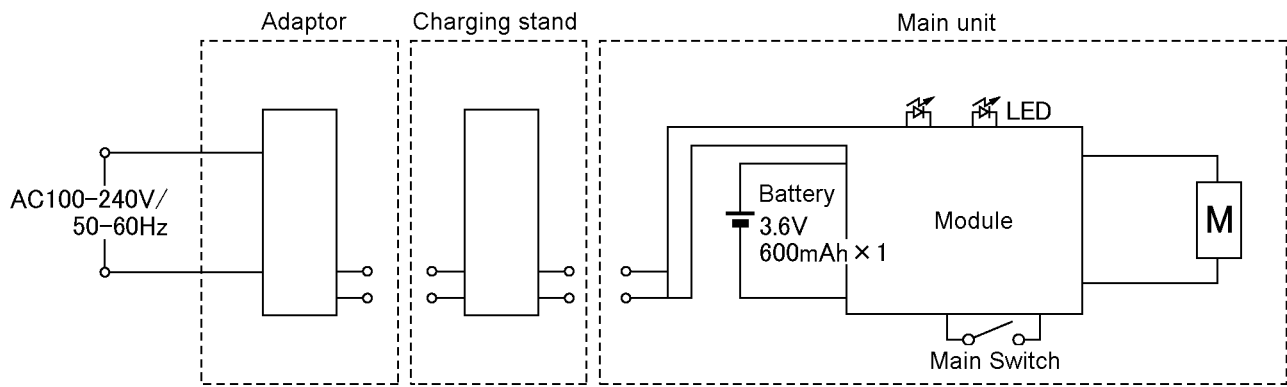
13. Attach the rear panel with care of hooks.



