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# THE VINYL **ENGINE**®

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# *Operating Instructions*

# STEREO TURNTABLE **PL-4**

KUT  
KCT



## IMPORTANT NOTICE

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep in a secure area. This is for your security.

## WARNING:

**TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

## CONTENTS

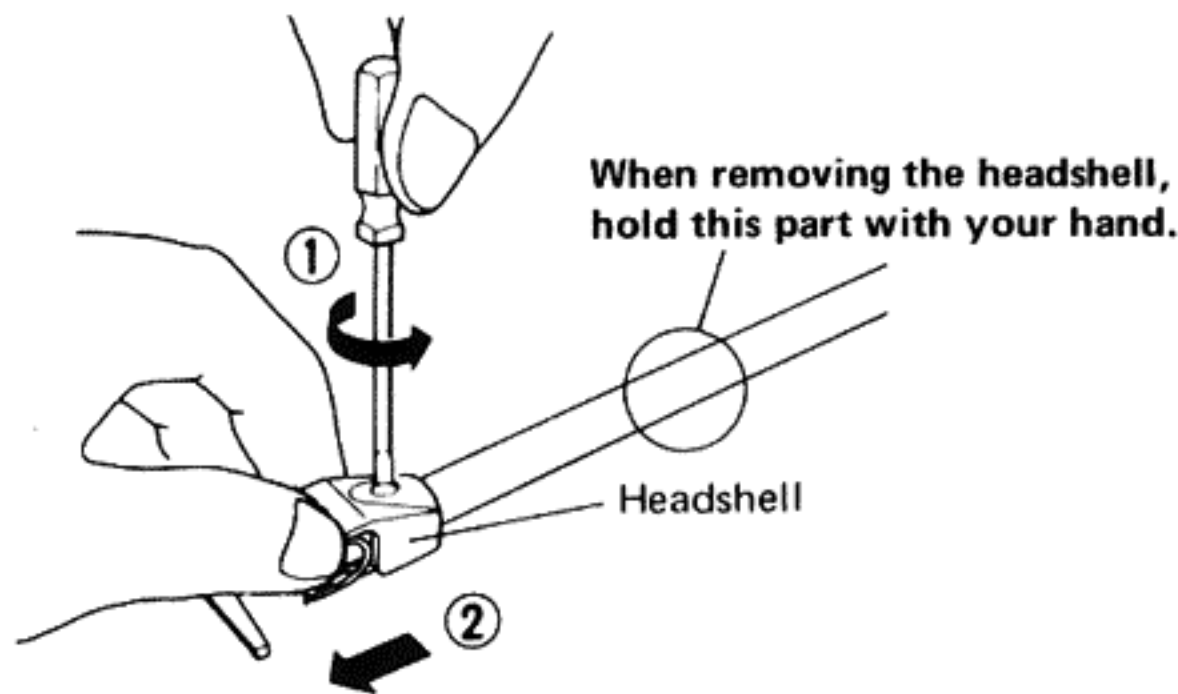
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# CARTRIDGE MOUNTING

Since this turntable does not come with a cartridge, provide one of your own choosing and attach it to the headshell as below. This turntable uses a cartridge which weighs between 3 and 8 g.

## 1. Remove the headshell from the tonearm

Use a small screwdriver to rotate the anchoring screw in the direction indicated by the arrow to remove the headshell.



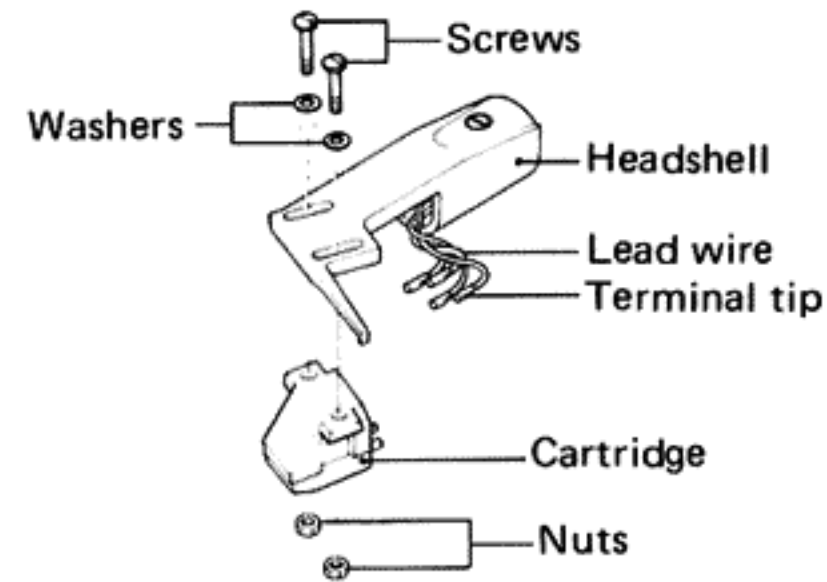
## 2. Connect the headshell leads to the cartridge

The polarities of the leads are color-coded. Plug them into the correct terminal tips.

- Red: Right channel (R)
- Green: Right channel ground (RG)
- White: Left channel (L)
- Blue: Left channel ground (LG)

## 3. Attach the cartridge to the headshell

Attach the screws, nuts and washers provided to the cartridge. Keep the screw loose.

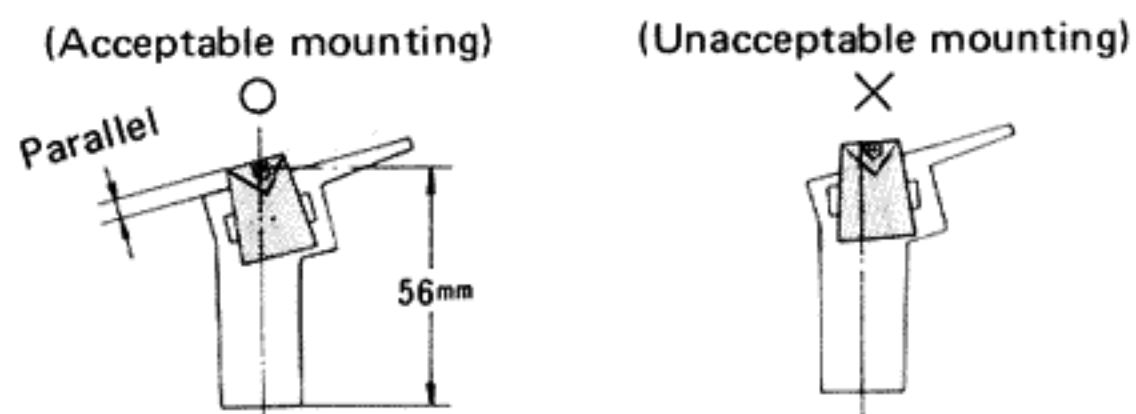


## 4. Adjust the mounting position of the cartridge

(1) Stylus position: As shown in the figure, the stylus and headshell dimension is 56 mm.

(2) Compensating for bending:

As shown in the figure, make the cartridge parallel to the headshell.



5. After having tightened up the screw, attach the headshell to the tonearm (following the procedure given in step 1 in reverse).

# SAFETY INSTRUCTIONS

**READ INSTRUCTIONS** — All the safety and operating instructions should be read before the appliance is operated.

**RETAIN INSTRUCTIONS** — The safety and operating instructions should be retained for future reference.

**HEED WARNING** — All warnings on the appliance and in the operating instructions should be adhered to.

**FOLLOW INSTRUCTIONS** — All operating and use instructions should be followed.

**WATER AND MOISTURE** — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

**VENTILATION** — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

**HEAT** — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

**POWER SOURCES** — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

**POWER-CORD PROTECTION** — Power-supply cord should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

**CLEANING** — The appliance should be cleaned. Only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzene, insecticides or other volatile liquids since they may corrode the cabinet.

