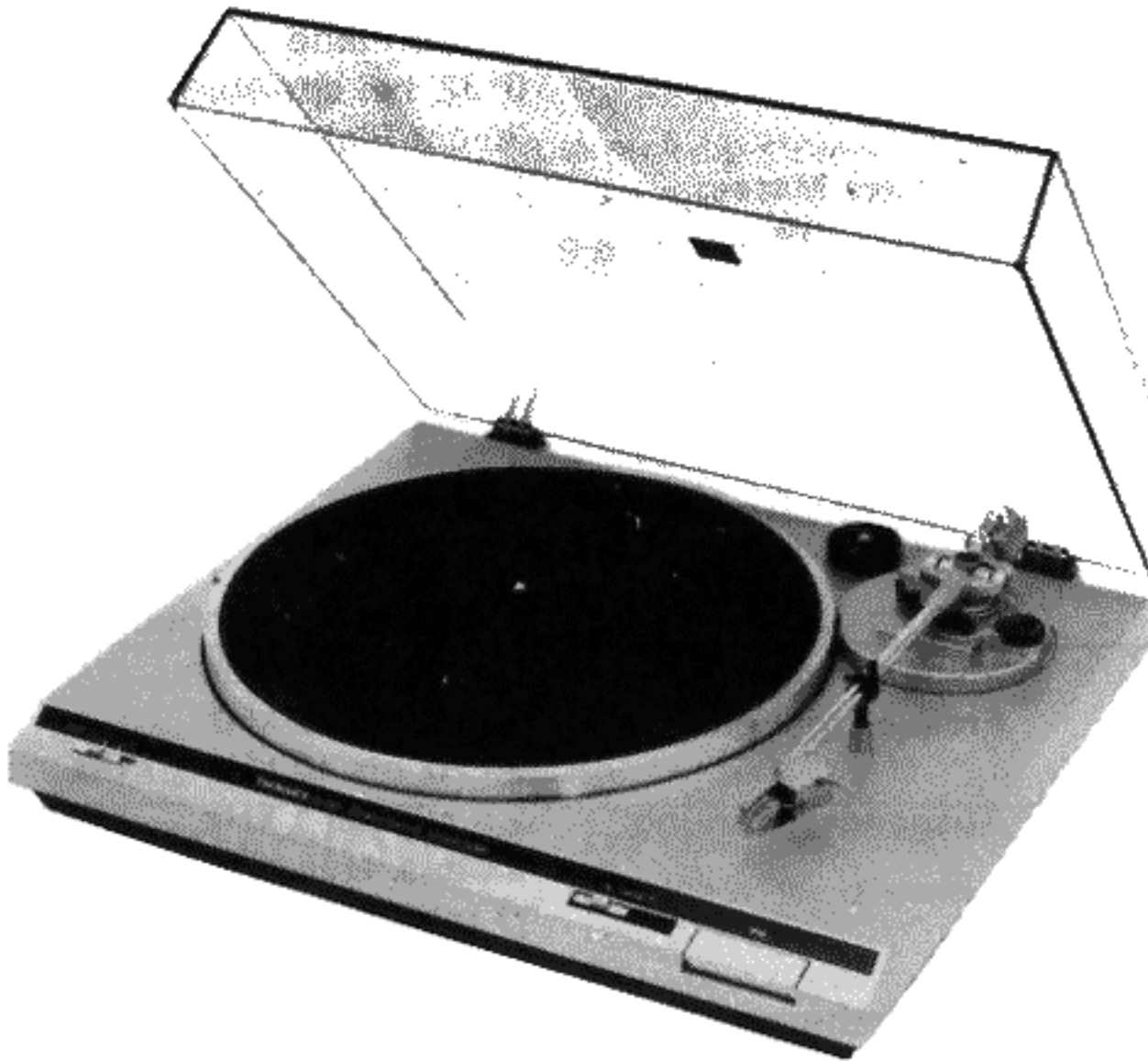


Service Manual

Turntable System

SL-B21/(K)

[E],[EK],[XL],[EG],[EB],[EH],
[EF],[Ei],[EC],[XA],[XM]



Areas

- * [E] is available in Switzerland and Scandinavia.
- * [EK] is available in United Kingdom.
- * [XL] is available in Australia.
- * [EG] is available in F.R. Germany.
- * [EB] is available in Belgium.
- * [EH] is available in Holland.
- * [EF] is available in France.
- * [Ei] is available in Italy.
- * [EC] is available in Czechoslovakia.
- * [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
- * [XM] is available in Central South America.

- * The colors of this model include silver and black.
- * The black type model is provided with (K) in the Service Manual.

English

Specifications

Specifications are subject to change without notice for further improvement.
Weight and dimensions shown are approximate.

■ General

Power supply:	220V, 50 or 60Hz
Power consumption:	2 W
Dimensions: (W×H×D)	43 × 11 × 37.5 cm (16-15/16" × 4-11/32" × 14-3/4")
	Maximum height when top (dust cover) is open. 43 × 37 × 42.5 cm (16-15/16" × 14-9/16" × 16-23/32")
Weight:	3.2 kg (7.1 lb.)

■ Turntable section

Type:	Automatic turntable Auto return Auto stop
Drive method:	Belt drive
Motor:	DC motor
Drive control method:	DC servo control
Turntable platter:	Aluminum die-cast Diameter 30.4 cm (12 inches)
Turntable speeds:	33-1/3 rpm and 45 rpm
Wow and flutter:	0.045% WRMS (JIS C5521) ±0.06% peak (IEC 98A Weighted)
Rumble:	-70 dB (IEC 98A Weighted)

■ Tonearm section

Type:	Statically-balanced straight tonearm Plug-in connector cartridge system
Effective length:	230 mm (9-1/16")
Overhang:	15 mm (19/32")

Tracking error angle:	Within 2°32' at the outer groove of 30 cm (12") record Within 0°32' at the inner groove of 30 cm (12") record
Effective mass:	7.5 g (without cartridge)
Stylus pressure adjustment range:	1.25 ± 0.25 g
Applicable cartridge weight range:	6 g
Phono cable capacitance:	100 pF

■ Cartridge section

Type:	Moving magnet stereo cartridge
Magnetic circuit:	All laminated core
Frequency response:	10 Hz ~ 30 kHz 20 Hz ~ 10 kHz ±1 dB
Output voltage:	2.5 mV at 1 kHz, 5 cm/s. zero to peak lateral velocity (7 mV at 1 kHz, 10 cm/s. zero to peak 45° velocity [DIN 45 500])
Channel separation:	22 dB at 1 kHz
Channel balance:	Within 2 dB at 1 kHz
Recommended load impedance:	47 kΩ~100 kΩ
Compliance (dynamic):	12 × 10 ⁻⁶ cm/dyne at 100 Hz
Stylus pressure range:	1.25 ± 0.25 g (12.5 ± 2.5 mN)
Weight:	6 g (cartridge only)
Replacement stylus:	EPS-24CS

The power supply for this unit varies depending upon the areas.
Also, the parts used for power supply are different. So, refer to
the circuit diagram and the replacement parts list.

- * 220V (50/60 Hz) for Continental Europe.
- * 240V (50/60 Hz) for United Kingdom and Australia.
- * 110V/120V/220V/240V (50/60 Hz) for other areas.
- [XA and XM areas] for other areas is provided with voltage selector.

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

TECHNISCHE DATEN

Änderungen der technischen Daten vorbehalten.

Die angegebenen Gewichts- und Abmessungsdaten sind ungefähre Werte.

■ Allgemeine Daten

Stromversorgung:	220V, 50 oder 60 Hz Wechselstrom
Leistungsaufnahme:	2 W
Abmessungen (B×H×T):	43 × 11 × 37,5 cm Maximale Höhe bei geöffnetem Oberteil (Staubabdeckung). 43 × 37 × 42,5 cm
Gewicht:	3,2 kg

■ Plattenspieler

Typ:	Automatischer Plattenspieler Rückführautomatik Stopautomatik
Antrieb:	Riemenantrieb
Motor:	Gleichstrommotor
Antriebsregel-Methode:	Gleichstrom-Servo-Steuerung
Plattenteller:	Aluminium-Spritzguß Durchmesser 30,4 cm
Plattenteller- Drehzahlen:	33-1/3 und 45 U/min
Gleichlaufschwankungen:	0,045% WRMS (JIS C5521) ±0,06% Spitze (IEC 98A bewertet)
Rumpel-Geräusch- spannungsabstand:	-70 dB (IEC 98A bewertet)

■ Tonarm

Typ:	Statischbalancierter, gerader Tonarm Tonabnehmersystem vom Einsteck-Typ
-------------	--

Effektive Länge:	230 mm
Überhang:	15 mm
Spurfehlwinkel:	2°32' bei der Einlaufrille einer 30 cm-Platte 0°32' bei der Auslaufrille einer 30 cm-Platte
Effektive Masse:	7,5 g (ohne Tonabnehmer)
Auflagekraft- Einstellbereich:	1,25 ±0,25 g
Zulässiger Ton- abnehmer- Gewichtsbereich:	6 g

■ Tonabnehmer

Typ:	Stereo-Magnet-Tonabnehmer mit Einpunkt-Aufhängungssystem Ganzlamellenkern
Magnetkreis:	10 Hz bis 30 kHz
Frequenzgang:	20 Hz bis 10 kHz ±1 dB
Ausgangsspannung:	2,5 mV bei 1 kHz 5 cm/s. Null-zu-Spitze, lateral [7 mV bei 1 kHz 10 cm/s. Null- zu-Spitze, 45° (DIN 45 500)]
Kanaltrennung:	22 dB bei 1 kHz
Kanalabweichung:	Innerhalb 2 dB bei 1 kHz
Empfohlene Endimpedanz:	47 kΩ~100 kΩ
Nachgiebigkeit (dynamisch):	12 × 10 ⁻⁵ cm/dyn bei 100 Hz
Auflagekraft- Einstellbereich:	1,25 ±0,25 g (12,5 ±2,5 mN)
Gewicht:	6 g (nur Tonabnehmer)
Ersatznadel:	EPS-24CS

CARACTERISTIQUES

Les spécifications sont susceptibles d'être modifiées sans préavis.

Le poids et les dimensions donnés sont approximatifs.

■ Généralités

Alimentation:	Alternatif 220V, 50 ou 60 Hz
Consommation:	2 W
Dimensions: (L×H×P)	43 × 11 × 37,5 cm Hauteur maximum lorsque le dessus (couvercle protège-poussière) est ouvert. 43 × 37 × 42,5 cm
Poids:	3,2 kg

■ Platine de lecture

Typ:	Platine automatique Retour automatique Arrêt automatique
Système d'entraîne- ment:	Entraînement par courroie
Moteur:	Moteur C.C.
Groupe de réglage:	Servocommande à C.C.
Plateau de lecture:	En aluminium moulé sous pression Diamètre 30,4 cm
Vitesses de rotation:	33-1/3 et 45 t/p.m

**■ Pleurage et scintille-
ment:**

0,045% de valeur efficace (JIS C5521) ±0,06% de crête (IEC 98A Pondéré) -70 dB (IEC 98A Pondéré)
--

■ Ronflement:**■ Bras de lecture**

Typ:	Bras de lecture rectiligne statiquement équilibré. Système de cellule de lecture à connecteur enfichable.
Longueur effective:	230 mm
Porte-à-faux:	15 mm
Angle d'erreur de piste:	En deçà de 2°32' au sillon extérieur d'un disque de 30 cm. En deçà de 0°32' au sillon intérieur d'un disque de 30 cm.
Masse réelle:	7,5 g (sans la cellule pick-up)

Plage de réglage de la pression d'appui:	1,25 ±0,25 g
Gamme du poids des cellules pick-up utilisables:	6 g
■ Cellule pick-up	
Type:	Cellule pick-up stéréo à aimant mobile
Circuit magnétique:	Noyau entièrement feuilleté
Réponse en fréquence:	10 Hz à 30 kHz 20 Hz à 10 kHz ±1 dB
Tension de sortie:	2,5 mV à 1kHz; 5 cm/s., zéro à vitesse latérale de crête (7 mV à 1 kHz., 10 cm/s., zéro à vitesse 45° de crête [DIN 45 500])

Séparation des canaux:	22 dB à 1 kHz
Equilibrage des canaux:	En deçà de 2 dB à 1 kHz
Impédance de charge recommandée:	47 kΩ~100 kΩ
Elasticité (dynamique):	12 × 10 ⁻⁶ cm/dyne à 100 Hz
Plage de la force verticale d'appui:	1,25±0,25 g (12,5±2,5 mN)
Poids:	6 g (cellule seule)
Pointe de lecture de remplacement:	EPS-24CS

Español

ESPECIFICACIONES

Las especificaciones quedan sujetas a cambios sin aviso previo.
El peso y las dimensiones indicados son aproximados.

