IN MAIN

P-405 OWNER'S MANUAL



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This warning label is indicated on the bottom plate of the unit.

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

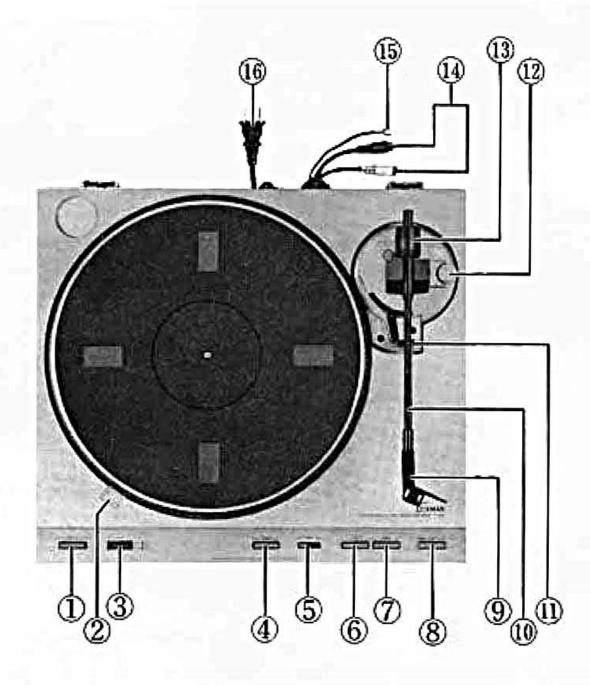




The lightning flash with arrowhead symbol, within an equitateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating instructions in the literature accompanying the appliance.



1. Speed Selector

Set the selector to "33-1/3" or "45" to match the type of record to be played.

2. Stroboscope

When fine platter rotation speed adjustments are being made with the pitch control (3), observe the moving pattern across the stroboscope. When the proper speed is reached, the pattern appears stationary.

3. Pitch Control

Rotate the control to obtain the proper platter rotation speed, observing the pattern across the stroboscope.

4. Repeat Button

When you wish to play a record repeatedly, depress and lock this button. To release the repeat function, press and unlock the button,

5. Disc Size Selector

Set the selector to "17" or "30" to match the size of the record to be played.

6. Cut Button

To end playback before the tonearm reaches the end of the record, press the button. The tonearm will lift and return to its rest and the power will be shut off.

7. Start Button

When the button is pressed, the power will be turned on, the platter rotation begins, and the tonearm lifts and positions itself at the beginning of the record to start playback.

8. Cue Button

Press this button to lift the tonearm off the record on to lower it onto the record.

9. Headshell

10. Tonearm

11. Tonearm Rest

Provided for use when no disc is being played. The clamp prevents accidental damage to the stylus.

12. Anti-Skate Control

A natural force caused by the rotating platter and record pulls the tonearm toward the center spindle. The control is provided to prevent the tonearm from skating across the record that results in uneven wear on the record as well as unbalanced left and right stereo sound. For adjustment, see ADJUSTMENT PROCEDURES, ANTI-SKATE ADJUST-MENT.

13. Counter-Weight

The weight is provided for the tonearm to maintain its horizontal balance. See ADJUSTMENT PROCEDURES, TONEARM for adjustment.

