

PL-516X

 HG
S, S/G

OPERATING INSTRUCTIONS



These operating instructions apply to two versions of the turntable whose performance and specifications are identical:

PL-516X/S

Power Requirements: AC 110/120/220/240V~ (switchable), 50, 60Hz

Power Consumption: 2.8W

PL-516X/HG

Power Requirements: 220V/240V~(switchable) 50, 60Hz

Power Consumption: 2.3W

Before turning on the power, you should confirm the line voltage setting on the bottom plate, referring to the section "LINE VOLTAGE SELECTOR SWITCH" on page 8.

For the sake of convenience, the illustrations and explanations are based on the PL-516X/S.

FOR USE IN UNITED KINGDOM OR AUSTRALIA

Please note:

Models employ 3-conductor mains leads. Please read the following instructions carefully before connecting.

WARNING: THIS APPARATUS MUST BE EARTH-ED.

CAUTION 240V: MAINS SUPPLY VOLTAGE IS FACTORY ADJUSTED AT 240 VOLTS.

IMPORTANT

The wires in this mains lead are coloured in accordance with following code:

Green-and-yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows. The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol $\equiv$ or coloured green or green-and-yellow.

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured blue or black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured brown or red.

The power cord should be connected last, make sure that the Power switch is OFF.

First insert the female appliance connector of the mains cord into the AC inlet, then plug the cord to the wall socket.

Be sure the appliance connector is fully inserted into the AC inlet.

Unplug the set from the wall socket when it is not to be used for an extended period of time.

FOR YOUR SAFETY

1. Insert this plug only into effectively earthed three-pin plug-socket outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cords, if used, must be three-core correctly wired.

