

**STEREO TURNTABLE SYSTEM**

# PS-LX7



## **OPERATING INSTRUCTIONS**

Before operating the unit, please read this manual thoroughly.  
This manual should be retained for future reference.

## OWNER'S RECORD

The model and serial numbers are located at the rear. Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. PS-LX7

Serial No. \_\_\_\_\_

### WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

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## FEATURES

The Sony PS-LX7 stereo turntable system delivers a high order of performance despite its very compact size, and its soft-touch buttons make the system a pleasure to operate.

### Auto record size selection

Record size is automatically set by a photo sensor system. If no record is on the turntable, the tonearm will not lower.

### Synchronized operation with the Sony cassette decks

When the tonearm lowers to the lead-in groove of a record, the cassette deck stand-by mode is released and the record mode assumed.

When play finishes, the cassette deck is automatically set first in the record muting mode, then in the pause mode. This synchronized operation is possible when the turntable is connected to a Sony cassette deck equipped with a four-pin remote control jack by a Sony RM-65 synchro remote control unit.

### Muting system

The muting system activates when the tonearm is lowering to a record and when it is lifting up from a record. It deactivates after the tonearm has been lowered onto a record. There is no need to turn down the amplifier volume every time a stylus is lowered onto a record.

### Quartz lock and magnedisc servo system

The turntable maintains an accurate and drift-free speed by referring to a frequency generated by a very stable quartz oscillator and with the aid of a speed monitoring system which utilizes a magnetic pick-up head and a pulse signal derived from a magnetic coating at the edge of the platter.

### Linear torque BSL motor

Direct drive system with Sony's unique BSL (Brushless and slotless) motor which has a high signal-to-noise ratio to virtually eliminate wow and flutter. The motor's high torque assures a quick attainment of 33 $\frac{1}{3}$  rpm after only half a revolution.

### Disc centering guides

Disc centering guides facilitate placing a 30 cm (12 inch) record over the center spindle.

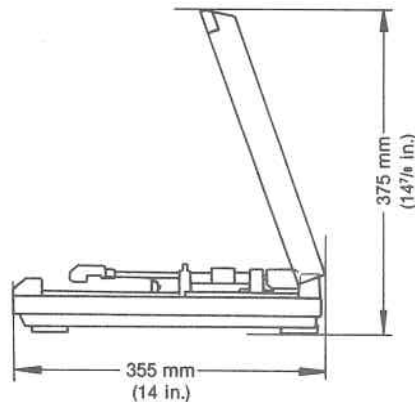
## PRECAUTIONS

### On safety

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

### On installation

- Place the turntable on a level surface.
- Avoid placing the unit near electrical appliances (such as a television, hair dryer, or fluorescent lamp) which may cause hum or noise.
- Place the turntable where it will not be subject to any vibration, such as from speakers, slamming of doors, etc.
- Keep the unit away from direct sunlight, extremes of temperature, and excessive dust and moisture.
- Allow at least 10 cm (4 inches) clearance behind the unit so that the cover can be opened.

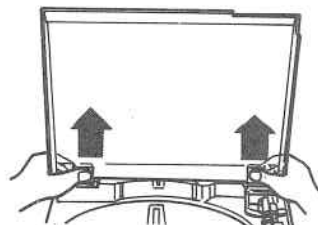


### On auto record size selection

A beam from a lamp is transmitted through the holes in the rubber mat to the photo detectors which activate the record size selection. The 17 cm (7 inch) record size is selected when the inner holes are covered and the lamp beam goes through the outer holes. The 30 cm (12 inch) record size is selected when both inner and outer holes are covered so that the photo detectors sense no beam. When the beam is transmitted through all the holes to the photo detectors, no record is on the platter and the tonearm does not lower to the platter.

### On dust cover removal

Open the dust cover fully and slide it upward with both hands.

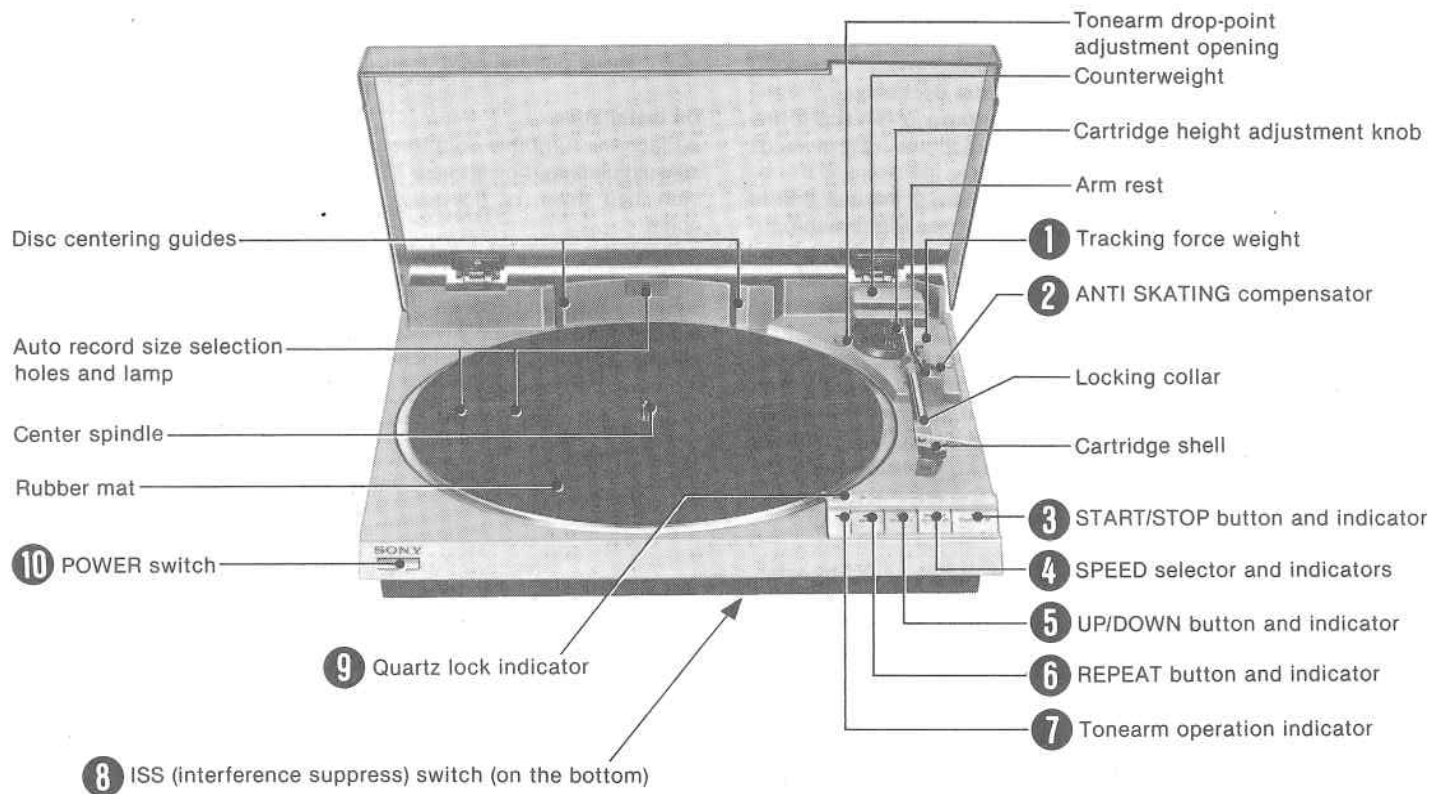


### On repacking

Do not throw away the carton and packing materials. It is an ideal container in which to transport the unit. When shipping the unit to another location, secure the tonearm to the arm rest and repack it as illustrated on the carton box.

## LOCATION AND FUNCTION OF CONTROLS

The picture below shows the assembled turntable.



### 1 Tracking force weight

Set this weight to the proper tracking force value for the cartridge being used. The tracking-force scale is in 0.1 g increments. (See page 7.)

### 2 ANTI SKATING compensator

Set to the same value as tracking-force. (See page 7.)

### 3 START/STOP button and indicator

Press to start the record playing. The indicator will illuminate. To stop during play, press the button again. The indicator will go off.

### 4 SPEED selector and indicators

Selects the record speed. When the POWER switch is turned on, the speed is always 33 $\frac{1}{3}$  rpm unless the selector is pressed to select 45 rpm. The indicator of the selected speed illuminates.

### 5 UP/DOWN button and indicator

Press to raise or lower the tonearm. The indicator illuminates when the stylus is lifted from the record.

### 6 REPEAT button and indicator

Press this button to repeat play. The indicator illuminates and repeat play continues until this button is pressed again to stop it. If the START/STOP button is pressed during repeat play, the tonearm returns to the arm rest and repeat play will stop.

### 7 Tonearm operation indicator

The indicator flickers indicating that the tonearm is moving for auto operation. The indicator goes out when the tonearm rests on a record or returns to the arm rest.

### 8 ISS (interference suppress) switch (on the bottom)

While listening to AM broadcasts, when the POWER switch of the turntable system is turned on, if a beat (whistling noise) is heard, set this switch to either 1 or 2, depending on which best reduces the noise.

### 9 Quartz lock indicator

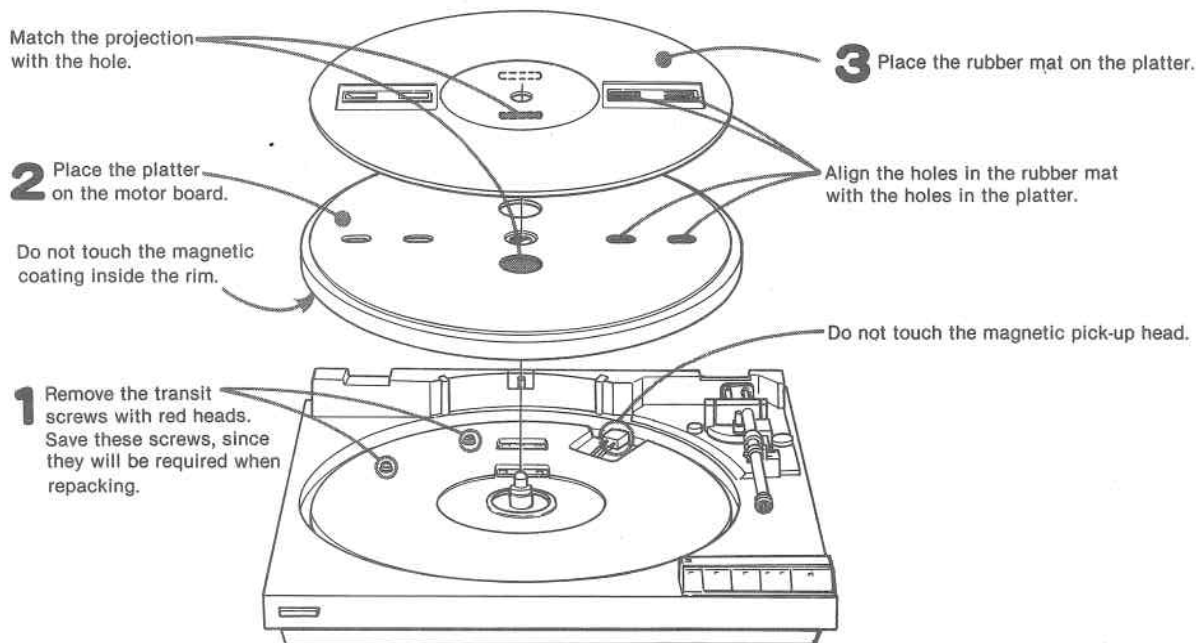
The indicator illuminates when the turntable rotation is locked to the nominal speed by the quartz lock control system. The indicator goes out when the turntable rotation is out of the nominal speed.

### 10 POWER switch

Depress to turn on the turntable. To turn the turntable off, press the switch again.

## TURNTABLE ASSEMBLY

Do not connect the power cord or the connecting cords until the turntable has been completely assembled.  
 Remove all packing material and wipe off the cabinet.  
 Save the packing box and materials for possible future use.



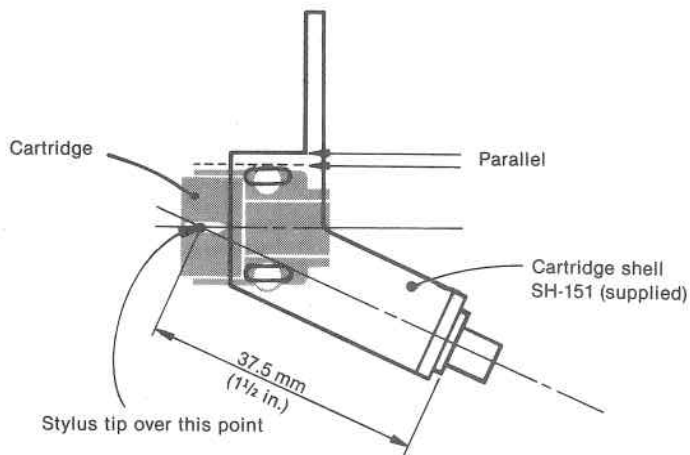
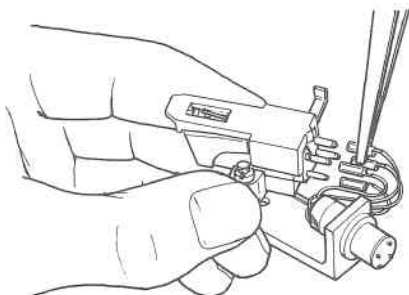
## CARTRIDGE INSTALLATION

The supplied VL-5 cartridge has been installed on the SH-151 cartridge shell at the factory. The following procedure is not necessary unless you replace the cartridge. Any cartridge weighing less than 6.3 g can be mounted on the supplied SH-151 cartridge shell.

- 1 Remove the supplied VL-5 cartridge from the shell.
- 2 Connect the lead wires of the shell to the corresponding pins on the new cartridge.

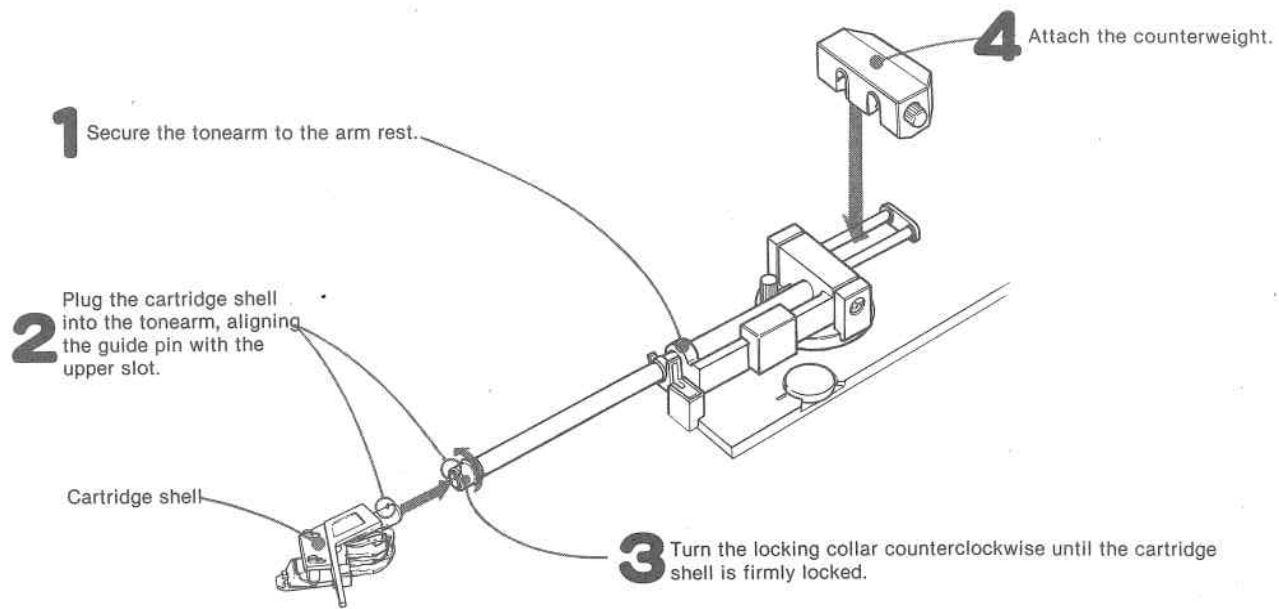
Wires	Cartridge pins
White . . . . .	White, L (Left channel signal)
Blue . . . . .	Blue, LE or G (Left channel ground)
Red . . . . .	Red, R (Right channel signal)
Green . . . . .	Green, RE or G (Right channel ground)

- 3 Temporarily install the cartridge into the cartridge shell with the supplied mounting screws.
- 4 Place the cartridge shell exactly over the diagram below and adjust the position of the cartridge so that the stylus tip is just over the point where the lines cross. Then tighten the screws down.



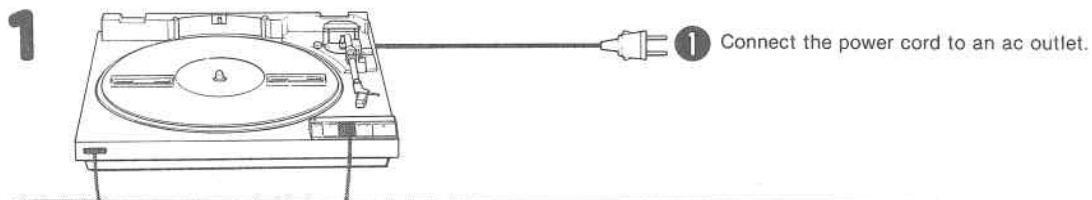
## TONARM ASSEMBLY

Follow the numbered sequence.



## TONARM ADJUSTMENT

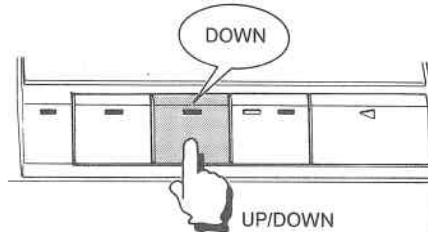
The turntable must be on a level surface while the tonearm is being adjusted.  
Be careful not to damage the stylus tip while making adjustments.



**2** Depress to turn on the power.



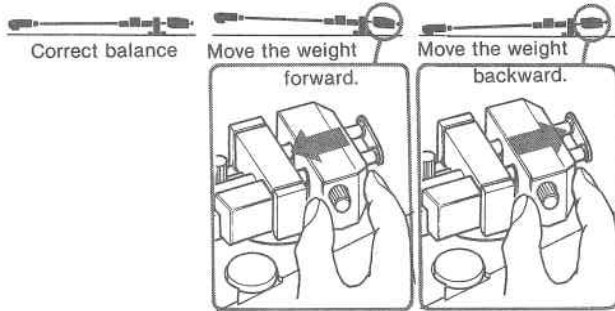
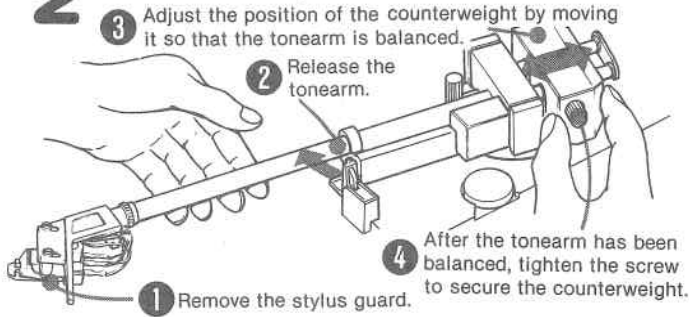
**3** After the tonearm operation indicator has gone off, press.



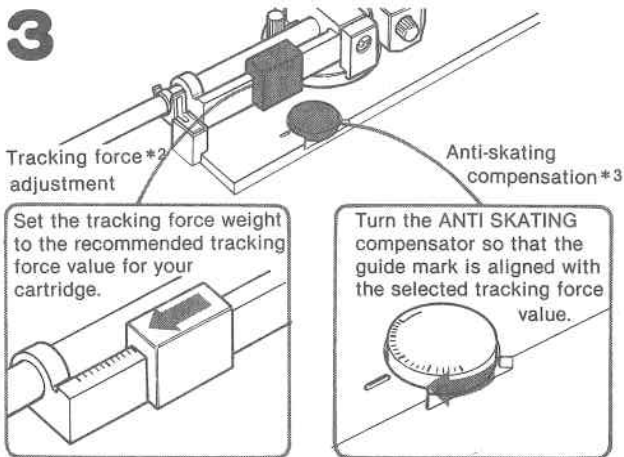
**4** After making sure that the tonearm has lowered, press again.



## 2 Tonearm balance adjustment \*1

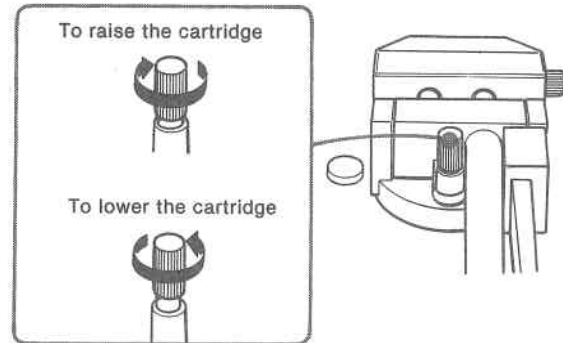
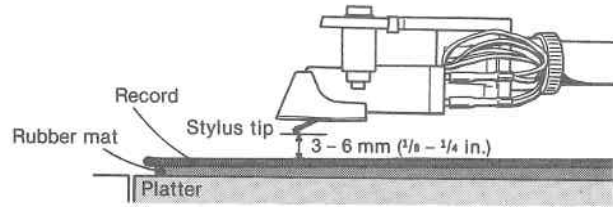


## 3



**Note:** The recommended tracking force for the supplied VL-5 cartridge is 2 grams.

4 Place the record on the platter and bring the tonearm over the record. Check that the cartridge height is as shown in the illustration. If it is not, turn the cartridge height adjustment knob to obtain the proper height.



5 After the adjustments have been completed, replace the stylus guard and secure the tonearm to the arm rest.

### \*1 Tonearm balance adjustment

It is critically important for good sound reproduction that the stylus traces the record groove accurately and with the proper tracking force. To do this, the tonearm must first be balanced so that the proper tracking force can be applied.

### \*2 Tracking force

Tracking force is the vertical force applied to the stylus tip so that it can accurately trace a record groove.

The tracking force is applied after the tonearm is balanced.

Since the proper tracking force differs depending on which cartridge is installed, be sure to apply the tracking force recommended for your cartridge. If the tracking force is too light, the stylus will skip grooves. When it is too heavy, the stylus tip and the record will wear excessively. Note that if you play a record at a temperature below 10°C (50°F), or if the record to be played is badly warped, the tracking force should be increased by 20%.

### \*3 Anti-skating compensator

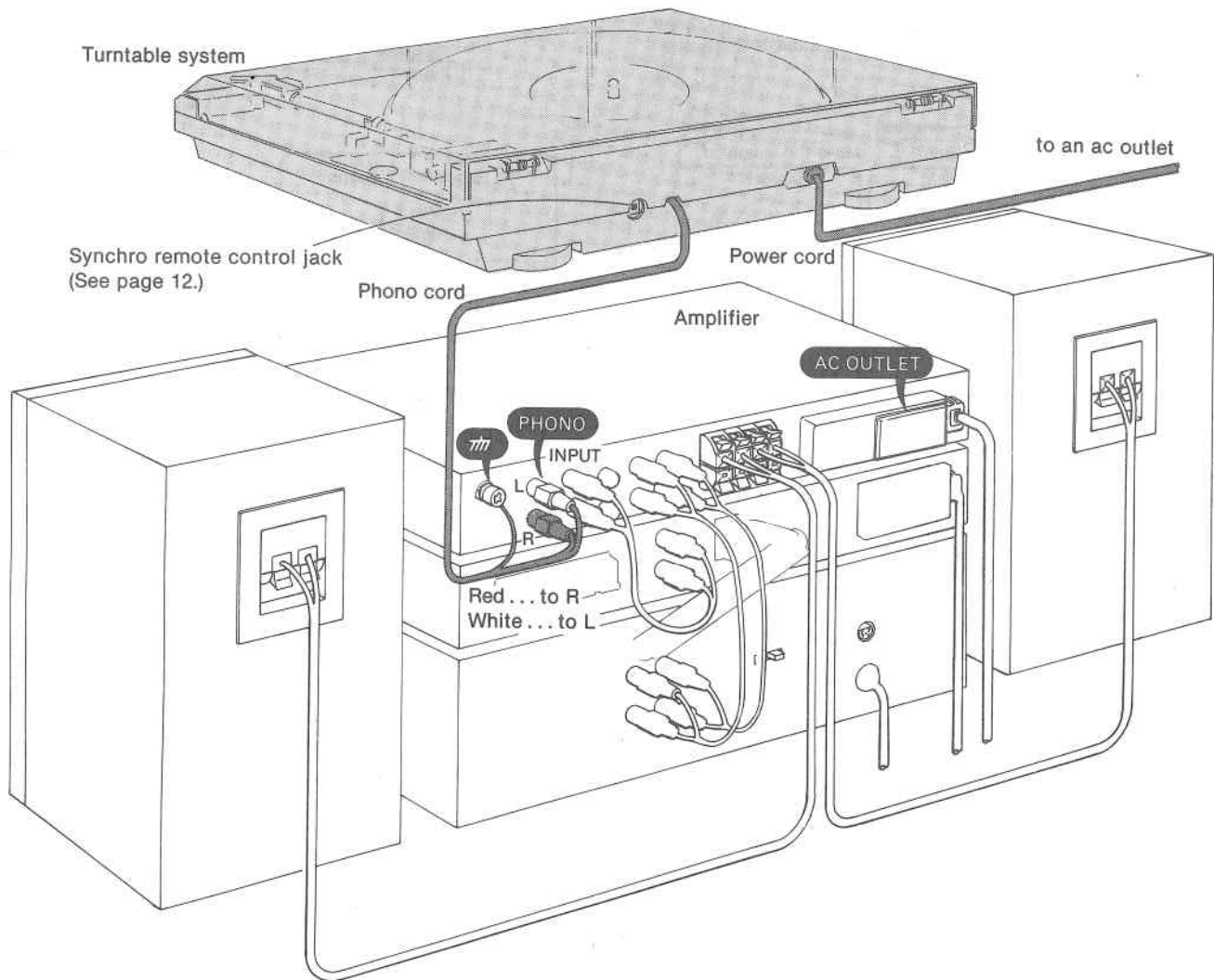
While the record is being played, friction between the record groove and the stylus produces a force that tends to drive the tonearm toward the center of the record.

The anti-skating compensator cancels this force. The anti-skating force should be the same value as the tracking force.

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

## CONNECTIONS

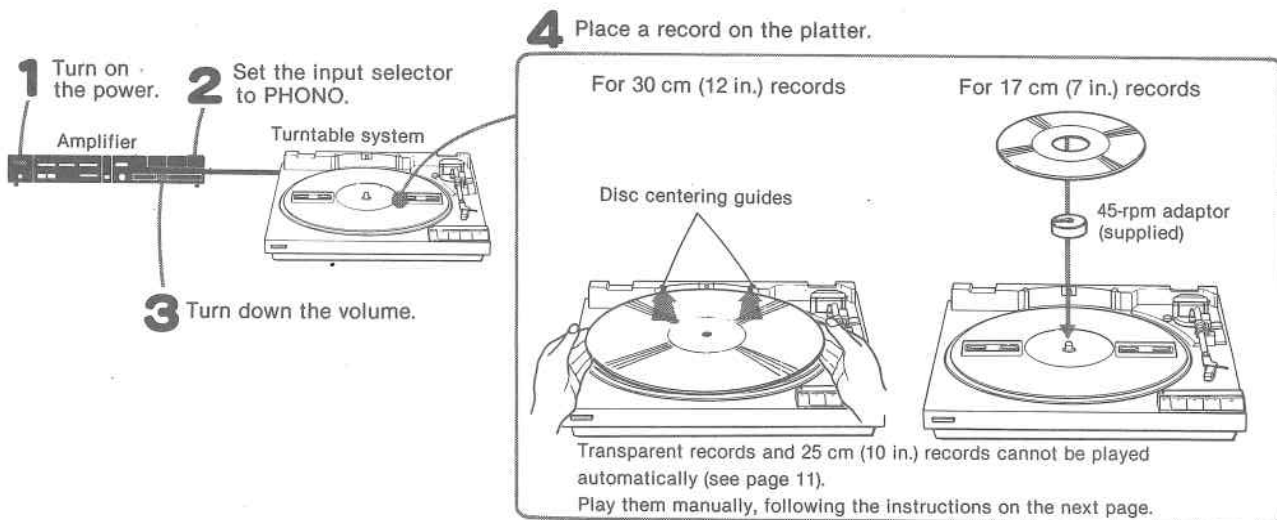
- Turn off the amplifier before making connections.
- Be sure to insert the cable connectors firmly into the jacks. Loose connections may cause hum and noise.
- Connect the red plug of the connecting cord to the right-channel jack [R] of the amplifier and the white plug to the left-channel jack [L]. Otherwise, the right and left channels will be reversed.
- Leave a little slack in the connecting cord to allow for inadvertent shock or vibration.



# RECORD PLAYING

## PREPARATION

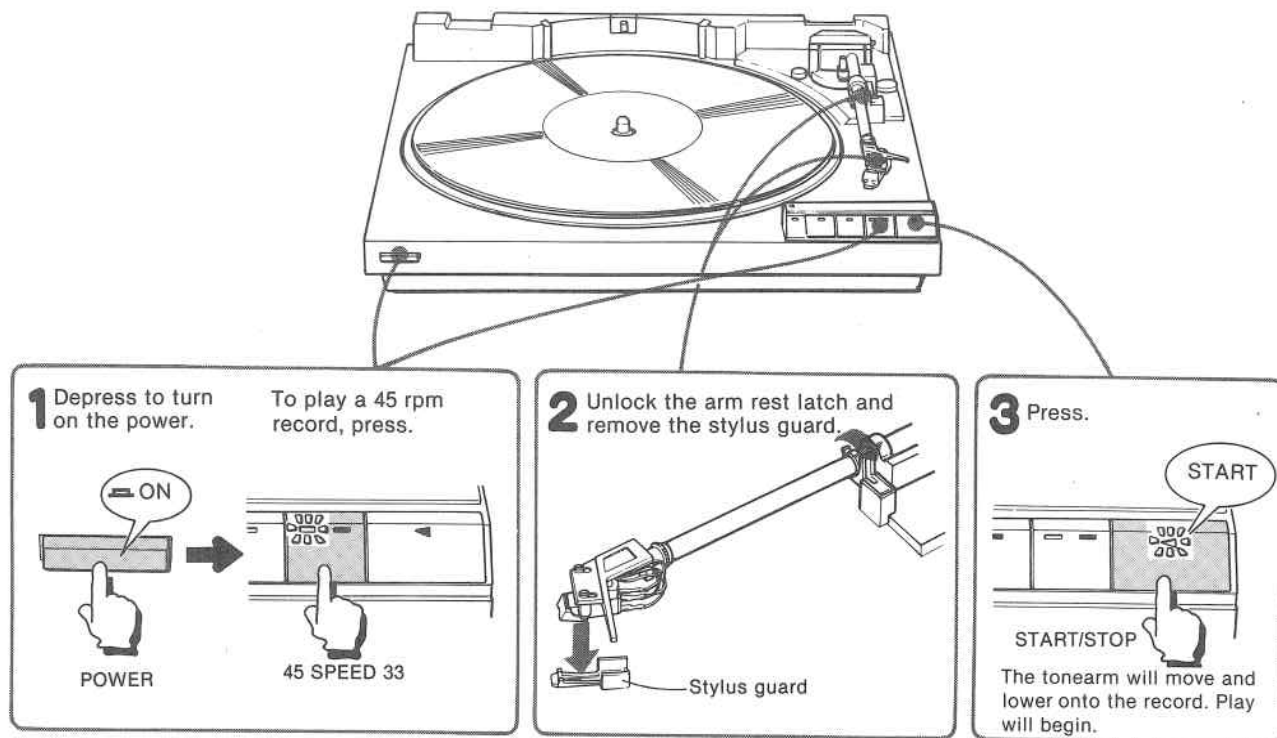
Follow the numbered sequence.



The auto record size selection function automatically adjusts to either 30 cm (12 inch) or 17 cm (7 inch) records.

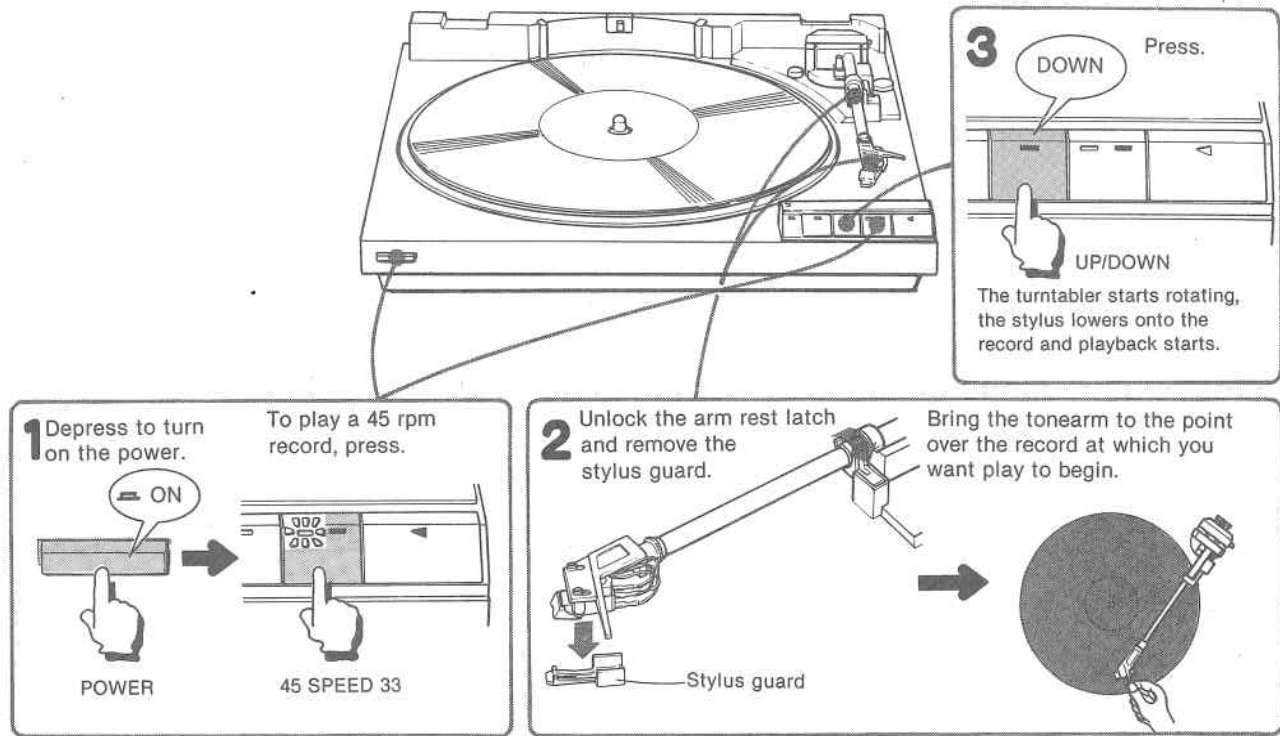
## AUTO PLAY

Follow the numbered sequence.



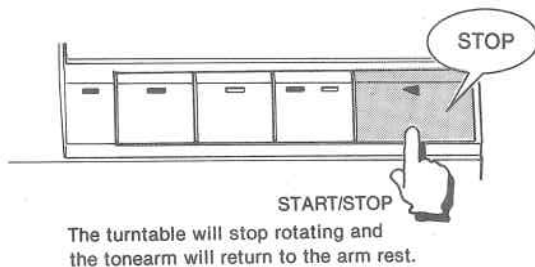
When the tonearm reaches the end of the record, the turntable will stop and the tonearm will automatically return to the arm rest.

**TO BEGIN RECORD PLAY AT A PARTICULAR POINT—Manual play**

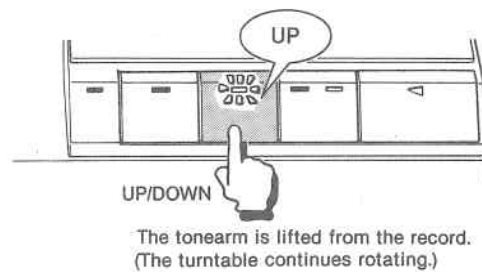


When the tonearm reaches the end of the record, the turntable will stop and the tonearm will automatically return to the arm rest. When the tonearm reaches the end of a record which is badly warped or transparent, it will not automatically return to the arm rest. To return the tonearm to the arm rest, press the START/STOP button.

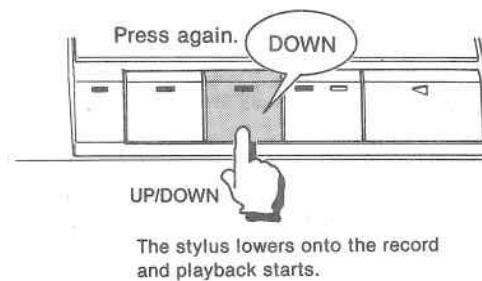
**TO STOP DURING PLAY**



**TO LIFT UP THE STYLUS DURING PLAY**

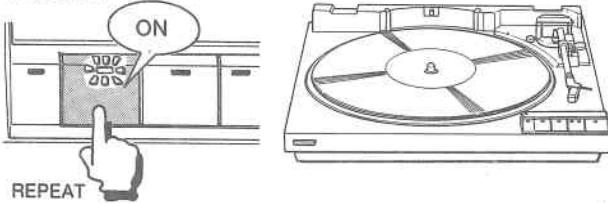


**To start the play again**



## TO REPEAT PLAY

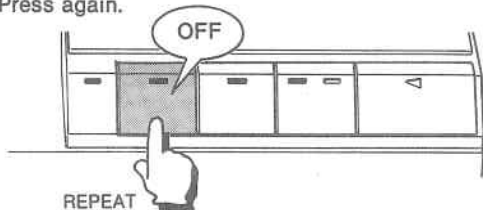
Press before or after starting playback.



The tonearm returns from the end of the record to the arm rest, then continues repeat play.

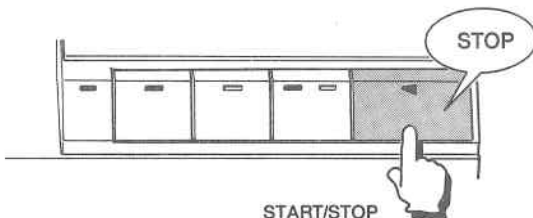
## To stop repeat play

Press again.



After the record has been played, the tonearm will return to the arm rest.

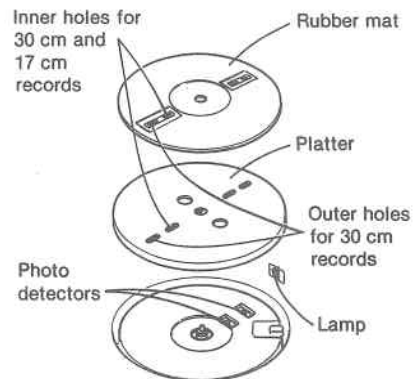
## To stop during repeat play



When the START/STOP button is pressed, the tonearm will return to the arm rest. Repeat play stops.

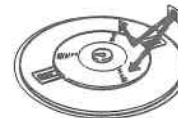
## HOW THE AUTO RECORD SIZE SELECTION WORKS

When the START/STOP button is pressed, the tonearm goes automatically into the lead-in groove, whether the record is 30 cm (12 inch) or 17 cm (7 inch). A beam from the lamp is transmitted through the holes on the rubber mat and the platter to the photo detectors which activate the auto record size selection.



**When a 30 cm record is to be played,** both inner and outer holes are covered so no beam is transmitted to the photo detectors.

**When a 17 cm record is to be played,** the inner holes are covered so a beam is transmitted through the outer holes to the photo detector.



**When there is no record on the platter,** a beam is transmitted through both the inner and outer holes to the photo detectors. Even if the START/STOP button is accidentally pressed, the tonearm does not lower.

**When a 25 cm record is to be played,** the tonearm lowers to the same point as if a 30 cm record were on the platter, since both the inner and outer holes are covered. To play a 25 cm record, proceed as in "TO BEGIN RECORD PLAY AT A PARTICULAR POINT".

**When a transparent record is to be played,** a beam passes through both the inner and outer holes to the detectors so the tonearm does not lower to the record. To play a transparent record, proceed as in "TO BEGIN RECORD PLAY AT A PARTICULAR POINT".

**When a warped record is to be played,** if the record is badly warped, a beam may pass through the holes to the detectors and cause malfunction of the auto record size selection.

# SYNCHRONIZED PLAY OF THE TURNTABLE AND THE CASSETTE DECK

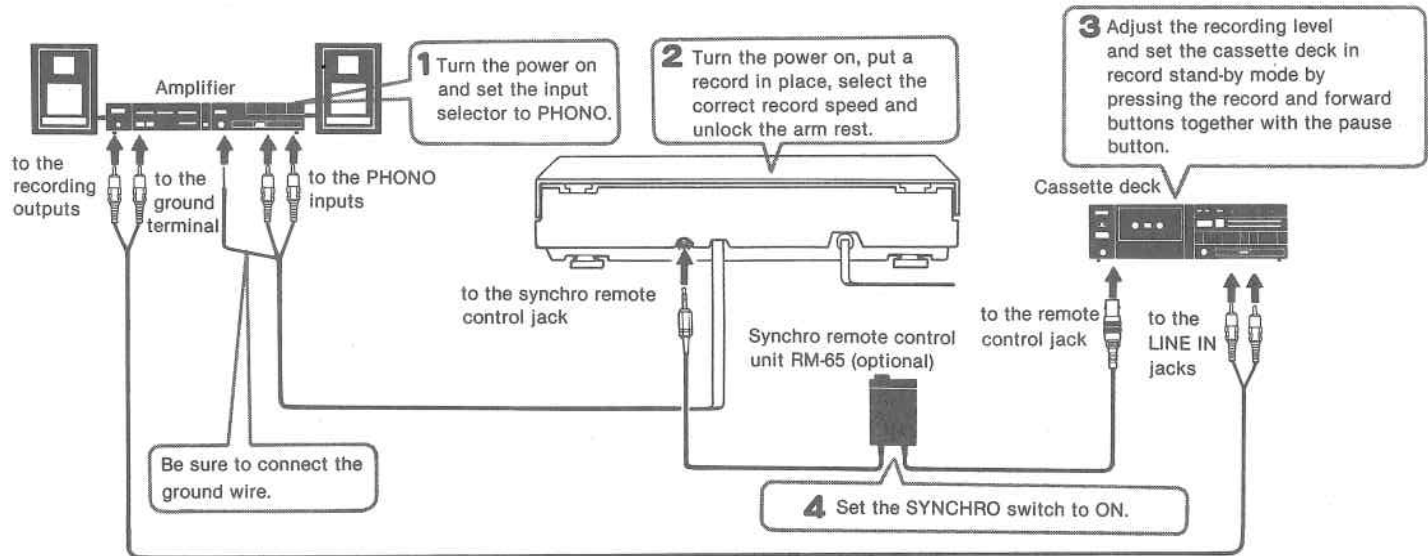
—with an RM-65 synchro remote control unit connected

Record recording starts only when the START/STOP or UP/DOWN button is pressed. When the tonearm lowers onto the record, the cassette deck goes into the record mode and, when the START/STOP or UP/DOWN button is pressed again and the tonearm is lifted up, the deck goes into the auto record muting mode for four seconds, then into the pause mode.

Cassette decks which can be used with your turntable for this special synchronized operation are those Sony models which are equipped with a 4-pin remote control jack. An RM-65 synchro remote control unit (optional) is required to connect the turntable and the cassette deck.

## CONNECTION AND PREPARATION

Follow the numbered sequence.



## RECORDING

Desired action	Turntable operation	Synchronized operation of the cassette deck
To record from the beginning of a record...	Press the START/STOP button.	When the tonearm lowers onto the record, the pause mode is released and recording begins.
To record from a point some way into the record...	Bring the tonearm over the desired point and press the UP/DOWN button.	When the tonearm lowers onto the record, the pause mode is released and recording begins.
To stop recording during record play...	Press the START/STOP button.	When the tonearm is lifted up, auto record muting activates for four seconds, then the pause mode is assumed.
When record play ends...	The tonearm returns automatically to the arm rest.	When the tonearm is lifted up, auto record muting activates for four seconds, then the pause mode is assumed.

**Note:** Be sure to set the SYNCHRO switch of the RM-65 to OFF when you do not want to use the synchronized play function.

## REPLACING THE STYLUS

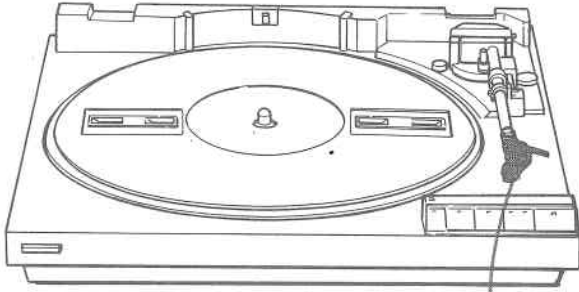
The stylus will lose its effectiveness and begin to damage records after about 400 hours of use.

An ND-5G replacement stylus is available at your Sony dealer.

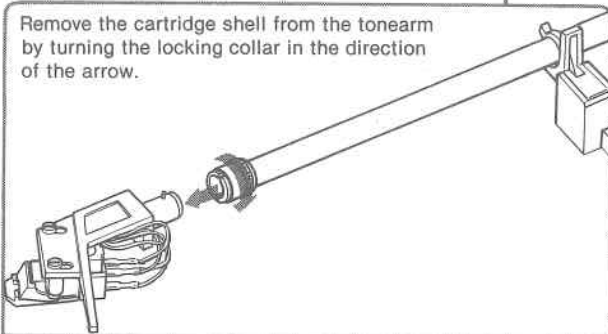
Handle the stylus carefully as it is very delicate.

Install the replacement stylus as follows.

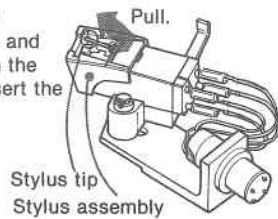
Secure the tonearm to the arm rest.



Remove the cartridge shell from the tonearm by turning the locking collar in the direction of the arrow.

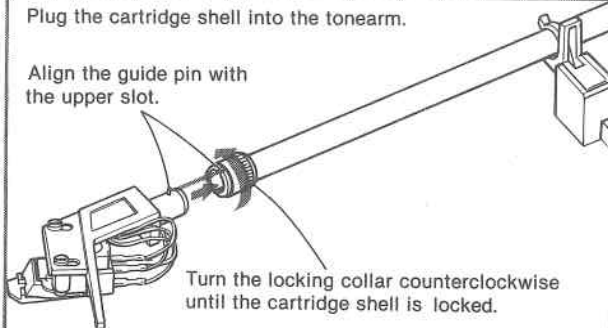


Detach the stylus assembly by grasping it between the thumb and forefinger and pulling gently in the direction of the arrow, then insert the new stylus into the cartridge.



Plug the cartridge shell into the tonearm.

Align the guide pin with the upper slot.



Turn the locking collar counterclockwise until the cartridge shell is locked.

## TONARM DROP-POINT ADJUSTMENT

The tonearm's drop-point during auto play has been adjusted at the factory. If this needs to be readjusted, proceed as follows.

① Be sure that the turntable is turned off and the tonearm is secured to the arm rest.

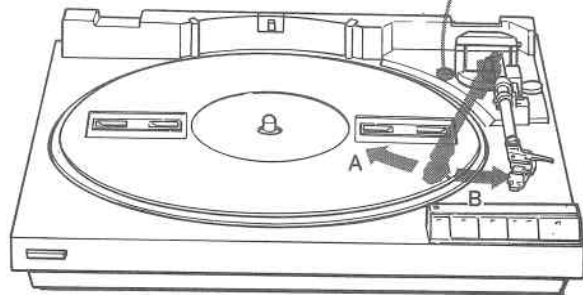
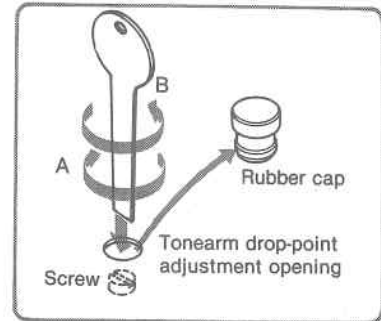
② Remove the rubber cap over the tonearm drop-point adjustment opening located at the left side of the arm base.

③ Insert the supplied drop-point adjustment key into the opening.

To move the drop-point inward . . . turn the screw in direction A.

To move the drop-point outward . . . turn the screw in direction B.

Be sure not to turn the screw in direction B so far that the stylus tip cannot make contact with the record.



④ Start auto play and check that the stylus lowers at the correct drop-point.

If the drop-point is correct for 30 cm (12 inch) records, it will also be correct for 17 cm (7 inch) records.

## TIPS ON RECORD HANDLING

● Before playing, clean the record with a record cleaner or soft cloth. If a spray cleaner is used, make sure that it has dried completely before playing the record. Playing the record before the cleaner has dried may damage the record.

It is a good idea to clean the record again before putting it away.

● Handle a record by its edges and do not touch the grooves.

Fingerprints on the record surface may encourage an accumulation of dust, resulting in impaired tone.

● Use a commercially available anti-static spray to neutralize the static electricity on a record.

● Avoid exposing a record to direct sunlight or sources of heat, such as a hot-air duct.

● Store your records vertically. They should not be compressed.

## MAINTENANCE

### Stylus

Before playing a record, clean the stylus with a soft brush. Brush the stylus from back to front. Never attempt to clean the stylus with your finger tip. If a fluid stylus cleaner is used, make sure not to moisten the stylus too much.

### Cabinet

Clean the cabinet and dust cover periodically with a soft dry cloth. If the stains are difficult to remove, use a cloth moistened with a mild detergent solution. Do not use solvents such as alcohol, benzine or thinner, since they will damage the finish.

### Rubber mat

When the rubber mat becomes dirty, wipe it gently with a soft cloth slightly dampened with water.

### Lubrication

The turntable requires no periodic lubrication. The motor shaft is lubricated at the factory for the life of the turntable.

## SPECIFICATIONS

### Turntable

Platter	29.5 cm (11 <sup>5</sup> / <sub>8</sub> in.), aluminum-alloy diecast
Motor	Linear torque BSL (brushless and slotless) motor
Drive system	Direct drive
Control system	Quartz lock control, magnedisc servo control system
Speed	33 <sup>1</sup> / <sub>3</sub> rpm, 45 rpm
Starting characteristics	Comes to nominal speed within a 1/2 revolution (33 <sup>1</sup> / <sub>3</sub> rpm)
Wow and flutter	0.02% (WRMS)*, 0.025% (WRMS)
Signal-to-noise ratio	75 dB (DIN-B)
Load characteristics	0% up to 150 g tracking-force (at lead-in groove of a record)
Speed deviation	Within ±0.003%
Automatic system	Lead-in, return, reject, repeat, record size selection, up/down

### Tonearm

Type	Statically balanced
Pivot-to-stylus length	200 mm (7 <sup>7</sup> / <sub>8</sub> in.)
Overhang	18.5 mm (3/4 in.)
Tracking force adjustment range	0 - 2.5 g
Cartridge shell weight	5.2 g (SH-151)
Cartridge weight range (including the supplied cartridge shell)	Less than 11.5 g

### Cartridge VL-5

Type	Moving magnet type
Frequency response	10 Hz to 20 kHz
Channel separation	20 dB at 1 kHz
Output voltage	3.5 mV at 1 kHz, 5 cm/sec.
Load impedance	47 to 100 kilohms
Tracking force	1.5 to 2.5 g (2 g recommended)
Stylus	Sony ND-5G (conical 0.6 mil diamond)
Weight	5.0 g

### General

Power requirements	120 V ac, 60 Hz
Power consumption	10 W
Dimensions	Approx. 355 × 82 × 330 mm (w/h/d) (14 × 3 <sup>1</sup> / <sub>4</sub> × 13 in.) including projecting parts and controls
Weight	Approx. 5.5 kg (12 lbs 2 oz), net Approx. 6.8 kg (15 lbs), in shipping carton
Supplied accessories	45-rpm adaptor (1) Cartridge shell SH-151 (1) Cartridge VL-5 (1) Drop-point adjustment key (1)

Design and specifications subject to change without notice.

\* This new measuring method concerns only the turntable assembly, including the platter. It excludes wow and flutter caused by the tonearm, the cartridge, or the record. Measured by obtaining signal from magnetic pick-up head.

## TROUBLE CHECKS

The following trouble checks will help you correct most common problems encountered with a turntable system. Should any problem persist after you have made these checks, consult your nearest Sony service facility. Before proceeding with these trouble checks, first refer to the connections on page 8 and the operating procedures on pages 9, 10 and 11.

TROUBLES	CAUSES	WHAT TO DO
The tonearm does not lower.	<ul style="list-style-type: none"> <li>Transparent record</li> <li>Warped record</li> </ul>	Play the record manually.
The tonearm always lowers on the point for 30 cm records.	<ul style="list-style-type: none"> <li>A rubber mat other than the one supplied being used.</li> <li>Incorrect placement of the supplied rubber mat</li> </ul>	<ul style="list-style-type: none"> <li>Use the supplied rubber mat.</li> <li>Align the holes in the rubber mat with the holes of the platter.</li> </ul>
Impaired tone quality	<ul style="list-style-type: none"> <li>Improper tonearm balance or tracking-force</li> <li>Dusty stylus</li> <li>Worn stylus</li> </ul>	<ul style="list-style-type: none"> <li>Adjust the tonearm, referring to pages 6 and 7.</li> <li>Clean the stylus with a soft brush from back to front.</li> <li>The stylus life is approx. 400 hours. Replace with a new stylus.</li> </ul>
Auto return does not operate at the end of play.	<ul style="list-style-type: none"> <li>A record with shallow return grooves being played by a cartridge with low tracking force</li> </ul>	Apply more tracking-force.
No audio from one channel or either channel.	<ul style="list-style-type: none"> <li>Loose connection of phono cord</li> <li>Loose attachment of the cartridge shell to the tonearm</li> <li>Dirty terminals of the cartridge shell</li> </ul>	<ul style="list-style-type: none"> <li>Connect the cord firmly.</li> <li>Fix the shell to the tonearm firmly.</li> <li>Clean the terminals with a soft dry cloth.</li> </ul>
Steady low-pitched humming sound	<ul style="list-style-type: none"> <li>Ground wire is not connected to the amplifier.</li> </ul>	Connect the ground wire to the amplifier.
Groove skipping ; tonearm skating; tonearm not advancing.	<ul style="list-style-type: none"> <li>Improper tracking force</li> <li>Turntable not level</li> <li>Defective record</li> </ul>	<ul style="list-style-type: none"> <li>Apply proper tracking-force. (See page 7.)</li> <li>Place the turntable on a level surface.</li> </ul>
Loud rumble or low-frequency howl*	<ul style="list-style-type: none"> <li>The turntable is subjected to external vibration.</li> <li>The turntable is placed too near the speaker.</li> </ul>	<ul style="list-style-type: none"> <li>Place the turntable on a solid surface free from external vibration.</li> <li>Locate the turntable as far away from the speaker as possible.</li> </ul>
Severe hum or noise	<ul style="list-style-type: none"> <li>The turntable is placed too near a TV set.</li> </ul>	Do not use both the TV set and the turntable at the same time. If both must be used at the same time, put the TV set at a greater distance from the turntable.
Beat (whistling noise) while listening to AM broadcasts, when the POWER switch of the turntable system is turned on.	<ul style="list-style-type: none"> <li>Noise transmitted from the microcomputer incorporated in the turntable system is picked up by the AM antenna of the tuner.</li> </ul>	Set the ISS switch to 1 or 2.

\* This is called "acoustic feedback" and is caused when vibrations from the speakers are transmitted through the air or via solid objects (such as the shelves, the cabinet, the floor, etc.) to the turntable, where it is picked up by the stylus, amplified and reproduced through the speakers once again.

