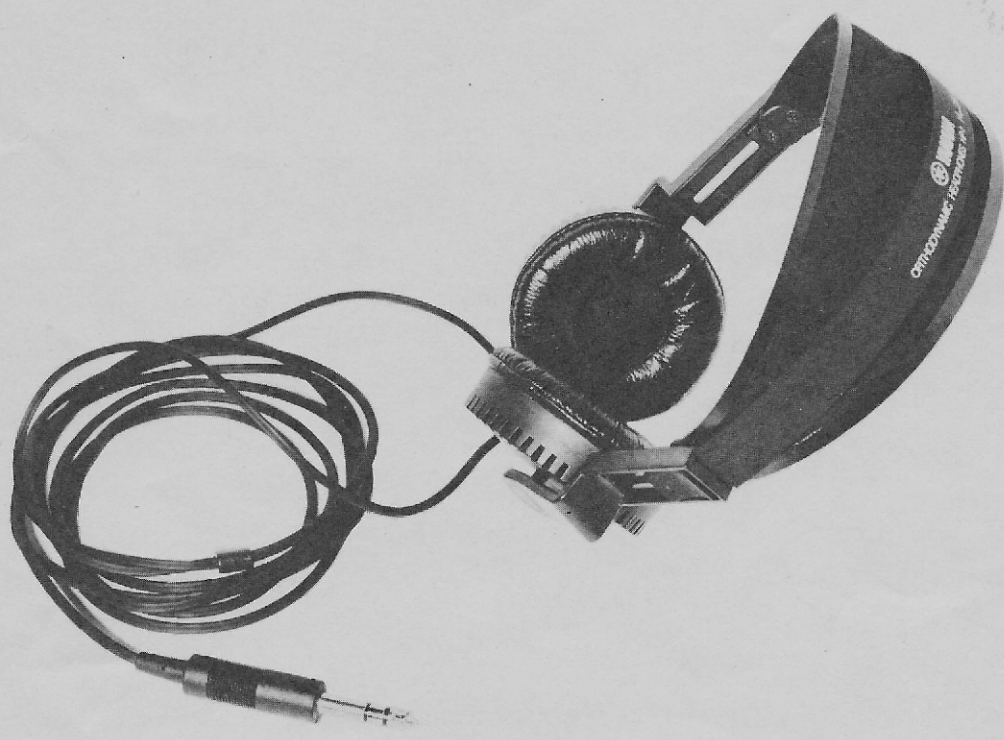


12-1-73

# YAMAHA Hi-Fi STEREO SERVICE MANUAL ORTHODYNAMIC SYSTEM HEADPHONES MODEL HP-1,2

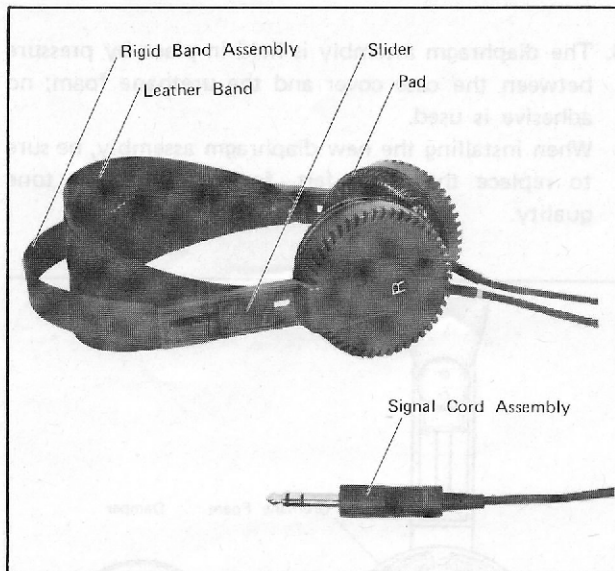


# SPECIFICATIONS

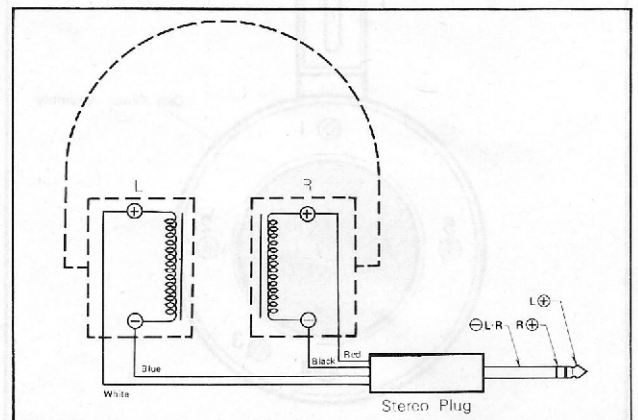
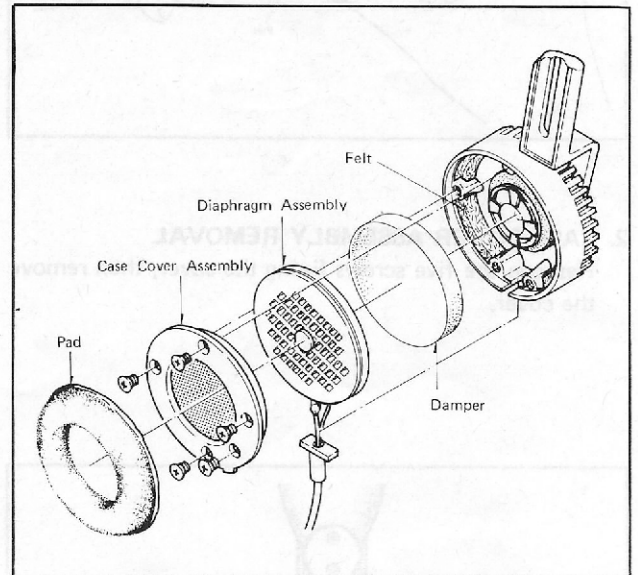
		HP-1	HP-2
Type		Orthodynamic	
Impedance		150Ω	
Diaphragm	Diameter	55mm	46mm
	Film	12μ Polyester	
Magnet		Sintered Ferrite	
Frequency Response		20 ~ 20,000Hz	
Sensitivity		96dB/mW 104dB/V	93dB/mW 101dB/V
Rated Input		3W	
Maximum Input		10W	
Harmonic Distortion		Less than 0.3% at 90dB SPL	
Weight (with cord)		290g	230g

## PARTS

### EXTERIOR



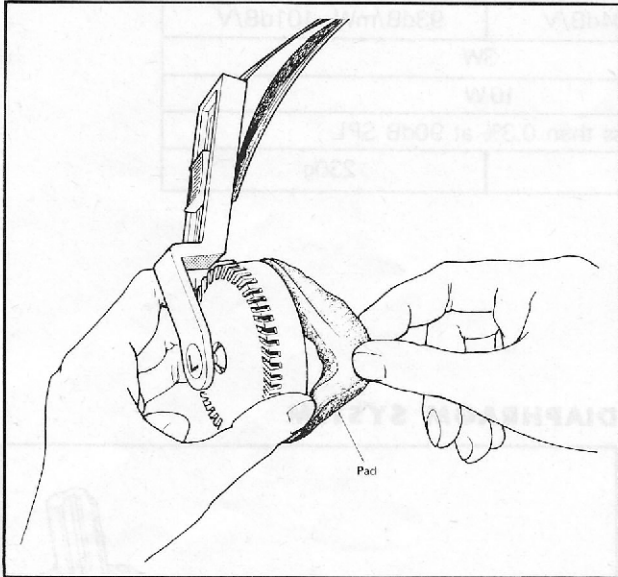
### DIAPHRAGM SYSTEM



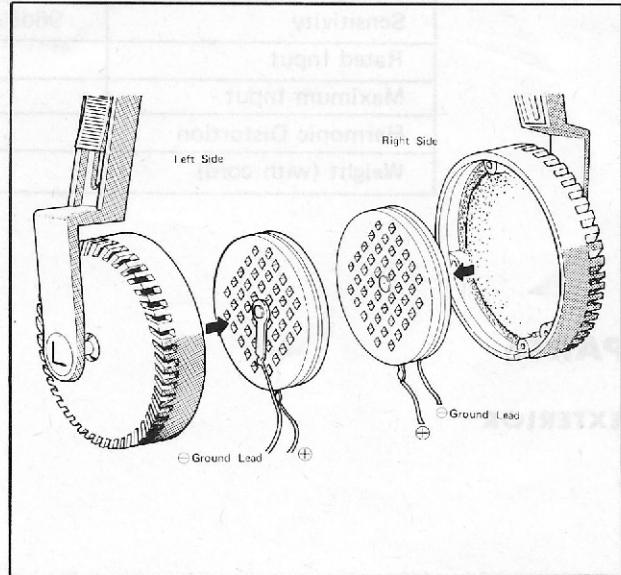
# DIAPHRAGM ASSEMBLY REPLACEMENT

## 1. REMOVE PAD

The pad is fixed with double-sided tape to the main body. Peel it off slowly, being careful not to dirty the tape surface.

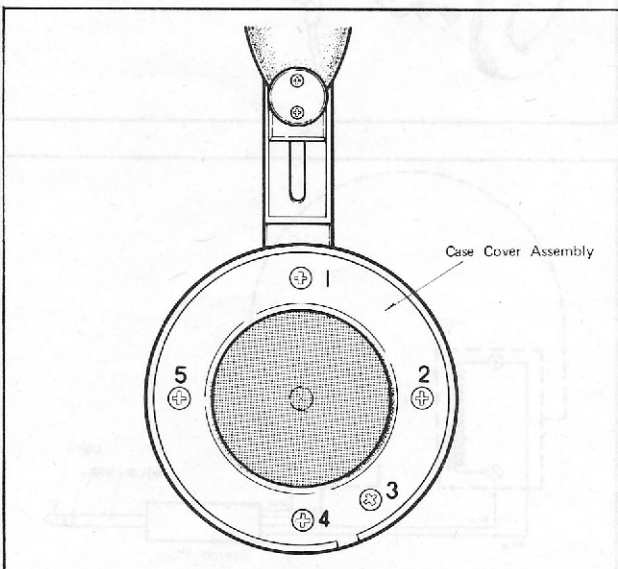


3. The diaphragm assembly should be mounted so that the ground terminal lead is on the inside (between the diaphragm and the headphone body). This is true for both left and right sides. Be sure that the diaphragm assembly is correctly placed, for mounting one in the opposite way will result in an out of phase signal and lost stereo effect.



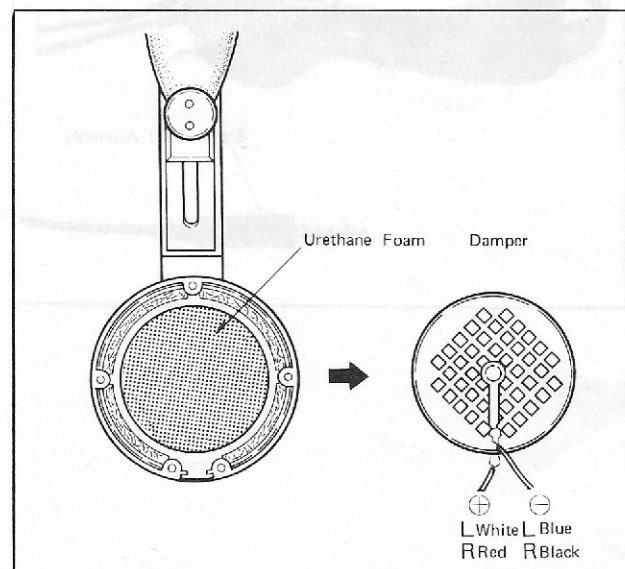
## 2. CASE COVER ASSEMBLY REMOVAL

Remove the five screws fixing the cover, then remove the cover.



4. The diaphragm assembly is held in place by pressure between the case cover and the urethane foam; no adhesive is used.

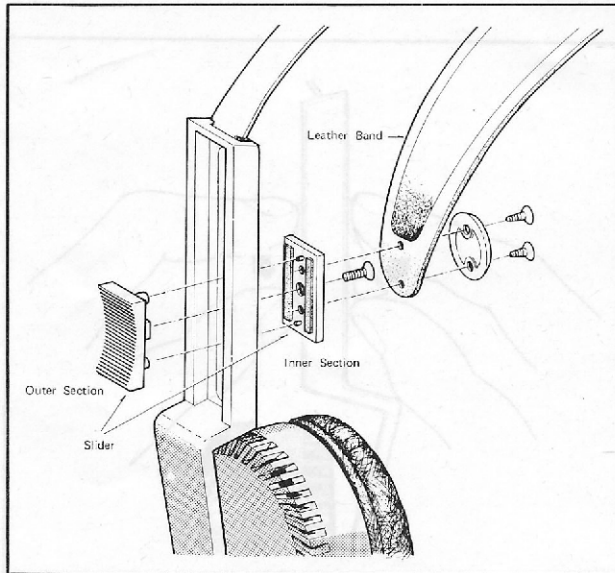
When installing the new diaphragm assembly, be sure to replace the black felt, for it affects the tone quality.



# SLIDER REPLACEMENT- I

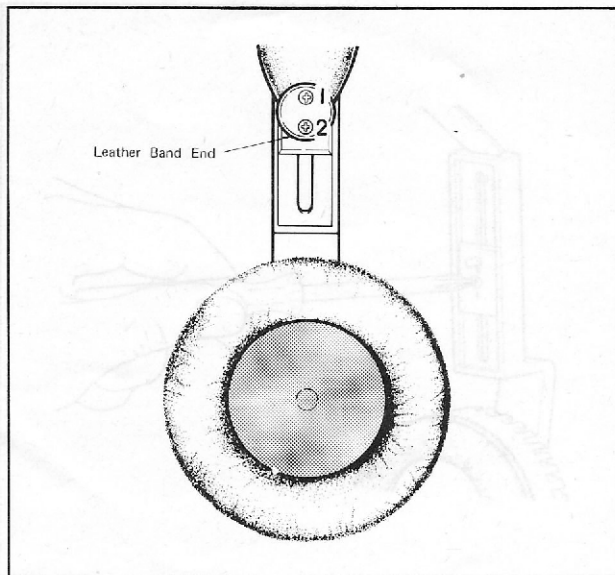
The slider is used to adjust the headphone height. Slider and leather band exchange should be carried out in the following manner.

Note: The serial number location:  
HP-1 ..... 5201 ~ 5303  
HP-2 ..... 5101 ~ 5311



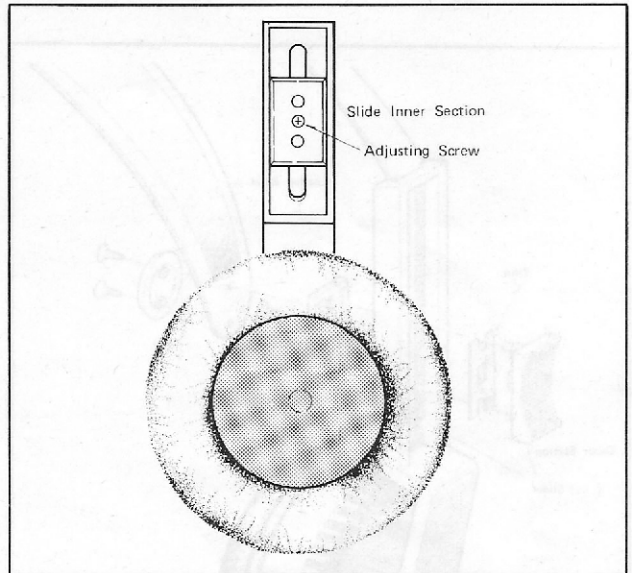
## 1. LEATHER BAND END REMOVAL

Remove the two fixing screws and take off the band end.

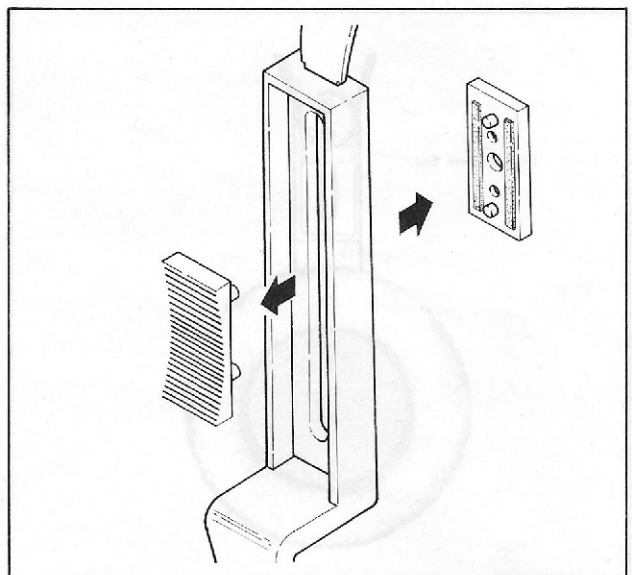


## 2. SLIDER TORQUE ADJUSTING SCREW REMOVAL

Remove the adjusting screw. Then the inner and outer slider sections can be taken off. This adjusting screw not only holds them together, but also regulates the friction as they slide along the guide rail. For this reason, be careful not to tighten too much when reinstalling or adjusting.

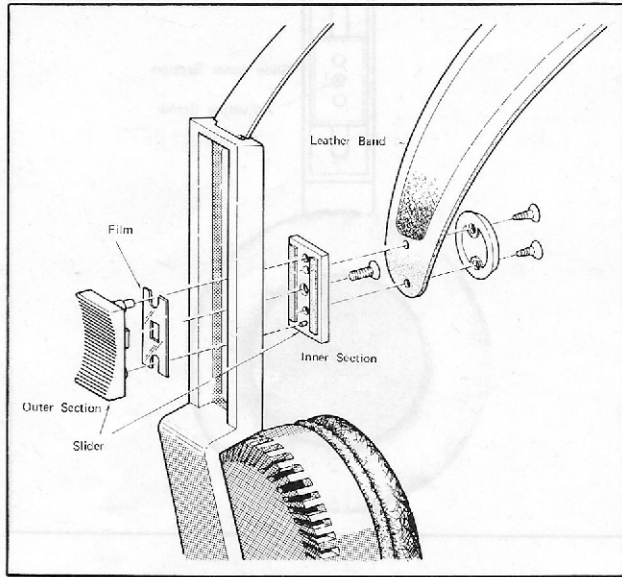


3. Replace the inner and outer slider sections, then reassemble in the reverse of the above procedures.



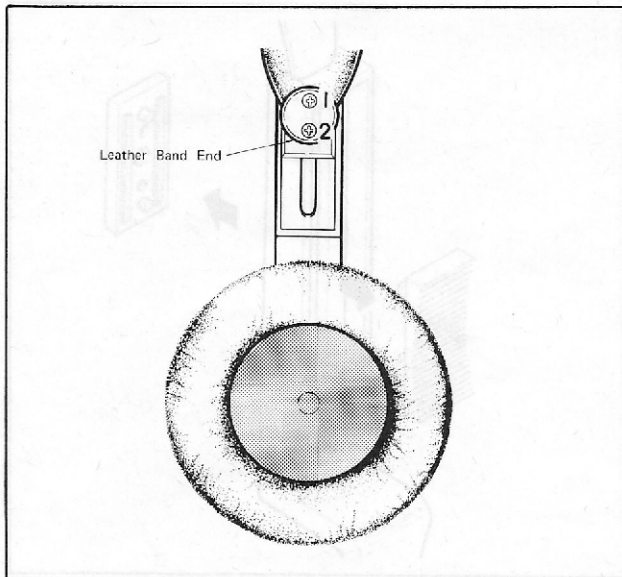
# SLIDER REPLACEMENT- II

The slider functions to adjust the position of the leather band. To replace either the slider or the leather band, follow these steps. (The inside and the outside of the slider can be ascertained by the serial number location: HP-1 ... after 5304, HP-2 ... after 5312.)



## 1. LEATHER BAND END REMOVAL

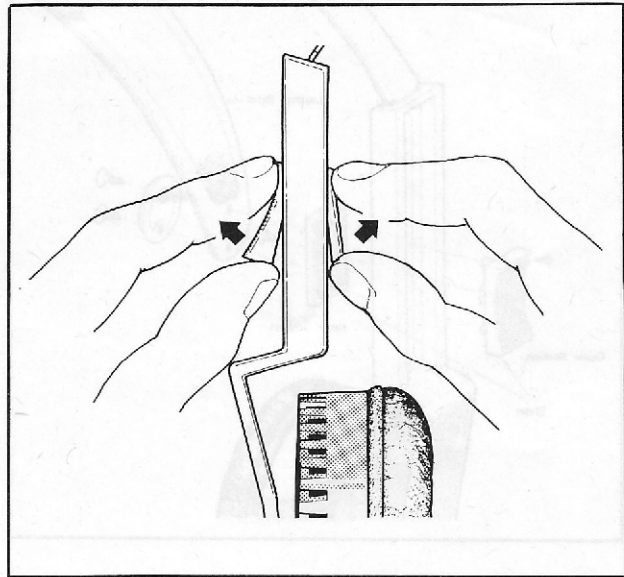
Remove the two screws (1), (2) from the leather band end, then remove the band.



## 2. SLIDER REMOVAL

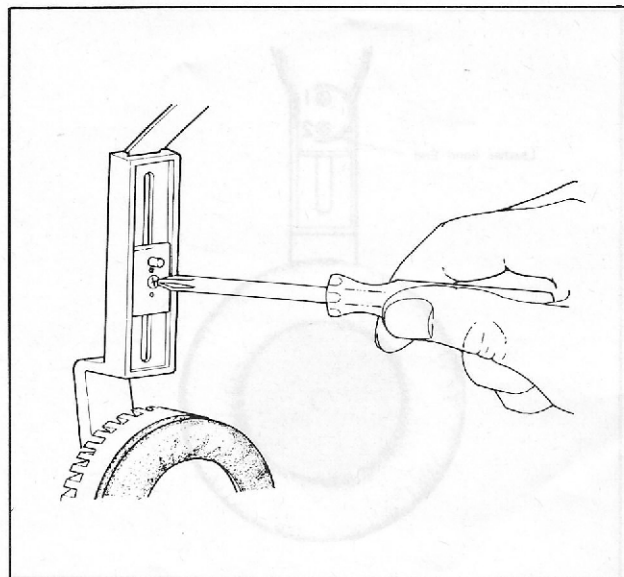
Remove the slider torque adjustment screw. The inside and outside parts are welded together, so remove by holding the lower part of the slider and pulling off both sides at once.

During this operation the slider will be damaged beyond use at its joint, so be sure to replace both parts as a single unit.



## 3. SLIDER ATTACHMENT

Attach the new slider and tighten the torque screw. Be sure to tighten both left and right sides to the same torque.



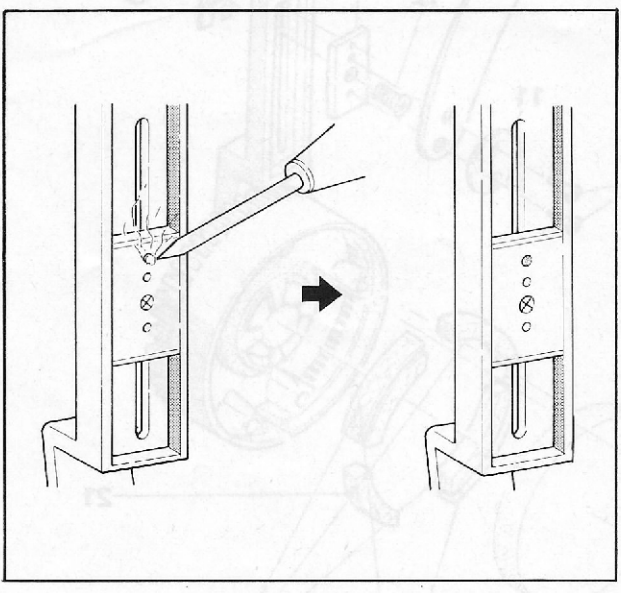
### 4. SLIDER WELDING

The protruding part (⊙ marked) must be welded with a soldering iron. Make sure that the welded section does not bubble out too far on the slider.

Note: The serial number location:

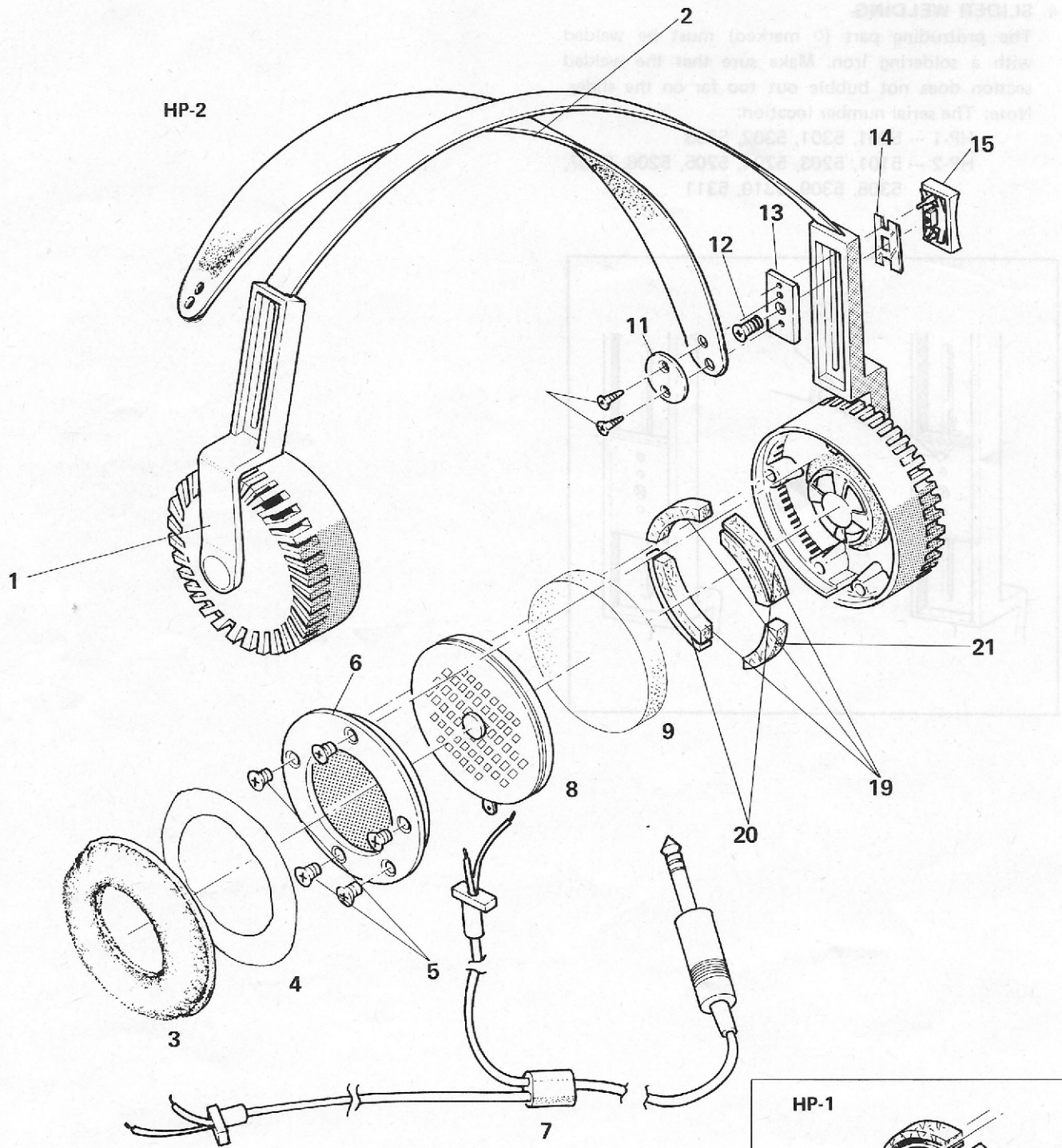
HP-1 ... 5201, 5301, 5302, 5303

HP-2 ... 5101, 5203, 5204, 5205, 5206, 5307, 5308, 5309, 5310, 5311

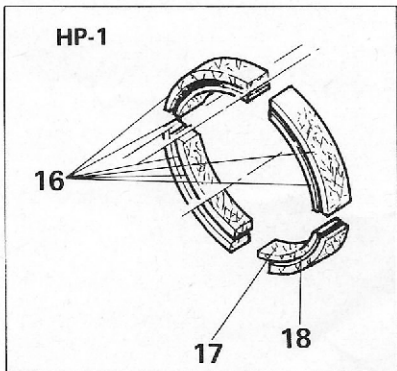


Black	HP-2	HP-20	Black	HP-1	HP-10
Green	21				
White	22				
Ivory	23				

# PARTS LIST



- |                   |       |                    |       |
|-------------------|-------|--------------------|-------|
| HP-1 : HP10 ..... | Black | HP-2 : HP-20 ..... | Black |
|                   |       | 21 .....           | Green |
|                   |       | 22 .....           | Wine  |
|                   |       | 23 .....           | Ivory |



Ref. No.	Part No.	Description	Remarks	Common Models
1	322500NB992500	Rigid Band Assembly	外装アッセンブリ	HP-10
	322500NB992510	-do.- , Black	"	HP-20
	322500NB992520	-do.- , Green	"	HP-21
	322500NB992530	-do.- , Wine	"	HP-22
	322500NB992540	-do.- , Ivory	"	HP-23
2	420000CB072500	Leather Band	レザーバンド	HP10,HP20,HP21,HP22,HP23
3	420000CB072450	Pad	パッド	HP10
	420000CB072330	-do.-	"	HP20,HP21,HP22,HP23
4	420000CB072470	Double Stick Tape	両面接着テープ	HP10
	420000CB072360	-do.-	"	HP20,HP21,HP22,HP23
5	420000EO226080	Flat Head Tapping Screw 2.6 x 8	皿タッピングネジ (蓋止め用)	ZMC2-BL
6	322500NB073560	Case Cover	ケース蓋アッセンブリ	HP10
	322500NB073570	-do.-	"	HP20,HP21,HP22,HP23
7	420000MZ065900	Signal Cerd Assembly	コードアッセンブリ	HP20,HP21,HP22,HP23
8	322500NB072130	Diaphragm	振動系アッセンブリ	except U.S. & Canadian models
	322500NB074170	-do.-	"	U.S. & Canadian models
	322500NB072120	-do.-	"	HP20,HP21,HP22,HP23
9	422500CB072440	Damper	制動材料 (モルトブレン)	HP10
	422500CB072310	-do.-	"	HP20,HP21,HP22,HP23
10	420000EM223080	Oval Head Tapping Screw 2.3 x 8	丸皿タッピングネジ (レザーバンド止めネジ)	ZMC2-BL
11	322500CB072230	Leather Band End	レザーバンド止め	
12	420000EB223060	Flat Head Screw 2.3 x 6	皿小ネジ (スライド止めネジ)	ZMC2-BL
				HP10,HP20,HP21,HP22,HP23
13	322500NB073480	Slider, Black (Inside)	スライダ (内)	HP10,HP20
	322500NB073490	-do.- Green -do.-	"	HP21
	322500NB073500	-do.- Wine -do.-	"	HP22
	322500NB073510	-do.- Ivory -do.-	"	HP23
14	422500NB073420	Spring Cover	スプリングカバー	
15	322500NB074030	Slider, Black (Outside)	スライダ (外)	HP10,HP20
	322500NB074040	-do.- Green -do.-	"	HP21
	322500NB074050	-do.- Wine -do.-	"	HP22
	322500NB074060	-do.- Ivory -do.-	"	HP23
16	422500CC156620	Damper Felt (41 x 6.8 t=1.5)		HP10
17	422500CC156700	-do.- (25.5 x 6.8 t=1.5)		-do.-
18	422500CC156770	-do.-		-do.-
19	422500CC156610	-do.- (36 x 5.2 t=4.0)		
20	422500CC156780	-do.- (36.5 x 5.2 t=2.0)		-do.-
21	422500CC156690	-do.- (22.5 x 5.2 t=4.0)		-do.-