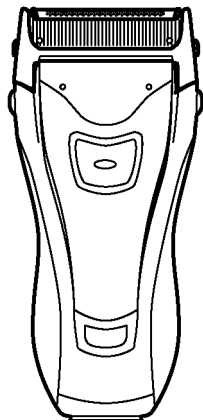


Service Manual

AC/Rechargeable Shaver

Model No. **ES4853**

Asia



⚠ 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).

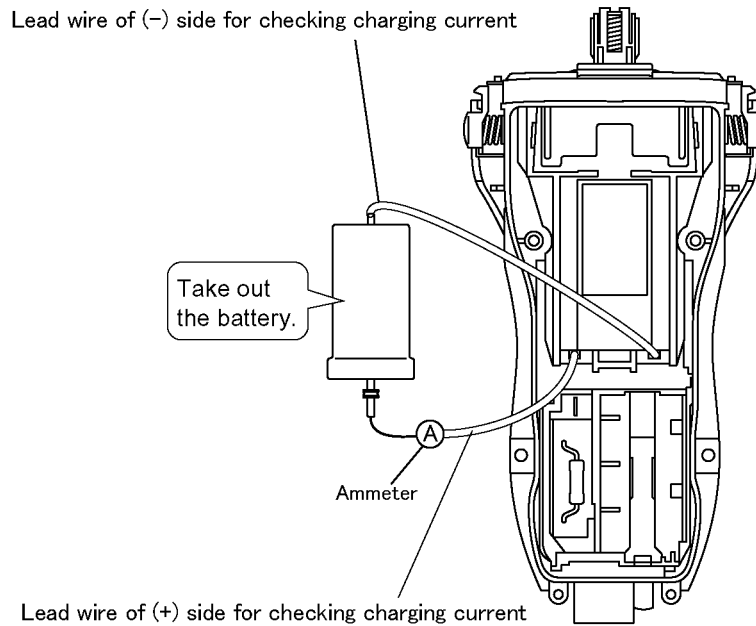
2 Specifications

Power source	AC 100-240V, 50-60Hz (Automatic voltage conversion)
Power consumption	Approx. 7W
Charging time	8 Hours
Shaves per charge	7 times (3 minutes shave)
Measurement	(H)12.4 x (W)5.7 x (D)3.5 cm
Weight	140g

Supplied accessories	Soft case
	Cleaning brush

3 Troubleshooting Guide

<TROUBLE>	<CHECK>	<REMEDY>	
Motor does not rotate. Does not charge. Functions for a moment and stops.	<p align="center"><CHECK CHARGING ADAPTOR.></p> Supply the rated voltage to the adaptor. And confirm the continuity. OK if it is approx. DC5.7V between the terminals of the plug at the no-load operation.	NO → Replace charging adaptor.	
↓ OK			
<p align="center"><CHECK RECHARGEABLE BATTERY.></p> Okay if the voltage of rechargeable battery is more than approximately 1.2V DC between (+) and (-) terminal.			NO → Replace rechargeable battery.
↓ OK			
<p align="center"><CHECK MODULE.></p> Wire the main unit returned from a customer refer with the following figure, and connect the rated voltage to it by the normal adaptor. When switching ON and OFF, check if motor rotates. Discharge the battery and check charging current, if it is approximately $1000 \pm 150\text{mA}$.			NO → Check the soldering points. ↓ OK Replace module.
↓ OK			
<p align="center"><CHECK MOTOR.></p> Okay if the motor rotates when applying DC 1.2V between (+) and (-) terminal.			NO → Replace motor.



