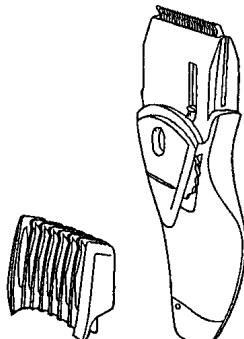


Service Manual

AC/Rechargeable Beard/Hair Trimmer

ER220-E2

ER221-E2



SPECIFICATIONS

Model	ER220	ER221
Power source	100-240V AC, 50Hz	
Charging time	Standard 8 hours	Standard 1 hour
Rated time		50 minutes
Weight	190g (Main unit with comb attachment) 165g (Adaptor)	
Standard accessories	Comb attachment	
		Comb attachment (for beard)
	Soft case	
	Oil	
	Cleaning brush	

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.

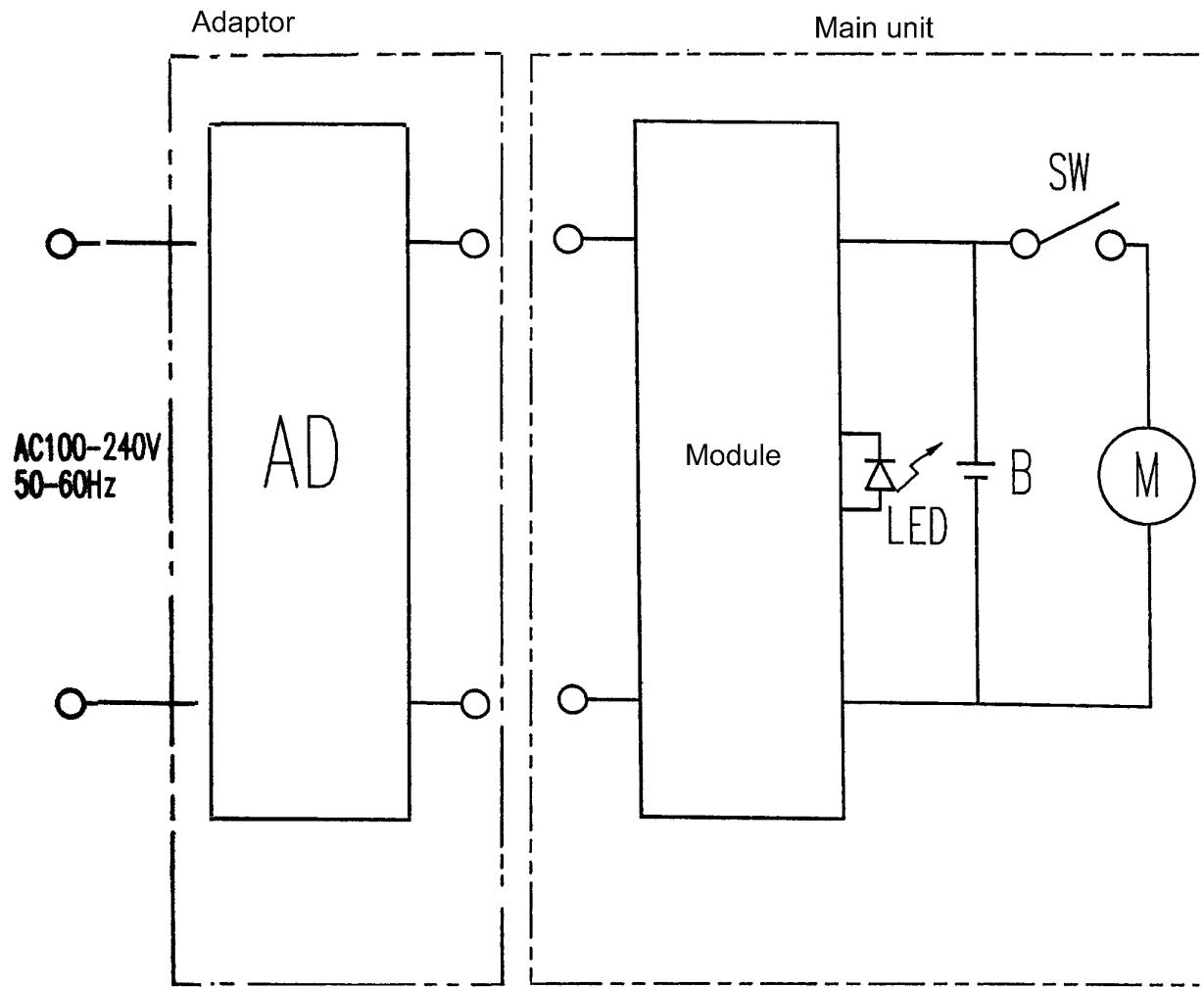
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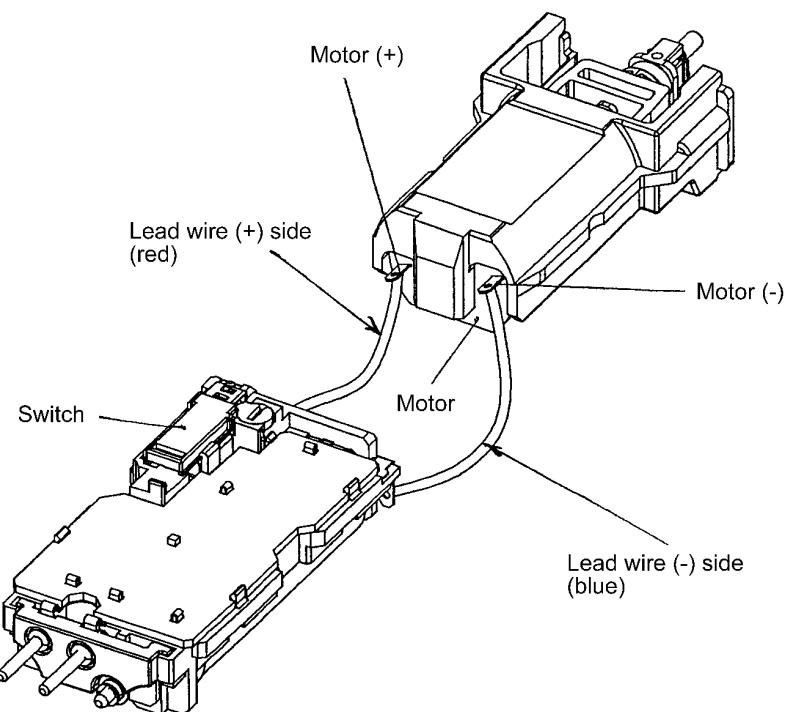
Panasonic

