

DIRECT DRIVE TURNTABLE

PL-540



OPERATING INSTRUCTIONS

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE

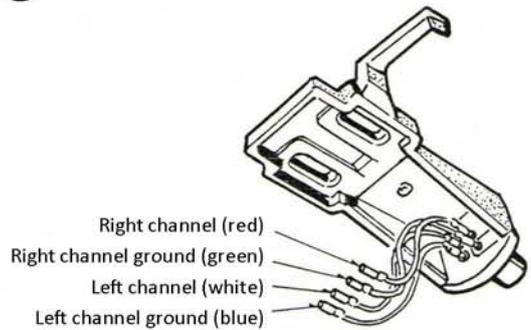


Fig. 1

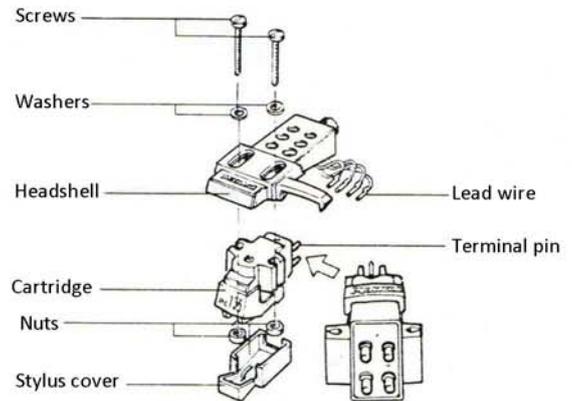


Fig. 2

ATTACHING THE CARTRIDGE

You can attach any cartridge to this turntable weighing between 4g and 10g on condition that only the accessory headshell is used with it. Follow the procedure outlined below for attaching the cartridge to the headshell.

1. Take out the headshell, cartridge mounting screws, nuts, washers and small sized screwdriver from the accessory box.

The screws come in three different lengths so choose the screws according to the height of the cartridge you intend to attach.

2. The terminals on the accessory headshell are aligned as shown in Fig. 1. 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.

NOTE:

Do not solder when you connect the lead wires to the cartridge. If the lead wire lugs are loose, use a pair of tweezers or a similar object to push in the end lightly.

3. Attach the cartridge lightly to the headshell using the screws, nuts and washers (Fig. 2).

4. 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. 3).

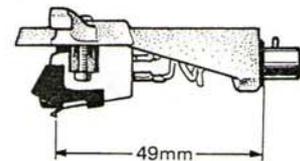


Fig. 3

ATTACHING HEADSHELLS NOT MADE BY PIONEER

You can attach headshells made by other companies as long as the coupling portion has the same dimensions as the headshell supplied with your PL-540. However, you should check whether the terminals on the other headshell are aligned in the same way. When attaching, make sure that you do not neglect to carry out the four steps described above.

IMPORTANT NOTICE: The serial number for this equipment is located on the rear. Please write this serial number on your enclosed warranty card and keep in a secure area. This is for your security.

SPECIFICATIONS

Motor and Turntable

Drive System:	Direct-drive
Motor:	Quartz PLL Hall Motor
Turntable Platter:	320mm diam. aluminum alloy die-cast
Moment of Inertia:	280kg-cm ² (including platter mat)
Speeds::	33-1/3 and 45 rpm
Wow and Flutter:	Less than 0.025% (WRMS)
Signal-to-noise Ratio:	More than 73dB (DIN-B) (with Pioneer cartridge model PC-400)

Rotational Characteristics

Build-up Time:	Within 120° rotation at 33-1/3 rpm
Speed Deviation:	Less than 0.002%
Speed vs. Load	
Characteristics:	Stable up to 150 grams drag load
Speed Drift:	Less than 0.00008%/h at 33-1/3 rpm Less than 0.00003%/degree temp. change at 33-1/3 rpm

Tonearm

Type:	Static-balance type, S-shaped pipe arm
Effective Arm Length:	221mm
Overhang:	15.5mm
Usable Cartridge Weight:	4g (min.) to 10g (max.)