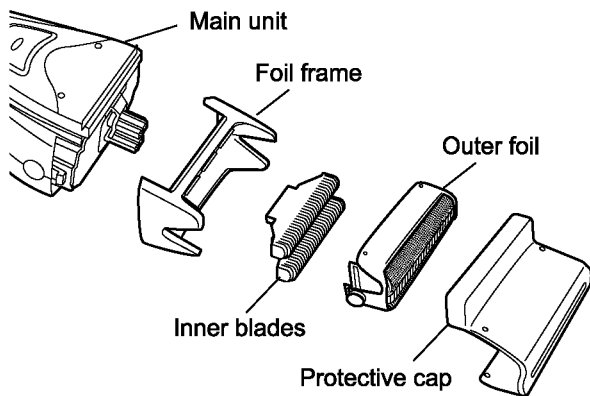
<TROUBLE>	<CHECK>	<REMEDY>	
Noise is too loud. Amplitude is too small.	<p align="center"><CHECK></p> Check if there any deformation with the outer foil.	NO → Replace the outer foil or oiling a drop on the foil.	
↓ OK			
<p align="center"><CHECK DRIVING BAR.></p> Check if there is any deformation with trimmer driving bar.			NO → Replace the trimmer driving bar.
↓ OK			
<p align="center"><CHECK TREMBLE OF MOTOR.></p> Confirm if 6 screws (K2-15 X 2 screws and K2-8 X 4 screws) are tightened firmly and no tremble on the motor.			NO → Re-tighten screws.

4 Disassembly and Assembly Instructions

4.1. Disassembly Instructions

Follow the procedure below to disassemble the main unit.

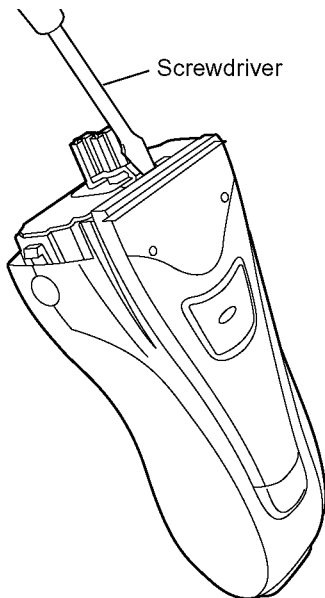
1. Remove the cap, the outer foil with foil frame and the inner blade.



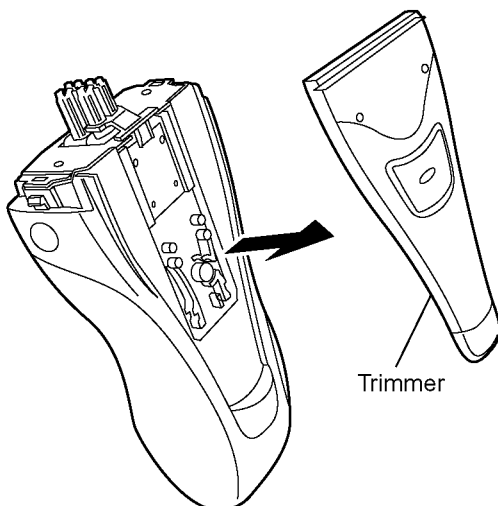
2. Unhook the trimmer handle by inserting something like a slotted screwdriver into a slit.

NOTE:

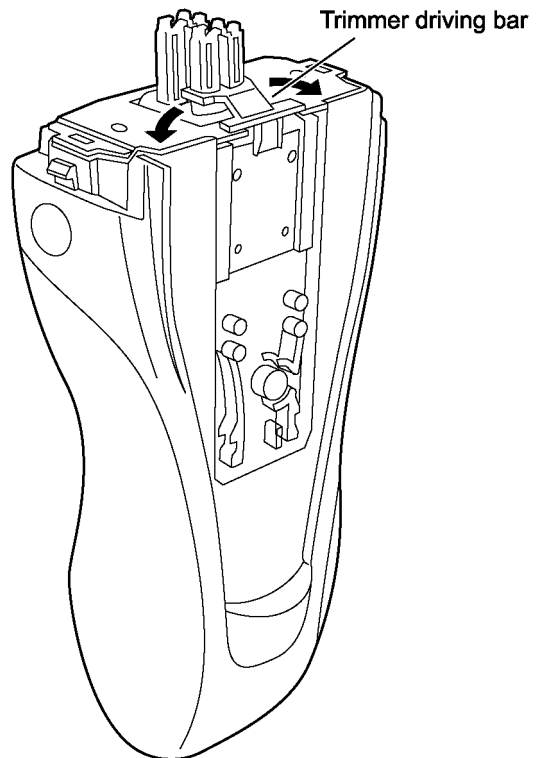
Make sure not to scratch or damage on the housing.