ASSEMBLY PROCEDURE

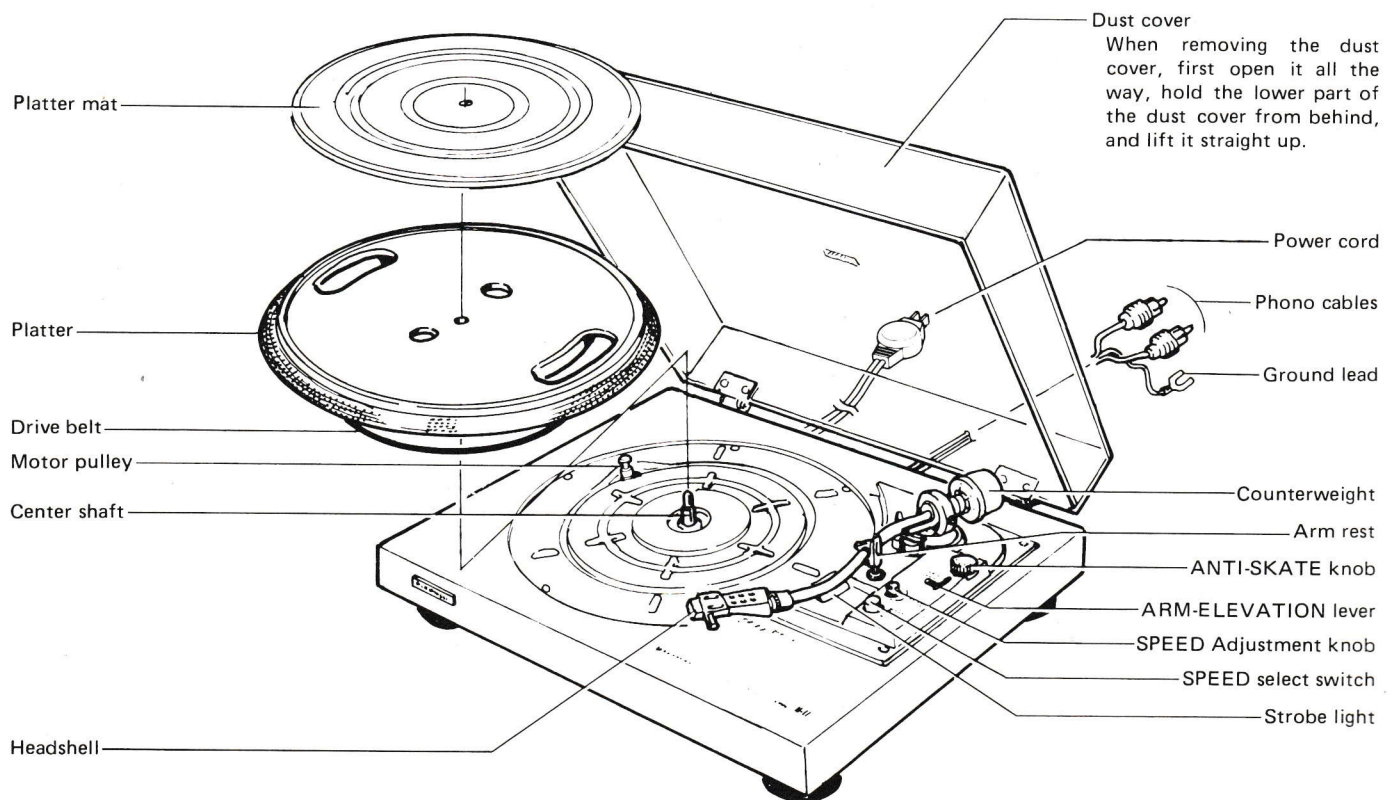


Fig. 1

1. ATTACHING THE PLATTER

Set the platter down over the center shaft. Pulling the ribbon attached to the drive belt, pass the belt around the motor pulley (Fig. 2). After the belt has been properly positioned on the motor pulley, remove the ribbon and place the platter mat (Fig. 1).

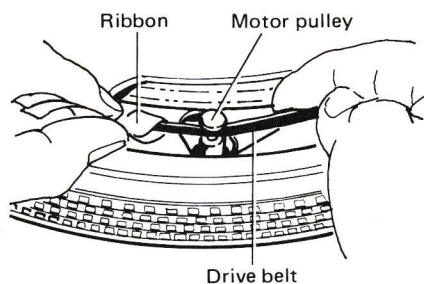


Fig. 2

2. ATTACHING THE COUNTERWEIGHT

Slide the counterweight onto the counterweight shaft at the rear end of the tonearm and turn it 3 to 4 times in a clockwise direction (Fig. 3).

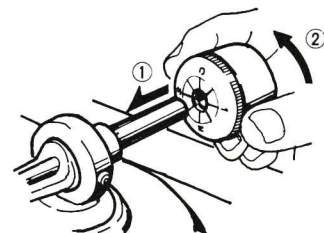


Fig. 3

3. ATTACHING THE HEADSHELL

Insert the headshell (with the cartridge already attached) onto the end of the tonearm (align the guide pin with the groove as shown in Fig. 4), and secure by turning the locking collar.

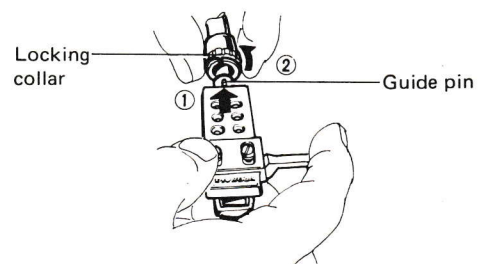
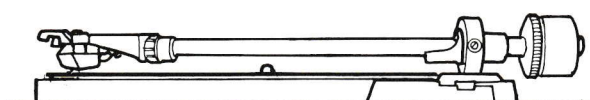