**NONUSE PERIODS** — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

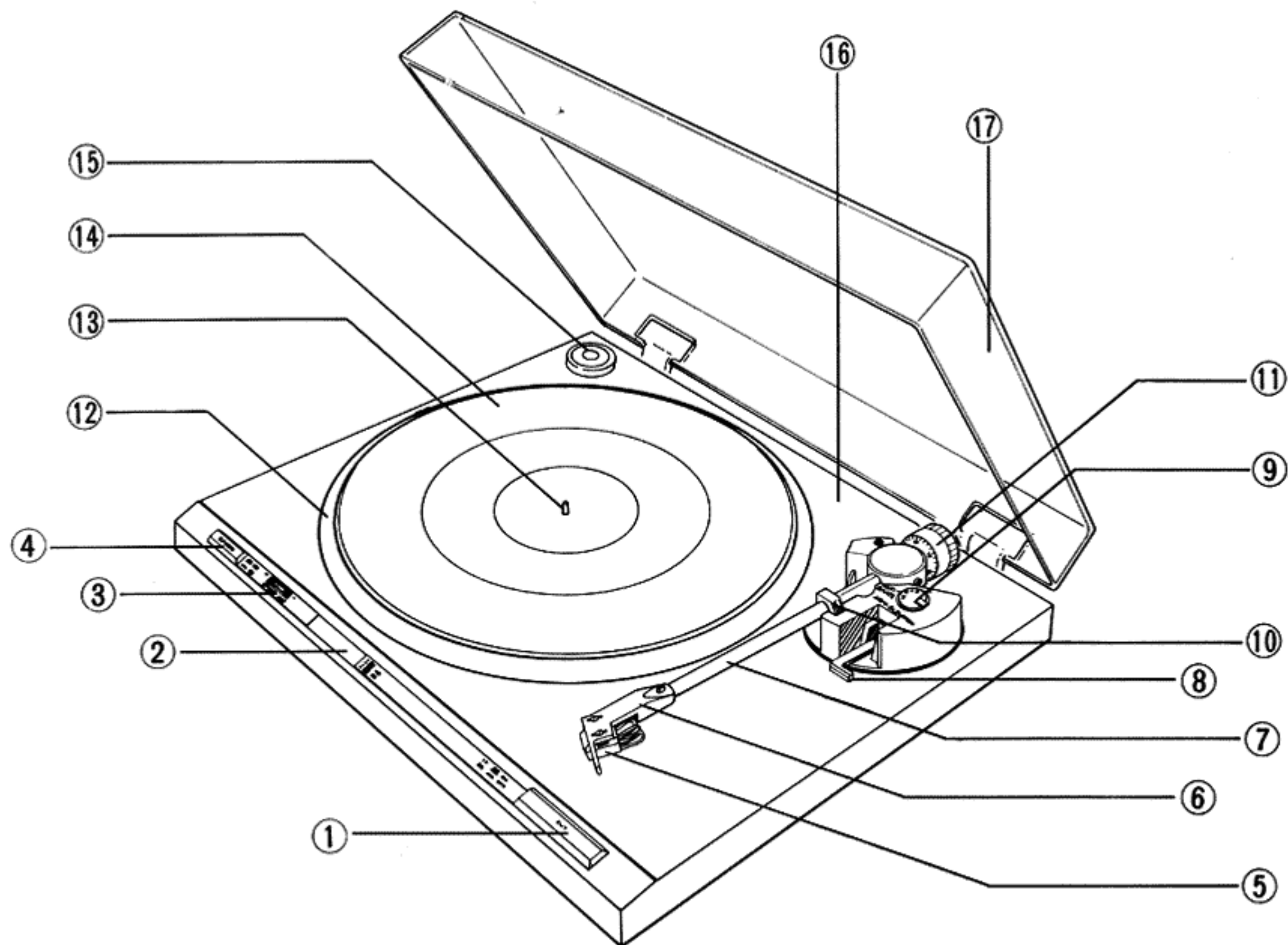
**OBJECT AND LIQUID ENTRY** — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

**DAMAGE REQUIRING SERVICE** — The appliance should be serviced by Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped, or the enclosure damaged.

**SERVICING** — The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be contacted nearest Pioneer authorized service center.

# PANEL FACILITIES



## ① CUT switch

Depress this switch to stop play. (For details, refer to page 8.)

## ② Speed check window

Look through this window and observe the movement of the striped pattern when checking the rotational speed or finely adjusting the speed. The position of the striped pattern differs according to the power line frequency (50 Hz or 60 Hz) in the area of use and the speed (33 or 45 rpm) of the platter.

**Top pattern: For 45 rpm in 50 Hz area**

**Second pattern: For 45 rpm in 60 Hz area**

**Third pattern: For 33 rpm in 50 Hz area**

**Bottom pattern: For 33 rpm in 60 Hz area**

## ③ SPEED ADJ control

Rotate this control in order to finely adjust the speed of the platter. (For details, refer to "Fine speed adjustments" on page 8.)

**The speed is reduced when the control is rotated in the [-] direction.**

**The speed is increased when the control is rotated in the [+] direction.**

## ④ SPEED switch

Set this switch in accordance with the speed of the record which is to be played.

[33] (depressed position): For 33-1/3 rpm records

[45] (released position): For 45 rpm records

## ⑤ Cartridge

Turn to page 2 and mount the cartridge.

## ⑥ Headshell

## ⑦ Tonearm

## ⑧ ARM ELEVATION lever

Operate this lever when starting record play or when temporarily suspending play. (For details, refer to page 7 or 8.)

## ⑨ ANTI-SKATE control

This is rotated when performing the anti-skating adjustment. (For details, refer to page 5.)

## ⑩ Arm rest

This serves to hold and clamp the tonearm. When moving the tonearm, release the clamp. (For details, refer to page 5.)

## ⑪ Tracking force adjustment weight

This is used when adjusting the tracking force. (For details, refer to page 5.)

## ⑫ Platter

## ⑬ Platter mounting shaft

## ⑭ Rubber mat

## ⑮ EP adapter

This is used when playing records without a "middle."

## ⑯ Cabinet

## ⑰ Dust cover

# OPERATIONS BEFORE USE

(Before using your turntable, carry out the instructions in step 1 through step 4.)

## STEP 1 Assembling the Turntable

### 1 Removing the dust cover

1. Open the dust cover as far as it will go.
2. Hold both sides of the dust cover and remove it from the cabinet by pulling it up.

#### NOTE:

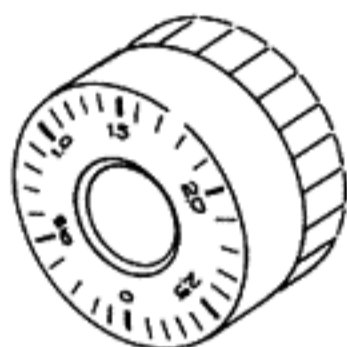
Take care not to mark or scratch the dust cover which you have now removed.

### 2 Checking the accessories

The accessories are housed in the polystyrene cushions which are used to package the turntable proper.



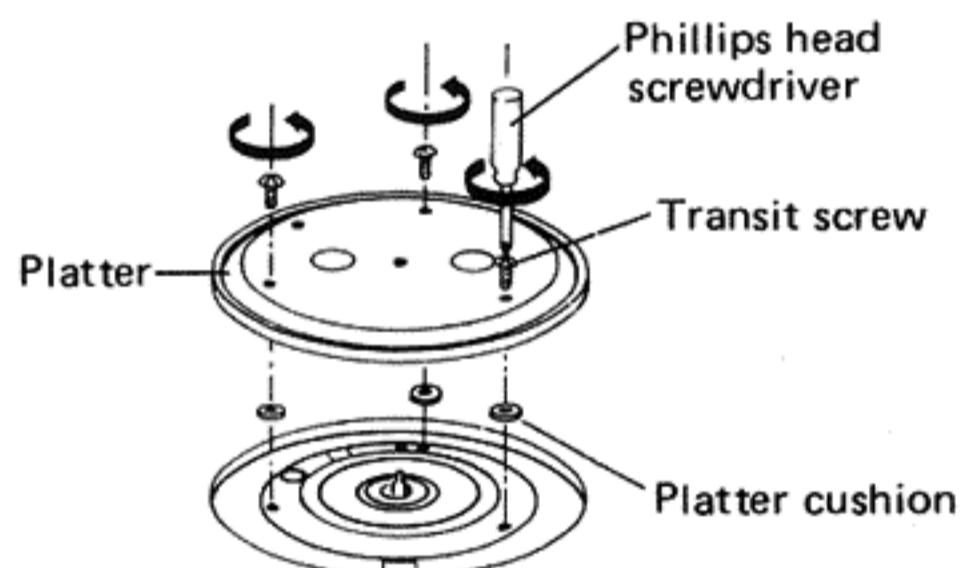
**EP adapter**  
This is used to play records without a "middle."



**Tracking force adjustment weight**  
This is mounted onto the end of the tonearm.

### 3 Removing the transit screws

Using a Phillips head screwdriver, rotate the transit screws (3) in the direction of the arrow in the figure and remove the platter and the platter cushions.

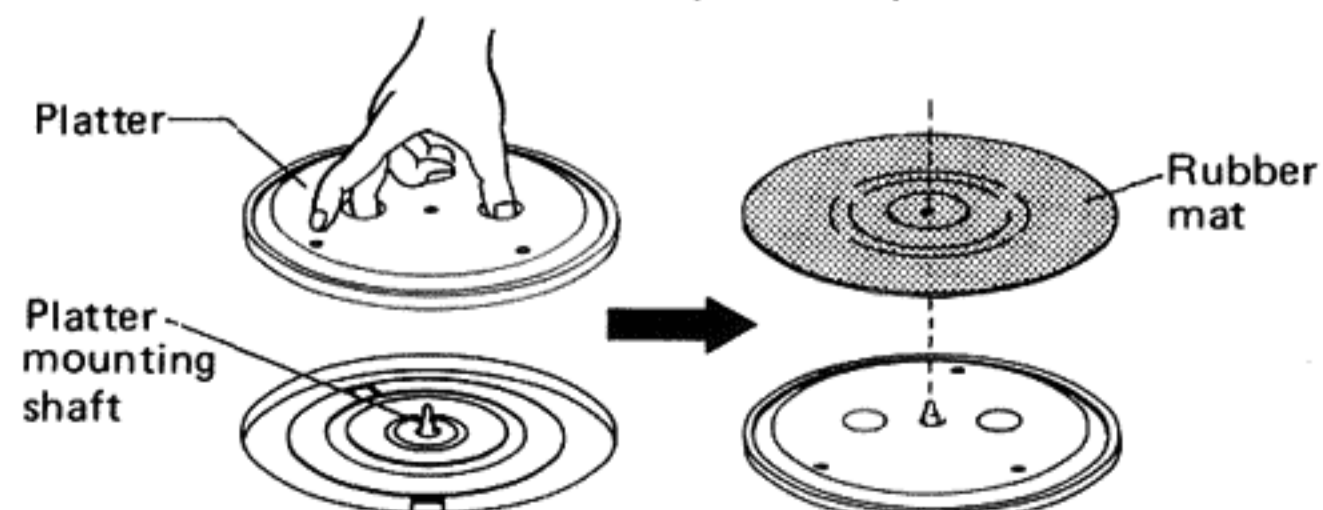


#### NOTE:

- The turntable will not operate unless these screws are removed.
- Keep the screws and cushions in a safe place since they are required when transporting the turntable from place to place.

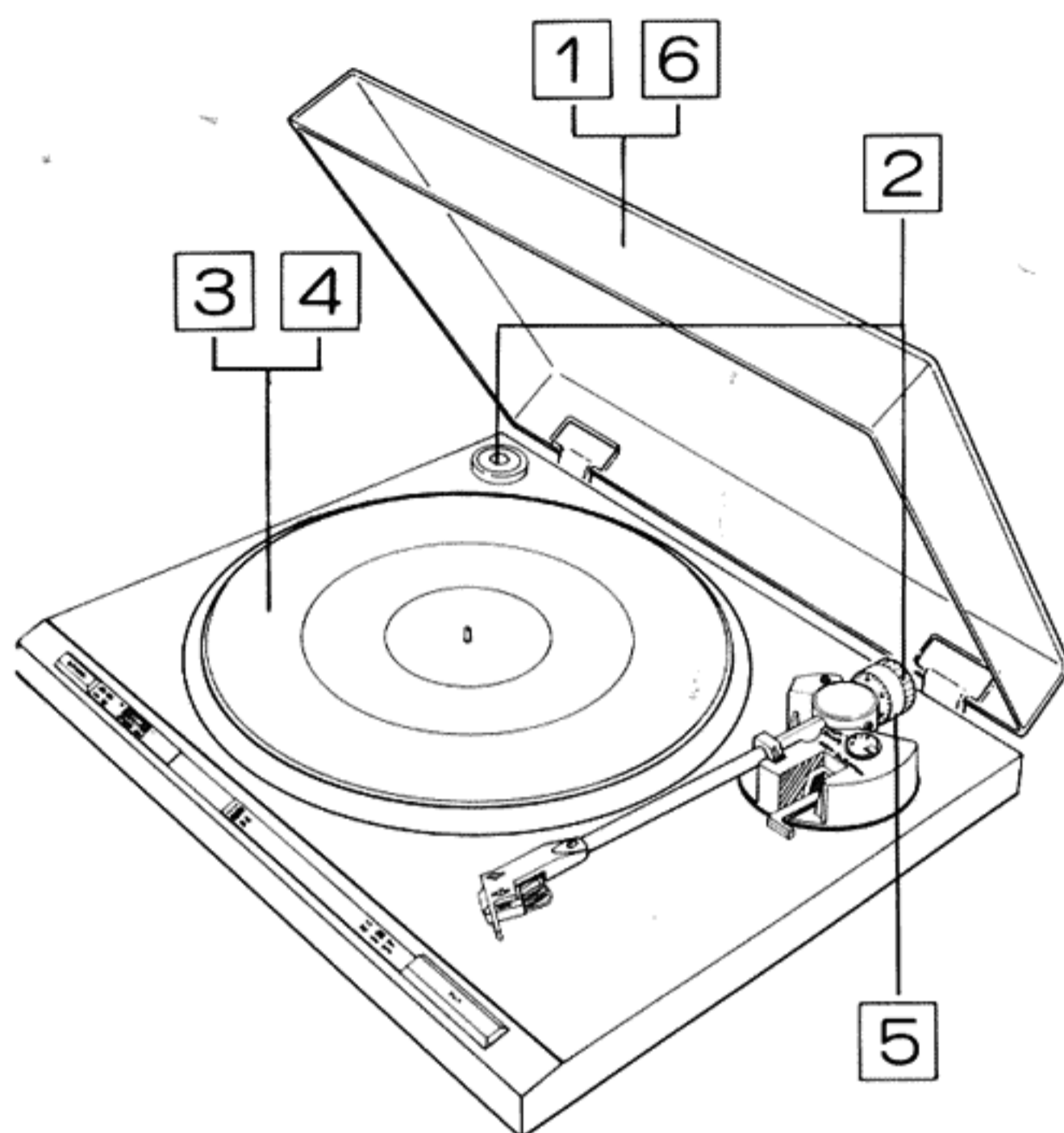
### 4 Mounting the platter and rubber mat