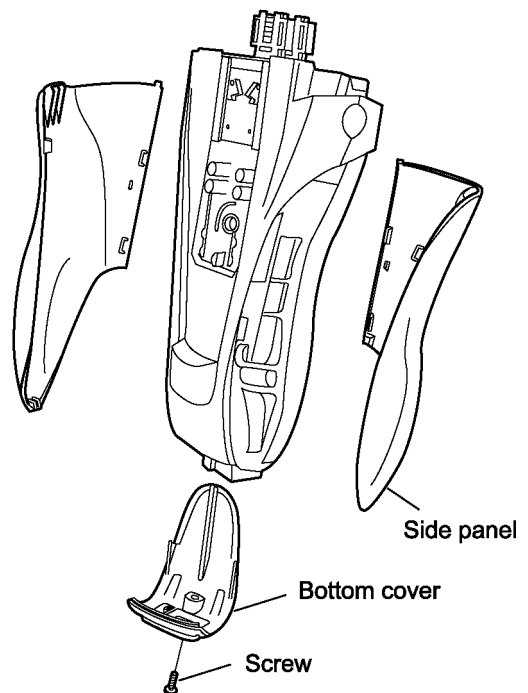
3. Remove the trimmer.



4. To remove the trimmer driving bar, press bar outward.

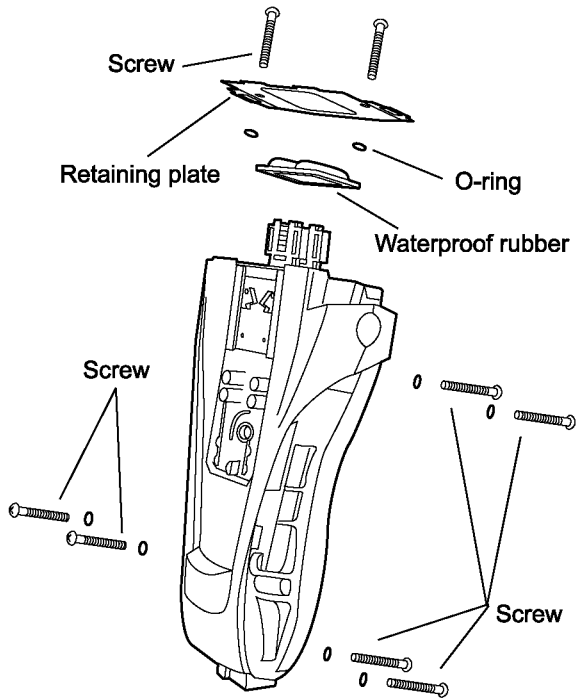


5. Loosen a screw and remove the bottom cover. And take out the side panels.

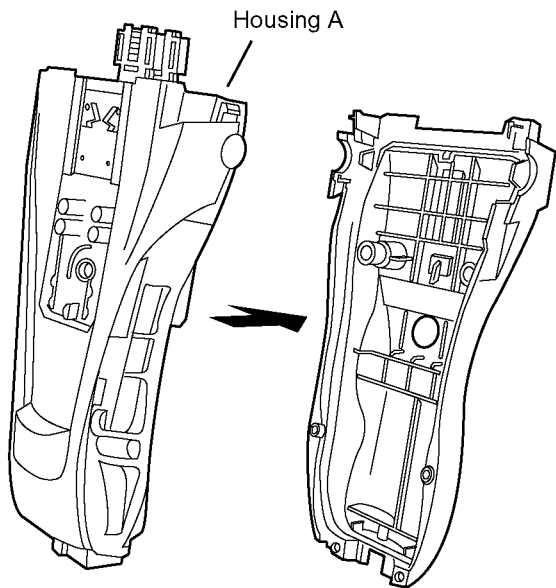


6. Loosen two screws. Take out the retaining plate and waterproof rubber with care of breakage. Loosen six screws.

NOTE:
Do not lose the screw O-rings.