14. Tighten a screw with the bottom cover.

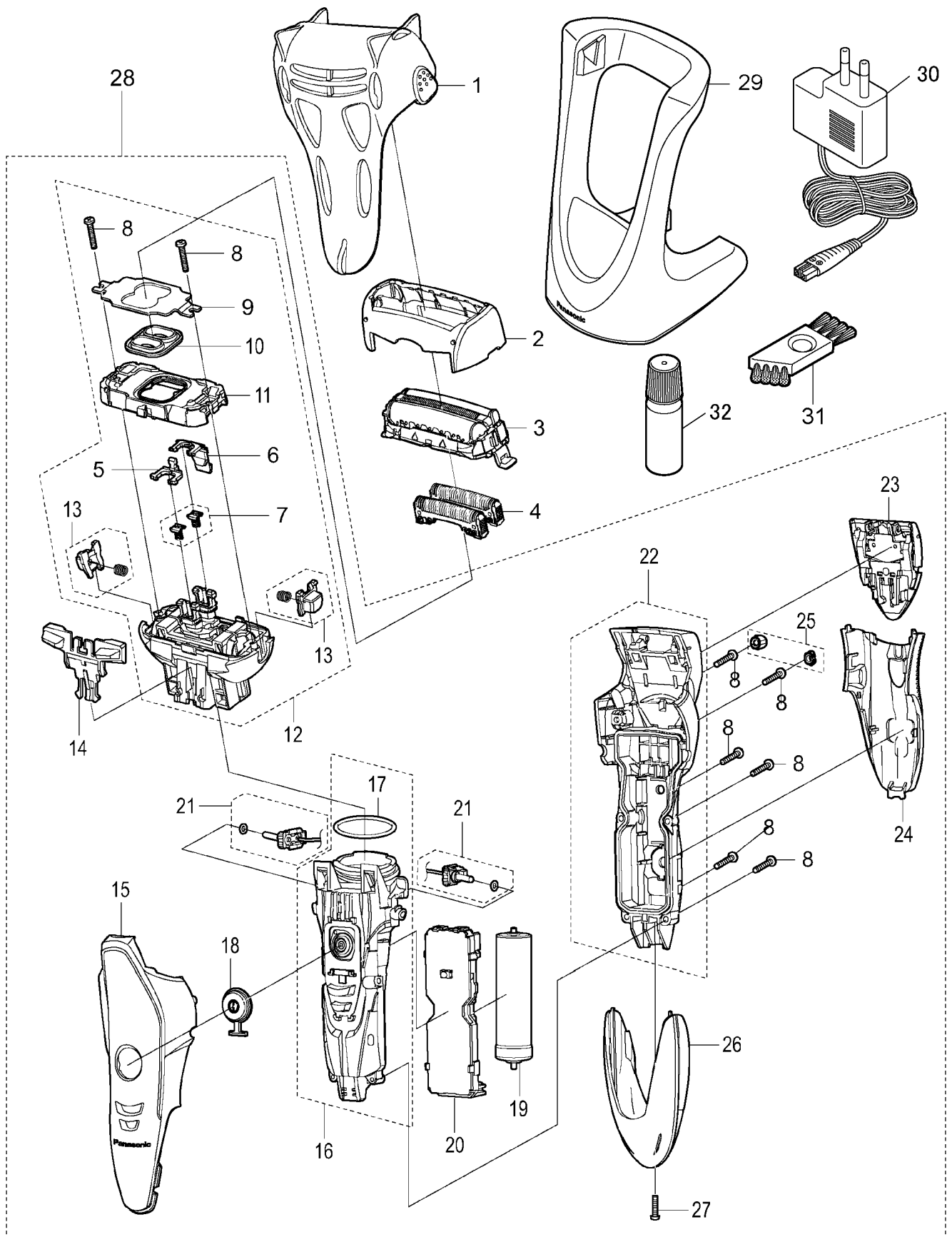


6 Schematic Diagram



7 Exploded View and Replacement Parts List

7.1. Exploded View



7.2. Replacement Prarts List

| Safety | Ref. No. | Part No. | Part Name & Description | Quantity | Remarks |
|--------|----------|--------------|-------------------------|----------|-------------------------------------|
| | 1 | WESST23X7158 | PROTECTIVE CAP | 1 | |
| | 2 | WESST23K0007 | OUTER FOIL FRAME | 1 | for BLACK MODEL |
| | 2 | WESST23R0007 | OUTER FOIL FRAME | 1 | for RED MODEL |
| | 3 | WES9087E | OUTER FOIL | 1 | |
| | 4 | WES9068E | INNER BLADE | 1ST | |
| | 5 | WES8176L1077 | SLIT BLADE DRIVING BAR | 1 | |
| | 6 | WES8119L1087 | TRIMMER DRIVING BAR | 1 | |
| | 7 | WESST23L0587 | STOPPER | 1ST | |
| | 8 | WES8176L6007 | P TIGHT SCREW | 6 | M2-12 |
| | 9 | WESST23L0207 | RETAINING PLATE | 1 | |
| | 10 | WES8176L0327 | WATERPROOF RUBBER | 1 | |
| | 11 | WESST23K0017 | BLADE HOLDER | 1 | |
| | 12 | WESST23K1007 | LINEAR MOTOR ASSEMBLY | 1 | |
| | 13 | WESST23K3267 | FOIL RELEASE BUTTON | 1 | |
| | 14 | WESST23K3137 | CLEANING SHUTTER | 1 | for BLACK MODEL |
| | 14 | WESST25R3137 | CLEANING SHUTTER | 1 | for RED MODEL |
| | 15 | WESST25K3857 | FRONT PANEL | 1 | for BLACK MODEL |
| | 15 | WESST25R3857 | FRONT PANEL | 1 | for RED MODEL |
| | 16 | WESST25K3057 | HOUSING A | 1 | |
| | 17 | WESST23L0977 | O-RING | 1 | |
| | 18 | WESST25K3267 | SWITCH BUTTON | 1 | for BLACK MODEL |
| | 18 | WESST25R3267 | SWITCH BUTTON | 1 | for RED MODEL |
| | 19 | WES8176L2509 | RECHARGEABLE BATTERY | 1 | LM-ION TYPE |
| | 20 | WESST25L2107 | MODULE CHASSIS ASSEMBLY | 1 | |
| | 21 | WESST23L2157 | SIDE TERMINAL | 1ST | |
| | 22 | WESST23K3068 | HOUSING B | 1 | |
| | 23 | WESST25K1508 | TRIMMER ASSEMBLY | 1 | |
| | 24 | WESST25K3360 | REAR PANEL | 1 | |
| | 24 | WESST25K3362 | REAR PANEL | 1 | only for TAIWAN |
| | 25 | WESST23K0327 | SCREW CAP | 1ST | |
| | 26 | WESST23K3127 | BOTTOM COVER | 1 | for BLACK MODEL |
| | 26 | WESST23R3127 | BOTTOM COVER | 1 | for RED MODEL |
| | 27 | WES8176L6057 | TAPPING SCREW | 1 | K2-8 |
| | 28 | WESST25K3032 | BODY BLOCK | 1 | |
| | 28 | WESST25K3033 | BODY BLOCK | 1 | for BLACK MODEL and only for TAIWAN |
| | 28 | WESST25R3038 | BODY BLOCK | 1 | for RED MODEL and only for TAIWAN |
| | 28 | WESST25R3039 | BODY BLOCK | 1 | only for KOREA |
| | 29 | WESST23K7648 | CHARGING STAND | 1 | |
| | 29 | WESST23K7640 | CHARGING STAND | 1 | only for TAIWAN |
| | 30 | WESLV90K7P63 | AC ADAPTOR | 1 | C-2 PLUG |
| | 30 | WESLV90K7P62 | AC ADAPTOR | 1 | A-2 PLUG |
| | 30 | WESLV90K7P71 | AC ADAPTOR | 1 | KS PLUG |
| | 30 | WESGA20K7P75 | AC ADAPTOR | 1 | BF-3 PLUG, only for SAUDI ARABIA |
| | 30 | WESGA20K7670 | AC ADAPTOR | 1 | BF-3 PLUG, only for UAE |
| | 31 | WES8093H7057 | CLEANING BRUSH | 1 | |
| | 32 | WES8196X7918 | OIL | 1 | |
| | - | WESST25K8004 | INDIVIDUAL BOX | 1 | |
| | - | WESST25K8005 | INDIVIDUAL BOX | 1 | only for UAE |
| | - | WESST25K8006 | INDIVIDUAL BOX | 1 | only for SAUDI ARABIA |
| | - | WESST25K8018 | INDIVIDUAL BOX | 1 | for BLACK MODEL and only for TAIWAN |
| | - | WESST25R8008 | INDIVIDUAL BOX | 1 | for RED MODEL and only for TAIWAN |
| | - | WESST25R8009 | INDIVIDUAL BOX | 1 | only for KOREA |
| | - | WESST25K8102 | OPERATING INSTRUCTIONS | 1 | |
| | - | WESST25K8103 | OPERATING INSTRUCTIONS | 1 | only for TAIWAN |