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1 SCHEMATIC DIAGRAM



2 WIRING CONNECTION DIAGRAM



3 DISASSEMBLY INSTRUCTIONS

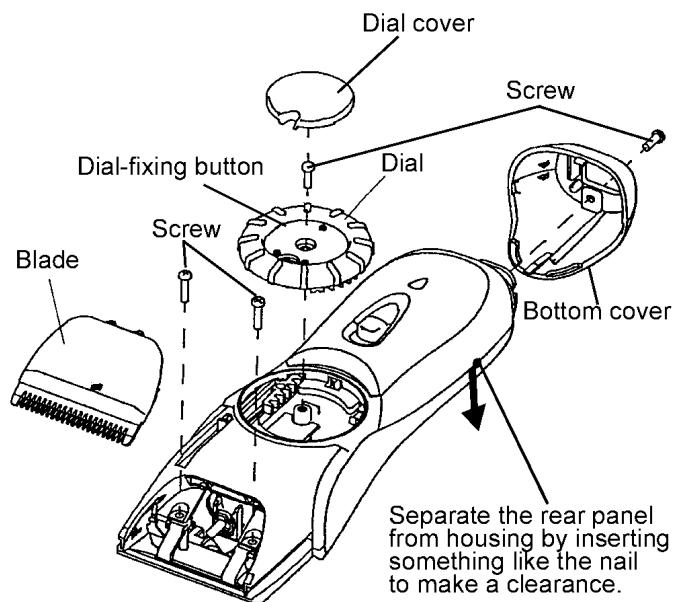
Follow the procedure below to disassemble the main body.

1. Remove the attachment and blade.

2. Peel off the dial cover.

NOTE: Dial cover is fixed with an adhesive tape. Make sure not to scratch dial cover or dial by something sharp-edged tool when taking out the dial cover.

3. Loosen two screws tightening the blade spring, a screw at the dial and a screw on the bottom cover.



4. Remove housing C.

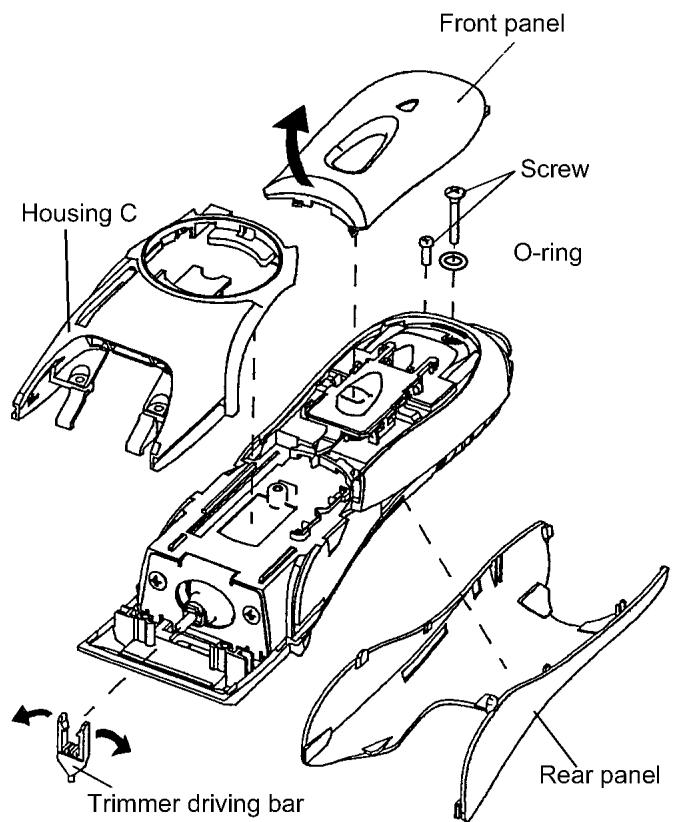
5. Take the front panel out slightly lifting up to the direction of arrow.

