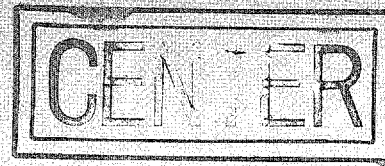


YAMAHA PX-3

*Natural Sound Linear Tracking Quartz Locked Stereo Turntable
Optimum Mass, Minimum Resonance, Symmetrical Straight Tonearm
Direct Drive, Coreless, Hall Element Motor
Full Cartridge Interchangeability
Light-Touch LSI Logic Controlled Automatic Operation
High-Density, Feedback Resistant BMC Base*



Thank you for purchasing the YAMAHA PX-3 Liner Tracking Quartz Locked Record Player.

OWNER'S MANUAL



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CAUTION: READ THIS BEFORE OPERATING YOUR PX-3	2
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IMPORTANT

Please record the serial number of your unit in the space below.

Model: PX-3
Serial No.:

The serial number is located on the rear of the cabinet.
Retain this Owner's Manual in a safe place for future reference.

WARNING

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

CAUTION (PREPARED IN ACCORDANCE WITH UL STANDARD 1270)

1

Read Instructions—All the safety and operating instructions should be read before the appliance is operated.

2

Retain Instructions—The safety and operating instructions should be retained for future reference.

3

Heed Warnings—All warnings on the appliance and in the operating instructions should be adhered to.

4

Follow Instructions—All operating and other instructions should be followed.

5

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.

6

Carts and Stands—The appliance should be used only with a cart or stand that is recommended by the manufacturer.

7

Wall or Ceiling Mounting—The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.

8

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 opening; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

9

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

10

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.

11

Grounding or Polarization—Precautions should be taken so that the grounding or polarization means of the appliance is not impeded.

12

Power-Cord Protection—Power-supply cords 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 plug, convenience receptacles, and the point where they exit from the appliance.

13

Cleaning—The appliance should be cleaned only as recommended by the manufacturer.

14

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

15

Object and Liquid Entry—Care should be taken so that objects do not enter into and liquids are not spilled into the inside of the appliance.

16

Damage Requiring Service—The appliance should be serviced by qualified service personnel when:

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

17

Servicing—The user should not attempt to service the appliance beyond those means described in the operating instructions. All other servicing should be referred to qualified service personnel.

PX-3

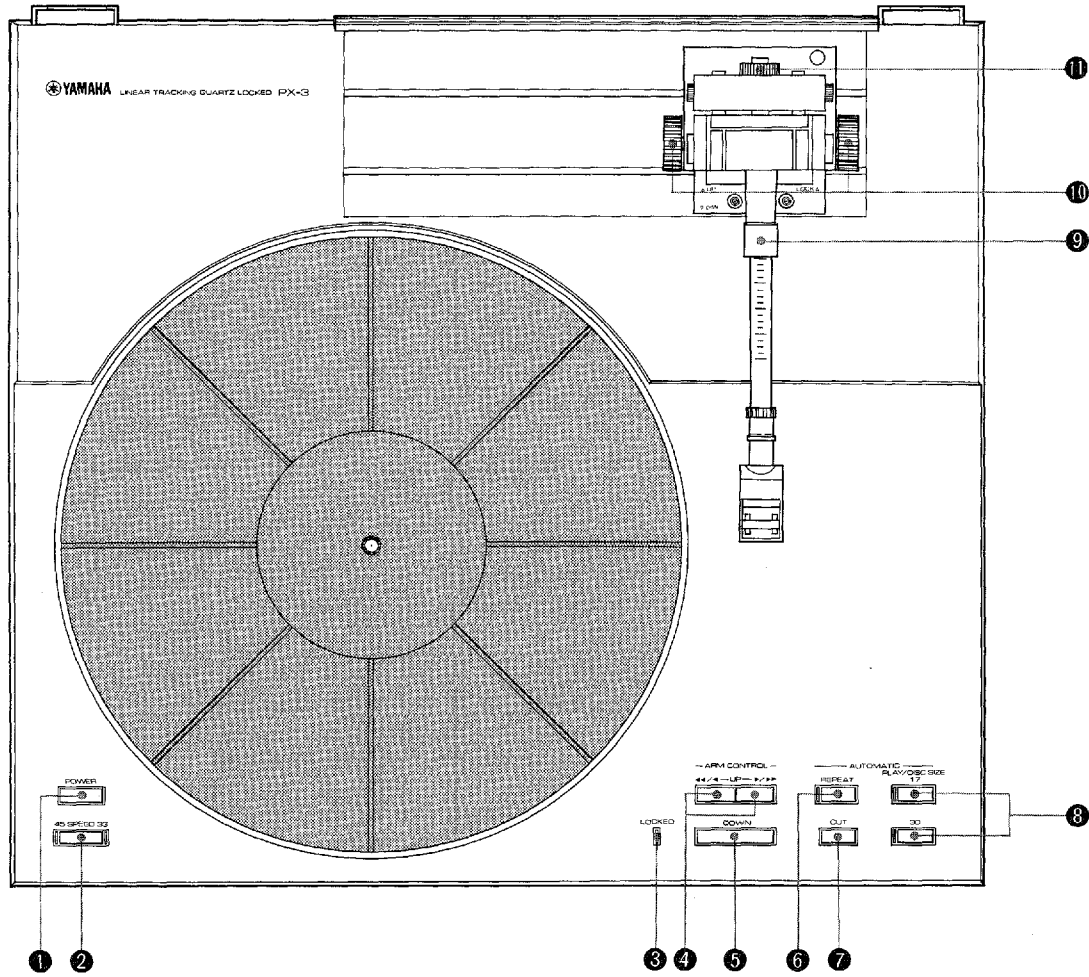
**CAUTION: READ THIS BEFORE
OPERATING YOUR PX-3**

- 1**
The PX-3 is a sophisticated linear tracking turntable. To ensure proper operation for the best possible sound reproduction, Please read this manual carefully.
- 2**
Treat the PX-3 with the utmost of care, as it is extremely easy to jar fine settings such as tonearm tracking force out of adjustment. If the unit is bumped, it is important that all settings be re-checked.
- 3**
Avoid installing the tonearm side of the PX-3 next to the power transformer of your amplifier.
- 4**
Be sure to locate the PX-3 in a flat and level place, out of the direct rays of the sun. Also avoid locations subject to vibration and excessive dust, heat, cold or moisture. Also avoid placing it directly in front of or too close to your speakers.
- 5**
If it becomes necessary to relocate the PX-3 — for example, to change the layout of the listening room — be sure to keep the unit level. If tilted, there is a danger of the arm unit slipping out. When transporting longer distances, re-pack in the original packing if possible.
- 6**
Do not attempt to clean the PX-3 with chemical solvents as the unit is coated with a mat lacquer. Use a clean, dry cloth.

- 7**
It is extremely important that the stylus tip be kept free of dirt. Regular cleaning ensures the best possible sound reproduction.
- 8**
Keep your records clean. Dirty records reduce the life of the stylus. A stylus with a diamond tip should be replaced after every 200 — 300 hours of use.
- 9**
Be sure to read the "troubleshooting" section for advice on common operating errors before concluding that your PX-3 is faulty.
- 10**
Keep this manual in a safe place for future reference.

PX-3

NAMES OF THE PARTS AND THEIR FUNCTIONS



1 POWER SWITCH

Turning power on automatically selects 33-1/3 rpm.

2 SPEED SWITCH

Selects platter rotation speed. For 33-1/3 rpm records press the switch so that the "33" indicator lights. For 45 rpm records press the switch so that the "45" indicator lights.

3 SPEED LOCK INDICATOR

This allows you to check the motor (platter) speed. When this indicator is illuminated, the platter is rotating at the correct rated speed.

4 ◀◀ — UP — ▶▶ (Manual Tonearm Movement)

Press either side of this switch briefly once to discontinue play temporarily. The tonearm will rise and remain positioned over the record.

Pressing the left side of the switch when the tonearm is already up causes the tonearm to move continuously to the left. When the switch is slightly depressed, the tonearm will move slowly; when depressed further the tonearm will move quickly. When the tonearm has moved to the extreme left, the arm will automatically stop.

Pressing the right side of the switch when the tonearm is up causes the tonearm to move continuously to the right.

When the switch is slightly depressed, the tonearm will move slowly; when depressed further the tonearm will move quickly.

When the tonearm has moved to the extreme right, the arm and the platter will automatically stop.

