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# **TURNTABLE SYSTEM**

# PS-3750



# Owner's instruction manual

Before operating your new Sony turntable, please read this manual completely to become familiar with all its features and capabilities.

Keep this manual handy for future reference.

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# **OWNER'S RECORD**

For your convenience, record the model number and serial number (you will find them on the rear of your set) in the space provided below. Please refer to them when you contact your Sony dealer in case of difficulty. This will be a great help to you in getting better and more satisfactory service on your set.

Model No. PS-3750 Serial No.\_\_\_\_\_

# WARNING

- To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.
- •To prevent fire or shock hazard, do not expose the set to rain or moisture.

# **PRECAUTIONS**

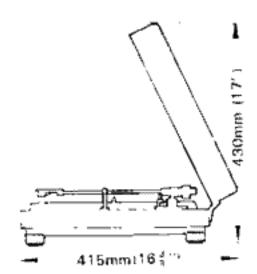
- Operate the set only on 120 V ac, 60 Hz.
- Should any liquid or solid object fall into the cabinet, unplug the set and have it checked by qualified personnel before operating it any further.
- Unplug the set from the wall outlet when it will not be used for an extended period of time.
- ◆To disconnect the power cord, pull it out by grasping the plug. Never pull it out by the cord.

# LOCATION OF CONTROLS

Your record player must be assembled as described here before it can be used. The picture shows the appearance of the assembled player.

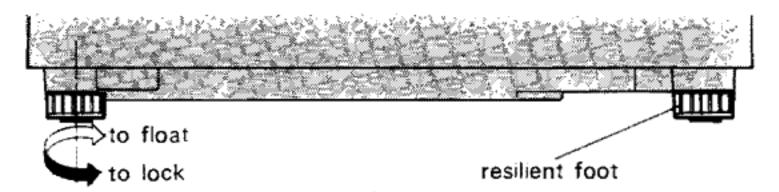
# NOTES ON LOCATION

● Place the turntable on a level surface. Allow 10 cm (5") clearance behind the set so that the cover can be opened.

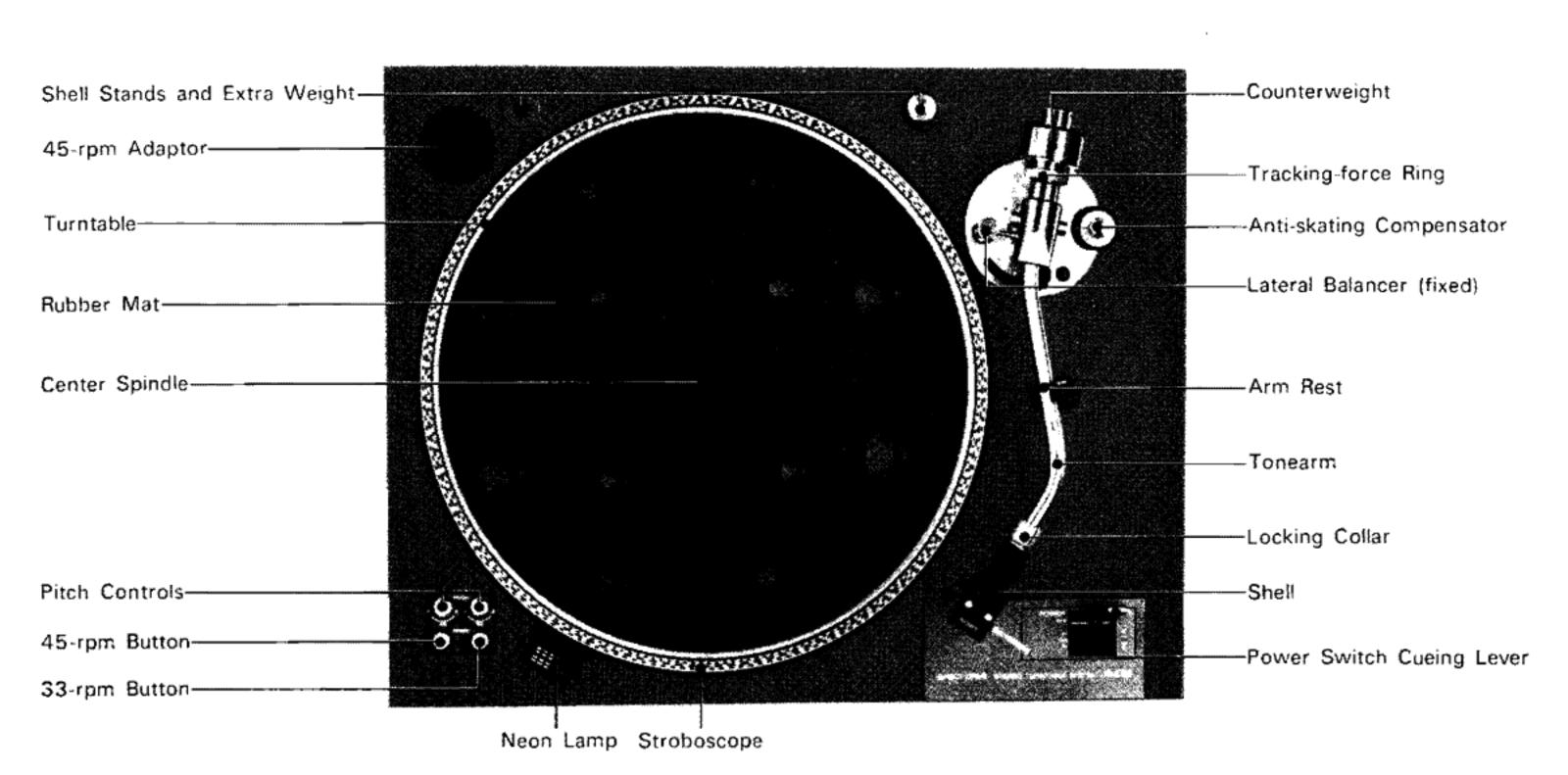


• The turntable has integral bases supported by resilient feet that isolate the mechanism from external shock and vibration. Float the turntable horizontally by turning the feet counterclockwise.

However, if placing the turntable on a soft surface, turn the feet clockwise and lock them, although the cushioning effect will be eliminated in the locked position. These feet are also adjustable in height for leveling the turntable. For placing it on an uneven surface, turn each foot counterclockwise until the set is level.



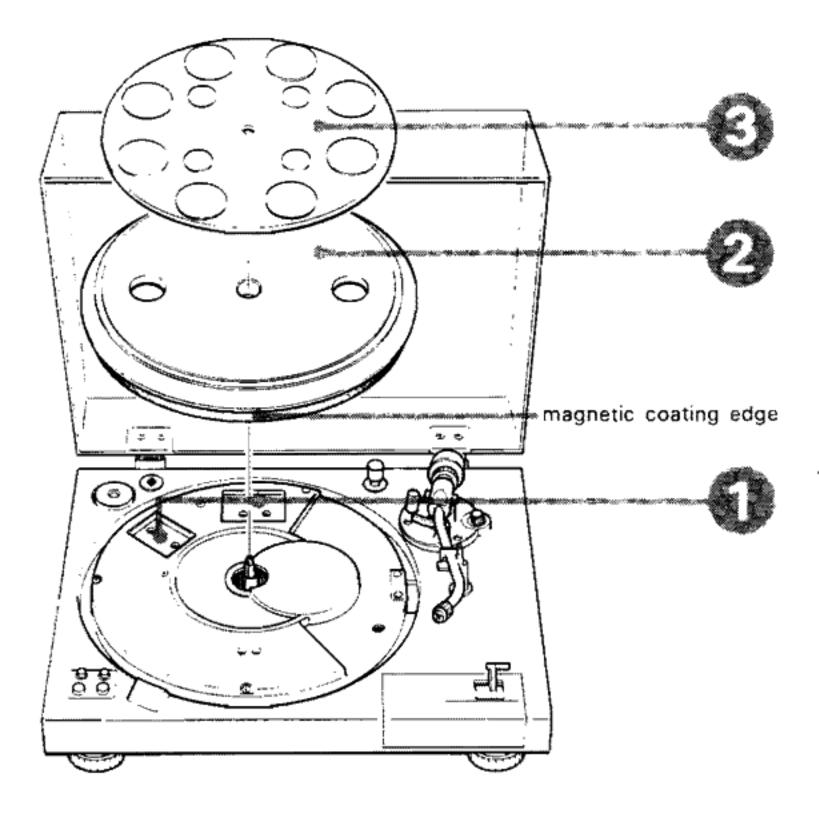
- Avoid placing the set near electrical appliance (such as a television, hair dryer, fluorescent lamp) which may cause hum or noise.
- Avoid any location susceptible to vibration (such as from speakers, slamming of doors, etc.).
- Keep the set away from direct sunlight, extremes of temperature, or excessive dust and moisture.



# TURNTABLE ASSEMBLY

Do not connect the power cord or the connecting cords until the assembly and adjustments are complete.

Remove all packing material and clean the cabinet.



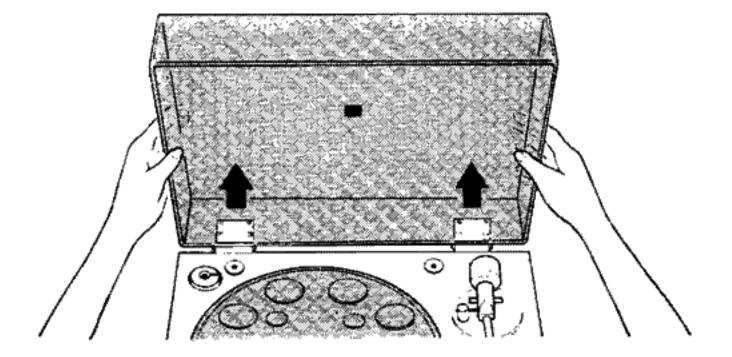
- ♠ Remove the two red-painted transit screws. Store them in the holes on the caution label. (These screws will be required at the time of repacking. See the "Repacking instructions" on page 7.)
- Carefully place the platter on the motor board by matching the center hole and the center spindle.