6. Remove the rear panel.

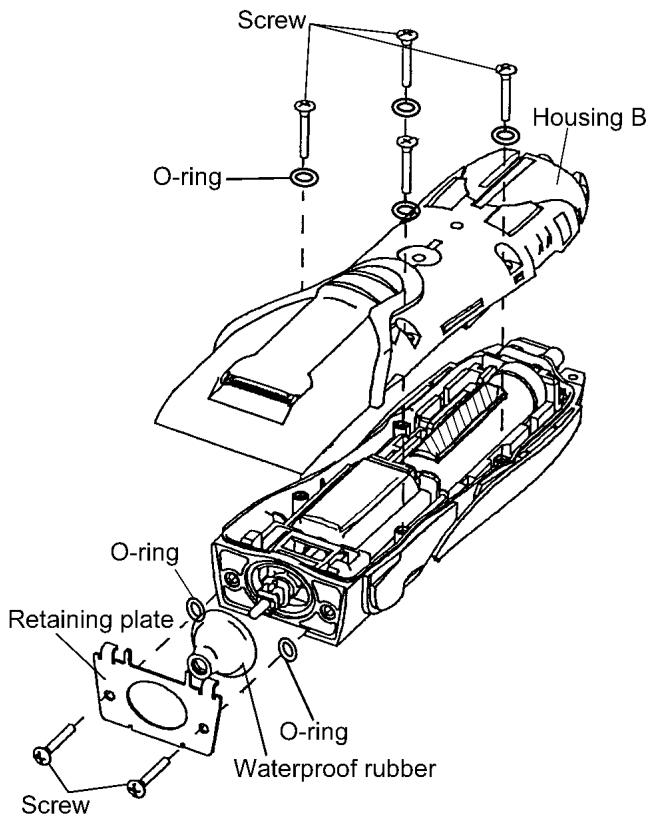
NOTE: Make sure not to brake the hooks.

7. To remove the trimmer driving bar, press it outwards.

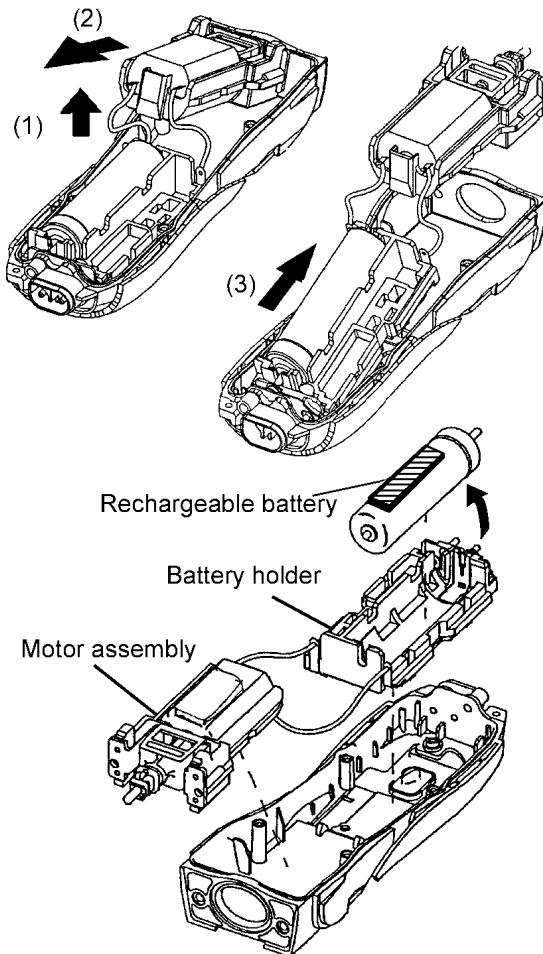
8. Loosen screws with O-ring.



9. Loosen four screws with O-rings.
10. Slightly sliding the trimmer ups and loosens two screws and removes the retaining plate.
11. Remove the waterproof rubber and two O-rings.
12. Take out housing B.



13. To take out the motor assembly, lift up the lead wire side of motor and pull it towards the battery side in the direction of arrow.
14. Take out the battery assembly from housing A.
15. Take out the rechargeable battery from battery holder.

