

Service Manual

SL-1200MK2

Turntable System

SL-1200MK2

(XG), (XA), (XGB)

(XAL), (E)



- * The model SL-1200MK2 (XG) is available in European only.
- * The model SL-1200MK2 (XA) is available in Asia, Latin America, Middle East and Africa only.
- * The model SL-1200MK2 (XGB) is available in Belgium only.
- * The model SL-1200MK2 (XAL) is available in Australia only.
- * The model SL-1200MK2 (E) is available in Scandinavia only.

SPECIFICATIONS

(Specifications subject to change without notice. Weight and dimensions shown are approximate.)

General

Power supply: ~110–120/220–240, 50 or 60 Hz
Power consumption: 13.5 W
Dimensions: 45.3 x 16.2 x 36 cm
 (W x H x D) (17-27/32" x 6-19/64" x 14-11/64")
Weight: 12.5 kg (27.6 lb)

Turntable section

Type: Quartz direct drive
 Manual turntable
Drive method: Direct drive
Motor: Brushless DC motor
Turntable platter: Aluminum diecast
 Diameter 33.2 cm (13-5/64")
 Weight 2 kg (4.4 lb)
Turntable speeds: 33-1/3 rpm and 45 rpm
Starting torque: 1.5 kg.cm (1.3 lb.in)
Build-up characteristics: 0.7 s. from standstill to 33-1/3 rpm
Braking system: Electronic brake
Wow and flutter: 0.01% WRMS*
 0.025% WRMS (JIS C5521)
 ±0.035% peak (IEC 98A Weighted)

* This rating refers to turntable assembly alone, excluding effects of record, cartridge or tonearm, but including platter. Measured by obtaining signal from built-in frequency generator of motor assembly.

Rumble: -56 dB (IEC 98A Unweighted)
 -78 dB (IEC 98A Weighted)

Tonearm section

Type: Universal
Effective length: 230 mm (9-1/16")
Arm height adjustment 0–6 mm
range:
Overhang: 15 mm (19/32")

Effective mass: 12 g (without cartridge)
Offset angle: 22°
Friction: Less than 7 mg (lateral, vertical)
Tracking error angle: Within 2°32' (at the outer groove of 30 cm (12") record)
Stylus pressure Within 0°32' (at the inner groove of 30 cm (12") record)
adjustment range: 0–2.5 g
Applicable cartridge weight range: 6–10 g
 13.5–17.5 g (including headshell)
(with auxiliary weight): 9.5–13 g
 17–20.5 g (including headshell)
(with shell weight) 3.5–6.5 g
 11–14 g (including headshell)
Headshell weight: 7.5 g

Cartridge section

Model No. EPC-207C
Type: Moving magnet
Frequency response: 20 Hz to 25 kHz
 20 Hz to 15 kHz ±2 dB
Output voltage: 3 mV at 1 kHz
 5 cm/s. zero to peak lateral velocity
 [8.5 mV at 1 kHz 10 cm/s. zero to peak 45° velocity (DIN 45500)]
Channel separation: 25 dB at 1 kHz
Channel balance: Within 2 dB at 1 kHz
Compliance (dynamic): 10 x 10⁶ cm/dyne at 100Hz
Stylus pressure: 1.75 ±0.25 g (17.5 ±2.5 mN)
Load impedance: 47 kΩ to 100 kΩ
Weight: 5.6 g (cartridge only)
Replacement stylus: EPS-207ED
 (Elliptical stylus)

TECHNISCHE DATEN

Allgemeine Daten

Stromversorgung: ~110-120/220-240 V, 50/60 Hz Wechselstrom
Leistungsaufnahme: 13,5 W

Abmessungen (B x H x T): 45,3 x 16,2 x 36 cm
Gewicht: 12,5 kg

Plattenspieler

Typ: Manueller Quarz-Direktantrieb
Antrieb: Direktantrieb
Motor: Kollektorloser Gleichstrommotor
Plattenteller: Aluminium-Spritzguß
 Durchmesser 33,2 cm
 Gewicht 2 kg
Plattenteller-Drehzahlen: 33-1/3 und 45 U/min
Anlaufbeschleunigung: 0,7 sec vom Stillstand auf 33-1/3 U/min
Bremssystem: Elektronische Bremse
Gleichlaufschwankungen: 0,01% WRMS*
 0,25% WRMS (JIS C5521)
 ±0,035% Spitze (IEC 98A bewertet)

Diese Nennleistung bezieht sich auf das Laufwerk-Bauteil allein, ausschließlich Einflüsse von Schallplatte, Tonabnehmer oder Tonarm, aber einschließlich Plattenteller. Gemessen anhand von Signalen vom eingebauten Frequenzgenerator des Motorbauteils.

Rumpel-Geräusch spannungsabstand: -56 dB (IEC 98A unbewertet)
 -78 dB (IEC 98A bewertet)

Tonarm

Typ: Universal-Tonarm
Effektive Länge: 230 mm
Tonarmhöhe:
Einstellbereich: 0-6 mm
Überhang: 15 mm

Effektive Masse:

12 g (ohne Tonabnehmer)

Kröpfungswinkel:

22°

Lagerreibung:

Weniger als 7 mg (horizontal, vertikal)

Auflagekraft:

Einstellbereich: 0-2,5 g

Zulässiger Tonabnehmer-Gewichtsbereich:

6-10 g
 13,5-17 g (einschließlich Tonarmkopf)
 9,5-13 g
 17-20,5 g (einschließlich Tonarmkopf)
Gewichtsbereich: 3,5-6,5 g
 11-14 g (einschließlich Tonarmkopf)
Tonarmkopf-Gewicht: 7,5 g

Tonabnehmer

Modell-Nummer: EPC-207C
Typ: Magnetischer Tonabnehmer
Frequenzgang: 20 Hz bis 15 kHz ±2 dB
 3 mV bei 1 kHz
 5 cm/s. Null-zu-Spitze, lateral
 [8,5 mV bei 1 kHz 10 cm/s. Null-zu-Spitze, 45° (DIN 45500)]
 25 dB bei 1 kHz
 Innerhalb 2 dB bei 1 kHz

Ausgangsspannung:

Kanaltrennung:

Kanalabweichung:

Nachgiebigkeit

(dynamisch):

Auflagekraft:

Impedanz:

Gewicht:

Ersatznadel:

10 x 10⁶ cm/dyn bei 100 Hz
 1,75 ±0,25 g (1,75 ±2,5 mN)
 47 kΩ bis 100 kΩ
 5,6 g (ohne Tonarmkopf)
 EPS-207ED
 (Elliptische Nadel)

Anderungen der technischen Daten vorbehalten.
 Die angegebenen Gewichts- und Abmessungsdaten sind ungefähre Werte.

SPECIFICATIONS

Généralités

Alimentation: Alternatif 110-120/220-240V, 50 ou 60 Hz
Consommation: 13,5W
Poids: 12,5 kg

Platine de lecture

Typ: Entraînement direct à quartz
 Platine manuelle

Système d'entraînement:

Moteur: Entraînement direct
 Moteur C.C. sans balai
Plateau de lecture: Aluminium moulé sous pression
 Diamètre 33,2 cm
 Poids 2 kg
Vitesses de rotation: 33-1/3 et 45 t/p.m.
Couple de démarrage: 1,5 kg.cm

Caractéristiques

d'augmentation: 0,7 s (rotation de 90°) à 33-1/3 t/p.m.
Système de freinage: Frein électronique
Pleurage et scintillement: 0,01% de valeur efficace*
 0,025% de valeur efficace (JIS C5521)
 ±0,035% de crête (IEC 98A Pondéré)

* Ce régime nominal se rapporte à l'ensemble du tournedisqueseul, excluant les effets du disque, de la cellule pick-up ou de bras de lecture, mais comprenant le plateau. Mesuré par l'obtention d'un signal provenant du générateur de fréquences incorporé de l'ensemble du moteur.

Ronflement: -56 dB (IEC 98A Non pondéré)
 -78dB (IEC 98A Pondéré)

Bras de lecture

Typ: Bras de lecture universel

Longueur effective: 230 mm

Portée du réglage de la hauteur du bras: 0-6 mm

Porte-à-faux: 15 mm

Masse réelle: 12 g (sans la cellule pick-up)

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

Angle de décalage:

22°

Frottement:

Moins de 7 mg (latéral et vertical)

Plage de réglage de la pression d'appui:

0-2,5 g

Gamme du poids de la cellule pick-up utilisable:

6-10 g
 13,5-17,5 g
 (y compris la coque porte-cellule)
 9,5-13 g
 17-20,5 g
 (y compris la coque porte-cellule)
 3,5-6,5 g
 11-14 g
 (y compris la coque porte-cellule)
Poids de la cellule: 7,5 g

(avec contrepoids auxiliaire)

(avec contrepoids de la cellule)

Cellule pick-up

No. du modèle: EPC-207C

Type: Aimant mobile

Réponse en fréquence: 20 Hz à 25 kHz

20 Hz à 15 kHz ±2dB

Tension de sortie: 3 mV à 1 kHz; 5 cm/s. zéro à vitesse latérale de crête
 (8,5 mV à 1 kHz 10 cm/s., zéro à vitesse 45° de crête [DIN 45500])
 25 dB à 1 kHz

Séparation de canal:

Equilibrage des canaux:

Elasticité (dynamique):

Pression de la pointe

de lecture:

Impédance de charge:

Poids:

Pointe de lecture de

remplacement:

En deçà de 2 dB à 1 kHz
 10 x 10⁶ cm/dyne à 100 Hz
 1,75 ±0,25 g (1,75 ±2,5 mN)
 47 kΩ to 100 kΩ
 5,6 grammes (cellule seule)
 EPS-207ED
 (Forme elliptique)

Les spécifications sont susceptibles d'être modifiées sans préavis.
 Les poids et les dimensions donnés sont approximatifs.

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■ DISASSEMBLY PROCEDURE

How to remove panel cover

1. Remove head shell and turntable.
2. Secure arm with arm clamp.
3. Remove 5 screws **A** of the panel cover as shown in Fig. 1.

How to remove stater frame coil and F.G detector coil

4. Remove 3 connectors **E** and 2 read wires **C** from power transformer as shown in Fig. 2.
5. Remove 3 screws **D** of the drive circuit board and 3 screws **E** of the stater frame cover as shown in Fig. 2.
6. Disconnect 18 soldered parts **F** of the stater coil and 4 soldered parts **G** of the F.G detector coil as show in Fig. 3.
7. Remove 3 screws **H** of the stater frame ass'y as shown in Fig. 3.

How to remove bottom base ass'y

8. Remove 4 audio insulators. (Counterclockwise rotation)
9. Remove 17 screws and spacer **I** as show in Fig. 4.
10. Remove 11 screws **J** as shown in Fig. 4.