■ En general

Alimentación de corriente:	220V, 50 ó 60 Hz
Consumo de corriente:	2 W
Dimensiones: (Ancho×Alto×Prof.)	43 × 11 × 37,5 cm
	Altura máxima cuando la parte de arriba (tapa contra el polvo) está abierta.
	43 × 37 × 42,5 cm
Peso:	3,2 kg

Proyección:	15 mm
Angulo de error de seguimiento:	Inferior a 2°32' en el surco exterior de un disco de 30 cm Inferior a 0°32' en el surco interior de un disco de 30 cm
Masa efectiva:	7,5 g (sin cartucho)
Radio de ajuste de la presión de la aguja:	1.25 ±0,25 g
Radio de peso de cartucho utilizable:	6 g

■ Sección del plato giratorio

Tipo:	Plato giratorio automático Retorno automático Parada automática
Método de accionamiento:	Accionamiento por correa
Motor:	Motor de corriente continua
Método de control de accionamiento:	Servocontrol por corriente continua
Platillo del plato giratorio:	Aluminio fundido Diámetro 30,4 cm
Velocidades del plato giratorio:	33-1/3 y 45 rpm
Utulaciones y trémolo:	0,045% WRMS (JIS C5521) ±0,06% cresta (IEC 98A Ponderado)
Ruido de rodadura:	-70 dB (IEC 98A Ponderado)

■ Sección del cartucho

Tipo:	Cartucho estereofónico de imán móvil
Circuito magnético:	Núcleo totalmente laminado
Respuesta de frecuencia:	10 Hz a 30 kHz 20 Hz a 10 kHz ±1 dB
Voltaje de salida:	2,5 mV a 1 kHz velocidad lateral de cero a cresta de 5 cm/s [7 mV a 1 kHz Velocidad de 45° de cero a cresta de 10 cm/s (DIN 45 500)]
Separación de canales:	22 dB a 1 kHz
Equilibrio de canales:	Inferior a 2 dB a 1 kHz
Impedancia de carga recomendada:	47 kΩ a 100 kΩ
Elasticidad (dinámica):	12 × 10 ⁻⁶ cm/dina a 100 Hz
Radio de presión de la aguja:	1,25 ±0,25 g (12,5 ±2,5 mN)
Peso:	6 g (cartucho solamente)
Aguja de recambio:	EPS-24CS

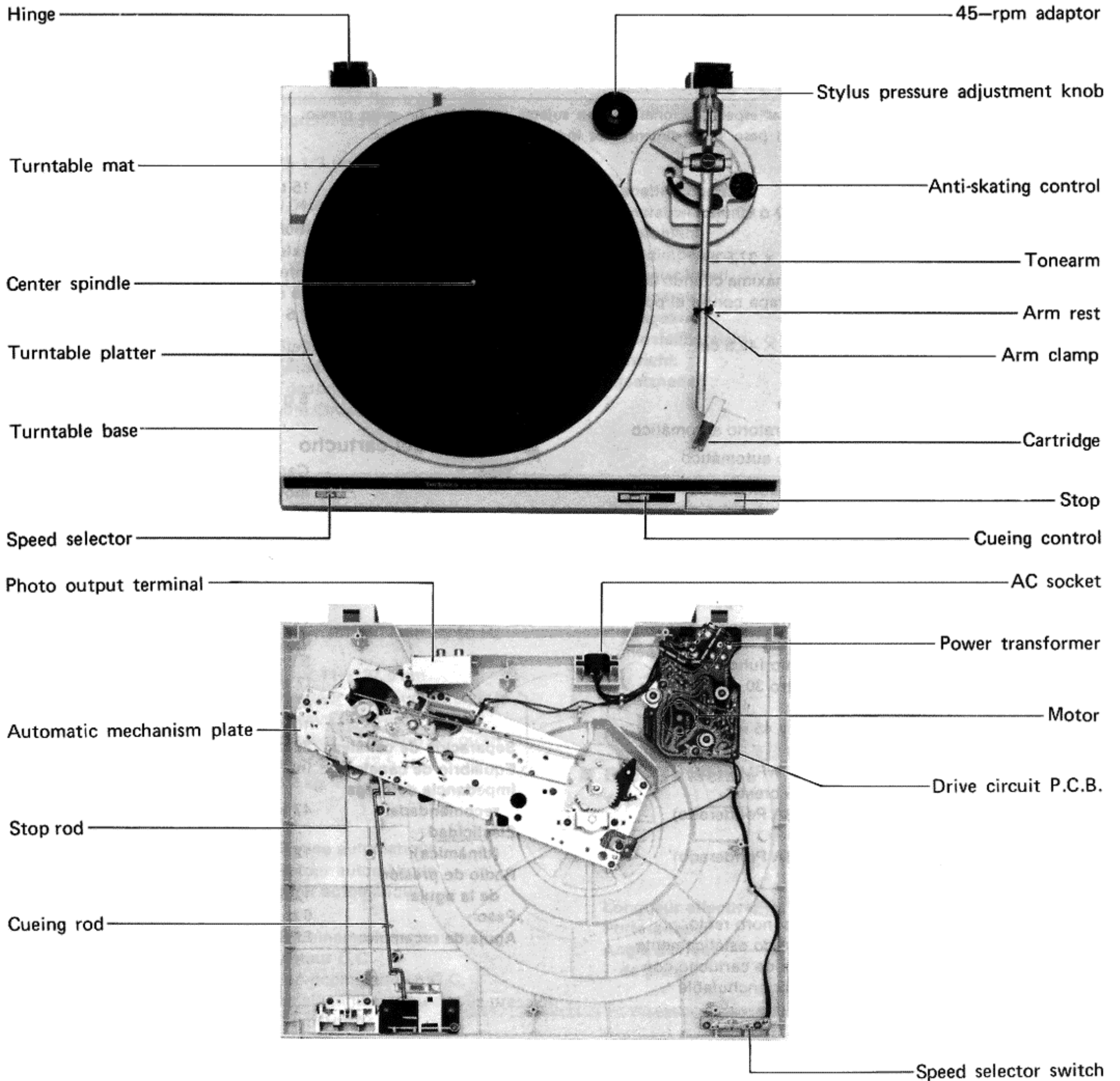
■ Sección del brazo sonoro

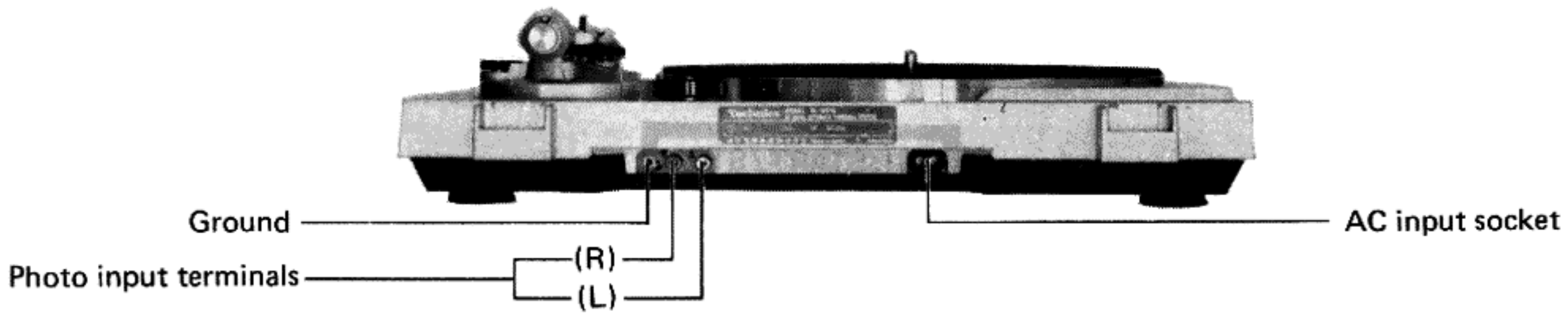
Tipo:	Brazo sonoro recto equilibrado estáticamente Sistema de cartucho con conector enchufable
Longitud efectiva:	230 mm

CONTENTS

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LOCATION OF CONTROLS





DISASSEMBLY INSTRUCTIONS

How to remove the bottom board

1. Fix the tonearm on the rest.
2. Remove the turntable.
3. Close the dust cover, and turn over the unit, taking care not to scratch it.
4. Remove the 6 setscrews (Fig.1 : ①~⑥) on the bottom board.

How to remove the drive circuit P.C.B. and motor

1. Remove the bottom board.
2. Remove the 3 setscrews (Fig.2 : ⑦~⑨). Then the drive circuit P.C.B. can be detached.
3. Disengage the motor bracket fitting screws ⑩, ⑪ and disconnect the soldered motor terminals then the motor can be detached. (See Fig.3)

How to remove the automatic mechanism plate

1. Remove the bottom board.
2. Remove the 7 setscrews (⑫~⑮) of the automatic mechanism plate, the setscrew ⑲ of the output terminal shielding plate, the setscrew ⑳ of the earth terminal, and ㉑ of the earth circuit P.C.B. (Fig. 4).
3. Remove the stop rod and lift the mechanism plate.
4. When mounting the mechanism plate, check the following points.
 - (1) Turn the shaft to rotate the main gear until no remaining of the gear.
 - (2) The brake lever boss of the lift base should be inside the brake plate (cueing up). (Fig. 5)

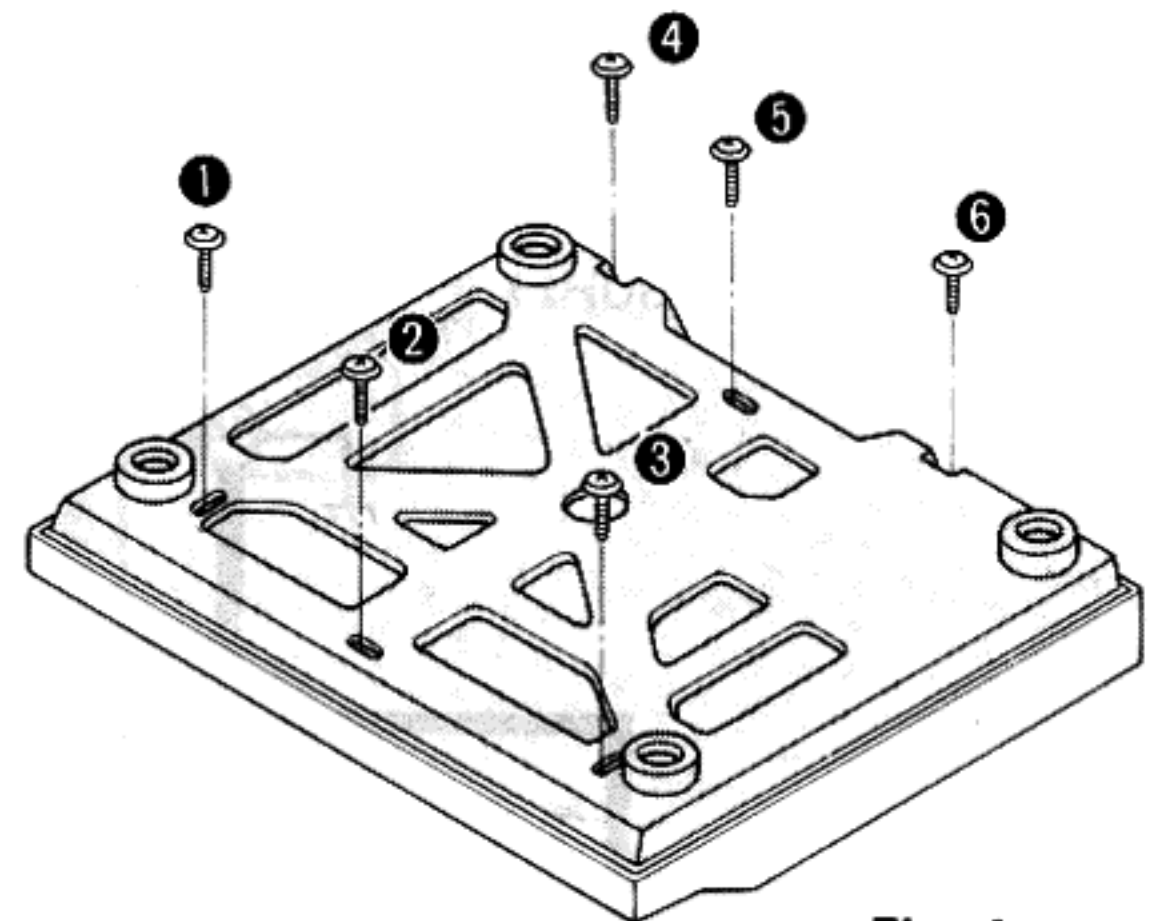


Fig. 1

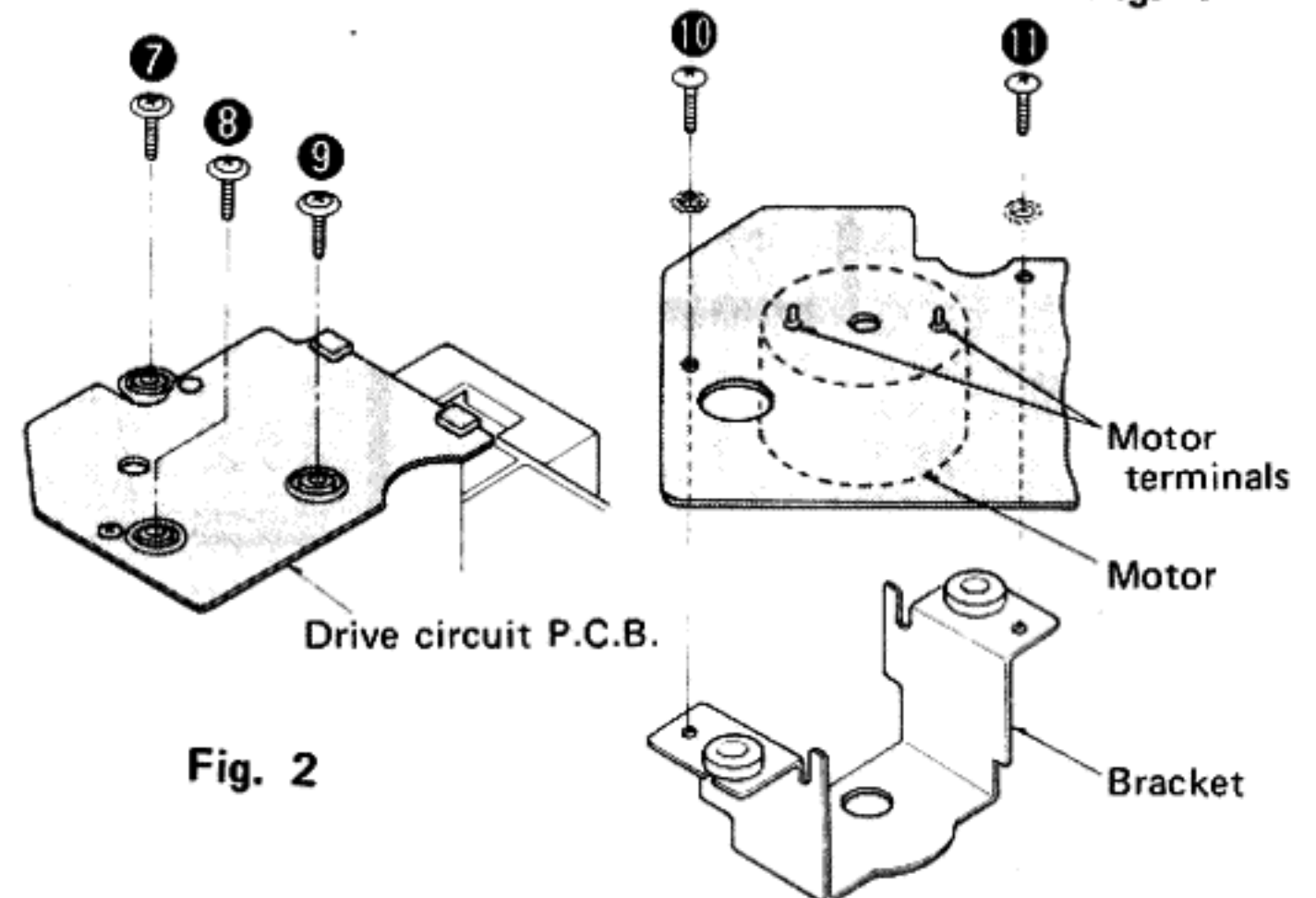


Fig. 2

Fig. 3

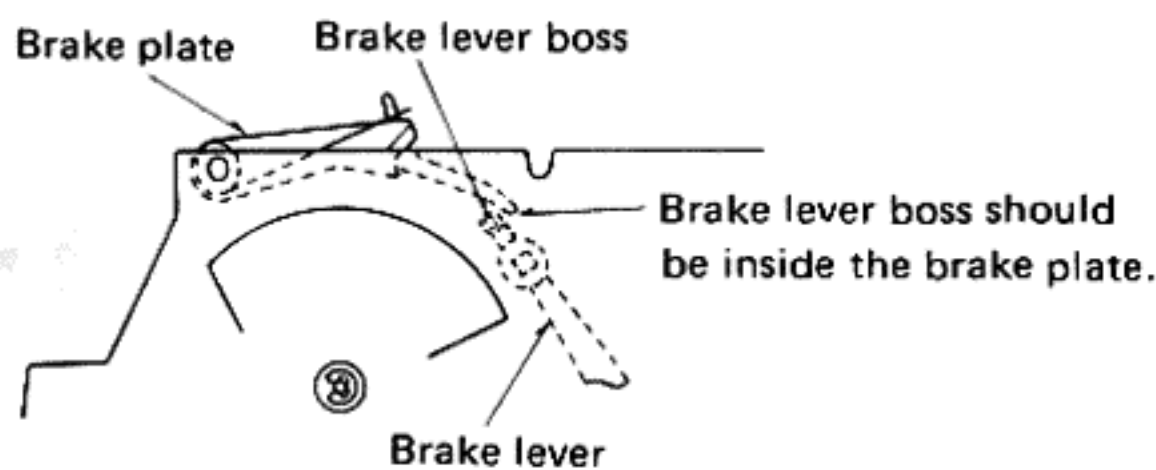


Fig. 5

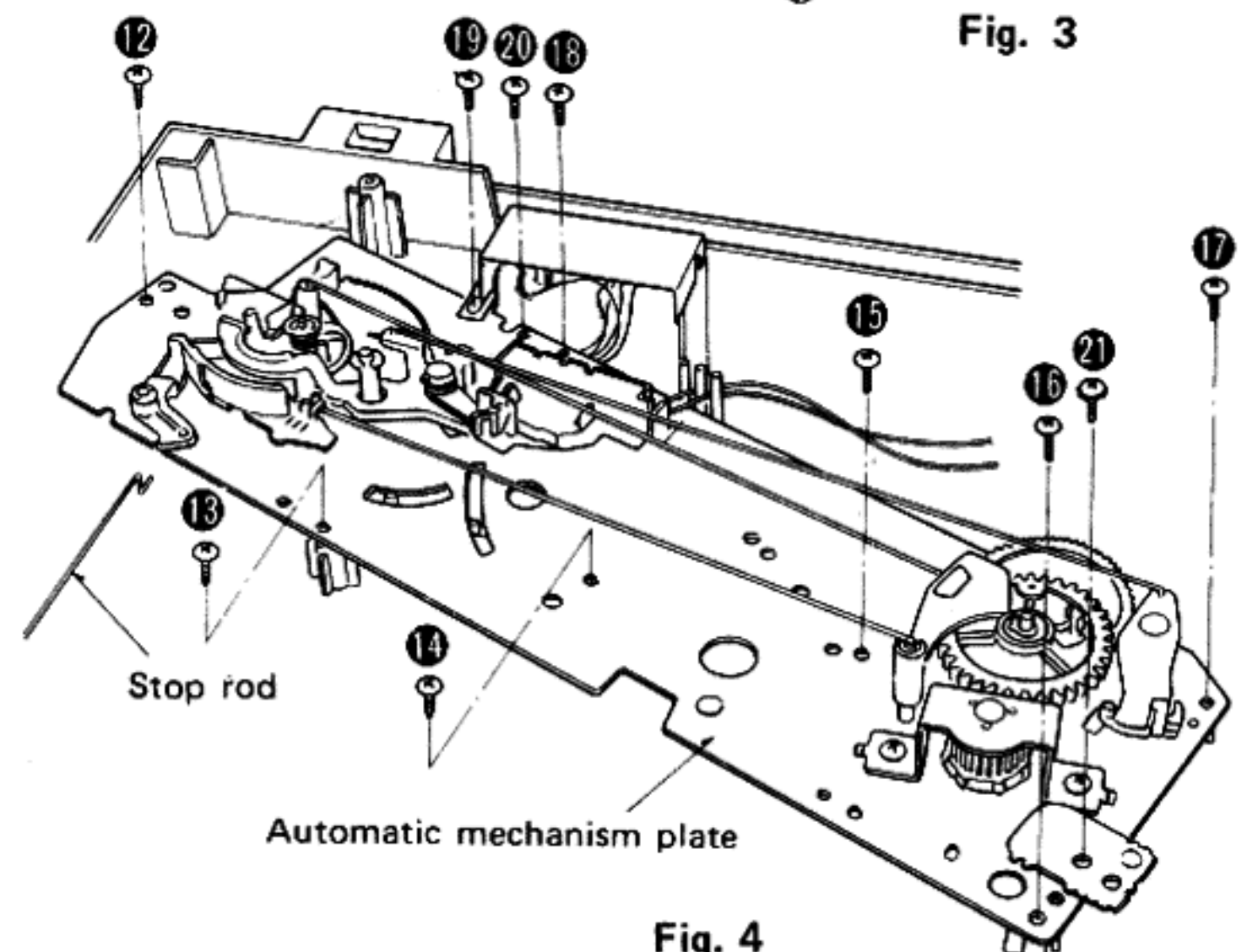


Fig. 4

● How to remove the PU fixing plate

1. Remove the bottom board and automatic mechanism plate.
2. Remove the canceller spring from the PU fixing plate, and loosen the screw 22 with a hexagonal wrench. (Fig. 6)
3. When fitting the PU fixing plate, match the PU fixing plate with the projection of the cabinet and tighten the screw 22. (Fig. 7)
4. After fitting the canceller spring, set the anti-skating control knob to zero and shift the tonearm to the innermost periphery. Then make sure that the clearance between the canceller spring and canceller operation plate is 0~0.3 mm. (Fig. 7)

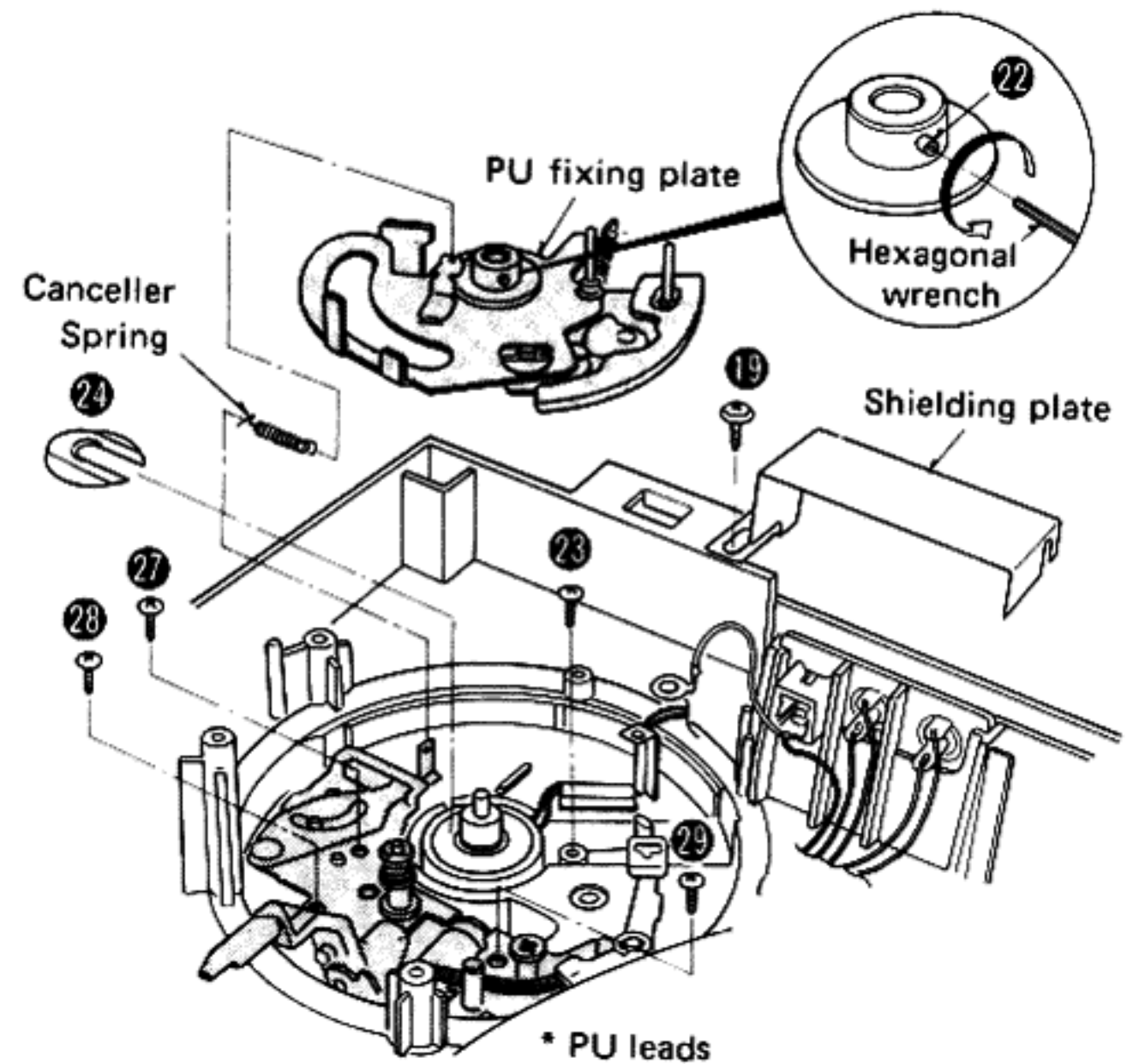


Fig. 6

White	:	L-channel terminal (+)
Blue	:	L-channel earth terminal
Red	:	R-channel terminal (+)
Green	:	R-channel earth terminal
Black	:	Earth terminal

● How to remove the tonearm

1. Remove the anti-skating control knob. (Fig. 8)
2. Remove the PU fixing plate.
3. Unsolder the 5 lead wires of output terminals.
4. Remove the PU-lead wire arranging plate setscrew (Fig. 6: 23) and stopper (Fig. 6: 24). Then the tonearm can be removed.

● How to remove the lift base

1. Remove the arm lift setscrew and springs (Fig. 9: 25, 26) to detach the arm lift.
2. Remove the anti-skating control knob.
3. Remove the PU fixing plate.
4. Remove the 3 setscrews (Fig. 6: 27~28) of the lift base.

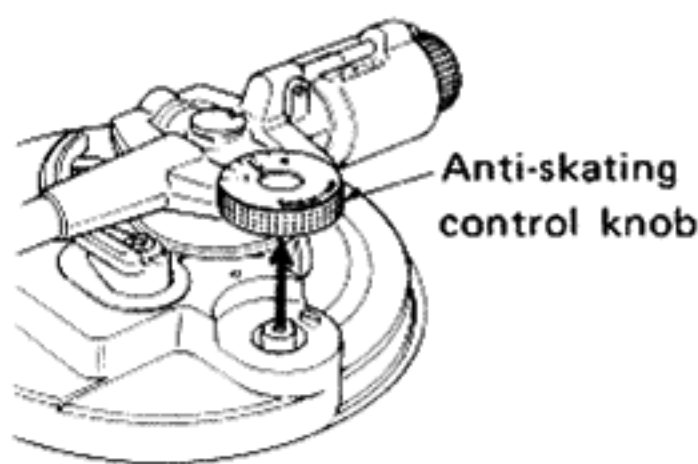


Fig. 8

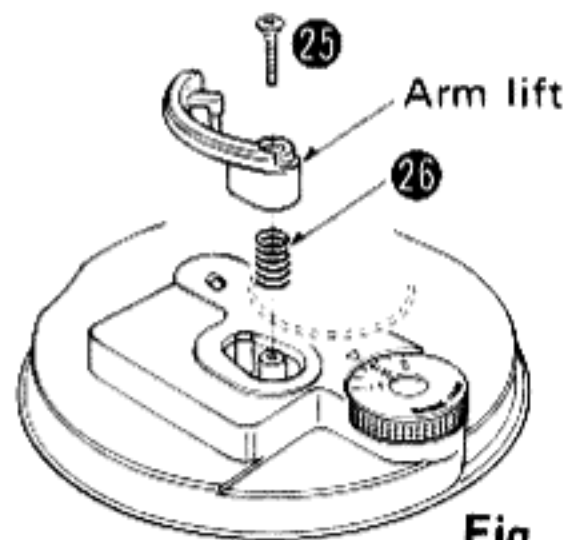


Fig. 9

Match the end of PU fixing plate with the projection.

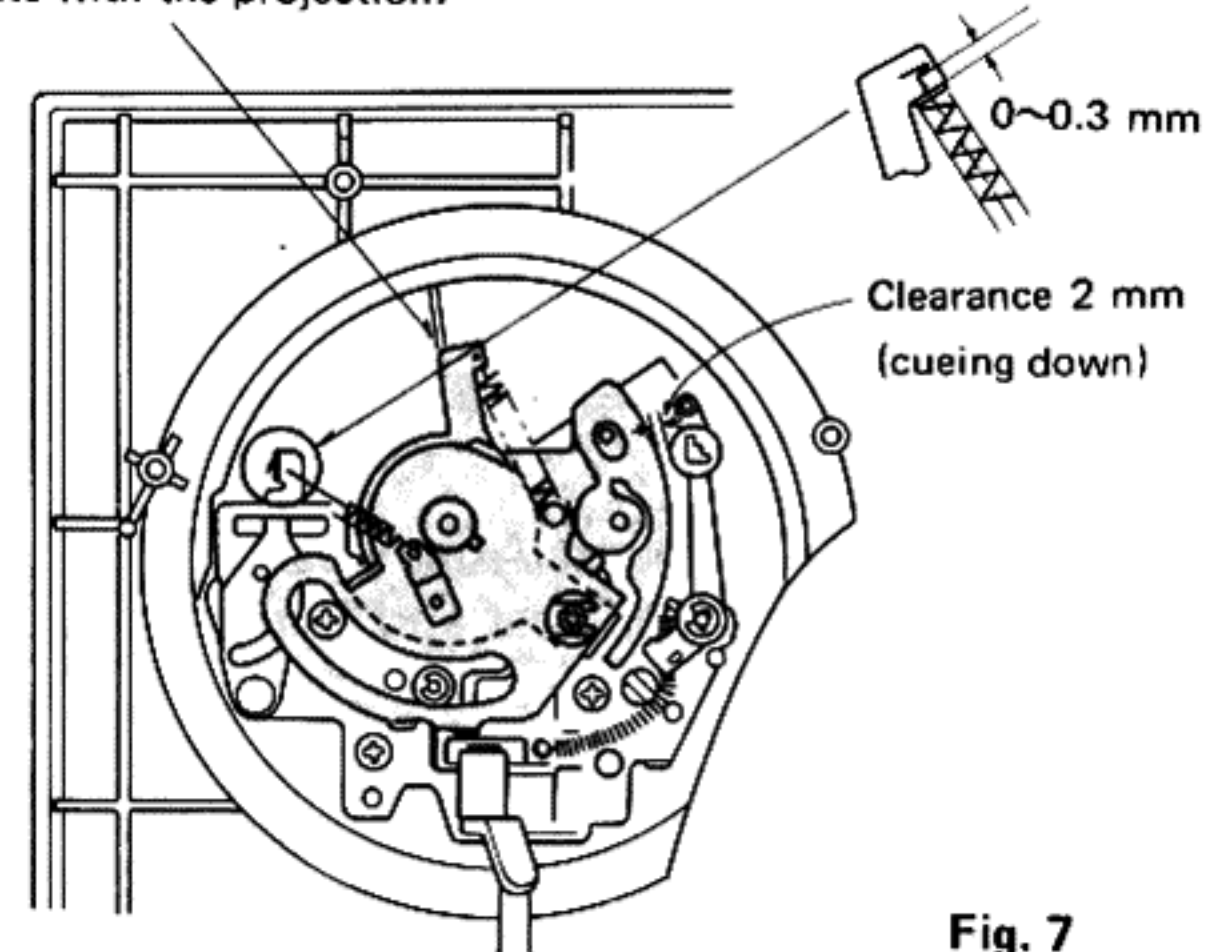


Fig. 7

● How to remove the Fuse ([XA] and [XM] areas only)

1. Remove the bottom board.
2. Remove the 3 setscrews (Fig. 10: 30~32) of the drive circuit P.C.B.
3. Lift the drive circuit P.C.B. and remove the fuse from the holder.

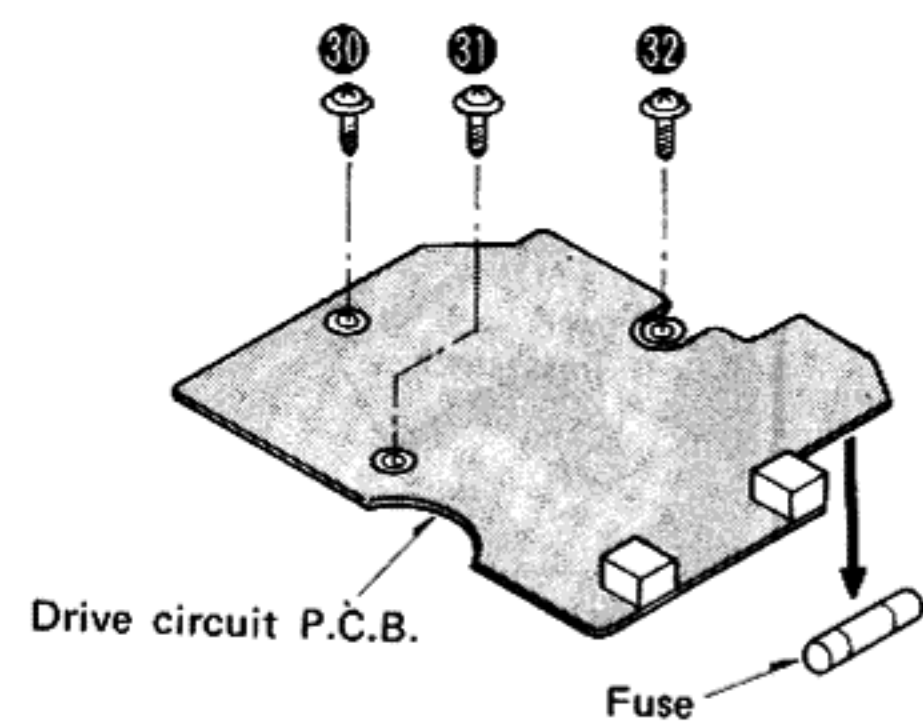


Fig. 10

■ HOW TO APPLY SILICON OIL (CUEING)

1. Remove the lift base.
2. Remove the brake cam spring (Fig.11), pressing it in the direction of the arrow.
3. Move the brake cam in the direction of the arrow A. (Fig. 12)
4. Apply silicon oil (SH097) to the outer surface and groove of the brake cam shaft. (Fig. 12)
5. Apply grease (Grease 320, Part No. Grease 1) to the lift rod.

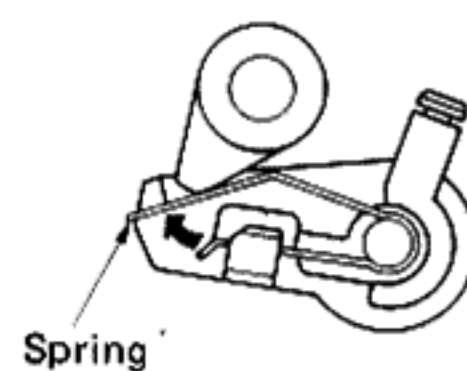


Fig. 11

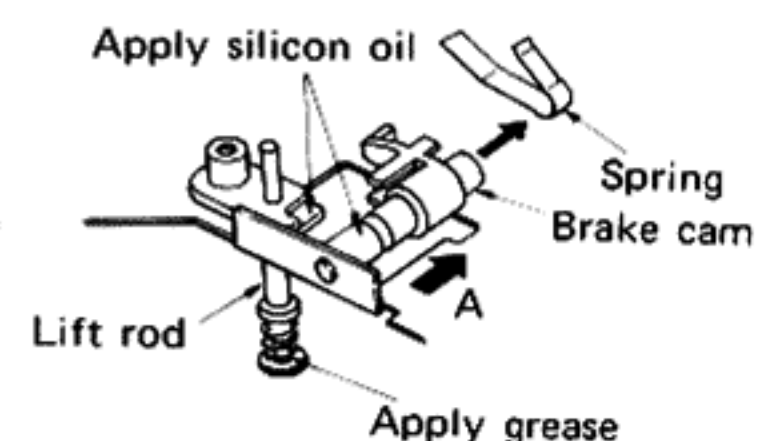
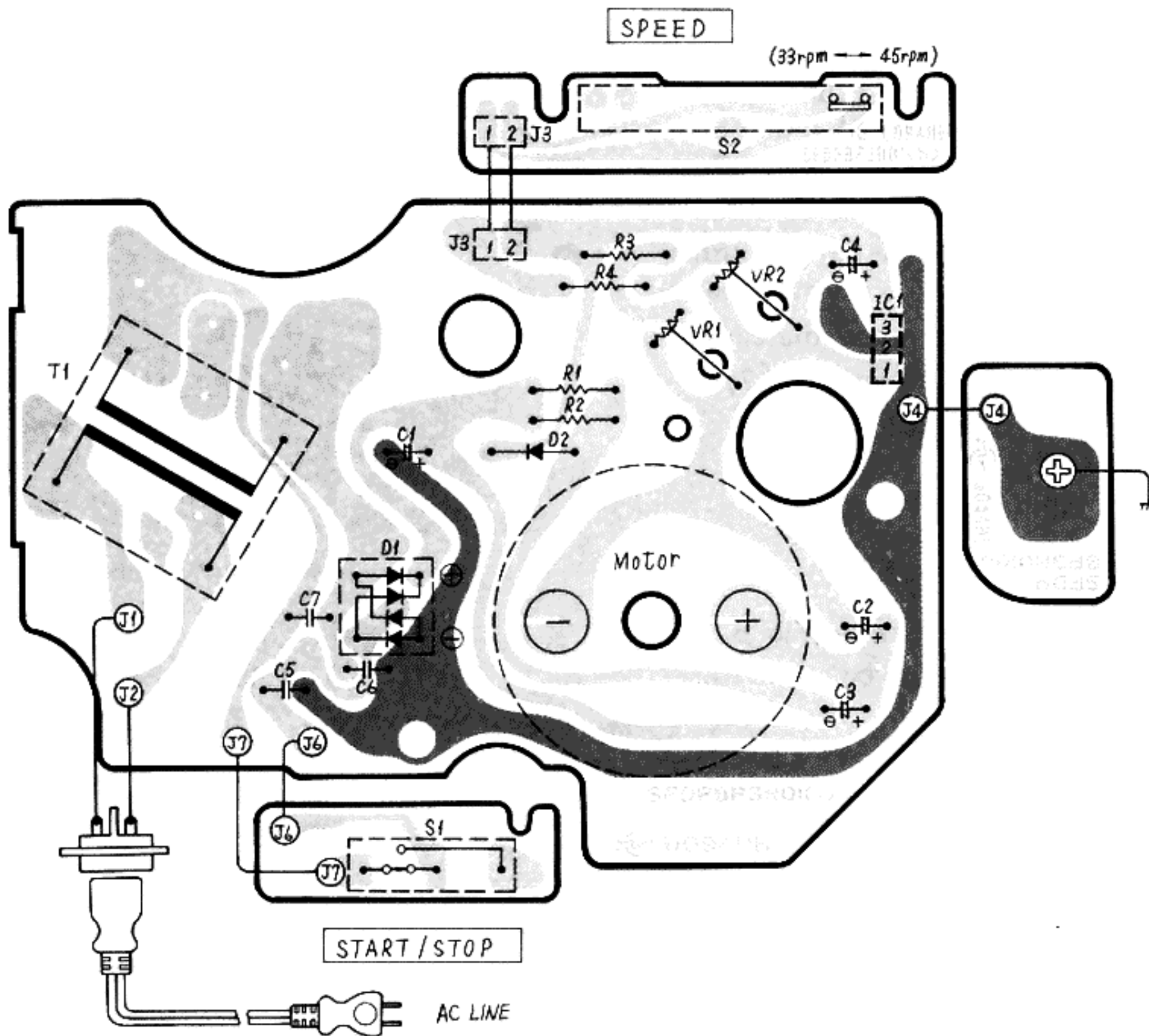


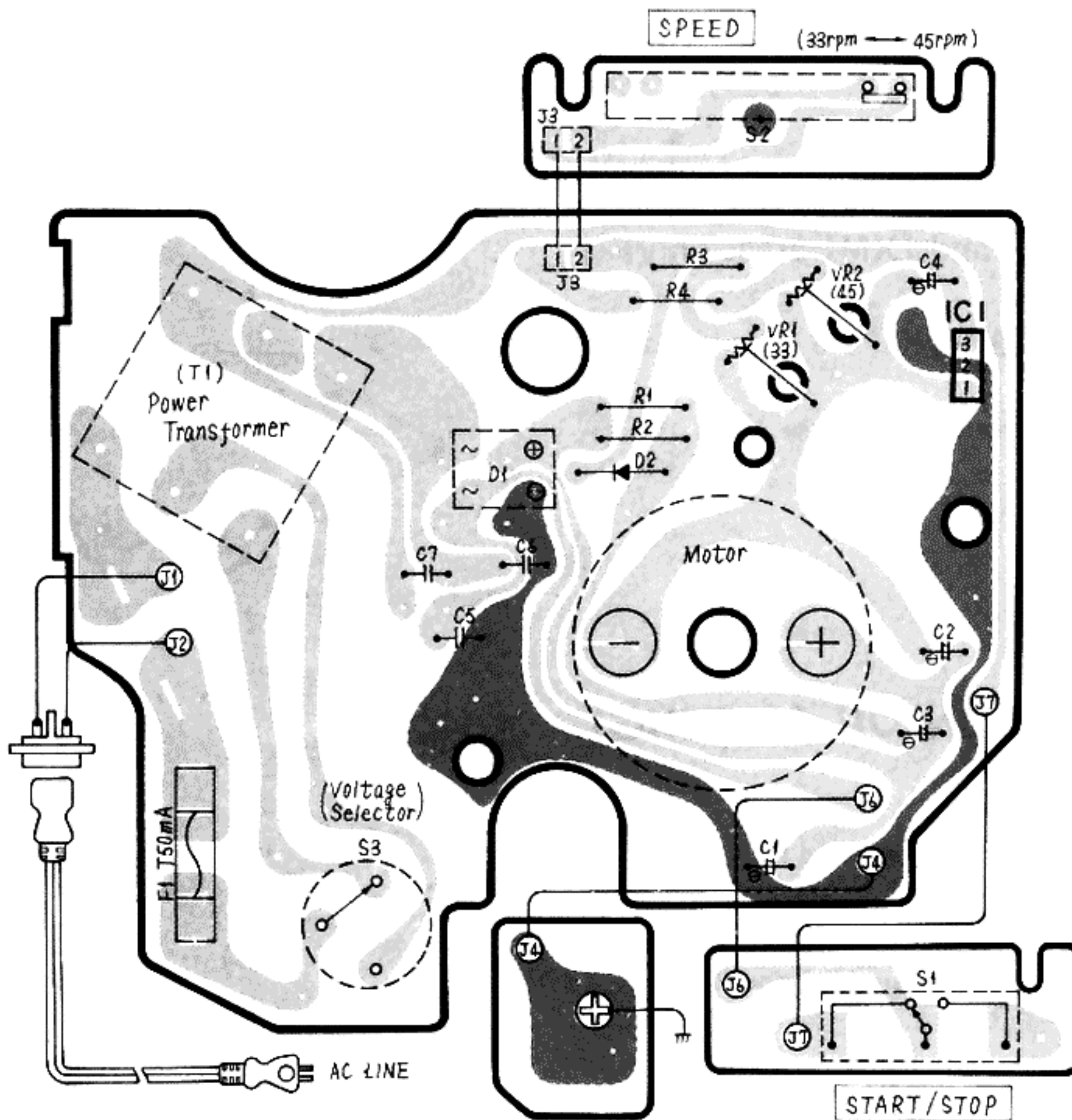
Fig. 12

■ CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM

■ Ground (Earth Lines)

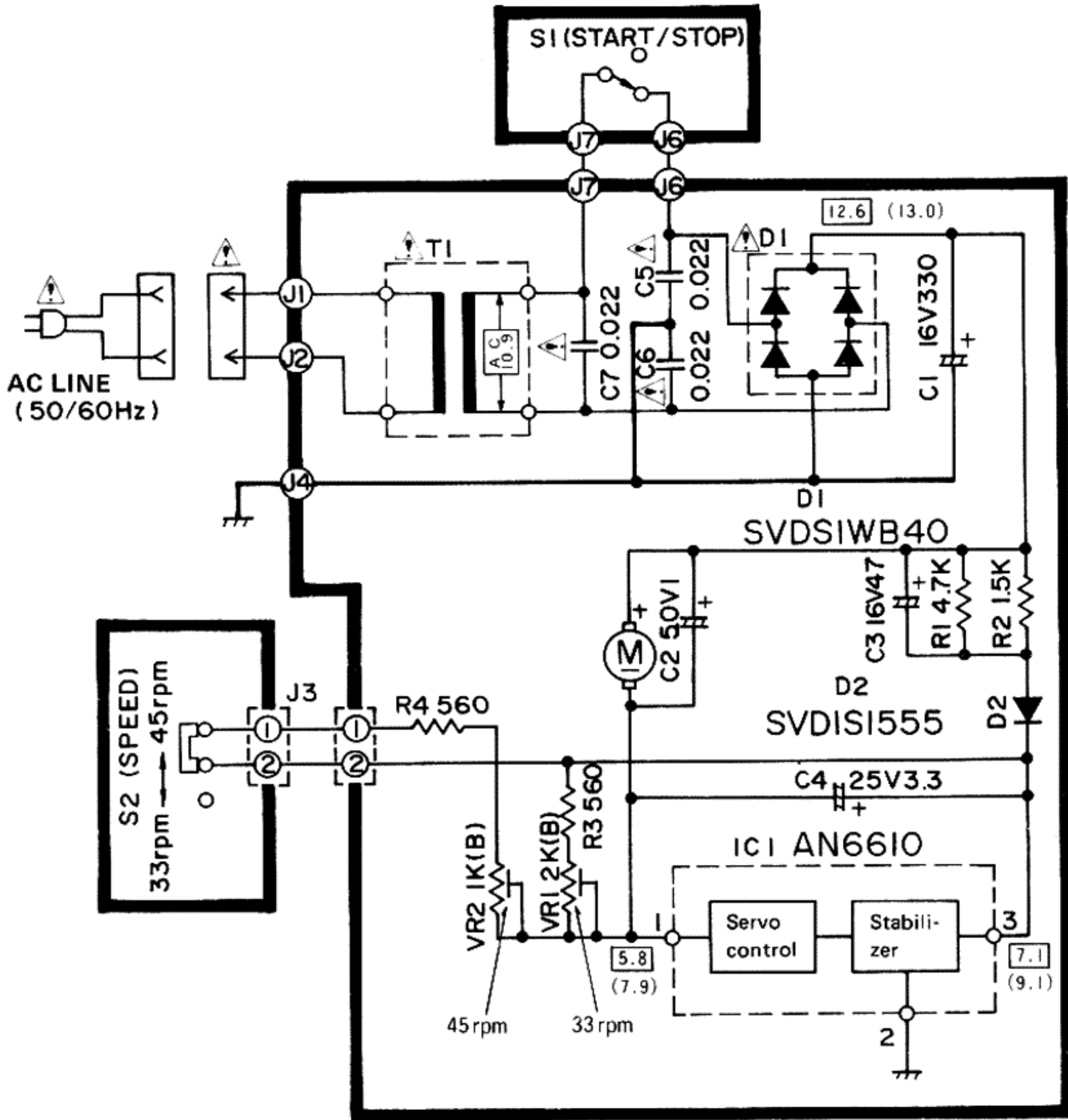


- Product for Southeast Asia, Oceania, Africa, Middle Near East and Central South America



SCHEMATIC DIAGRAM

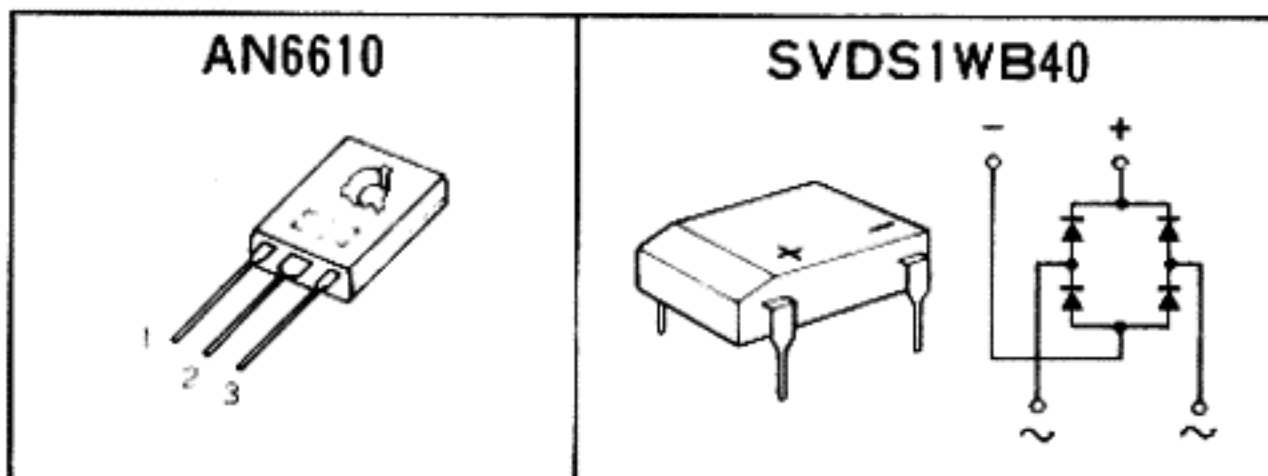
(This schematic diagram may be modified at any time with the development of new technology.)



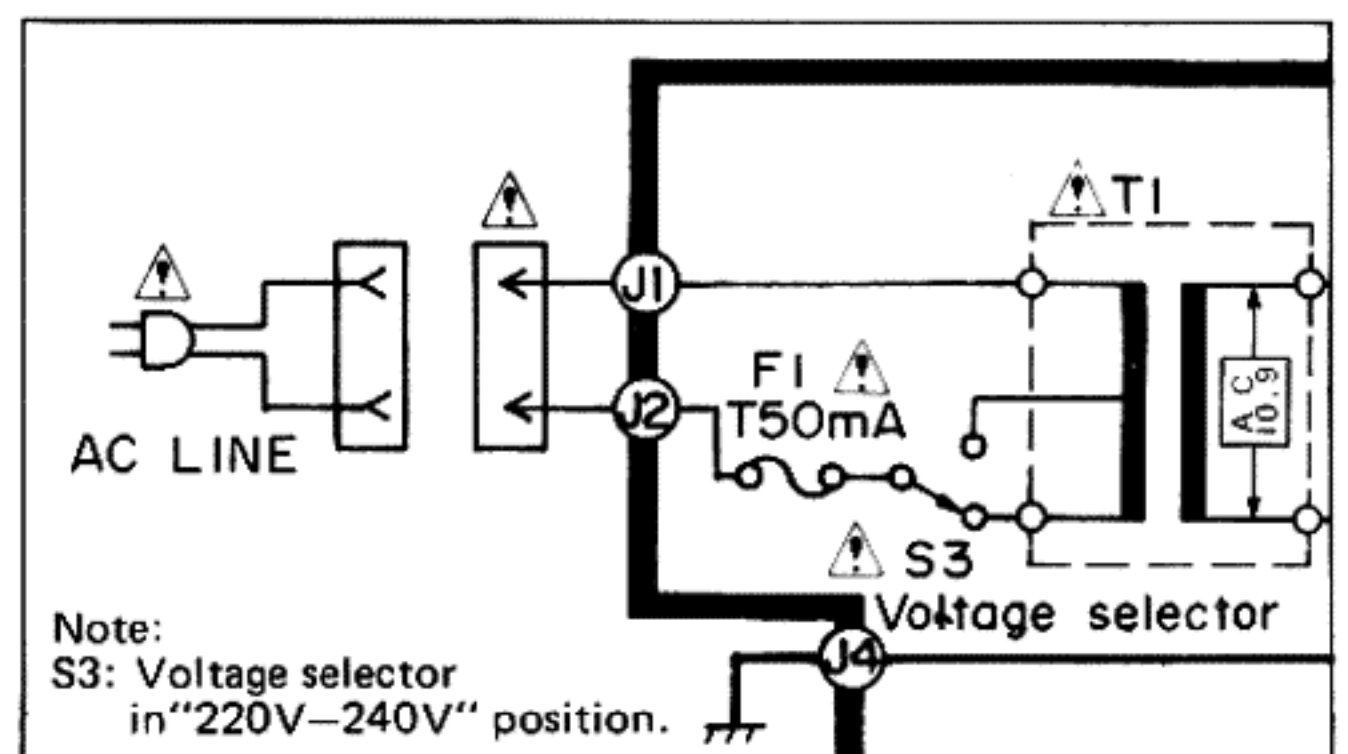
Notes:

1. S1 : Start/stop switch in "start" position.
2. S2 : Speed selector switch in "45 rpm" position.
3. Indicated voltage values are the standard values for the measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester or the set measured.
 * [] is the voltage at 45 rpm.
 * () is the voltage at 33 rpm.
4. Important safety notice:
 Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

Terminal guide of IC and Diode



- Power source circuit of [XA] and [XM] areas
 Product for Southeast Asia, Oceania, Africa, Middle Near East and Central South America.



● **Arm-lift height adjustment**

The arm-lift height (distance between the stylus tip and the record surface when the cueing control is at the "▼" position) has been adjusted at the factory to approximately 5 to 8 mm (3/16"~5/16"). (Fig. 13)

If the clearance is too narrow or too wide, turn the adjustment screw clockwise or counterclockwise. (Fig. 14)

Clockwise rotation

—distance between the record and stylus tip is decreased.

Counterclockwise rotation

—distance between the record and stylus tip is increased.

● **Adjustment of automatic return position (Fig. 15)**

(Remove the rubber cap.)

1. Put the stylus protector on the cartridge.
2. Move the tonearm toward the center of the record. The auto-return adjustment screw will appear.

If the tonearm tends to return to the arm rest before the play has finished.

—turn counterclockwise.

If the tonearm fails to return after the final groove.

—turn clockwise.

● **Adjustment of rotational speed**

1. Place the set on a player bench.
2. Set the speed selector switch to the "33" position.
3. Turn the VR1 with a screwdriver from the lower part of the set to the rated rotation (33-1/3 rpm) and check the rotation with a strobe while adjusting the speed. (Fig. 16)
4. Set the speed selector switch to the "45" position.
5. Turn the VR2 with a screw driver from the lower part of the set to the rated rotation (45 rpm) and check the rotation with a strobe while adjusting the speed. (Fig. 16)

Notes:

1. Be sure to perform the adjustment of 33 rpm first.
2. As the more simple method, it is also possible to adjust VR1 and VR2 by removing the turntable mat. (Fig. 17)

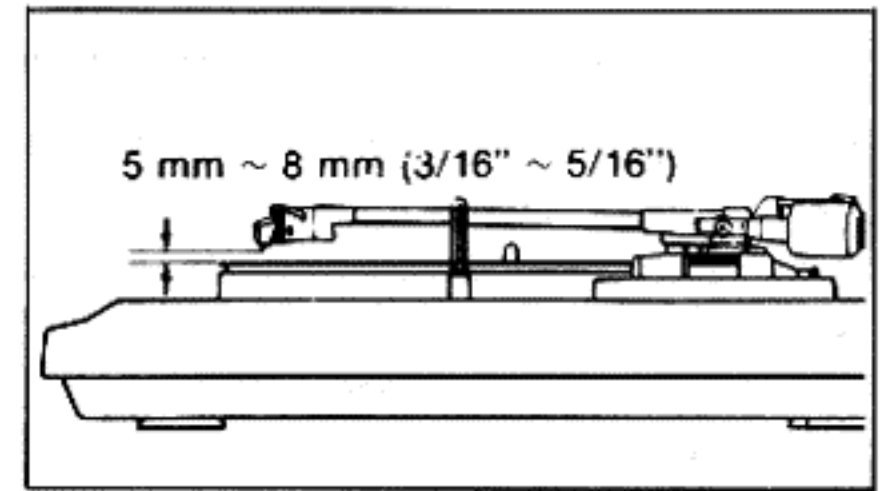


Fig. 13

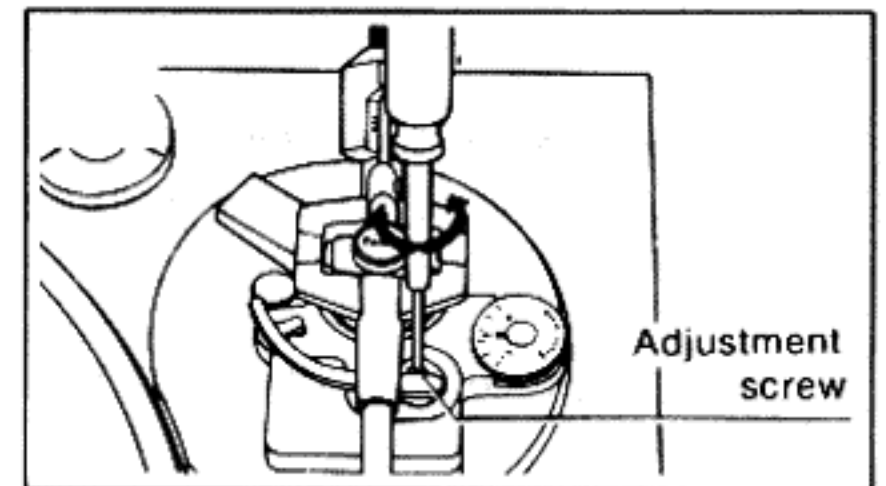


Fig. 14

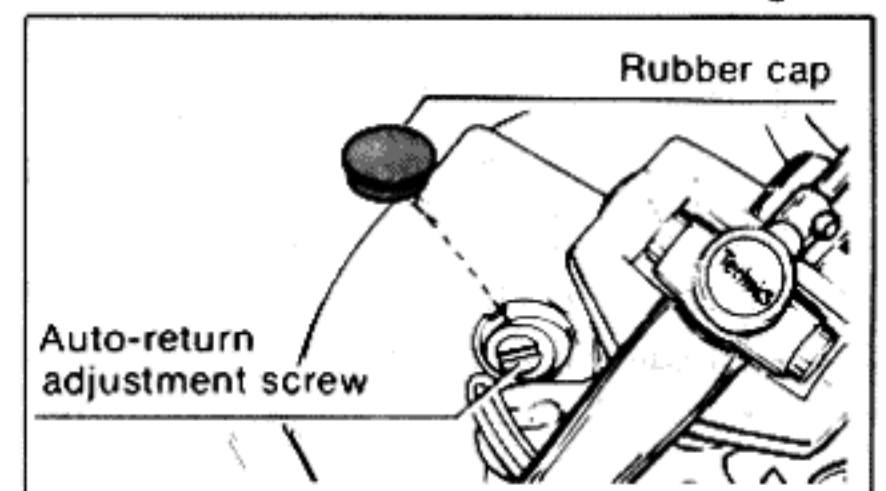


Fig. 15

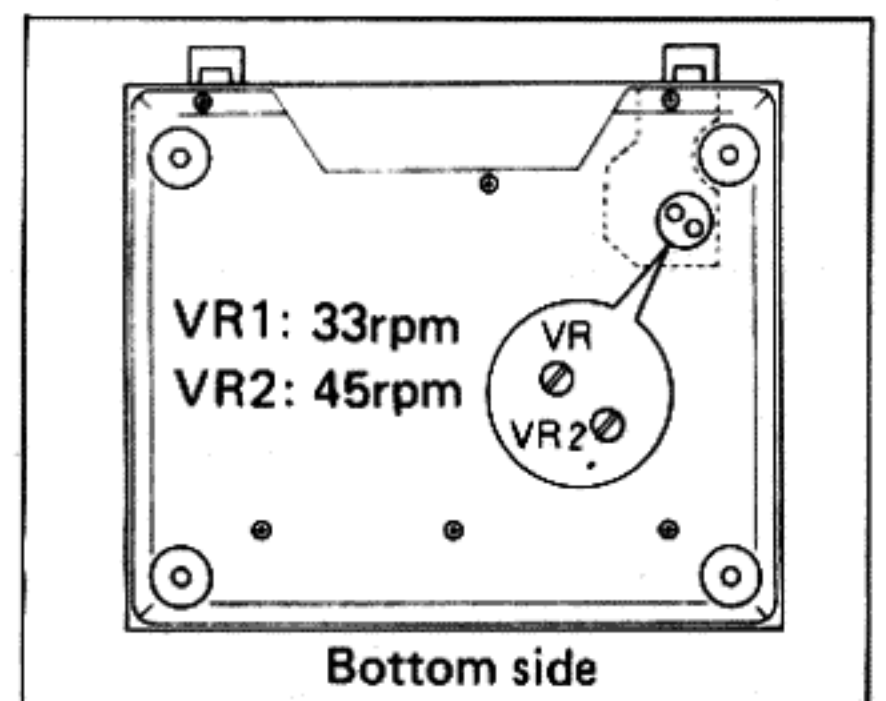


Fig. 16

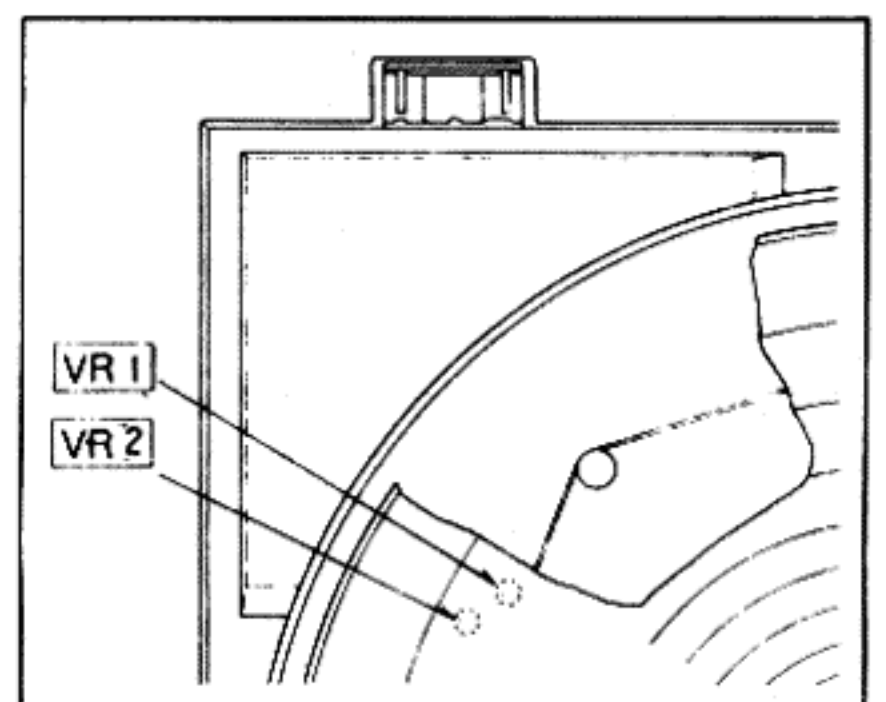


Fig. 17

● **Justierung der Tonarmlifhöhe**

Die Tonarmlifhöhe, d.h. der Abstand zwischen Nadelspize und Schallplattenoberfläche bei Liftsteuerungs-Position "▼", wurde werkseitig auf ca. 5–8 mm einstellt. (Abb. 13)
Falls der Abstand zu groß oder zu klein ist, drehen Sie die Justierschraube im Uhrzeigersinn oder entgegen dem Uhrzeigersinn. (Abb. 14)

Drehung im Uhrzeigersinn

–Der Abstand zwischen der Platte und der Nadelspitze wird kleiner.

Drehung entgegen dem Uhrzeigersinn

–Der Abstand zwischen der Platte und der Nadelspitze wird größer.

● **Justierung des Abschaltpunktes der Automatik**
(Abb. 15)

(Die Gummikappe abnehmen)

1. Setzen Sie zuerst den Nadelschutz auf.
2. Führen Sie den Tonarm gegen die Plattenmitte.
Die Justierschraube für den Abschaltpunkt der Automatik wird dann sichtbar.
Falls der Tonarm zu früh zurückkehrt.
–Entgegen dem Uhrzeigersinn drehen:
Falls der Tonarm nach Erreichen der Auslaufrille nicht zurückkehrt.
–Im Uhrzeigersinn drehen:

● **Justierung der Drehzahl**

1. Das Gerät auf den Plattenspieler-Reparaturtisch stellen.
2. Stellen Sie den Drehzahl-Wahlschalter in die "33"-Position.
3. VR1 mit einem Schraubenzieher von der Unterseite des Gerätes her drehen bis die Nenndrehzahl (33–1/3 U/min) erreicht ist, und gleichzeitig auf dem Stroboskop überprüfen. (Abb. 16)
4. Stellen Sie den Drehzahl-Wahlschalter in die "45"-Position.
5. VR2 mit einem Schraubenzieher drehen, bis die Nenndrehzahl (45 U/min) erreicht ist, und gleichzeitig auf dem Stroboskop überprüfen. (Abb. 16)

Anmerkung:

1. Die Justierung für 33 U/min muß unbedingt zuerst durchgeführt werden.
2. Eine einfach mögliche Methode besteht darin, VR1 und VR2 nach Entfernen des Plattenteilerauflage zu justieren. (Abb. 17)

● **Mise au point de la hauteur de l'élévateur du bras**

La hauteur de l'élévateur du bras (distance entre l'extrémité de la pointe de lecture et la surface du disque, lorsque la commande de pose et de relevage est à la position "▼") a été réglée en usine sur approximativement 5 à 8 mm. (Fig. 13)

Si l'écartement est trop étroit ou trop large, tourner la vis de réglage dans le sens des aiguilles d'une montre ou dans le sens contraire. (Fig. 14)

Rotation dans le sens des aiguilles d'une montre.

–La distance entre la surface du disque et l'extrémité de la pointe de lecture diminue.

Rotation dans le sens contraire des aiguilles d'une montre.

–La distance entre la surface du disque et l'extrémité de la pointe de lecture augmente.

● **Mise au point de la position de retour automatique** (Fig. 15)

(Retirer le capuchon en caoutchouc.)

1. Placer le capot protecteur de la pointe de lecture sur la cellule pick-up.
2. Déplacer le bras de lecture vers le centre du disque.
Alors la vis de réglage du retour automatique apparaitra.

Si le bras de lecture tend à revenir vers le support du bras avant que l'audition ne soit terminée,

–tourner dans le sens contraire des aiguilles d'une montre.

Si le bras de lecture ne peut revenir en arrière après le dernier sillon,

–tourner dans le sens des aiguilles d'une montre.

● **Réglage de la vitesse rotationnelle**

1. Placer l'appareil sur la table de dépannage pour électrophones.
2. Régler le sélecteur de vitesse sur la position "33".
3. Adjuster VR1 avec un tournevis à partir du dessous de l'appareil jusqu'à ce que la vitesse nominale de rotation (33 t/p.m.) soit obtenue tout en la vérifiant par l'intermédiaire du stroboscope. (Fig. 16)
4. Régler le sélecteur de vitesse sur la position "45".
5. Adjuster VR2 avec un tournevis jusqu'à ce que la vitesse nominale de rotation (45 t/p.m.) soit obtenue tout en la vérifiant par l'intermédiaire du stroboscope. (Fig. 16)

Nota:

1. S'assurer d'effectuer tout d'abord la mise au point de 33 t/p.m.
2. Comme méthode plus simplifiée, il est possible aussi d'ajuster VR1 et VR2 en retirant la platine. (Fig. 17)

● **Ajuste de la altura de elevación del brazo**

La altura de elevación del brazo (o sea, la distancia entre la punta de la aguja y la superficie del disco cuando el control de colocación está en la posición "▾") ha sido regulada en la fábrica aproximadamente entre 5 y 8 mm. (Fig. 13)

En caso que la distancia fuese demasiado abundante o demasiado escasa, girar el tornillo de ajuste hacia la derecha o hacia la izquierda. (Fig. 14)

Rotación hacia la derecha

— reduce la distancia entre el disco y la punta de la aguja.

Rotación hacia la izquierda

— aumenta la distancia entre el disco y la punta de la aguja.

● **Ajuste de la posición para retorno automático (Fig. 15)**

(Quitar la tapita de goma.)

1. Colocar la protección de la aguja en el cartucho.

2. Mover el brazo sonoro hacia el centro del disco.

Con ello, aparecerá el tornillo de ajuste del retorno automático.

Cuando el brazo sonoro tienda a volver a su apoyo antes de terminal la ejecución:

— **Girar hacia la izquierda.**

En caso que el brazo sonoro no vuelva después de haber tocado el último surco del disco:

— **Girar hacia la derecha.**

● **Ajuste de velocidad rotacional**

1. Coloque el aparato sobre el banco de reparaciones para tocadiscos.

2. Poner el selector de velocidad la en posición marcada "33".

3. Ajuste VR1 mediante el destornillador por debajo del aparato hasta que se obtenga la velocidad nominal (33 r.p.m.) mientras la verifica a través del estroboscopio. (Fig. 16)

4. Poner el selector de velocidad la en posición marcada "45".

5. Ajuste VR2 mediante el destornillador hasta que se obtenga la velocidad nominal (45 r.p.m.) mientras la verifica a través del estroboscopio. (Fig. 16)

Nota:

1. Asegúrese de efectuar el ajuste de 33 r.p.m. primero.

2. Como un método simple, es posible también ajustar VR1 y VR2, removiendo el plato giradiscos. (Fig. 17)

REPLACEMENT PARTS LIST

Notes:

- Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
- Important safety Notice: Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- $\text{\textcircled{K}}$ -marked parts are used for black only, while $\text{\textcircled{O}}$ -marked parts are for silver type only.
- Parts other than $\text{\textcircled{K}}$ - and $\text{\textcircled{O}}$ -marked are used for both black and silver types.
- Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
- The "S" mark is service standard parts and may differ from production parts.
- The parenthesized numbers in the columns of description stand for the quantity per set.

Areas

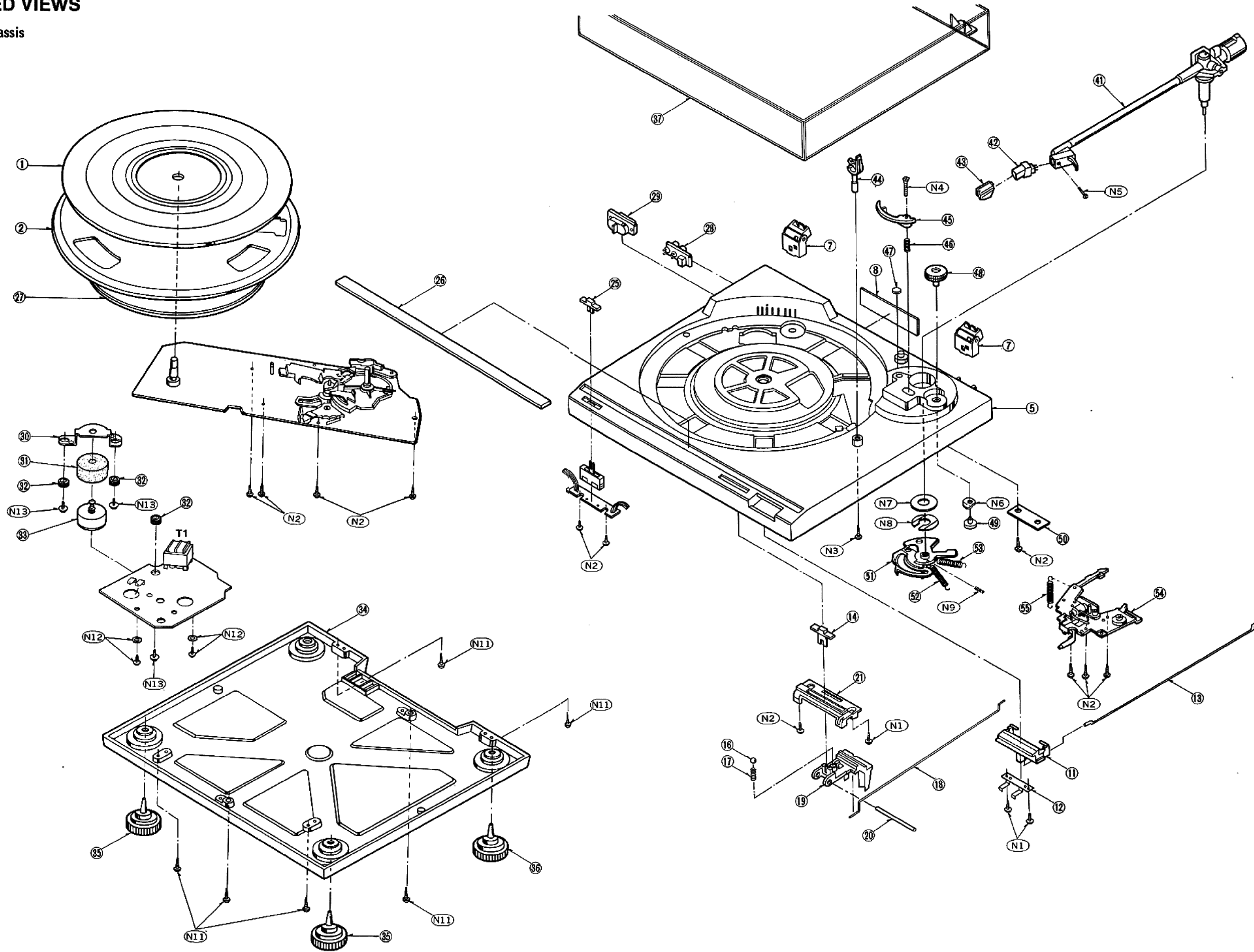
- * [E] is available in Switzerland and Scandinavia.
- * [EK] is available in United Kingdom.
- * [XL] is available in Australia.
- * [EG] is available in F.R. Germany.
- * [EB] is available in Belgium.
- * [EH] is available in Holland.
- * [EF] is available in France.
- * [Ei] is available in Italy.
- * [EC] is available in Czechoslovakia.
- * [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East
- * [XM] is available in Central South America.

Black type model No. : SL-B21 (K)

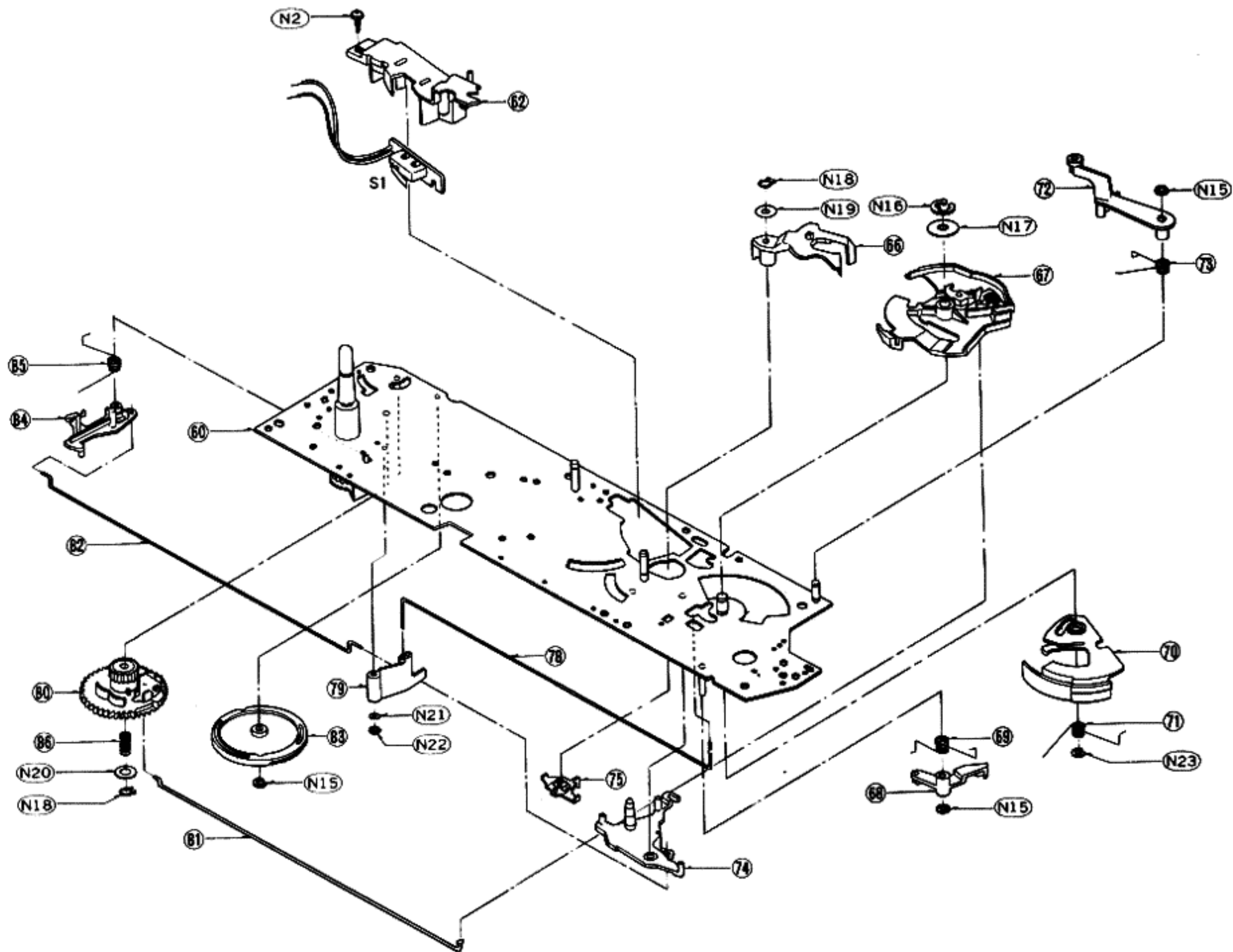
Ref. No.	Part No.	Description	Ref. No.	Part No.	Value	Ref. No.	Part No.	Description
INTEGRATED CIRCUIT			CAPACITORS			25	SFKTDP3N03	Knob, Speed Selector (1)
IC1	AN6610	DC Servo Control	C1 S	ECEA1CS331	Electrolytic 16V 330 μ F	26	SFKKB21S01	Surface Plate (1)
DIODE			C2 S	ECEA50Z1	Electrolytic 50V 1 μ F	27	SFGB321-1	Belt (1)
D1 Δ	SVDS1WB40	Rectifier	C3 S	ECEA1ES470	Electrolytic 25V 47 μ F	28	SFDJDP3N02	Socket, Phono Input (1)
D2 S	MA162A		C4 S	ECEA50Z3R3	Electrolytic 50V 3.3 μ F	29 Δ	SFDJHSC0492	Socket, Power Source (1)
VARIABLE RESISTORS			C5,6 S Δ	ECKD1H223ZF	Ceramic 50V 0.022 μ F $\begin{matrix} +100\% \\ -0 \end{matrix}$	29 [XA, XM] Δ	SFDJHSC0491	Socket, Power Source (1)
VR1	EVN51AA00B23	Speed Adjustment, (33) 2k Ω (B)	C7 S Δ	ECKD1H223ZF	Ceramic 50V 0.022 μ F $\begin{matrix} +100\% \\ -0 \end{matrix}$	30	SFUMH23M06	Plate, Motor (1)
VR2	EVN51AA00B13	Speed Adjustment, (45) 1k Ω (B)	Ref. No. Part No. Description			31	SFGHH23N01	Rubber, Motor (1)
SWITCHES			CABINET and CHASSIS PARTS			32	SFGZB31S01	Rubber, Motor & P.C.B. (1)
S1 Δ	SFDSS5GLP1	Arm (Rest)	1	SFTGB21S01	Turntable Mat (1)	33	SFMHBP3N01E	Motor Ass'y (1)
S2	EVAH32S10ABK	Speed Selector	2	SFTEB21S01	Turntable (1)	34	SFAUDP3N01	Bottom Board (1)
S3 [XA, XM] Δ	SFDSHXW01335	Voltage Selector	5 $\text{\textcircled{O}}$	SFACBP3N01	Cabinet (Silver Type) (1)	35	SFGAD31S01	Insulator, Front (2)
POWER TRANSFORMER			5 $\text{\textcircled{K}}$	SFACBP3N21	Cabinet (Black Type) (1)	36	SFGAD31S02	Insulator, Rear (2)
T1 [EK, XL] Δ	SLTF6517	Power Source	5 $\text{\textcircled{O}}$	SFACBP3S01	Cabinet (Silver Type) (1)	37	SFADB31S01E	Dust Cover (1)
T1 [XA, XM] Δ	SLTF6518	Power Source	5 $\text{\textcircled{K}}$	SFACBP3X21	Cabinet (Black Type) (1)			
T1 [Other Areas] Δ	SLTF6515	Power Source	7	SFATB33N01A	Hinge (2)			
FUSE			8 [E, EC]	SFNNB21S01	Name Plate (1)			
F1 [XA, XM] only Δ	XBA2C005T1W	T50mA 250V	8 [EK, XL]	SFNNB21G01	Name Plate (1)			
Ref. No. Part No. Value			8 [XA, XM]	SFNNB21X01	Name Plate (1)			
RESISTORS			8 [Other Areas]	SFNNB21R01	Name Plate (1)			
R1 S	ERD25FJ472	Carbon 1/4W 4.7k Ω \pm 5%	11	SFKTDP3N02	Button, Stop (1)			
R2 S	ERD25FJ152	Carbon 1/4W 1.5k Ω \pm 5%	12	SFQDP3N01	Spring, Stop Button (1)			
R3,4 S	ERD25FJ561	Carbon 1/4W 560 Ω \pm 5%	13	SFUZBP3N02	Rod, Stop (1)			
			14	SFKTDP3N01	Knob, Cueing (1)			
			16	SFYB-5-32	Ball, Cueing (1)			
			17	SFQA130-11	Spring, Cueing (1)			
			18	SFUZB31R01	Rod, Cueing (1)			
			19	SFUMB31S02	Slider, Cueing (1)			
			20	SFXJQ34N01	Shaft, Cueing (1)			
			21	SFUMB31S01	Base, Cueing (1)			

EXPLODED VIEWS

Cabinet and chassis



● Automatic mechanism plate



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	
TONE ARM and ARM BASE			72	SFUMQ34N43	Plate, Brake (1)	N18	SFXWQ34N25	(2)	
41	SFPAMOP201A	Tonearm (Silver Type) (1)	73	SFQSQ34N28	Spring, Brake (1)	N19	XWE4	φ 4 (1)	
41	SFPAMOP202A	Tonearm (Black Type) (1)	74	SFUMQ34N44	Lever Switch (1)	N20	XUC25FT	φ 2.5 (1)	
42	EPC-P24S	* Cartridge (1)	75	SFUMQ34N32	Support, Actuating Rod (1)	N21	XUC2FT	φ 2 (1)	
43	EPS-24CS	* Stylus (1)	78	SFQSQ34N23	Rod, Actuating (1)	ACCESSORIES			
44	SFCNC02301	Cover, Stylus (1)	79	SFUMQ34N42	Connector, Actuating (1)	A1 [EK,XL]	SFNUB21G01	Instructions Book, (1)	
45	SFKUDP3N01E	Arm Rest (1)	80	SFUGQ34N21E	Main Gear Ass'y (1)	A1 [EF]	SFNUB21F01	Instructions Book, (1)	
46	SFPRT30302E	Arm Lift (1)	81	SFQSQ34N22	Rod, Actuating (1)	A1 [EG]	SFNUB21R01	Instructions Book, (1)	
47	SFPSP30304	Spring, Arm Lift (1)	82	SFQSQ34N26	Rod, Switch (1)	A1 [Ei]	SFNUB21i01	Instructions Book, (1)	
47	SFGK170-01	Rubber Cap (1)	83	SFUGQ34N22	Gear, Drive (1)	A1 [XA, XM]	SFNUB21X01	Instructions Book, (1)	
47	SFGK171F01	Rubber Cap (1)	84	SFUMQ34N31	Plate, Stop Gear (1)	A1 [Other Areas]	SFNUB21S01	Instructions Book, (1)	
48	SFPJKOP301	Knob, Cancellor (1)	85	SFQSQ34N21	Spring, Stop Gear (1)	A2	SFDHC05N01	Phono Cord (1)	
49	SFPJK30302	Cam, Cancellor (1)	86	SFQAQ34N21	Spring, Main Gear (1)	A3	SFDLC05N01	Ground Wire (1)	
50	SFUPBP3N02	Plate, Phono Cord Clamp (1)	SCREWS, WASHERS and CIRCLIPS			A4 [EK]	RJA43Z	AC Cord (1)	
51	SFUPBP3N01A	Arm Base (1)	N1	S	XTV3+10BFN	Tapping, φ 3 x 10 (2)	A4 [XA, XM] S Δ	QFC1103	AC Cord (1)
52	SFQHP3N01	Spring (1)	N2	S	XTV3+8BFN	Tapping, φ 3 x 8 (13)	A4 [XL]	RJA26Z	AC Cord (1)
53	SFPSP30306	Spring (1)	N3	S	XTW3+10Q	Tapping, φ 3 x 10 (1)	A4 S Δ	RJA20Z	AC Cord (1)
54	SFUPB31S01A	Lift Plate Ass'y (1)	N4	S	XTS3+16BFZ	Tapping, φ 3 x 16 (1)	A4 S Δ	RJA20Z	AC Cord (1)
55	SFPSP30305	Spring (1)	N5	S	SFPEVOP301	Tapping, Cartridge (1)	[Other Areas]	SFDK119118	2P Plug (1)
AUTOMATIC MECHANISM ASS'Y			N6	S	SFPEW13005	Tonearm (1)	A6	SFWE212-01	Adaptor 45 (1)
60	SFUKB22N21R	Plate, Automatic Mechanism (1)	N7	S	SFXWH31-01	Tonearm (1)			
62	SFUMQ34N36	Case, Switch (1)	N8	S	SFXW301-02	Tonearm (1)			
66	SFUMQ34N38	Lever, Stop (1)	N9	S	XXES3D5FZ-1S	Tonearm (1)			
67	SFUMQ22N03E	Cam, Drive (1)	N11	S	XTW3+14QFYR	Tapping, φ 3 x 14 (6)			
68	SFUMB33N01	Lever, Start (1)	N12	S	SFXGB33N01	Motor (2)			
69	SFQSB33N02	Spring, Start Lever (1)	N13	S	XYE3+EJ10	Motor (2)			
70	SFUMQ22N02E	Cam, Start (1)	N14	S	XUC3FT	φ 3 (5)			
71	SFQSQ22N01	Spring, Start (1)	N15	S	XUC5FT	φ 5 (1)			
			N16	S	SFXWQ30-11	(1)			
			N17	S	SFXWQ34N24	(1)			

PACKINGS

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
PACKING PARTS			P2	SFHHB31S01	Pad, Front (1)	P9	SFYH15X20	Polyethylene Bag, (1) Cord
P1 [EF] ○	SFHPB21F01	Carton Box (1) (Silver Type)	P3	SFHHB31S02	Pad, Rear (1)			
P1 [Other Areas] ○	SFHPB21S01	Carton Box (1) (Silver Type)	P4	SFHDO34N01	Pad, turntable (1)			
P1 [EF] ☒	SFHPB21F21	Carton Box (1) (Black Type)	P5	SFHZ144X02	Sheet (1)			
P1 [Other Areas] ☒	SFHPB21S21	Carton Box (1) (Black Type)	P6	SFYH60X60	Polyethylene Bag, (2) Unit/Dust Cover			
			P7	SFYF09A15	Polyethylene Bag, (2) 45 Adaptor			
			P8	SFYH40X45	Polyethylene Bag, (1) Turntable			