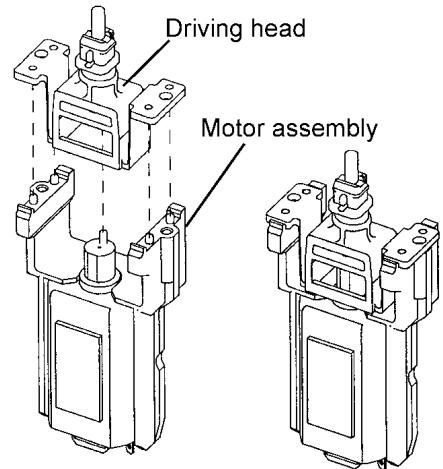


4 ASSEMBLY INSTRUCTIONS

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

1. Install the driving head in motor.

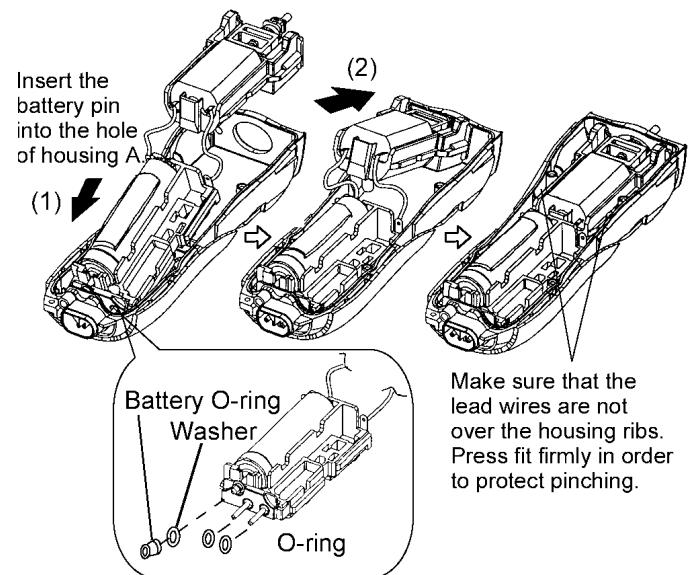
NOTE: Make sure of the direction.



2. Insert the rechargeable battery into battery holder and set on housing A. Insert the motor assembly into housing A.

NOTE: Make sure to attach the battery O-ring and washer to the battery. And O-rings are set to the terminal pins.

NOTE: Press the motor assembly and battery assembly into housing A firmly.

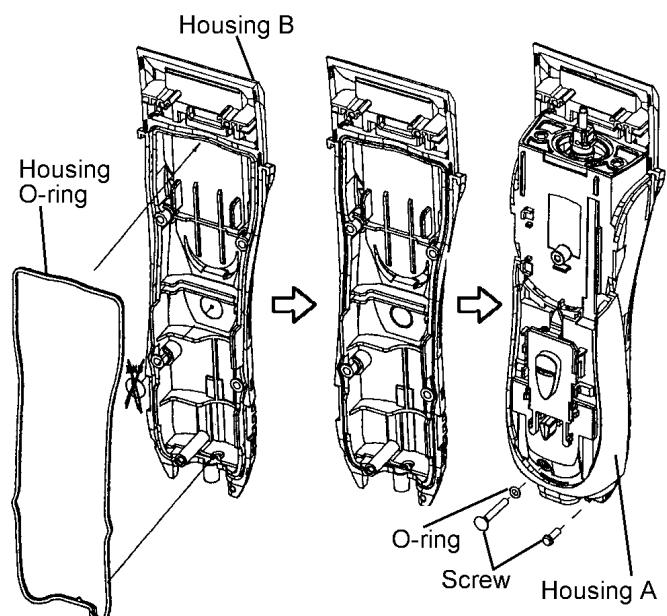


3. Set the housing O-ring.

NOTE: Make sure whether there is NO foreign substance sticking around the seal.

4. Close the housing A and B.

Make sure not to pinch the lead wires or housing O-ring.



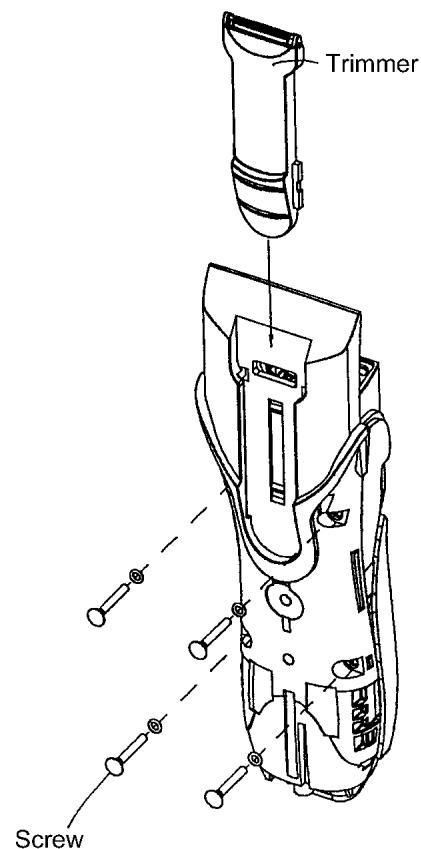
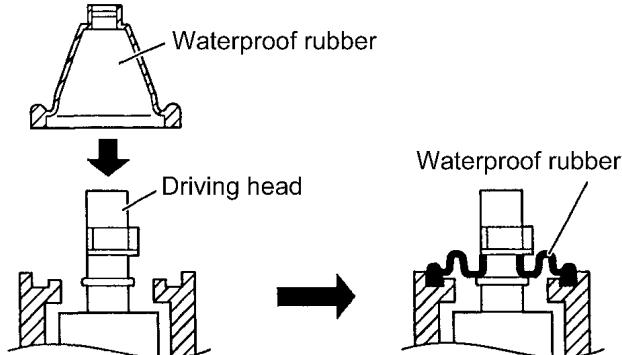
5. Set the trimmer. And tighten four housing screws.