Fig. 4

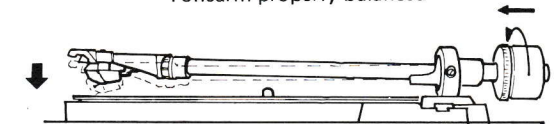
ADJUSTING THE TONEARM

LEVEL BALANCE ADJUSTMENT

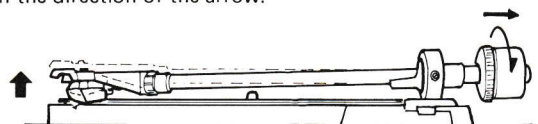
1. Set the ANTI-SKATE knob to "0".
2. Remove the cartridge stylus cover.
3. Set the ARM-ELEVATION lever to the DOWN ▼ position.
4. Release the arm clamp and move the tonearm to the space between the arm rest and the platter, taking care not to damage the stylus.
5. Support the headshell's finger lift with one hand and attain the level balance by turning the counterweight either clockwise or counterclockwise. "Level balance" means that the tonearm is parallel to the record on the platter, and that the tonearm pipe, therefore, should not tilt toward the counterweight side or the headshell side (See Fig. 5).



Tonearm properly balanced



Counterweight end is too heavy — Turn the counterweight in the direction of the arrow.



Headshell end is too heavy — Turn the counterweight in the direction of the arrow.

Fig. 5

6. Return the tonearm to the arm rest and fasten the arm clamp.
7. Attach the stylus cover to protect the stylus.
8. Since the tracking force is zero when the tonearm is balanced level, turn just the tracking force scale ring in front of the counterweight, and set the "0" on the scale to the index line on the shaft (Fig. 6).

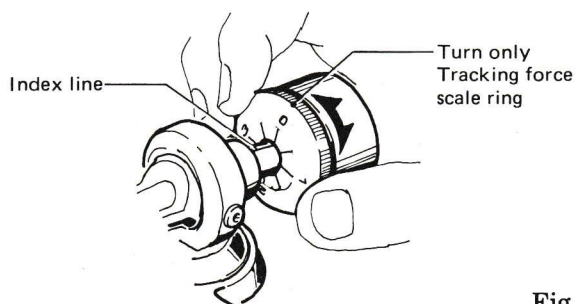


Fig. 6

TRACKING FORCE ADJUSTMENT

Turning the counterweight, set the correct tracking force opposite the index line on the counterweight shaft. The correct tracking force for the attached PC-110/II cartridge is 2.2 grams, so align 2.2 on the tracking force scale ring with the index line (Fig. 7).

The tracking force scale ring has 0.5g steps, and one full turn of the counterweight will yield a tracking force of 4g.

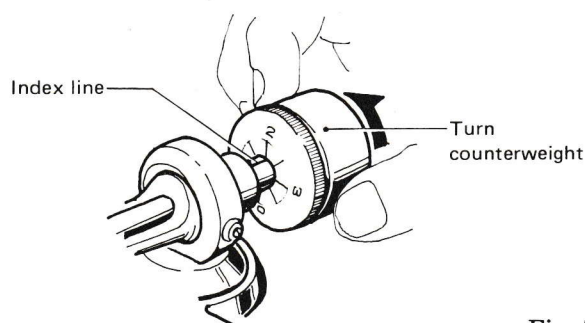


Fig. 7

ANTI-SKATING ADJUSTMENT

To adjust the anti-skating mechanism, turn the ANTI-SKATE knob so that the number corresponding to the required tracking force is opposite the index line ("2.2" in the above case).

The numbers on the ANTI-SKATE knob correspond to grams of tracking force, so when the tonearm is set to 2.2 grams for the PC-110/II, set the knob so the index line on the panel is at 2.2 on the knob (Fig. 8).

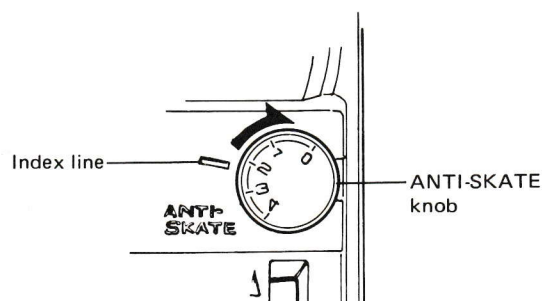


Fig. 8

CONNECTIONS

PL-516X's phono cables and ground lead are attached to the rear panel of the turntable. Insert the white plug of the phono cable into the left channel PHONO input jack of the stereo amplifier, and the red plug into the right channel PHONO jack.