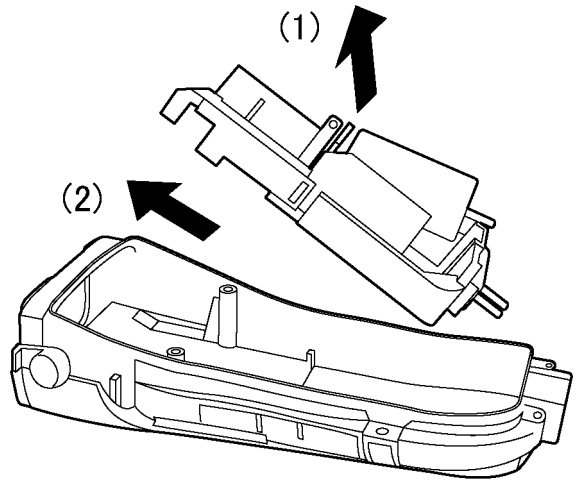


7. Separate the housing B from housing A.

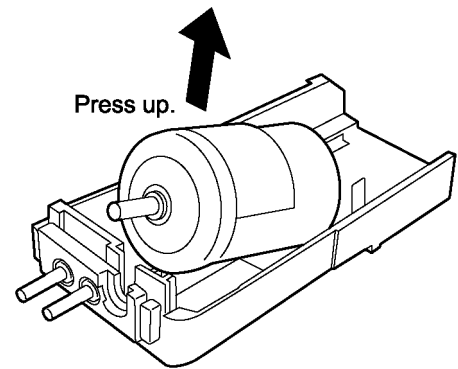


8. Take out the motor and the battery & module assembly gently from housing A.

NOTE:
Do not lose the washer and O-ring.



9. Take out the battery from the chassis.

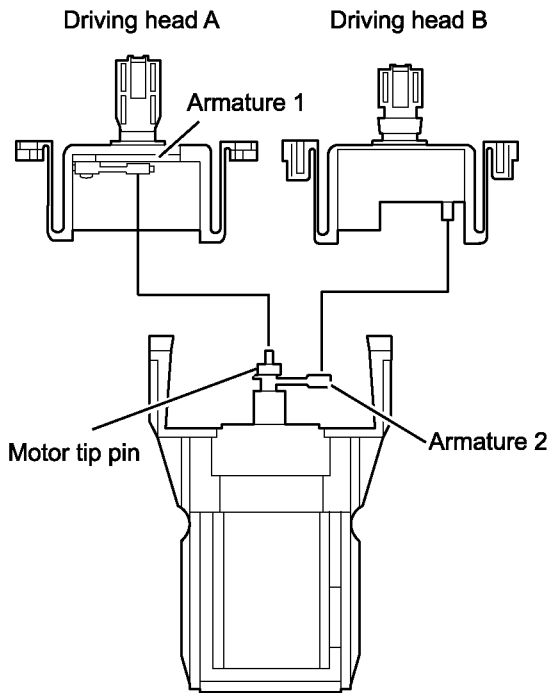


4.2. Assembly Instructions

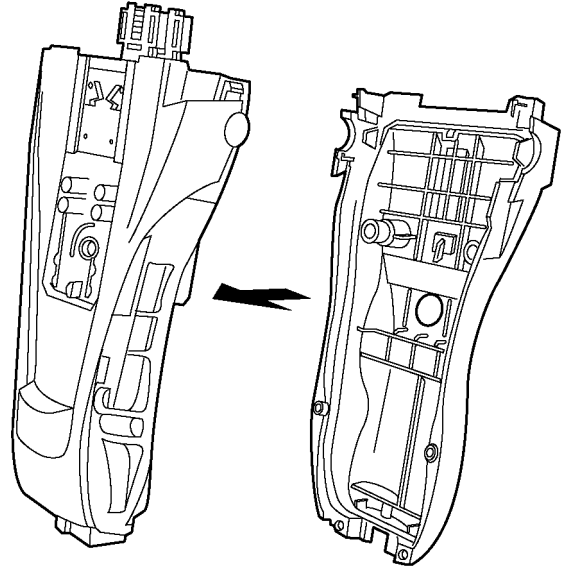
NOTE:

Make sure whether there is NO foreign substance sticking around a part covered with waterproof seal.