NOTE: Make sure to attach the O-ring with screw.

6. Set waterproof rubber, O-rings, retaining plate with tightening two screws.

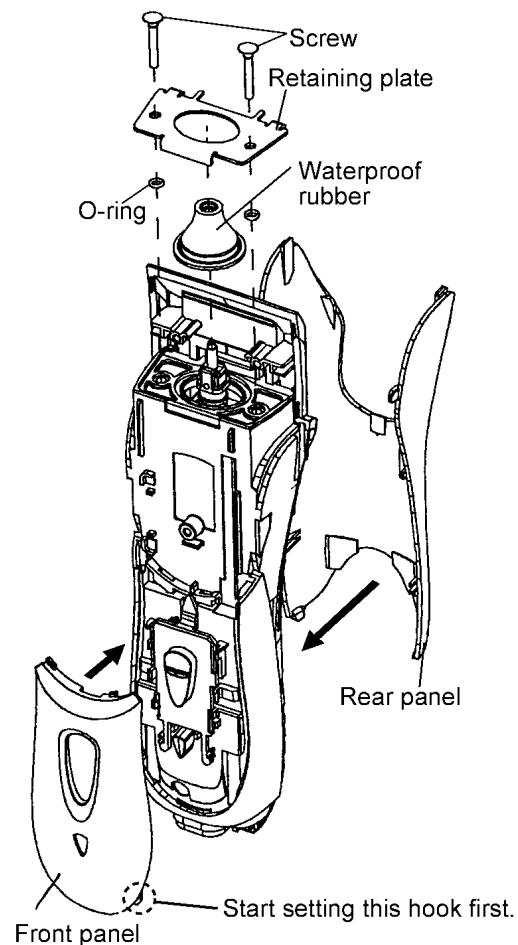
The waterproof rubber must be fitted the right way around. Install as shown in figure by inserting firmly to the proper position.

NOTE: Make sure whether there is NO foreign substance sticking around the seal.

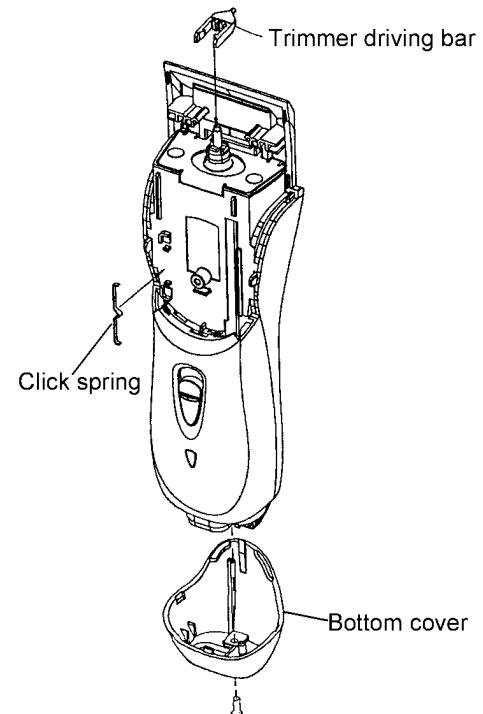


7. Set the hook on bottom of front panel and rear panel.

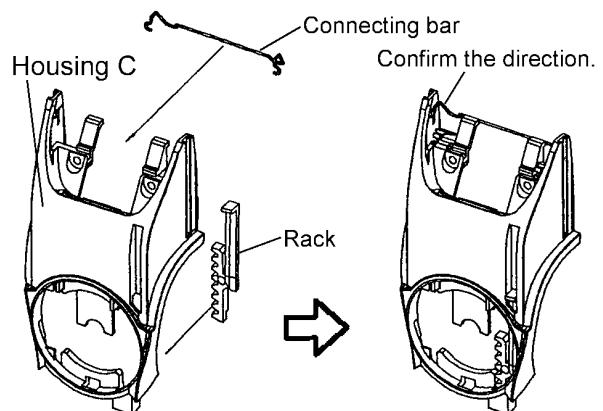
Note: Make sure not to break the hooks and confirm to set them firmly.



