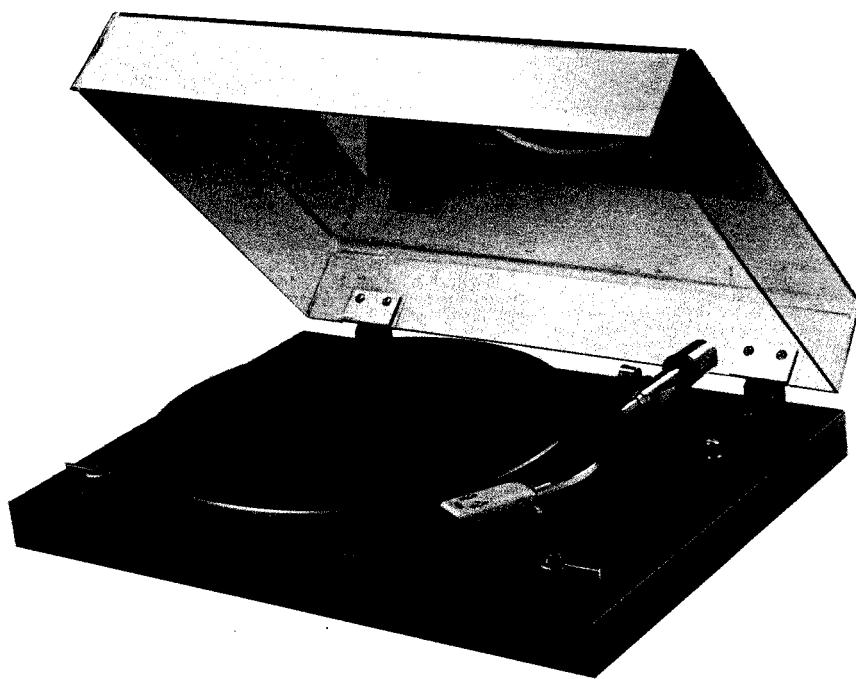


CEC TURNTABLE
BD-3200
SERVICE MANUAL



CEC International Inc.

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Model	Destination
A	USA (UL Approval)
C	Canada (CSA Approval)
E	Europe (Scandinavian Approval)
G	General territories

TECHNICAL SPECIFICATIONS

Description	Condition	Nominal	Limit
Type		2-speed, belt drive, auto-return system	
Platter		Aluminum alloy die-cast, 30 cm outer diameter	29.8 cm outer diameter
Motor		4-pole synchronous	32.9 — 33.7 rpm
Speed		2-speeds: 33-1/3 rpm, 45 rpm	44.4 — 45.6 rpm
S/N ratio	Measured at 3 kHz signal DIN 45539A	40 dB	36 dB
	DIN 45539B	62 dB	58 dB
Wow & Flutter	Measured at 3 kHz signal DIN 45507	0.06% WRMS	0.08% WRMS
		0.09%	0.12%
Tone arm		Plug-in type, tubular	
Headshell		300 mm	
Overall length		215 mm	
Effective length		15 mm	
Overhang		0 to 2.5g/l turn of the scale ring (directly readable in 0.5g steps)	
Adjustable force range		4 to 12 g	
Acceptable cartridge weight		MC-20 Moving Magnet type.	
Cartridge (Model G)		20 — 20,000 Hz	
Frequency response		3.5 mV at 1 kHz 50 mm/sec.	2.5 — 4.9 mV at TRS-1004 record
Output voltage			
Channel difference		2 dB at 1 kHz	
Channel separation		20 dB at 1 kHz	16 dB at 1 kHz at TTR-102 record
Tracking force		2 grams	
Stylus tip		0.6 mil diamond stylus	
Power source	Model A and C	117 Volts, 60 Hz AC	
	Model E	220 Volts, 50 Hz AC	
	Model G	117/220 Volts switchable 50 Hz with 60 Hz pulley.	
Power consumption		10 watts	
Dimension		139(H) x 456(W) x 335(D) mm	
Weight		7.3 kg (Net)	

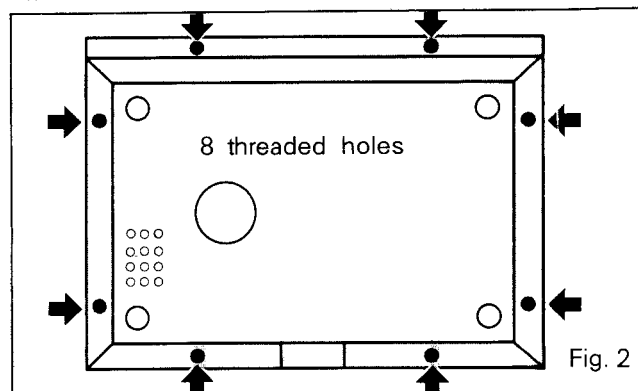
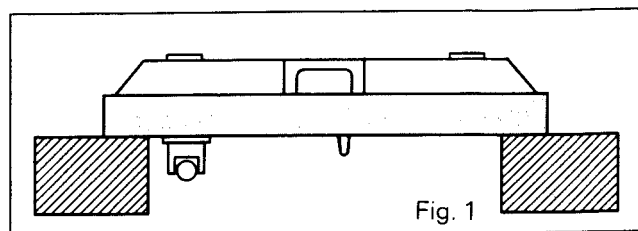
DISASSEMBLY INSTRUCTIONS

1. TOOLS REQUIRED FOR DISASSEMBLY

Phillips-head screwdrivers (for M5 and M3)
 Slotted-head screwdrivers (medium and small sizes)
 Radio pliers
 Hexagon-head wrench (for M3 and M4)
 Nippers
 Soldering iron
 Hexagon box type screwdrivers (for M5 and M3)

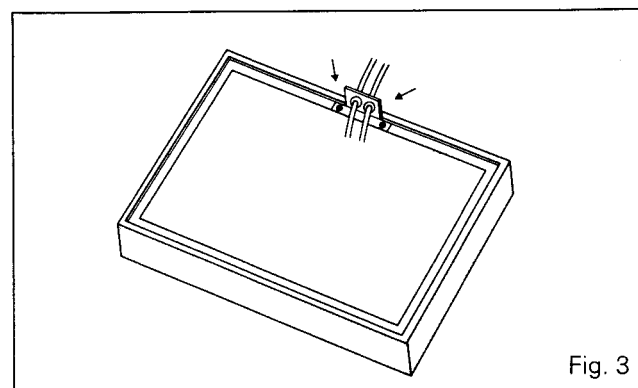
2. DO THE FOLLOWING PRIOR TO DISASSEMBLY:

- (1) Remove the dust cover.
- (2) Remove the turntable and prepare the unit to be moved by locking the motor and mechanism in place with the four red screws.
- (3) Fix the tone arm in place with the lock lever of the arm rest.
- (4) Place the set on a suitable bench with the bottom base upward. (Fig. 1)



3. REMOVE THE CABINET

- (1) Remove with a Phillips-head screwdriver the eight screws which hold the bottom base. (Fig. 2).
- (2) Remove the two screws which hold the cord mounting plate of the cabinet (Fig. 3).
- (3) When the six screws which hold the cabinet are removed, the cabinet and panel board can be lifted off. (Fig. 4).

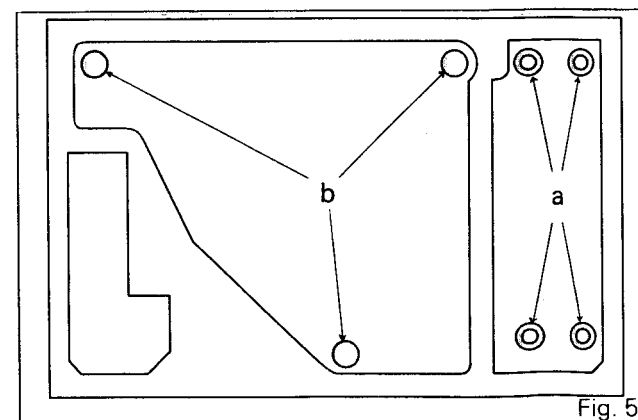
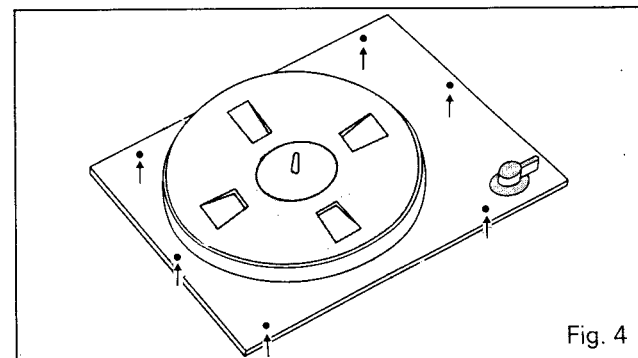


4. REMOVE THE MOTOR MOUNTING PLATE.

Pull the speed-change lever out, remove two red screws which fasten the motor and remove the four screws a shown in Fig. 5.