Be careful not to damage the magnetic coating edge of the platter with your finger tips.

- O Place the rubber mat on the platter.
- Never connect the power cord when the platter is not installed. Otherwise the servo-motor will turn erratically since the servo control mechanism does not operate correctly.
- Do not attempt to turn the turntable counterclockwise by hand.
- Be careful that no foreign objects lodge under the turntable.

### To open the dust cover

Open the dust cover by holding with both hands and lift it upwards.



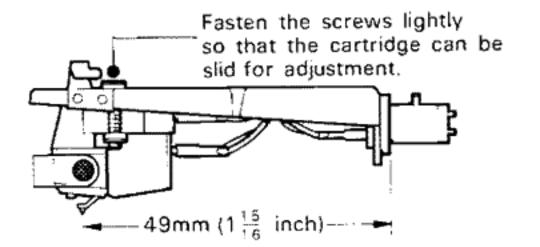
# CARTRIDGE INSTALLATION

A cartridge weighing between 4-10 grams can be mounted with the supplied shell. Heavier cartridges from 10-15.5 grams can be mounted using the Extra Counterweight (supplied). If some other shell is installed, use one whose weight and height are the same as that of the supplied shell.

 Select the most suitable length of cartridge mounting screws according to the height of your cartridge. (Three pairs of screws of various lengths are supplied.)

If the shell head touches the cartridge, insert the supplied spacer under the shell.

2. Install the cartridge with the selected screws so that the distance between the shell end and the stylus tip is 49 mm (1 15/16"). The temporary overhang adjustment is then complete. More precise adjustment should be made later.



Connect the lead wires of the shell to the corresponding pins on the cartridge.

Shell connectors Cartridge

White wire . . . . L (left channel signal)

Blue wire . . . . LE or G (left channel ground)

Red wire . . . . . R (right channel signal)

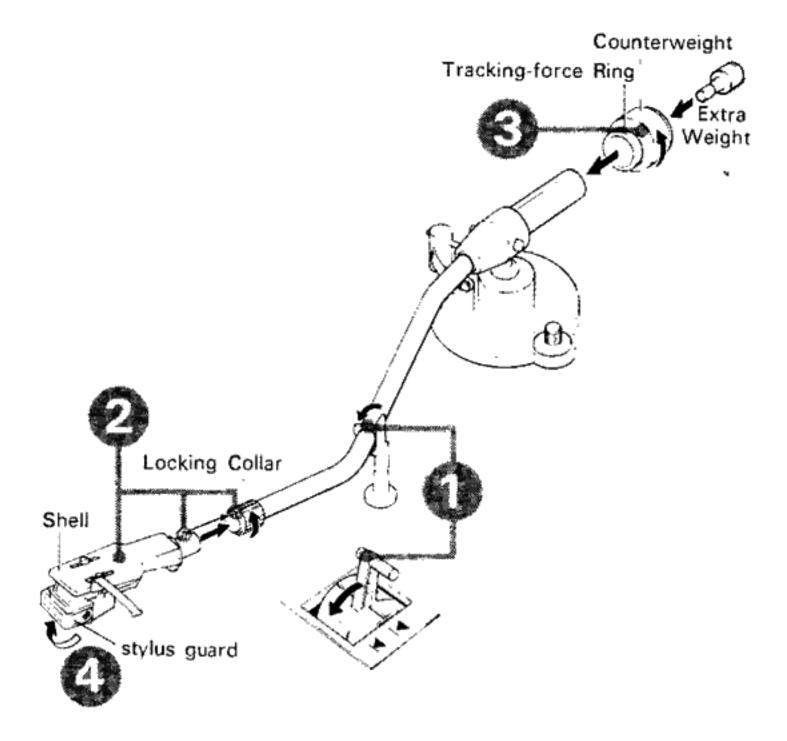
Green wire . . . . . . . RE or G (right channel ground)

 Shell stands are provided on the base of the turntable for extra mounted cartridges.

# TONEARM ASSEMBLY AND ADJUSTMENT

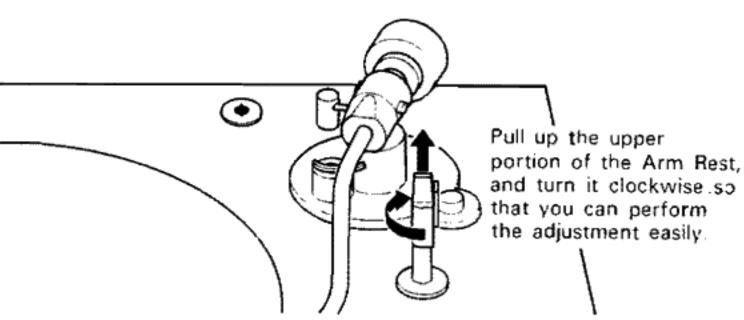
### Preparation

- ◆ Secure the tonearm to the Arm Rest and place the Cueing Lever at the forward (▼ ON) position.
- Plug the Shell into the tonearm. Matching the guide pin on the Shell with the upper slot of the Locking Collar, turn the Locking Collar counterclockwise until the Shell is firmly locked to the arm.
- Insert the Counterweight and the Tracking-force Ring by turning the weight counterclockwise. The Tracking-force Ring turns with the Counterweight.
- If the cartridge weight is from 10-15.5 grams, add the supplied Extra Weight at the arm pipe end.
- A Remove the stylus guard, if fitted.

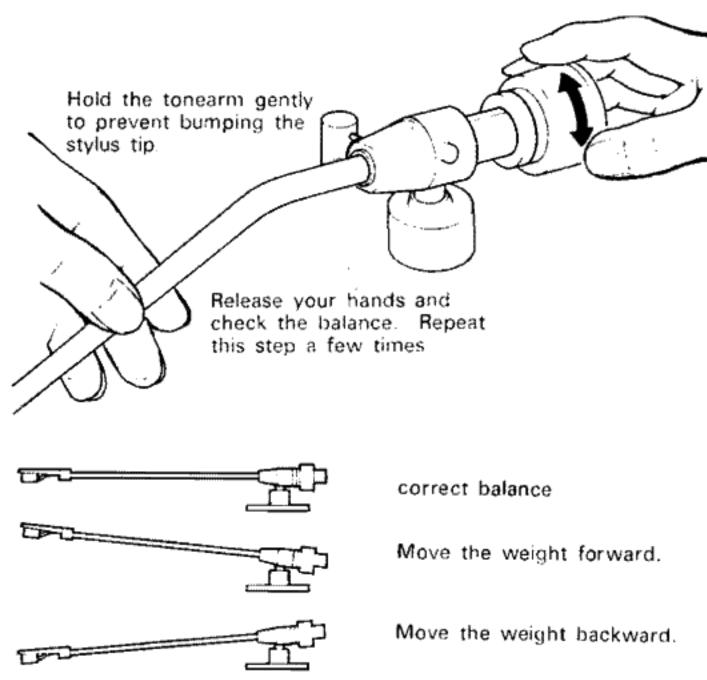


### Longitudinal balance adjustment\*1

1. Release the Tonearm from the Arm Rest.

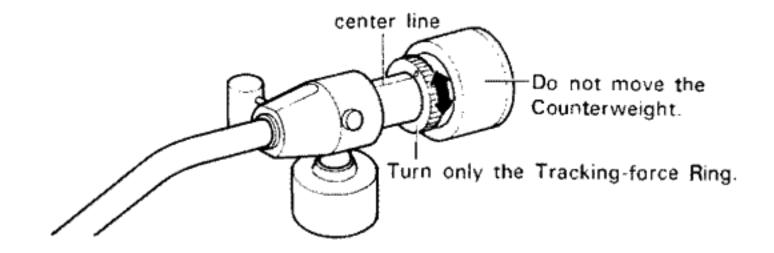


2. Turn the Counterweight until the tonearm is in the horizontal balanced position. (The tracking force ring turns simultaneously.)



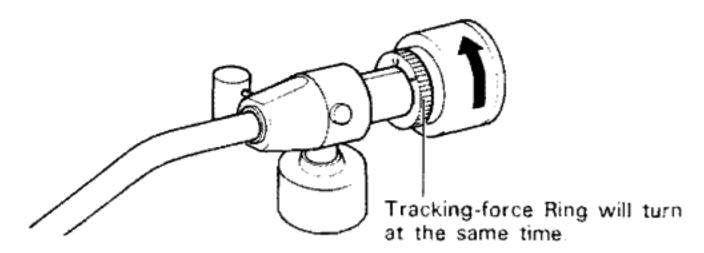
 Pull up the Arm Rest and turn it counterclockwise so that the Arm Rest returns to its original position. Secure the tonearm to the Arm Rest again.

While holding the Counterweight at the balanced position, separately turn the Tracking-force Ring until the "O" indication meets the center line on the arm.



### Tracking force adjustment\*2

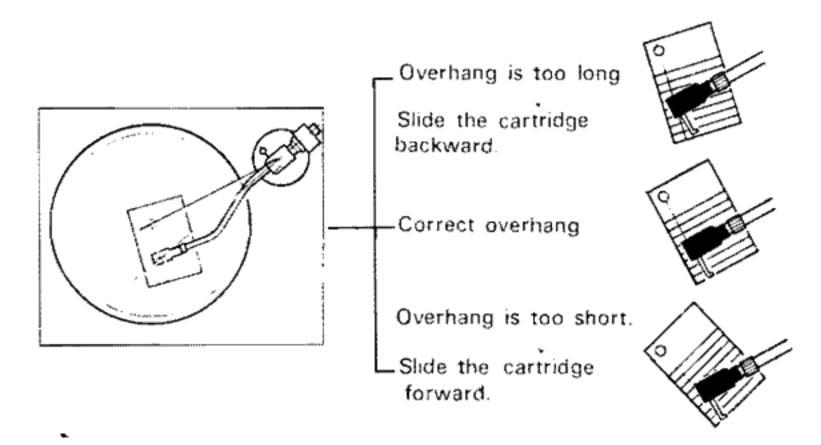
Turn the Counterweight counterclockwise so that the recommended tracking force figure (as shown on the Tracking-force Ring) for your cartridge is aligned with the center line on the arm. The maximum tracking force available is 3 grams.



### Overhang check\*3

Check that the stylus overhang is set correctly. Use the Alignment Protractor (supplied).

- Insert the Alignment Protractor into the center spindle through the hole on its corner.
- Bring the tonearm above the cross point of the two fine lines, and carefully lower the stylus on the cross point with the Cueing Lever.

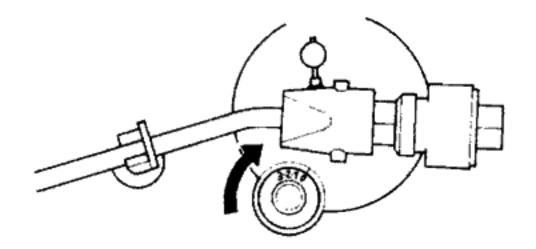


- Check to see that the Shell is parallel to the thick lines drawn on the Alignment Protractor as illustrated.
   If they are parallel, the stylus overhang is set correctly.
- If the shell is not parallel, loosen the cartridge screws and adjust the stylus overhang until the Shell is parallel. After doing the above, readjust the tonearm according to the "Longitudinal" balance and "Tracking force" adjustments.

## Anti-skating compensation\*4

Turn the Anti-skating Compensator so that the guide mark meets the tracking force value used.

After the adjustments are complete, install the stylus guard.



### \*1 Longitudinal balance adjustment

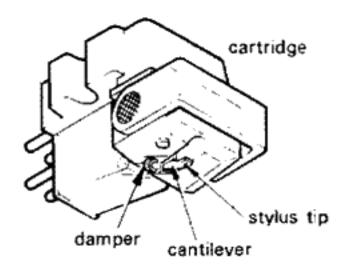
While record playing, the weight of the tonearm is supported by the arm pivot and only tracking force is applied to the stylus tip. To accomplish this, the tonearm must first be balanced horizontally, and the tracking force indicator set at "0".

### \*2 Tracking force

After the longitudinal balance adjustment, apply the recommended tracking force weight so that the stylus tip will trace the music groove accurately.

A stylus damper, located inside the cartridge, is slightly affected by room temperatures. To assure the best performance of the cartridge, adjust the tracking force as follows.

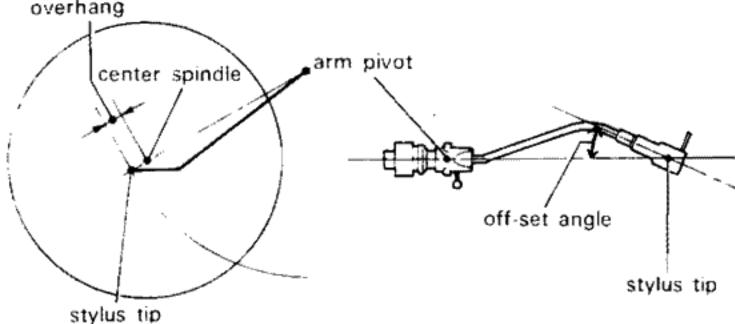
- When the room temperature is lower than 10° C (50° F), apply a tracking force slightly greater than the recommended value, but be careful that the cartridge does not contact the record surface.
- When the room temperature is high, apply a silghtly lighter tracking force.
   However, avoid either extreme of tracking force since they will damage the stylus tip and the record.



### \*3 Overhang

In record playing, because of the pivoted design of the tonearm, the stylus tip can be perfectly tangent to the music groove at only one point of the record. However, at all other portions of the record, there is a slight deviation of the stylus from tangency. This is called the tracking error, and introduces minute errors in the amplitude and timing of the reproduced signal as compared to the original, and other forms of distortion may be introduced depending on the cartridge and stylus design.

Tracking error is minimized by the selection of an optimum "off-set" angle and "overhang" distance. Overhang is the distance between the stylus tip and the center spindle. This overhang adjustment is made at the time of installing a particular cartridge, while the off-set angle is fixed by the manufacturer of the tonearm.

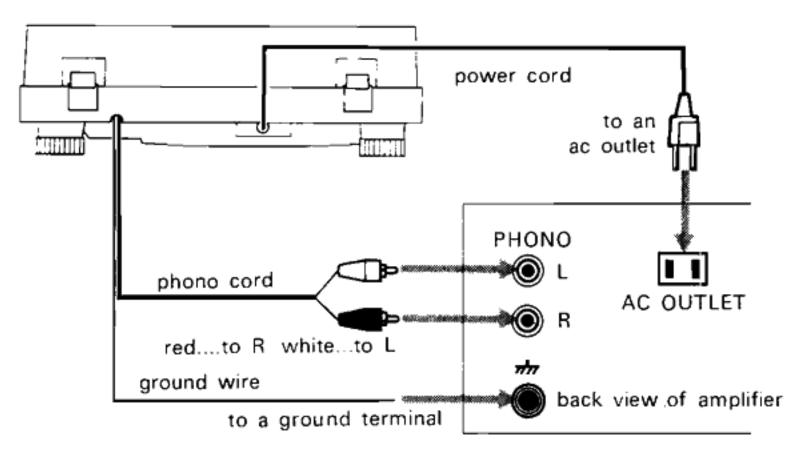


### \*4 Anti-skating compensation

While record playing, the frictional force between the record groove and the stylus produces a force that tends to drive the tonearm toward the center of the record. The anti-skating compensation cancels the above mentioned force, and is applied in accordance with the tracking force.

Incorrect anti-skating compensation results in sound distortion and uneven wear on both the stylus and the record.

# CONNECTIONS



- Check that the phono cord and power cord are not caught under any foot of the case.
- Leave a little slack in the connecting cord to allow for inadvertent shock or vibration.

# TIPS ON RECORD HANDLING

### Before playing

- For cleaning the stylus, use a soft brush (stylus brush, artist's paint brush, etc.). Brush the stylus from back to front. Never clean the stylus with your finger tip.
- ◆For routine cleaning of records, the use of a barely damp soft cloth (gauze, etc.) or a fluid type cleaner will be effective. If a spray type record cleaner is used, make sure that the cleaner has dried completely before playing the records. Record playing while the fluid is still wet may damage the records. It is a good idea to clean the record again before putting it away.
- Handle a record by its edges and don't touch the music grooves.
   Finger prints on the record surface may induce an accumulation of dust, resulting in impaired tone.

# When playing record

- It is recommended that you reduce the amplifier volume before you lower the tonearm onto the record.
- •While the turntable is energized, don't attempt to stop or reverse the turntable by hand.
- During play, be sure to close the dust cover. Don't place anything on the dust cover.
- While playing, never attempt to move the player or touch the tonearm.

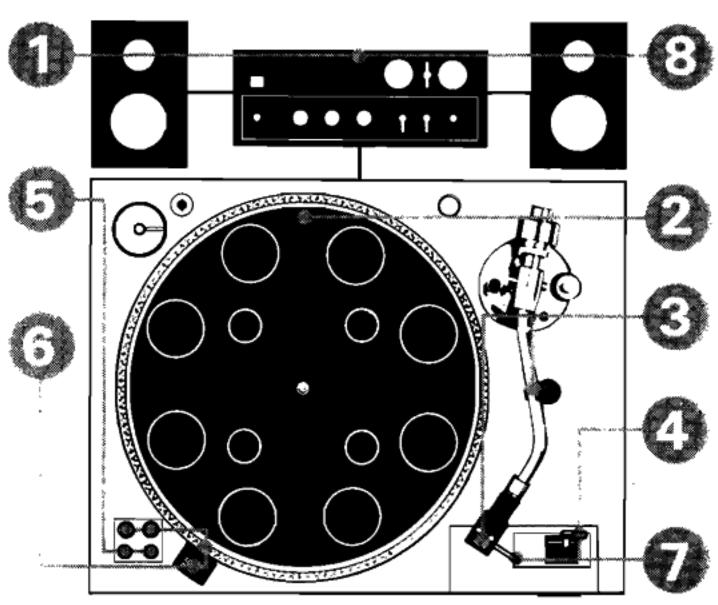
# After playing

- Avoid exposing records to any source of heat, such as direct sunlight, a hot-air duct, etc. Store records vertically without applying any pressure or inclining to either side. This will minimize any warpage.
- •When not using the player, close the dust cover.

# Other precautions

- Don't put anything but records on a turntable.
- Don't place anything but the spare cartridge and 45-rpm adaptor on the cabinet.

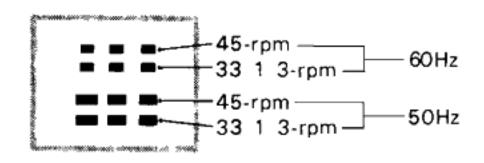
# RECORD PLAYING



Follow in sequence the numbered operations of the diagram.

- ♠ Lower the amplifier volume. Turn on the amplifier and set the amplifier input selector to PHONO.
- 2 Place a record on the turntable.
- Remove the stylus guard and release the clasp of the Arm Rest.
- Place the Cueing Lever to the center ( ▼ ON) position.
- 6 Push either the "33" or "45"-rpm button according to the record speed that you wish to play.
- 6 By viewing the stroboscope, adjust the speed with the Pitch Control until the pattern appears stationary.\*

For a 60 Hz power line frequency area, adjust the Pitch Control by referring to the upper two lines of the stroboscope.

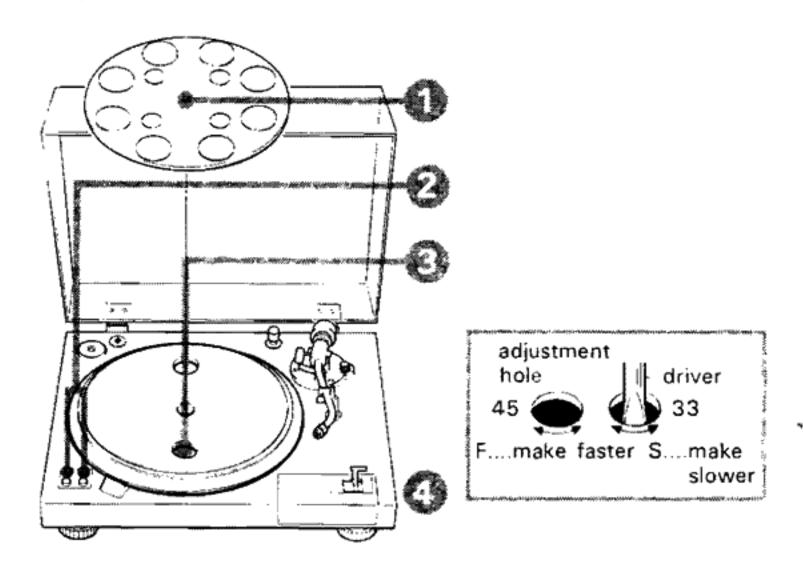


- If the pattern moves to the right . . . Turn the control to the "F" (fast) direction.
- If the pattern moves to the left . . . . Turn the control to the "S" (slow) direction.
- Bring the tonearm above the lead-in groove of the record.
   Place the Cueing Lever to the forward (▼ ON) position. The tonearm will automatically lower onto the record.
- Adjust the sound level, stereo balance and tone quality of the amplifier according to your preference.
- ◆After playing, place the Cueing Lever to the center ( ▼ ON) position, and bring the tonearm to the Arm Rest. Then set the Cueing Lever to (OFF). Do the same to stop the turntable during play.
- For 7-inch records, put the 45-rpm Adaptor (supplied) over the Center Spindle.
- \* Adjust the Pitch Control 30 60 seconds after turning on the power. This permits the electronic control components to stabilize and establish the rotational speed of the turntable.

# PITCH CONTROL RANGE ADJUSTMENT

If correct speed cannot be obtained by adjusting the *front* Pitch Controls, readjust the semi-fixed adjustment screws inside the turntable.

For the 33 1/3-rpm adjustment, turn the 33 semi-fixed screw, for 45-rpm adjustment, the 45 semi-fixed screw.



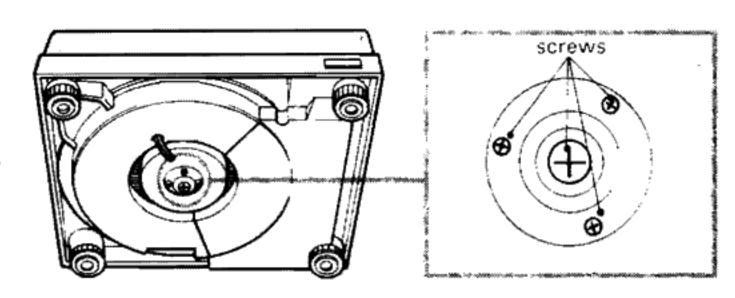
- Remove the rubber mat.
- @ Center the front 33 or 45 Pitch Control.
- Turn the turntable so that the hole comes to the front center position. Insert a small screwdriver into the adjustment hole and turn it as indicated.
- Turn on the power again and confirm that the stroboscope pattern for your power line frequency remains stationary.
- After this adjustment, the stroboscope may be seen to move slightly due to the variations of the power line frequency which affects the turntable neon lamp. However, this is negligible for normal use since the DC servo motor turntable used for this unit is designed to keep its nominal speed regardless of power line frequency deviations.

# LUBRICATION AND MAINTENANCE

- No lubrication is required for this turntable. The motor shaft is permanently lubricated at the factory.
- Clean the cabinet and dust cover periodically with a soft dry cloth. Do not use solvents such as alcohol, benzine or thinner since they will damage the finish.
- When the rubber mat is dirty, wipe it gently with a soft cloth slightly dampened with water.

### Note

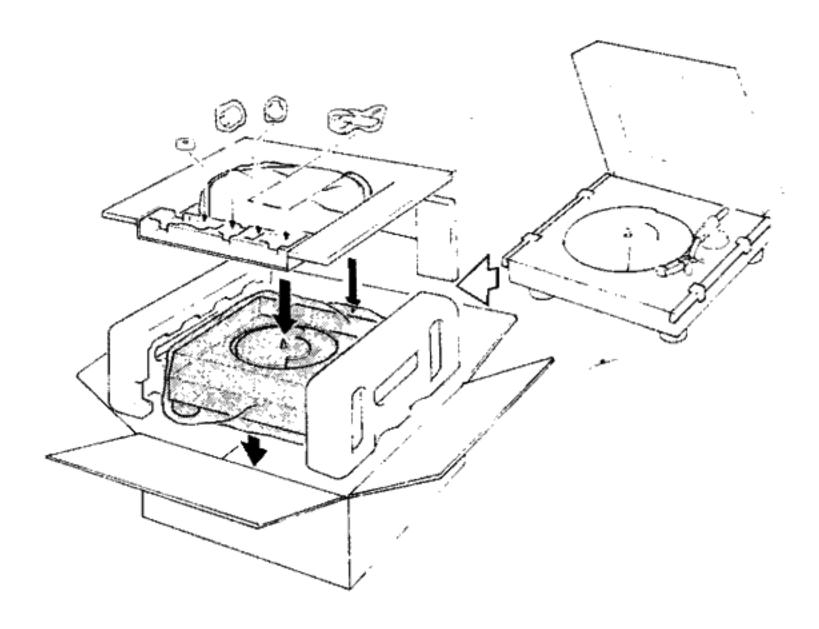
The big one screw and the three small screws on the bottom of the player are precisely adjusted at the factory to maintain the nominal turntable speed. Do not attempt to adjust these under any circumstances.



# REPACKING FOR SHIPMENT

Do not throw away the carton and the associated material; they will come in handy if you ever have to transport or ship the unit. When shipping the unit for repair work or to another location, it should be repacked in the original carton and packing material just as it was originally.

• Turn the two transit screws (painted red) fully clockwise to fasten the turntable to the cabinet.



### SPECIFICATIONS

Turntable Manual player

Platter 31.4 cm (12 3/8"), Aluminum-alloy

diecast

Motor DC motor (brushless)

Drive system Direct drive Speed 33 1/3 rpm, 45 rpm

Pitch control range ±4%

Wow and flutter Less than 0.03% (WRMS) S/N ratio Better than 70 dB (DIN-B)

Tonearm

Type Statically balanced, universal

Pivot to stylus length 216.5 mm (8 1/2") Overall arm length 300 mm (11 7/8") Overhang 16.5 mm (21/32") Tracking error within  $+3^{\circ}$ ,  $-1^{\circ}$ 

Tracking-force adj. range

0 – 3 g

Shell weight 7.5 g

Cartridge weight range 4-10 g (without extra weight)

10 - 15.5 g (with extra weight)

General

Power requirements 120 V ac, 60 Hz

Power consumption 10 W

Dimensions  $445 \times 155 \times 365 \text{ mm (w h/d)}$ 

 $(17.5/8 \times 6.1/8 \times 14.3/8 \text{ inches})$ 

Weight 9 kg (19 lb 13 oz), net

10.5 kg (23 lb 2 oz), in shipping carton

Supplied accessories Alignment Protractor

45-rpm Adaptor

Cartridge spacer and the three pairs

of mounting screws

Extra Weight

Design and specifications subject to change without notice.

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# **FEATURES**

• A newly developed brushless DC motor is used in the servo controlled drive mechanism of the PS-3750.

By eliminating the brushes and commutator of a convential motor, the turntable speed variations are greatly reduced, and the motor life is greatly increased.

- ◆The Frequency Generator (F.G.) is composed of a magnetic coating inside the platter. This design feature contributes to an exceptionally low degree of wow-and-flutter.
- The cabinet is made from the new acoustic material SBMC (Sony Bulk Mould Compound), minimizing cabinet resonances and vibration, and preventing any degradation of tone quality.
- Resilient feet absorb external vibration and prevent audio feedback.

# TROUBLE CHECKS

The following chart will help correct most problems which may occur with this unit. If the problem persists after you have checked these items, consult your Sony dealer.

### Impaired tone quality

- Turntable not level
- Incorrectly placed on or near a speaker
- Dusty stylus
- Worn stylus or defective record (The stylus life is approx. 400 hours of playing time.)
- Incorrect cartridge installation
- Improper tonearm balance (See "Longitudinal balance adjustment" on page 4.)
- Improper setting of the Anti-skating Compensator (See page
   5.)
- Improper seed

## No audio from one channel

- Loose attachment of the shell to the tonearm (See page 4.)
- Loose connection of phono cord
- Low volume level setting for one channel of the amplifier
- Incorrect connection of the shell lead wires (See "Cartridge installation" on page 3.)

# Groove skipping, tonearm tends to skate out, tonearm does not advance (record repeats)

- Turntable not level
- Improper tracking-force
- Improper setting of the anti-skating compensator
- Defective record
- Incorrect adjustment of the resilient feet

# Steady low-pitched sound (ac hum)

- Loose ground wire to the amplifier
- Loose connection between the shell and the tonearm
- Incorrect connection of the cartridge lead wires