1. Place the platter over the platter mounting shaft.
2. Place the rubber mat on top of the platter.



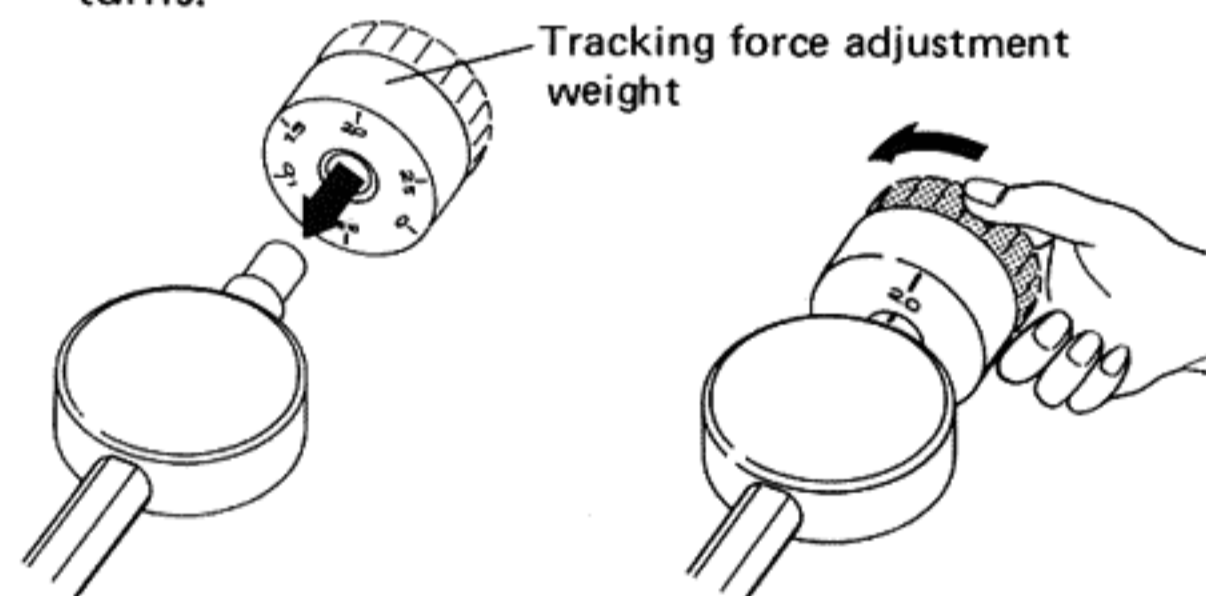
#### NOTE:

When mounting the platter, take care not to bump it into the platter mounting shaft, the cabinet and the tonearm.



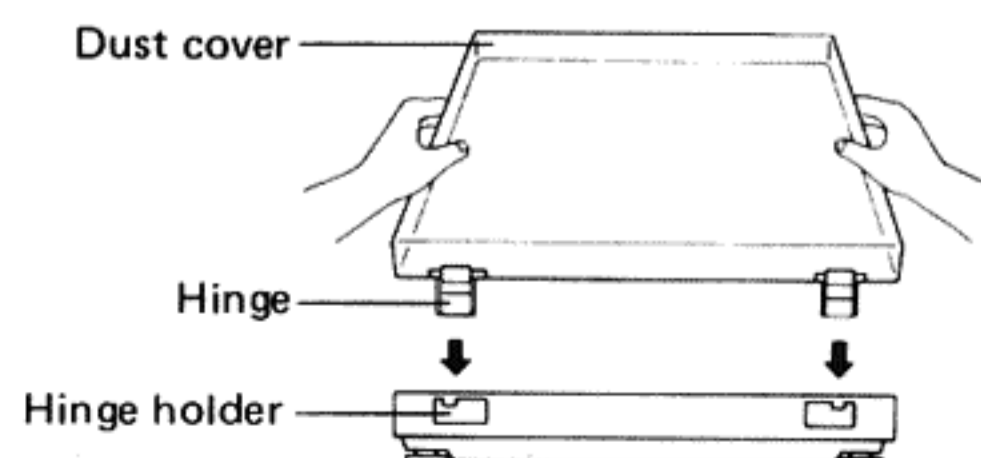
### 5 Attaching the tracking force adjustment weight

1. Insert the weight over the end of the weight shaft with the scale side turned in front.
2. Push it a short way along the shaft and rotate the weight part (indicated as [hatched] in figure) in the direction indicated by the arrow for two or three turns.



### 6 Mounting the dust cover

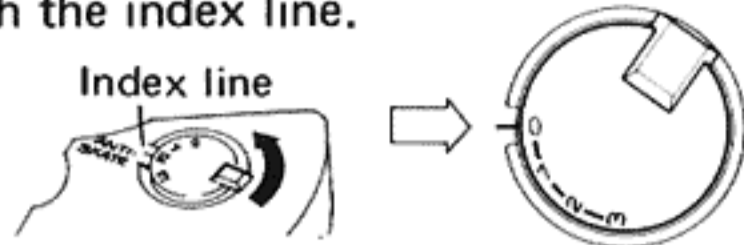
1. Hold both sides of the dust cover and slide the hinges into the cabinet's hinge holders.
2. Push down until the dust cover goes no further.



## STEP 2 Adjusting the Tracking Force and Anti-Skating

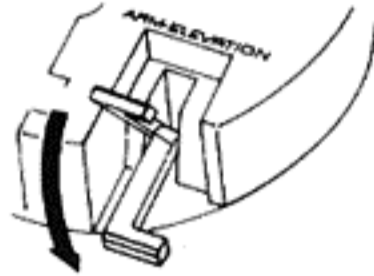
### 1 Setting the ANTI-SKATE control to [0]

Rotate the control in the direction indicated by the arrow and align [0] with the index line.

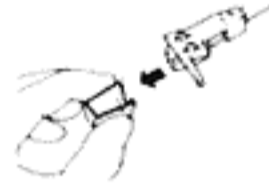


### 2 Setting the ARM ELEVATION lever to DOWN

Pull down the lever toward you.

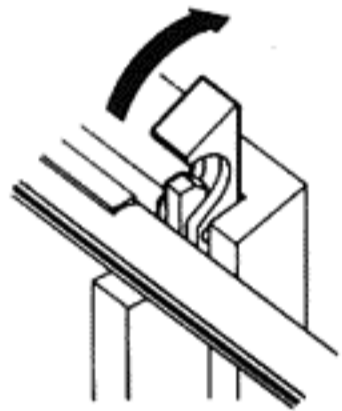


### 3 Removing the stylus cover



### 4 Releasing the arm rest.

Move the arm rest in the direction of the arrow by hand.



**NOTE:**

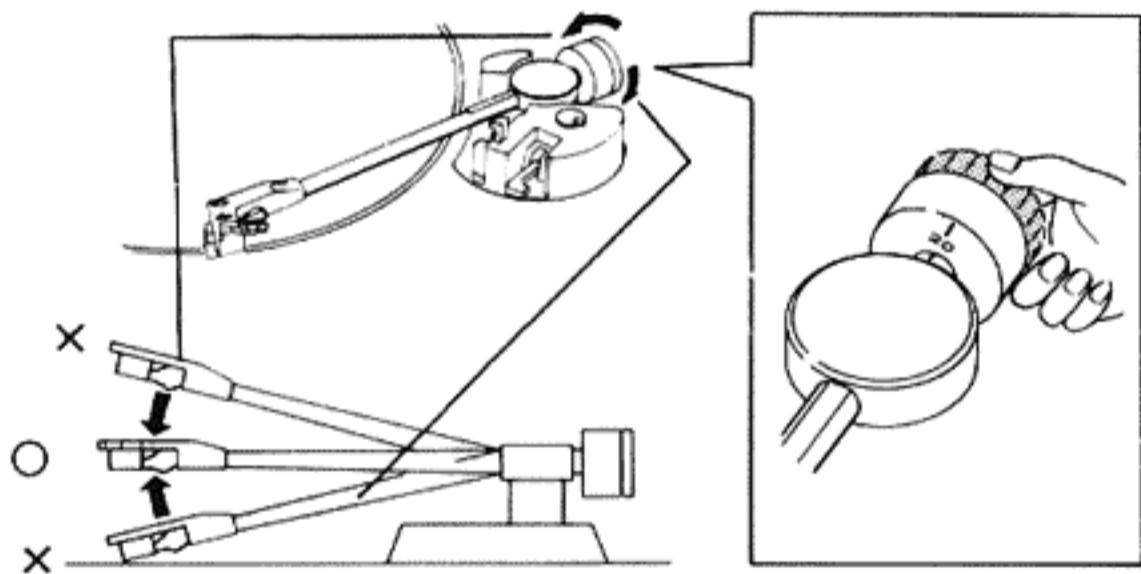
Hold the tonearm with your other hand since it may move.

### 5 Moving the tonearm

Move the tonearm to between the arm rest and platter.

### 6 Attaining the horizontal balance (make the tonearm parallel)

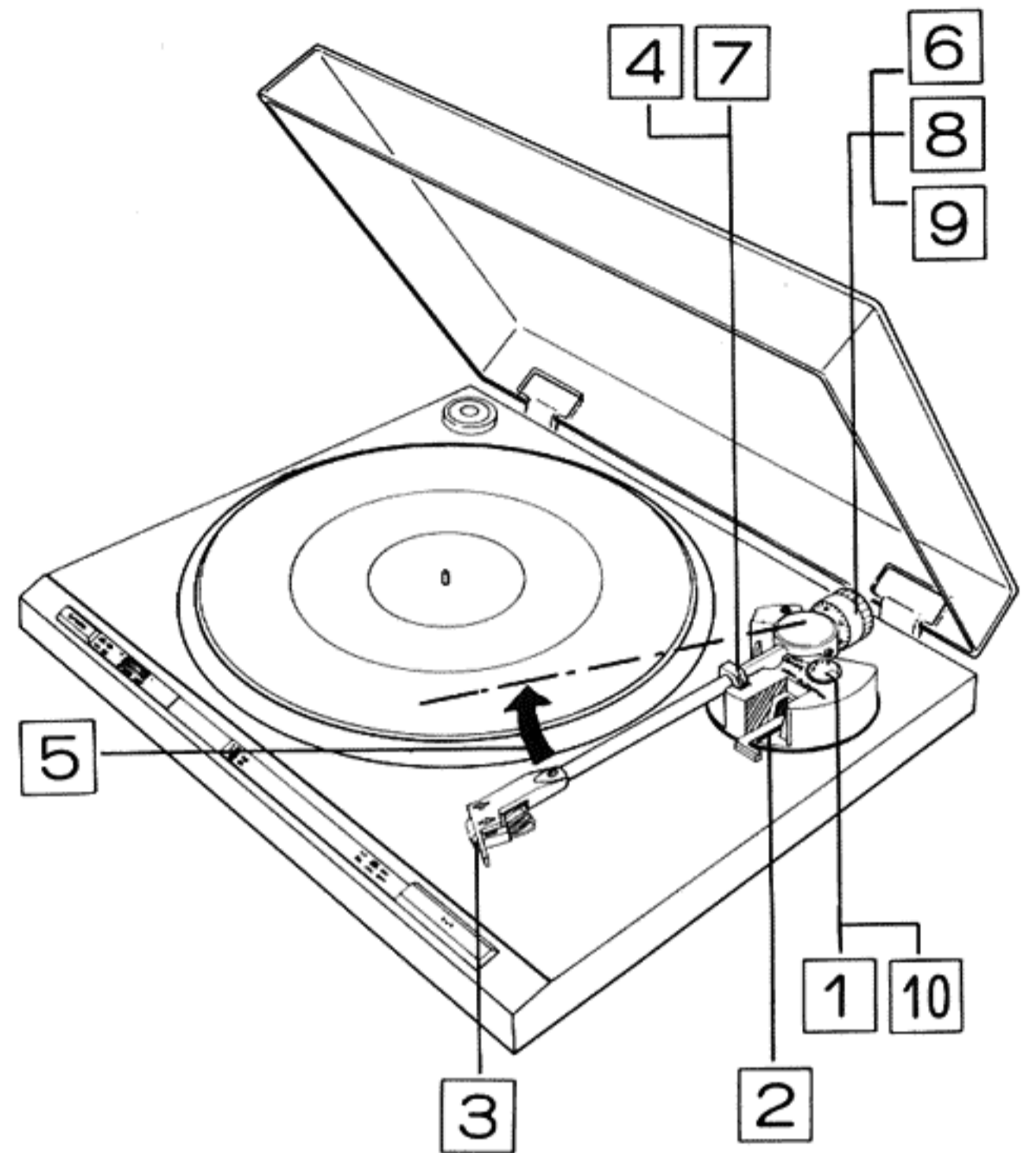
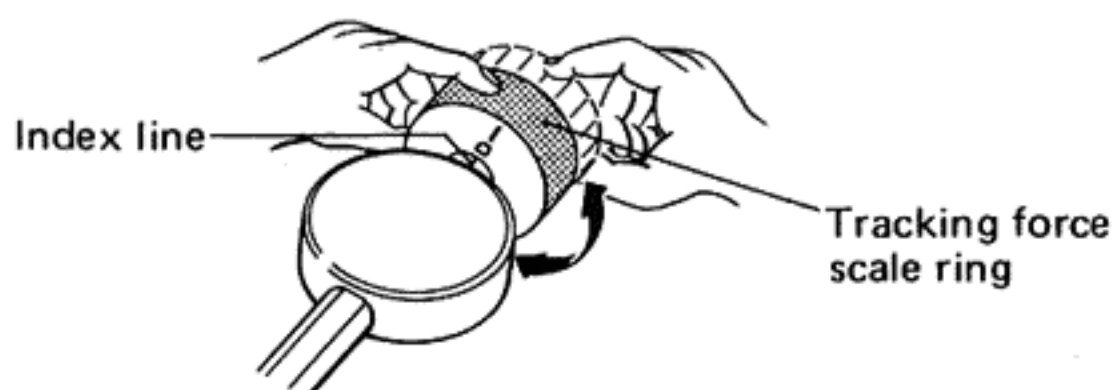
As shown in the figure, rotate the weight part (indicated as [shaded] in figure) of the tracking force adjustment weight in the direction indicated by the arrow and adjust it so that the tonearm remains parallel to the cabinet when it is released.



### 7 Anchoring the tonearm to the arm rest

### 8 Setting the tracking force scale ring to [0]

Rotate only the tracking force scale ring (indicated as [shaded] in figure) of the tracking force adjustment weight in either of the directions shown by the arrows and align [0] with the index line.

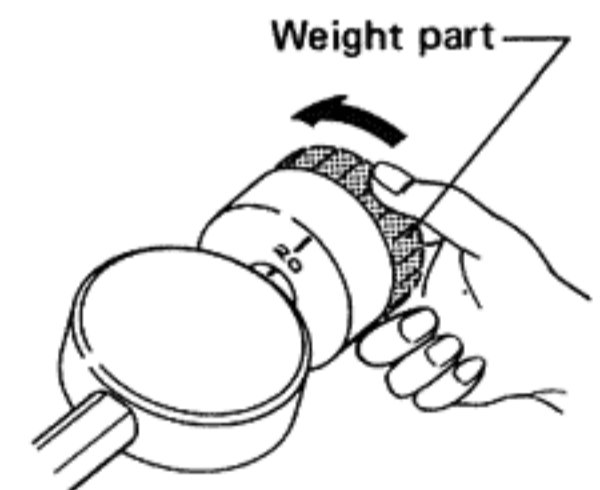


**NOTE:**

- Hold the weight part with your other hand to prevent it from rotating with the ring.
- Once the weight part has been rotated, attain the horizontal balance again as under section [6]

### 9 Adjusting the tracking force

Rotate the weight part (indicated as [shaded] in figure) in the direction of the arrow (the tracking force scale ring will also rotate), and align the number which is the same as the cartridge's tracking force with the index line. (If, for instance, the correct tracking force is 2 g, align the number "2" on the scale ring with the index line.)

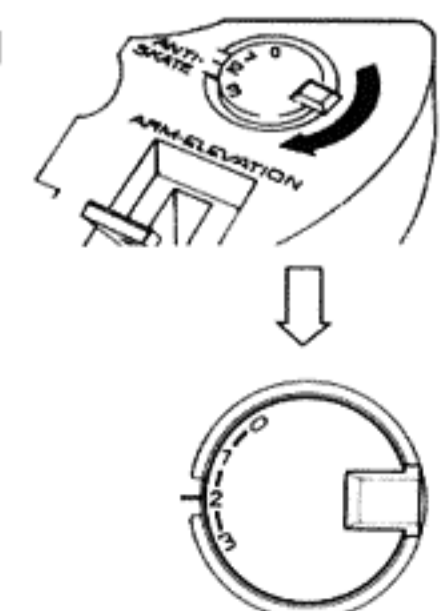


- One scale unit on the tracking force scale ring is 0.1 g.
- A tracking force of 3g is applied with every turn of the weight.

### 10 Adjusting the anti-skating

Rotate the ANTI-SKATE control in the direction indicated by the arrow and align the number which is the same as the tracking force with the index line.

(If, for instance, a tracking force of 2 g has been applied, align the number "2" on the control with the index line.)



### STEP 3 Connecting the Turntable and Amplifier

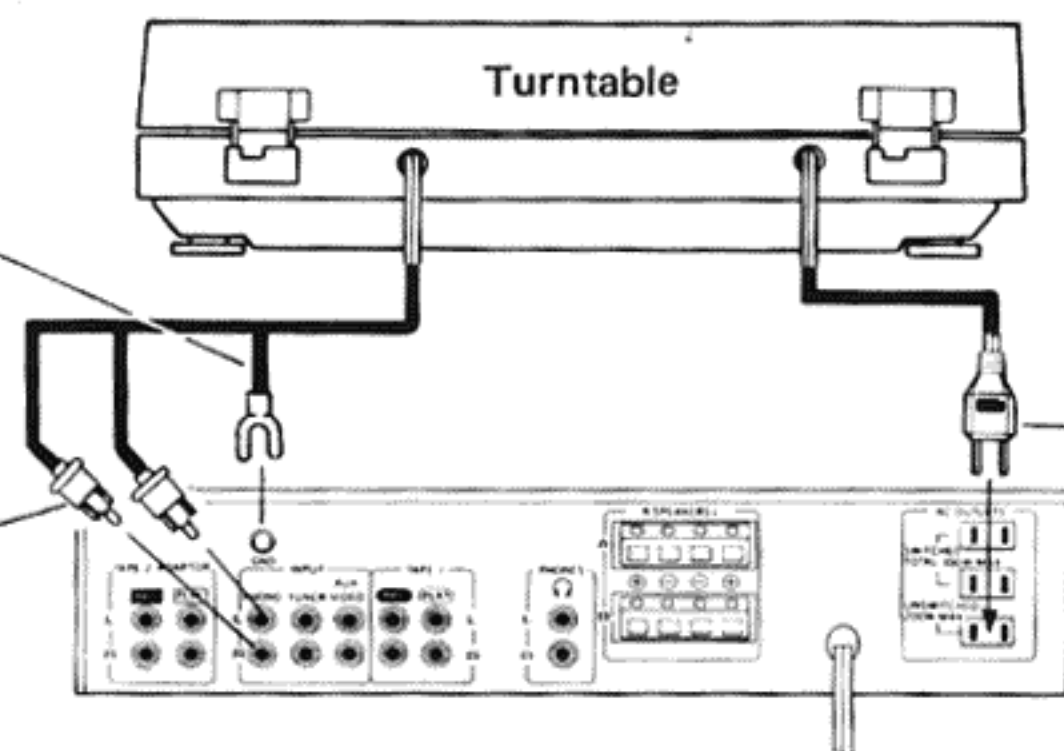
#### Connecting the ground wire

Attach the metal fitting onto the amplifier ground (GND) terminal.

#### Connecting the output cords

Insert the plugs into the amplifier's input "PHONO" terminals.

- Connect the white plug to the left (L) channel and the red plug to the right (R) channel.
- Insert the plugs as far as they will go.



#### Connecting the power cord

Connect the power plug to the auxiliary "AC OUTLET" on the amplifier or to a household power outlet.

### STEP 4 Installing the Turntable

Take note of the following points and install the turntable properly. Find a location which:

- Is horizontal and flat.
- Is characterized by minimal floor vibration or is not affected by any vibrations transmitted.
- Is not affected by high sound pressures or vibrations from the speaker system. (Do not install the turntable immediately in front of, or on top of, the speakers.)
- Allows easy operation and gives visible access to the record and stylus.

- Is near to the stereo amplifier. (Install the turntable within a range where the connecting cords reach the terminals on the amplifier.)
- Is not directly exposed to direct sunlight or heat from heating appliances. (Do not install the turntable near a heater or on a window ledge exposed to the sun.)
- Is not exposed to dust and dirt.
- Is free from damp and moist air.

After having carried out steps [1] through [4], read through the following checkpoints.

Check the tracking force and anti-skating adjustments.

- The ANTI-SKATE control must be aligned with the same number as the tracking force.

The following trouble is apparent when the number does not tally with the tracking force:

Too high: The sound is distorted and the tonearm slides toward the outside of the record.

Too low: The tonearm slides toward the inside of the record when the stylus descends onto the record.

- The tracking force must be adjusted within the correct tracking force range of the cartridge.

The following trouble is apparent when the tracking force is not properly adjusted:

Excessive tracking force:

The sound is distorted and the cartridge itself touches the record.

Insufficient tracking force:

The sound is distorted and interrupted.

- The tracking force must be adjusted with the ANTI-SKATE control at [0].

Unless this control is set to the [0] position, a force is generated by the anti-skating mechanism which pulls the tonearm to the right (toward the arm rest). Therefore, when attaining the horizontal balance, the tonearm is not at rest and so the operation is difficult to perform.

Even at the [0] position there may be some movement.

This is due to the increased rotational sensitivity of the

Check the installation and connections of the turntable

- The turntable must be connected to the input PHONO terminals of the amplifier in line with the type of cartridge which is being used.

When using an MM cartridge:

Connect to the amplifier's PHONO MM terminals.

When using a low-output MC cartridge:

Connect to the amplifier's PHONO MC terminals if these are available. If they are not available, use an MC cartridge transformer or a head amplifier. (For details, refer to the Operating Instructions of the cartridge or the amplifier.)

- Incorrect connections of installation will lead to trouble

If the equipment is connected improperly, no sound will be heard. If the output cord plugs are not inserted as far as they will go or if the ground wire is not connected, humming noise will be heard through the speakers.

If the turntable is installed at an angle, the tonearm will slide on the record and the sound will be distorted. If vibrations are transmitted to the turntable, the sound may be discontinuous or it may tremble, and in some cases howl (a prolonged wailing sound from the speakers) may be heard.

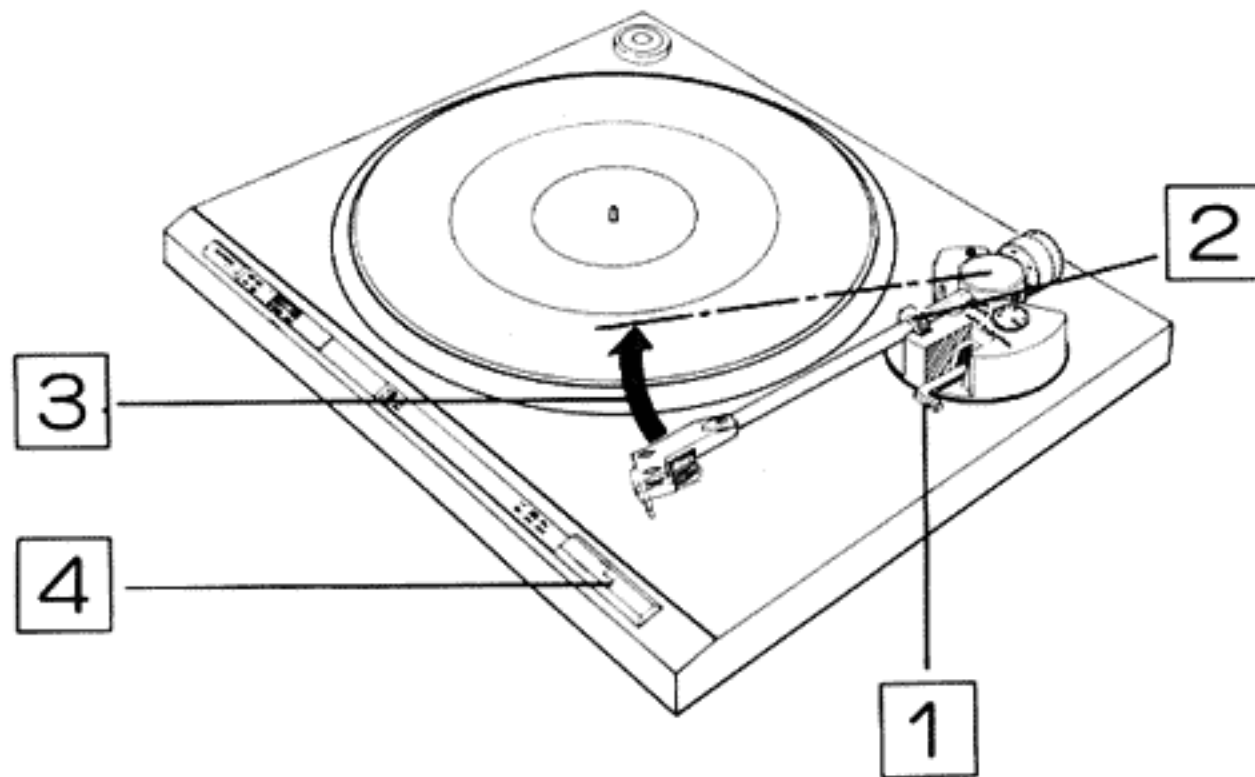
- The connecting cords should be given some slack

Check that none of the connecting cords are pulled taut after they have been connected. Tautness may lead to cord disconnections and howl.

# RECORD PLAY

## When Using the Turntable for the First Time

The turntable may operate unstably due to the vibrations sustained during transportation. Proceed as follows to restore the turntable to its normal working operation. This procedure is observed only once; on other occasions it may be disregarded.



**1** Set the ARM ELEVATION lever to the UP position.

**2** Release the arm rest.

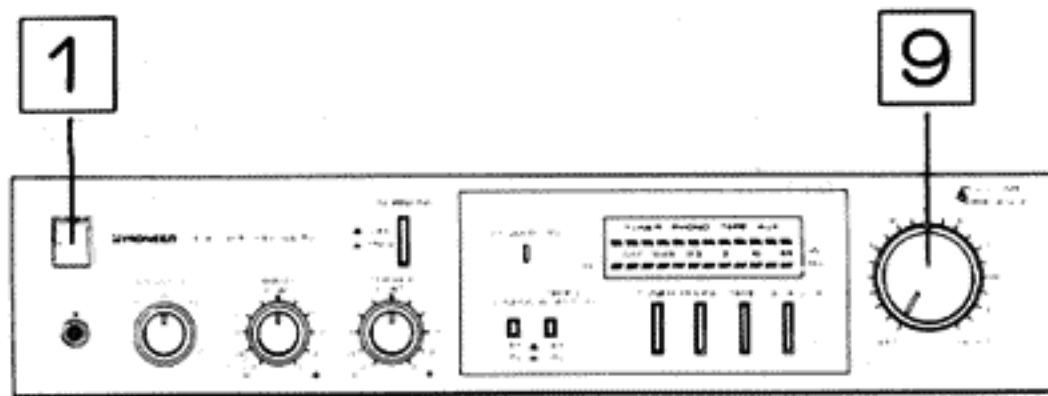
**3** Move the tonearm by hand.

- The platter starts to rotate.
- Release the tonearm after having moved it.

**4** Depress the CUT switch

Several seconds after the switch has been depressed, the tonearm returns automatically to the arm rest and the platter stops rotating.

## Record Play Procedure



**1** Set the stereo amplifier up for record play. Set the amplifier's power switch to ON and set the function selector to the PHONO position.

**2** Place the record onto the platter.

**3** Remove the stylus cover

**4** Release the arm rest

**5** Depress the SPEED switch and set the speed:

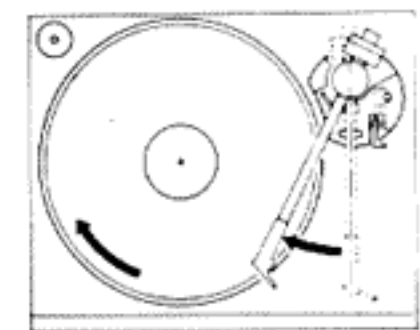
Depressed position for playing 33-1/3 rpm records  
Released position for playing 45 rpm records

**6** Set the ARM ELEVATION lever to the UP position

**7** Move the tonearm by hand across to the record.

Release the headshell when the stylus has been positioned on the record at the right track.

- The platter starts to rotate.
- The stylus is still floating clear of the record and so no sound will be heard yet.



**8** Set the ARM ELEVATION lever to the DOWN position and start play.

The stylus descends onto the record and play begins.

### NOTE:

If, when looking through the speed check window during record play, the dots appear to be moving toward the left or right, rotate the speed ADJ control and adjust so that the dots appear to stand still. (For details, turn to page 9.)

**9** Adjust the volume and tone using the controls on the stereo amplifier.

(When play is completed, the tonearm returns automatically to the arm rest.)





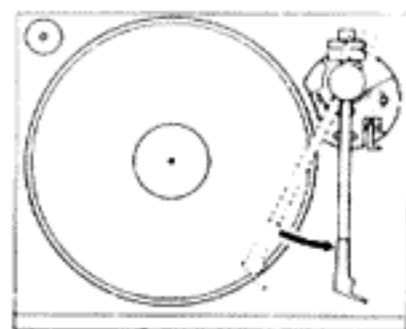
## RECORD PLAY

### Temporarily Suspending Play

This can be done in two ways

- **Depress the CUT switch**

Several seconds after this switch is set, the tonearm automatically returns to the arm rest and the platter stops rotating.



- **Set the ARM ELEVATION lever to the UP position**

The stylus rises from the surface of the record and play stops (but the platter continues rotating). When the tonearm is returned manually to the arm rest, the platter stops rotating.

**NOTE:**

*After the tonearm has been returned manually to the arm rest, always remember to set the ARM ELEVATION lever to the DOWN position.*

### Record play precautions

- **When the tonearm does not return automatically**

If a record with a non-standard size is being played, the tonearm may not return even after play or it may return before the completion of play. In cases like this, depress the CUT switch and the record play is concluded automatically.

- **Clean the stylus and records before and after play (refer to page 9)**

Dust or dirt on the stylus or records will result in distorted and discontinuous sound.

Remove the dust on the stylus with a soft brush. Use a good-quality record cleaner obtainable from your dealer to remove dust and dirt on your records.

- **Place only one record on the platter at a time**

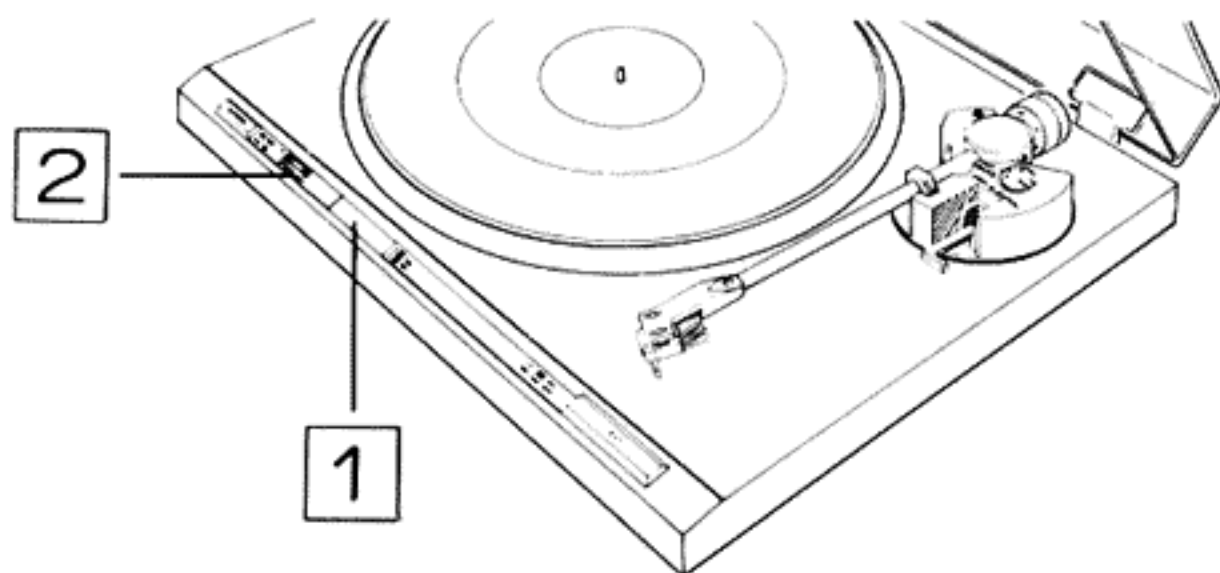
If two or more records are placed, the angle of the stylus on the record will deviate, resulting in distorted sound.

- **Look through the speed check window and check the striped pattern when starting record play or when changing the speed of the platter.**

The striped pattern may sometimes appear to move when the speed is changed. In cases like this, refer to the section "Fine speed adjustments" on page 8 and adjust the speed of the platter so that the striped pattern appears to stand still.

### Fine Speed Adjustments

Adjust the speed of the platter properly as follows when the platter is rotating too quickly (when the striped pattern as observed through the speed check window moves toward the left) or when the platter is rotating too slowly (when the pattern moves toward the right).



- 1 **Check the position of the striped pattern**

There are four rings of stripes around the platter. Check the ring that corresponds to the power line frequency (50 Hz or 60 Hz) in the area of use and the platter speed (33 or 45 rpm).

- 2 **Adjust the speed**

Observe the direction in which the striped pattern appears to be moving and then rotate the SPEED ADJ control.

- Rotate the control in the [-] direction until the striped pattern comes to rest if it is moving toward the left.
- Rotate the control in the [+] direction until the striped pattern comes to rest if it is moving toward the right.

# MAINTENANCE

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## Maintaining the turntable

- **When the cabinet is dirty or dusty**

Use a polishing cloth or a dry soft cloth to clean off the dirt and dust.

- **When the cabinet is stained**

Dip a soft cloth into neutral detergent diluted with five or six times the amount of water, wring the cloth out and clean off the stains. Next, wipe off all the remaining moisture with a dry soft cloth.

- **Do not use chemicals or furniture wax**

Never use furniture wax, cleaners, thinners or benzene for cleaning since these will mar and discolor the surface finish of the cabinet.

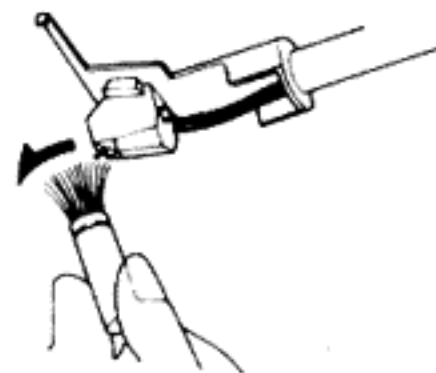
- **Do not spray with insecticides**

If insecticide sprays are allowed to come into contact with the surface of the cabinet, the surface may be dis-

## Maintaining the stylus

- **Use a soft brush**

As shown in the figure, move the brush toward you clear off the dust and dirt. Do not use your finger since this will damage the stylus.



- **When the dirt cannot be removed by a brush**

Obtain some stylus cleaner from your dealer and remove it. Do not allow any of the liquid to come into contact with the plastic parts as they may dissolve.

# TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with your turntable, check out the points below. Sometimes, the trouble may lie in another component. Investigate the stereo amplifier, speaker systems and other electrical apparatus which are being used.

If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy	Ref. page
<b>Platter does not rotate</b>	● Disconnected power plug	● Connect the power plug securely to the AC outlet.	6
	● When turntable is connected to AC OUTLET (SWITCHED) on stereo amplifier	● Set the amplifier's power switch to ON.	6
<b>No sound</b>	● Faulty output cord connections	● Insert pin plugs firmly into amplifier's PHONO terminals.	6
	● Faulty cartridge lead connections (when the cartridge has been replaced)	● Connect properly.	2
<b>Sound is discontinuous or distorted; noise from scratches is heard</b>	● Incorrect tracking force	● Apply tracking force commensurate with cartridge.	5
	● Excessive anti-skating	● Apply value commensurate with cartridge.	5
	● Dirty stylus	● Clean stylus.	9
	● Worn stylus	● Replace with new stylus.	—
	● Dirt or dust on record	● Clean record.	—
	● Record warp or scratches	● Replace record.	—
	● Dirty pin plugs or amplifier input terminals.	● Clean off dirt.	—
● Cartridge mounting is bent (when cartridge has been replaced).	● Correct bending.	2	
<b>Hum</b> (heard through speakers)	● Faulty output cord or ground wire connection.	● Connect properly to amplifier's PHONO or GND terminal.	6
	● Dirty pin plugs or amplifier input terminals.	● Clean off dirt.	—
	● Adverse effect of flux from amplifier's power transformer.	● Vary positions of amplifier and turntable.	—
<b>Howl</b> (if the volume is turned up during record play, acoustic feedback fills the whole room)	● Vibrations from speakers are being transmitted to the floor and these are being picked up by cartridge.	● Place turntable at a distance from speakers so that vibrations are not transmitted from floor.	—
		● Place turntable on sturdy stand.	—
	● Sound pressure from speakers is transmitted directly to cartridge.	● Try varying installation location of turntable.	—
<b>Odd sound tempo</b>	● SPEED switch is not at correct position.	● Set to position that agrees with record speed.	3.7
	● The speed has not been properly adjusted finely	● Proceed with the fine speed adjustment.	8

# SPECIFICATIONS

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## Motor and Turntable

Drive System	Direct-drive
Motor	DC servo motor
Turntable Platter	310mm diam. aluminum alloy die-cast.
Speeds	33-1/3 and 45rpm
Wow and Flutter	Less than 0.014% (WRMS) 0.025% (WRMS) 0.035% (DIN)

Values marked with an " \* " designate the wow and flutter for motor, and do not include the cartridge or tonearm load.  
Signal-to-Noise Ratio . . . . . More than 78dB (DIN-B)  
(with Pioneer cartridge model PC-3MC)

## Tonearm

Type	Static-balance type, Straight pipe arm
Effective Arm Length	221mm
Overhang	15.5mm
Usable Cartridge Weight	3g (min.) to 8g (max.)

## Subfunctions

Auto-return mechanism, Anti-skating force control, Stylus pressure direct-readout counterweight, Cueing device, Strobe light, Free stop hinges

## Miscellaneous

Power Requirements	
Power Consumption	
Dimensions	420(W) X 100(D) X 160(H) 16-1/2(W) X 4-1/4(H)
Weight	

## Accessories

EP Adapter	
Operating Instructions	

### NOTE:

*Specifications and design subject to possible modification without notice, due to improvements.*

## Condensation

When this turntable is brought into a warm room from previously cold surroundings or when the room temperature rises sharply, condensation may form inside and the unit may not do full justice to its performance. In cases like this, allow the unit to stand for about an hour or raise the room temperature gradually.

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