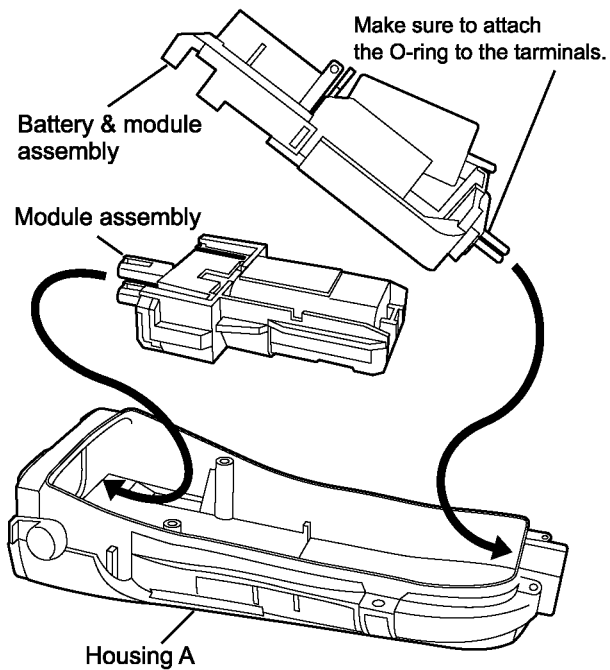
1. Install the driving A in the motor mounting base after inserting the motor tip pin into the hole of armature 1 of the driving A. Then, install the driving head B in the above assembly after inserting the driving head B axis into the hole of the armature 2 of the motor.