8. Set the trimmer driving bar and click spring.
 9. Set the bottom cover and tighten it with a screw.

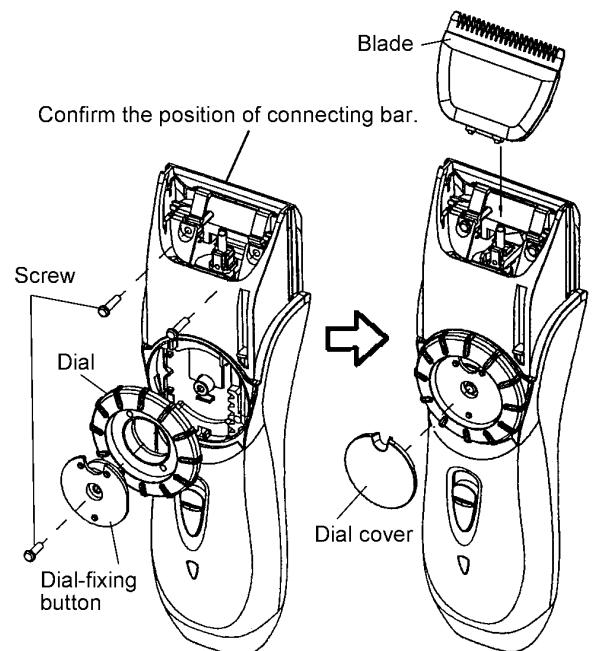
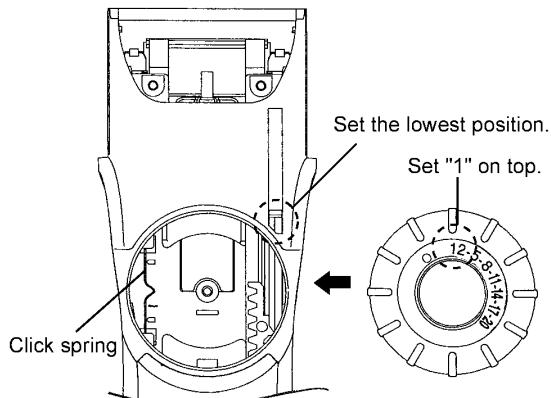


10. Attach the connecting bar to housing C.