5. REMOVE THE SUB-CHASSIS FROM THE UNIT.

- (1) Remove the arm support.
- (2) Pull out the speed change lever.
- (3) Remove the four red screws.
- (4) Turn the set over and remove nuts b shown in Fig. 5.
- (5) Remove the shield case.
- (6) Disconnect from the lug terminal plate the five leads coming from the tone arm.
- (7) Remove the terminal angle B from the panel board.
- (8) Turn the drive gear 180° so that the return plate moves over the nut and remove the arm rest fixing nut. And pull out the arm rest.
- (9) Loosen the screw of the tone arm fixing plate boss and remove the tone arm fixing plate.
- (10) Remove the tone arm fixing nut and remove the tone arm.
- (11) Disconnect the release wire from the lifter base (Fig. 6).
- (12) Remove the reject spring spacer (Fig. 7)
- (13) Remove the suspension spring and cushion rubber.
- (14) Hold the turntable shaft and lift, and remove the sub-chassis.



6. REMOVE THE LIFTER LEVER B (Fig. 8).

- (1) Loosen the screw **a** of the lifter lever B, remove the E type washer, pull out the cueing lever, remove the screws **b** and **c**, and remove the lifter lever mounting plate B.

ADJUSTMENTS

1. TOOLS REQUIRED FOR ADJUSTMENTS

Small level indicator
Hexagon box type screwdriver (M5 and M4)
Phillips-head screwdriver (M3)
Slotted-head screwdrivers (M3 and smaller size)

Note: Be sure to set the bench for adjustment level.

2. TURNTABLE HEIGHT AND LEVEL

- (1) Place the set with the bottom base removed on a stable table, set the turntable, the turntable sheet and a record, and adjust the height and level of the turntable with the nuts **a**, **b** and **c** in Fig. 9 to the dimensions shown in Fig. 10.

Note: Since the four points are slightly different in height due to panel board distortion, etc., be sure to adjust the turntable to the required level.

- (2) After height adjustment, put a level indicator on the turntable, turn the nuts **a**, **b** and **c**, and adjust the level of the turntable. Adjusted turntable height should be within a range of $21 \pm 0.5 \sim 1.5$ mm.

3. STYLUS POINT HEIGHT

- (1) Auto Up

Adjust the height from the record surface to the stylus point in the following order so that it conforms to the dimensions shown in Fig. 11 during auto return:

- (a) Turn the nut **a** of the return plate support and adjust the mounting dimensions of the return plate. For the fixed type, insert a plain washer ($4.7 \phi \times 10 \phi \times 0.5 t - 0.3 t$) and then make this adjustment (Fig. 12).
- (b) When the tone arm reaches the position shown in Fig. 13 in auto return operation, stop the rotation of the turntable (turn off the power) and measure the gap between the stylus point and record surface.
- (c) If the gap is not within the dimensions specified in Fig. 11, turn the nut **a** in Fig. 12 and make another adjustment.

Less than 5 mm	Turn clockwise
More than 10 mm	Turn counter-clockwise

Note: Do not give more than two turns.

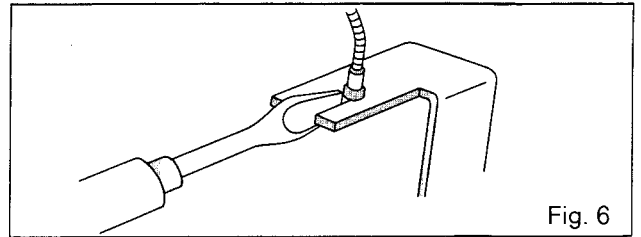


Fig. 6

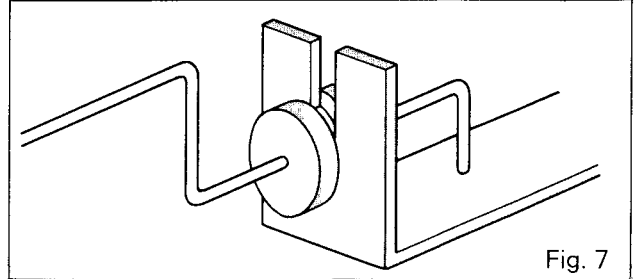


Fig. 7

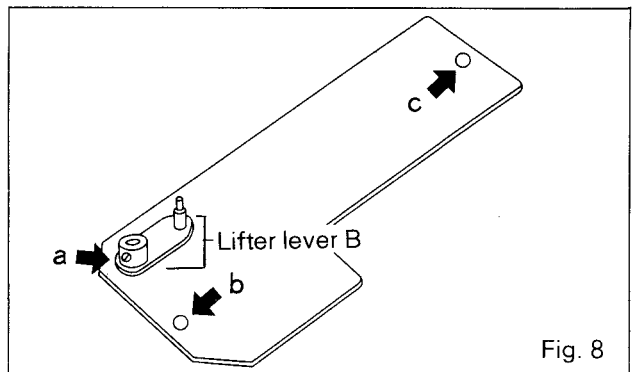


Fig. 8

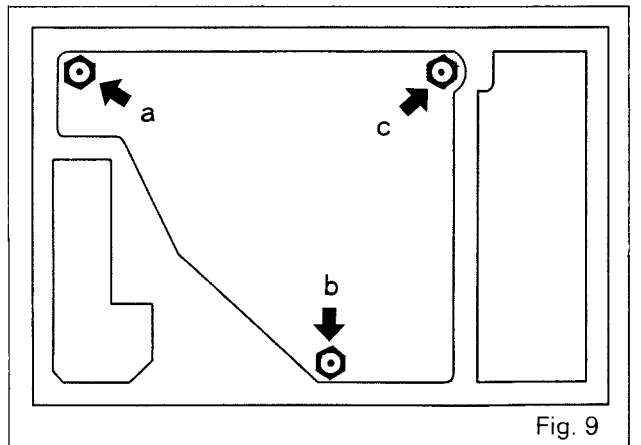


Fig. 9

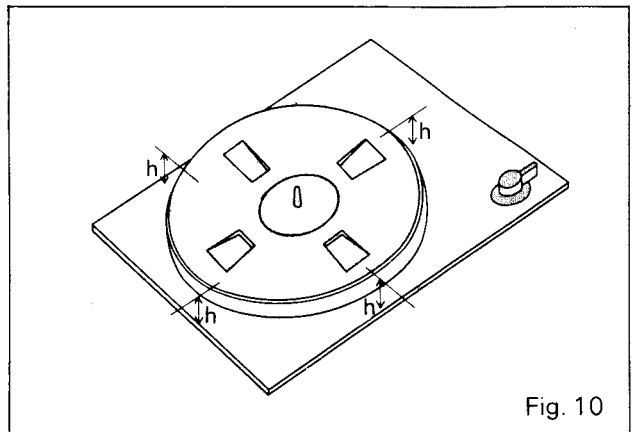


Fig. 10

- (d) If the gap between the record surface and stylus point does not yet fall within the dimension specified in Fig. 11, return the nut **a**, in Fig. 12 into the original position, slightly loosen the arm support attaching screw, fix the arm support about 0.5 – 1 mm higher, and make gap adjustment as specified in Fig. 14.

(2) Manual Up

Adjust by turning the screw **a** in Fig. 15 so that the gap between the stylus point and record surface becomes equal to that at the time of auto up when the cueing lever is set to the ∇ position.