How to remove stylus-illuminator lamp

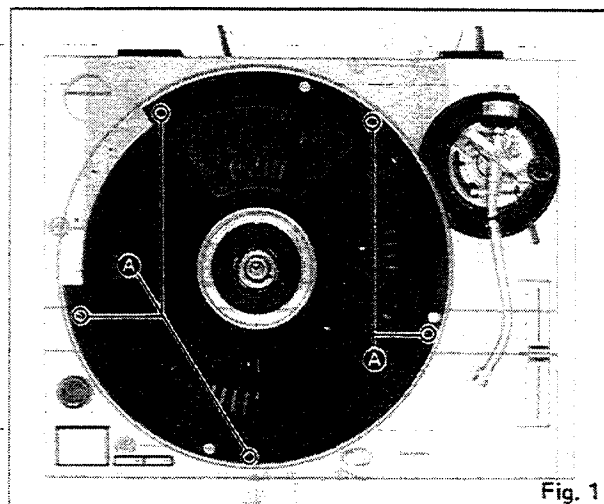
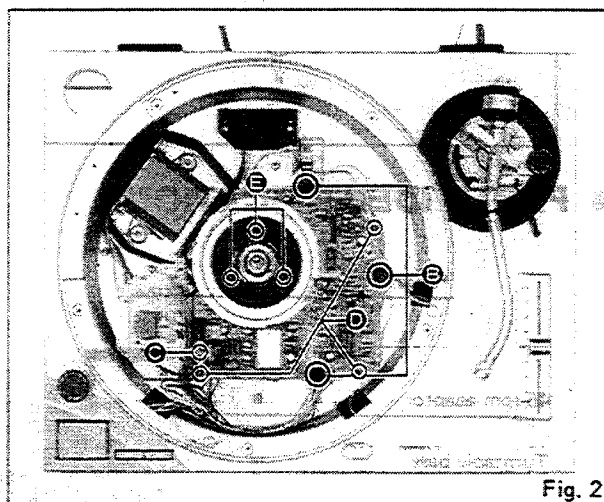
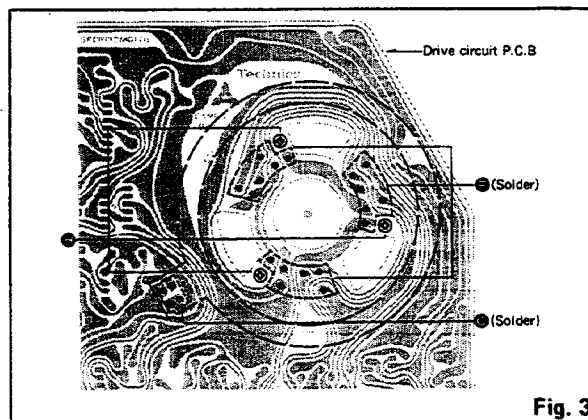
11. Remove 2 screws **K** of the stylus-illuminator lamp ass'y as shown in Fig. 5.
12. Remove 1 screw **L** as shown in Fig. 6.

How to remove neon-illuminator L.E.D.

13. Remove 4 screws **M** as shown in Fig. 5.
14. Remove 1 circlip **N** and switch cam **O** as shown in Fig. 5.
15. Remove strobo-illuminator case.

How to remove tone arm

16. Remove 4 screws **P** of the arm base cover as shown in Fig. 5.
17. Remove 2 screws **Q** of the phono cord clamber as shown in Fig. 5.
18. Remove phono cord clamber as shown in Fig. 7.
19. Remove 2 screws **R** of the phono cord p.c.b. as shown in Fig. 8.
20. Remove 2 screws **S** as shown in Fig. 8.
21. Remove 2 screws **T** of the silicon oil dumper as shown in Fig. 8.
22. Remove 3 screws **U** as shown in Fig. 8.
23. Remove 2 screws **X** of the tone arm as shown in Fig. 9.


Fig. 1

Fig. 2

Fig. 3

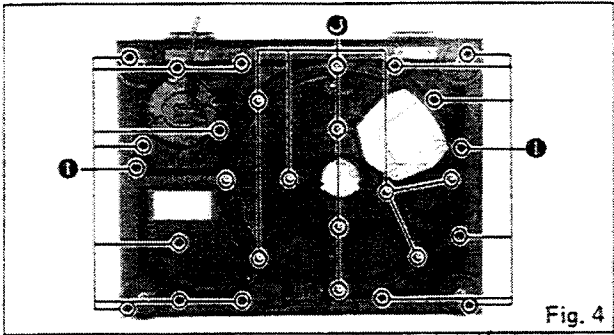


Fig. 4

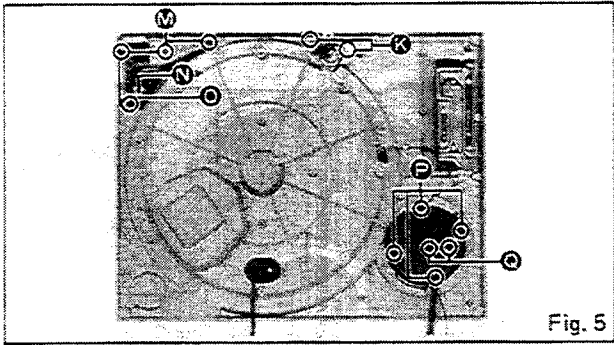


Fig. 5

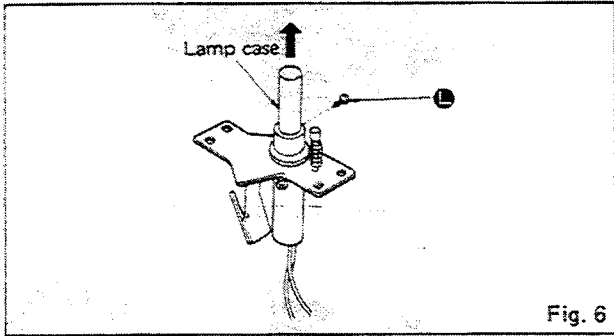


Fig. 6

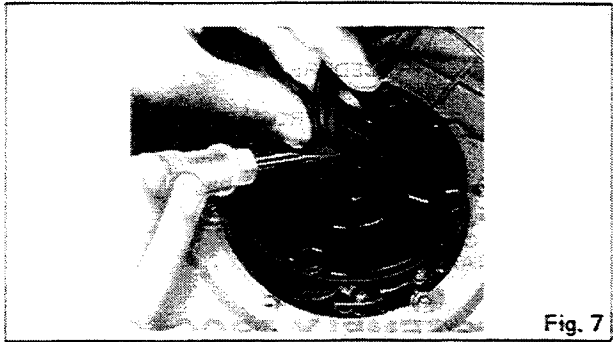


Fig. 7

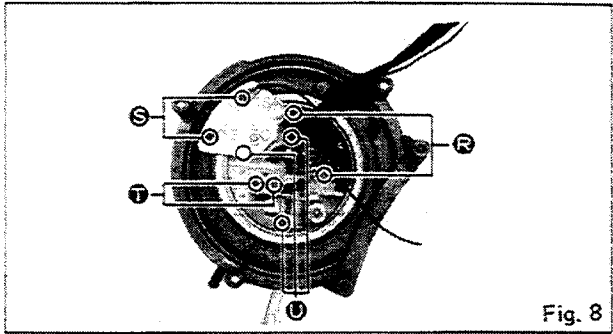


Fig. 8

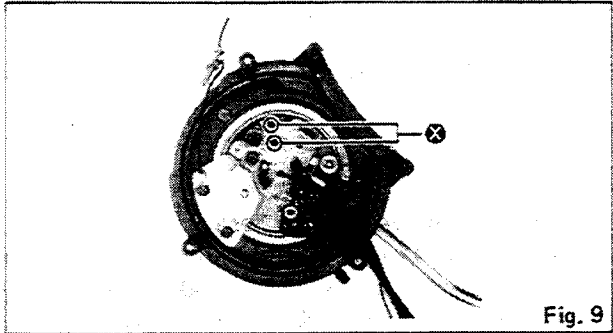


Fig. 9

■ PARTS IDENTIFICATION

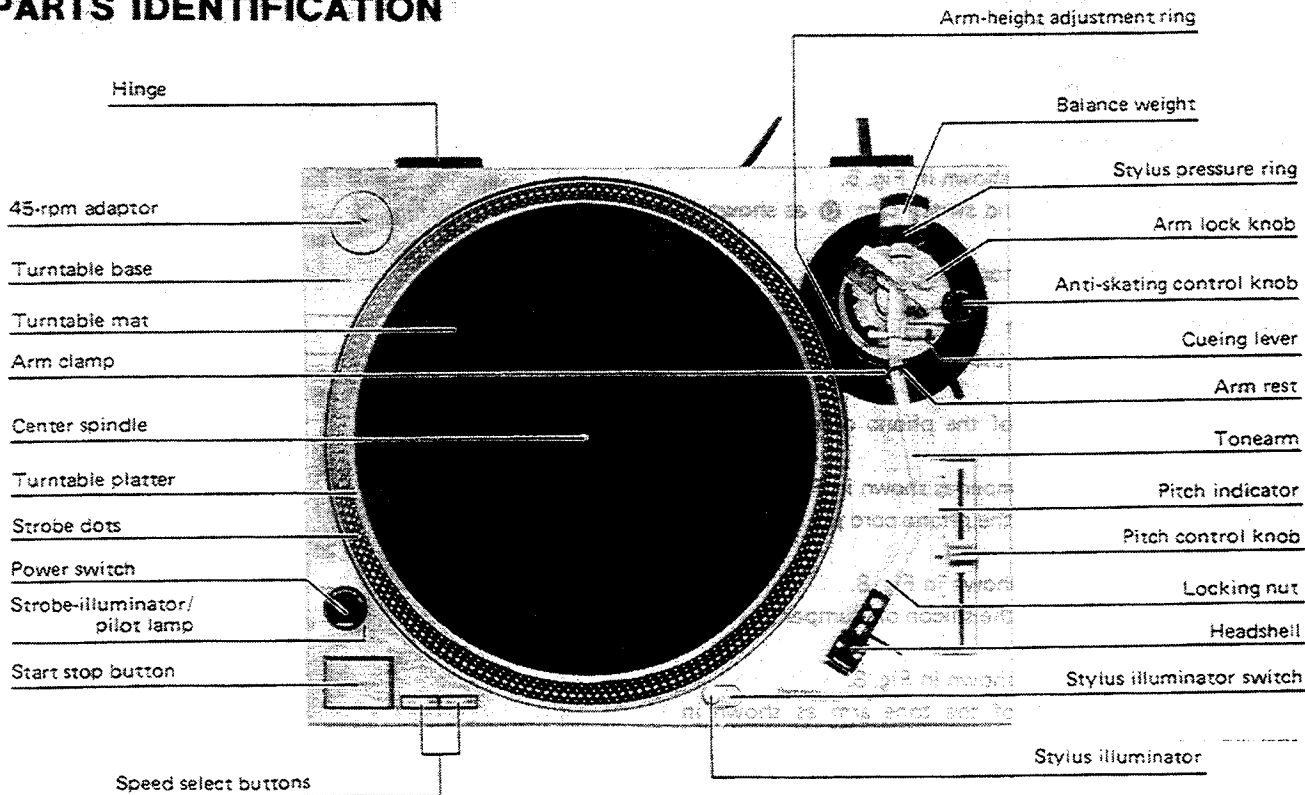


Fig. 10

■ ARM BASE ASSEMBLING PROCEDURE

1. Attach the control ring to the arm base seat. (The control ring should be roated counterclockwise.)
2. Completely tighten the control ring, and then loosen it 1.5~2.5 turns to set the scale to "3". (See Fig. 11)

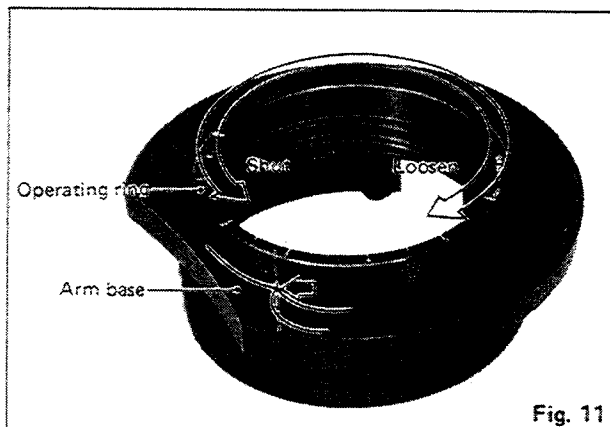


Fig. 11

3. Hold the arm base and set the red line mark on the arm base to the scale near "2", then turn the arm base clockwise. (See Fig. 12)

Note:

Take care not to allow deflection of the predetermined positions of the control-ring and arm base seat.

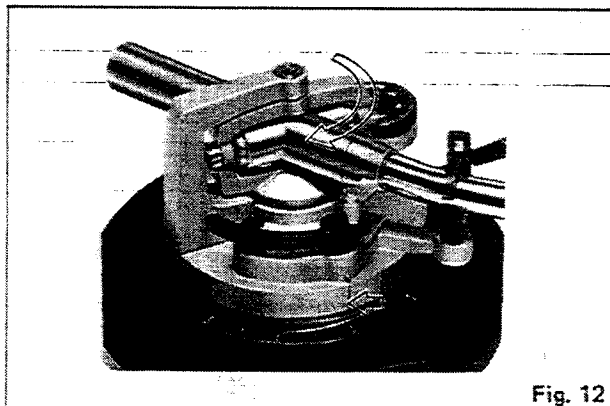


Fig. 12

4. Adjust the arm base so that the red line mark on the arm base is set to the scale "3" of the control ring. Next, secure the positioning base plate with two setscrews. (See Fig. 13)

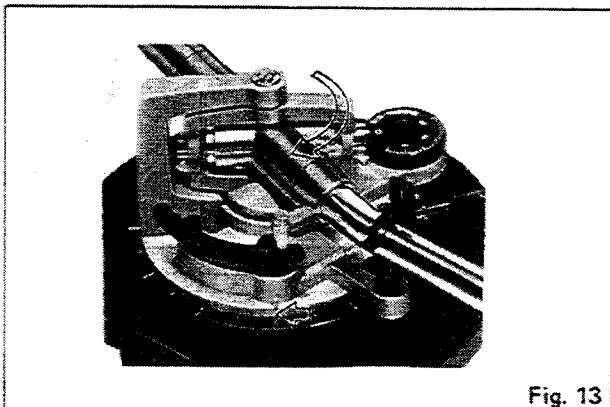


Fig. 13

5. Rotate the control ring and make sure that the arm base shifts within the range of 0~6mm. (See Figs. 14 and 15) If it does not shift within the specified range, the arm base position is deflected. In that case, disassemble the parts and check as specified in step 3.

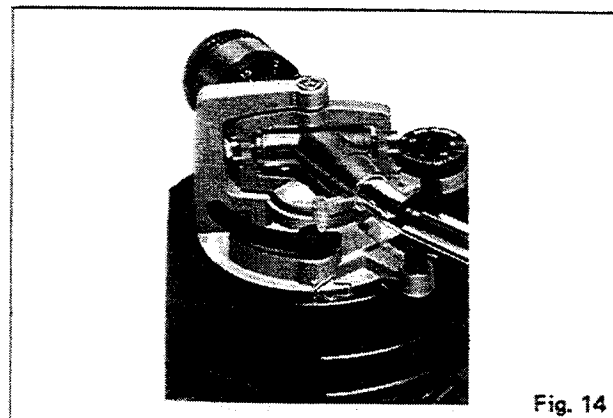


Fig. 14

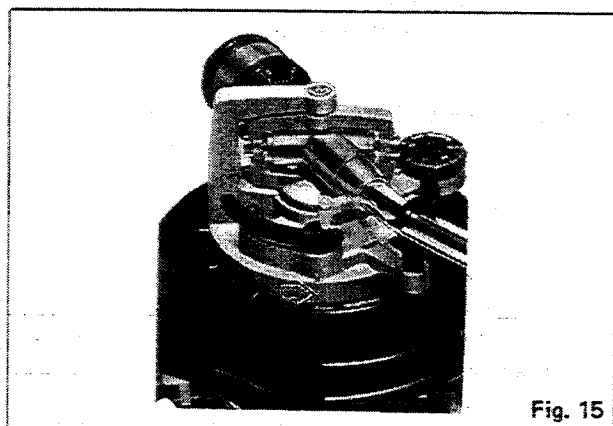


Fig. 15

■ ADJUSTMENT OF CANCELLER SPRING POSITION

If the arm body or PU base plate is replaced, be sure to set the canceller knob to "0.5" and make sure that the canceller spring is in contact with the arm shaft. (See Fig. 16)

If the canceller spring is deflected, adjust it as follows:

1. Clamp the arm on the rest.
2. Set the canceller knob to "0.5".
3. Remove the PU base plate, adjust gear A so that the canceller spring is in the position of Fig. 16.
4. Mount the PU base plate onto the arm base and check the spring position.

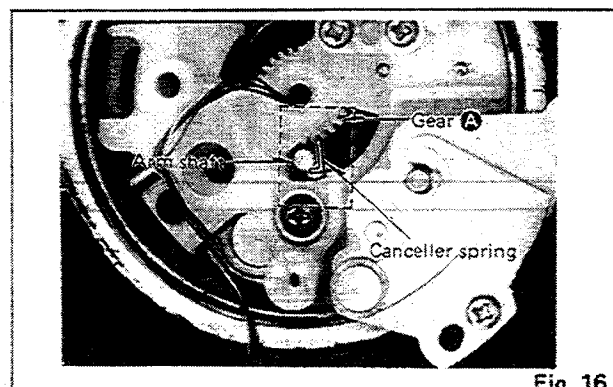


Fig. 16

■ ADJUSTMENTS

Pitch control (fine adjustment of speed) (See Figs. 18 and 19.)

When the pitch control knob is located at the center of the position after turning on the power, the green LED indicator is lit showing the operating condition for the predetermined speed (either 33-1/3 or 45 rpm). The pitch control is variable in a range of about $\pm 8\%$

Adjustment should be done on the basis of indicator scale. Figures on the indicator show approximate percentages for variable pitch control.

When the strobe dots in 4 stages marked at the peripheral edge of the turntable appear to be stationary, variation of individual pitches is shown. (See Fig. 19.)

Note:

The strobe-illumination of this unit employs a strobe-illuminator LED synchronized with the precise quartz frequency.

For fine adjustment of the turntable speed, be sure to effect the adjustment according to the LED illumination.

The LED illumination is not synchronized with fluorescent lamps.

Adjustment of arm-lift height (See Figs. 20 and 21.)

The arm-lift height (distance between the stylus tip and record surface when cueing lever is raised) has been adjusted at the factory before shipping to approximately 8-13mm.

If the clearance becomes too narrow or too wide, turn the adjustment screw clockwise or counterclockwise, while pushing the arm lift down.

Clockwise rotation

—distance between the record and stylus tip is decreased.

Counterclockwise rotation

—distance between the record and stylus tip is increased.

Note:

As the adjusting screw has hexagonal head, be sure to make the adjustment while depressing the arm lift, or the screw will not move freely.

Also be sure that the hexagonal head retracts correctly into the arm lift when the latter is released.

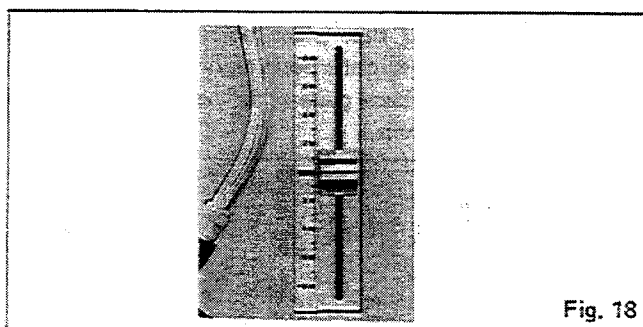


Fig. 18

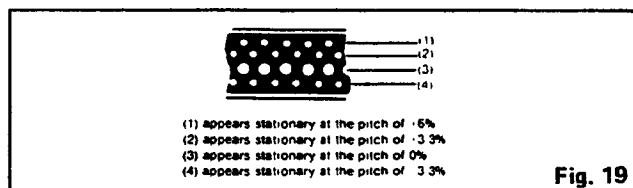


Fig. 19

Adjustment of the tonearm height (See Fig. 22.)

The height of the tonearm can be adjusted up to 6 mm, and a scale is provided on the adjust ring in 0.5 mm increments. Be sure to set the proper arm height using the adjust ring scale and referring to the table.

Height of cartridge (mm) (H)	Scale reading on the arm-height adjust ring
15	0
16	1
17	2
18	3
19	4
20	5
21	6

For example, if the cartridge height is 17.5 mm, the arm-height adjust ring should be positioned at the intermediate location between 2 and 3 on the scale. (See Fig. 22.)

Caution:

Be sure to lock the tonearm by turning the arm lock knob in the direction indicated by the arrow after finishing the height adjustment for the tonearm.

Lubrication (See Fig. 23.)

Apply 2 or 3 drops of oil once after every 2000 hours of operation.

The time interval is much longer than that for conventional type motors (200-500 hours).

Please purchase original oil. (Part number is SFWO 010.)

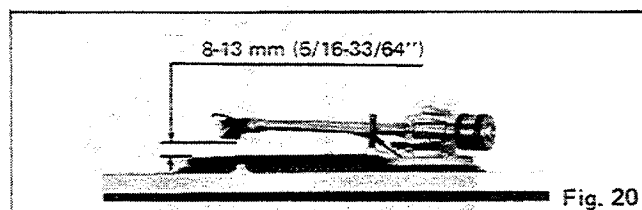


Fig. 20

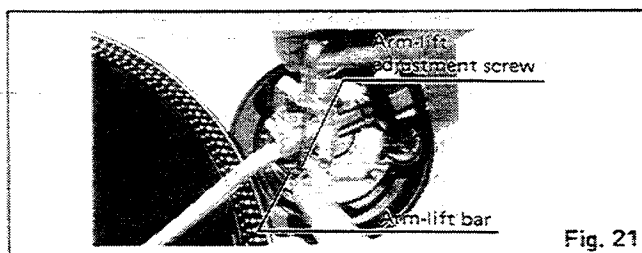


Fig. 21

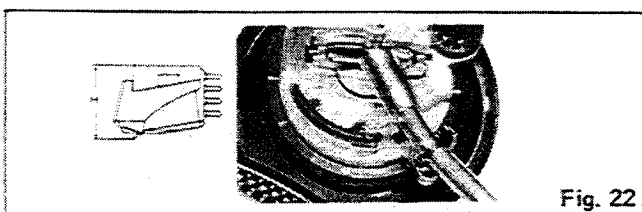


Fig. 22

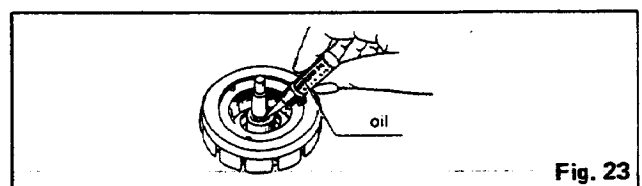


Fig. 23

■ JUSTIERUNGEN

Drehzahl-Feineinstellung (Vgl. Abb. 18 und 19.)

Wenn der Drehzahl-Feineinsteller beim Einschalten der Stromzufuhr in seiner mittleren Stellung ist, leuchtet der grüne LED-Anzeiger auf und zeigt den Betriebszustand für die vorgewählte Drehzahl (entweder 33-1/3 oder 45 U/min) an. Die Drehzahl ist über einen Bereich von ca. $\pm 8\%$ regelbar.

Die Zahlen auf dem Anzeiger geben ungefähre Prozentzahlen für die Drehzahlregulierung an.

Wenn eine der vier Stroboskoppunktzeilen am Plattentellerrand stationär zu bleiben scheint, so wird dadurch die entsprechende Drehzahlabweichung (bzw. Nenndrehzahl) angezeigt. (Vgl. Abb. 19.)

Anmerkung:

Die Stroboskopbeleuchtung dieses Plattenspielers verwendet eine Stroboskop-LED-Lampe, die mit der präzisen Quarzfrequenz synchronisiert ist.

Die Drehzahl-Feineinstellung muß unter der Beleuchtung durch diese LED-Lampe durchgeführt werden. Die LED-Lampe ist nicht mit Leuchtstofflampen synchronisiert.

Justierung der Tonarmliftheöhe (Vgl. Abb. 20 und 21.)

Die Tonarmliftheöhe, d.h. der Abstand zwischen Nadelspitze und Schallplattenoberfläche, wenn der Lift-Hebel angehoben ist, ist werkseitig auf ungefähr 8–13 mm eingestellt worden.

Falls der Abstand zu groß oder zu klein wird, drehen Sie die Justierschraube im Uhrzeigersinn oder Gegenurzeigersinn während Sie die Tonarmlifhführung nach unten drücken.

Drehung im Uhrzeigersinn

—Der Abstand wird kleiner.

Drehung im Gegenurzeigersinn

—Der Abstand wird größer.

■ JUSTIERUNGEN (Elektrisch)

- Anmerkung:
- Nach Teilerneuerung von z.B. IC, Transistor, Diode usw. die folgenden Abgleichungen vornehmen.
 - Einstellung des Gerätes
 1. Netzschalter ----- ON
 2. Tonhöhe Kontrolle ----- Mittlere Stellung.

3. Drehzahlwähler ----- 33 U/min.
- Zu verwendende Instrumente
 1. Prüfgerät
 2. Signalfrequenzmesser

Abgleichung	Anschlußpunkte	Abgleichpunkte	Abgleichmethode
A Abgleich der Tonhöhenkontrolle $\pm 0\%$ (PITCH)	Signalfrequenzmesser ⊕ — TP27 ⊖ — GROUND	VR301	1. Schalter für Tonhöhenkontrolle auf Mittelstellung. 2. VR301 auf 262,08 kHz $\pm 0,05$ kHz abgleichen.
B Abgleich des Tonhöhestärkengewinns	Prüfgerät TP31 und TP32	VR302	VR302 auf 2,7K $\pm 0,1$ des Widerstandswertes einstellen.
C Bremsen Justierung (BRAKE)	—	VR201	VR201 innerhalb 120° ~ 270° nach Haltsignalanzeige auf Kompletten Halt Justieren. (Plattenteller wird ein paar Sekunden nach Halt frei.) Haltsignal 

Anmerkung:

Da die Justierschraube einen Sechskantkopf hat, muß die Tonarmlifhführung während des Justierens unbedingt gedrückt gehalten werden, damit sich die Schraube leicht drehen läßt.

Vergewissern Sie sich, daß der Sechskantkopf in die Tonarmlifhführung zurückkehrt, wenn diese losgelassen wird.

Justierung des Antiskating-Einstellers

Stellen Sie den Antiskating-Einstellknopf auf den gleichen Wert ein, wie den Auflagedruck. (Vgl. Abb. 13.)

Justierung der Tonarmhöhe (Vgl. Abb. 22.)

Die Tonarmhöhe kann mittels eines Justierings, dessen Skala in Stufen von 0,5 mm unterteilt ist, um bis zu 6mm reguliert werden. Nehmen Sie die Justierung gemäß nachstehender Tabelle vor.

Tonabnehmerhöhe (mm) (H)	Skalaeinstellung auf dem Tonarmhöhe-Justiering
15	0
16	1
17	2
18	3
19	4
20	5
21	6

Falls die Tonarmhöhe beispielsweise 17,5 mm beträgt, sollte der Justiering zwischen die Skalaeinstellungen 2 und 3 eingestellt werden. (Vgl. Abb. 22.)

Achtung:

Nach erfolgter Tonarmhöhe-Justierung muß der Tonarm unbedingt durch Drehen des Tonarmverriegelungskopfs in der Pfeilrichtung festgestellt werden.

■ REGLAGES

Réglage d'écart (mise au point exacte de la vitesse) (Voir Figs. 18 et 19.)

Lorsque la manette de réglage d'écart est située à la position centrale une fois l'alimentation mise en marche, l'indicateur à diode électro-luminescente (LED) verte s'éclaire pour indiquer la condition de fonctionnement de la vitesse prédéterminée (soit 33-1/3 ou 45 t.p.m.). Le réglage d'écart est ajustable dans une plage d'à peu près 8%.

La mise au point devra être faite en se basant sur la graduation de l'indicateur. Les chiffres sur l'indicateur montrent les pourcentages approximatifs pour un réglage d'écart variable.

Lorsque les points stroboscopiques sur les quatre gradins du bord périphérique du plateau semblent être immobiles, la variation des écarts individuels est représentée. (Voir Fig. 19.)

Nota:

L'éclairage stroboscopique de cet appareil utilise un illuminomètre stroboscopique à diodes électro-luminescentes (LED) synchronisé avec une fréquence à quartz précise.

Pour une mise au point exacte de la vitesse du plateau, s'assurer d'effectuer le réglage selon l'éclairage de la diode électro-luminescente.

L'éclairage à diodes électro-luminescentes ne se synchronise pas avec l'utilisation de lampes fluorescentes.

Mise au point de la hauteur de l'élevateur du bras (Voir Figs. 20 et 21.)

La hauteur de l'élevateur du bras (distance entre l'extrémité de la pointe de lecture et la surface du disque lorsque le levier de pose et de relevage du bras est soulevé) a été réglée en usine avant son départ sur une valeur approximative de 8 – 13 mm.

Si l'écartement devient trop étroit ou trop large, tourner la vis de réglage dans le sens des aiguilles d'une montre ou en sens inverse, tout en abaissant l'élevateur du bras.

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.

■ REGLAGES (Electricité)

- Notes:
- Effectuer les réglages suivants après avoir remplacé des éléments tels que les IC, transistors, diodes, et autres.
 - Etat de l'appareil
 1. Commutateur d'alimentation ----- Marche
 2. Commande d'alignement de la vitesse ----- Position centrale

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.

Nota:

Comme le vis de réglage possède une tête hexagonale, s'assurer d'effectuer la mise au point tout en abaissant l'élevateur du bras, sinon la vis ne bougera pas librement. Vérifier aussi que la tête hexagonale se retire correctement dans l'élevateur du bras quand ce dernier est libéré.

Mise au point de la hauteur du bras de lecture (Voir Fig. 22.)

La hauteur du bras de lecture peut être réglée jusqu'à 6 mm et une graduation est disposée sur la bague de réglage par augmentation de 0,5 mm. S'assurer de régler convenablement la hauteur du bras en utilisant la graduation de la bague et en se référant au tableau ci-dessous.

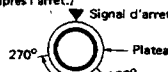
Hauteur de la cellule de lecture (mm) (H)	Lecture de la graduation sur la bague de réglage de la hauteur du bras
15	0
16	1
17	2
18	3
19	4
20	5
21	6

Par exemple, si la hauteur de la cellule de lecture est de 17,5 mm, la bague de réglage de la hauteur du bras devra être positionnée à l'emplacement intermédiaire entre les lectures de la graduation 2 et 3 indiquées sur la graduation. (Voir Fig. 22.)

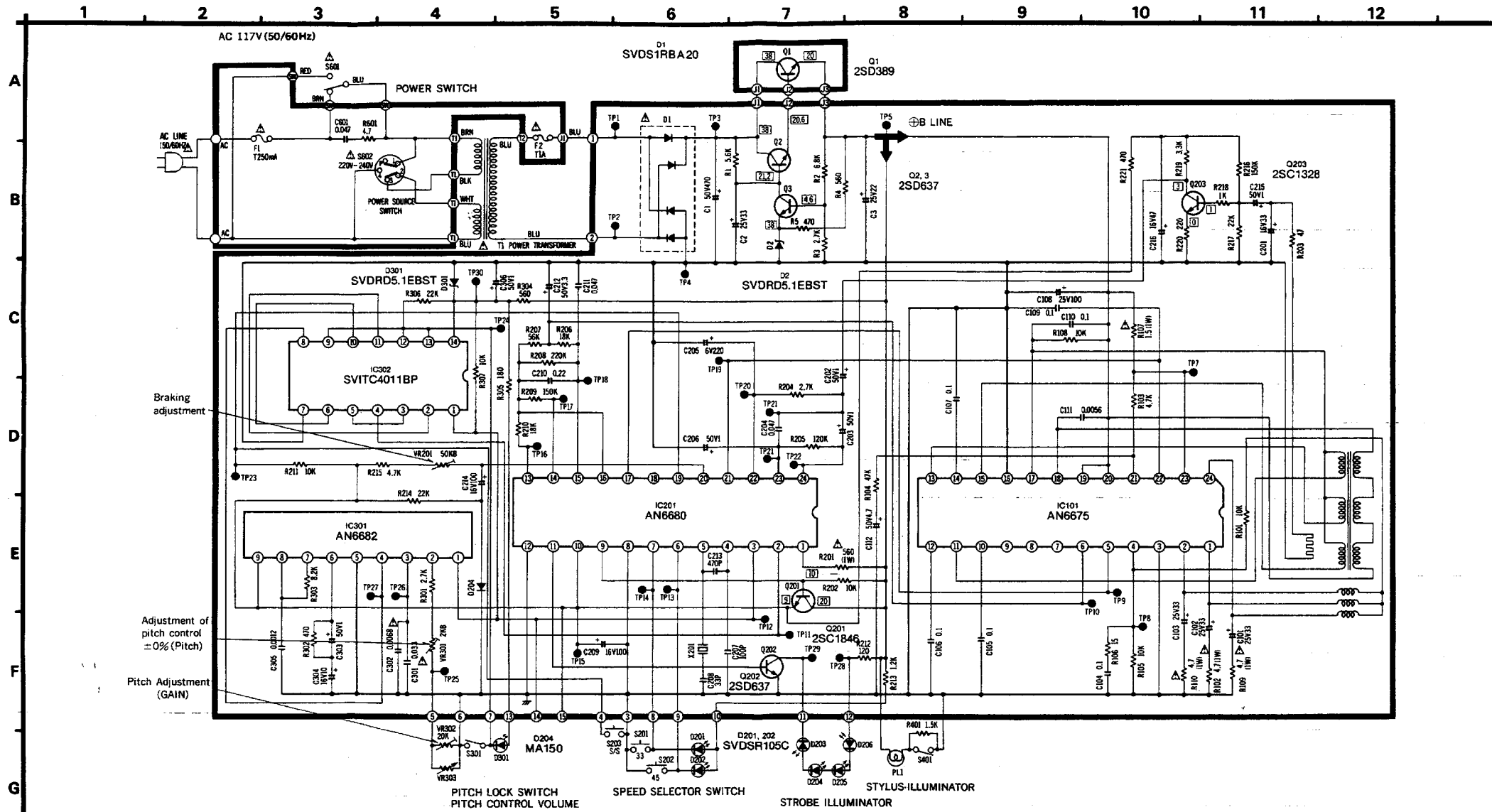
Avertissement:

S'assurer de bloquer le bras de lecture en tournant la manette de blocage du bras dans la direction indiquée par la flèche, après avoir terminé la mise au point de la hauteur du bras de lecture.

3. Commutateur du sélecteur de vitesse ----- 33-1/3 trs/mn.
- Appareils à utiliser
 1. Contrôleur
 2. Fréquence-mètre

	Réglage	Points de connexion	Points de réglage	Méthode de réglage
A	Réglage de la commande d'alignement de la vitesse, $\pm 0\%$ (PITCH)	Fréquence-mètre ⊕ — TP27 ⊖ — TERRE	VR301	1. Commutateur de commande d'alignement de la vitesse en position centrale 2. Régler la VR301 sur une fréquence de 262,08 kHz $\pm 0,05$ kHz
B	Réglage du gain de commande de la vitesse de rotation du plateau	Contrôleur TP31 et TP32	VR302	Régler la VR302 sur la valeur de la résistance de 2,7K $\pm 0,1$
C	Réglage du frein (BRAKE)		VR201	Régler la VR201 sur l'envoi du signal d'arrêt. (Le plateau devient libre quelques secondes après l'arrêt.) Signal d'arrêt 

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



■ TERMINAL GUIDE OF TRANSISTOR AND IC

AN6675	AN6680	AN6682	SVITC4011BP	2SC1846	2SC1328	2SD637	2SD389

- NOTE:**
1. S201: Speed selector switch (33-1/3 r.p.m.) in "ON" position, (push condition)
 2. S202: Speed selector switch (45 r.p.m.) in "OFF" position, (not-push condition)
 3. S203: Start/Stop switch in "OFF" position, (not-push condition)
 4. S301: Pitch lock switch in "ON" position, (center position)
 5. S401: Stylus-illuminator switch in "OFF" position.
 6. S601: Power switch in "ON" position.
 7. S602: Power source switch in "220-240V" position.
 8. The drive circuit IC voltage and wave form are not indicated in side the schematic diagram.
 9. Indicated voltage value are the standard values for the unit measured by 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.
 10. indicates that only parts specified by the manufacturer be used for safety.

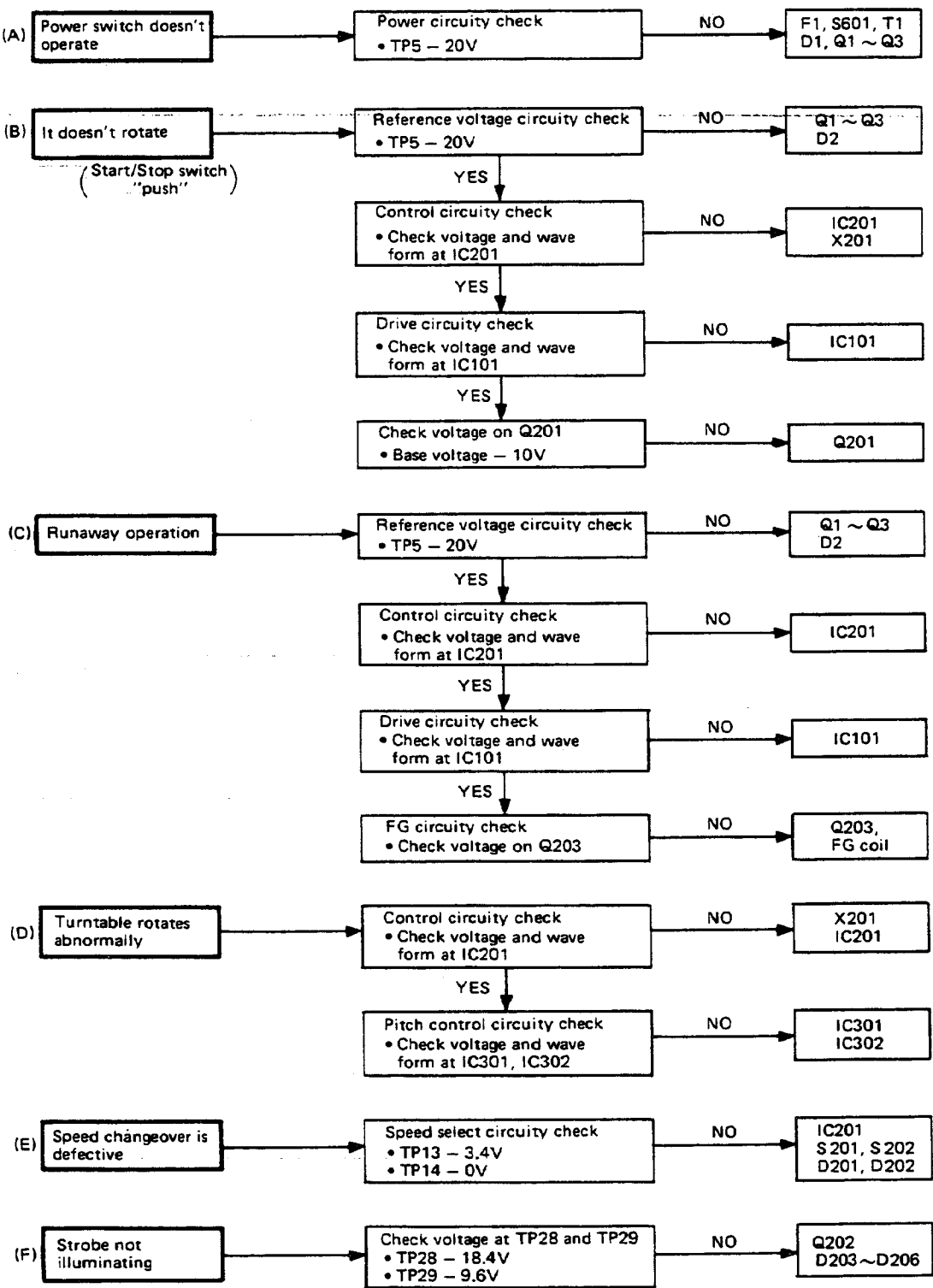
■ REPLACEMENT PARTS LIST (Electrical)

- Notes:** 1. Part numbers are indicated on most mechanical parts.
Please use this number for parts orders.
2. Δ indicates that only parts specified by manufacturer be used for safety.
3. SL-1200MK2 (XG) $\rightarrow$ [XG], SL-1200MK2 (XA) $\rightarrow$ [XA], SL-1200MK2 (XGB) $\rightarrow$ [XGB]
SL-1200MK2 (XAL) $\rightarrow$ [XAL], SL-1200MK2 (E) $\rightarrow$ [E]

Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUITS		
IC101	AN6675	Integrated Circuit
IC201	AN6680	Integrated Circuit
IC301	AN6682	Integrated Circuit
IC302	SVITC4011BP	Integrated Circuit
TRANSISTORS		
Q1	2SD389A-Q	Transistor
Q2, 3, 202	2SD637	Transistor
Q201	2SC1846-R	Transistor
Q203	2SC1328-T	Transistor
DIODES		
D1	Δ SVDS1RBA40	Rectifier
D2, 301	MA1051	Diode, Zener 5.1V
D204	MA162A	Diode
D201, 202	SVDSR-105C	Light Emitting Diode
D203~206	SVDEBR5505S	Light Emitting Diode
D301	SV DGL-9PG2	Light Emitting Diode
CRYSTAL		
X201	SVQU306115	Crystal, 4.19328MHz Oscillator
VARIABLE RESISTORS		
VR201	EVLS6AA00B54	Braking Adjustment (BRAKE), 50k Ω (B)
VR301	EVVMH2GA00B53	Adjustment of Pitch Control $\pm 0\%$ (PITCH), 5k Ω (B)
VR302	EVLS6AA00B54	Pitch Adjustment (Gain) 50k Ω
VR303	EVBJ05C19ABE	Pitch Control Volume
SWITCHES		
S201	EVQP5R04K	Switch, Speed Selector (33-1/3 r.p.m.)
S202	EVQP5R04K	Switch, Speed Selector (45 r.p.m.)
S203	SFDS55GL13C	Switch, Start/Stop
S401	SFDS02MSL-4	Switch, Stylus-illuminator
S601	Δ SFDS55GL13S	Switch, Power
S602	Δ SFDSHXW01317	Switch, Power Source
LAMP		
PL1	SFDN172-01	Lamp, Stylus-illuminator
TRANSFORMER		
T1	Δ SLTF5900	Power Transformer
FUSE		
F1	Δ XBA2C025T1A	Fuse, T250 mA
F2	Δ XBA2C10TRO	Fuse, T1A
RESISTORS		
R1	ERD25FJ562	Carbon, 5.6k Ω , 1/4W, $\pm 5\%$
R2	ERD25FJ682	Carbon, 6.8k Ω , 1/4W, $\pm 5\%$
R3	ERD25FJ272	Carbon, 2.7k Ω , 1/4W, $\pm 5\%$
R4	ERD25FJ561	Carbon, 560 Ω , 1/4W, $\pm 5\%$
R5	ERD25FJ471	Carbon, 470 Ω , 1/4W, $\pm 5\%$
R101	ERD25FJ103	Carbon, 10k Ω , 1/4W, $\pm 5\%$
R102	Δ ERX1ANJ4R7	Metal Film, 4.7 Ω , 1W, $\pm 5\%$
R103	ERD25FJ472	Carbon, 4.7k Ω , 1/4W, $\pm 5\%$
R104	ERD25FJ473	Carbon, 47k Ω , 1/4W, $\pm 5\%$
R105	ERD25FJ103	Carbon, 10k Ω , 1/4W, $\pm 5\%$
R106	ERD25FJ150	Carbon, 15 Ω , 1/4W, $\pm 5\%$

Ref. No.	Part No.	Part Name & Description
R107	Δ ERX1ANJ1R5	Metal Film, 1.5 Ω , 1W, $\pm 5\%$
R108	ERD25FJ103	Carbon, 10k Ω , 1/4W, $\pm 5\%$
R109, 110	Δ ERX1ANJ4R7	Metal Film, 4.7 Ω , 1W, $\pm 5\%$
R201	Δ ERG1ANJ561	Metal Oxide, 560 Ω , 1W, $\pm 5\%$
R202	ERD25FJ103	Carbon, 10k Ω , 1/4W, $\pm 5\%$
R203	ERD25FJ470	Carbon, 47 Ω , 1/4W, $\pm 5\%$
R204	ERD25FJ272	Carbon, 2.7k Ω , 1/4W, $\pm 5\%$
R205	ERD25TJ124	Carbon, 120k Ω , 1/4W, $\pm 5\%$
R206	ERD25TJ183	Carbon, 18k Ω , 1/4W, $\pm 5\%$
R207	ERD25TJ563	Carbon, 56k Ω , 1/4W, $\pm 5\%$
R208	ERD25TJ224	Carbon, 220k Ω , 1/4W, $\pm 5\%$
R209	ERD25TJ154	Carbon, 150k Ω , 1/4W, $\pm 5\%$
R210	ERD25TJ183	Carbon, 18k Ω , 1/4W, $\pm 5\%$
R211	ERD25FJ103	Carbon, 10k Ω , 1/4W, $\pm 5\%$
R212	ERD25FJ121	Carbon, 120 Ω , 1/4W, $\pm 5\%$
R213	ERD25FJ122	Carbon, 1.2k Ω , 1/4W, $\pm 5\%$
R214	ERD25TJ223	Carbon, 22k Ω , 1/4W, $\pm 5\%$
R215	ERD25FJ472	Carbon, 4.7k Ω , 1/4W, $\pm 5\%$
R216	ERD25TJ154	Carbon, 150k Ω , 1/4W, $\pm 5\%$
R217	ERD25TJ223	Carbon, 22k Ω , 1/4W, $\pm 5\%$
R218	ERD25FJ102	Carbon, 1k Ω , 1/4W, $\pm 5\%$
R219	ERD25FJ332	Carbon, 3.3k Ω , 1/4W, $\pm 5\%$
R220	ERD25FJ221	Carbon, 220 Ω , 1/4W, $\pm 5\%$
R221	ERD25FJ471	Carbon, 470 Ω , 1/4W, $\pm 5\%$
R301	ERD25CKF3301	Metal Film, 3.3k Ω , 1/4W, $\pm 1\%$
R302	ERD25FJ471	Carbon, 470 Ω , 1/4W, $\pm 5\%$
R303	ERD25FJ822	Carbon, 8.2k Ω , 1/4W, $\pm 5\%$
R304	ERD25FJ152	Carbon, 1.5k Ω , 1/4W, $\pm 5\%$
R306	ERD25TJ223	Carbon, 22k Ω , 1/4W, $\pm 5\%$
R601	ERD25FJ4R7	Carbon, 4.7 Ω , 1/4W, $\pm 5\%$
CAPACITORS		
C1	ECEB1HS471	Electrolytic, 470 μ F, 50V
C2	ECEA1VS330	Electrolytic, 33 μ F, 35V
C3	ECEA1ES220	Electrolytic, 22 μ F, 25V
C101, 102	ECEA1VS330	Electrolytic, 33 μ F, 35V
C103	ECEA1VS330	Electrolytic, 33 μ F, 35V
C104, 105	ECQM1H104KZ	Polyester, 0.1 μ F, 50V, $\pm 10\%$
C106, 107	ECQM1H104KZ	Polyester, 0.1 μ F, 50V, $\pm 10\%$
C108	ECEA1ES101	Electrolytic, 100 μ F, 25V
C109, 110	ECQM1H104KZ	Polyester, 0.1 μ F, 50V, $\pm 10\%$
C111	ECQM1H562KZ	Polyester, 0.0056 μ F, 50V, $\pm 10\%$
C112	ECEA1JS4R7	Electrolytic, 4.7 μ F, 63V
C201	ECEA1CS330	Electrolytic, 33 μ F, 16V
C202, 203	ECEA5021	Electrolytic, 1 μ F, 50V
C204	ECQM1H473KZ	Polyester, 0.047 μ F, 50V, $\pm 10\%$
C205	ECEA1AS221	Electrolytic, 220 μ F, 10V
C206	ECEA5021	Electrolytic, 1 μ F, 50V
C207	ECCD1H101K	Ceramic, 100pF, 50V, $\pm 10\%$
C208	ECCD1H390K	Ceramic, 39pF, 50V, $\pm 10\%$
C209	ECEA1ES101	Electrolytic, 100 μ F, 16V
C210	ECQM1H224KZ	Polyester, 0.22 μ F, 50V, $\pm 10\%$
C211	ECQM1H473KZ	Polyester, 0.047 μ F, 50V, $\pm 10\%$
C212	ECEA5023R3	Electrolytic, 3.3 μ F, 50V
C213	ECCD1H471K	Ceramic, 470pF, 50V, $\pm 10\%$
C214	ECEA1ES101	Electrolytic, 100 μ F, 25V
C215	ECEA5021	Electrolytic, 1 μ F, 50V
C216	ECEA1ES470	Electrolytic, 47 μ F, 25V
C301, 302	Δ ECQK1123FZ	Polyester, 0.012 μ F, 125V, $\pm 1\%$
C303	ECEA5021	Electrolytic, 1 μ F, 50V
C304	ECEA1HS100	Electrolytic, 10 μ F, 50V
C305	ECQM1H122KZ	Polyester, 0.0012 μ F, 50V, $\pm 10\%$
C306	ECEA5021	Electrolytic, 1 μ F, 50V
C601	ECNC4A473M	Paper, 0.047 μ F, 400V, $\pm 20\%$

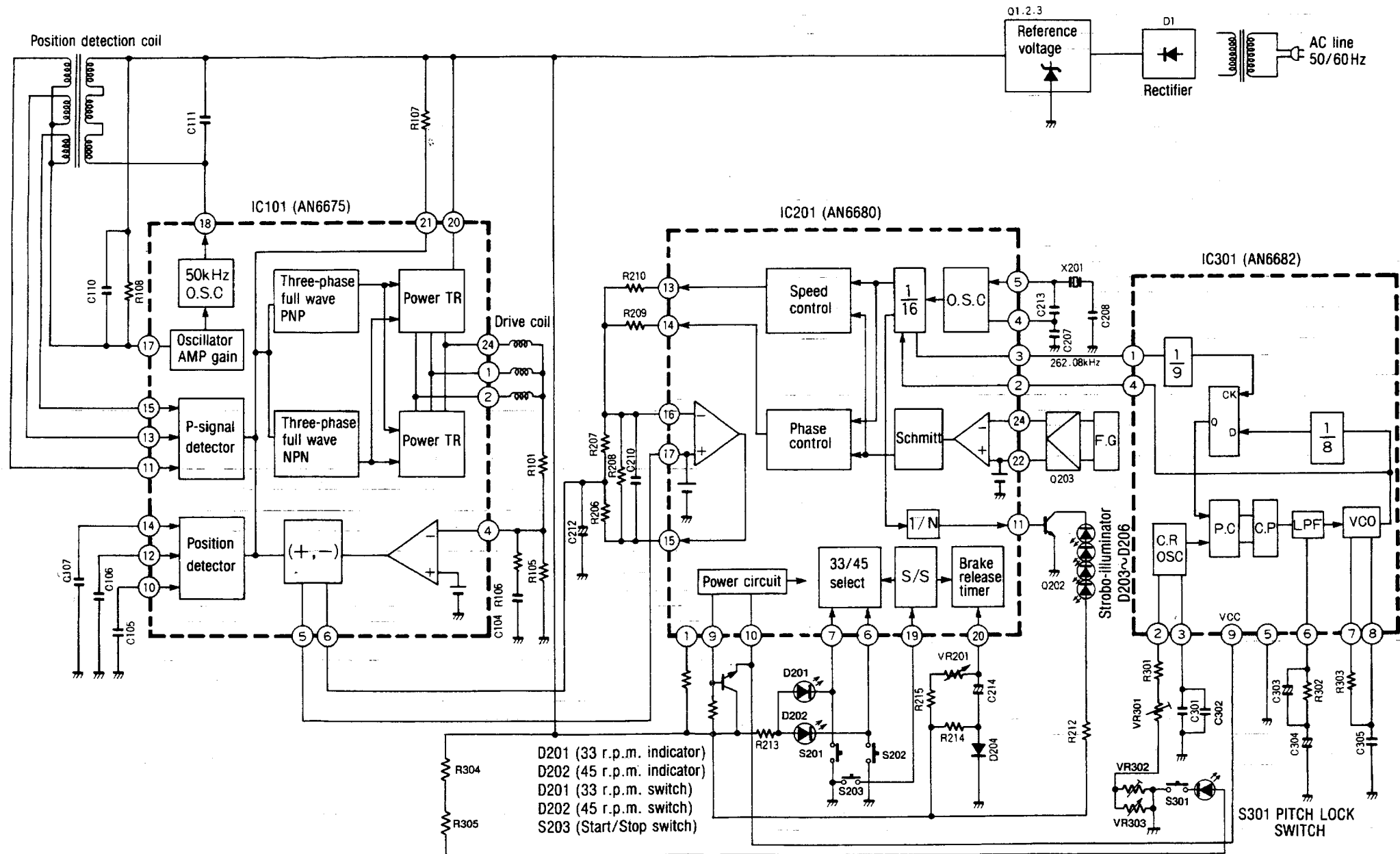
■ TROUBLE SHOOTING



 + B line
 Earth (Ground) lines



■ BLOCK DIAGRAM



■ ADJUSTMENT (Electrical)

Notes: ● Make the following adjustments after replacing parts such as IC's, transistors, diodes, etc.

- Condition of the set.
 1. Power switch ON
 2. Pitch control Center position
 3. Speed selector switch 33-1/3 r.p.m.
- Instruments to be used
 1. Tester
 2. Frequency counter

	Adjustment	Connection Points	Adjustment Point	Adjustment Method
A	Adjustment of pitch control $\pm 0\%$ (PITCH)	Frequency counter ⊕ — TP27 ⊖ — GROUND	VR301	1. Pitch control switch to center position. 2. Adjust VR301 for 262.08 kHz ± 0.05 kHz of frequency.
B	Adjustment of pitch control gain	Tester TP31 and TP32	VR302	Adjust VR302 for 2.7 k Ω ± 0.1 of resistance value
C	Braking adjustment (BRAKE)	—	VR201	Adjust VR201 for complete stop within 120° ~ 270° after stop signal initiated. (Turntable becomes free a few seconds after stop) STOP SIGNAL 270° Turntable 120°

■ REFERENCE VOLTAGE AND WAVEFORM AT EACH IC PIN

IC101 (AN6675)

	Start	Stop		Start	Stop		Start	Stop
①	2V	2V	⑩		15V	⑪	Same as at right	
②	2V	2V						
③	0V	0V						
④	5V	5V						
⑤	5V	5V	⑪		15V	⑫	20V	20V
⑥	5V	6.6V						
⑦	0V	0V						
⑧	5V	5V						
⑨	0V	0V	⑫		15V	⑬	0.2V	0.2V
⑩		15V						
⑪								

IC201 (AN6680)

	Start	Stop		Start	Stop		Start	Stop
①	2.5V	2.5V	⑩		10V	⑪	Same as at right	
②	Same as at right							
③	Same as at right							
④	Same as at right							
⑤	Same as at right		⑪	0.2V	0.2V	⑫	3V	3V
⑥	3.4V	3.4V						
⑦	0V	0V						

IC301 (AN6682)

	Start	Stop		Start	Stop		Start	Stop
①	Same as at right		⑩	0V	0V	⑪	9V	9V
②	Same as at right							
③	Same as at right							

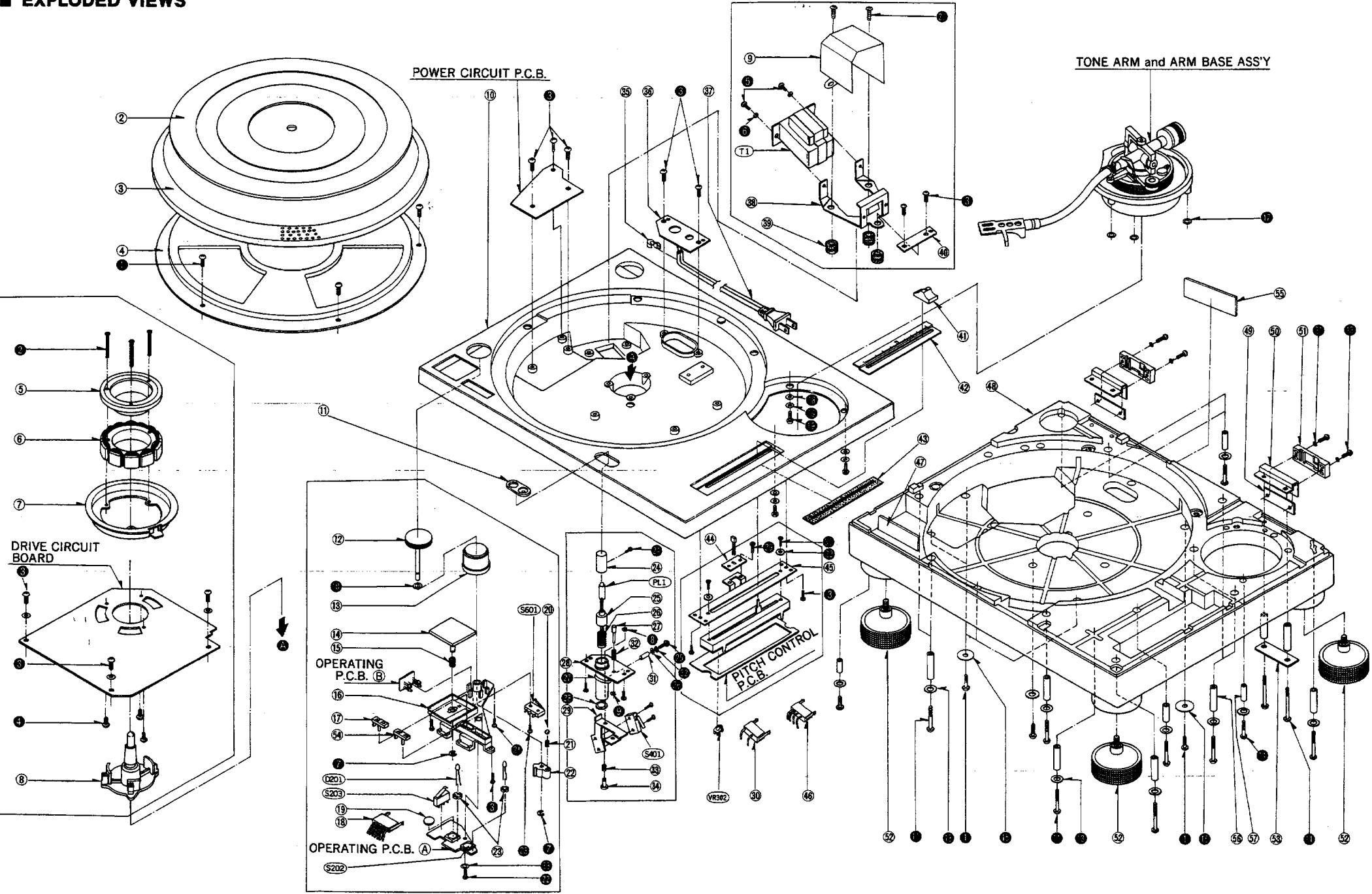
IC302 (5V) IC4011BP)

	Start	Stop		Start	Stop		Start	Stop
①	Same as at right		⑩	5V	5V	⑪	5V	5V
②	5V	5V						
③	Same as at right							
④	5V	5V						

Q202 (2SD637)

	Start	Stop
E	0V	0V
C	Same as at right	
B	Same as at right	

■ EXPLODED VIEWS

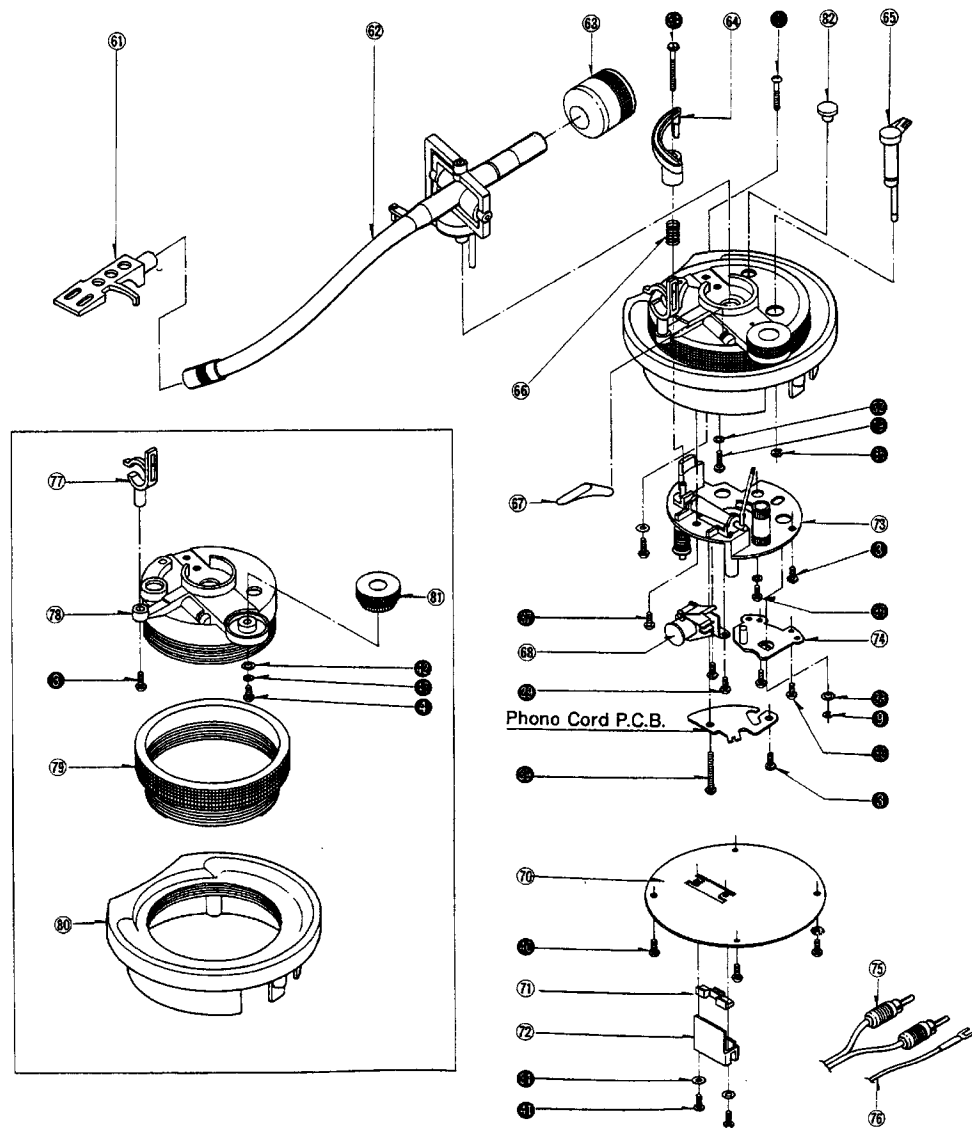


■ REPLACEMENT PARTS LIST (Mechanical)

- Notes:** 1. Part numbers are indicated on most mechanical parts.
Please use this number for parts orders.
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3. SL-1200MK2 (XG) $\rightarrow$ [XG], SL-1200MK2 (XA) $\rightarrow$ [XA], SL-1200MK2(XGB) $\rightarrow$ [XGB]
SL-1200MK2 (XAL) $\rightarrow$ [XAL], SL-1200MK2 (E) $\rightarrow$ [E]

Ref. No.	Part No.	Part Name & Description
CABINET and CHASSIS PARTS		
1	SFAD122-01A	Dust Cover
2	SFTG172-01	Turntable Mat
3	SFTE172-01Z	Turntable
4	SFUM172-05	Cover, Turntable
5	SFMG020-01	Cover, Stator Frame Ass'y
6	SFMG520-31A	Stator Frame
7	SFM2172-01E	FG Detector Coil Ass'y
8	SFMZ020-01A	Shaft, Stator Frame Ass'y
9	SFUP122-12	Plate, Shield
10	SFAC122-01	Cabinet
11	SFUM172-04	Ornament, Stylus-Illuminator
12	SFKT122-01	Knob, Power Switch
13	SFKK122-01E	Case, Strobe-Illuminator
14	SFKT015-06	Knob, Start/Stop Switch
15	SFQA122-01	Spring, Start/Stop Knob
16	SFUM122-01	Base, Operation
17	SFKT015-01E	Knob, Speed Selector (33-1/3 r.p.m.)
18	SFDJ122-02E	Connector, 7-PIN
19	SFGZ122-01	Spacer, Rubber (Speed Selector)
20	SFYB5-32	Ball, Switch Cam
21	SFQA520-01	Spring, Switch Cam
22	SFUM122-03	Cam, Switch
23	SFUM015-11	Spacer, LED
24	SFKK172-01	Cover, Lamp
25	SFXB122-02	Boss, Drive
26	SFQA172-01	Spring, Drive Boss
27	SFXJ172-01	Pin, Lock Canceler
28	SFUP122-02E	Bracket, Stylus-Illuminator
29	SFUP122-03	Plate, Lock Operation
30	SFDJ122-03E	Connector, 3-PIN
31	SFXO172-01	Pin, Guide
32	SFQA520-01	Spring, Lock Canceler Pin
33	SFQA001-02	Spring, Lock Operating Plate M'tg
34	SFXJ172-05	Pin, Lock Operating Plate M'tg
35 except [XAL]	SFSR4M4	Clamper, AC Cord
35 [XAL] only	SFHK040L	Clamper, AC Cord
36 except [XAL]	SFUP025X01	Bracket, AC Cord
36 [XAL] only	SFUP025-01	Bracket, AC Cord
37 except [XAL]	Δ RJA232C	AC Cord
37 [XAL] only	Δ QFC1208M	AC Cord
38	SFUP132-03	Bracket, Power Transformer
39	SFGC122-01	Cushion, Power Transformer
40	SFUP122-10	Spacer, Power Transformer
41	SFKT122-02	Knob, Pitch Control Volume
42	SFKK122-03	Ornament, Pitch Control Volume
43	SFUZ122-01	Shading Cloth, Pitch Control Volume
44	SFUP122-09	Holder, LED
45	SFUP122-01	Bracket, Pitch Control Volume
46	SFDJ122-01E	Connector, 4-PIN
47	SFUP122-13	Supporter, Bottom Base
48	SFAU122-01	Base, Bottom
49	SFUP122-05	Supporter (A), Hinge
50	SFUP122-04	Supporter (B), Hinge
51	SFUM170-07	Case, Hinge
52	SFGC122-02E	Audio Insulator
53	SFUP122-06	Supporter (C), Hinge
54	SFKT015-02E	Knob, Speed Selector (45 r.p.m.)
55 [XG, XA, XGB]	SFNN122N01	Name Plate
55 [XAL]	SFNN122L01	Name Plate
56 [E] only	SFNN122S01	Instruction Book
57	SFXO122-01	Pipe (A)
58	SFXO122-02	Pipe (B)
	SFAT122-01A	Hinge Ass'y
TOPE ARM and ARM BASE		
61	SFPC31001K	Head Shell
62	SFPAM18201K	Tone Arm Ass'y
63	SFPNG17201K	Balance Weight Ass'y
64	SFPRT18201K	Lift Ass'y
65	SFPZB17202	Knob, Arm Base Lock
66	SFQA829-03	Spring, Lift Ass'y
67	SFPAB13202	Knob, Arm Lift
68	SFPJL18202K	Oil Damper
69	SFPZB12203	Plate, Arm Base Cover
70	SFUM170-06	Spacer, Phono Cord
71	SFPZB12204	Clamper, Phono Cord
72	SFPAB18201K	Tone Arm Fixing Plate Ass'y

■ EXPLODED VIEWS



■ FEATURES

Total quartz locked continuous pitch adjustment $\pm 8\%$

Quartz-phase-locked control means almost perfect accuracy of turntable rotation.

But with most quartz turntables, this accurate control circuit must be cut out when the pitch control is employed. With the SL-1200MK2, however, pitch is variable continuously (analogically) by up to $\pm 8\%$ under total quartz-locked control. The pitch is controlled with a large sliding lever, located to the right of the turntable platter.

Four lines of platter markings are also provided indicating +6%, +3.3%, 0% (exact rated speed) and -3.3% change from rated speed.

Aluminum diecast cabinet and special heavy rubber base material provide acoustic isolation

The effects of external vibrations are dramatically reduced in the turntable by this new turntable construction.

The turntable base is precision-made aluminum diecast. And the underside of the main base is made of a heavy rubber material (special one-piece molding) which has excellent vibration resistance and absorbing characteristics. The turntable platter is also vibration-damped with specially fabricated rubber matting in the underside along with the thick turntable sheet (rubber mat). Four large-size insulating feet also help to absorb unwanted vibrations.

These features make SL-1200MK2 ideal for use with extra-high sound pressure levels.

High torque for fast starts

The integral rotor/platter motor delivers 1.5kg-cm (1.3lb-in) starting torque. This high torque gives very quick starts enabling the platter to reach 33-1/3 rpm within 0.7 s. (a quarter of a turn). This is a big advantage in many professional applications where fast cueing is a necessity.

Stylus illuminator for low-light conditions

You'll appreciate the stylus illuminator when you are using the turntable under low-light conditions. The illuminator can be hidden in the turntable base, should you need it, simply push a button and it will pop up gently and cast a beam of light across the disc in the area traversed by the tonearm.

You can then clearly see the spaces between the selections on the record, and cue the arm exactly where you want it. The illuminator can then be pushed back down into the base.

High sensitivity, low mass, gimbal suspension tonearm

The highly sensitive tonearm features a genuine gimbal suspension, the rotational center of which is precisely defined at one point. Bearings are finished to a tolerance of ± 0.5 microns. This and the extra-closeness of pivot center to the bearings, result in the minimal friction of 7 mg (0.007 g) for both horizontal and vertical movement. Add to this the low 12-gram effective tonearm mass (including headshell, without cartridge) and you have a tonearm compatible with the wide range of compliances found in today's cartridges. If you choose a popular high compliance MM cartridge, the low range resonance frequency will appear in the correct area to avoid warp frequencies of records, but without entering the low end of the audio spectrum. This tonearm is provided with a computer designed, light-weight, high-rigidity headshell made of single-piece diecast aluminum to resist partial vibration. The universal design allows headshell interchangeability. Contacts are gold-plated.

Helicoid tonearm height adjustment

Arm height is adjustable within a range of 6 mm to accommodate varying cartridge dimensions. Adjustments are done with a precision-made helicoid.

Other fine features

- Quick stops are achieved with a fully electronic braking system.
- A strobe illuminator is provided. The stroboscope is controlled by the extremely stable quartz oscillator, rather than potentially unstable AC line frequency.
- Power on/off control built-into strobe illuminator for ease-of-operation.
- Soft-touch start-stop switch allowing precision control capability without the annoyance of accidental operation.
- Technics integral rotor/platter motor construction with full cycle detection FG.

— NOTE —

Cross section of SL-1200MK2

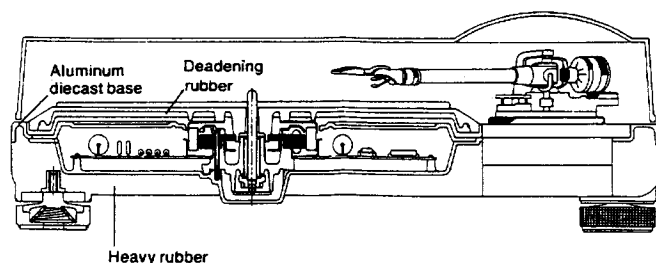


Fig. 24

Panasonic Technics

Panasonic Service Dokumentations-Center

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Service Manual

Turntable System
SL-1210MK2
 [XG], [E]

Areas

- * [XG] is available in European.
- * [E] is available in Scandinavia.

For additional information, Please refer to the service manual for Model No. SL-1200MK2 [XG, XA, XGB, XAL, E]

- Notes:**
- * This service manual included only the change of the SL-1200MK2 [XG, XA, XGB, XAL, E] service manual (ORDER NO. SD7909-1622)
 - * When servicing model **SL-1210MK2 [XG, E]**, this service manual and **SL-1200MK2** (ORDER NO. 7909-1622) service manual should be used together.

CHANGES

■ REPLACEMENT PARTS LIST

Ref. No.	Change of Part No.		Part Name & Description	Per Set (Pcs.)	Remarks
	SL-1200MK2 [XG, XA, XGB, XAL, E]	SL-1210MK2 [XG, E]			
CABINET and CHASSIS PARTS					
10	SFAC122—01	SFAC124S01	Cabinet (Black)	1	○
35	SFSR4N4	SFSR4N4	Clamper, AC Cord	1	
	SFHK040L [XAL] only				
36	SFUP025X01	SFUP025X01	Blacket, AC Cord	1	
	SFUP025—01 [XAL] only				
37	RJA23ZC	SJA88	AC Cord	1	
	QFC1208M [XAL] only				
42	SFKK122—03	SFKK124S01	Ornament, Pitch Control Volume	1	
55	SFNN122N01	SFNN124Q01 [XG]	Name Plate	1	○
	SFNN122L01 [XAL] only				
	SFNN122S01 [E] only	SFNN124S01 [E]	Name Plate	1	○
TONE ARM and ARM BASE PARTS					
62	SFPAM18201K	SFPAM18202K	Tone Arm Ass'y	1	○
82	SFGK132—01	SFGK133S01	Cap, Rubber	1	
PACKING PARTS					
P1	SFHP122M01	SFHP124S01	Carton Box	1	○

■ REPLACEMENT PARTS LIST (Mechanical)

- Notes:** 1. Part numbers are indicated on most mechanical parts.
Please use this number for parts orders.
2. Δ indicates that only parts specified by manufacturer be used for safety.

Ref. No.	Part No.	Part Name & Description
CABINET and CHASSIS PARTS		
1	SFAD122-01A	Dust Cover
2	SFTG172-01	Turntable Mat
3	SFTE172-01Z	Turntable
4	SFUM172-05	Cover, Turntable
5	SFMGQ20-01	Cover, Stater Frame Ass'y
6	SFMG520-31A	Stater Frame
7	SFMZ172-01E	FG Detector Coil Ass'y
8	SFMZQ20-01A	Shaft, Stater Frame Ass'y
9	SFUP122-12	Plate, Shield
10	SFAC124S01	Cabinet
11	SFUM172-04	Ornament, Stylus-illuminator
12	SFKT122-01	Knob, Power Switch
13	SFKK122-01E	Case, Strobe-illuminator
14	SFKT015-06	Knob, Start/Stop Switch
15	SFQA122-01	Spring, Start/Stop Knob
16	SFUM122-01	Base, Operation
17	SFKT015-01E	Knob, Speed Selector (33-1/3 r.p.m.)
18	SFDJ122-02E	Connector, 7 PIN
19	SFGZ122-01	Spacer, Rubber (Speed Selector)
20	SFYB5-32	Ball, Switch Cam
21	SFQA520-01	Spring, Switch Cam
22	SFUM122-03	Cam, Switch
23	SFUM015-11	Spacer, LED
24	SFKK172-01	Cover, Lamp
25	SFXB122-02	Boss, Drive
26	SFQA172-01	Spring, Drive Boss
27	SFXJ172-01	Pin, Lock Canceler
28	SFUP122-02E	Bracket, Stylus-illuminator
29	SFUP122-03	Plate, Lock Operation
30	SFDJ122-03E	Connector, 3-PIN
31	SFXO172-01	Pin, Guide
32	SFQA520-01	Spring, Lock Canceler Pin
33	SFQA001-02	Spring, Lock Operating Plate M'tg
34	SFXJ172-05	Pin, Lock Operating Plate M'tg
35	SFSR4N4	Clamper, AC Cord
36	SFUP025X01	Bracket, AC Cord
37	Δ SJA88	AC Cord
38	SFUP132-03	Bracket, Power Transformer
39	SFGC122-01	Cushion, Power Transformer
40	SFUP122-10	Spacer, Power Transformer
41	SFKT122-02	Knob, Pitch Control Volume
42	SFKK124S01	Ornament, Pitch Control Volume
43	SFUZ122-01	Shading Cloth, Pitch Control Volume
44	SFUP122-09	Holder, LED
45	SFUP122-01	Bracket, Pitch Control Volume
46	SFDJ122-01E	Connector, 4-PIN
47	SFUP122-13	Supporter, Bottom Base
48	SFAU122-01	Base, Bottom
49	SFUP122-05	Supporter (A), Hinge
50	SFUP122-04	Supporter (B), Hinge
51	SFUM170-07	Case, Hinge
52	SFGC122-02E	Audio Insulator
53	SFUP122-06	Supporter (C), Hinge
54	SFKT015-02E	Knob, Speed Selector (45 r.p.m.)
55 [XG]	SFNN124Q01	Name Plate
55 [E]	SFNN124S01	Name Plate
56	SFXO122-01	Pipe (A)
57	SFXO122-02	Pipe (B)
58	SFAT122-01A	Hinge Ass'y
TONE ARM and ARM BASE		
61	SFPCC31001K	Head Shell
62	SFPAM18202K	Tone Arm Ass'y
63	SFPWG17201K	Balance Weight Ass'y
64	SFPRT18201K	Lift Ass'y
65	SFPZB17202	Knob, Arm Base Lock
66	SFQA829-03	Spring, Lift Ass'y
67	SFPAB13202	Knob, Arm Lift
68	SFPJL18202K	Oil Damper
70	SFPZB12203	Plate, Arm Base Cover
71	SFUM170-06	Spacer, Phono Cord
72	SFPZB12204	Clamper, Phono Cord
73	SFPAB18201K	Tone Arm Fixing Plate Ass'y

Ref. No.	Part No.	Part Name & Description
74	SFPZB12201K	Plate, Position Fix
75	SFDH028-01	Phono Cord
76	SFELQ28-01E	Ground Wire
77	SFPRT17201K	Arm Rest
78	SFPKD17203	Arm Base
79	SFPKB17201S	Ring, Arm Base Operation
80	SFPKD12201	Bracket, Arm Base
81	SFPAB17206	Knob, Anti-skate Force Control
82	SFGK133S01	Cap, Rubber
SCREWS, WASHERS and CIRCLIPS		
●	XTN3+8BFZ	Screw
●	SFXGQ20-02	Screw
●	XTN3+8B	Screw
●	XTN26+6B	Screw
●	XTN4+10B	Screw
●	XWA4B	Washer
●	XUC3FT	Circlip
●	XUC2FT	Circlip
●	XUC25FT	Circlip
●	SFXW910J02	Washer
●	XTN3+40BFZ	Screw
●	XSN3+10BVS	Screw
●	XWE3F12FZ	Washer
●	XTN3+25BFZ	Screw
●	SFXW122-01	Washer
●	XWE3E10	Washer
●	SFPEW1100	Washer
●	SFPEW11003	Washer
●	XSN3+8S	Screw
●	SFXG172-01	Screw
●	XTV3+8BFN	Screw
●	XTN3+10B	Screw
●	XTN2+10B	Screw
●	XSN17+3FY	Screw
●	XSN3+14S	Screw
●	SFXW172-04	Washer
●	XUB14FT	Circlip
●	SFUZ172-05	O Ring
●	XTN3+6B	Screw
●	XSN3+6S	Screw
●	XWA3BEZ	Washer
●	XWA3B	Washer
●	XWG3	Washer
●	SFXG829-1	Screw
●	XUC5FT	Circlip
●	XTW3+6B	Screw
●	XTV3+68FN	Screw
●	XWE4A10EW	Washer
●	XTN3+25B	Screw
●	XYN3+C6FZS	Screw
●	XSN3+12BVS	Screw
●	SFPEW17201	Washer
●	XWG26	Washer
ACCESSORIES		
A1 [XG]	SFNU122X01	Instruction Book
A1 [E]	SFNU122S01	Instruction Book
A2	SFWE010	Adaptor, 45 r.p.m.
A3	SFPEN3302	Nut, Cartridge
A4	SFPEW9601	Washer, Cartridge
A5	SFCZV8801	Screw, Cartridge
A6	SFPEV9801	Screw, Cartridge
A7	SFKO135-01	Overhang Gauge
A8	SFPZB3501	Shell Weight
PACKINGS		
P1	SFHP124S01	Carton
P2	SFHH122-01	Pad, Front
P3	SFHH122-02	Pad, Rear
P4	SFHD122-01	Pad, Top
P5	SFHD122-02	Pad, (A), Turntable
P6	SFHD122-03	Pad, (B), Turntable
P7	SFYH60X60	Polyethylene Cover, Turntable Unit and Dust Cover
P8	SFYH40X45	Polyethylene Cover, Turntable