

# JVC

## SERVICE MANUAL

### AUTO-RETURN TURNTABLE SYSTEM

MODEL NO. **AL-A95BK**



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## Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (  $\triangle$  ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)  
After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

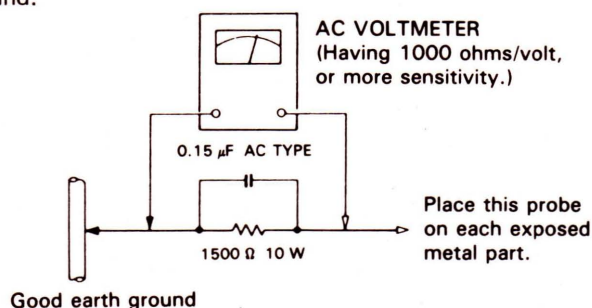
- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5 mA AC (r.m.s.).

- Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500  $\Omega$  10 W resistor paralleled by a 0.15  $\mu$ F AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



## Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.



## PREPARATIONS

### Notes:

- Do not connect the power cord to the AC outlet until all preparations are completed.

### Unpacking and setting up (Figs. 2)

1. To remove the two spacers ② holding the platter, turn them counterclockwise (↶). After removing these spacers, cover the platter with a mat provided. Keep these spacers for repacking the turntable.
2. Locate the drive belt underneath the platter and run it round the motor pulley.

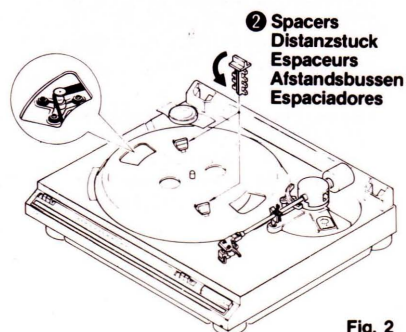


Fig. 2  
Abb. 2  
Afb. 2

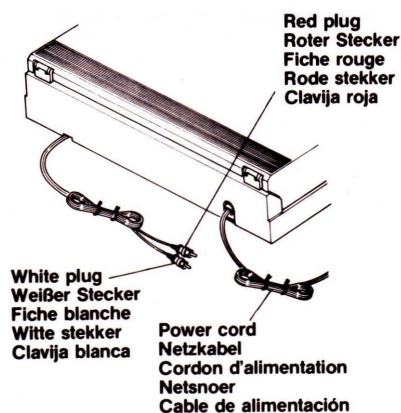


Fig. 3  
Abb. 3  
Afb. 3

## CONNECTION TO A STEREO AMPLIFIER

Firmly connect the white plug of the output cord from this turntable to the PHONO L (left) terminal of the stereo amplifier and the red plug to the R(right) terminal and confirm the correct connections. (Fig. 3)

## VORBEREITUNGEN

### Hinweise:

- Das Netzkabel erst an die Wandsteckdose anschließen, nachdem alle Vorbereitungen abgeschlossen wurden.

### Auspacken und Aufstellen (Abb. 2)

1. Die beiden Distanzstück ②, die den Plattenteller halten, durch Drehen entgegen dem Uhrzeigersinn entfernen (↶). Nach dem Entfernen der Distanzstück die mitgelieferte Matte am Plattenteller anbringen. Die Distanzstück für eine eventuelle Wiederverpackung des Plattenspieler aufheben.
2. Den Antriebsriemen, der sich unterhalb des Plattentellers befindet, um die Riemenscheibe des Motors legen.

## ANSCHLUSS AN EINEN STEREO-VERSTÄRKER

Den weißen Stecker des Plattenspieler-Anschlußkabels an die PHONO(L)-Buchse, den roten Stecker an die PHONO(R)-Buchse des Verstärkers anschließen. Unbedingt diese Anordnung beachten. (Abb. 3)

## STYLUS REPLACEMENT

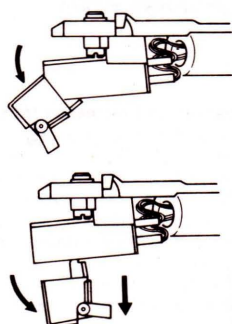


Fig. 4  
Abb. 4  
Afb. 4

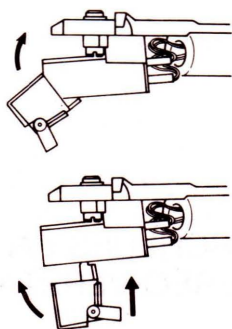


Fig. 5  
Abb. 5  
Afb. 5

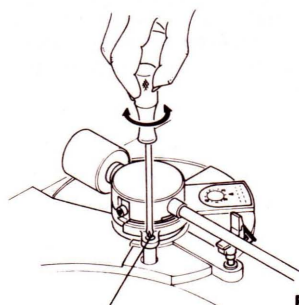
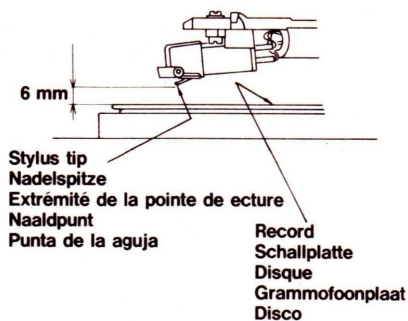


Fig. 6  
Abb. 6  
Afb. 6

Elevator adjusting screw  
Tonarmlift-Einstellschraube  
Vis déglage de la hauteur  
Instellingschroef voor de toonarmlift  
Tornillo de regulación del elevador



6 mm

Stylus tip  
Nadelspitze  
Extrémité de la pointe de lecture  
Naaldpunt  
Punta de la aguja

Record  
Schallplatte  
Disque  
Grammofonplaat  
Disco

Fig. 7  
Abb. 7  
Afb. 7

The service life of the stylus depends on conditions of use; the standard is between 800 and 1600 hours. When purchasing a stylus, specify the JVC DT-59.

### How to remove the old stylus (Fig. 4)

Hold the cartridge and press the stylus assembly downwards.

### How to fit a new stylus (Fig. 5)

1. Insert the lug of the stylus assembly vertically.
2. Press it upwards with both fingers until it snaps in place.

### Notes:

- Replace the stylus assembly with the stylus cover fitted so as not to damage the stylus tip.
- When replacing the cartridge consult your JVC dealer.

## AUSWECHSELN DER NADEL

Die Lebensdauer der Nadel hängt von den Betriebsbedingungen ab und beträgt im Normalfall 800 bis 1600 Stunden.

Bei Neukauf einer Nadel Typ JVC DT-59.

### Entfernen der alten Nadel (Abb. 4)

Halten Sie den Tonabnehmer und ziehen Sie den alten Nadelträger nach unten.

### Anbringen der neuen Nadel (Abb. 5)

1. Den Ansatz des Nadelträgers vertikal einführen.
2. Den Nadelträger mit beiden Fingern nach oben drücken, bis er einrastet.

### Hinweise:

- Beim Auswechseln der Nadel sollte die Nadelschutzkappe über der Nadel sein, um die Nadel nicht zu beschädigen.
- Wenden Sie zum Auswechseln des Tonabnehmers an Ihren JVC-Fachhändler.

## ADJUSTMENT

### Tonearm elevator-height adjustment (Figs. 6 — 7)

The optimum clearance between the stylus tip and the record surface is about 6 mm when the tonearm is resting on the tonearm elevator (with the UP/DOWN knob switched to the UP position). Turning the adjusting screw clockwise lowers the height of the tonearm elevator and turning it counterclockwise increases it.

## EINSTELLUNGEN

### Höheneinstellung des Tonarmlifts (Abb. 6 — 7)

Die optimale Distanz zwischen der Nadelspitze und der Schallplattenoberfläche beträgt etwa 6 mm, wenn der Tonarm auf dem Tonarmlift aufliegt (und der UP/DOWN-Knopf auf der UP-Position steht). Durch Drehen der Einstellschraube in Uhrzeigerichtung wird die Höhe des Tonarmlifts verringert und durch Drehen in Gegenuhreigerichtung vergrößert.



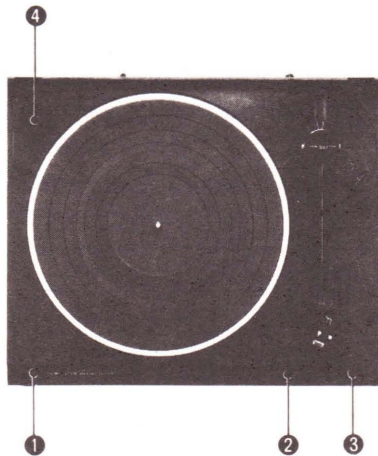


Fig. 8  
Abb. 8  
Afb. 8

## DESCRIPTION AND FUNCTIONS

- 1 SPEED**  
Set the knob to the desired record speed.  
45 rpm record: "45"  
33-1/3 rpm record: "33"
- 2 UP/DOWN**  
This is used to lift or lower the tonearm gently. When you switch it to its UP position, the tonearm will be lifted up, and, when you switch it to its DOWN position, the tonearm will be lowered down gently so that the stylus rests on the record surface.
- 3 STOP**  
To stop playing a record, press the button and release it. The button return to its original position, the tonearm returns to its rest automatically and the platter stops rotating.
- 4 EP adapter**  
Place the adapter on the center spindle when playing a record having a large diameter center hole (such as a doughnut record).

## BESCHREIBUNG UND FUNKTIONEN

- 1 DREHZAHL (SPEED)**  
Den Knopf auf die gewünschte Plattendrehzahl einstellen:  
Für Platten mit 45 upm: "45"  
Für Platten mit 33-1/3 upm: "33"
- 2 Heben/Senken-Knopf (UP/DOWN)**  
Dieser Knopf wird zum Heben und Senken des Tonarms verwendet. Wenn der Knopf auf UP gestellt wird, wird der Tonarm gehoben, und wenn er auf DOWN gestellt wird, wird der Tonarm sanft auf die Schallplatte abgesenkt.
- 3 Stop-Taste (STOP)**  
Zum Stoppen der Schallplattenwiedergabe diese Taste drücken und wieder loslassen. Die Taste kehrt zur ursprünglichen Position zurück, der Tonarm kehrt automatisch zur Stütze zurück und der Plattenteller stoppt.
- 4 Adapter für Schallplatten mit großem Mittelloch**  
Zum Abspielen von Schallplatten mit großem Mittelloch diesen Adapter zuerst auf die Mittelachse aufsetzen.

## SPECIFICATIONS

### MOTOR AND PLATTER

Drive System	: Belt drive system
Drive Motor	: DC servo motor
Speeds	: 33-1/3 rpm and 45 rpm
Wow and Flutter	: 0.04% (WRMS)
Signal to Noise Ratio	: 65dB (DIN-B)
Platter	: 11-13/16-inch (30 cm) diameter die-cast aluminum alloy

### TONARM

Type	: Statically balanced and integrated straight tubular arm with JVC developed TH (Trancing Hold) balancing system
Effective Arm Length	: 220 mm
Overhang	: 15 mm
Applicable Cartridge Weight	: 5.15 grams

## TECHNISCHE DATEN

### MOTOR UND PLATTENTELLER

Antriebssystem	: Riemenantrieb
Motor	: Gleichstrom-Servomotor
Geschwindigkeiten	: 33-1/3 Upm und 45 Upm
Gleichlaufschwankungen	: 0.04% (WRMS)
Störspannungsabstand	: 65 dB (DIN-B)
Plattenteller	: 30 cm Durchmesser, Druckguß-Aluminiumlegierung

### TONARM

Typ	: Statisch balancierter und integrierter gerader Röhrentonarm mit dem von JVC entwickelten TH-Balancesystem (Rillenführung)
Effektive Armlänge	: 220 mm
Überhang	: 15 mm
Zulässiges Tonabnehmergewicht	: 5,15 g

**CARTRIDGE**

Type : Moving magnet  
(AT 1059)  
Stylus : 0.6mil. diamond for DT-59  
Optimum Tracking Force : 2.5 grams  
Output : 2.5 mV (1 kHz  
50mm/sec. lateral)  
Frequency Response : 10 Hz to 22,000 Hz  
Separation : 25 dB (1 kHz)  
Load Impedance : 47 kohms  
Compliance :  $6 \times 10^{-6}$  cm/dyne (100 Hz dynamic)  
Tracking Ability : 70  $\mu$ m at 315 Hz

**GENERAL**

Dimensions : 43.5(W) x 10.2(H) x 35.9(D) cm  
(17-3/16" x 4-1/16" x 14-3/16")

Net Weight : 2.3 kg (5.0 lbs)

Power Source : Refer to the table on back page.

Power Consumption : Refer to the table on back page.

Design and specifications subject to change without notice.

**TONABNEHMER**

Typ : Magnetisch (AT1059)  
Nadel : 0,6 mil. Diamant für DT-59  
Optimale Auflagekraft : 2,5 g  
Ausgang : 2,5 mV (1 kHz 50 mm/Sek. seitlich)  
Frequenzgang : 10 Hz bis 22.000 Hz  
Kanaltrennung : 25 dB (1 kHz)  
Lastimpedanz : 47 kOhm  
Nachgiebigkeit :  $6 \times 10^{-6}$  cm/Dyn. (100 Hz dynamisch)  
Spurgenauigkeit : 70  $\mu$ m bei 315 Hz

**ALLGEMEIN**

Abmessungen : 43,5(B) x 10,2(H) x 35,9(T) cm

Nettogewicht : 2.3 kg

Spannungsversorgung : Siehe Tabelle auf der Rückseite.

Leistungsaufnahme : Siehe Tabelle auf der Rückseite.

Technische Änderungen vorbehalten.

**POWER SPECIFICATIONS**

Areas	Line Voltage & Frequency	Power Consumption
U.S.A. Canada	AC120V~,60Hz	3 watts

**SPANNUNGSVERSORGUNG UND LEISTUNGS-AUFNAHME**

Länder	Spannung und Frequenz	Leistungsaufnahme
U.S.A. Kanada	Netz 120V~,60Hz	3 Watt



# Adjustment

## ■ Lead-out Adjustment

If auto-return functions early or late adjust as shown in Fig. 1,

- When auto-return functions too late, turn the screw counterclockwise with a screwdriver.
- When auto-return functions too early, turn the screw clockwise.

When using test disc, confirm the auto-return functions as follows.

Test disc	Auto-return function
RG652	To be returned
RG653	Not to be returned

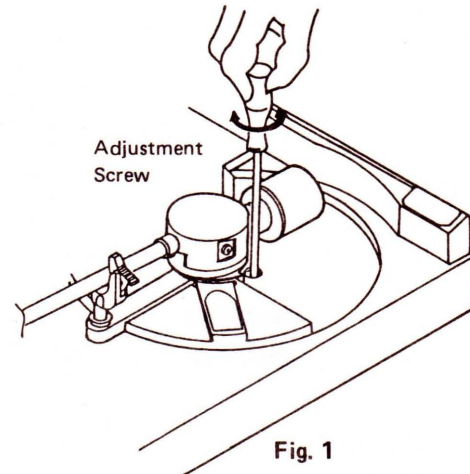


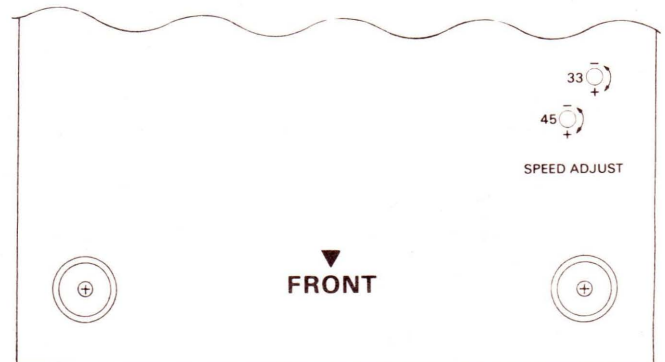
Fig. 1

## ■ Motor Speed Adjustment

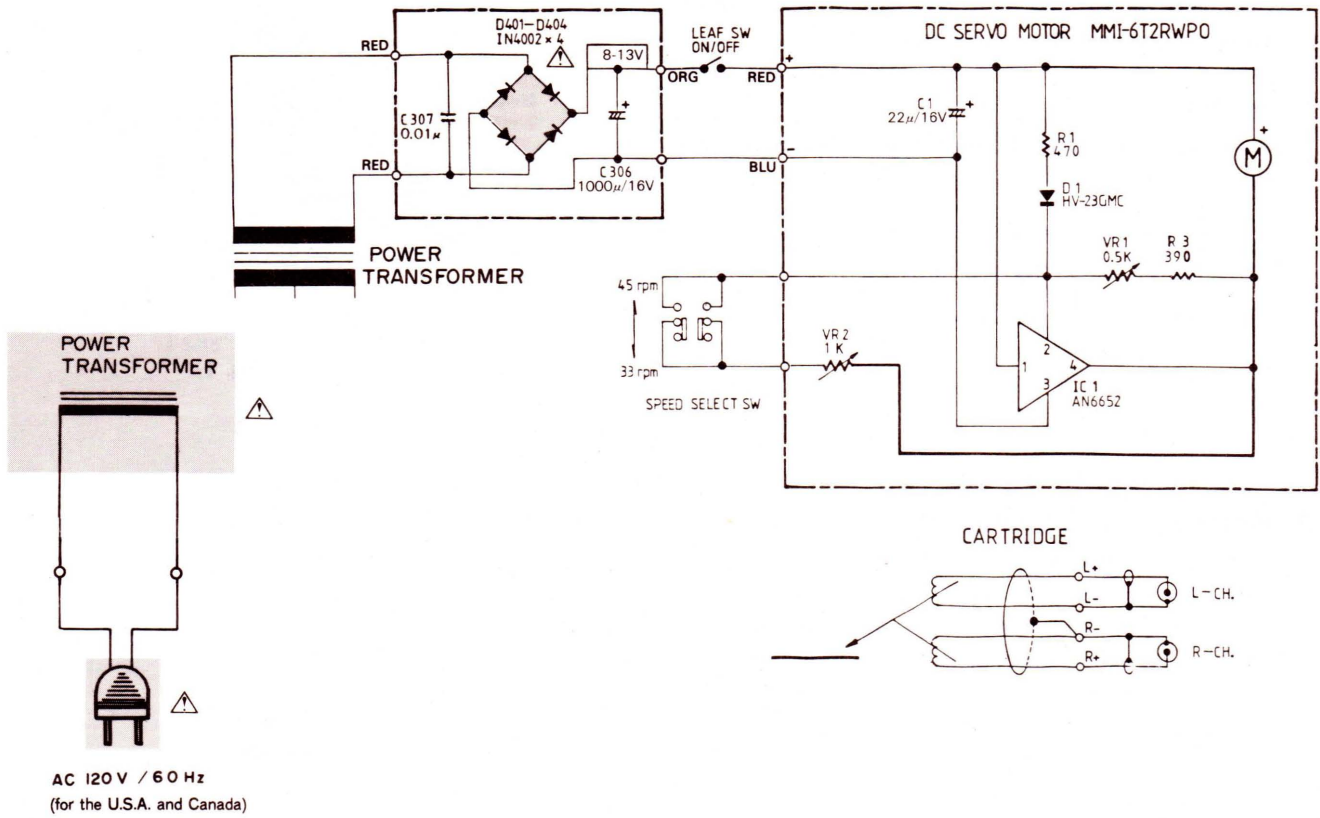
1. Set the speed select knob to 33 r.p.m.
2. Rotate the platter and adjust VR2 so that the "33" stripes of the strobe board seem to have stopped.
3. Then, set the speed select knob to 45 r.p.m.
4. In the same way as above, adjust VR1 so that the "45" stripes seem to have stopped.

**Note:** Be sure to adjust the 45 r.p.m. adjustment after completing the 33 r.p.m. adjustment.

Use an insulated flat screw driver (2 mm width)

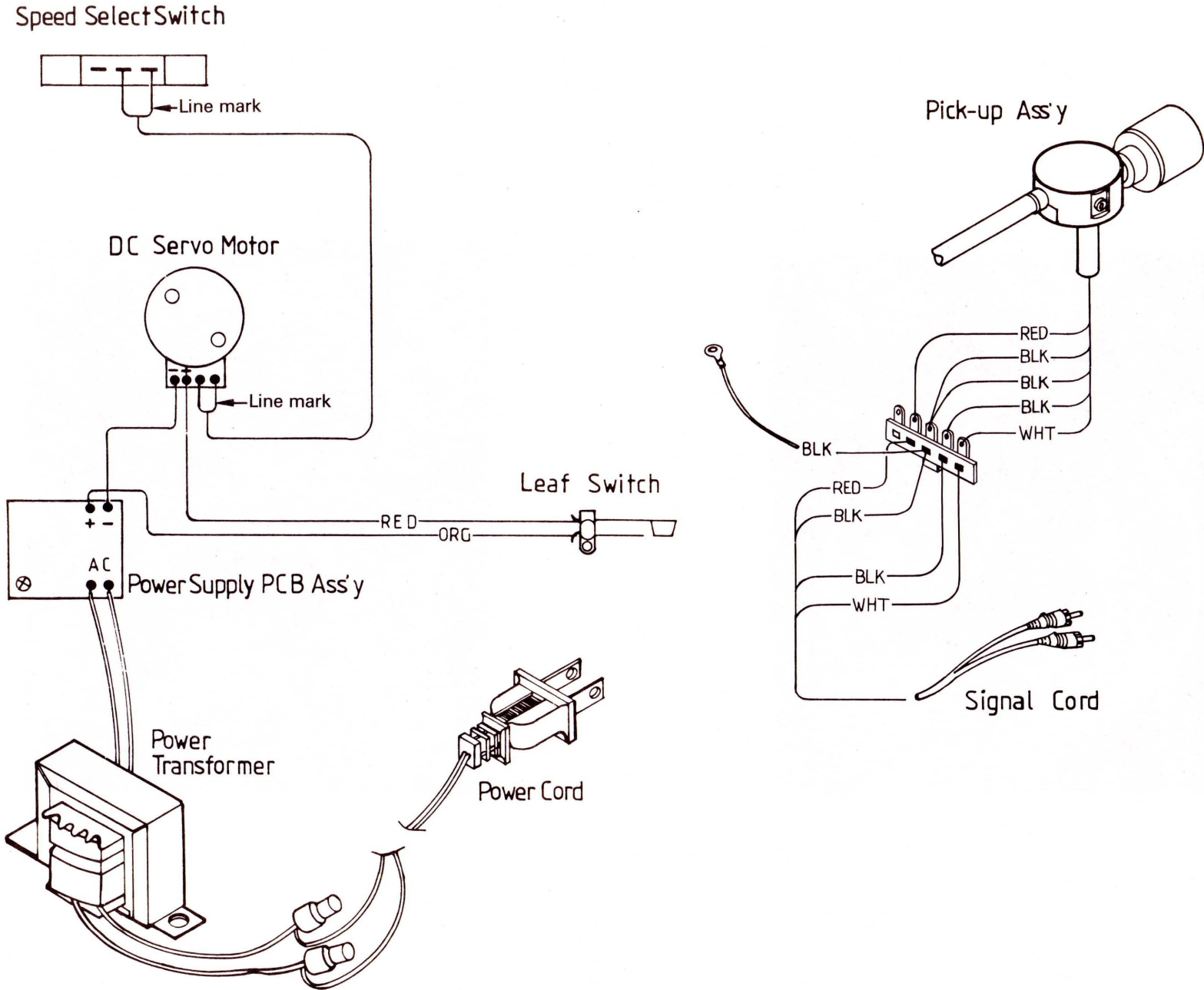


# Schematic Diagram





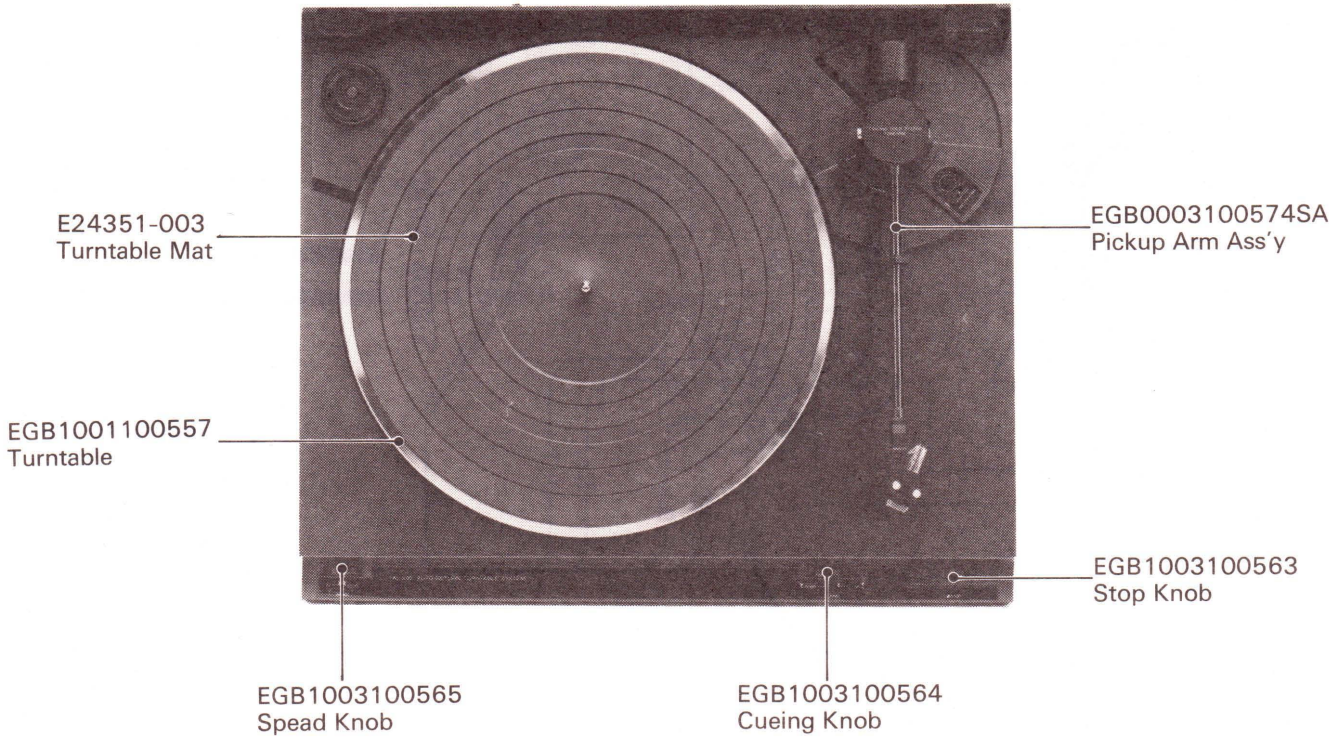
# Connection Diagram



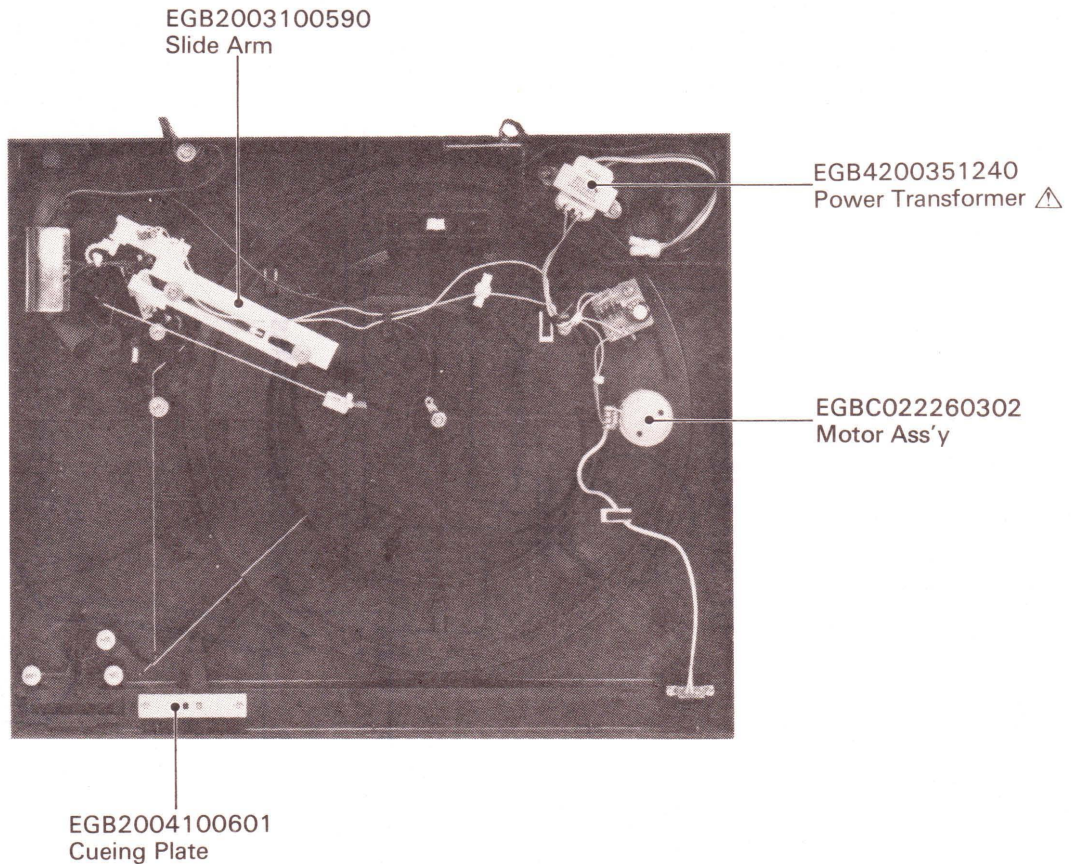
for the U.S.A. and Canada

# Main Parts Locations

## ■ Top View



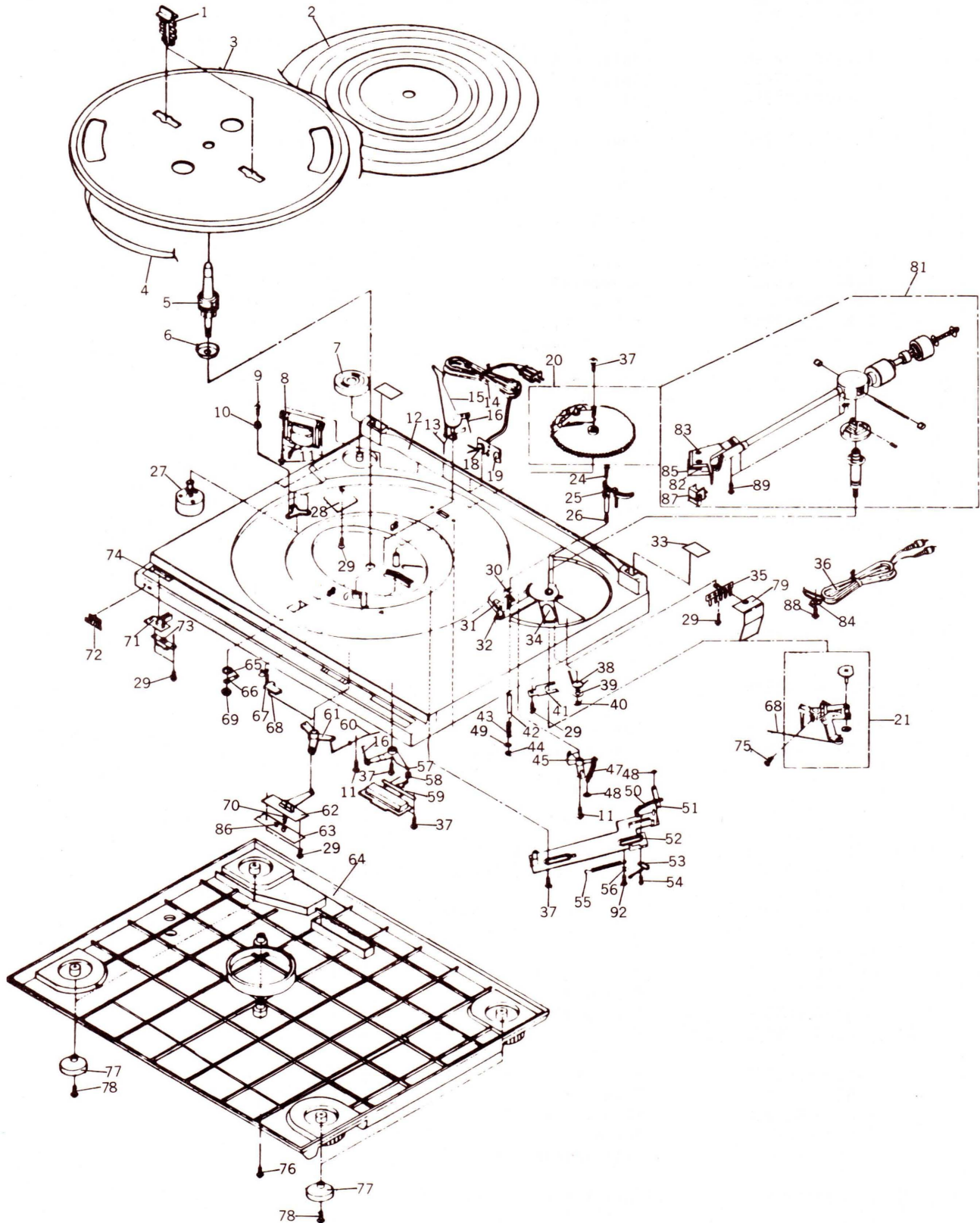
## ■ Rear View



⚠ : Safety Parts



# Exploded View and Parts List



## Exploded View and Parts List

△	Item	Parts Number	Parts Name	Q'ty	Areas
	1	EGB1004100558	Turntable Locker	2	
	2	E24351-003	Turntable Mat	1	
	3	EGB1001100557	Turntable	1	
	4	EGB2004100002	Belt	1	
	5	EGB1004100596	Spindle Ass'y	1	
	6	EGB2020075410	Spindle Washer	1	
	7	EGB1009100080	Adaptor	1	
△	8	EGB4200351240	Power Transformer	1	J,C
	9	EGB2015000284	Screw	3	
	10	EGB2004100721	Grommet(A)	3	
	11	GBSF3008Z	Screw	3	
	12	EGB1001102897	Main Cabinet	1	
	13	EGB2021005025	Reject Spring	1	
△	14	EGB4631112065	Power Cord	1	J,C
	15	EGB2016005025	Reject Lever	1	
	16	EGB2004100597	Stop Rod	1	
				1	
				1	
△	18	QHS3056-162	Cord Stopper	1	J,C
				1	
				1	
	19	EGB2004100519	Cord Bracket	1	
	20	EGB0002005025	Cam Gear Ass'y	1	
	21	EGB0003100618	Return Link Ass'y	1	
	24	SSSP3018M	Screw	1	
	25	EGB1003100562	Lift Platform	1	
	26	EGB2004100607	Cueing Adjust Spring	1	
	27	EGBC022260302	Motor Ass'y	1	
	28	EGBC044008901	Power Supply PC Board	1	
	29	SBSF3008Z	Screw	6	
	30	EGB1003100555	Pickup Hook	1	
	31	EGB1003100554	Pickup Rest	1	
	32	EGB1004100556	Pickup Pin	1	
	33	EGB1004100561	Cover	2	
	34	EGB1004102909	Anti-skating Plate	1	
	35	EGB4561014037	Terminal	1	
	36	EGB5620814008	Phono Cord	1	
	37	E65923-003	Screw	5	
	38	EGB2004100608	Anti-skating Spring	1	
	39	EGB2000100581	Poly Washer	1	
	40	EGB2000000491	Push Nut	1	
	41	EGB2004100573	Hold Plate	1	
	42	EGB2004100600	Lift Shaft	1	
	43	EGB2004100605	Function Cue Spring	1	

△:Safety Parts



△	Item	Parts Number	Parts Name	Q'ty	Areas
	44	REE3000	E Ring	1	
	45	EGB2004100594	Lift Fork	1	
	47	EGB2004100604	Lift Fork Spring	1	
	48	NSS2000Z	Push Nut	2	
	49	EGB3021210023	Push Nut	1	
	50	EGB2004100610	Buff Spring	1	
	51	EGB2004100591	Buff Bar	1	
	52	EGB2003100590	Spindle Arm	1	
	53	EGB4407000100	Leaf Switch	1	
	54	SBSF2006Z	Screw	1	
	55	EGB2004100603	Slide Arm Spring	1	
	56	Q03091-105	Flat Washer	1	
	57	EGB2004100592	Stop Lever	1	
	58	EGB2004100606	Stop Lever Spring	1	
	59	EGB1003100563	Stop Knob	1	
	60	EGB2004102955	Cueing Rod	1	
	61	EGB2004100593	Cuein Lever	1	
	62	EGB1003100564	Cueing Knob	1	
	63	EGB2004100601	Cueing Plate	1	
	64	EGB1001102961	Bottom Cabinet	1	
	65	WBS5000Z	W Gear	1	
	66	EGB2045000285	Tag	1	
	67	EGB2019105025	Trip Lever	1	
	68	EGB2004100599	Trip Rod	1	
	69	NTB5000S	Nut	1	
	70	EGB2004100609	Ball Bearing Spring	1	
	71	EGB1003100565	Speed Knob	1	
	72	E71248-002	JVC Mark	1	
	73	EGB4430213001	Slide Switch	1	
	74	EGB1002102877	Front Overlay	1	
	75	SBSF2606Z	Screw	1	
	76	SBSF3014M	Screw	2	
	77	EGB1004100566	Bottom Cushion	4	
	78	EGB8762302510	Screw	4	
	79	EGB2003100753	Shield Cover	1	
	80	-----	-----		
	81	EGB0003100574SA	Pickup Arm Ass'y	1	
	82	EGB3032200026	Nut	2	
	83	EGB8725261000	Screw	2	
	84	EGB2003005200	Fiber Washer	1	
	85	MD1055Z	Cartridge Body	1	
	86	EGB2031005015	Steel Ball	1	
	87	DT-59(E)	Stylus	1	
	88	SBSF3012Z	Screw	1	
	89	SBSA2605M	Screw	1	
	92	EGB2004101034	Screw	1	
	93	EGB9004102887	Rating Label	1	

△:Safety Parts

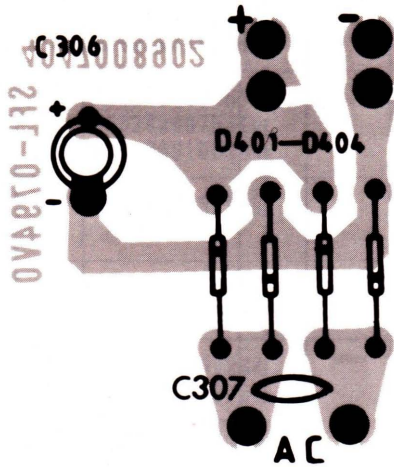
Note: The Marks for Designated Areas

J ..... the U.S.A.

C ..... Canada

# Printed Circuit Board Ass'y and Parts List

■ EGBC044008901 Power Supply P.C. Board Ass'y



## Diodes

ITEM	PART NUMBER	DESCRIPTION		AREA
			MEKER	
D401	EGB4138104002	SIRICON		
D402	EGB4138104002	SIRICON		
D403	EGB4138104002	SIRICON		
D404	EGB4138104002	SIRICON		

△: Safety Parts

## Capacitors

ITEM	PART NUMBER	DESCRIPTION			AREA
C306	QETC1CM-108	1000MF	16V	ELECTRO	
C307	EGB5101103151	0.01MF	50V	CERAMIC	

△: Safety Parts

## Others

ITEM	PART NUMBER	DESCRIPTION	AREA
	EGB4047008902	CIRCUIT BOARD	

△: Safety Parts

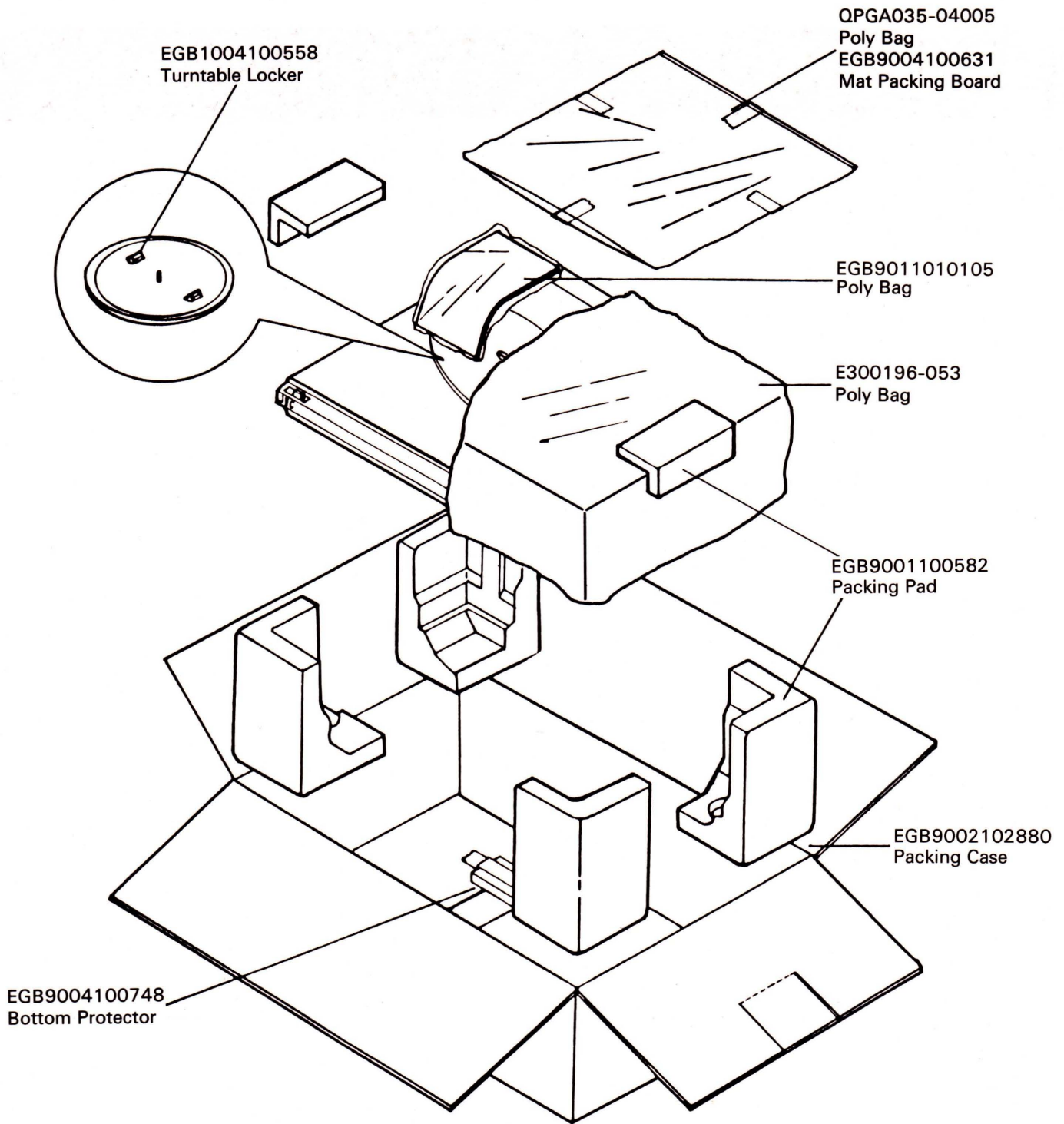
## Accessories List

Item	Part Number	Part Name	Q'ty	Description	Areas
	EGB9004102935	Instruction Book	1		
	BT20025J	Warranty Card	1		C
	BT20047C	Warranty Card	1		J
	BT20046C	Service Information Card	1		J
	BT20071A	Service Center List	1		C
	BT20044E	Safety Instruction Sheet	1		J
	EGB9011010105	Envelope	1	for Instruction Book	

### The Marks for Designated Areas

J .....U.S.A.  
C.....Canada

# Packing Materials and Part Numbers





**JVC**

VICTOR COMPANY OF JAPAN, LIMITED  
AUDIO PRODUCTS DIVISION, YAMATO PLANT, 1644, SHIMOTSURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN

# JVC

## SERVICE MANUAL

### AUTO-RETURN TURNTABLE SYSTEM

MODEL No. **AL-A95BK**

#### Supplement

Recently the demand for turntable has decreased. Correspondingly, it has become difficult to obtain replacement cartridge and stylus. For this reason, when current stocks of original cartridge and stylus are finished, we will supply substitute parts as service parts.

Please refer to the following table.

	original part No.	new part No.
cartridge	DT1045CZ	AT3482PX
stylus / body colour	DT-45(E) / blue	DT-64(E) / black

CTOR COMPANY OF JAPAN, LIMITED

AUDIO PRODUCTS DIVISION, YAMATO PLANT, 1644, SHIMOTSURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN

No.20072B  
Dec. 1990