The thin wire with the Y-shaped connector at the end is the ground lead. This should be firmly connected to the ground terminal on the amplifier or elsewhere (Fig. 9).

NOTE:

The PC-110/II cartridge that comes with the PL-516X is an moving magnet (MM) type, so it can be connected directly to the PHONO jacks of a stereo amplifier.

However, when a low output moving coil (MC) type of cartridge is used with the PL-516X, a special MC transformer or head amplifier may be necessary. Also, when a special type of cartridge is used, refer to the cartridge instructions for details.

Finally, plug the power cord into the power outlet. Since the auto-return mechanism may be engaged by vibration during transportation, confirm its operation before play. Move the tonearm over to near the center shaft. The turntable platter begins to rotate and the tonearm returns to the arm rest.

If the tonearm starts to move in the direction of the arm rest when moved manually, do not forcibly move it in the direction of the center shaft.

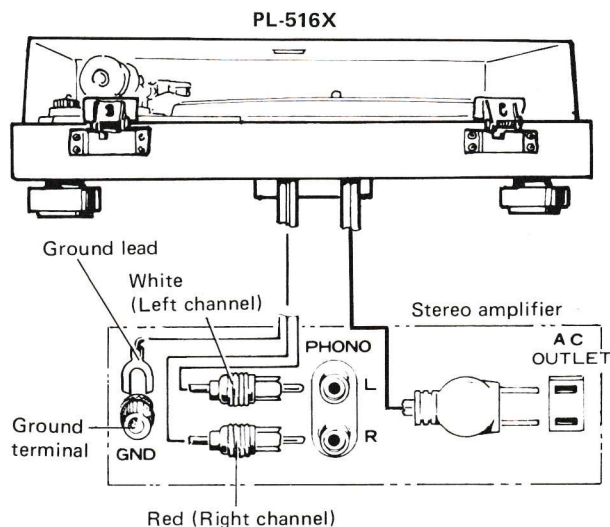
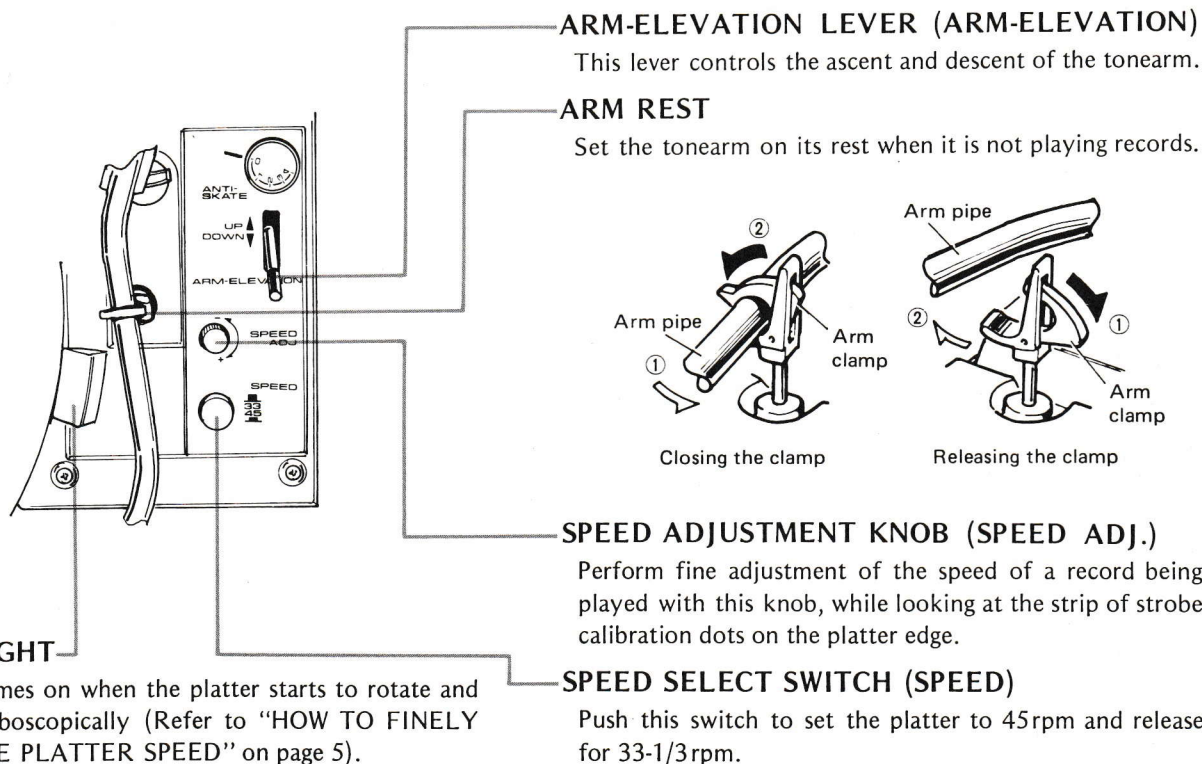


