ORDER NO. SD8003-1678

Service Manual

Turntable System

SL-B5
(M), (MC)

SL-B5A
(M)

Areas

* [M] is available in U.S.A.
* [MC] is available in Canada.

SPECIFICATION

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

General

Power supply:	120V, AC 50 or 60 Hz
Power consumption:	3 W
Dimensions: (W x H x D)	43.0 x 17.9 x 37.2cm (16-59/64" x 7-3/64" x 14-41/64")
Weight:	4.8kg (10.6 lb)

Turntable section

Type:	Automatic turntable (Multiple play) (Auto start Auto return Auto stop Repeat play)
Drive method:	Beld drive
Motor:	Frequency generator servo DC motor
Turntable platter:	Aluminum die-cast Diameter 30.4 cm (12 inches)
Turntable speeds:	33-1/3 rpm and 45 rpm
Pitch control:	±6% adjustment range
Wow and flutter:	0.045% WRMS (JIS C5521) ±0.06% peak (IEC 98A Weighted)
Rumble:	−70 dB (IEC 98A Weighted)

Tonearm section

Type:	Universal tonearm
Effective length:	230 mm (9-1/16")
Overhang:	15 mm (19/32")
Effective mass:	12 g (without cartridge)
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
Offset angle:	22°
Effective mass:	12g (without cartridge)
Stylus pressure adjustment range:	0–2.5 g
Applicable cartridge weight range:	6–9.5 g 14–17.5 g (including headshell)
Headshell weight:	8 g

Cartridge section (for SL-B5A)

Type:	Moving magnet stereo cartridge
Frequency response:	20 Hz to 25 kHz
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
Load impedance:	47 kΩ to 100 kΩ
Stylus pressure:	1.75±0.25 g
Replacement stylus:	EPS-74STSD (ATN71)

Panasonic Company Panasonic Hawaii, Inc. Panasonic Canada

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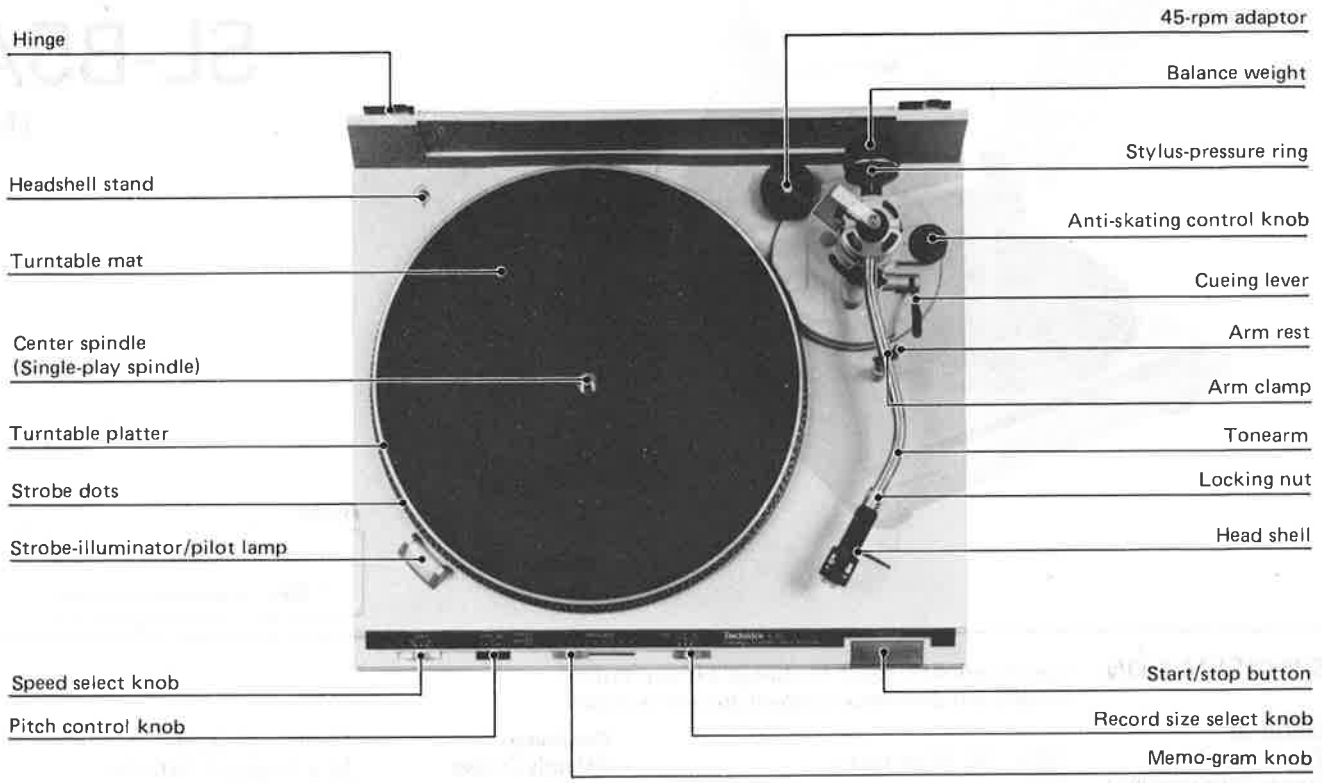
■ PARTS IDENTIFICATION



■ FEATURES

- **Full-Automatic Operation**

  All operations in this unit are completely automatic, yet mechanical movements are accurate and silent. Full protection to records and stylus tip is assured. This is due to the " **memo-gram** " function unique to Technics which enables you to enjoy manual play, auto-start, auto-return, auto-stop, repeated performance from 1 to 6 times and continuous play, and, in addition, multiple play, capable of playing 1 to 6 records continuously.

- **Front panel controls provide exceptional convenience**

- **" TNRC "* base material provides an acoustic shield**

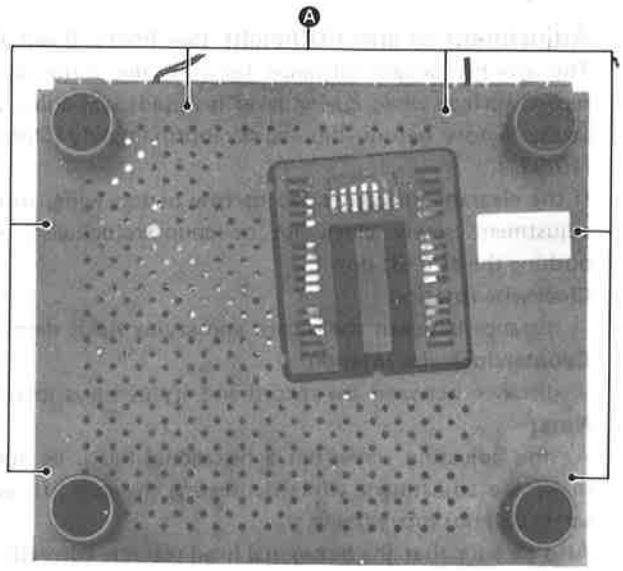
  *" TNRC ". . .Technics Non-Resonance Compound

- **Electronic speed switching**
- **Pitch control with illuminated stroboscope**
- **Viscous-damped cueing**
- **Anti-skating control**
- **Hinged, detachable dust cover**

■ DISASSEMBLY PROCEDURE

How to remove the bottom board

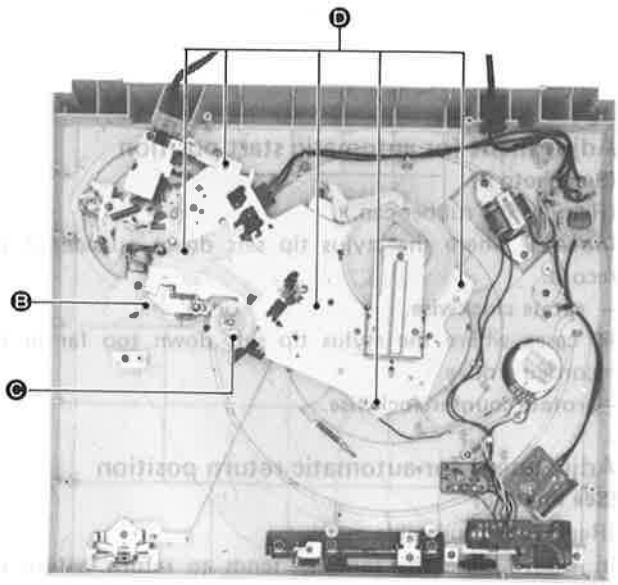
1. Remove the head shell and turntable.
2. Secure the tonearm with the arm clamper.
3. Turn over the set taking care not to damage the dust cover.
4. Remove the 6 bottom board setscrews Ⓐ. **(See Photo 1)**



[Photo 1]

How to remove the automatic mechanism assy

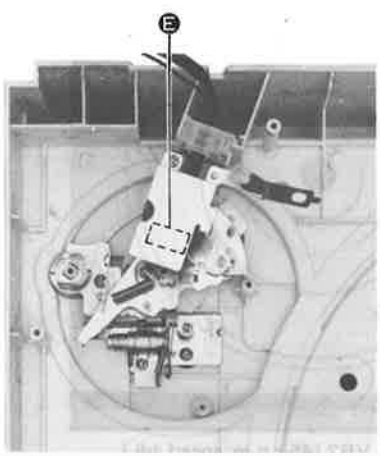
1. Remove the bottom board.
2. Remove the record size cord Ⓑ and the repead cord Ⓒ. **(See Photo 2)**
3. Remove the 5 setscrews Ⓓ of the automatic mechanism assy. **(See Photo 2)**

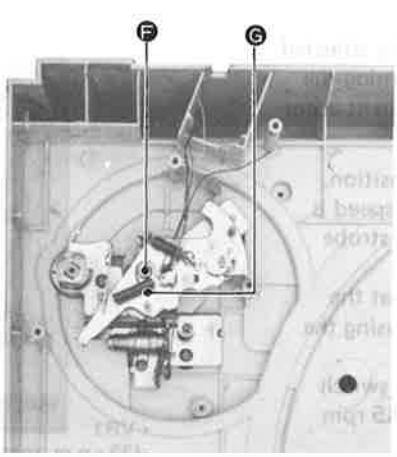


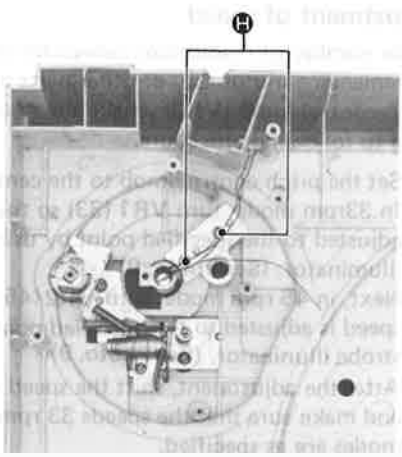
[Photo 2]

How to remove the tonearm

1. Remove the bottom board.
2. Remove the automatic mechanism assy.
3. Disconnect soldered of the phono leads Ⓔ. **(See Photo 3)**
4. Remove the **1** setscrew Ⓕ of the tonearm fixing plate and spring Ⓖ of the antiskating control. **(See Photo 4)**
5. Remove the **2** setscrews Ⓗ of tonearm, then the tonearm can be replaced. **(See Photo 5)**







■ ADJUSTMENTS

Adjustment of arm-lift height (See Photo 6 and 7)

The arm-lift height (distance between the stylus tip and record surface when cueing lever is raised) was adjusted at the factory before shipping to approximately 15mm. (19/32").

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.

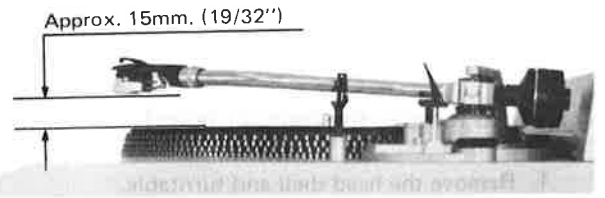
Counterclockwise rotation

– distance between the record and stylus tip is increased.

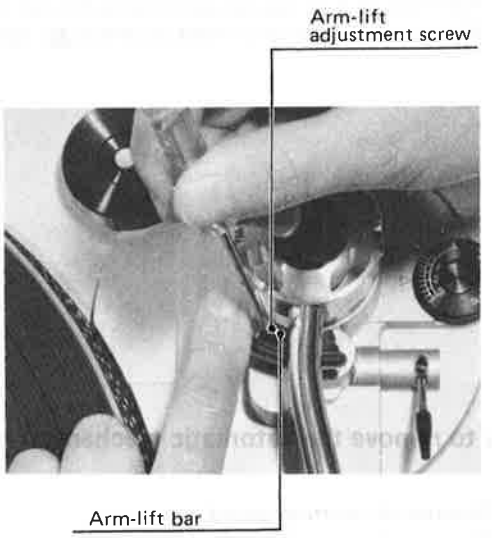
Note:

As the adjusting screw has a 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.



[Photo 6]



[Photo 7]

Adjustment for automatic start position

(See Photo 8)

(Remove the rubber cap.)

In cases where the stylus tip sets down outside of the record.

– **rotate clockwise.**

In cases where the stylus tip sets down too far in the recorded groove.

– **rotate counterclockwise.**

Adjustment for automatic return position

(See Photo 8)

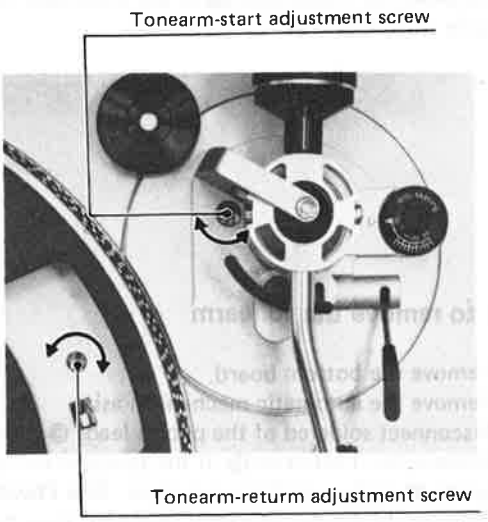
(Remove the turntable mat.)

In cases where the tonearm tends to return before the playing has finished.

– **rotate clockwise.**

In cases where the tonearm fails to return after the last groove of the record has been played.

– **rotate counterclockwise.**

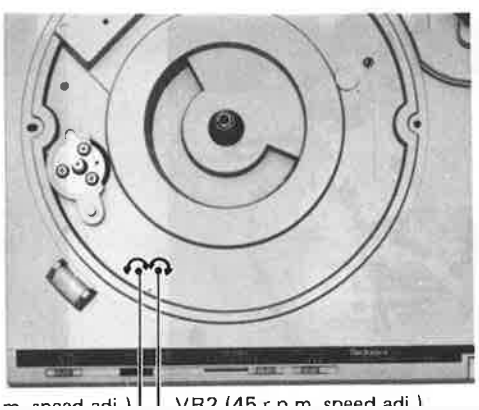


[Photo 8]

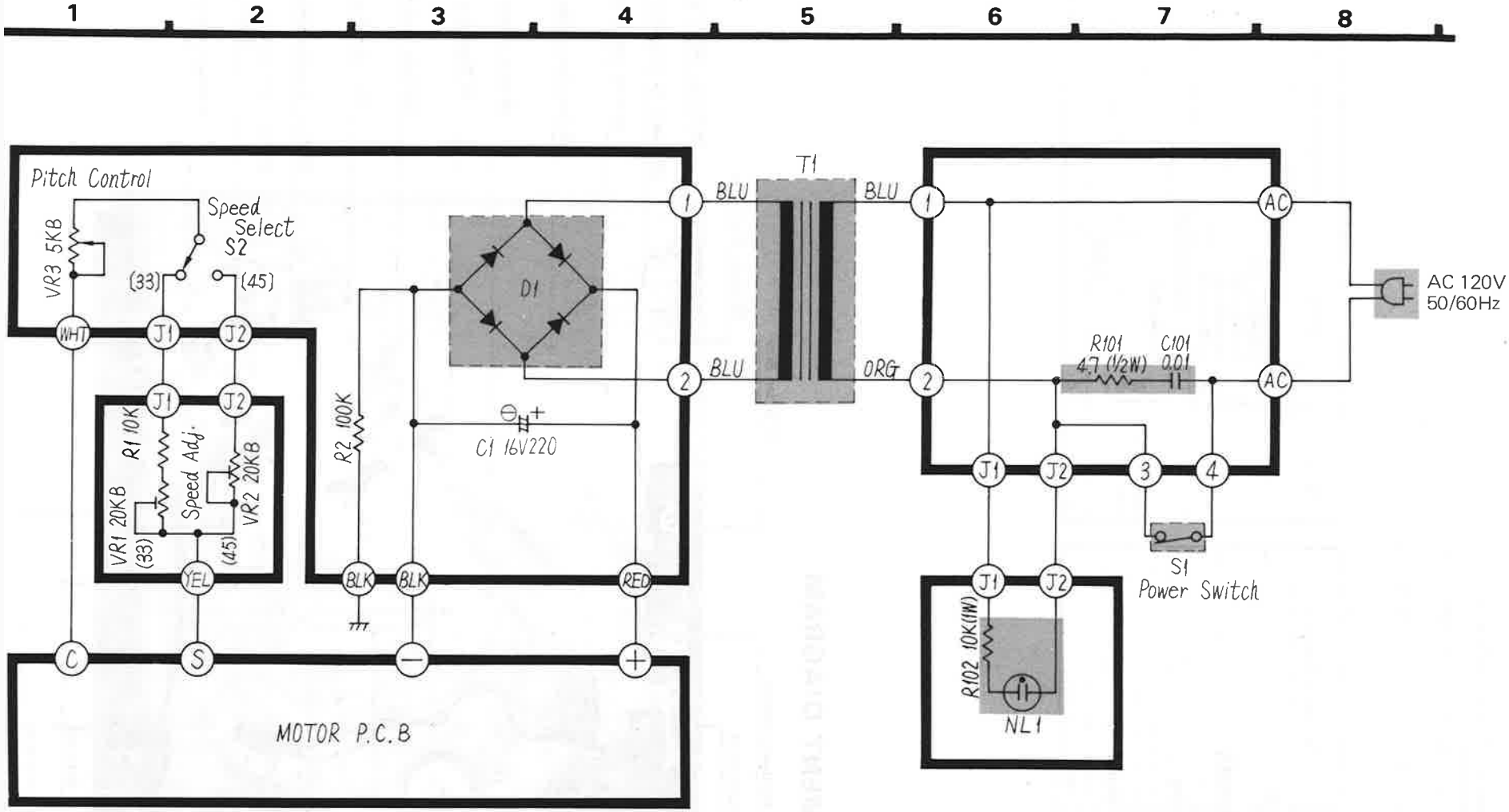
Adjustment of speed

If the number of revolutions cannot be correctly adjusted by replancing motor assy or other parts and turning the pitch control knob (VR3) , make the re-adjustment according to following procedure.

1. Set the pitch control knob to the central position.
2. In 33rpm mode, turn **VR1** (33) so that the speed is adjusted to the specified point by using the strobe illuminator. **(See Photo. 9)**
3. Next, in 45 rpm mode, turn **VR2** (45) so that the speed is adjusted to the specified point by using the strobe illuninator. **(See Photo. 9)**
4. Atter the adjustment, shift the speed select switch and make sure that the speeds 33 rpm and 45 rpm modes are as specified.



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



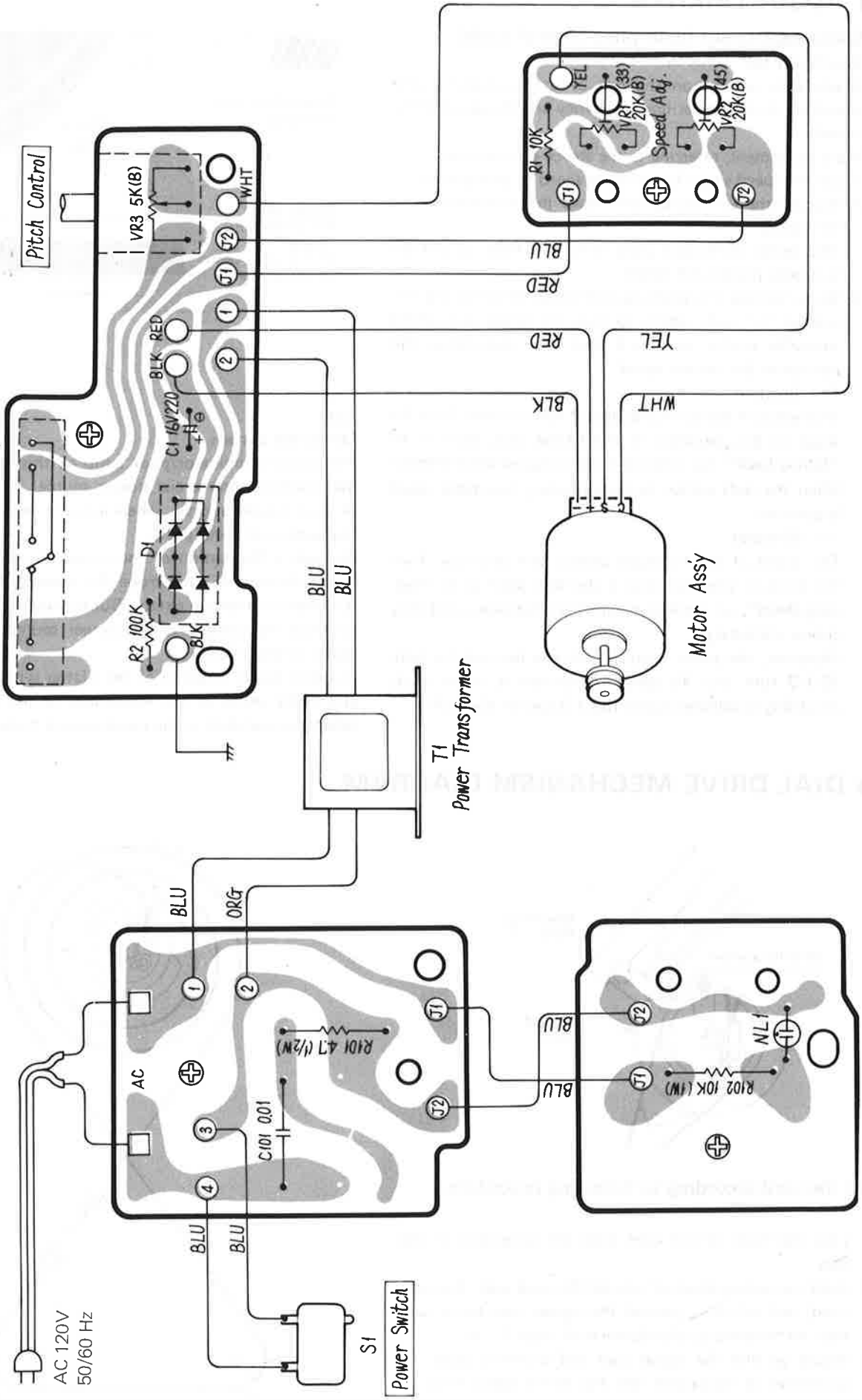
IMPORTANT SAFETY NOTICE

THE SHADED AREA ON THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR SAFETY.
WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER'S SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SHADED AREAS OF THE SCHEMATIC.

Notes:

1. **S1:** Power switch in **"on"** position.
2. **S2:** Speed select switch in **"33"** position.

■ PRINTED CIRCUIT BOARD WIRING VIEW



■ ADJUSTMENTS

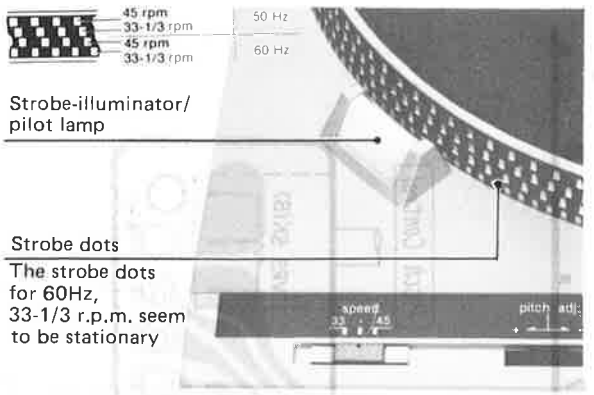
Speed adjustment (with pitch-control knob)

(See Photo 10)

Strobe dots are set on the rim of the turntable platter according to the power-line frequency and the speed of the records.

Make adjustment, referring to the strobe-dot indication.

1. Set the speed select knob to the speed to be adjusted.
2. Release the arm clamp and move the tonearm toward the record.
   The strobe-illuminator/pilot lamp will light up and the turntable platter will rotate.
3. While turning the pitch-control knob either to the "+" side or "—" side, adjust so that the strobe dots of the turntable platter look as if they were stationary. This represents the correct speed.
   "+" direction
   The speed of the turntable platter will increase. Turn the knob in this direction if the strobe dots seem to be **"falling back"**, i.e. seem to be moving counterclockwise. When the dots appear to be stationary, turntable speed is accurate.
   "—" direction
   The speed of the turntable platter will decrease. Turn the knob in this direction if the dots seem to be **"running ahead"**, i.e. seem to be moving clockwise, until they appear stationary.
   Moreover, the pitch control knob can be used for both 33-1/3 rpm and 45 rpm. Adjustment is to be made according to selected speed (33-1/3 rpm or 45 rpm).



[Photo 10]

Note:

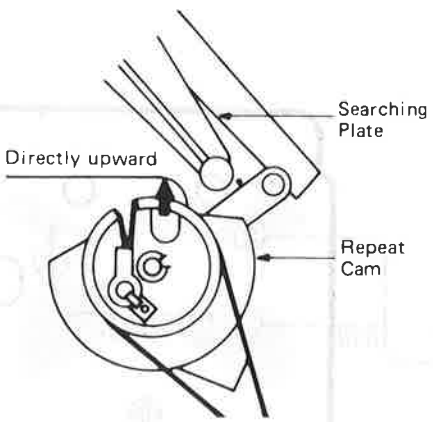
Strobe dot pattern

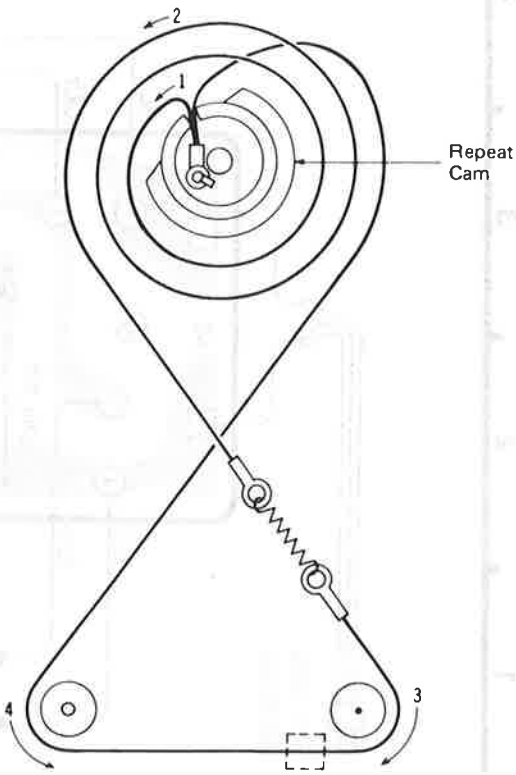
The strobe-illuminator/pilot lamp of this unit employs the standard commercial power source. The frequency of such power source, when actually measured, has a fluctuation of about 0.2%.

As such a fluctuation of the power source affects the strobe illuminator, the strobe dot pattern also seems to fluctuate to a certain extent. But the unit is not affected by these fluctuations of the power source, since a DC motor is employed.

In other words, rotation of the platter will be constant, and slight shifts in the movement of the dots simply reflect normal drift in the power-source frequency.

■ DIAL DRIVE MECHANISM DIAGRAM





Set the cord according to following procedure.

1. Link the hook of the cord onto the projection of the cam.
2. Hold the spring-attached side of the cord with the right hand, and wind it around the repeat cam twice, and then set the cord in accordance with steps 1 – 4.
3. Adjust so that the repeat cam and searching plate are positioned as illustrated. Set the memo-repeat knob to the "0" position and secure it there.

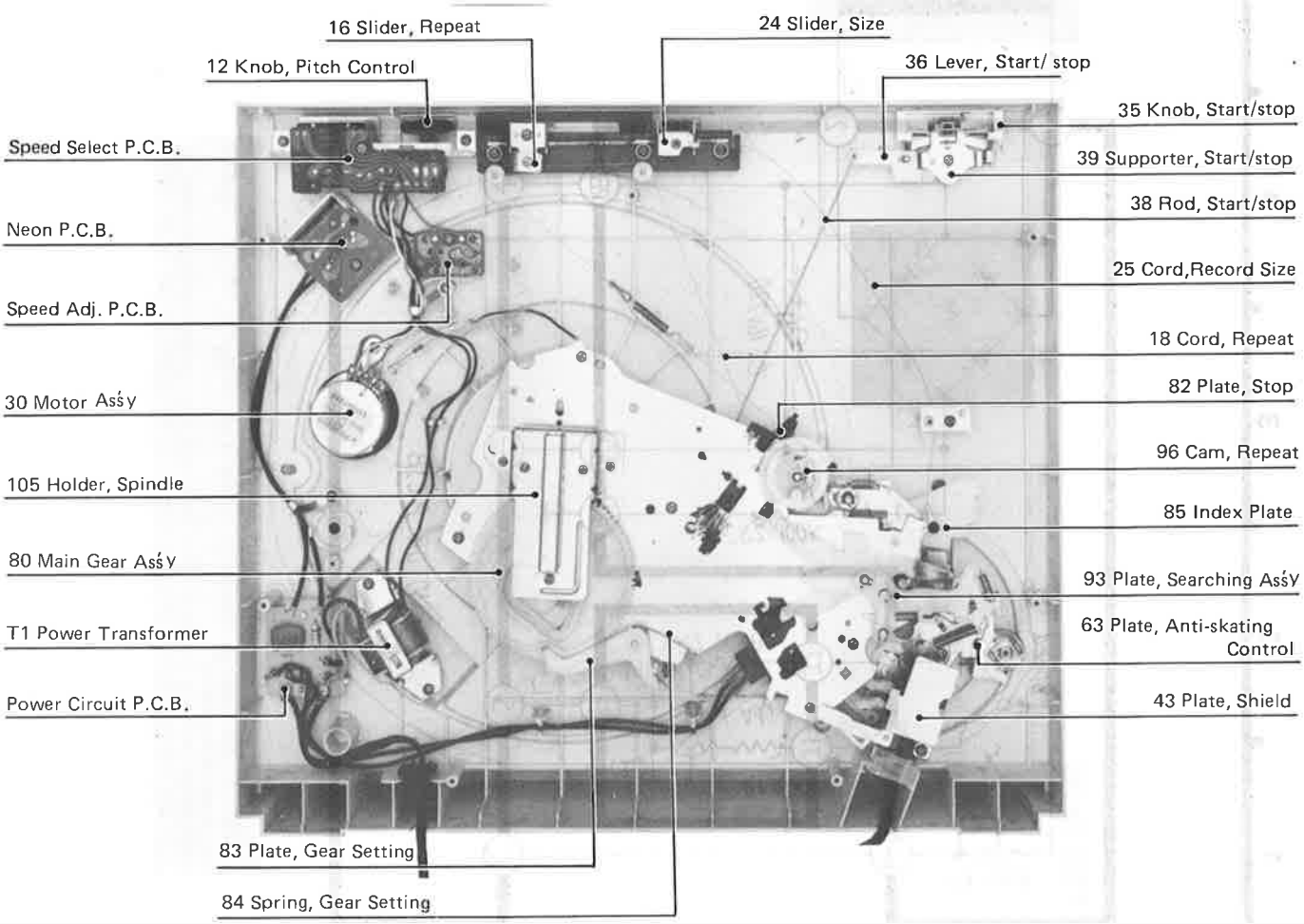
■ REPLACEMENT PARTS LIST

Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. ⚠ indicates that only parts specified by the manufacturer be used for safety.
3. SL-B5(M)→[M], SL-B5(MC)→[MC], SL-B5A(M)→[AM]

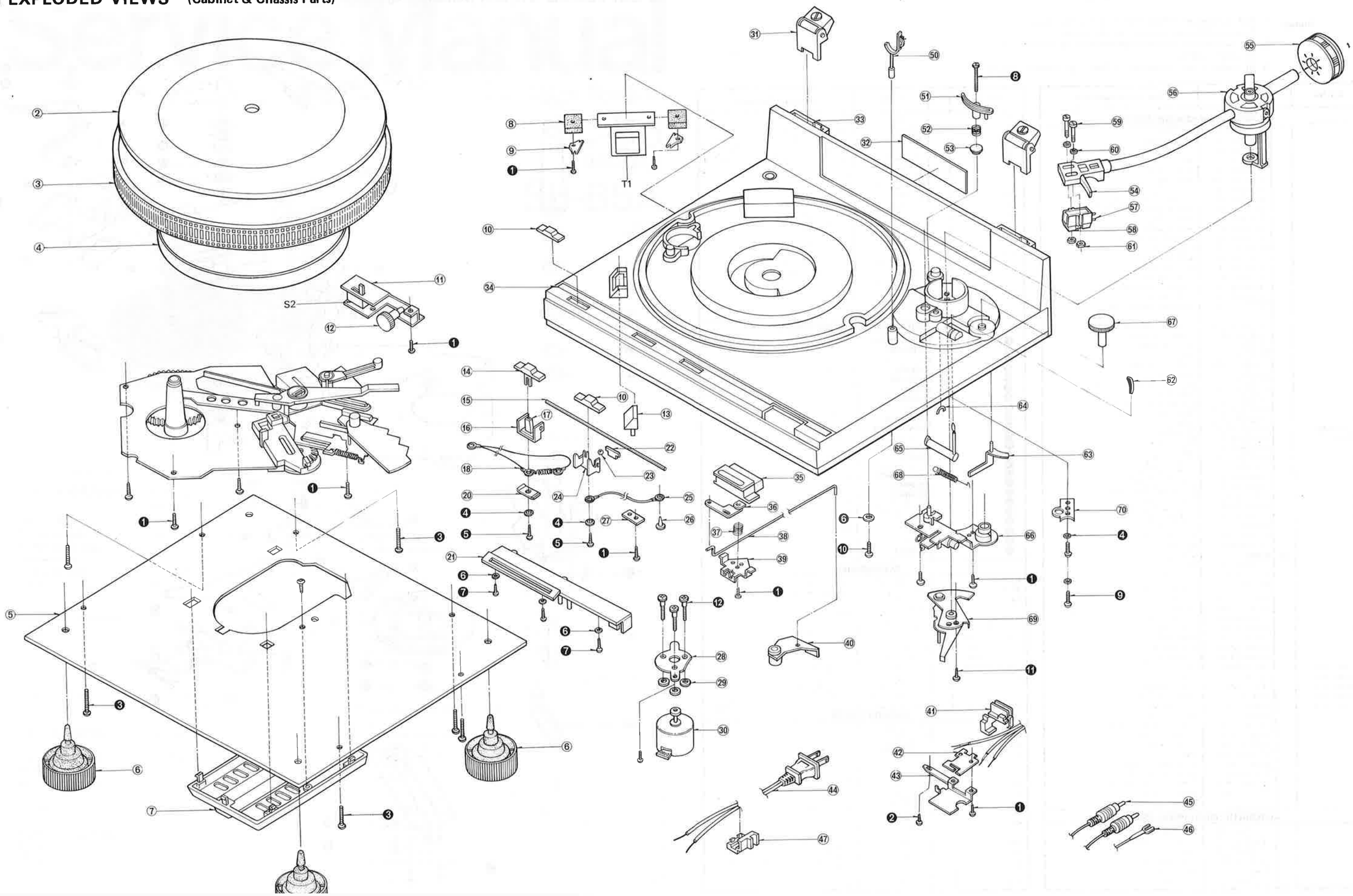
Ref. No.		Part No.	Part Name & Description
DIODE			
D1	⚠	SVDS1RBA20Z	Rectifier
TRANSFORMER			
T1	⚠	SLTAS1–013ND	Power Transformer
SWITCHS			
S1	⚠	SFDSAH764039	Switch, Power
S2		EVAH28S10AAY	Switch, Speed Selector
VARIABLE RESISTORS			
VR1, 2		EVN51AA00B24	20kΩ (B), Speed Adj. (33 & 45)
VR3		EVHX8AF15B53	5kΩ (B), Pitch Control

Ref. No.		Part No.	Part Name & Description
RESISTORS			
R1		**ER025CKF1002**	Metal Film, 10kΩ, 1/4W, ±1%
R2		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ±5%
R101	⚠	**ERD50FJ4R7**	Carbon, 4.7Ω, 1/2W, ±5%
R102	⚠	**ERG1ANJ103**	Metal Oxide, 10kΩ, 1W, ±5%
CAPACITORS			
C1		**ECEA1CS221**	Electrolytic, 220μF, 16V
C101 [M] [AM]	⚠	ECQF1A103MD	Polypropylene, 0.01μF, 125V ±20%
C101 [MC]	⚠	ECQU1A103ME	Polyester, 0.01μF, 125V ±20%
LAMP			
NL1	⚠	SFDNUE2HU	Neon Lamp

■ PARTS ARRANGEMENT DIAGRAM



■ EXPLODED VIEWS (Cabinet & Chassis Parts)



■ REPLACEMENT PARTS LIST

Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. ⚠ indicates that only parts specified by the manufacturer be used for safety.
3. SL-B5(M)→[M], SL-B5(MC)→[MC], SL-B5A(M)→[AM]

Ref. No.		Part No.	Part Name & Description
		CABINET and CHASSIS PARTS	
1		SFADB50–01E	Dust Cover
2		SFTGB50–01	Turntable Mat
3		SFTE235–01	Turntable
4		SFGB321–1	Belt
5		SFAUB50–01	Bottom Board
6		SFGAB50–01E	Audio Insulater
7		SFUM235–01	Cover, Gear
8		SFGCB20–01	Cushion, Power Transformer
9		SFUPB20–03	Plate, Power Transformer
10		SFKTB20–02	Knob, Operation
11		SFUPB20–02	Plate, Speed Select Switch
12		SFKTB20–03	Knob, Pitch Control
13		SFUM212–07	Cover, Neon
14		SFKTB30–01	Knob, Repeat
15		SFXJB30–01	Rod, Supporter
16		SFUPB30–06	Slider, Repeat
17		SFUMB30–03	Supporter, Repeat Knob
18		SFUZB30–02E	Cord, Repeat
20		SFUPD30–02	Supporter, Repeat Cord
21		SFUMB30–02E	Supporter, Repeat & Size
22		SFQPD30–01	Spacer, Size Slider
23		SFYB5–32	Ball, Size Slider
24		SFUPB30–03	Slider, Size
25		SFUZD30–01E	Cord, Record Size
26		SHR401–1	Spacer, Record Size Cord
27		SFUPD30–03	Supporter, Record Size Cord
28		SFUPB20–04	Plate, Motor
29		SFGCB20–02	Rubber, Motor Cushion
30		SFMHB20–01E	Motor Ass'y W/Capstan
31		SFAT195–01A	Hinge
32 [M] [AM]		SFNNB50M01	Name Plate
32 [MC]		SFNNB50C01	Name Plate
33		SFACB50–01	Cabinet
34		SFKKB50–01	Ornament, Cabinet
35		SFKTB20–01	Knob, Start/Stop
36		SFUMD20–01	Lever, Start/Stop Knob
37		SFQAD20–01	Spring, Start/Stop Knob
38		SFUZD30–01	Rod, Start/Stop
39		SFUPL39M04	Supporter, Start/Stop Knob
40		SFUMD30–02	Supporter, Operating
41		SFUM212–08	Clamper, Phono Cord
42		SFDP212–02	P.C.B., Phono Cord
43		SFUP683R04	Plate, Shield
44	⚠	**RJA9Y**	AC Cord
45		SFDH212–01	Phono Cord
46		SFEL028–01E	Ground Wire
47		SFUM190–02	Clamper, AC Cord
50		SFKU212–01E	Arm Rest
51		SFPRT13004K	Lift Ass'y
52		SFQA829–03	Spring, Lift Ass'y
53		SFGK170–01	Cap, Rubber
54		SFPCC21101K	Head Shell
55		SFPWG31101K	Blance Weight
56		SFPAM31101K	Tonearm Ass'y
57 [AM] only		EPC74SMAD	Cartridge
58 [AM] only		EPS74STSD	Stylus
59 [AM] only		SFPEV9803	Screw, Cartridge
60 [AM] only		SFPEW9601	Washer, Cartridge
61 [AM] only		SFPEN3302	Nut, Cartridge
62		SFPAB13202	Knob, Cueing
63		SFXJQ20–03E	Plate, Anti-skating Control
64		SFGZD20–02	Rubber, Cueing
65		SFPJL00101K	Lever, Cueing
66		SFUPB50–01A	Plate, Lift
67		SFPJK13101	Knob, Anti-skating Control
68		SFQHQ30–01	Spring, Anti-skating Control
69		SFUPQ20–03A	Tonearm Fixing Plate Ass'y
70		SFUPD33–04	Washer, Tonearm
		AUTOMATIC MECHANISM ASS'Y	
80		SFUG190–22E	Main Gear Ass'y
81		SFQHD30–01	Spring, Stop Plate
82		SFUMQ30–14E	Plate, Stop
83		SFUM222–11	Plate, Gear Setting
84		SFQS222–11	Spring, Gear Setting
85		SFUMQ30–12	Index Plate
86		SFUMQ20–19	Plate, Brake
87		SFQSQ20–13	Spring, Brake Plate
88		SFUMQ30–18	Cover, Power SW
89		SFUBQ30–11A	Operating Plate Ass'y
90		SFUMQ20–16	Supporter, Power SW
91		SFUKB50–01E	Automatic Mechanism Ass'y
92		SFUMQ20–17	Lever, Power SW
93		SFUMQ30–11E	Plate, Searching Ass'y
94		SFYB5–32	Ball, Repeat Cam
95		SFQAQ30–01	Spring, Repeat Cam
96		SFUMQ30–13	Cam, Repeat
97		SFUCQ20–11E	Actuating Plate Ass'y
98		SFTU235–01E	Shaft, Turntable
99		SFXW235–01	Washer, Turntable Shaft
100		SFUP831–1E	Support, Turntable Shaft
101		SFQC235–01	Rubber, Turntable Shaft
102		SFXT135–01	Circlip, Turntable Shaft
103		SFUM235–03	Support, Spindle
104		SFUM235–02	Cam, Spindle
105		SFUP235–01	Holder, Spindle
106		SFUP235–02E	Plate, Turntable Shaft
		SCREWS, WASHERS and CIRCLIPS	
❶		**XTV3+10BFN**	Screw
❷		**XTN3+8B**	Screw
❸		XTCS3+16GFYR	Screw
❹		**XWA3B**	Washer
❺		**XSN3+8S**	Screw
❻		**XWG3**	Washer
❼		**XTN3+20B**	Screw
❽		SFXG829–1	Screw
❾		**XSN3+12S**	Screw
❿		**XTV3+14BFN**	Screw
⓫		SFPEV13204	Screw
⓬		SFXGB20–01	Screw
⓭		**XUC5FT**	Circlip
⓮		SFXW890B01	Washer
⓯		**XTV3+8BFN**	Screw
⓰		**XUB4FT**	Circlip
⓱		**XUB6FT**	Circlip
⓲		SFXW230–11	Washer
⓳		SFPEW13005	Washer
⓴		SFXW623–2	Washer
㉑		SFXW130–13	Washer
㉒		SFXW910–13	Washer
㉓		**XUC3FT**	Circlip
		ACCESSORIES	
A1 [M]		SFNUB50M01	Instruction Book
A1 [MC]		SFNUB50C01	Instruction Book
A1 [AM]		SFNUB50M02	Instruction Book
A2		SFWE212–01	Adaptor, 45 r.p.m.
A3 Except [AM]		SFYF05A06	Polyethylene Bag
A4 Except [AM]		SFPEN3302	Nut, Cartridge
A5 Except [AM]		SFPEW9601	Washer, Cartridge
A6 Except [AM]		SFCZV8801	Screw, Cartridge
A7 Except [AM]		SFPEV9801	Screw, Cartridge
A8 Except [AM]		SFKO135–01	Overhang Gauge
A9		SFVS135–02	Single-play Spindle
A10		SFVS165–01Z	Multiple-play Spindle
A11		SFVA165–01Z	Multiple-play Spindle (45-r.p.m. Adaptor)
		PACKING PARTS	
P1 [M]		SFHPB50M01	Carton
P1 [MC]		SFHPB50C01	Carton
P1 [AM]		SFHPB50M02	Carton
P2		SFHHB50–01	Pad, Front
P3		SFHHB50–02	Pad, Rear
P4		SFHHB50–03	Pad, Turntable
P5		SFHS320–01	Pad, Corner
P6		SFHDD33–03	Pad, Top
P7		SFHD683A02	Pad, Turntable
P8		SFHDB50–03	Pad, Top
P9		SFHZ144X02	Polyethylene Cover, Dust Cover
P10		SFYH60X65	Polyethylene Cover, Cabinet
P11		SFYH65X60	Polyethylene Cover, Dust Cover
P12		SFYH40X45	Polyethylene Cover, Turntable
P13		SPP189	Polyethylene Cover, AC Cord and PU Cord
P14		SFYC45A50	Polyethylene Cover, Accessories

■ EXPLODED VIEWS (Automatic Mechanism Assy)