14. Phono Pin-Plug Cords

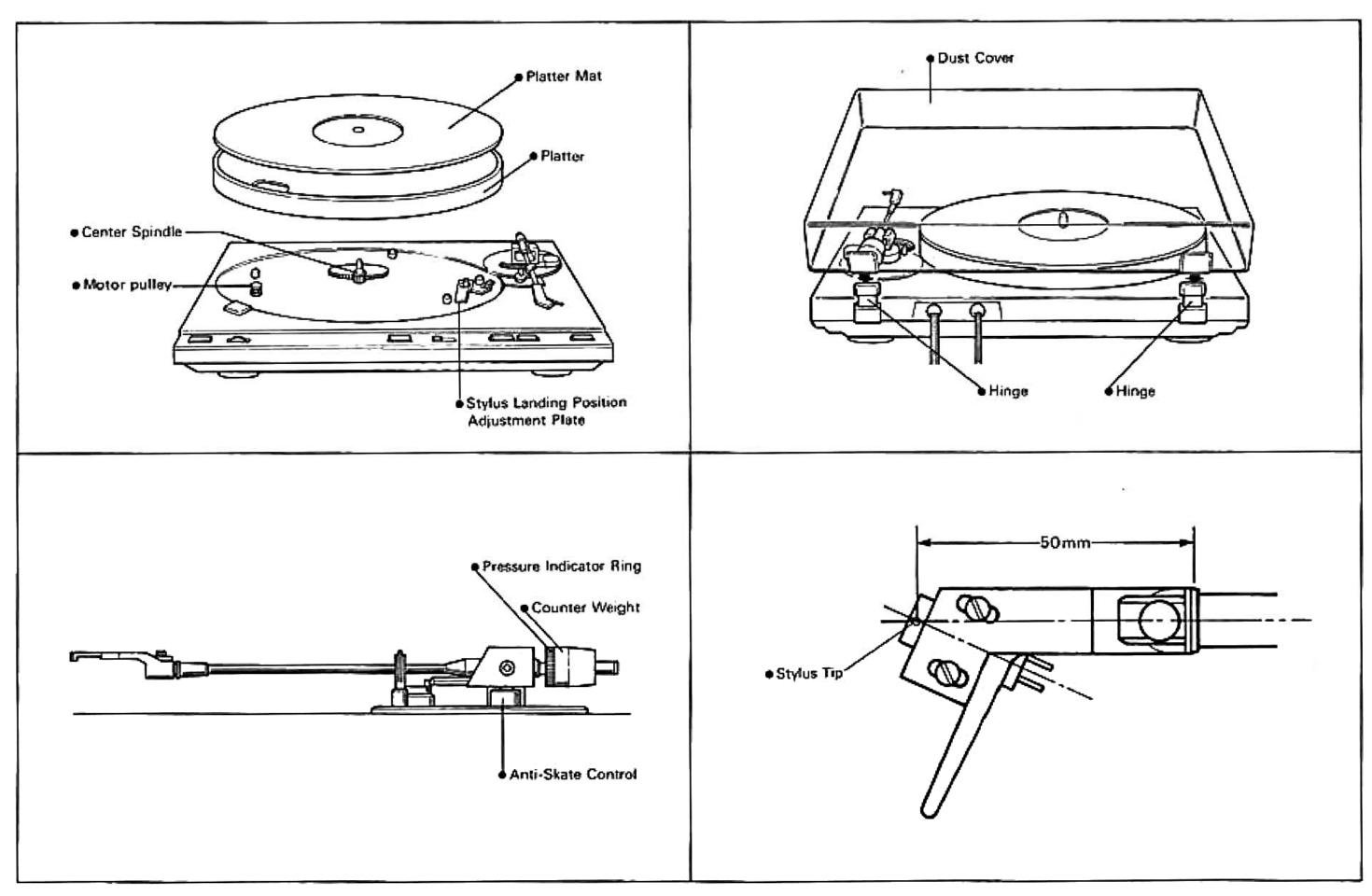
Connect the pin-plugs to the PHONO terminals of an audio amplifier. The red plug is for the right channel and the while for the left.

15. Ground Lead

Connect the lead to the ground (GND) terminal of an audio amplifier.

16. AC Power Cord

Plug into a household AC power supply outlet or an AC outlet on an audio amplifier.

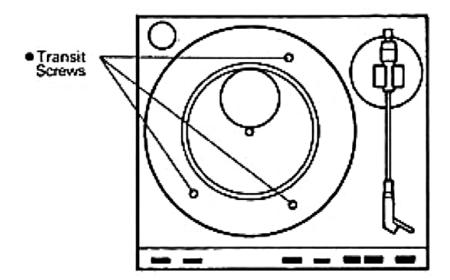


ASSEMBLY PROCEDURES

To prevent possible damage in shipping, the turntable platter, the counter-weight for the tonearm, and the acrylic dust cover are packed separately. Refer to the assembly diagrams in this manual to assemble your turntable properly, as improper assembly could affect the performance and the tonal quality of the turntable.

1. Transit Screws

Remove the three transit screws holding the mechanism in place.



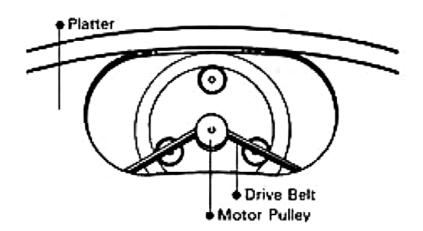
NOTE: Save the screws in a safe place. These screws must be reinstalled when you pack your turntable for shipping or transporting.

2. Turntable Platter

The turntable platter and the mat are packed between the dust cover and the main chassis. First remove the mat from the platter. Be sure the drive belt is placed around the base of the platter. Slip your fingers through the two openings near the center hole of the platter. Firmly hold the platter horizontally, and carefully place it onto the motor so that the center shaft slips through the center hole of the platter. Through one of the large openings near the edge of the platter, locate the drive belt. Pull and sling around the pulley. Gently turn the platter clockwise to make sure it is securely in place. Place the mat over the platter.

NOTES: 1. Use caution to handle the platter. It is heavy, and an accidental drop of the platter on the motor could cause serious damage.

The mat should be kept free of oil and grease.If it should get oil or great spots, wipe it clean immediately with a soft clean cloth dabbed in alcohol.



3. Tonearm

Counter-Weight

The counter-weight is packed in the side cavity in the filler together with other accessory items. Stip the counter-weight onto the rear end of the tonearm and rotate.

Cartridge

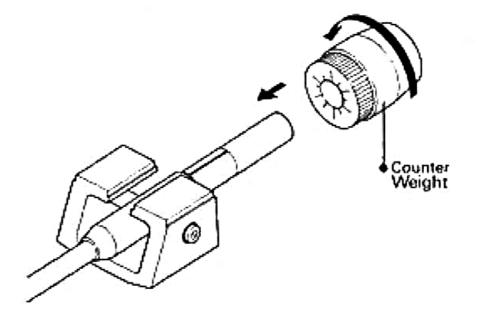
A cartridge is not provided with the P-405. Install your cartridge to the headshell. Four lead wires are inside the shell for connection with the cartridge, and they are color coded as follows:

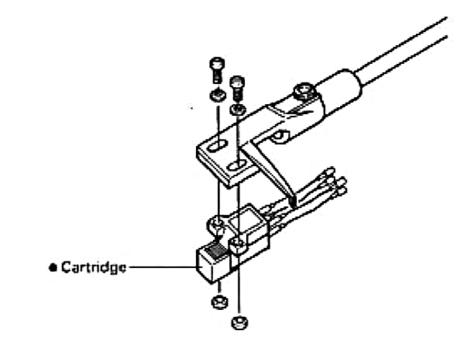
WHITE: L(+) Hot side of LEFT channel
BLUE: L(-) Ground side of LEFT channel
RED: R(+) Hot side of RIGHT channel
GREEN: R(-) Ground side of RIGHT channel

Using the screws and nuts supplied with the cartridge, install the cartridge to the shell.

Next is the overhang adjustment. This is to obtain a certain distance (16.8mm for the P-405) between the center of spindle and the stylus of the cartridge. Refer to the overhang template on Page 5. The optimum over hang is 16.8mm for the P-405. If necessary, remove the detachable headshell by loosening the screws and adjust the cartridge so that the stylus is at the 16.8mm marking on the guide.

Remember to adjust the tonearm so it will be horizontal. ISee ADJUSTMENT Section).





4. Dust Cover

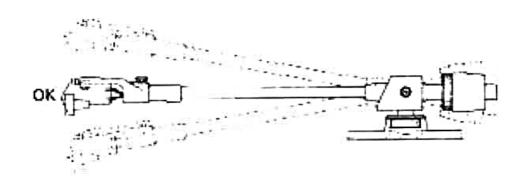
Install the smaller half of the hinges in the receptacles on the back of the main chassis so that the top half of the hinges are tilting away from the chassis. Holding the dust cover with both hands, slip the top half of the hinges into the pockets on the dust cover.

ADJUSTMENT PROCEDURES

TONEARM

1. Horizontal Balance

Free the tonearm from the armrest. Supporting the shell so not to drop or cause damage to the stylus, balance the tonearm horizontally by rotating the rear of the counterweight back and forth. When the horizontal balance is reached, turn the pressure indicator ring to align the "O" marking with the tonearm index line. This denotes that there is no weight at the headshell.

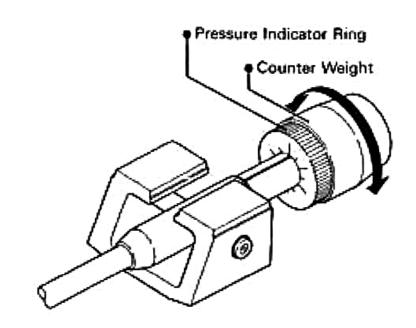


2. Height Adjustment - Cartridge

The tonearm should be horizontal when the stylus rests on the disc. If your cartridge is too short for the tonearm to be horizontal, add a height using a spacer supplied with the cartridge. (Refer to the instructions provided with the cartridge for installation).

3. Stylus Pressure Adjustment

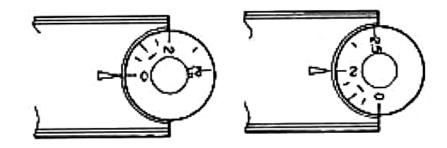
Being careful not to hold the pressure indicator ring, rotate the counter-weight counter-clockwise as viewed from the front. This will cause the weight to move forward increasing the stylus pressure and also cause the pressure indicator ring to turn. Continue to rotate the counter-weight, observing the pressure indicator until the desired pressure level marking aligns with the tonearm index line. From zero to 2.5-gram stylus pressure level can be adjusted for a cartridge weighing 4 to 8.5-grams.



ANTI-SKATING

Anti-Skate Adjustment

If the cartridge shows a tendency to skate, the stylus pressure may be insufficient. Check the stylus pressure. If the recommended stylus pressure range allows a higher pressure level, increase the pressure within the range. If the tendency to skate still exists and it is in the outward direction, turn the Anti-Skate Control clockwise; If it is in the inward direction, counter-clockwise.

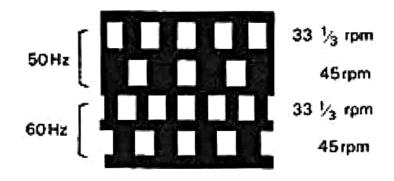


ROTATION SPEED

Pitch Control

Place a record disc on the platter. Set the Speed Selector to match the record disc. There are four rows of patterns on the side of the platter. As it travel across the stroboscope, observe the row designated for the AC frequency in your area and the rotation speed you have just set.

Turn the Pitch Control to the left or right until the pattern across the stroboscope appears to be still.



STYLUS LANDING POSITION

Stylus Landing Position Adjustment

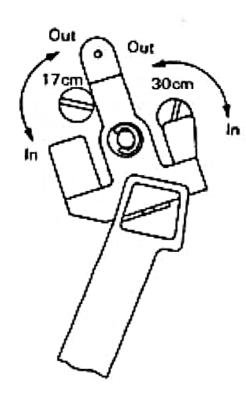
In auto-play, the Stylus should lend on the disc within the lead-in area just outside the groove. If it does not land at the proper position, you can reset it by following a simple adjustment procedure.

Remove the platter and mat. The adjustment screws are installed on the mechanism located near the tonearm.

The screw to the right is for adjustment of stylus landing position for the 30 cm-diameter disc, the other, for the 17 cm-diameter disc.

With a flat screwdriver, turn the applicable screw in either of the two directions marked "in" and "out" in the drawing below to reset the stylus landing position inward or outward from its present landing position.

Each 20° turn approximates 1 mm shift in landing position.



AUTO-PLAY

- Be sure all connections are made and the cartridge installed.
- Place a record disc on the platter. Place the adapter, if the disc has a large center hole.
- Set the Speed Selector to "33" or "45" and the Disc Size Selector to "30" or "17" depending on the type or size of record disc to be played.
- Press the Start Button. The platter rotation begins, the tonearm will move to the start position and come down onto the disc, then playback will begin.
- When playback is finished, the tonearm will automatically lift and return to the armrest. Platter rotation will also stop.
- If you wish to stop before the end of playback, press the Cut Button. The tonearm will lift and return to the armrest, and the platter rotation will stop, and the power will be shut off.
- To pause playback momentarily, press the Cue Button.
 The tonearm will lift off the disc and pause, but the platter rotation continues. To resume playback, press the Cue Button again.

NOTE: The auto play feature is functional for two standards size discs only (30cm, and 17cm). In auto-play, do not block tonearm movements.

REPEAT-PLAY

- Follow the steps 1 through 4 under the AUTO-PLAY OPERATION.
- Press the Repeat Button until it locks.
- Press the Start Button. The platter rotation begins, the tonearm will move and come down to the start position of the disc, and playback will begin.
- When playback is finished, the tonearm will lift off the disc and go back to the start point to repeat playback.
- The repeat-play function continues until the Repeat Button is pressed.
- Press and unlock the Repeat Button to release the repeatplay function. When the tonearm reaches the end of the record disc, it will automatically return to the armrest and the power will be shut off.

MANUAL-PLAY

This feature is convenient when you play a special record disc having an exceptionally short or long groove, and you wish to play it from the beginning to the end.

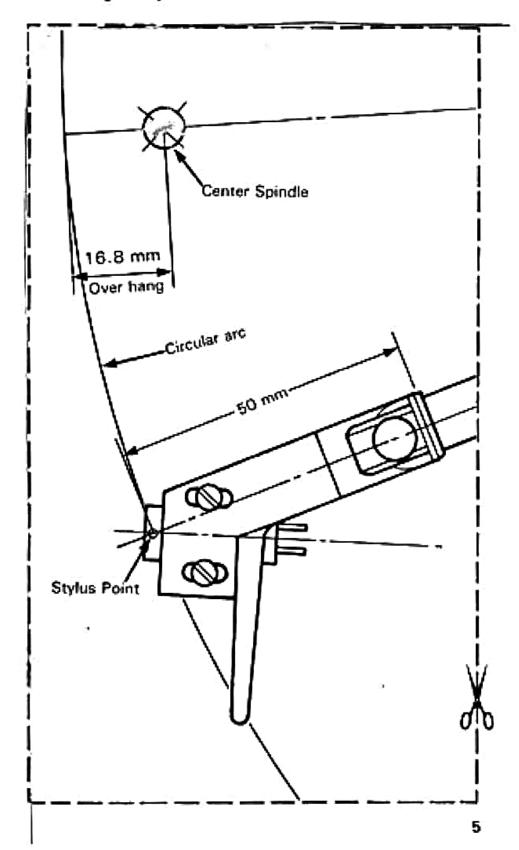
- Press the Cue Button to lift up the tonearm.
- Manually lift the tonearm from the armrest and bring it horizontally towards the disc. The platter will be rotating.
- Press the Cue Button again, and the tonearm will come down onto the disc.
- 4. To pause playback momentarily, press the Cue Button. The tonearm will lift off the disc and pause, but the platter rotation continues. To resume playback, press the Cue Button again.

NOTE:

Some special or non-standard record discs have a long groove that extends beyond the farthest point the tonearm is designed to reach. When such a record disc is played, therefore, it may not play to very end.

Cut out the template below. Cut the circle for the center spindle crisscross. Place the template on the platter, slipping the center spindle through the opening. Adjust the stylusposition so the stylus would trace the circular arc.

Over hang Template



SPECIFICATIONS

TURNTABLE

Drive System:

Belt Drive

Motor:

FG Servo DC Motor

Platter: Speeds:

Aluminum Die-cast, 30 cm 331/3, 45 rpm.

Wow & Flutter:

0.06% DIN Wtd. 72dB DIN-B Wtd.

Rumble:

TONEARM

Type:

Straight-Line, Tubelar, Staticbalanced

Anti-Skating Fully-Automatic

Operation: Effective Length:

222 mm 16.8 mm

Overhange: Adjustable Tracking Force:

0-2.5 g

Usable Cartridge Weight:

4.0-8.5g (With sub-cartridge weight)

GENERAL

Power Source:

120V, 60 Hz

Power Consumption: Dimensions:

4W

416 mm (W) x 120 mm (H) x 376 mm (D)

(16.4" x 4.7" x 14.2") 5.3 kg (11 lb. 11 oz.)

Weight:

Specifications and appearance design are subject to change without notice.



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> 68P66888F11-A Printed in Japan