4. TURNTABLE SHAFT MOUNTING POSITION

- (1) Loosen the three screws which hold the turntable shaft.
 - (2) Push ratchets A and BJ attached to the drive gear as far as possible in the direction of the arrow shown in Fig. 16.
 - (3) Move the turntable shaft so that the gap between the turntable gear and ratchet A becomes as shown in Fig. 16, and tighten the screws.
 - (4) Turn the turntable shaft by hand to make sure the turntable gear and ratchet A do not touch each other. If they come in contact, move the turntable shaft slightly forward.
- Keep the gap between the turntable and ratchet to the dimensions shown in Fig. 16.

5. AUTO RETURN MECHANISM

- (1) Make sure the tone arm fixing plate is properly installed as shown in Fig. 17.
- (2) Put on a record and let the stylus drop slightly outside the end groove or 65 – 70 R from the center of the turntable. When the record ends, make sure the tone arm automatically returns from any of the following positions:
 - (a) For LP records, a click is heard when the stylus is between 53 and 57.5 R and then the tone arm automatically returns.
 - (b) For EP records, a click is heard when the stylus is between 48.5 and 53 R and then the tone arm automatically returns.
 - (c) For the auto return test record (CEC RG-652), a click is heard when the stylus is between 55 and 61 R and then the tone arm automatically returns.
- (3) If the tone arm does not automatically return from all of the above positions, turn the adjusting screw in Fig. 17 to adjust the tone arm return position. Clockwise turning of the screw brings the return position close to the center of the turntable and counter-clockwise turning of the screw moves the return position away from the center of the turntable.

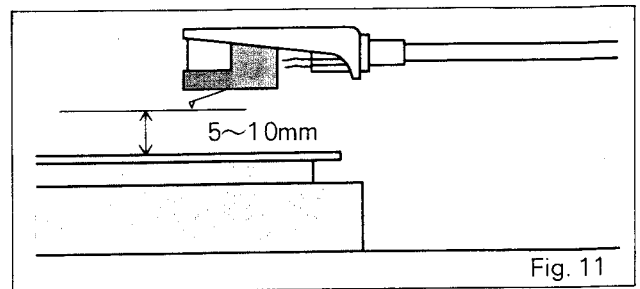


Fig. 11

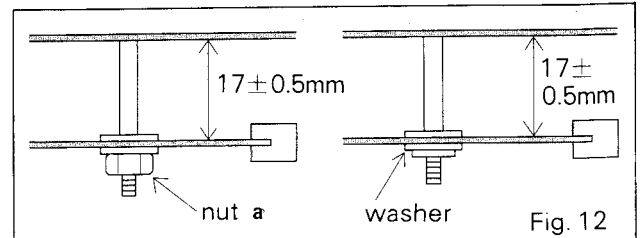


Fig. 12

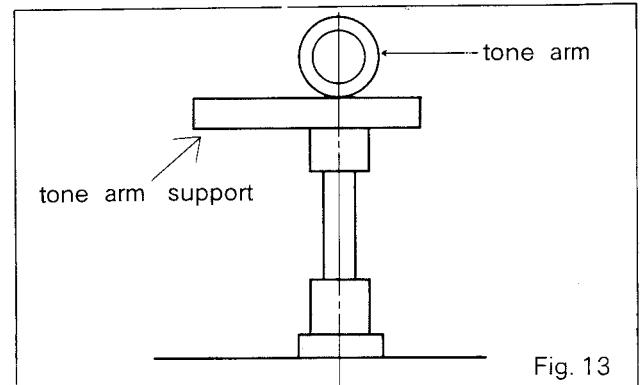


Fig. 13

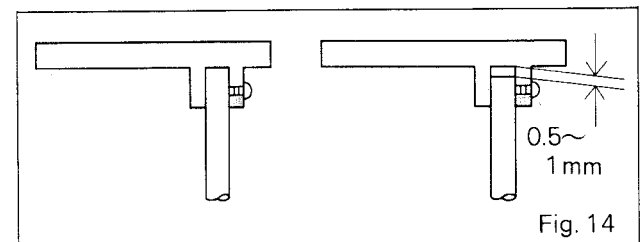


Fig. 14

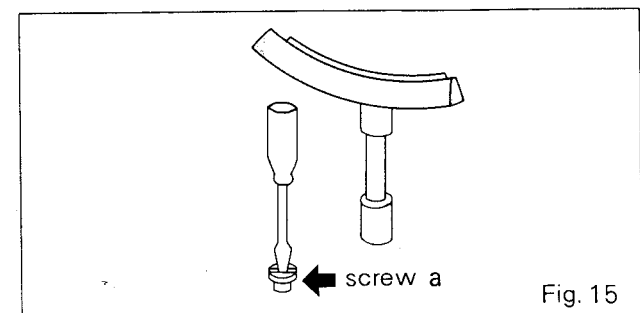


Fig. 15

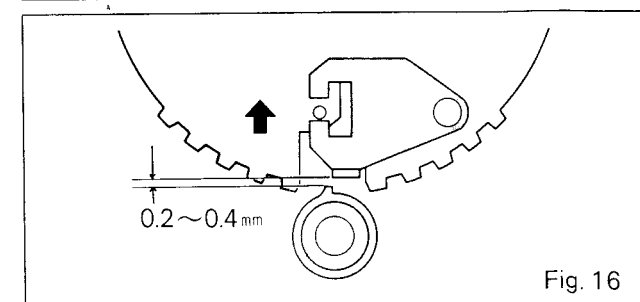


Fig. 16

6. CUEING LEVER

Adjust the cueing lever so that it returns to the original position before auto return operation ends.

- (1) Remove the bottom base from the set and put the set on a stable table.
- (2) Fully loosen the screw in Fig. 18.
- (3) Adjust the screw in Fig. 18 so that the cueing lever returns at the same time as the tone arm when the speed change lever is set to 33 rpm and auto return operation is effected.

Note: Overtightening the screw causes the tone arm to return suddenly in mid-record, and under-tightening the screw makes the cueing lever fail to return.

Adjust so that the tone arm works smoothly and the cueing lever returns completely.

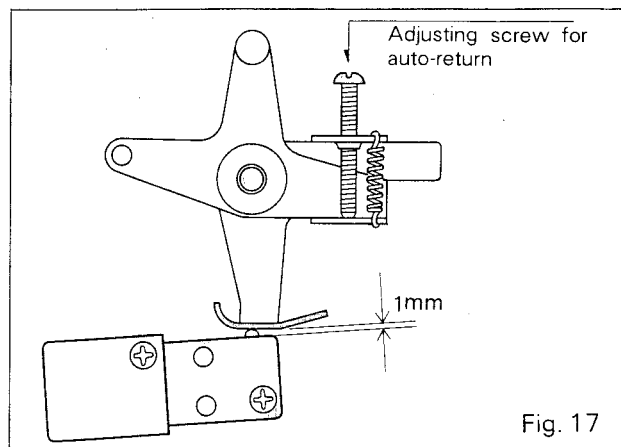


Fig. 17

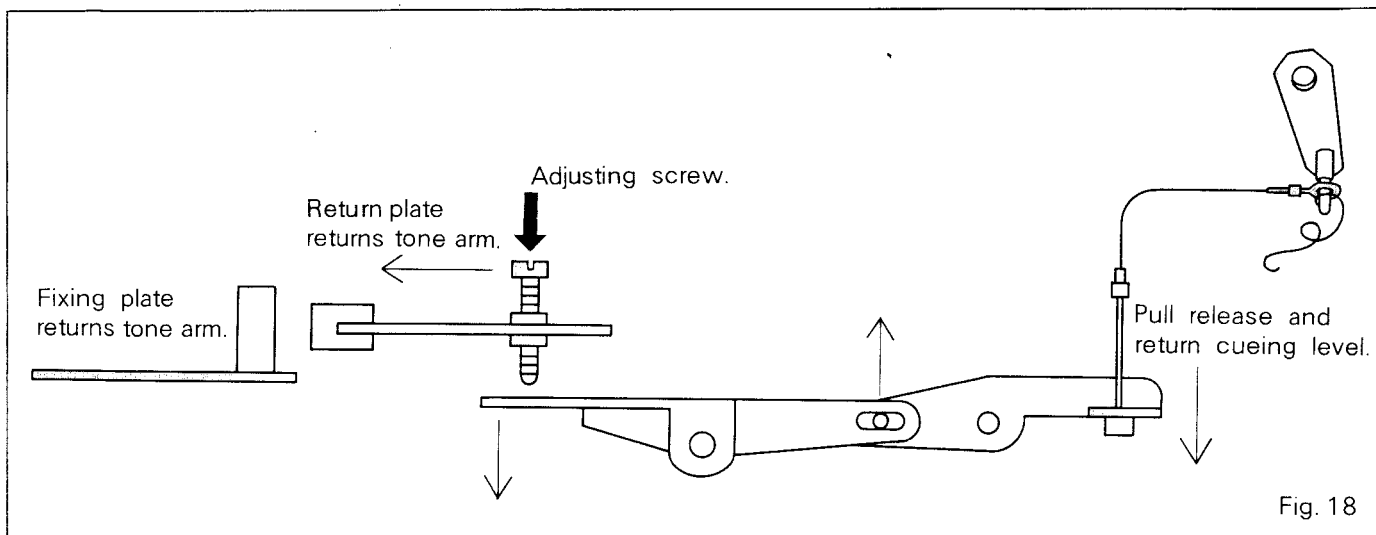


Fig. 18

TROUBLE SHOOTING

1. The tone arm will not automatically return.

Remove the turntable platter and check to see that the clearance between gear of center shaft and ratchet is reasonable. (Fig. 16)

- No: Loosen three screws which fasten the center shaft, and adjust.
- Yes: Rotate adjusting screw (Fig. 17) of tone arm fixing plate counter-clockwise.

2. The tone arm returns some seconds after the end of the performance.

Rotate adjusting screw (Fig. 17) of tone arm fixing plate counter-clockwise.

3. The tone arm returns before the end of the performance.

Rotate adjusting screw (Fig. 17) of tone arm fixing plate clockwise.

4. The turntable platter will not rotate even though the tone arm is above the disc.

Check to see that the power plug is securely connected.

- No: Connect the plug.
- Yes: Check to see that the belt is in place on the pulley.
 - No: Fit the belt.
 - Yes: Check the voltage supplied to motor.
 - No: Motor defective → Replace the motor.
 - Yes: Check the wiring.
 - No: Replace wiring according to the circuit diagram.
 - Yes: Check the microswitch.
 - No: Microswitch defective.
 - Yes: Lead wires defective.

5. The turntable platter will not stop rotating.

Check to see if the turntable will stop rotating when knob of microswitch is sufficiently pushed.

- Yes: Adjust the clearance between the knob of microswitch and tip of tone arm fixing plate to 1 mm. (Fig. 17)
- No: Check the wiring.
 - No: Replace wiring according to the circuit diagram.
 - Yes: Check the microswitch.
 - No: Microswitch defective.
 - Yes: Capacitor defective.

6. The turntable platter turns at incorrect speed.

Check to see that the supply voltage and frequency are correct for this unit.

- No: Change the motor and/or pulley according to input condition.
- Yes: Check to see that the motor fixing screws (red color) are removed.
 - No: Remove them.
 - Yes: Check the pulley. (Fig. 19: 50 Hz pulley has no band; 60 Hz pulley has a band)
 - No: Replace the pulley.
 - Yes: Check the position of beltguide, pulley and belt. (Fig. 19)
 - No: Adjust the position of pulley.
 - Yes: Motor defective.

7. Noise from turntable.

Check for noise with turntable platter removed.

- Yes: Check motor.
- No: Check for noise when turntable platter is moved by hand after the rubber belt is removed.
 - No: Check the position of beltguide, pulley and belt → Adjust the height of pulley.
 - Yes: Turntable bearing/shaft is defective.

8. No sound from the speaker.

Check to see that the output cords are securely connected to the amplifier (receiver).

- No: Connect the cord.
- Yes: Check to see that connections are made to the PHONO input terminals of the amplifier.
 - No: Connect to PHONO.
 - Yes: Check to see that the select switch of the amplifier is placed to PHONO.
 - No: Place select switch to PHONO.
 - Yes: Remove the headshell, touch the upper two pins at the end of the arm with a metal screwdriver and listen for the speaker to produce a humming noise. (Fig. 20)
 - No: Perform continuity test between the arm and output cords.
 - Yes: Check the connections between the cartridge and headshell.
 - No: Make correct connections.
 - Yes: Cartridge defective.

9. The tone arm will not go down even with the lifter lever in ▼ position.

Check to see that release assy (No. 22) moves to cooperate with operating plate assy (No. 20) when the lifter lever A is pushed down.

- No: Check to see that the screw (No. 203) is correctly fastened to lifter lever B.
 - No: Fasten the screw.
 - Yes: Check to see that the release is correctly mounted.
 - No: Mount the release.
 - Yes: The release is defective.
- Yes: Check to see that the lifter shaft assy (No. 22) moves down when the lifter lever A is pushed down.
 - No: Replace lifter shaft assy or lifer boss (No. 23).
 - Yes: Loosen the screw which fastens tone arm support and adjust the clearance between stylus point and record surface to 5 – 10mm when lifter lever is in position, referring to STYLUS POINT HEIGHT of ADJUSTMENTS.

Note: When the turntable is placed in the condition of extreme low temperature for a long time, it may happen that the lifter shaft does not move smoothly. In this case, push the lifter shaft compulsorily by hand a few times.

PARTS REPLACEMENT

1. TONE ARM

Remove tone arm referring to DISASSEMBLY INSTRUCTIONS, 5. step (1) to (10) and replace. To reassemble, use DIASSEMBLY INSTRUCTIONS in reverse. Adjust the tone arm referring to ADJUSTMENTS, 3, 5 and 6.

2. TURNTABLE SHAFT

Remove the three screws which hold the turntable shaft, and adjust the gap between the turntable gear and ratchet A referring to the ADJUSTMENTS, 4. Be sure to check auto return operation.

3. MOTOR

Remove bottom base in accordance with DISASSEMBLY INSTRUCTIONS, 3. Cut the near most portion of primary wire to lug terminal. Place the unit on a bench with the surface upward and remove the four screws which mount the motor. Replace the new motor and fasten it by screws. After binding the primary wires to lug terminal tightly and solder them.

4. CUEING LEVER

With DISASSEMBLY INSTRUCTIONS, 6 as a guide, remove cueing lever. Replace the cueing lever so that it becomes parallel with the edge of panel board when cueing lever lines up to ▼ position (Fig. 21).

5. CUEING (LIFTER SHAFT)

Remove return plate (No. 36 in EXPLODED VIEW) from sub-chassis. Remove lifter base (No. 17), and remove tone arm support (No. 27) from lifter shaft. Pull out the lifter shaft in the direction of downward. Replace new lifter shaft after adhering 10⁶ CS silicon oil. After finishing reassembling, be sure to check the gap between stylus point and record surface referring to ADJUSTMENTS, 3. (Fig. 22)

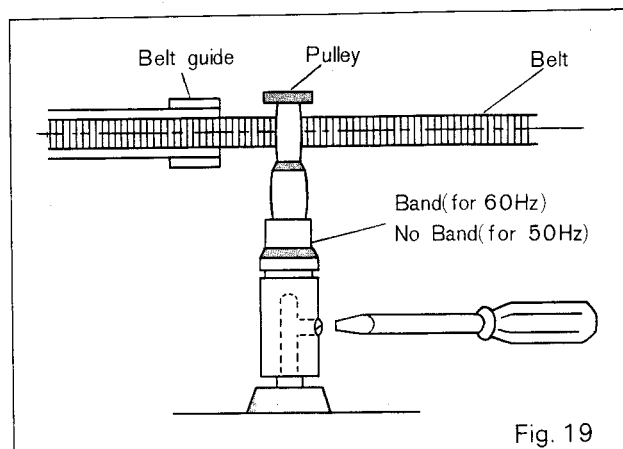


Fig. 19

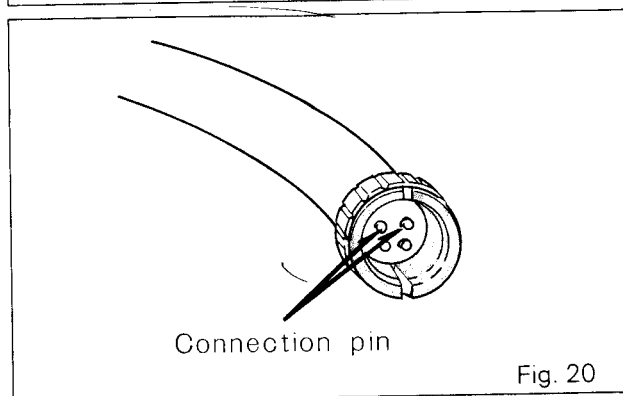


Fig. 20

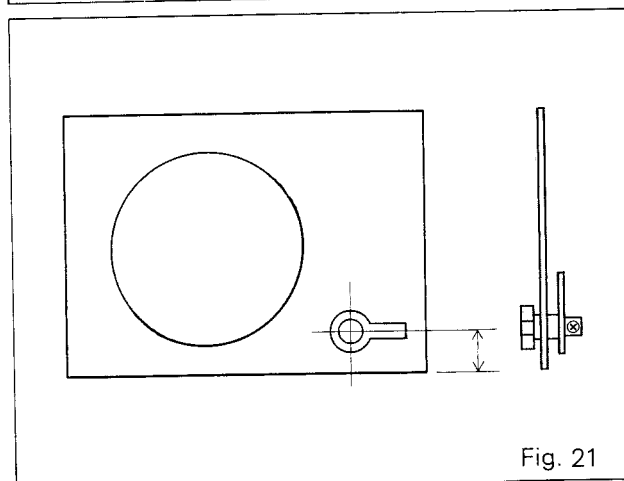


Fig. 21

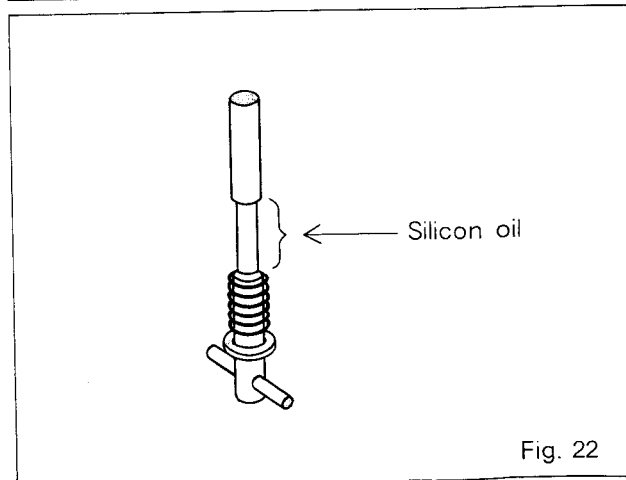
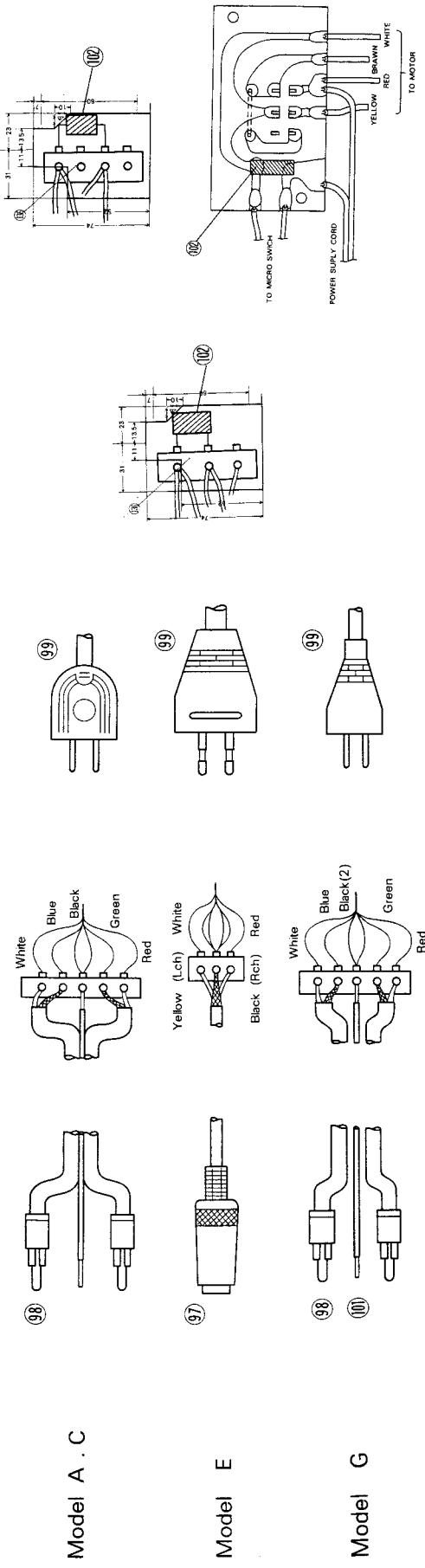
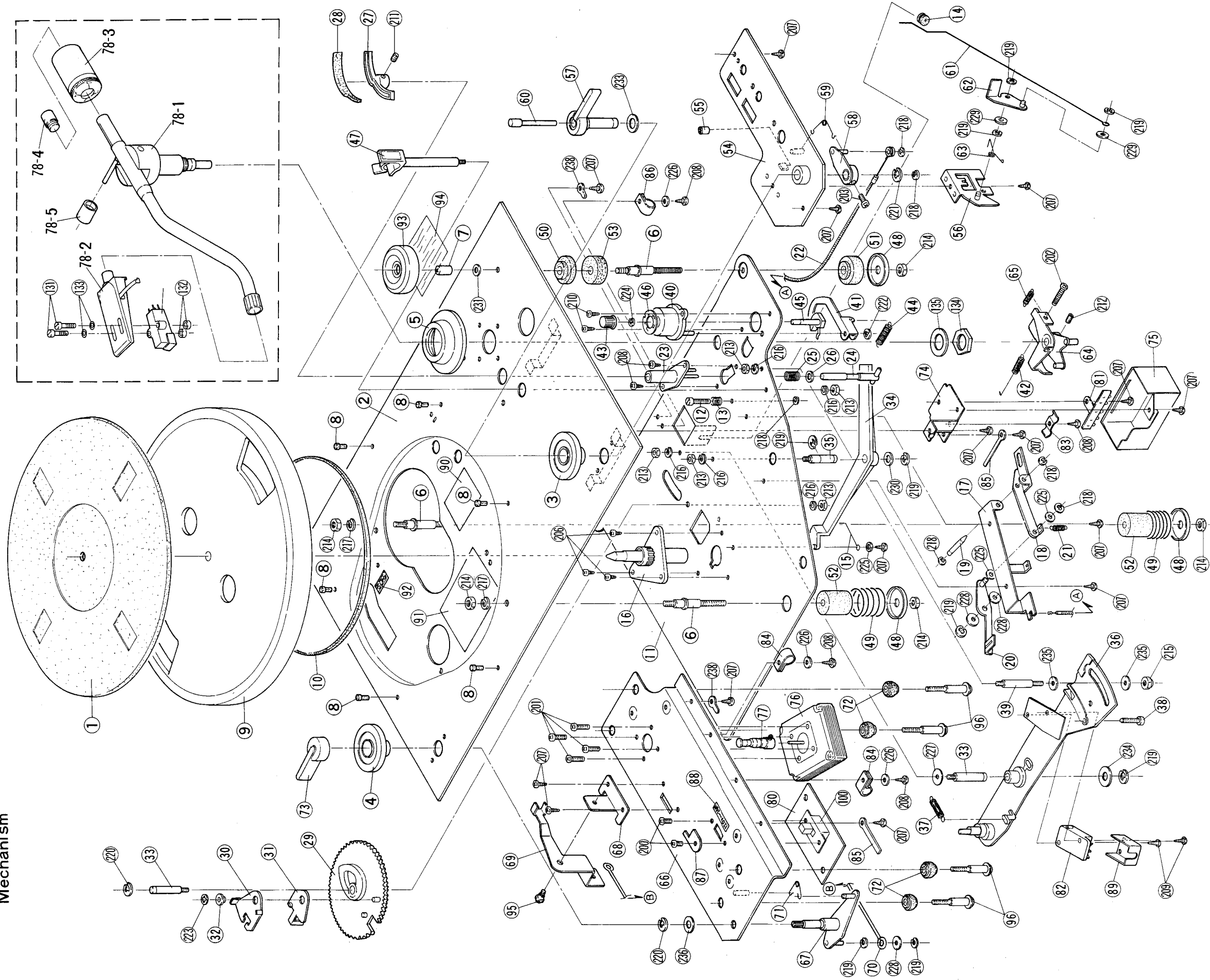


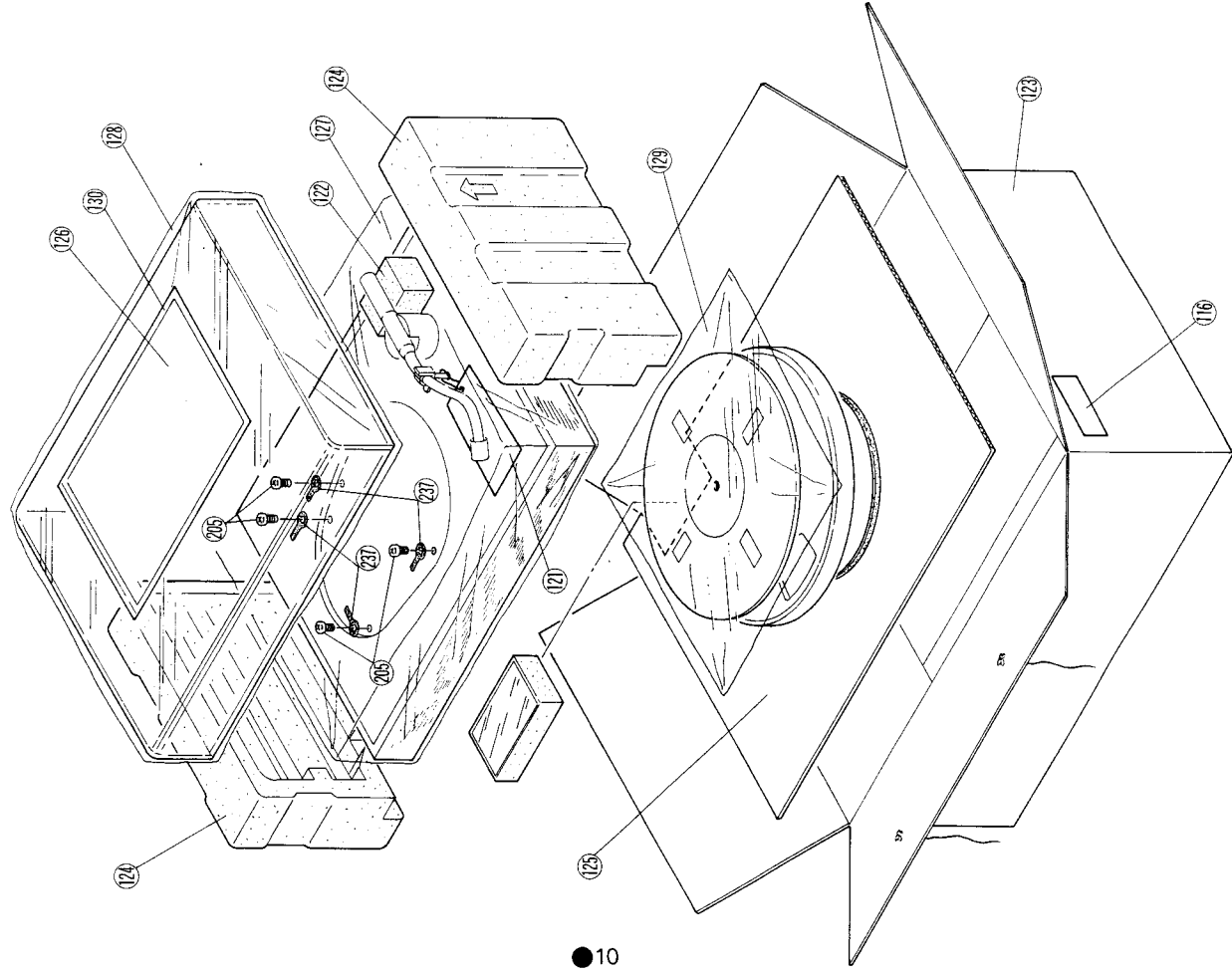
Fig. 22

EXPLODED VIEW

Mechanism

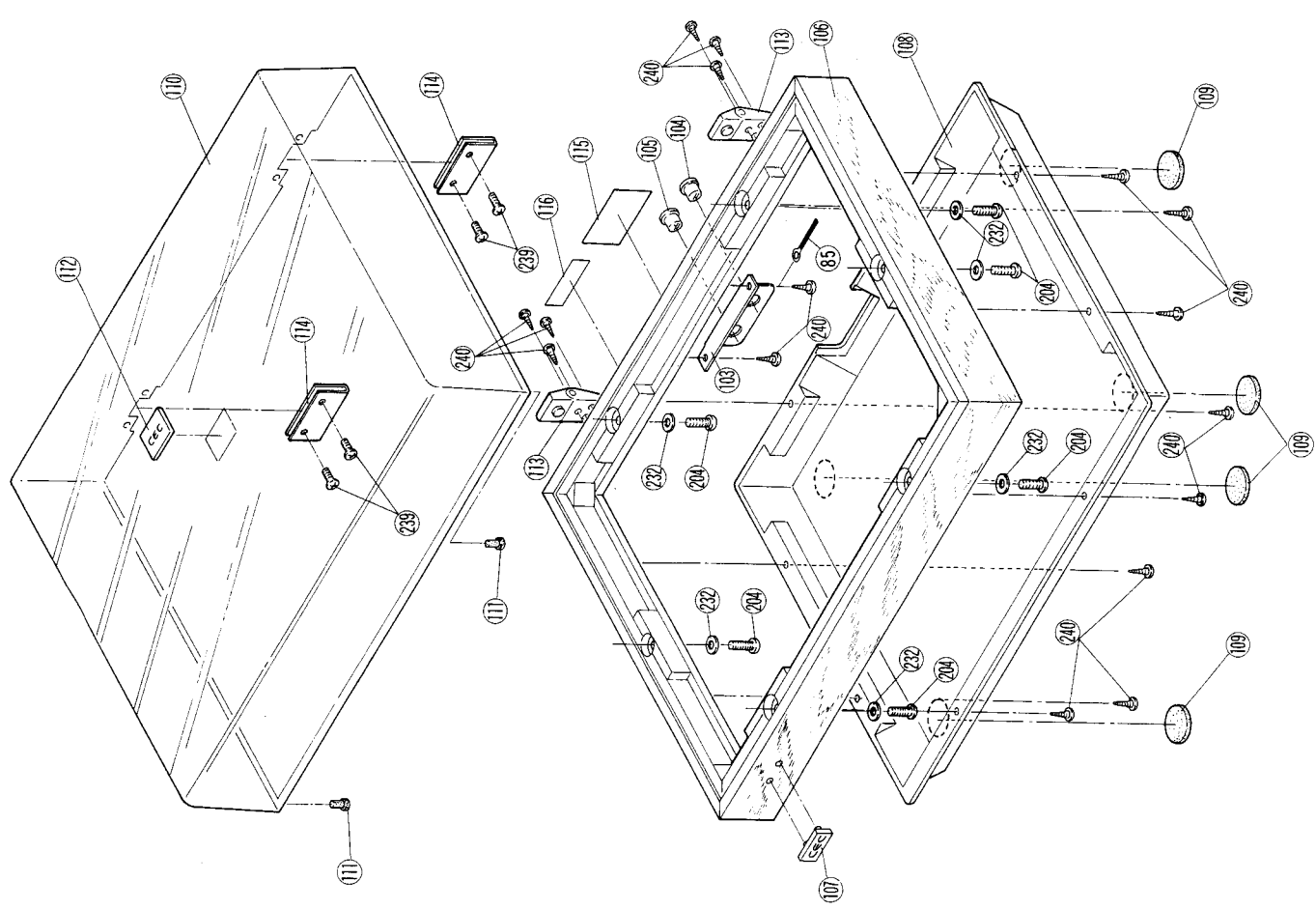


Packing

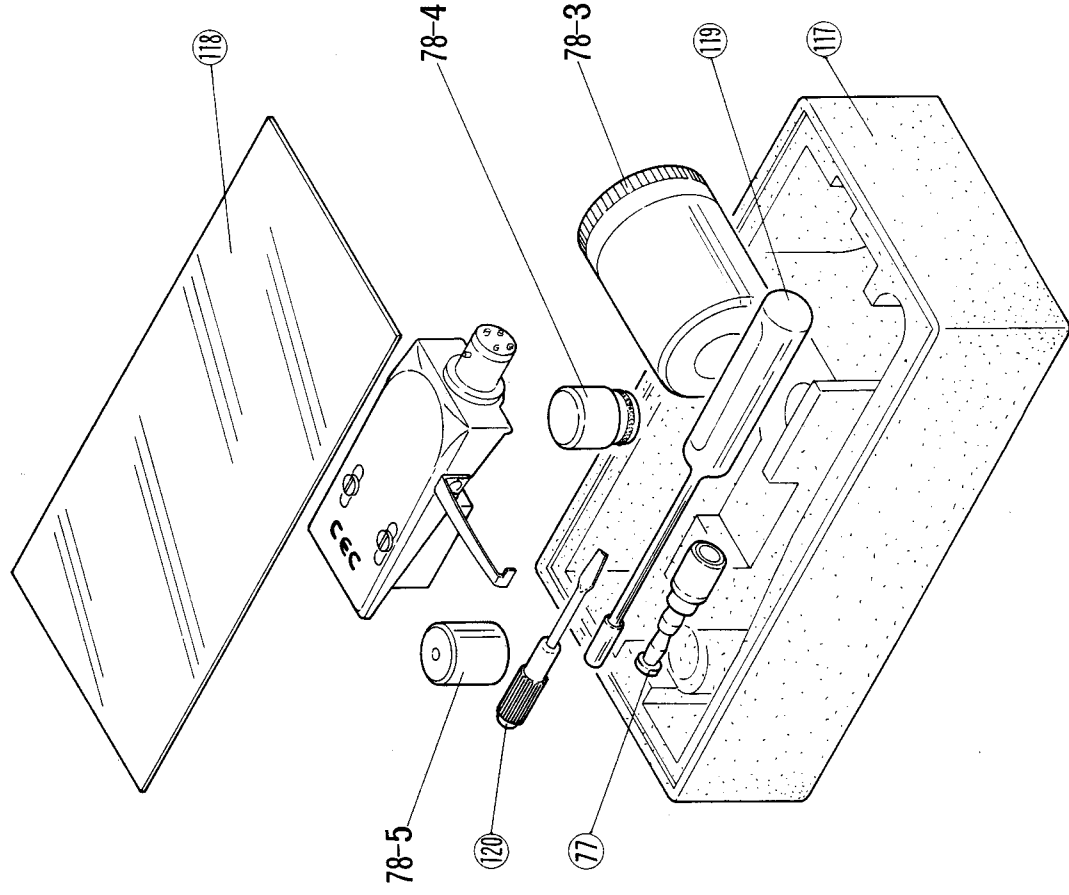


● 10

Cabinet



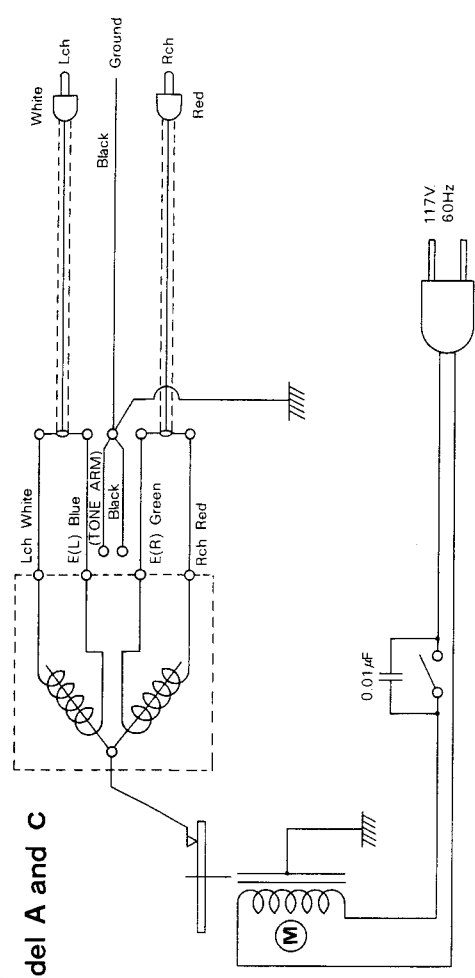
Accessory Parts



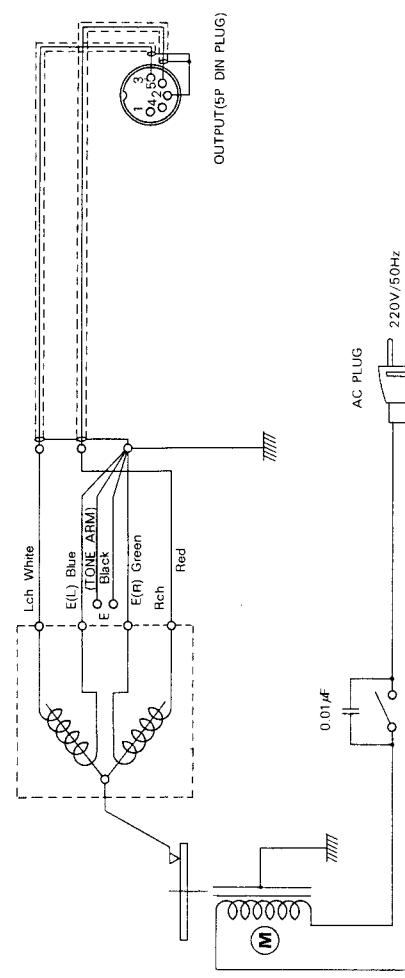
● 11

Wirings

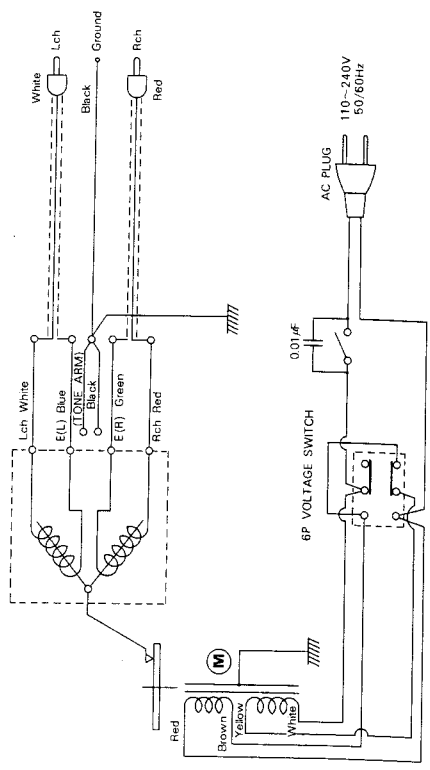
Model A and C



Model E



Model G



PARTS LIST

Ref. No.	Parts No.	Description	Model	Ref. No.	Parts No.	Description	Model
1	CD 20455	Turntable platter mat	C. E. G.	78	CF 30390-1	Tone arm assy.	A.
1	CD 20518	Turntable platter mat	A.	78-1		Tone arm	
2	C 20495s	Panel board assy.	G.	78-2		Headshell	
2	C 20457s	Panel board assy.	A. C. E.	78-3		Counterweight	
3	CD 44122	Lifter mounting plate		78-4		Sub-weight	
4	CD 44123	Speed-change mounting plate		78-5		Lateralweight	
5	CD 43979	Tone arm base		79	C 30255s	MC-20 cartridge	G.
6	CR 43933	Stud		80	C 44215s	Printed circuit board	G.
7	CR 43943	Adapter pin		81		Lug terminal plate 1L-4P	A. C. G.
8	CD 44545	Panel board protector		81		Lug terminal plate 1L-2P	E.
9	CD 20176-1	Turntable platter		82	CF 30218	Microswitch	E. G.
10	CD 44204	Rubber belt		82	CF 30266	Microswitch	A. C.
11	CA 20492	Sub-chassis		83	GS 11775	Cord clamping	G.
12	CB 43913	Height adjusting screw		83	CA 44547	Cord clamping	A. C.
13	CE 44021	Adjusting spring		84		Cord stopper 4N	
14	CD 43972	Reject spring spacer		85	CA 42667	Metalic cord clamping	
15	CE 44400	Ratchet spring		86	CD 44350	Nylon clamping 2N	
16	C 30370s	Turntable shaft assy.		87	CA 42681	Slide switch clamping	G.
17	C 44025s	Lifter base assy.		88	CH 43521	Voltage change label	G.
18	CA 43916	Pushing plate		89	CD 41833	Switch cover	C. E. G.
19	CB 43918	Pushing plate pin		89	CD 44297	Switch cover	A.
20	C 44026s	Operating plate assy.		90	CH 42574	Stylus change label	G.
21	CE 43917	Pushing spring		91	CH 44226	Clamp caution label	
22	C 43919s	Release assy.		92	CH 42065	Cycle (Hz) label	
23	CD 30386	Lifter boss assy.		93	CD 43100	45 rpm adapter	
24	C 43926s	Lifter shaft assy.		94	CH 43179	Polyethylene sheet	
25	CE 43928	Lifter spring		95	CR 44165	Special screw B	
26	CA 43846	Spring mounting		96	CR 43962	Special screw A	
27	CD 43023	Tone arm support		97	CF 42851	DIN plug shielded cord	E.
28	CD 44027	Tone arm support rubber		98	CF 41369-4	Output shielded cord	G.
29	CD 20443	Drive gear		98	CF 43581-0	Output shielded cord	C.
30	CA 30130	Ratchet A		98	CF 44821	Output shielded cord	A.
31	CD 42671	Ratchet BJ		99	CF 43888	AC power supply cord	G.
32	CB 41801	Ratchet collar		99	CF 30332	AC power supply cord	E.
33	CB 43945	Drive gear shaft		99	CF 42920	AC power supply cord	A. C.
34	CD 41808	Return arm		100	CF 42680	6P slide switch	G.
35	CB 41809	Return arm shaft		101	CF 43433	Grounding wire	G.
36	C 20519s	Return plate assy.	A.	102	CF 42734	Condenser	E. G.
36	C 20444s	Return plate assy.	C. E. G.	102	CF 43838	Condenser	C.
37	CE 41827	Return plate spring		102	CF 43562	Condenser	A.
38	CB 42638	Adjusting screw		103	CA 44298	Cord mounting plate	G.
39	CB 43959	Return plate support		103	CA 43976	Cord mounting plate	E.
40	CD 30387	Anti-skating base		103	CA 43951	Cord mounting plate	A. C.
41	CA 44028	Anti-skating lever		104	CD 44421	Shielded cord bushing	G.
42	CE 44031	Anti-skating spring		104	CD 44573	Shielded cord bushing	E.
43	CB 44032	Anti-skating knob		104	CD 43767-1	Shielded cord bushing	A. C.
44	CE 44227	Spring		105	CD 41850	AC cord bushing	A. C. G.
45	CD 44029	Anti-skating cam		105	CD 44421	AC cord bushing	E.
46	CK 44030	Anti-skating nameplate		106	CM 20447	Cabinet	
47	CD 30384	Tone arm rest assy.		107	CK 44461	Cabinet badge	E. G.
48	CA 43931	Spring mounting		107	CK 43582-1	Cabinet badge W.	C.
49	CE 43932	Cushion spring		107		Cabinet badge	A.
50	CD 44228	Cushion rubber A		108	CD 20448	Bottom base	
51	CD 44463	Cushion rubber C		109	CK 42928	Tranleg	
52	CD 42438	Moltprene	C. E. G.	110	CD 20446	Dust cover	
52	CD 44609	Moltprene	A.	111	CD 44205	Dust cover cushion	
53	CD 44464	Cushion		112	CK 44143	Dust cover nameplate	
54	C 43937s	Lifter mechanism mounting plate		113	CK 43202	Free-stop hinge	
55	CD 44457	A assy.		114	CK 43203	Lock plate	
56	C 43930s	Cushion stopper		115	CH 44210	Rating label	G.
57	CD 30385-1	Reject base assy.	E. G.	115	CH 44664	Rating label	E.
57	CD 30385	Lifter lever A assy.	A. C.	115	CK 44629	Rating label (CSA Monogram)	C.
58	C 43939s	Lifter lever A assy.		115		Rating label	A.
59	CE 44022	Lifter lever B assy.		116	CH 44312	Serial number label	
60	CD 43952	Reversed spring		117	CD 30417	Parts box	
61	CE 43957	Reject button assy.		118	CH 44216	Parts box cover	
62	C 43954s	Reject spring A		119	CK 41930	Oil tube	
63	CE 43958	Reject lever assy.		120	CD 44217	Screw driver	
64	C 44017s	Reject spring B		121	CH 43885	Voltage/Frequency change caution label	G.
65	CE 41817	Tone arm fixing plate assy.		122	CH 44222	Tone arm packing cushion	
66	C 30414s	Tone arm fixing plate spring		123	CH 44173-2	Carton box	E. G.
67	C 44213s	Motor mounting plate assy.		123	CH 44173-6	Carton box	C.
68	CA 44136	Speed-change arm		123		Carbon box	A.
69	CA 44137	Belt guide angle		124	CD 20476	Styrol packing	
70	CE 44140	Belt guide		125	CH 44035	Turntable platter packing	
71	CE 43439	Link		126		Owner's manual	
72	CD 43961	Reversed spring		127	CH 44220	Polyethylene bag	
73	CD 43968-1	Motor cushion rubber	E. G.	128	CH 44221	Polyethylene bag	
73	CD 43968	Speed-change lever A	A. C.	129	CH 40112	Polyethylene bag	
74	CA 43975	Speed-change lever A		130	CH 41211	Polyethylene bag	
75	CA 43936	Terminal angle B		131	CB 43212-0	Cartridge mounting screw	G.
76	CF 30428	Shield case		131	CB 43212-5	Cartridge mounting screw	E.
76	CF 30427	Motor	G.	132	CB 43213	Cartridge mounting nut	
76	CF 30426	Motor	E.	133	CB 43214	Cartridge mounting washer	
77	CB 44187	Motor	A. C.	134		Tone arm mounting nut	
77	CB 44188	Pulley 50 Hz	E. G.	135		Tone arm mounting washer	
78	CF 30390	Pulley 60 Hz	A. C.	136	CH 43367	Fiber sheet	A. C. E.
		Tone arm assy.	C. E. G.				

SCREWS, WASHERS AND NUTS

Ref. No.	Description	Ref. No.	Description
200	⊕ Pan head (Sems A) screw M3 x 6	221	E type washer 5φ
201	⊕ Pan head (Sems A) screw M3 x 8	222	Stop ring CSTW-2.4
202	⊕ Pan head screw M3 x 25	223	Stop ring CSTW-3
203	⊕ Pan head screw M3 x 6	224	Stop ring S-6
204	⊕ Pan head screw M5 x 30	225	Plain washer 3φ x 8φ x 0.5t
205	⊕⊖ Pan head screw (red) M4 x 6	226	Plain washer 3φ x 8φ x 1t
206	⊕ Pan head taptite screw M3 x 8	227	Plain washer 3φ x 14φ x 1t
207	⊕ Pan head tapping screw 3φ x 6	228	Plain washer 4φ x 10φ x 0.5t
208	⊕ Pan head tapping screw 3φ x 8	229	Plain washer 4φ x 10φ x 1t (Nylon)
209	⊕ Pan head tapping screw 3φ x 18	230	Plain washer 4.5φ x 10φ x 0.3t
210	⊕ Pan head tapping screw (bronze) 3φ x 6	231	Plain washer 5φ x 10φ x 0.5t
211	Slotted set screw M3 x 3	232	Plain washer 5φ x 14φ x 1.6t
212	Hexagon socket headless set screw M4 x 5	233	Plain washer 6φ x 10φ x 0.8t
213	Hexagon nut M3	234	Plain washer 6φ x 16φ x 1t
214	Hexagon nut M5	235	Plain washer 4φ x 10φ x 1t
215	Hexagon nylon nut M4	236	Polyethylene washer 6φ x 14(12)φ x 0.5t
216	Spring lock washer 3φ	237	Tag washer
217	Spring lock washer 5φ	238	Oval lug 3φ
218	E type washer 2φ	239	Oval countersunk head screw M4 x 10
219	E type washer 3φ	240	⊕ Pan head wood screw (bronze) 3.1 x 14
220	E type washer 4φ		



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