4. Set the housing A and B and tighten 6 screws. And attach the side panels and tighten a screw on bottom.

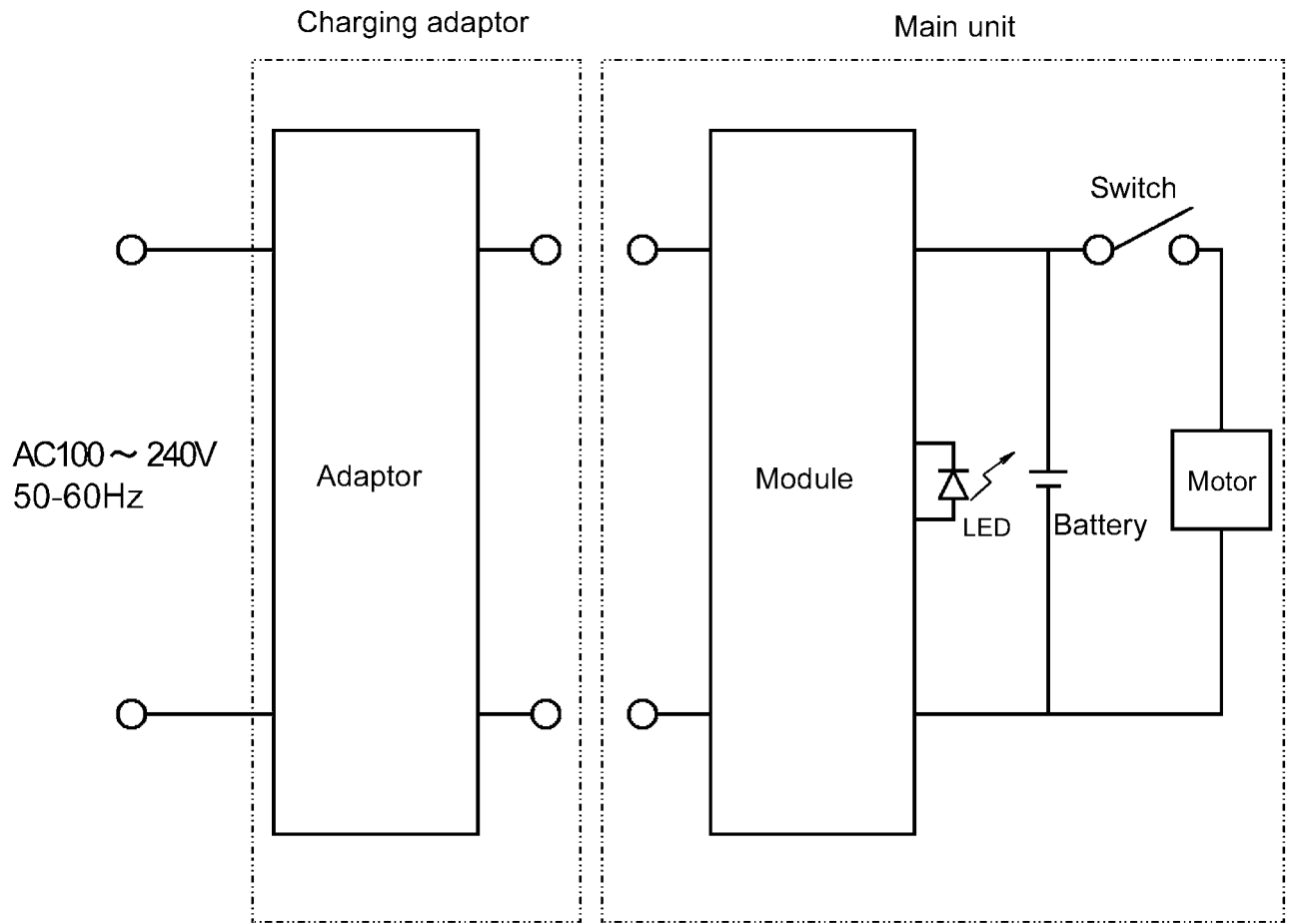


2. Insert the battery & module assembly into the housing A.
3. Put the motor assembly into the housing A.



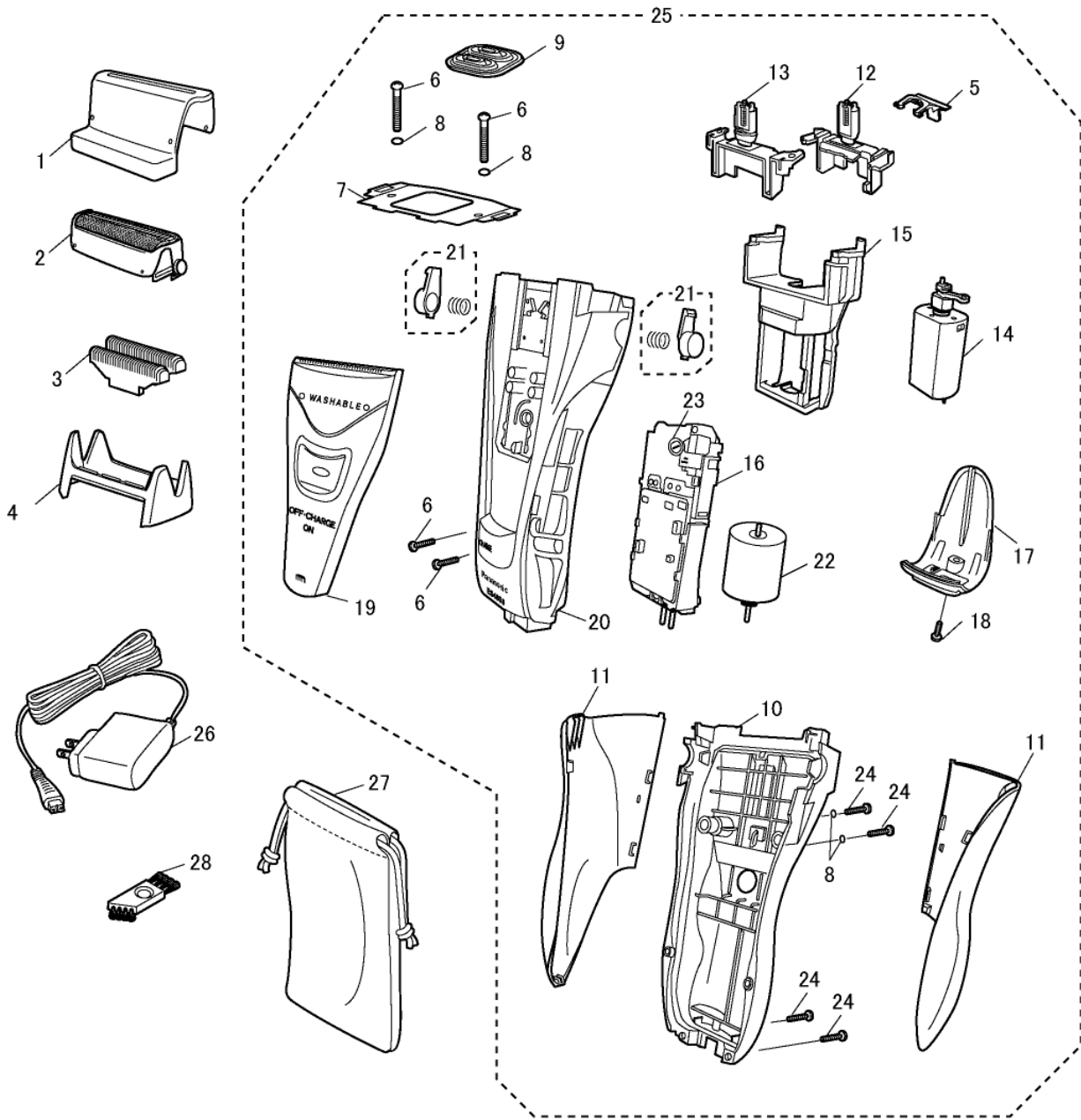
5. Set the trimmer and the trimmer driving bar.