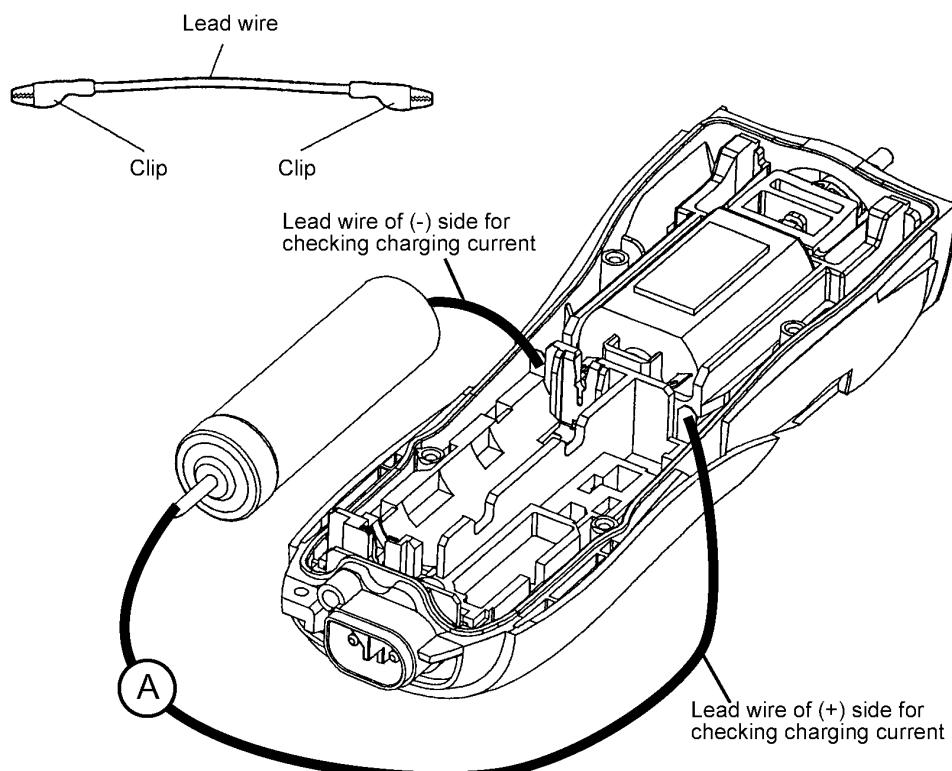
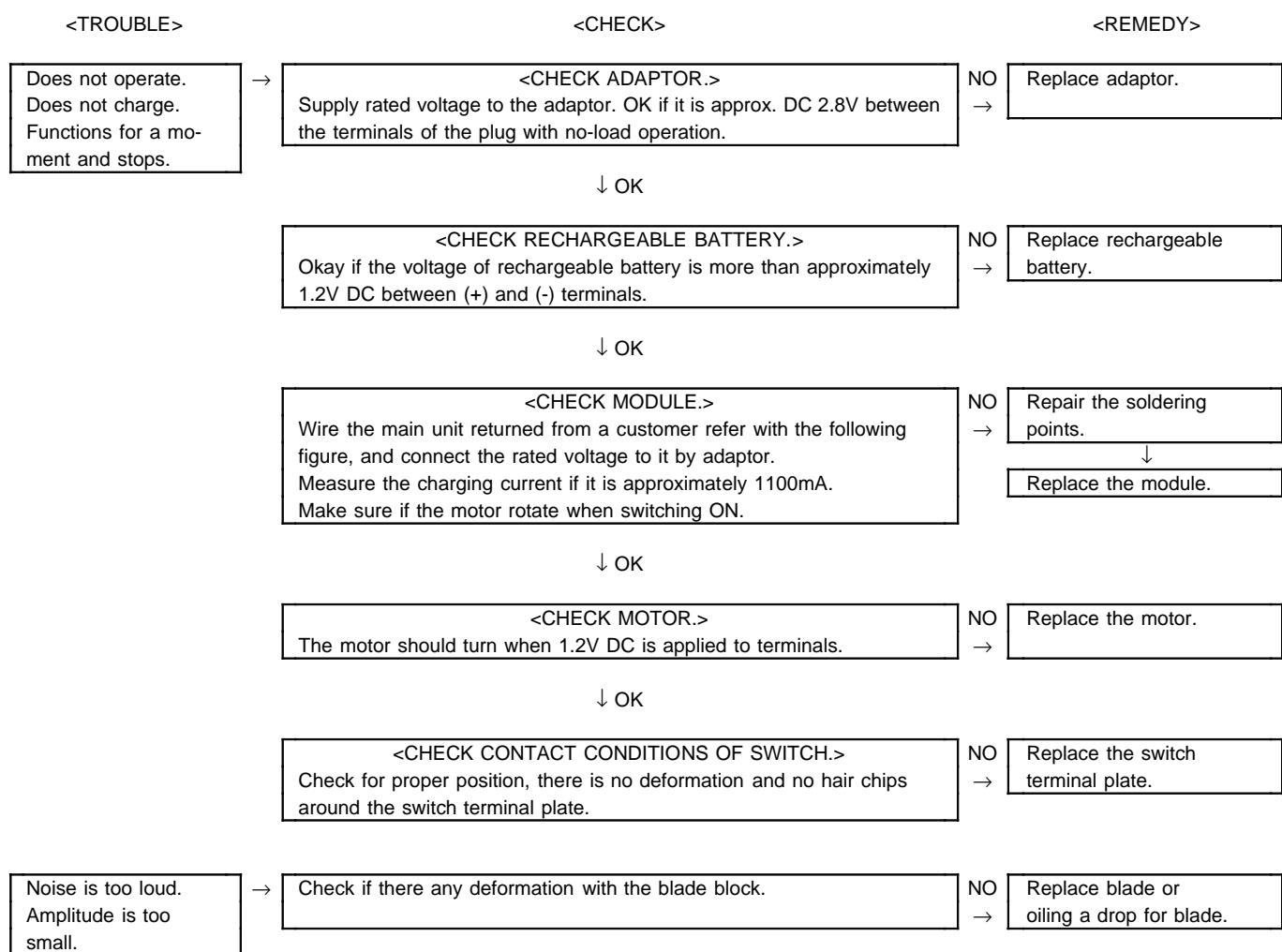
11. Set housing C and attach the dial and the dial-fixing button with tightening a screw. And attach the dial cover.

NOTE: Make sure that the rack is set on the lowest position and the dial shows "1" at the center.

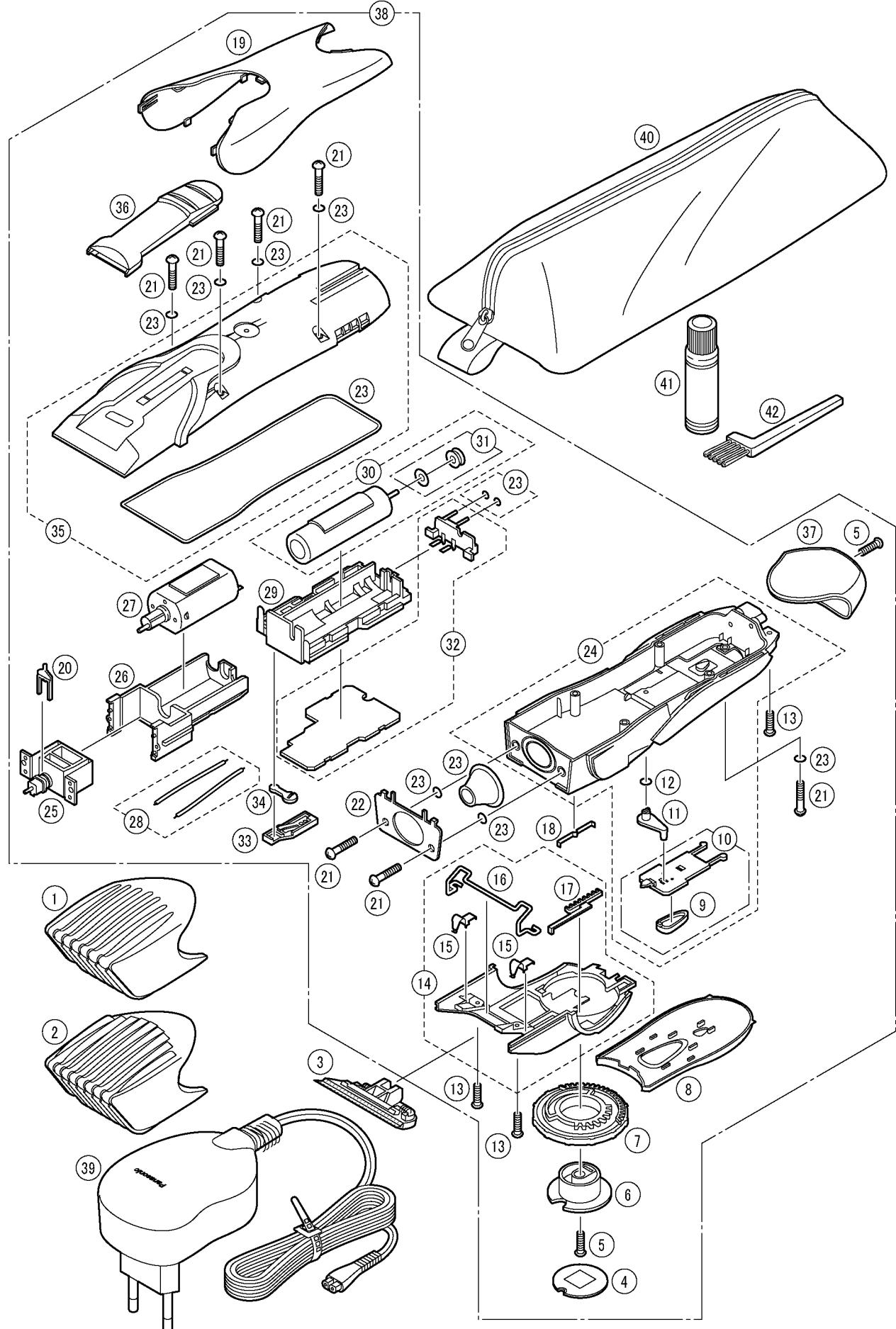


After assembling the unit, confirm the smooth up and down operation for attachment. And confirm if the dial shows "20" when the attachment is the highest position.

5 TROUBLESHOOTING GUIDE



6 EXPLODED VIEW



7 REPLACEMENT PARTS LIST

NOTE :

*A=available as an optional accessory

*B=only available as set

*C=available individually

Ref.No.	Part No.	Part Name & Descriptions	Remarks	Per Unit
1	WER221S7408	COMB ATTACHMENT FOR HAIR	ER220/ER221	1
2	WER221S7418	COMB ATTACHMENT FOR BEARD	ER221	1
3	WER9602Y	BLADE BLOCK		1
4	WER220A3108	DIAL COVER	ER220 BLUE	1
4	WER221S3108	DIAL COVER	ER221 SILVER	1
5	WES8093L9007	TAPPING SCREW K2-6	*C K2-6	2
6	WER221L1478	DIAL-FIXING BUTTON		1
7	WER221H3288	DIAL		1
8	WER220A3778	FRONT PANEL	ER220 BLUE	1
8	WER221S3778	FRONT PANEL	ER221 SILVER	1
9	WER221S3208	SWITCH HANDLE		1
10	WER220L3578	SWITCH TERMINAL PLATE	ER220	1
10	WER221L3578	SWITCH TERMINAL PLATE	ER221	1
11	WER221L1668	SWITCH CAM		1
12	WER221L0988	SWITCH O-RING		1
13	WER850B9007	TAPPING SCREW	*C K2-8	3
14	WER220H3028	HOUSING C	ER220	1
14	WER221S3028	HOUSING C	ER221	1
15	WER504L0167	SPRING FOR CUTTER	*B (2PCS/PK)	2
16	WER221L0188	CONNECTING BAR		1
17	WER221L0288	RACK		1
18	WER221L1578	CLICK SPRING		1
19	WER221H3368	REAR PANEL		1
20	WER221L1088	TRIMMER DRIVING BAR		1
21	WES7025L9707	SCREW	*C K2-15	7
22	WER221L0208	RETAINING PLATE		1
23	WER221L0328	WATERPROOF RUBBER SET		1ST
24	WER220H3058	HOUSING A	ER220	1
24	WER221S3058	HOUSING A	ER221	1
25	WER221L1248	DRIVING HEAD		1
26	WER221L0028	MOTOR CASE		1
27	WER221L1008	MOTOR		1
28	WER221L0948	LEAD WIRE		1ST
29	WER221L0238	BATTERY HOLDER		1
30	WER221L2508	RECHARGEABLE BATTERY	NI-MH TYPE	1
31	WES7025L0977	WASHER & O-RING SET		1ST
32	WER220L2108	MODULE	ER220	1
32	WER221L2108	MODULE	ER221	1
33	WER221L2448	SWITCH CONTACT		1
34	WER221L1678	CAM LEVER		1
35	WER220H3068	HOUSING B	ER220	1
35	WER221S3068	HOUSING B	ER221	1
36	WER221H1058	TRIMMER		1
37	WER220H3848	BOTTOM COVER	ER220	1
37	WER221H3848	BOTTOM COVER	ER221	1
38	WER220A3038	BODY BLOCK	ER220	1
38	WER221S3038	BODY BLOCK	ER221	1
39	WER221K7664	ADAPTOR	C-2 PLUG	1
40	WER221K7008	SOFT CASE		1
41	WER203X7918	OIL		1
42	WES76806761	CLEANING BRUSH		1
-	WER220A8008	INDIVIDUAL BOX	ER220	1
-	WER221S8008	INDIVIDUAL BOX	ER221	1
-	WER220A8108	OPERATING INSTRUCTIONS	ER220	1
-	WER221S8108	OPERATING INSTRUCTIONS	ER221	1