Subfunctions

Auto-return mechanism, Quick play mechanism, Anti-skating force control, Stylus pressure direct-readout counter weight, Cueing device, Strobe light, Free stop hinges.

Accessories

EP Adaptor:	1
Screwdriver:	1
Cartridge mounting screws	6
Cartridge mounting nuts	2
Cartridge mounting washers	2
Operating instructions	1

Miscellaneous

Power requirements	AC 120V, 50, 60Hz
Power consumption	8W
Dimensions	440(W) x 145(H) x 365(D) mm 17-15/16(W) x 5-11/16(H) x 14-3/8(D) inches
Weight	10kg/22lb

NOTE:

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

ASSEMBLY PROCEDURE

1. 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. 4).

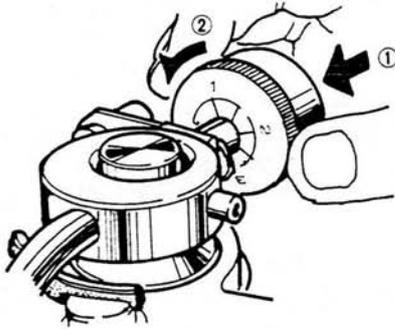


Fig. 4

2. 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. 5), and secure by turning the locking collar.

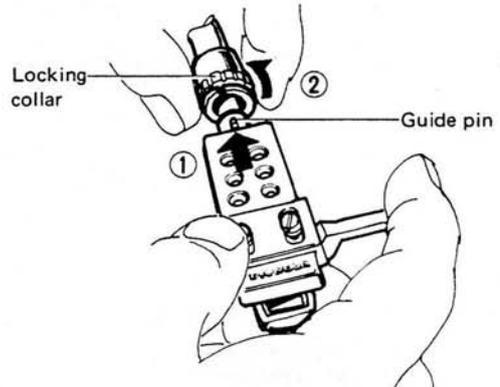
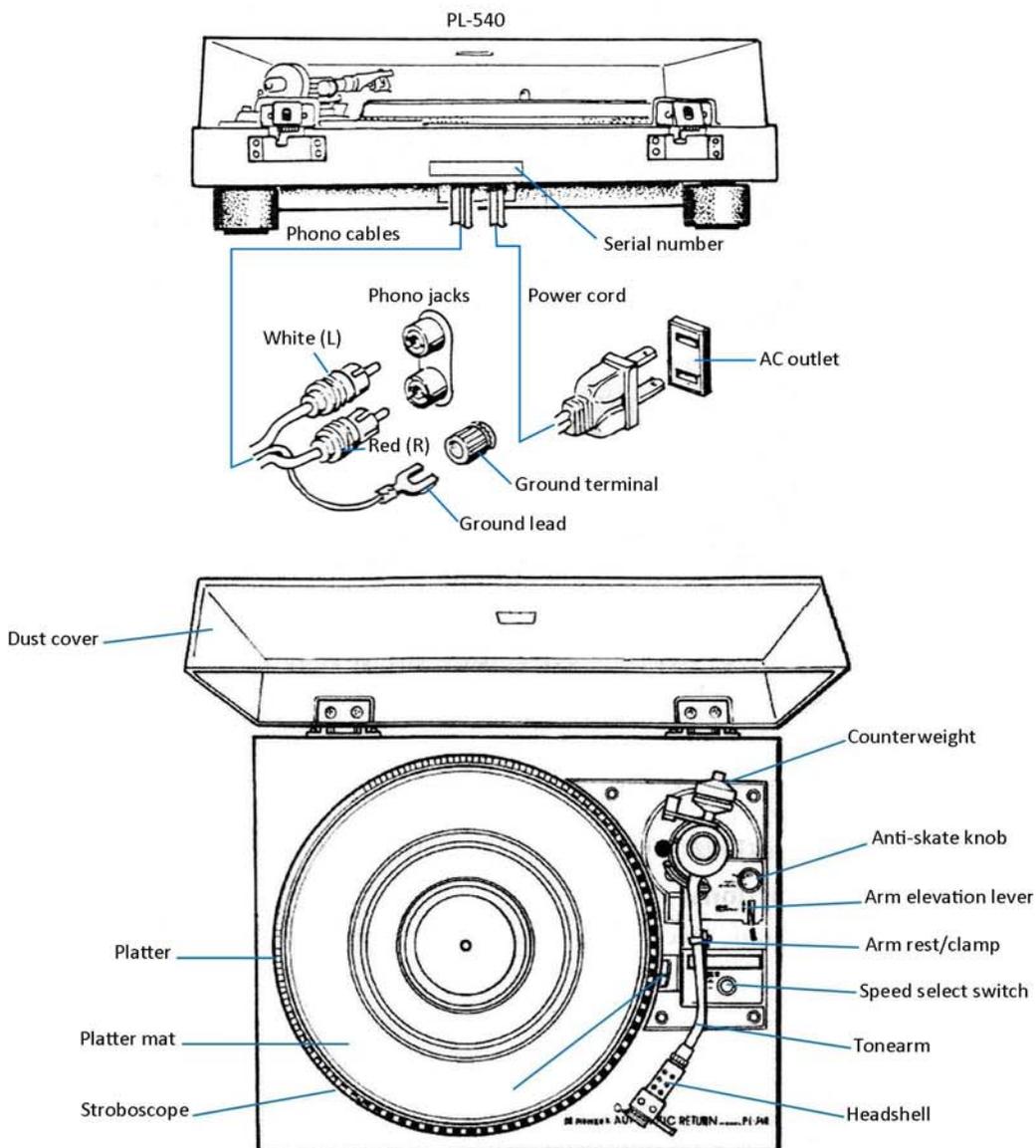


Fig. 5

PANEL FACILITIES AND OPERATION



CONNECTIONS

The PL-540's phono cables and ground lead are attached to the rear panel of the turntable. The phono cable with the white plug is for the left channel and the one with the red plug is for the right channel. 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.

The way in which the phono cables are attached will depend on the type of cartridge used. Read the instructions in the booklet that comes with the cartridge as well as the operating instructions of the amplifier, and connect the phono cables properly.

Finally, plug the power cord into the AC 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 centre 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 toward the centre shaft.

OPERATION

TONARM: This tonearm is designed to apply the correct tracking force to the cartridge and to keep this force at the precise level for faithful tracking of the record grooves. It also has the job of switching the power on.

- When the tonearm is moved from the armrest to the platter, the power comes on, the strobe lamp lights up, and the platter rotates.
- When the tonearm is returned to the armrest, the power to the turntable is cut off, the strobe light goes off, and the platter stops rotating.

PLATTER/STROBOSCOPE: When the tonearm is moved and power is supplied to the turntable, the platter will start rotating at the set rotation speed. When the turntable reaches its rated speed, the markings around the side of the platter which constitute the stroboscope and which are illuminated by the strobe light appear to stand still, indicating that the rated speed has been reached.

PLATTER MAT: This platter mat stabilizes the records and also absorbs external vibration.

STROBE LIGHT: This light comes on when the tonearm moves away from the armrest towards the platter. It irradiates the stroboscope around the outside of the platter.

DUST COVER: Keep this closed unless operating the controls or tonearm, or changing over records.

ARM-ELEVATION: When the arm-elevation lever is operated, this will move up or down. Its oil-damped mechanism and spring ensure that the tonearm is raised and lowered smoothly.

ANTI-SKATE KNOB: This knob is used to cancel out the harmful skating force which is generated during record play. For further details, see "ANTI-SKATING ADJUSTMENT."

ARM-ELEVATION LEVER: When this lever is set to the UP position ▲ the tonearm will rise. Set it to UP before record play and when you want to stop record play while a track is being played or when you want to change over to a different track. When the lever is set to the DOWN position ▼ the tonearm will be lowered. If it is set to DOWN for record play the tonearm will be lowered onto the surface of the record, and play will begin.



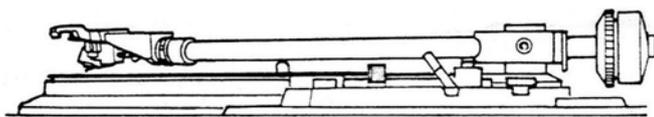
ARM REST: The arm rest supports the tonearm. As illustrated in the figure, use the clamp to keep the tonearm in place when you are not playing records.

SPEED SELECT SWITCH: When depressed the platter will rotate at 45 rpm to play singles or EP's. When released the platter will rotate at 33-1/3 rpm to play LP's.

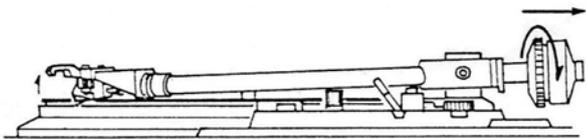
ADJUSTING THE TONEARM

LEVEL BALANCE ADJUSTMENT

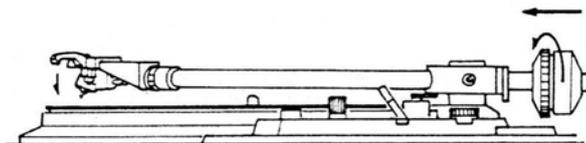
1. Set the ANTI-SKATE knob to "0".
2. Remove the cartridge stylus cover.
3. Set the ARM-ELEVATION lever to the DOWN ▼ position.
4. Release the arm clamp and move the tonearm to the space between the arm rest and the platter, taking care not to damage the stylus.
5. Support the headshell's finger lift 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. 7).



Tonearm properly balanced



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



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

Fig. 7

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. 8).

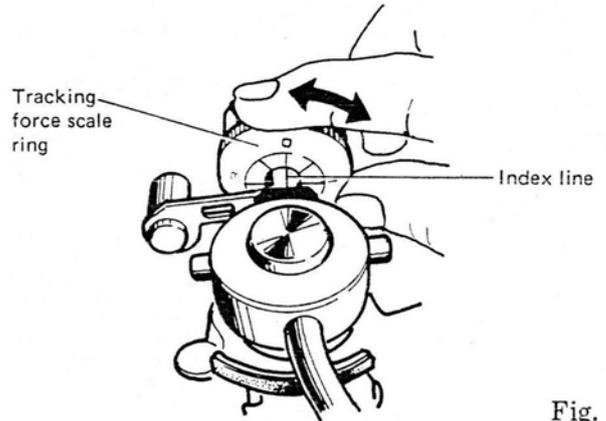


Fig. 8

TRACKING FORCE ADJUSTMENT

Turning the counterweight, set the correct tracking force opposite the index line on the counterweight shaft (Fig. 9).

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

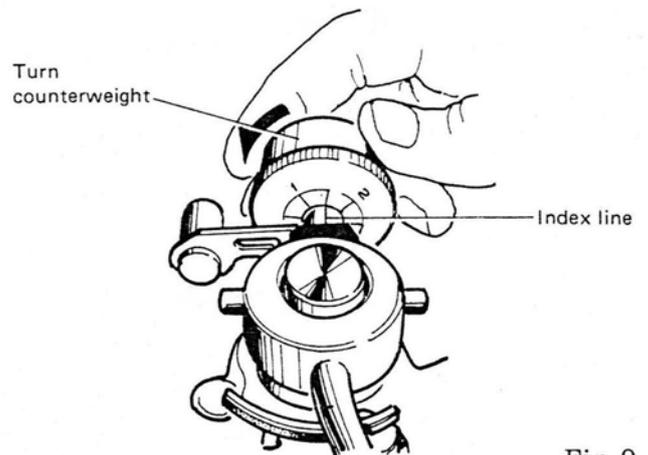


Fig. 9

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 (Fig. 10).

The numbers on the ANTI-SKATE knob correspond to 1g of tracking force.

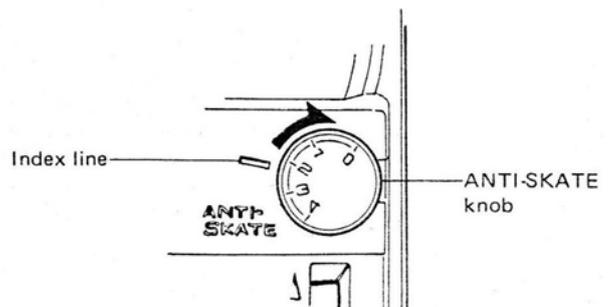


Fig. 10

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. Remove the stylus cover and release the arm clamp.
4. Set the ARM-ELEVATION lever to the UP position.
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. Set the ARM-ELEVATION lever to the down position. The stylus will descend slowly to the record and play will begin.
7. Adjust the volume and tone controls on the amplifier to the preferred levels, and then sit back and enjoy your record.
8. 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.
9. Secure the tonearm to the arm rest with the clamp and attach the stylus cover to protect the stylus.

OPERATING PRECAUTIONS

- 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.
- 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 centre shaft or away from the armrest. If this distance is exceeded, you may damage the internal mechanisms and render automatic operation ineffective.

INSTALLATION PRECAUTIONS

When installing your PL-540, make sure that you avoid the following conditions:

Conditions to be avoided	Possible problems caused
(1) Exposure to direct sunlight, high temperatures or high humidity.	(1) Can cause rust or interfere with insulation.
(2) Unstable surfaces	(2) Will interfere with normal operation of turntable (stylus will jump etc).
(3) Dirty or dusty locations.	(3) Can cause scratches.
(4) Exposure to heavy vibrations, such as the top of speakers, etc.	(4) Can cause howl.
(5) Proximity to power transformer of amplifier	(5) Can cause hum.
(6) Locations where alcohol, insecticides, or flammable substances are used.	(6) Can corrode dust cover or outside of cabinet.

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	Power cord is unplugged	Plug cord securely into wall outlet
No sound	<ol style="list-style-type: none"> 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 not set correctly). 	<ol style="list-style-type: none"> 1. Connect cables securely to the PHONO jack on the amplifier (see page 3). 2. Firmly secure tonearm locking collar 3. Attach lead wires inside headshell properly 4. Read the operating instructions that come with the amplifier.
Musical tempo is off	<ol style="list-style-type: none"> 1. Platter speed is not set properly. 	<ol style="list-style-type: none"> 2. Check position of speed select button.
Excessive noise.	<ol style="list-style-type: none"> 1. Ground lead is not connected 2. Tracking force is not correct. 3. Dust/dirt collected on stylus tip 4. Dust/dirt collected on record 	<ol style="list-style-type: none"> 1. Connect properly to amplifier ground term. 2. Refer to Tracking Force Adjustment. 3. Clean stylus tip with soft brush 4. Clean record with quality cleaner
Sound is distorted	<ol style="list-style-type: none"> 1. Dust/dirt collected on stylus tip 2. Tracking force is not correct 3. Stylus is worn 4. Amplifier tone controls set too high 	<ol style="list-style-type: none"> 1. Clean stylus tip with soft brush 2. Refer to Tracking Force Adjustment 3. Replace with new stylus 4. Set tone controls to lower position
Intermittent sound	<ol style="list-style-type: none"> 1. Tracking force is not correct 2. Stylus is worn 3. Record is scratched or warped 	<ol style="list-style-type: none"> 1. Refer to Tracking Force Adjustment 2. Replace with new stylus 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 near the turntable.

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