5 Schematic Diagram



6 Exploded View and Replacement Parts List

Model No. : ES4853 Exploded View



Model No. : ES4853 Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
	1	WES4853X7158	PROTECTIVE CAP	1	[BG]
	2	WES9835E	OUTER FOIL	1	
	3	WES9850EP	INNER BLADE	2	
	4	WES4853K0047	FOIL FRAME	1	(for BLACK), [BG]
	4	WES4853S0048	FOIL FRAME	1	(for SILVER), [BG]
	5	WES4853L1087	TRIMMER DRIVING BAR	1	[BG]
	6	WES7025L9706	SCREW	4	(K2-15), [BG]
	7	WES4853L0207	RETAINING PLATE	1	[BG]
	8	WES4035L0966	O-RING	4	[BG]
	9	WES4823L0328	WATERPROOF RUBBER	1	[BG]
	10	WES4853K3158	HOUSING B	1	(for BLACK), [BG]
	10	WES4853S3158	HOUSING B	1	(for SILVER), [BG]
	11	WES4853K3987	SIDE PANEL	1	(for BLACK), [BG]
	11	WES4853A3988	SIDE PANEL	1	(for SILVER), [BG]
	12	WES4853L1247	DRIVING HEAD A	1	[BG]
	13	WES4853L1257	DRIVING HEAD B	1	[BG]
	14	WES4853L1007	DC MOTOR	1	[BG]
	15	WES4853L0027	MOTOR MOUNTING BASE	1	[BG]
	16	WES4853L2128	MODULE	1	[BG]
	17	WES4853K3128	BOTTOM COVER	1	[BG]
	17	WES4853S3128	BOTTOM COVER	1	(for KOREA), [BG]
	17	WES4853S3129	BOTTOM COVER	1	(for TAIWAN), [BG]
	18	WES8093L9007	TAPPING SCREW	1	(K2-6), [BG]
	19	WES4853K1507	TRIMMER	1	(for BLACK), [BG]
	19	WES4853S1508	TRIMMER	1	(for SILVER), [BG]
	20	WES4853K3168	HOUSING A	1	(for BLACK), [BG]
	20	WES4853S3168	HOUSING A	1	(for SILVER), [BG]
	21	WES4853K3267	FOIL FRAME RELEASE BUTTON	2	(for BLACK), (2PCS/PK), [BG]
	21	WES4853H3268	FOIL FRAME RELEASE BUTTON	2	(for SILVER), (2PCS/PK), [BG]
	22	WES4853L2508	RECHARGEABLE BATTERY	1	(NI-CD TYPE), [BG]
	23	WES4853L1667	SWITCH CAM	1	[BG]
	24	WES626A6057	TAPPING SCREW	4	(K2-8), [BG]
	25	WES4853K3038	BODY BLOCK	1	[BG]
	25	WES4853S3038	BODY BLOCK	1	(for KOREA), [BG]
	25	WES4853S3039	BODY BLOCK	1	(for TAIWAN), [BG]
	26	WES4853K7663	CHARGING ADAPTOR	1	(C-2 PLUG), [BG]
	26	WES7056K7671	CHARGING ADAPTOR	1	(KS PLUG), [BG]
	26	WES4853K7662	CHARGING ADAPTOR	1	(A-2 PLUG), [BG]
	27	WES7025K7007	SOFT CASE	1	[BG]
	28	WES861B7056	CLEANING BRUSH	1	[BG]
	-	WES4853K8008	INDIVIDUAL BOX	1	(for BLACK), [BG]
	-	WES4853S8008	INDIVIDUAL BOX	1	(for SILVER), [BG]
	-	WES4853K8108	OPERATING INSTRUCTIONS	1	[BG]