Fig. 9

PANEL FACILITIES AND OPERATION



OPERATION

1. Place the record to be played on the platter.
2. Set the SPEED select switch to the speed at which the record is to be played.
3. Set the ARM-ELEVATION lever to the UP ▲ position.
4. Remove the stylus cover and release the arm clamp.
5. Hold the headshell by the finger lift and move the stylus across the record to the track you want played. The platter will begin to rotate.
6. Observe the appropriate strip of strobe calibration dots on the platter edge. If the strobe dot is not stationary, finely adjust the platter speed with the SPEED ADJ. knob according to "HOW TO FINELY ADJUST THE PLATTER SPEED."
7. Set the ARM-ELEVATION lever to the DOWN ▼ position.
The stylus will descend slowly to the record and play will begin.
8. Adjust the volume and tone controls on the amplifier to the preferred levels, and then sit back and enjoy your record.
9. After the record has been played, the auto-return mechanism is actuated and the tonearm returns to the arm rest. At the same time, the platter stops rotating and the power to the turntable is turned off.
10. Secure the tonearm to the arm rest with the clamp and attach the stylus cover to protect the stylus.

OPERATION PRECAUTIONS

- Never obstruct the turntable with the hand while it is rotating. This may cause damage.
- Do not force the tonearm closer than 40mm to the center shaft or outward from the arm rest. If this distance is exceeded, you may damage the internal mechanisms and render automatic operation ineffective.
- Be careful not to make the turntable vibrate while a record is playing since this can result in damage to the stylus and record.
- Place only one record at a time on the platter. If two or more records are stacked on the platter, the stylus will not make proper contact with the grooves, and this will impair the quality of reproduction.
- Do not disconnect the power cord while the stylus is still in a record groove as this may result in damage to the stylus and record.

HOW TO FINELY ADJUST THE PLATTER SPEED

Finely adjust the platter speed as follows:

1. Set the ARM-ELEVATION lever to the UP ▲ position.
2. Set the SPEED select switch to either "33" or "45", according to the speed of the record to be played (Fig. 10).
3. Release the arm clamp and move the tonearm to the space between the arm rest and the platter.
4. Observe the appropriate strip of strobe calibration dots on the platter edge (Fig. 11).
5. If the strobe dots appear to flow to the right (which means the platter is rotating more slowly than the rated speed), turn the SPEED ADJ. knob in the + direction and set so that the strobe dots no longer appear to move. If the strobe dots appear to flow to the left (which means the platter is rotating more quickly than the rated speed), turn the SPEED ADJ. knob in the - direction and set so that the strobe dots no longer appear to move.
6. After the platter speed has been adjusted correctly, return the tonearm to the arm rest and secure it with the clamp.

NOTE:

When playing a record which has a different playing speed from the preceding one, the strobe dots may be moved. In this case, finely adjust the platter speed again in the above way.