5 CUEING SWITCH (Down)

Pressing the switch while the tonearm is positioned over the record lowers the tonearm to begin record play. In combination with the previous switch ④, this switch allows manual cueing to any desired selection on the record.

* If any other switch is pressed while the arm is descending, the arm will stop descending. In some cases there may be a slight "clunk" noise from a solenoid, but this does not indicate anything abnormal.

6 REPEAT SWITCH

Press the repeat switch when you want to repeat the same side of a record. Press the switch again to end repeat operation.

* When record play was initiated with arm control switch ④ or ⑤, Repeat play will not occur even when this switch is pressed.

7 CUT SWITCH

Press this switch when you want to stop record play. The tonearm will rise and return to the arm rest and the motor will stop.

8 PLAY/DISC SIZE SWITCHES

When one of these switches is pressed, the auto play system is activated. Also, depending on which switch is pressed, either 17 cm or 30 cm record size will be selected. If there is no record on the platter or if the record size has been set incorrectly, the arm will descend to the turntable mat. This error may be rectified by immediately pushing the cut switch to stop the cartridge's descent.

9 TRACKING FORCE WEIGHT

Used adjusting tracking force. Refer to page 7.

10 ARM HEIGHT ADJUSTMENT KNOB

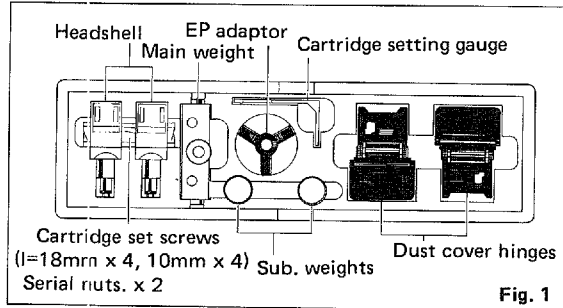
The knob on the right of the tonearm is the tonearm height locking knob, while the knob on the left moves the tonearm up and down. Refer to page 7 for adjustment.

11 TONEARM BALANCE WEIGHT

Used to balance the tonearm. Refer to page 6.

PX-3

BEFORE ASSEMBLY

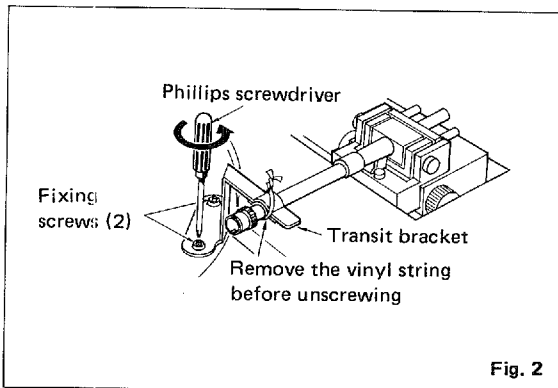


■ HOW TO REMOVE THE TRANSIT BRACKET AND SCREWS

The arm unit has been secured with screws from the underside of turntable, and by a special transit bracket at the front end of the tonearm. Remove the bracket and screws before using the PX-3. Keep them with the packing materials for future transport.

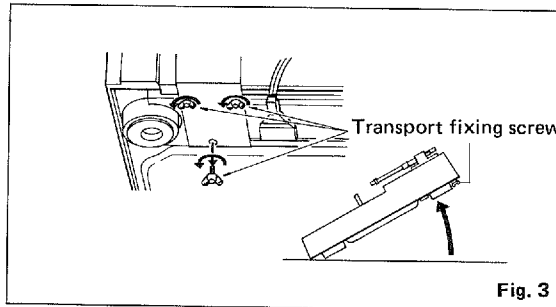
1. Remove the transit bracket (front of tonearm).

When transporting, do not forget to resecure the tonearm. Lower the tonearm to its lowest position. Firmly tighten the LOCK Δ knob and fix it in position with the transit bracket and vinyl string.



2. Remove the three transport screws (underside of turntable).

When transporting, do not forget to resecure the arm unit with the screws.



■ HOW TO SECURE THE ARM UNIT FOR TRANSPORT

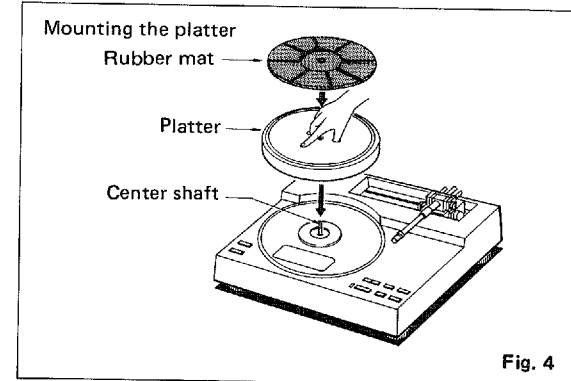
When it is necessary to transport the turntable, the arm unit should be secured without fail in the following sequence to protect the arm unit. Failure to secure the arm unit when the unit is transported may lead to disorders.

1. After moving the tonearm to the extreme right, disconnect power. Then, remove the platter, headshell, dust cover and main weight.
2. Referring to Fig. 3, secure the arm unit in place with the three transport screws.
3. Referring to Fig. 2, secure the tonearm in place with the transit plate and vinyl string.

* Be careful not to overtighten the screws.

■ MOUNTING THE TURNTABLE PLATTER

1. Insert your fingers into the two holes in the turntable platter as shown in Fig. 4 and then securely position it over the center shaft. Check to make sure that the platter is securely positioned.
2. Place the rubber mat on top of the turntable platter.

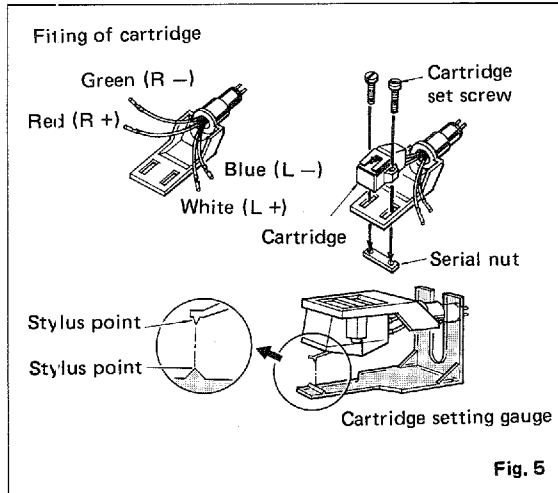


ADJUSTMENTS

■ MOUNTING THE CARTRIDGE

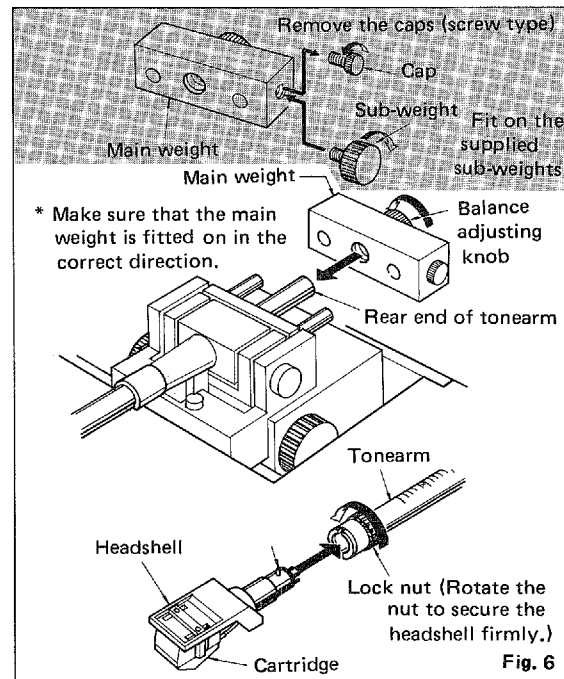
Cartridges with weights ranging from 5 – 11 grams may be used with the PX-3 without using sub-weights. Cartridges in the weight range of 10 to 16 grams can be used by removing the left and right caps of the main weight as shown in Fig. 6 and fitting on the supplied sub-weights.

1. Properly connect the headshell leads to the pins on the cartridge.
2. Loosely mount the cartridge to the headshell with cartridge mounting screw.
3. Align the stylus with the accessory setting gauge and after adjusting the stylus point, secure the cartridge mounting screw. Setting is correct when the stylus point on the setting gauge line up with the tip of the stylus.
4. Check that the cartridge is exactly centered in the headshell when seen from the front.



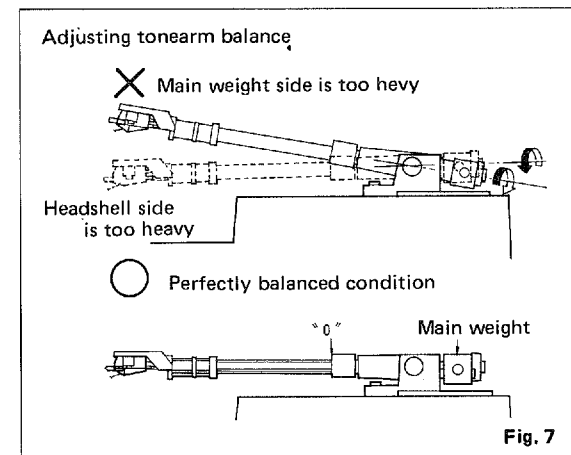
■ ASSEMBLING THE TONEARM

1. If the weight of the cartridge used is in the range of 11 to 16 grams, remove the left and right caps of the main weight as shown in Fig. 6 and attach the supplied sub-weights.
2. To mount the main weight rotate the black knob in the direction indicated by the arrow in Fig. 6.
3. The grooves inside the main weight and the click stopper on the end of the tonearm interlock, thus when the main weight knob is rotated in a counterclockwise direction (as seen from the front of the unit) the main weight will smoothly move forward.
4. To mount the headshell, loosen the headshell locking nut and insert the headshell with the cartridge in place. Next, securely tighten the locking nut.



■ ADJUSTING TONEARM BALANCE

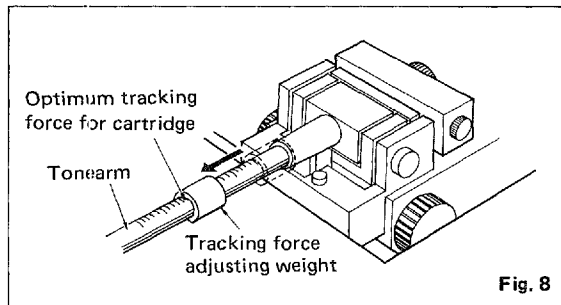
1. Align the front end of the tracking force weight with the "0" line on the tracking force scale.
2. Flip the stylus cover to its up position. (Remove the stylus cover completely on cartridges where this is possible.)
3. Turn the power on and press the Cut switch. After verifying that the tonearm is at the extreme right, press the Down switch to lower the tonearm and support it with your finger.
4. Adjust the main weight until the tonearm will float in a perfectly horizontal position.
5. Once the tonearm has been balanced, press the Cut button to return it to its rest.



■ ADJUSTING TRACKING FORCE

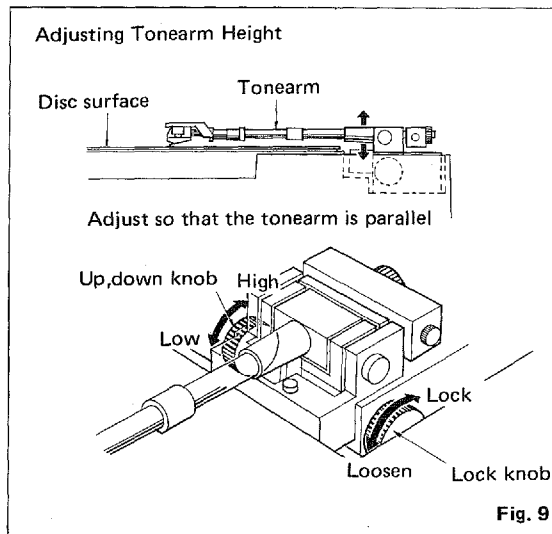
The tracking force should be set after the tonearm balance has been properly adjusted.

1. Make sure that the position of the main weight does not change once the tonearm has been horizontally balanced.
2. Move the tracking force adjustment weight along the tracking force scale until it corresponds with the rated tracking force of your cartridge. The scale is marked in units of 0.1 gram.



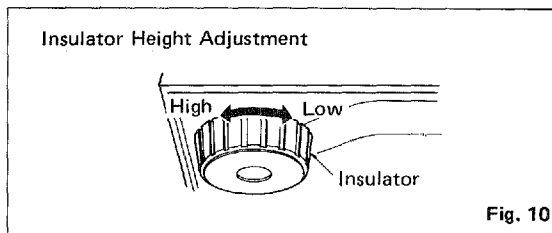
■ ADJUSTING TONEARM HEIGHT

1. Loosen the Lock knob.
2. Remove the stylus cover.
3. Place a record on the turntable. Press the Play/Disc Size switch to lower the stylus onto the disc surface.
4. Taking care not to damage the stylus or the record, adjust the Up Δ /DWN ∇ knob until the tonearm pipe is parallel with the record surface.
5. When the height adjustment is correct, firmly tighten the Lock Δ knob, being careful not to disturb the height.



■ ADJUSTING INSULATOR HEIGHT

This unit weighs 12 kg. It is necessary, therefore, to install it on a firm base or table. After placing it on the base or table, adjust the height of the insulators to properly level the unit.

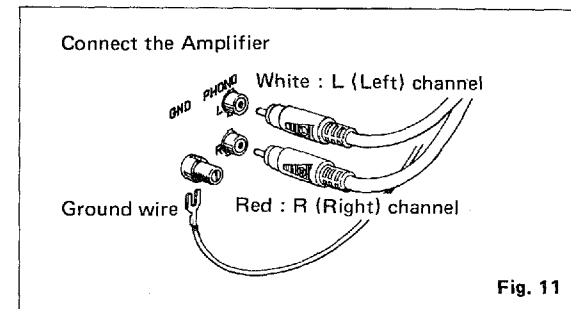


CONNECTIONS

■ CONNECTIONS TO YOUR AMPLIFIER

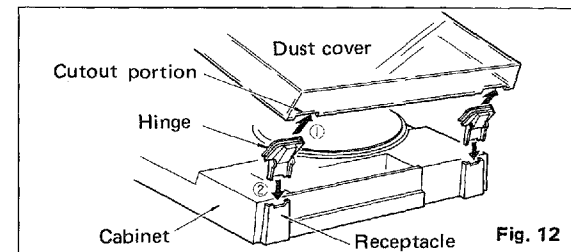
Perform these connections after turntable and tonearm assembly and all adjustments have been completed.

1. Connect the output cords from the rear panel of the cabinet to the Phono terminals on the audio amplifier. Make sure that the left and right channels are properly matched. The white cord signifies the left (L) channel and the red the right (R) channel.
2. Connect the black ground wire to the Ground (GND) terminal on the audio amplifier. Depending on the amplifier, better sound is sometimes obtained by not connecting the ground wire.
3. Connect the power plug to the AC wall outlet or an auxiliary outlet on the audio amplifier.



■ MOUNTING THE DUST COVER

1. Fit the dust cover hinges into the two cutouts at the rear of the dust cover and slide them into place. (arrow 1)
2. Next, simultaneously insert the two hinges into the left and right receptacles on the rear of the cabinet. (arrow 2)
3. It is possible to remove the dust cover. Just pull the hinges gently out of the cabinet hinge receptacles.



PX-3

HOW TO PLAY RECORDS

■ PLAYING RECORDS

After you have assembled the turntable, made the necessary adjustments and connected the turntable to the audio amplifier, you are ready to start playing records. Proceed as follows.

1. Check to see that the turntable, amplifier and speaker connecting cords have been inserted into the correct terminals.
 - The power cord should be plugged into an AC wall outlet or into the audio amplifier's auxiliary power outlet.
 - If you are using the ground wire, check to see that it is securely fastened to the amplifier's Gnd terminal.
2. Switch on the amplifier.
 - Set the input selector switch to Phono. Lower the volume control.
3. Place your selected record on the turntable platter.
 - When playing 45 rpm singles, slip the accessory 45 adaptor over the center shaft.
4. Switch on the turntable
5. Set the Speed switch so that it corresponds to the rated speed of the record.
 - Turning on the turntable power automatically selects 33-1/3 rpm. Press the Speed switch once to change 45 rpm if necessary.

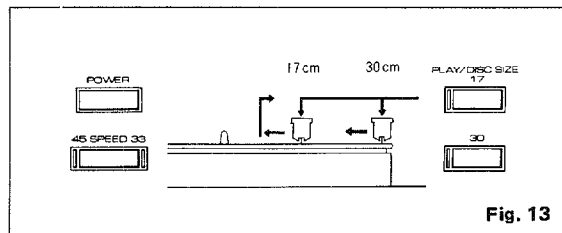


Fig. 13

6. Remove the stylus cover.
7. Push either the 17 cm or the 30 cm Play/Disc Size switch according to the size of the record. Record play will start automatically.
8. Record play
 - Adjust the amplifier's volume and tone controls to your own preferred levels.

9. Once record play has been completed, the tonearm will automatically rise and return to the extreme right and the platter will stop rotating.
 - Depress the Cut switch if you want to stop record play altogether.
 - Depress the <</ < - Up - > / >> switch (refer to page 4) if you want to interrupt record play.
 - If the Repeat function has been activated, the unit will indefinitely repeat the same side of the record. Depressing the Cut switch overrides the Repeat function.

OPERATING

■ MANUAL CUEING FUNCTIONS

The PX-3's advanced cueing system allows flexible control over all tonearm positioning functions even with the dust cover down.

1. Pressing the left or right side of the <</ < - UP - > / >> switch moves the tonearm to the left or the right. Pushing the switch while record play is in progress automatically raises the tonearm first. Pressing the switch gently causes the tonearm to move slowly for accurate positioning, while pressing it all the way down causes rapid movement.
 2. Pressing the Down switch when the tonearm is positioned over the record lowers the tonearm to begin play.
- * Pressing any of the above manual function switches clears repeat mode, so the Repeat switch should be pressed again if repeat play is desired.

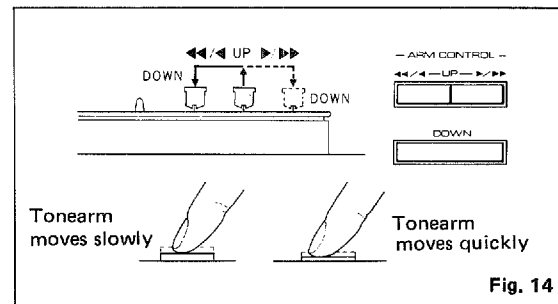


Fig. 14

■ REPEAT PLAY

Pressing the Repeat switch causes the PX-3 to enter repeat mode. In this mode, the turntable replays the same side of the record again and again. Pressing the Repeat switch a second time ends repeat mode, causing play to stop when the end of the record is reached.

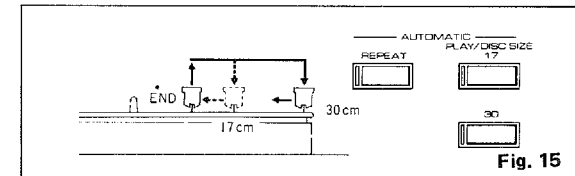


Fig. 15

■ FUNCTION INTERRUPT CAPABILITY

Unlike many automatic turntables, the PX-3's various function switches all take effect immediately even if another function is in progress. This means that if you press the wrong switch by mistake, this can be instantly corrected by pressing another switch.

PX-3

SPECIFICATIONS

TONARM SECTION

Arm type	Linear tracking arm
Servo system	Photo-electric tracking sensor plus servo motor
Total length	236 mm (9-9/32")
Effective length	190 mm (7-15/32")
Tracking force device	Static balance type sliding weight system 0 ~ 2.5 g, in 0.1 g steps
Effective mass	Proportional type to tracking force 17.0 g (When tracking force 1.5 g) (in cartridge-less state.)
Applicable cartridge weight range	.5 ~ 11 g (Using sub-weights) 10 ~ 16 g
Maximum horizontal tracking error angle	$\pm 0.15^\circ$
Arm lifter	Oil damp type cueing
Adjustable range of arm height	± 4.0 mm
Head shell	Pure, forged aluminum, Weight: 8.0 g Plug-in type conforming to EIA Standards
PU Cable	NEGLEX 2496 Low-impedance, double cylindrical cord Capacitance: 130pF Resistance: 1 Ω
Cartridge (Not provided)	Replaceable

ROTARY SECTION

Motor	DC, 4-phase, 8-pole coreless Hall motor
Drive system	Direct drive
Servo system	Quartz PLL
F.G.	Total circumference integrating type
Speed (With Lock Indicator)	33-1/3 r.p.m, 45 r.p.m.
Platter	30 cm (12") diameter, aluminum die-cast Weight 1.6 kg (3.8 lbs) (Including rubber mat)
Moment of inertia	210 kg \cdot cm ² (Including rubber mat).

EXTERNAL DESIGN

Cabinet	BMC (Bulk Molding Compound)
Dust cover	Acrylic, 4 mm thick, weighing 1.1 kg Front operating type.
Hinges	Detachable type
Insulator	Combination of spring-and-rubber type with height adjustment

CONTROL SECTION

Automatic functions	AUTO-LEAD-IN AUTO-RETURN AUTO-REPEAT AUTO-CUT AUTO-UP (During Power-OFF)
Size selector	17/30 cm (7"/12")
Manual functions	Arm-up Arm-down Left & Right 2-speed feeding

GENERAL

S/N ratio	77 dB (IEC 98A Weighted)
Wow and flutter	0.015 % WRMS (FG direct)
Power supply and consumption	
U.S.A & Canadian Models	120V AC, 60Hz 27W
European Model	220V AC, 50Hz 27W
Australian & British Models	240V AC, 50Hz 27W
General Model	110/120/220/240V AC, 50/60Hz
Dimensions (W x H x D) mm	469 x 149 x 428 18-1/2" x 5-7/8" x 16-27/32"
Total weight	12 kg (26.4 lb)

Specifications are subject to change without notice.

PX-3

TROUBLESHOOTING

Before assuming that your turntable is faulty, check the following troubleshooting list which details the corrective action you can take yourself without having to call a service engineer. If you have any doubts or questions, get in touch with your nearest YAMAHA dealer.

Fault	Cause	Cure
Power does not turn on when POWER switch is depressed.	Power cord not completely inserted into wall AC outlet, or or amplifier's spare power supply socket.	Re-insert cord into wall AC outlet, or amplifier's spare power supply socket.
Balance (zero) cannot be obtained after changing cartridge.	Cartridge is either too heavy, or too light.	The PX-3 handles cartridges in the weight range of 5g – 11g; the sub-weights are not needed. When a cartridge of over 11g is to be used, fit on the sub-weights and perform readjustments.
REPEAT play cannot be effected.	PLAY has been started manually. Turntable has been manually operated during AUTO-PLAY.	First depress PLAY/DISC SIZE button and then depress REPEAT button.
No sound is heard, or sound is too faint, although the stylus descends onto the disc surface.	Defective contact of headshell connector.	Attach headshell to the tonearm properly.
	Amplifier's FUNCTION switch is not positioned to PHONO.	Set FUNCTION properly to PHONO.
	Amplifier's volume is turned down.	Turn up the volume to an adequate level.
The body of the cartridge catches on the disc surface.	Poor contact of turntable output cord	Check and correct terminals between amplifier and rear panel.
	Cartridge stylus tracking force is too high.	Readjust tracking force to optimum.
Unpleasant, distorted reproduced sound, with clicking or crackling sound. High frequency reproduction is particularly affected.	Improper tonearm height.	Adjust to proper tonearm height.
	Turntable is not level.	Correct by leveling turntable properly.
	Dust accumulated on the stylus tip.	Clean stylus tip using special stylus cleaning brush.
	Stylus tip is worn down.	Replace the stylus.
	The disc it self is damaged or is dirty.	Replace with a new disc.
	Stylus tracking force is either too light or too heavy.	Readjust the tracking force for the cartridge to the recommended value.
Unpleasant reproduced sounds with howling noise.	Amplifier's treble response has been overemphasized.	Turn the treble control back to the flat position.
	Turntable is installed too close to the speaker system, or resonance has been induced by vibrations because placement of turntable is unstable.	Move turntable to a more stable place, or install away from the speaker. (Installation in a corner of a room should be avoided in particular.)
Humming noise during disc play.	Ground wire of turntable not connected to amplifier's GND terminal.	Connect ground wire to GND terminal. (In some cases, it is better not to ground it.)
	Defective contact of headshell connector.	Fit the headshell onto the tonearm correctly.

SINCE 1887  **YAMAHA**
NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN