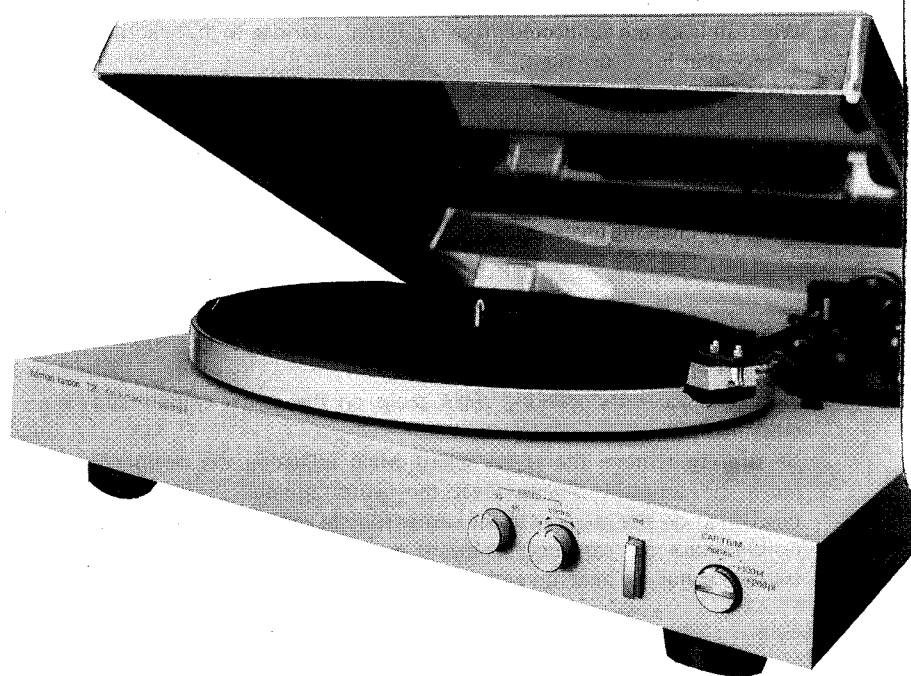


The Harman Kardon Model T20

Manual No. 45A

SEMIAUTOMATIC TURNTABLE

Technical Manual



T20

harman/kardon

240 CROSSWAYS PARK WEST, WOODBURY, N.Y. 11797
PRINTED IN JAPAN 1112-H15245A7 P-07824

SPECIFICATIONS

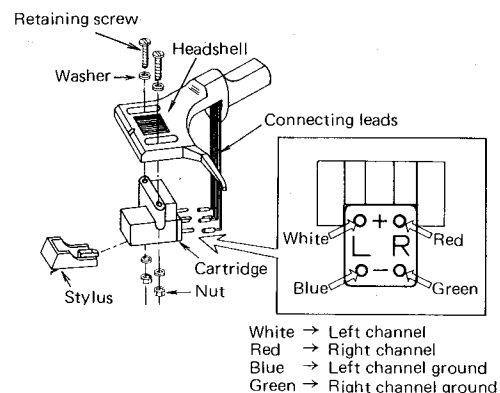
Speed Control Width	Nominal	Limit	Weight	11 lbs. (5 kg)
33-1/3		±3.0%	Power Supply	
45		±3.0%	U.S. & Canadian Models	AC 120V, 60Hz
Wow and Flutter	0.06%	≤0.09%	Multi-Voltage Model	AC 110-120V/220-240V
Signal-to-Noise Ratio		≥60dB	Power Consumption	50/60Hz 3W
Possible Cartridge Weights	2.5g ~ 8g		Specifications and components subject to change without notice. Overall performance will be maintained or improved.	
Dimensions (W x H x D)	15-3/16" x 5-1/4" x 14-3/16"			
	(368 x 134 x 360 mm)			

CARTRIDGE REPLACEMENT

Only use cartridges in the headshell provided. Be sure to use a cartridge weighting 2.5 to 8 grams.

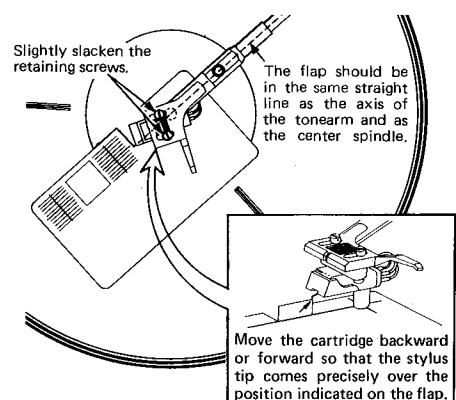
1. Release the tonearm clamp and lift the tonearm gently.
2. Loosen the headshell clamp and gently pull the headshell with cartridge.
3. Disconnect the 4 leads from cartridge terminals using a tweezers and then loosen the retaining screws so that the cartridge comes out.
4. Replace the leads onto the new cartridge. Refer to figure right for correct placement of leads.
5. When all leads are connected properly, install cartridge to the headshell as shown in the figure right.
6. Temporarily tighten the retaining screws to hold the cartridge.
7. Insert the headshell with the cartridge fully into the tonearm and then tighten the headshell clamp.

When cartridge is replaced with new one, it is necessary to adjust the Overhang and Tracking angle.



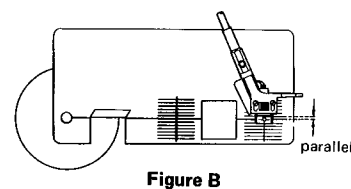
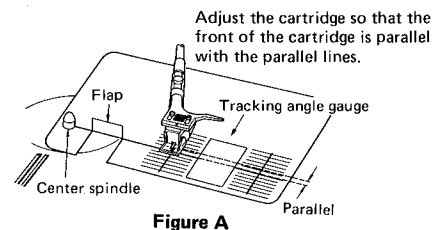
OVERHANG ADJUSTMENT

1. Place the accessory tracking angle gauge on the center spindle and erect the flap.
2. Be sure to remove the stylus guard when adjusting the overhang.
3. Move the tonearm directly over the center spindle. Lift up the raised flap on the gauge with the center spindle and the tonearm base. Gently move the cartridge backward or forward in the headshell so that the stylus tip lines up with the corner of the flap.



TRACKING ANGLE ADJUSTMENT

1. Check to be sure that the overhang adjustment has been completed.
2. Now move the tracking angle gauge until it is in the same position with respect to the tonearm as that shown in Figure A. Place the stylus over the tracking angle setting point with keeping stylus guard attached.
3. Without changing the stylus position, turn the cartridge so that its front edge is parallel with the lines on the gauge.
4. Now move it so that it is in the position shown in Figure B and check that the cartridge is still parallel with the parallel lines as it was in step 3 above. If it is not parallel, then repeat step 3 and 4 alternately until the cartridge is parallel in both cases.
5. When the above adjustment is completed, then tighten the screws that attach the cartridge to the headshell fully.



ALIGNMENT PROCEDURES

SPEED ADJUSTMENT

1. Place the stroboscope disc provided with the turntable on the platter mat.
2. Bring the tonearm over the stroboscope disc and the platter will automatically begin to move.
3. Set the speed control knob to the center position.
4. Set the speed selector knob to the 33 rpm position.
5. Adjust the VR102 so that the striped markings correspond on the stroboscope disc under fluorescent light.
6. Set the speed selector knob to the 45 rpm position.
7. Adjust the VR103 so that the striped markings correspond on the stroboscope disc under fluorescent light.

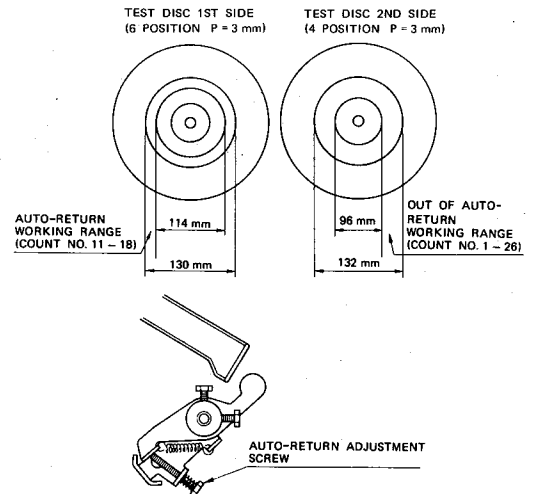
AUTO-RETURN ADJUSTMENT

Equipment Required: Test Disc (NEC ES-1008) or equivalent

1. Make everything ready to operate the turntable.
2. Set the speed selector knob to the 45 rpm position.
3. Adjust the stylus pressure to the appropriate pressure.
4. Adjust the auto-return adjustment screw so that the tonearm automatically returns in the range of Count No. 11 to 18 on the 6 position (auto-return position) of the 1st side of the test disc.
5. Adjust the auto-return adjustment screw so that the tonearm does not return automatically in the range of Count No. 1 to 26 on the 4 position (auto-return position) of the 2nd side of the test disc.
6. Repeat steps 4 and 5 to complete readjustment.

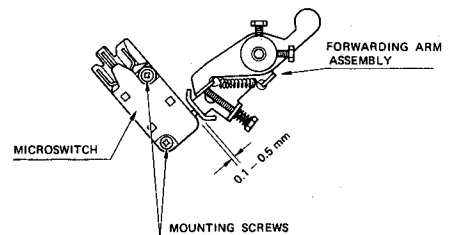
Note: If the auto-return motion is too fast, turn the auto-return adjustment screw clockwise to adjust.

If the auto-return motion is too slow, turn the auto-return adjustment screw counterclockwise to adjust.

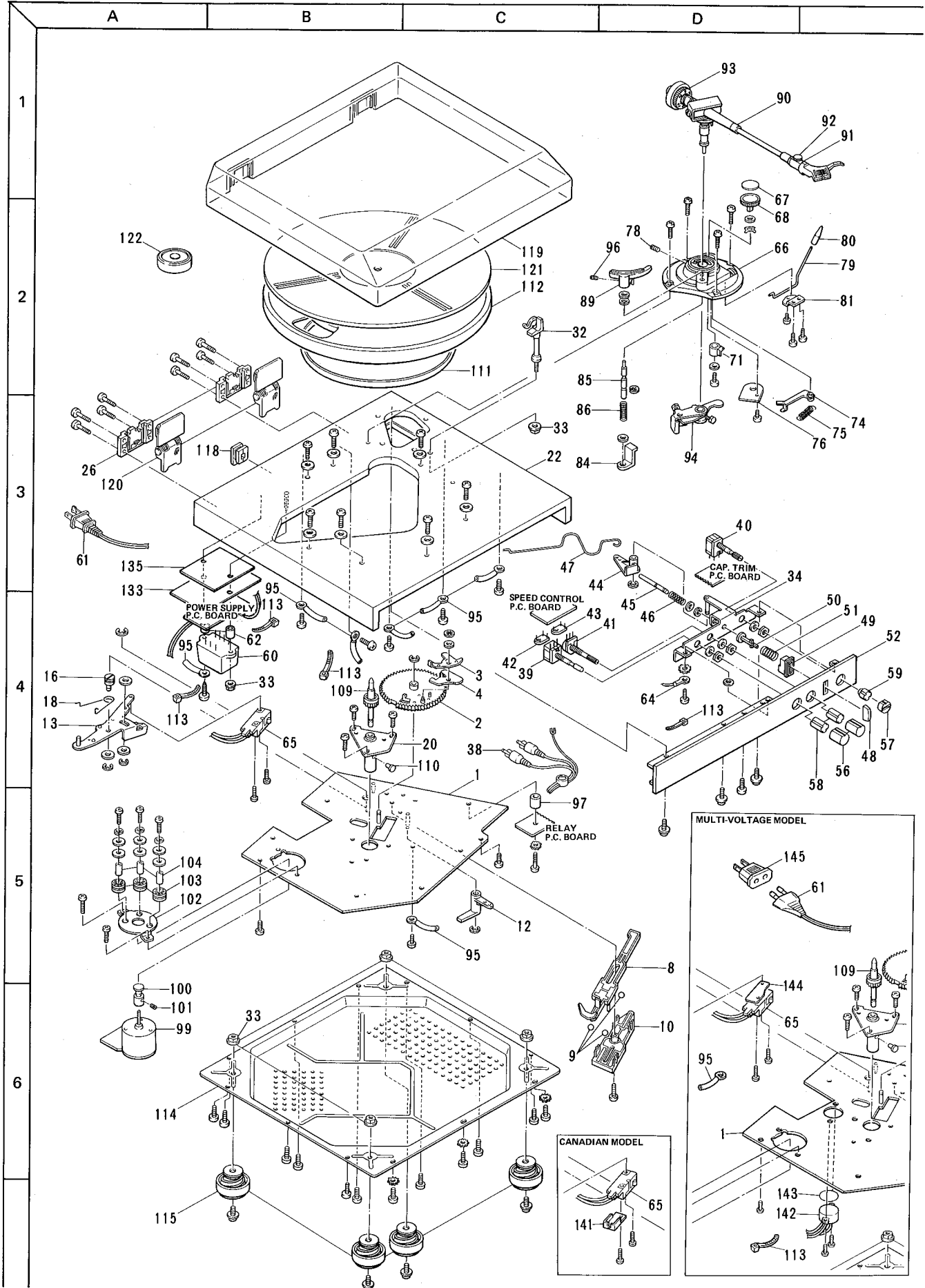


MICROSWITCH CLEARANCE ADJUSTMENT

1. After being adjusted the clearance between the microswitch and the forwarding arm assembly to 0.1 to 0.5 mm with a clearance gauge, tighten the mounting screw to fix it.
2. Fix the tonearm on the armrest.



GENERAL UNIT EXPLODED VIEW



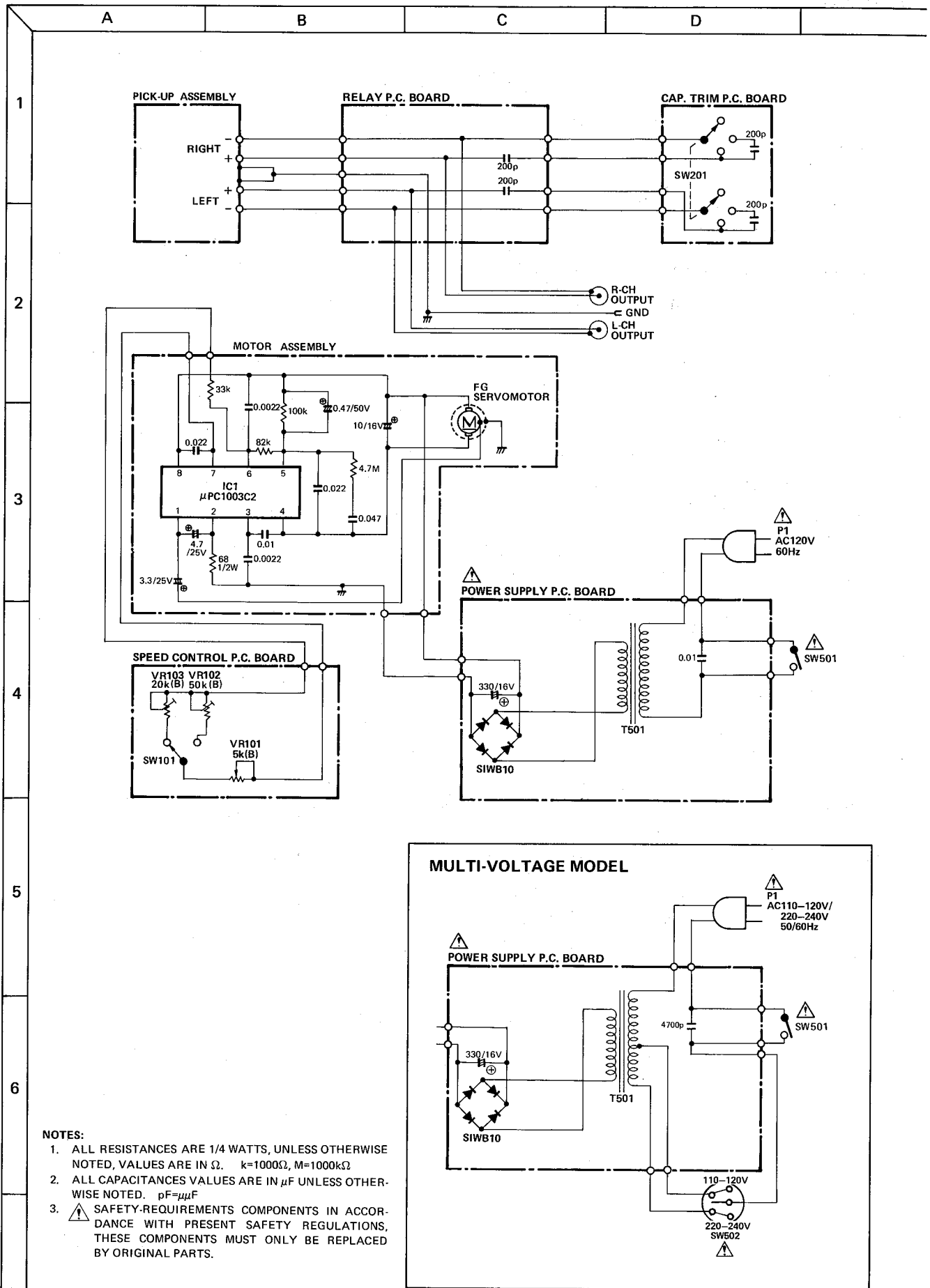
PARTS LIST

DESTINATION ABBREVIATIONS
R: U.S.A. A: Canadian E: Multi-Voltage

Ref. No.	Part No.	Description	Market
1	852265-3	Chassis Assembly	R, A
	852265-4	Chassis Assembly	E
2	895248	Gear Assembly	
3	894901	Clutch Plate	
4	894902	Clutch Guide	
8	870933-1	Actuating Arm	
9	Y99000103	Steel Ball	
10	870932-1	Actuating Base	
12	895431	Kick Lever	
13	896487	Operating Plate Assembly	
16	895073	Different Center Pin	
18	895251	Spring	
20	895092	Center Spindle Pillow Assembly	
22	848986	Cabinet	
26	895259	Lock Plate	
32	910742	Armrest/Clamp Assembly	
33	Y22000302	Nut	
34	872982	Switch Plate Assembly	
38	871474	Cord with Plug Assembly	R
	870771	Cord with Plug Assembly	A, E
39 (SW101)	910744	Rotary Switch, Speed Selector	
40 (SW201)	910745	Rotary Switch, Cap. Trim	
41 (VR101)	910746	Variable Resistor, 5 k Ω (B), Speed Control	
42 (VR102)	704825-11	Variable Resistor, 50 k Ω (B), 33 rpm Speed	
43 (VR103)	704825-9	Variable Resistor, 20 k Ω (B), 45 rpm Speed	
44	897574	Reject Lever	
45	898534	Cut Shaft	
46	832780-1	Elevation Spring	
47	896722-4	Reject Spring	
48	910724	Push Button, Cut	
49	910725	Holder	
50	910726	Shaft	
51	910727	Spring	
52	852367-1	Front Panel	
56	912276	Knob, Speed Selector, Speed Control	
57	912565	Knob, Cap. Trim	
58	910722	Knob Base, Speed Selector, Speed Control	
59	910723	Knob Base, Cap. Trim	
60 (T501)	872290	Power Transformer	R
	873105	Power Transformer	A
	872292	Power Transformer	E
61 (P1)	912389	Power Line Cord	R, A
	895617-2	Power Line Cord	E
62	897342-1	Collar	
64	910756	Lug Assembly	
65 (SW501)	870270	Microswitch	
66	851878-1	Pick-Up Base	
67	912539	Ornament	
68	896450-1	Knob, Anti-Skating	
71	871454	Boss	
74	871455	Anti-Skating Lever	
75	896454	Spring	
76	897596	Cover	
78	Y13401001	Stop Screw	
79	872278	Cue Lever	
80	896456	Knob, Cue Lever	
81	897597	Lever Holder	
84	897595	Cueing Arm	
85	897622-1	Raising Spindle	

Ref. No.	Part No.	Description	Market
86	832780	Raising Spring	
89	910607	Raising Plate	
90	852366	Pick-Up Assembly (Includes: Headshell and Counterweight)	
91	852366S	Headshell	
92	852366A	Headshell Clamp	
93	852366W	Counterweight	
94	893583-3	Forwarding Arm Assembly	
95	890755	Holding Bracket	
96	Y13260401	Stop Screw	
97	E-832380-2	Spacer	
99	705838	Motor Assembly	
100	894021	Motor Pulley	
101	Y13200301	Stop Screw	
102	893931	Motor Bracket	
103	242020	Motor Cushion	
104	234971	Pipe	
109	895047	Center Spindle Assembly	
110	894271	Stopper	
111	700515B	Drive Belt	
112	620075-4	Platter	
113	894408	Holder	
114	852073-4	Cabinet Bottom	
115	895773-9	Foot	
118	871025	Bushing	R, A
	871026	Bushing	E
119	852278	Dust Cover	
120	898532-1	Hinge Assembly	
121	873009	Platter Mat	R
	873009-1	Platter Mat	A, E
122	890876	EP Adaptor	
133	912439	Insulation Plate	
135	912451	Shield Plate	
141	890335	Switch Cover	A
142 (SW502)	898256	Voltage Selector Switch	E
143	911133	Ornament	E
144	893803	Insulator	E
145	894699	AC Adaptor	E

SCHEMATIC DIAGRAM



PACKAGE