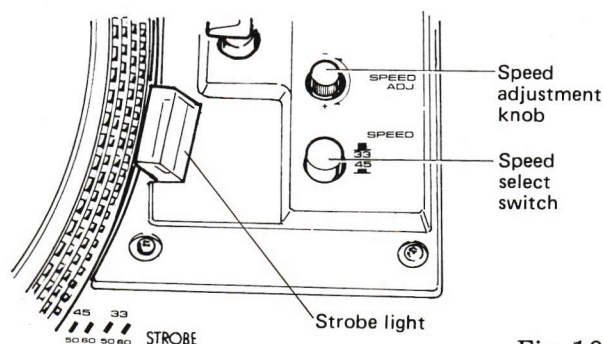


Fig. 10

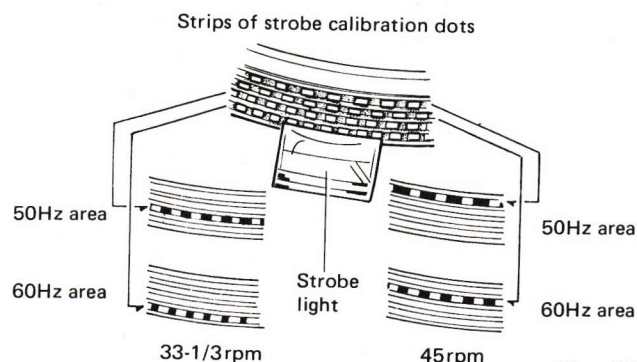


Fig. 11

MAINTENANCE

CABINET

When the dust cover or the cabinet is dirty or dusty, wipe them clean with a polishing cloth or soft cloth. Do not use furniture wax or bring the turntable into contact with benzine, insecticides or any other flammable material since they will corrode the outside of the turntable.

PC-110/II STYLUS REPLACEMENT

The life expectancy of the PC-110/II stylus tip is 800—1000 hours. For the sake of maximum sound quality reproduction, we recommend replacement within the minimum time limit. The stylus tip is replaced by grasping the stylus holder and pulling it away from the body of the cartridge. The new stylus tip is then inserted by pushing it into the receptacle. The correct replacement tip is the PN-110/II. This may be obtained at your Pioneer dealer. Pioneer cannot guarantee performance or reliability if another type of stylus is employed.

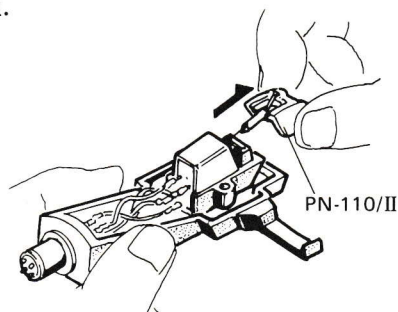


Fig. 12

WHEN ANOTHER CARTRIDGE IS USED

There are many different kinds of cartridge available today. You can attach any cartridge weighing between 4g and 10g to this turntable on condition that only the accessory headshell is used with it. Follow the instructions with each cartridge, regarding connection and use. When another cartridge is to be used in the headshell supplied with this turntable, install the cartridge very carefully, as follows:

1. Remove the screws that hold the accessory PC-110/II cartridge in place (Fig. 13).
2. Remove the four lead wires from the cartridge itself. To protect the lead wires at this point, remove the terminal tips with pliers or the tip of the accessory screwdriver.

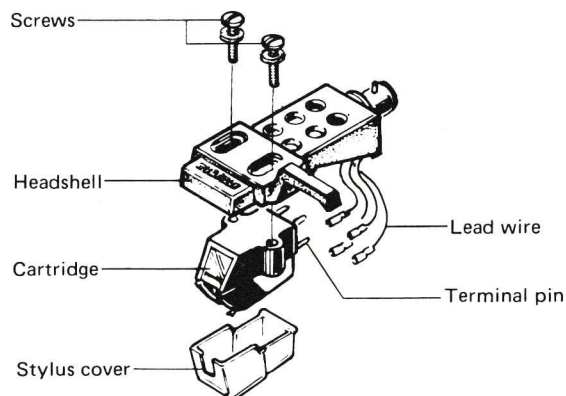


Fig. 13

3. The terminals on the accessory headshell are aligned as shown in Fig. 14. Check the location and polarity of each of the cartridge's terminal pins and then connect the lead wires, taking care not to get the polarities mixed up.

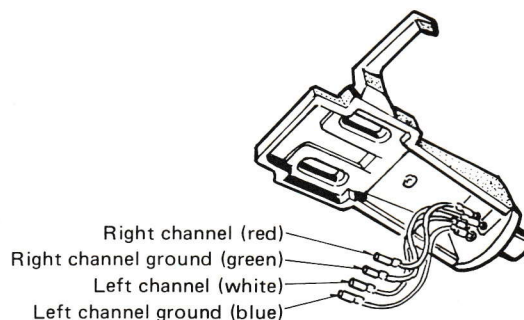


Fig. 14

4. Attach the cartridge lightly to the headshell, using the screws, nuts, washers, etc.
5. Adjust the position of the cartridge so that the stylus and the connector section of the headshell are 49mm apart and tighten up the screws. Make sure that the cartridge does not tilt to one side when you attach it (See Fig. 15).

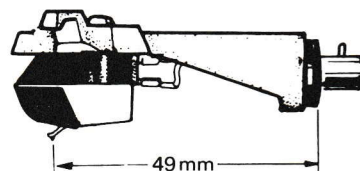


Fig. 15

6. Attach the headshell to the tonearm.
7. Referring to page 3, "ADJUSTING THE TONE-ARM", re-adjust the tonearm with the new cartridge installed.

TROUBLESHOOTING

Sometimes, an operational fault can be mistaken for a malfunction or failure. Check the following points and see if the symptoms of the trouble are outlined below before you get in touch with the serviceman. If you cannot locate the symptoms, contact your nearest Pioneer Service Center, Service Station, or authorized Pioneer dealer.

Symptom	Possible trouble	Remedy
Platter does not rotate.	1. Power cord is unplugged. 2. Drive belt is disconnected or loose.	1. Plug cord securely into wall outlet. 2. Attach drive belt properly on motor pulley.
No sound	1. Phono cables are not connected properly. 2. Headshell is not properly attached. 3. Cartridge lead wires are loose. 4. Amplifier is not being operated properly. (Function switch, tape monitor switch, speaker switches, etc. not set correctly).	1. Connect cables securely to the PHONO jacks on the amplifier (see page 4). 2. Firmly secure tonearm locking collar (see page 2). 3. Attach lead wires inside headshell properly (see page 6). 4. Read the operating instructions that come with amplifier.
Musical tempo is off.	1. Platter speed is not set properly. 2. Strobe dots appear to move.	1. Refer to "PANEL FACILITIES AND OPERATION" on page 4. 2. Refer to "HOW TO FINELY ADJUST THE PLATTER SPEED" on page 5.
Excessive noise	1. Ground lead is not connected. 2. Tracking force is not correct. 3. Dust or dirt has collected on the stylus tip. 4. Dust or dirt has collected on the record.	1. Connect properly to the amplifier's ground terminal (see page 4). 2. Refer to "TRACKING FORCE ADJUSTMENT" on page 3. 3. Clean the stylus tip with a soft brush. 4. Clean the record with a good quality cleaner.
Sound is distorted.	1. Dust or dirt has collected on the stylus tip. 2. Tracking force is not correct. 3. Stylus is worn. 4. Amplifier's tone controls set too high.	1. Clean the stylus tip with a soft brush. 2. Refer to "TRACKING FORCE ADJUSTMENT" on page 3. 3. Replace with new stylus. 4. Set tone controls to lower position.
Intermittent sound	1. Tracking force is not correct. 2. Stylus is worn. 3. Record is scratched or warped.	1. Refer to "TRACKING FORCE ADJUSTMENT" on page 3. 2. Replace with new stylus (see page 6). 3. Replace record.
If you detect any trouble when playing records, the fault may not lie with the turntable but with another hi-fi component. Be sure to check the amplifier, speaker systems, and any other electrical equipment which you are using in the vicinity of the turntable.		

If the turntable is brought into the warm from previously cold surroundings, or if the room temperature rises suddenly, moisture will form on the operating sections and the turntable will not be able to display its performance to the full.

If confronted with a situation like this, leave the turntable in its new environment for about an hour, or try and increase the room temperature gradually, before operation.

LINE VOLTAGE SELECTOR SWITCH

This turntable is equipped with a line voltage selector switch on the bottom plate so that one of the indicated voltages on the selector switch can be supplied. Before your turntable is shipped from the factory, the switch is set to the power requirements of the turntable's destination, although you should check that it is set properly before plugging the power cord into the outlet. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switch as follows:

1. Disconnect the power cord.
2. Provide yourself with a medium-sized screwdriver. Insert the tip of the screwdriver into the groove of the selector switch and turn it to the power voltage of your residence. You can tell when it clicks into place.

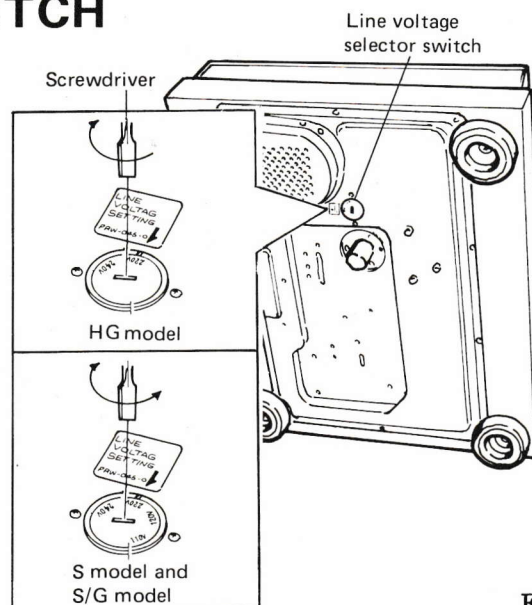


Fig. 16

SPECIFICATIONS

Motor and Turntable

Drive System:	Belt-drive
Motor:	FG-servo DC motor
Turntable Platter:	320mm diam. aluminum alloy die-cast
Speeds:	33-1/3 and 45rpm
Speeds Control Range:	±2%
Wow and Flutter:	Less than 0.045% (WRMS)
Signal-to-Noise Ratio:	More than 68dB (DIN-B) (with Pioneer cartridge model PC-110/II)

Tonearm

Type:	Static-balance type, S-shaped pipe arm
Effective Arm Length:	221mm
Overhang:	15.5mm
Tracking Error:	0.525 deg./in, 0.21 deg./cm
Usable Cartridge Weight:	4g (min.) to 10g (max.)

Other Features

Auto-return mechanism, Anti-skating force control, 40mm-thick solid particle board cabinet, Cueing device, Strobe light, Fine speed adjuster, Insulator feet, Plug-in type headshell

Miscellaneous

Power Requirements:	PL-516X/HG ... 220V/240V~ (switchable), 50, 60Hz PL-516X/S, S/G ... AC110/120/220/240V~ (switchable), 50, 60Hz
Power Consumption:	PL-516X/HG 2.3W PL-516X/S, S/G 2.8W
Dimensions:	440(W) x 140(H) x 365(D) mm 17-5/16(W) x 5-1/2(H) x 14-3/8(D) in
Weight:	7.2kg/15lb 14oz

PC-110/II Specifications

Type:	Moving magnet type
Stylus:	0.5 mil diamond (PN-110/II)
Output Voltage:	3.5mV (1kHz, 50mm/s Peak velocity, LAT)
Tracking Force:	1.5g to 2.5g (proper 2.2g)
Frequency Response:	15 to 25,000Hz

Accessories

EP adaptor	1
Screwdriver	1
Operating instructions	1

NOTE:

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

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
U.S. PIONEER ELECTRONICS CORPORATION 85 Oxford Drive, Moonachie, New Jersey 07074, U.S.A.
PIONEER ELECTRONIC (EUROPE) N.V. Luithagen-Haven 9, 2030 Antwerp, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia