

Quartz PLL DIRECT DRIVE 2-motor

FULL AUTOMATIC TURNTABLE

PL-570

OPERATING INSTRUCTIONS

KUT
KCT



Walnut grained vinyl cabinet

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

 PIONEER®

Thank you for your purchase of the Pioneer PL-570 quartz PLL fully-automatic turntable.

The PL-570 is a fully-automatic turntable equipped with a direct-drive motor whose speed is controlled with a high degree of precision by a quartz oscillator and PLL circuit.

Please read this Instruction Manual carefully clear through to the end, so that you fully understand it before using your turntable.

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INSTALLATION PRECAUTIONS

When installing your PL-570, please avoid the following conditions:

Conditions to be Avoided	Possible Problems Caused
<ul style="list-style-type: none"> ● Exposure to direct sunlight, high temperature or high humidity. ● Unstable surfaces. ● Damp or dusty location. ● Where there are heavy vibrations, such as on top of speakers. ● Proximity to power transformer of the amplifier. ● Location where alcohol, insecticides, or inflammable substances are frequently used. 	<ul style="list-style-type: none"> ● Can cause rust or interfere with insulation. ● Will interfere with normal operation of turntable (jumping of stylus). ● Can cause scratches or noise. ● Can cause howling. ● Can cause hum, noise. ● May cause corrosion of the front panel.

PL-570 FEATURES

Quartz PLL High-Torque Motor

Platter speed is controlled by a phase-locked-loop (PLL), which compares the signal obtained from a frequency generator incorporated in the D.D. rotor with a reference frequency. The reference frequency is supplied by a high precision, exceedingly stable quartz oscillator which is immune to influences of voltage changes in commercial power lines and ambient temperature. The result is constant, accurate speed of revolution, with excellent response to changing load requirements and freedom from drift. A servo system operates to compensate for any tendency to deviate from rated speed, applying corrective torque to either increase or decrease motor speed as required. Not only is corrective response excellent, but you will also notice that time required to reach rated RPM when changing speeds is remarkably short.

2-Motor, Fully Automatic Turntable

Lead-in and return of the tonearm is accomplished by means of a precision, geared motor mechanism which imposes no additional load on the platter shaft, and, in fact, is entirely independent of the turntable drive system. Smooth and quick manual operation is also provided by interlinking the tonearm and the turntable power switch.

Optical Tonearm Return System

Return sensing is done optically, using a light emitting diode (LED) and a photo transistor; no mechanical contact whatsoever occurs. As the tonearm reaches the end of the record, a slit incorporated in the tonearm structure opens a light path between the LED and the photo transistor. The current passed by the photo transistor when it receives this light triggers the return mechanism. As operation is purely optical/electrical, no mechanical loads are placed on the tonearm.

Variable-Speed PLL Control

Just as in quartz-locked operation, PLL control is applied when pitch is varied for playing a particular record or when playing a musical instrument along with a record. In this case, the reference signal for the PLL is provided by a highly stable, built-in CR oscillator.

Highly Sensitive S-Shaped Tonearm

The tonearm is the newly developed long-type, with an effective length of 237mm. Highly sensitive angular contact bearings are used in both horizontal and vertical bearings of the pivot for excellent tracking with high compliance cartridges with low tracking force. Sure to increase the popularity of this tonearm is the height adjustment feature, which permits accurate setting of the vertical angle when changing cartridges.

Single-Row, Square Wave Stroboscope System

The reference signal for the stroboscope system is supplied by a quartz oscillator, which is unaffected by frequency changes in the commercial power source. A frequency divider reduces the frequency of this signal according to the setting of the turntable speed selector. Because different flashing frequencies are provided for the two speeds, 45 and 33-1/3 RPM, only one row of markings is required on the platter rim.

The waveform of the input signal to the strobe lamp is squared-off, rather than gradually rising and falling as with a sine wave. This produces very crisp pulses of light, which make the markings on the rotating platter stand out clearly.

Large Scale IC Circuit for High Reliability

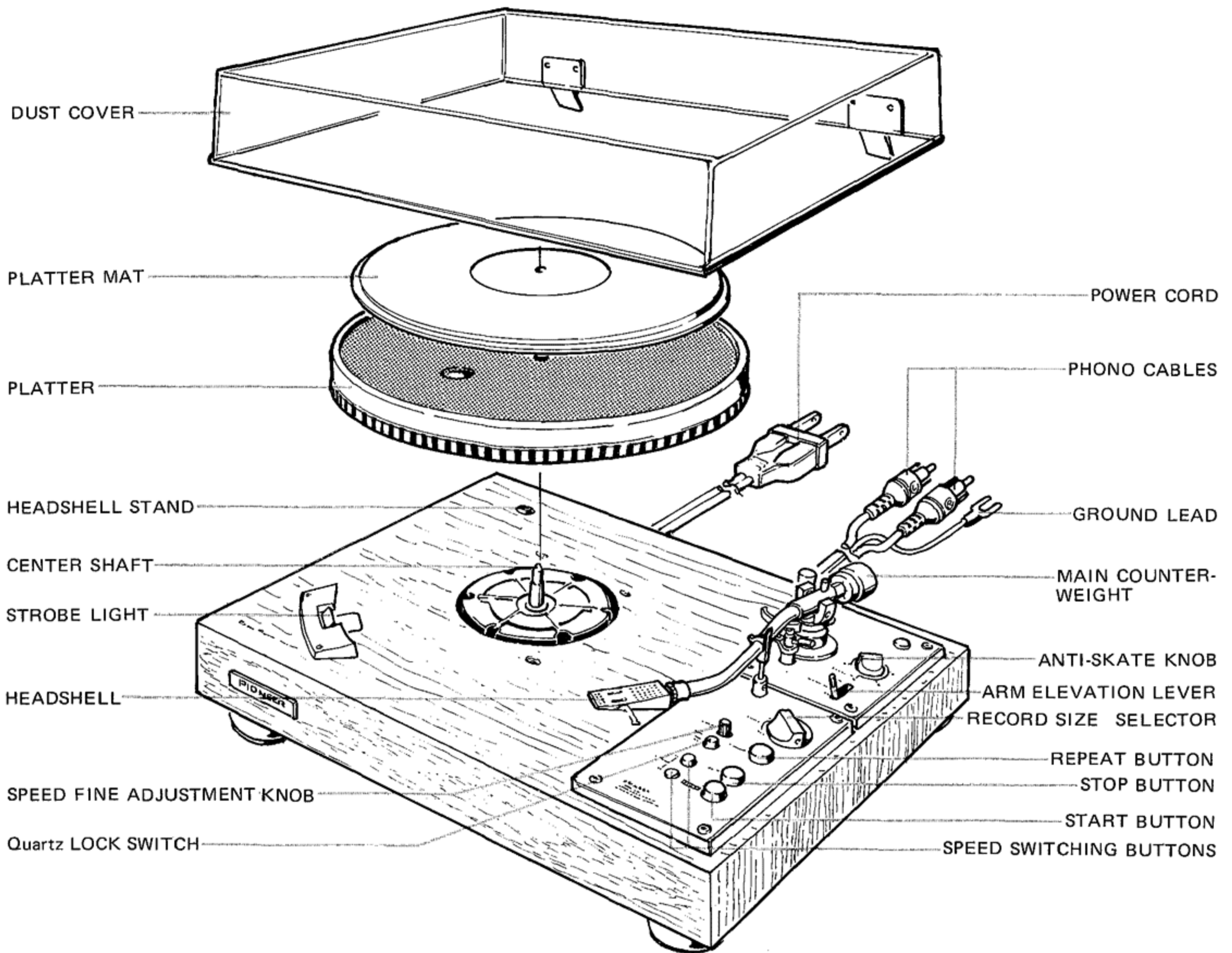
Four IC's are used in the quartz PLL and return sensing circuits. The construction of these IC's reflects Pioneer's long experience in electronic circuit design, and should provide considerably better reliability and longer life than IC's previously available.

Painstakingly Designed Cabinet

To do justice to the quality of electrical and mechanical components which make up the PL-570, special care went into the design of the cabinet. The cabinet is constructed of an extremely dense particle board with suitable internal damping qualities.

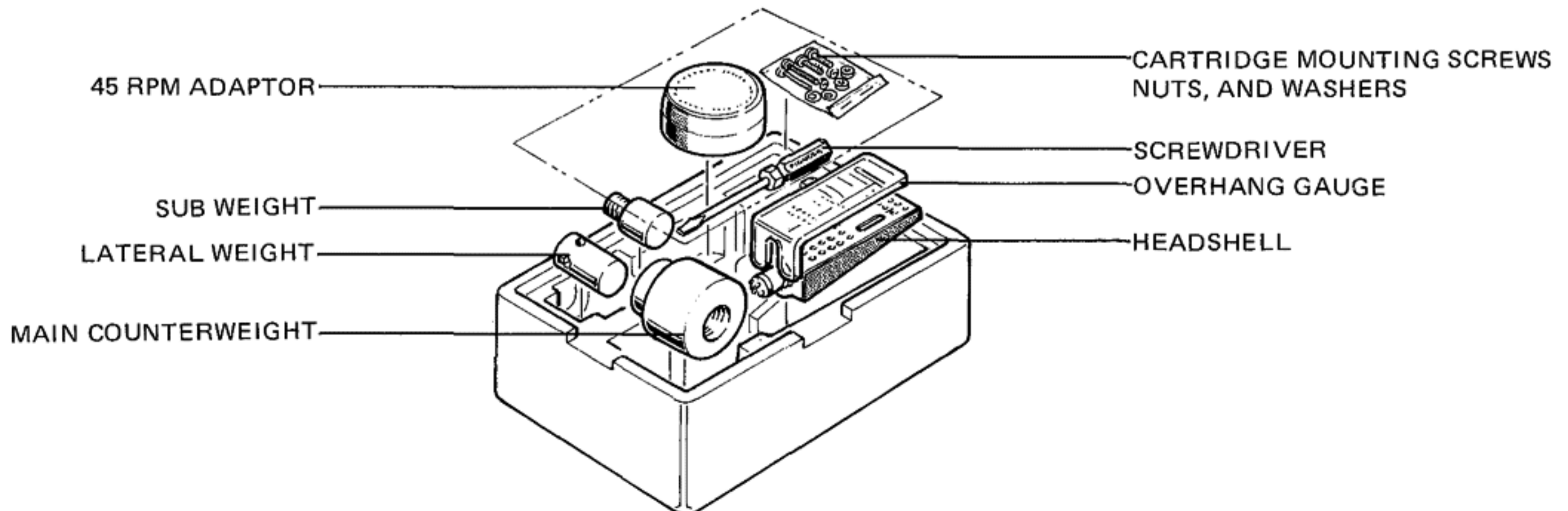
The drive system and tonearm are mounted on an extremely rigid aluminum die-casting. This combination of materials, and the structural design, provide excellent resistance to howling and resonant vibrations, resulting in a very high signal-to-noise ratio and superior fidelity of reproduction.

PARTS IDENTIFICATION



ACCESSORY NAMES

The following parts are included in the accessory box:



ASSEMBLY PROCEDURE

1. REMOVAL OF TONEARM PACKING

Protective packing is placed at the base of the tonearm to protect it from damage during shipment. Remove the packing (black, plastic) by pulling away from the tonearm base in the direction of the arrow (Fig. 1).

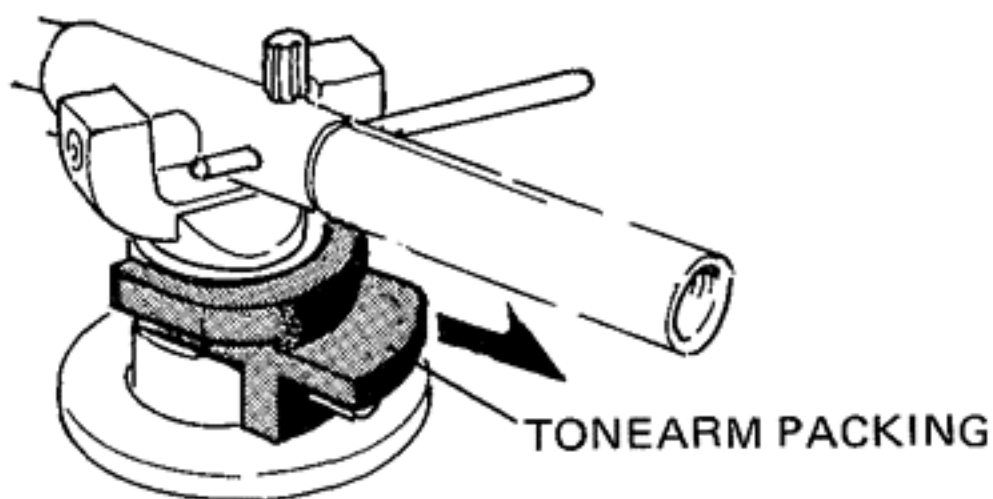


Fig. 1

2. ATTACHMENT OF PLATTER

Set the platter down over the center shaft. Since the platter is rather heavy, be careful not to apply excessive force to the center shaft. Next, lay the platter mat on the platter (Fig. 2).

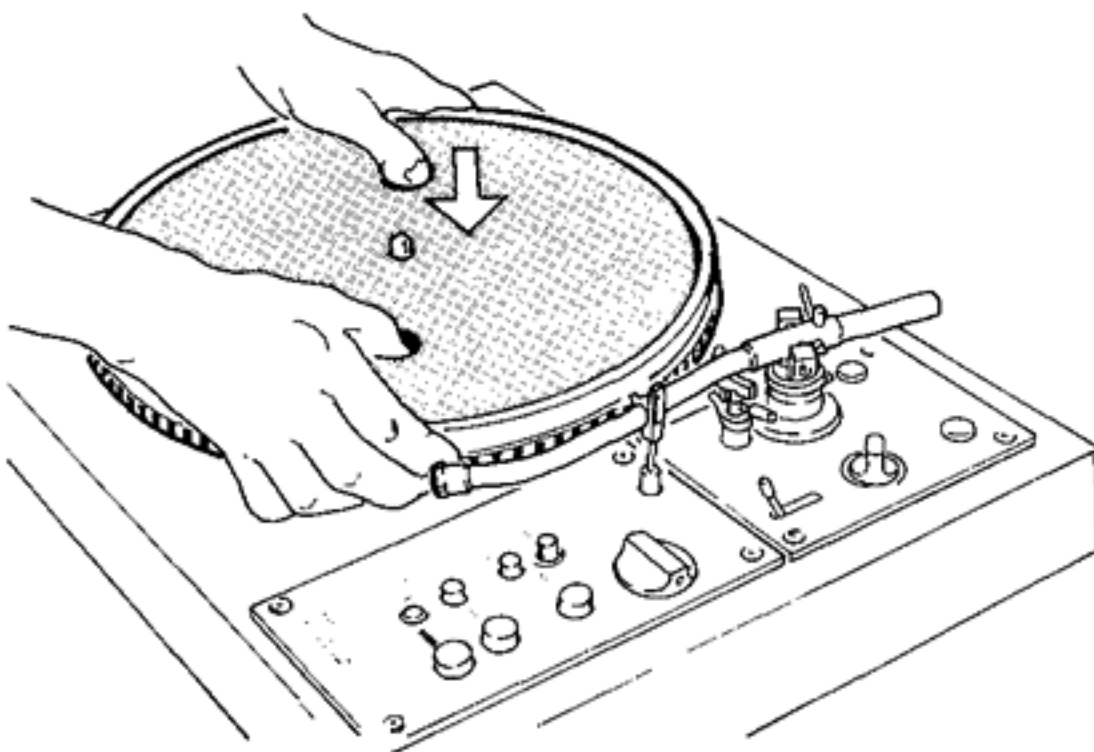


Fig. 2

3. ATTACHING LATERAL WEIGHT

Using the accessory screwdriver, attach the lateral weight to the lateral bar. Tighten the lateral weight to the lateral bar, 18–23mm from the tonearm (Fig. 3). Even when a new cartridge is mounted, it is not necessary to re-adjust the lateral weight.

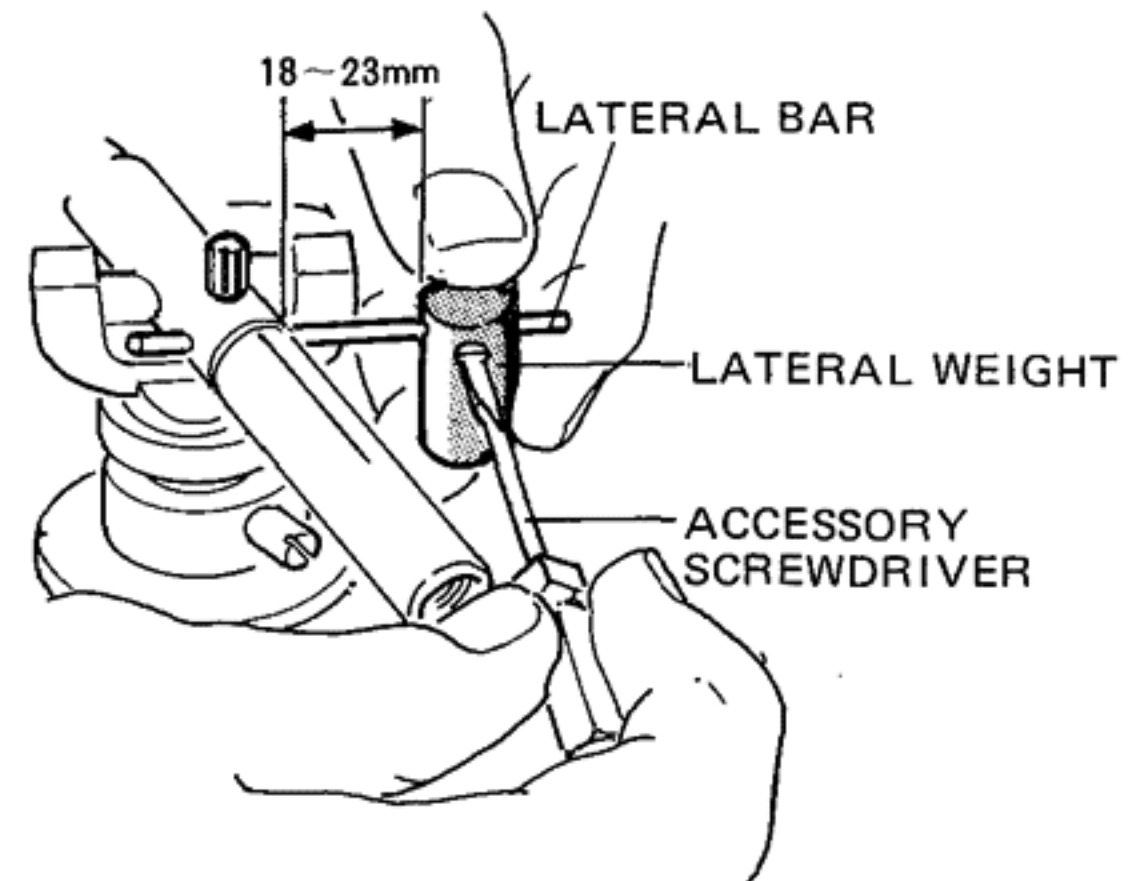


Fig. 3

4. ATTACHING THE MAIN COUNTERWEIGHT

Slide the main counterweight onto the counterweight shaft on the rear of the tonearm, and attach it by turning it one or two turns in the direction of the arrow in Fig. 4.

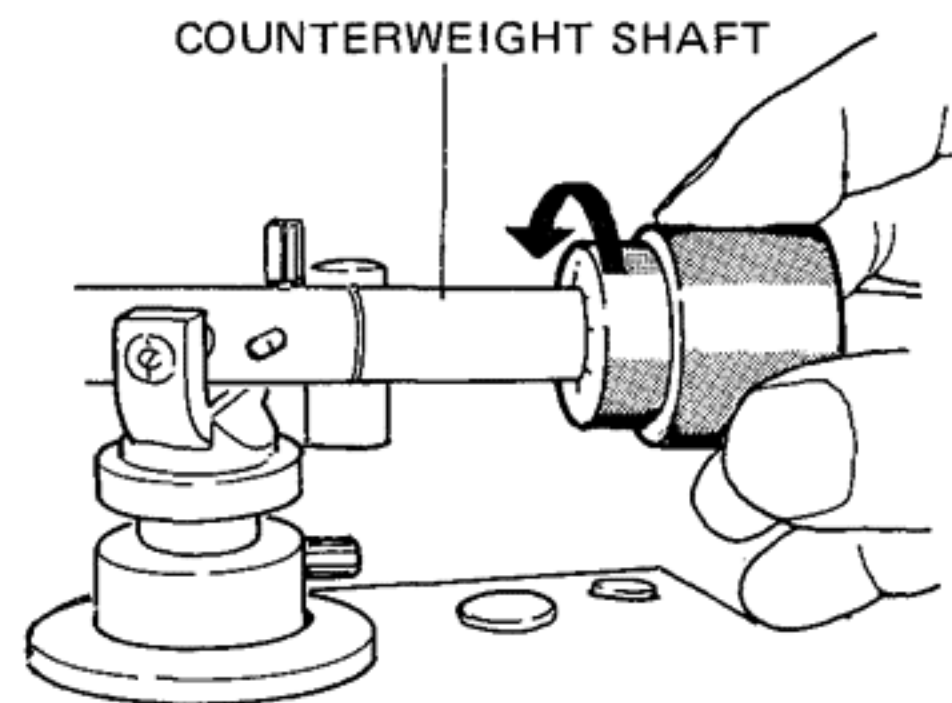


Fig. 4

ATTACHING THE CARTRIDGE

This turntable comes without cartridge, enabling the user to mount a cartridge of his choice. There are different types of cartridges available today, including moving magnet (MM), moving coil (MC) and induced magnet (IM) types. These types of cartridges can be used with the PL-570, but the cartridge selected should be between 4 and 13.5 grams weight.

Since the tonearm of the PL-570 is a universal type, your optional cartridge with standard type headshell can be attached without difficulty.

When the cartridge is to be used in the headshell supplied with this turntable, install the cartridge very carefully as follows:

1. Take the headshell, cartridge mounting screws, nuts, washers, and overhang gauge out from the accessory box (Refer to page 4).
2. Being careful not to confuse the polarities attach the lead wire to the cartridge (Fig. 5). The polarities are as follows;
 - white : L (left channel signal)
 - blue : LG (left channel ground)
 - red : R (right channel signal)
 - green : RG (right channel ground)
3. Attach the cartridge lightly to the headshell, using the screws, nuts, washers, etc.
4. Adjust the overhang using the accessory overhang gauge. To do this, hold the headshell against the overhang gauge as shown in Fig. 6, align the indicator line on the overhang gauge with the stylus position, and tighten it firmly in place with the mounting screws, being careful that it does not tilt to one side (Fig. 7).
5. Place the headshell on the end of the tonearm. Turn the locking collar to tighten it in place (Fig. 8).

USE OF SUB WEIGHT

When a heavy cartridge (over 9 grams) is used, attach the accessory sub weight to the rear end of the counterweight shaft (Fig. 9).

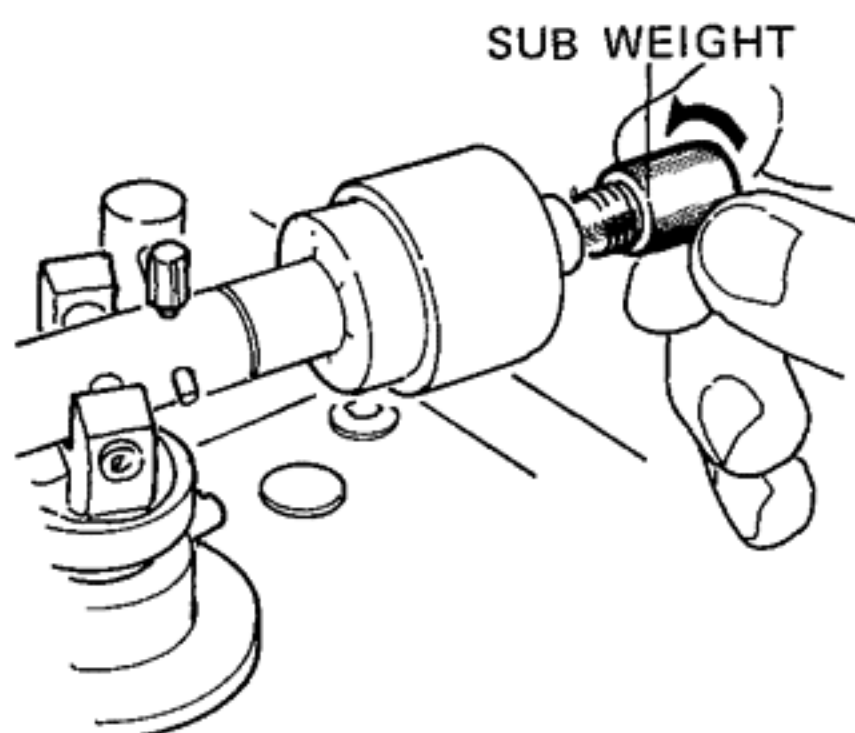


Fig. 9

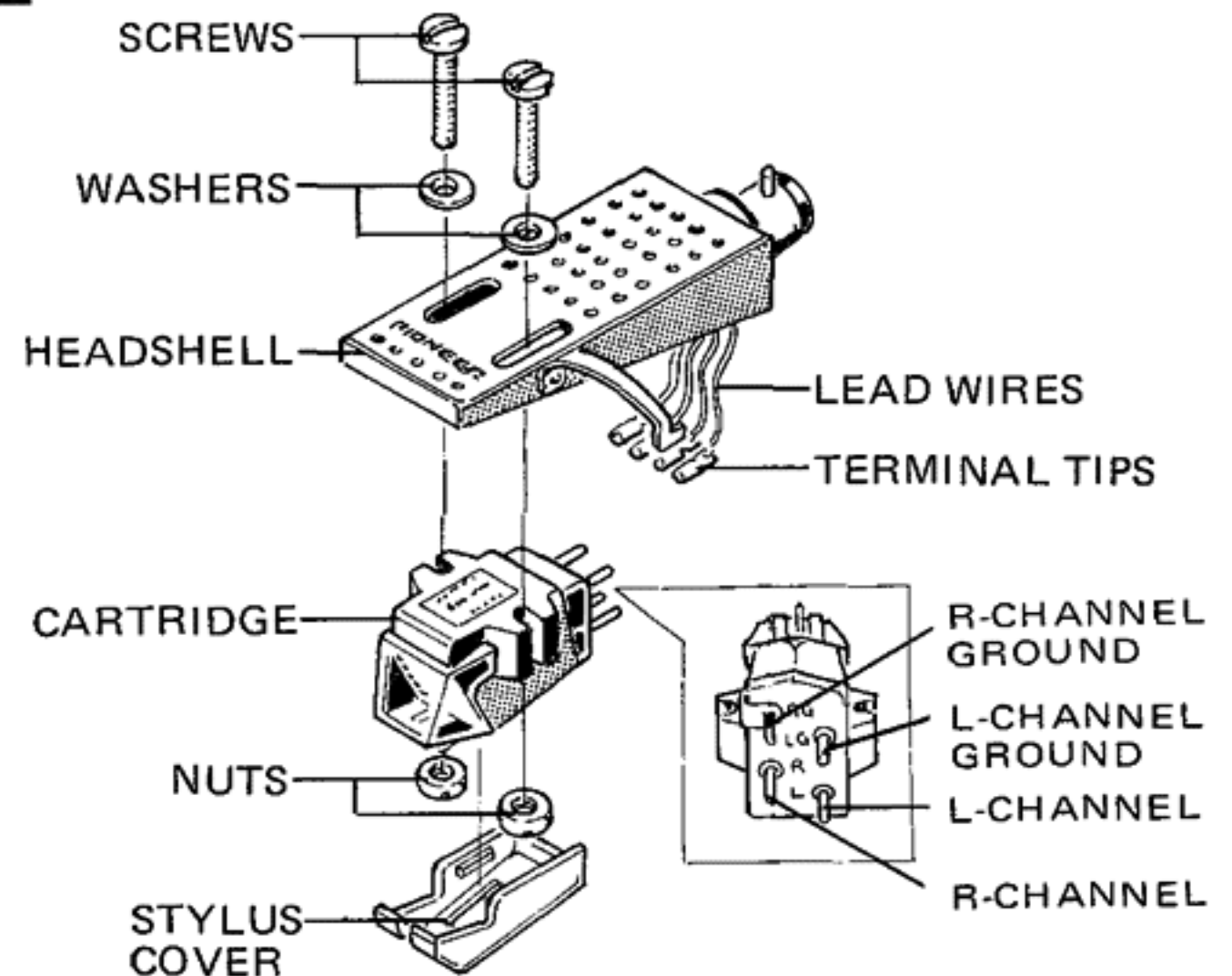


Fig. 5

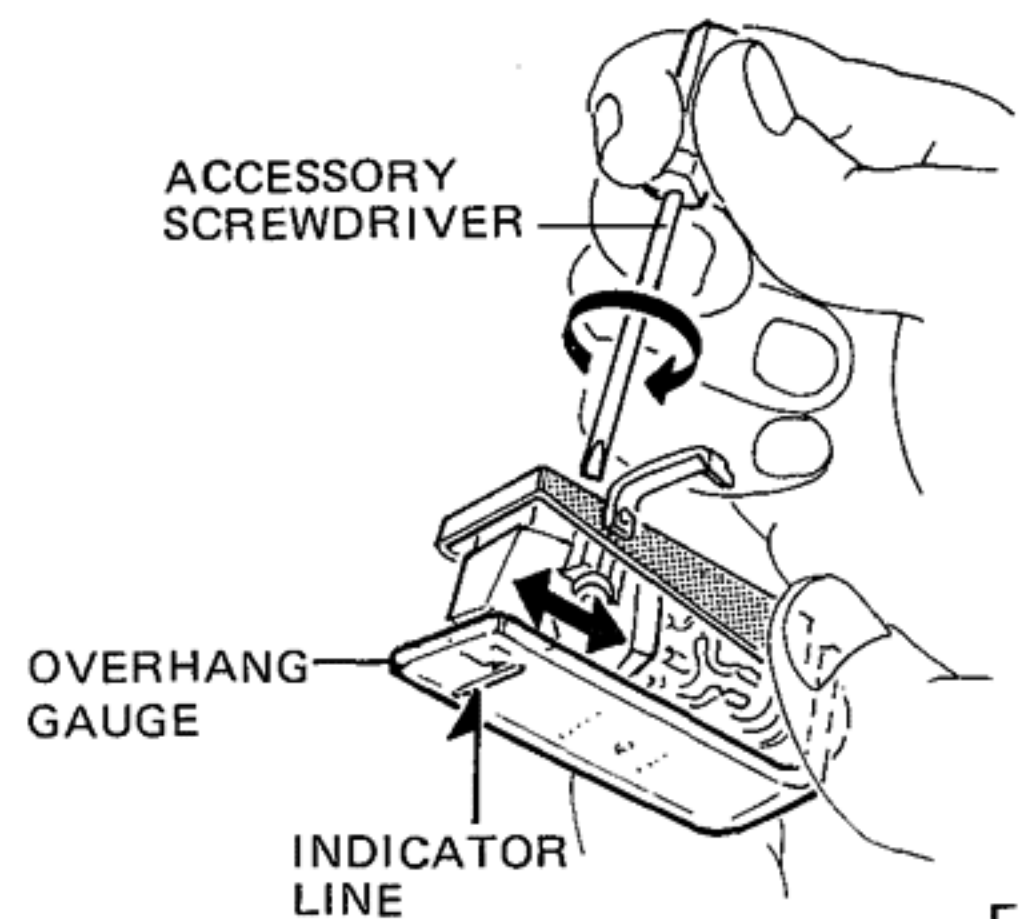


Fig. 6

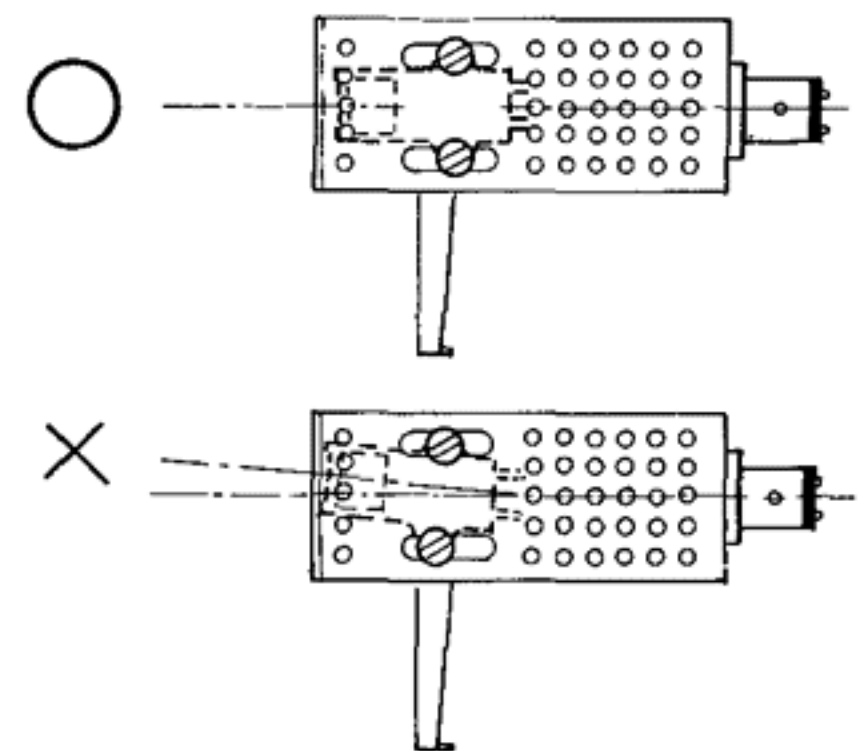


Fig. 7

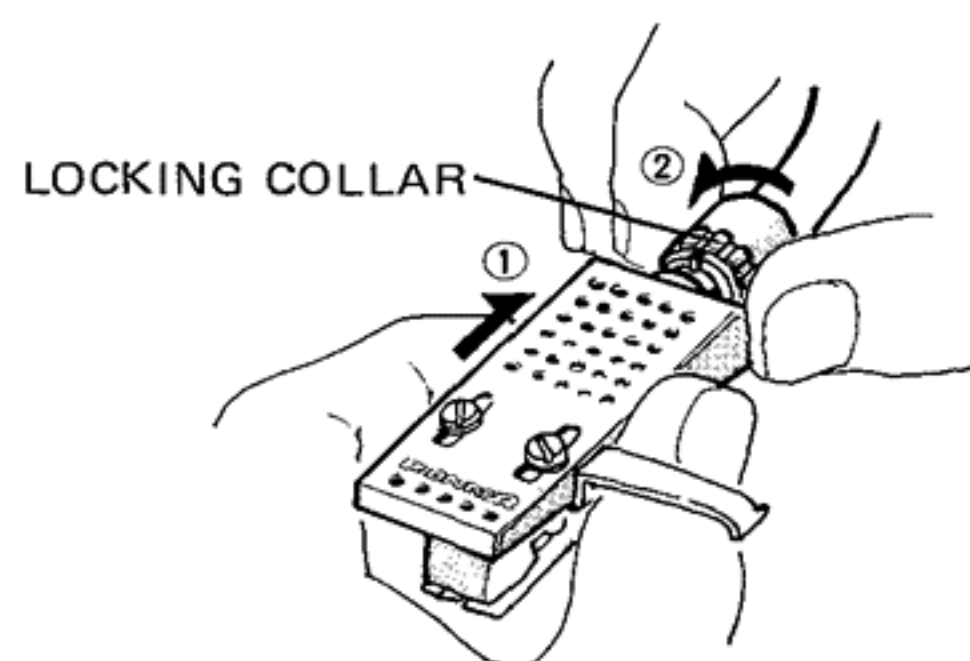


Fig. 8

ADJUSTING THE TONEARM

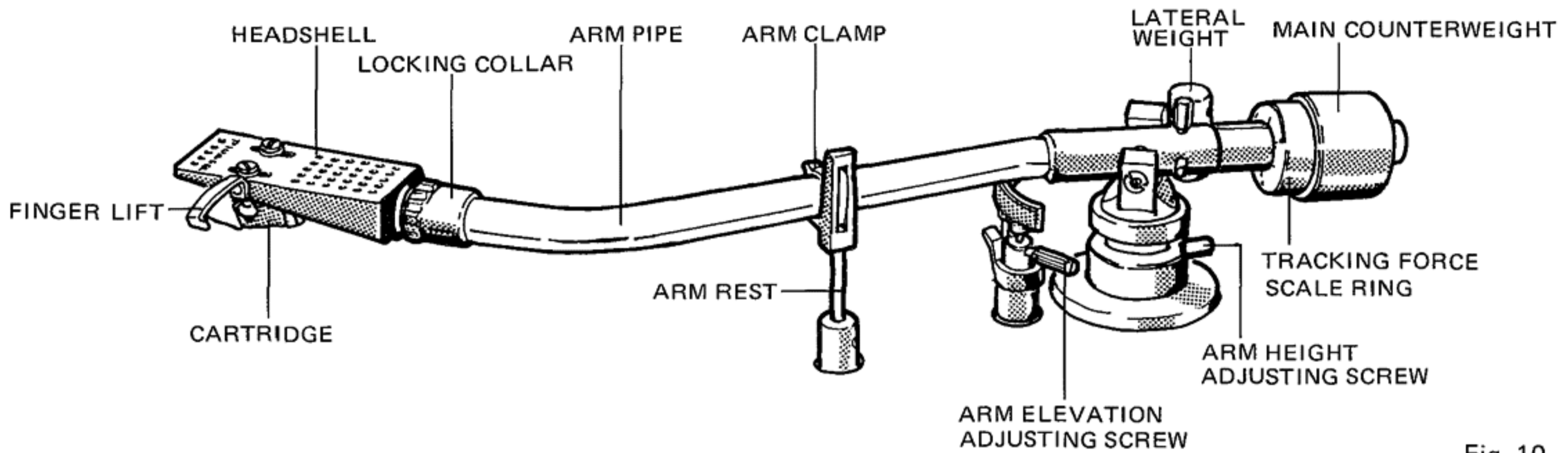


Fig. 10

After mounting, adjust the tonearm according to the instructions which follow. The power cord should be unplugged from the AC outlet during adjustment.

LEVEL BALANCE ADJUSTMENT

1. Set the anti-skating knob (ANTI-SKATE) to "0" (Fig. 12).
2. Remove the cartridge stylus cover.
3. Set the arm lift lever (ARM ELEVATION) to the DOWN position.
4. Release the arm clamp, and move the tonearm to the space between the arm rest and the platter, being careful not to damage the stylus.
5. Turning the counterweight, adjust the tonearm balance, so that the tonearm is perfectly level, leaning neither towards the headshell end nor towards the counterweight end (Fig. 11-A). Fig. 11-B and Fig. 11-C show the tonearm when it is not properly balanced.
6. Return the tonearm to the arm rest, fasten the arm clamp, and attach the stylus cover.
7. 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. 12).

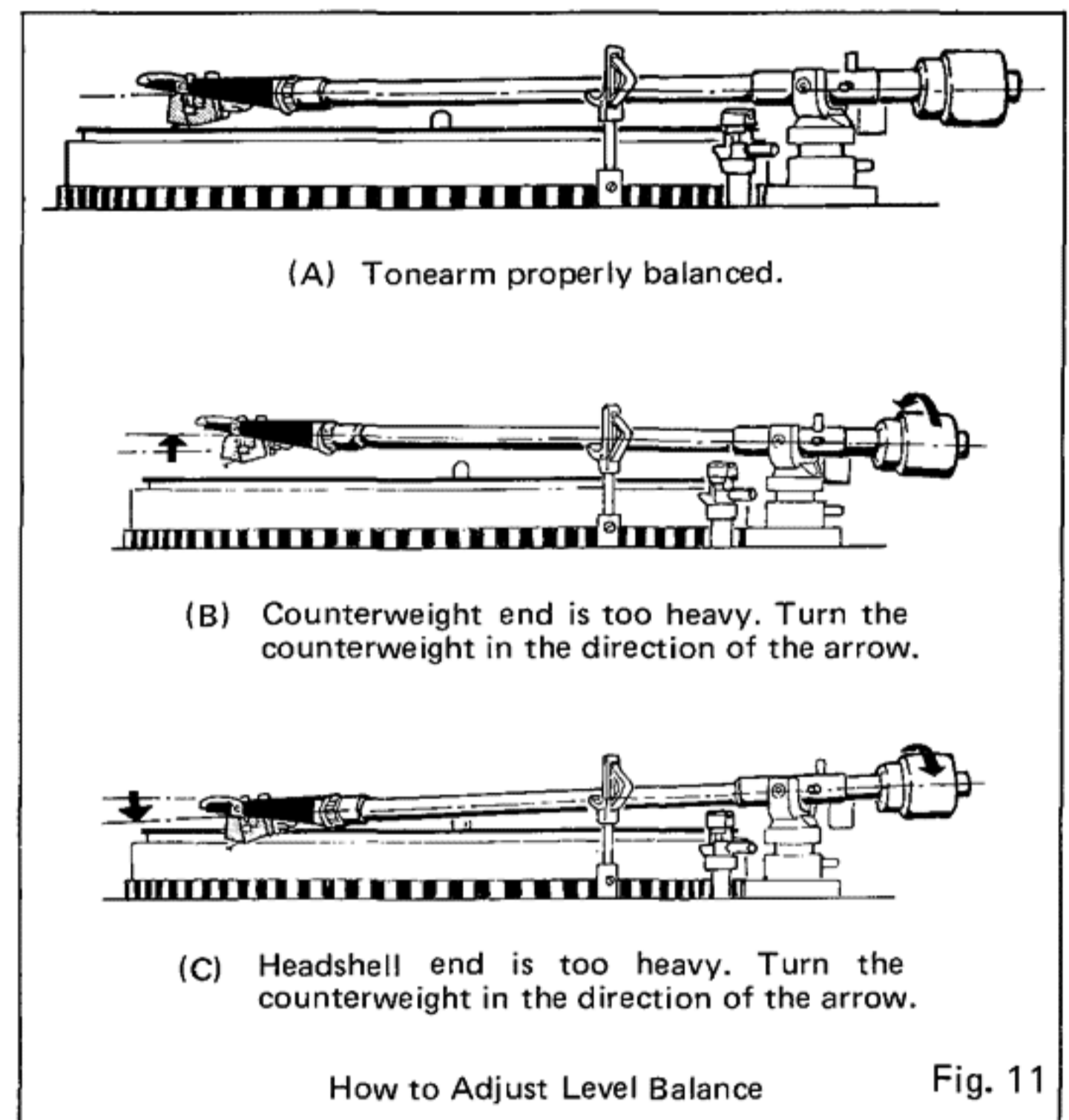
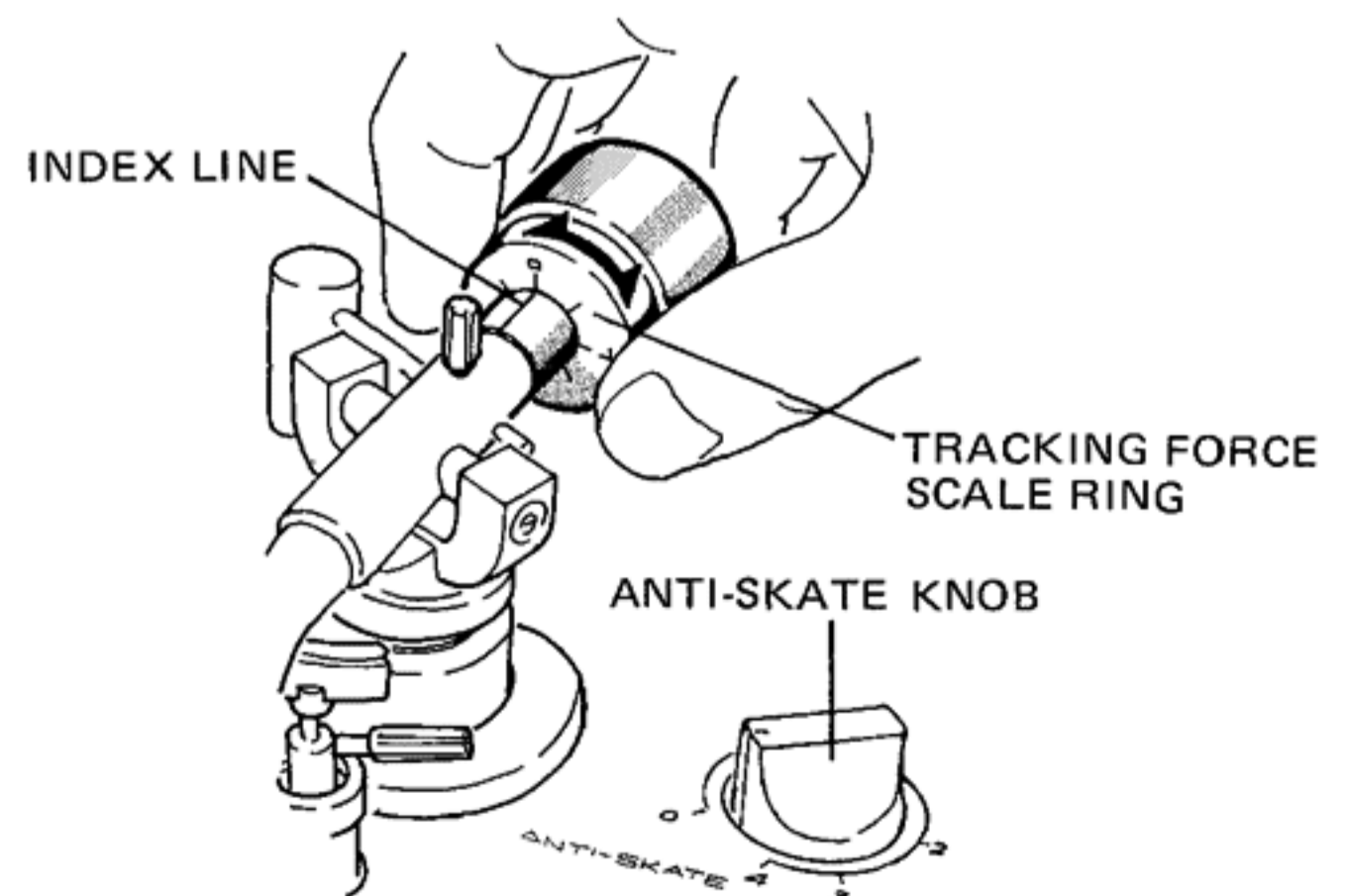


Fig. 11

NOTE:

If a heavy cartridge is mounted (over 9gr.), the accessory sub weight must be used to achieve horizontal balance. The sub weight is placed in the end of the tonearm pipe and the tonearm then balanced in the usual manner (See Fig. 9).



Turn the tracking force scale ring.

Fig. 12

ADJUSTING TRACKING FORCE

Turning the counterweight, set the correct tracking force opposite the index line on the counterweight shaft (Fig. 13). The tracking force scale ring has 0.5 gram steps, and one full turn of the counterweight will yield a tracking force of 4 grams.

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 point (Fig. 14).

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

TONEARM HEIGHT ADJUSTMENT

1. Place a record on the turntable platter.
2. Place the ARM ELEVATION lever in the DOWN position so that the stylus descends to the record surface.
3. Loosen the adjustment screw at the tonearm support shaft (Fig. 15), and move the tonearm up or down until the tubular portion of the tonearm is parallel with the record surface (Refer to Fig. 11 on page 7.). There is a danger of the tonearm suddenly dropping when the adjustment screw is loosened, causing the stylus tip to strike and perhaps damage the record. For this reason, be sure to support the tonearm with one hand while loosening the screw.

NOTE:

There is a line inscribed on the tube of the tonearm support shaft to mark the standard height setting for the Pioneer cartridge (see Fig. 16). If a Pioneer cartridge is being mounted, align this mark with top of the outer tube.

TONEARM REST ADJUSTMENT

Move the tonearm to the arm rest (with the ARM ELEVATION lever in the DOWN position) and adjust the height of the arm rest to match that of the tonearm tube by loosening the set screw at the side of the arm rest base and moving the arm rest up or down. Retighten the set screw when adjustment is completed (Fig. 17).

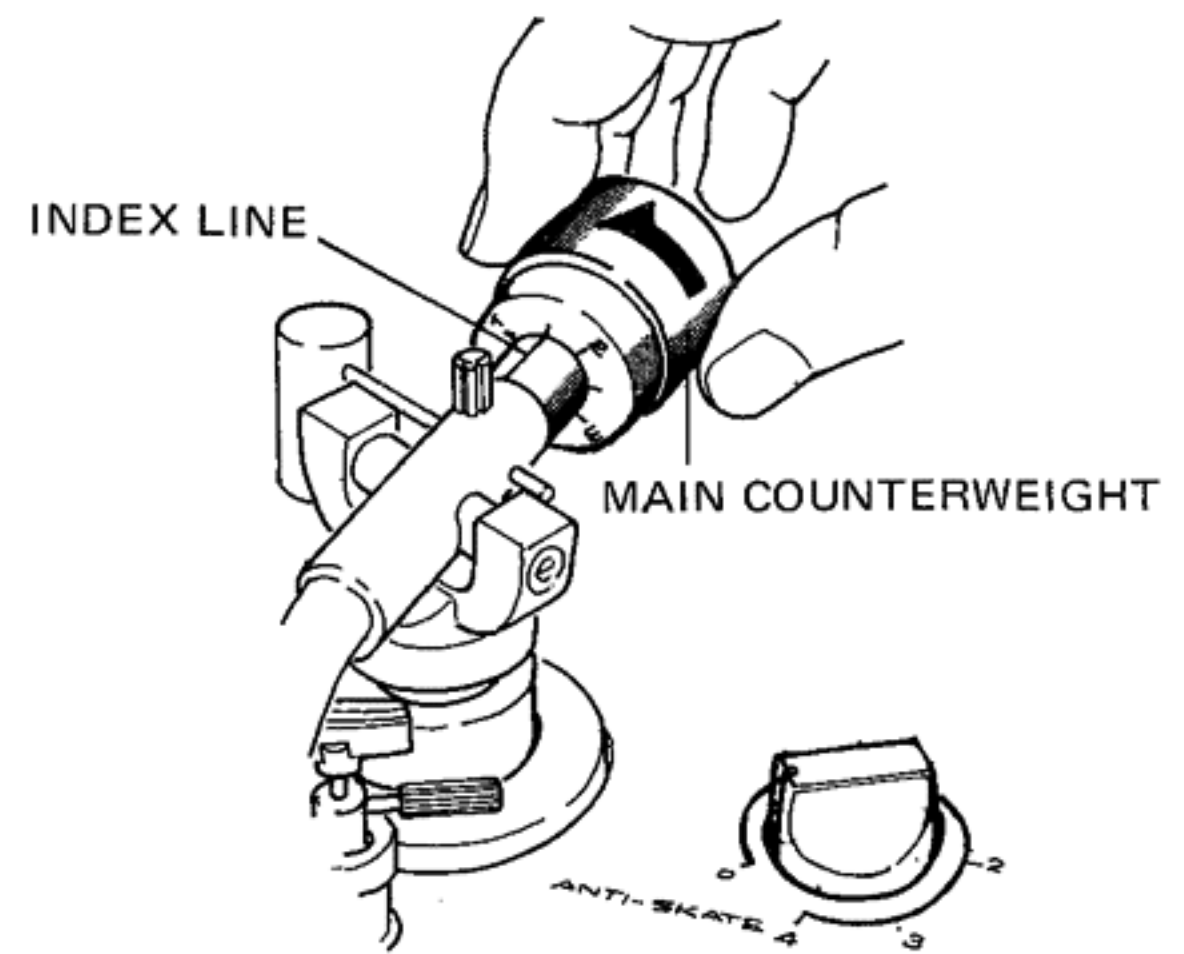


Fig. 13

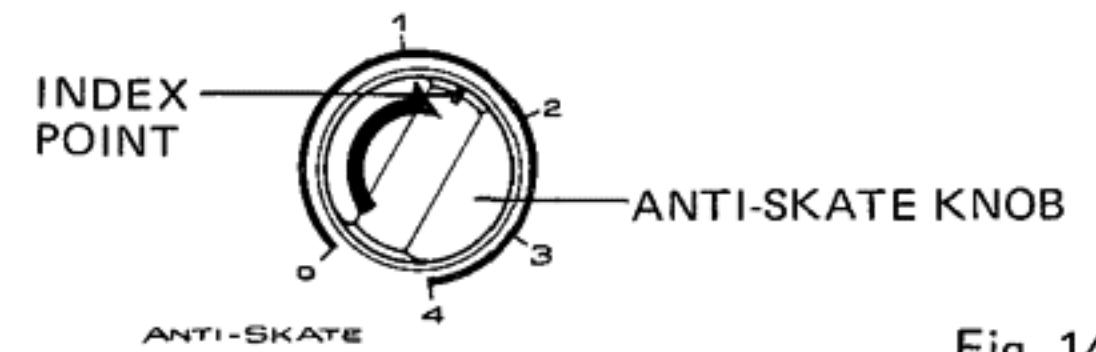


Fig. 14

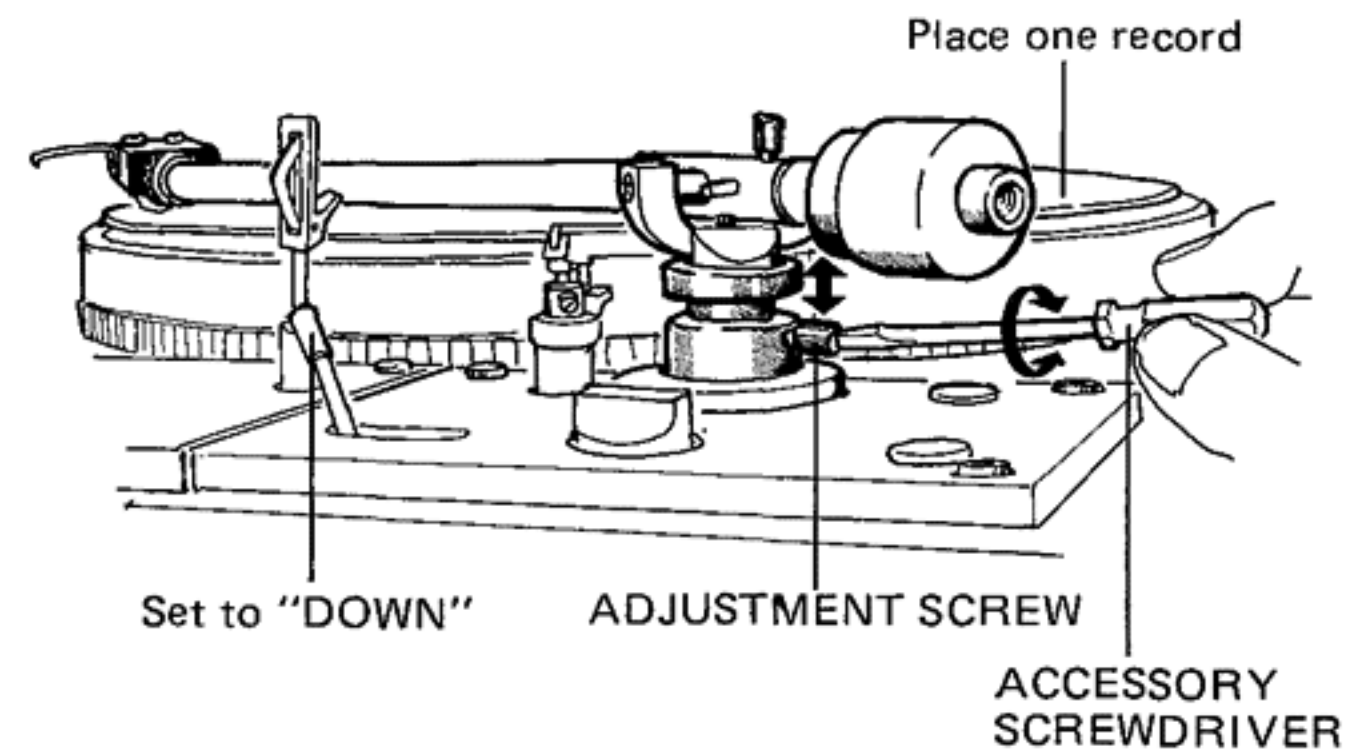


Fig. 15

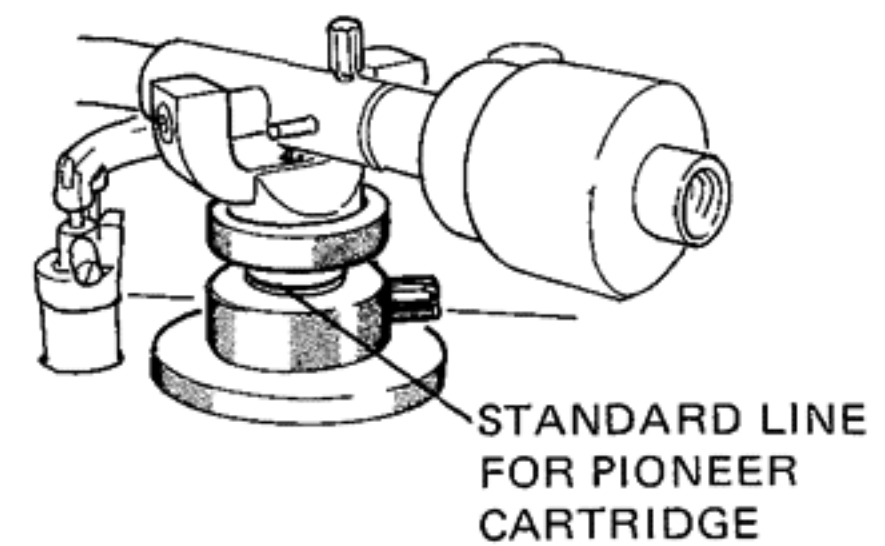


Fig. 16

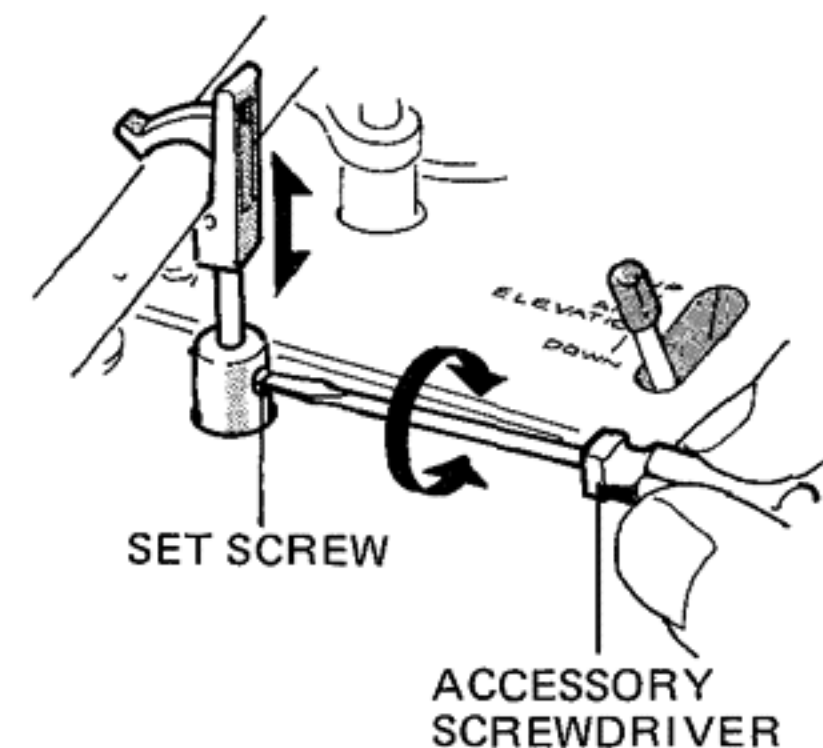


Fig. 17

ELEVATION HEIGHT ADJUSTMENT

Place the ARM ELEVATION lever in the UP position and after loosening the set screw at the base of the arm lifter, adjust the height of the lifter so that the stylus is held 8mm above the record surface. When adjustment is completed retighten the set screw (Fig. 18).

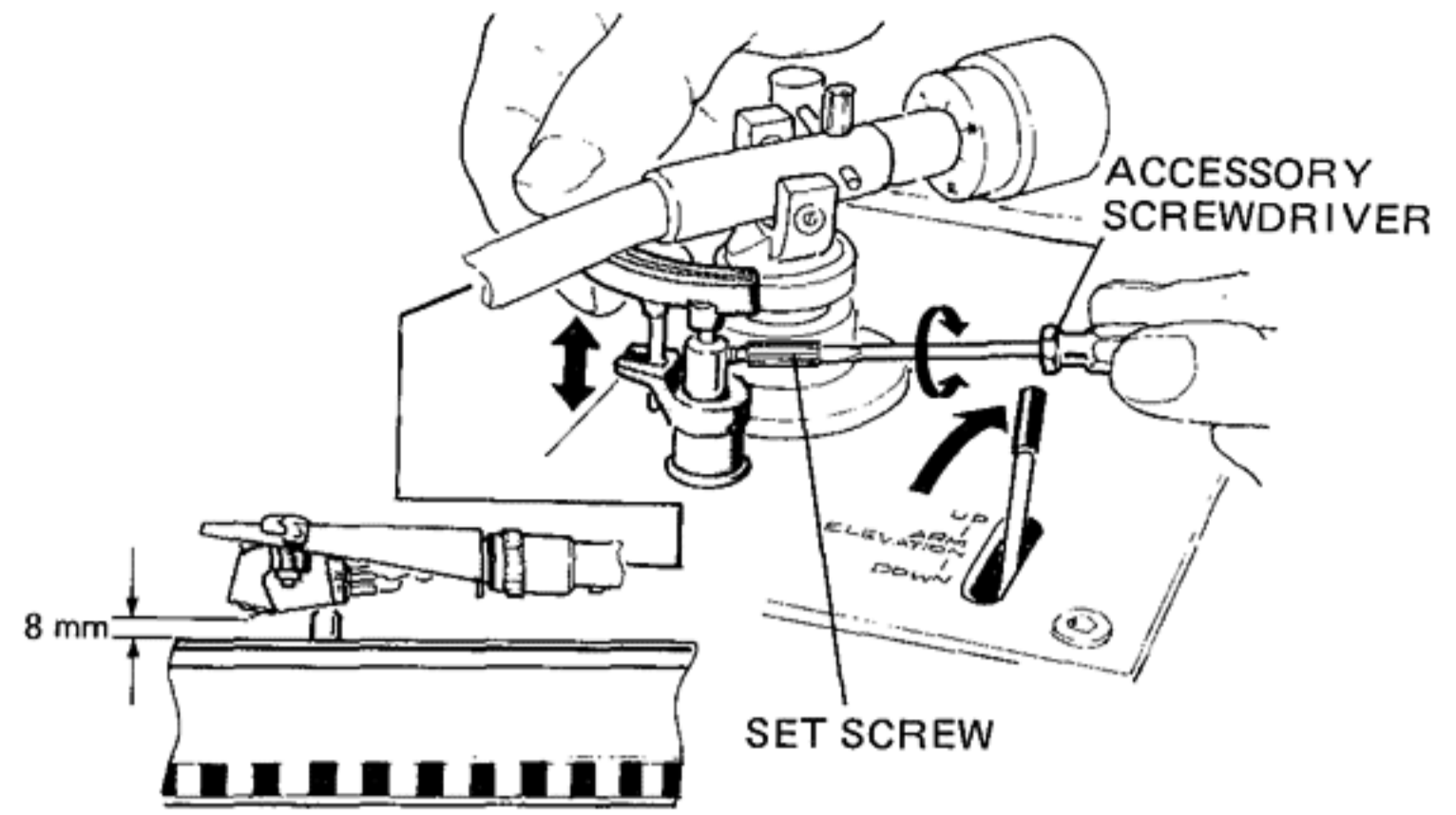


Fig. 18

DUST COVER

Attach the dust cover by inserting the hinges into the fittings on the rear panel of the cabinet. When attaching the dust cover, hold the lower part of the dust cover from behind the turntable as shown in Fig. 19, and it will slide smoothly into place. To remove the dust cover, first open it all the way, hold it firmly at the bottom as shown in the figure, and lift it straight up.

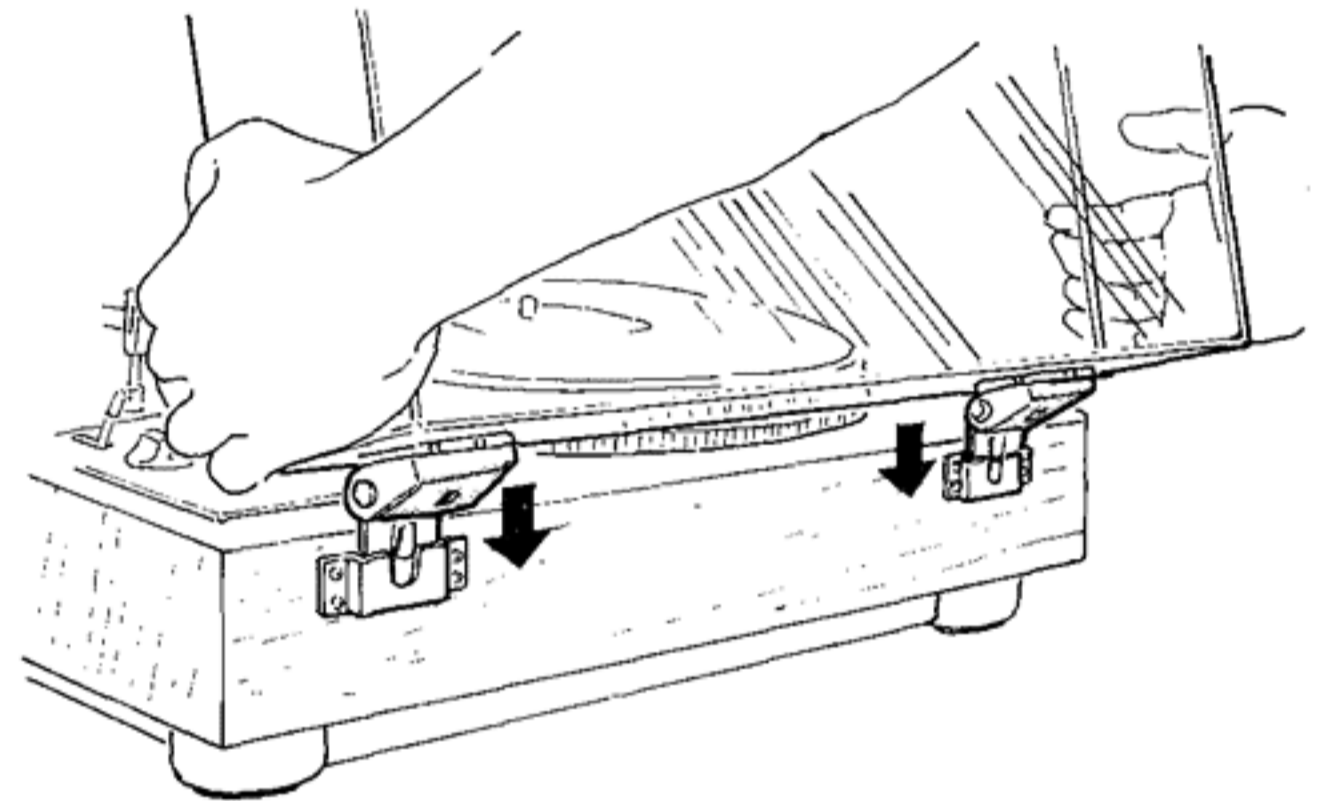


Fig. 19

CONNECTION TO STEREO AMPLIFIER

The phono cables, ground lead, and power cord are attached to the rear panel of the PL-570 turntable. The way in which the phono cables are connected to the amplifier will depend on the type of cartridge used.

- If the cartridge is a moving magnet (MM) or induced magnet (IM) type, the phono cables may be plugged directly into the PHONO MAG or PHONO terminals of the amplifier.
- If a low output moving coil (MC) cartridge is used, the phono cables are plugged into the PHONO MC terminals of the amplifier. If there are no MC input terminals on the amplifier, a special purpose transformer will have to be used.
- Other types of cartridge will require special connections and adaptors. The instructions given in the manual which is provided with the cartridge should be read with care to insure proper connection of the phono cables.

The phono cable with the white plug (marked L) is for the left channel, the one with the red (marked R) is for the right. The thin, black wire with the split lug connector on the end is the ground lead. This should be firmly attached to the ground connection (GND) on the amplifier. The final step before using the turntable is to plug the power cord into an AC outlet.

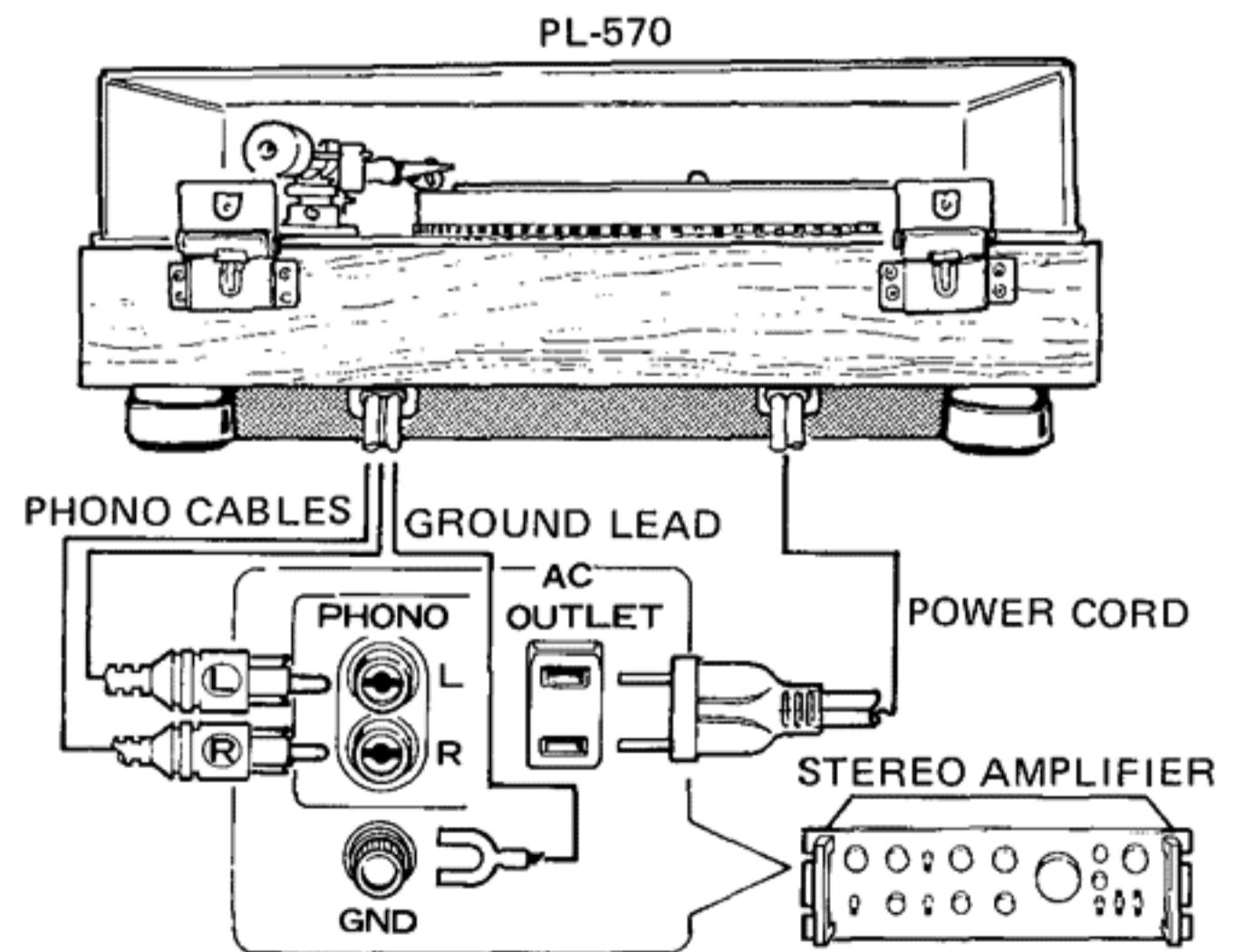


Fig. 20

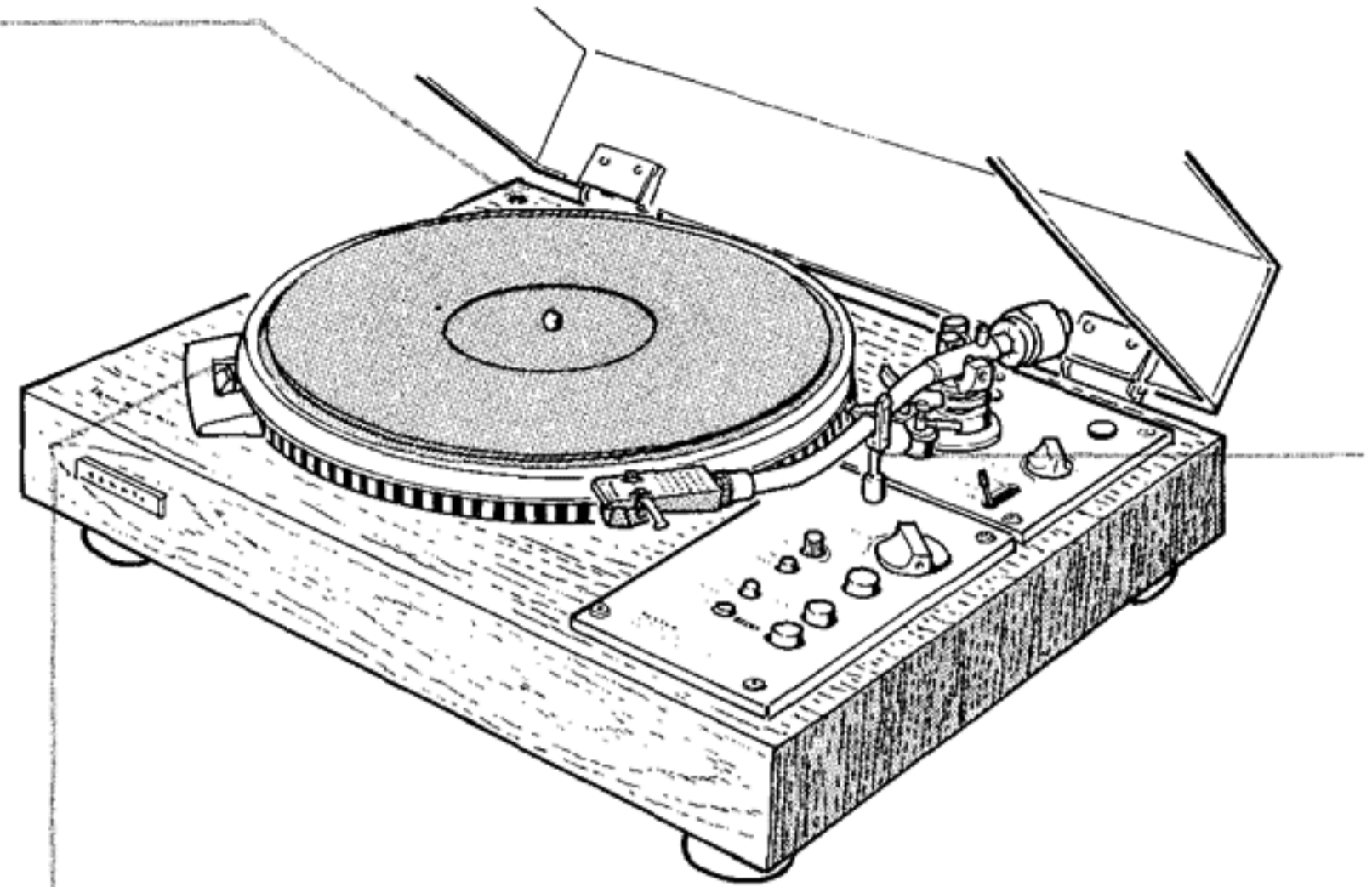
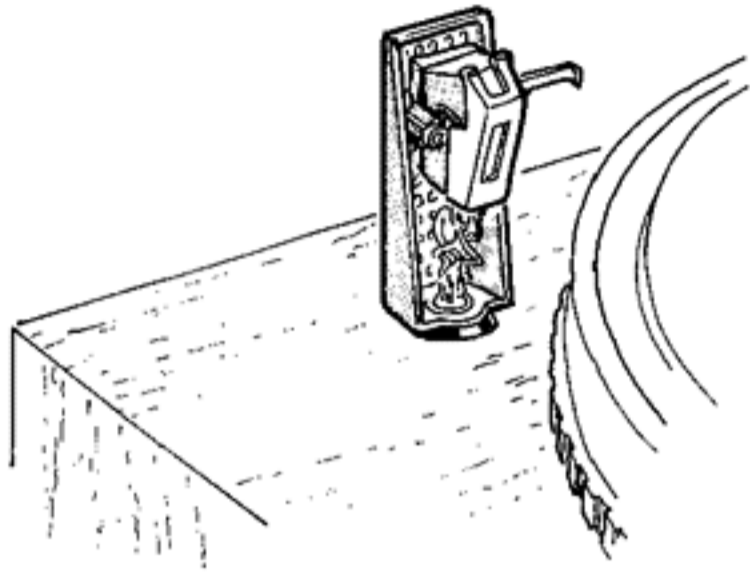
PANEL FACILITIES

HEADSHELL STAND

Store your spare cartridge here. Insert cartridge, aligning cartridge guide pin with groove in the headshell stand. The 45rpm adaptor can also be kept here.

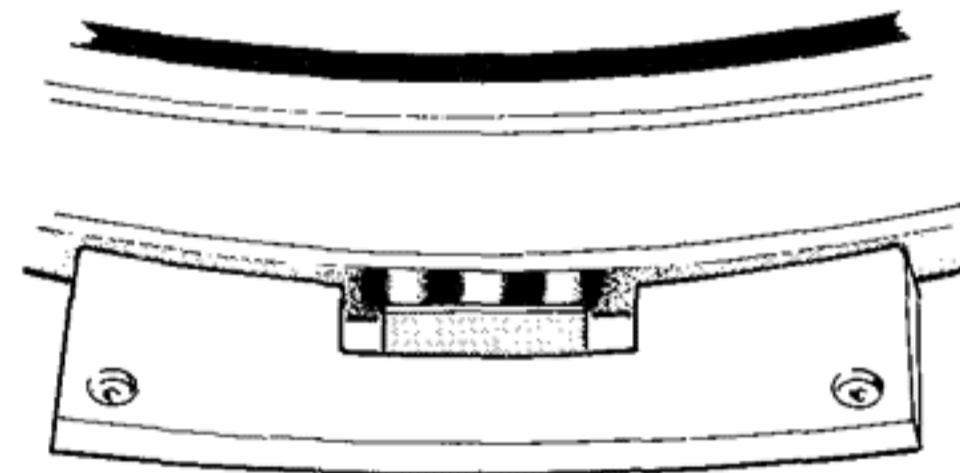
NOTE:

Depending on how the headshell is inserted, it can contact the platter or dust cover. Be careful to insert it with the finger lift pointed inward.



STROBE LIGHT

When the platter rotates, this lamp lights stroboscopically.

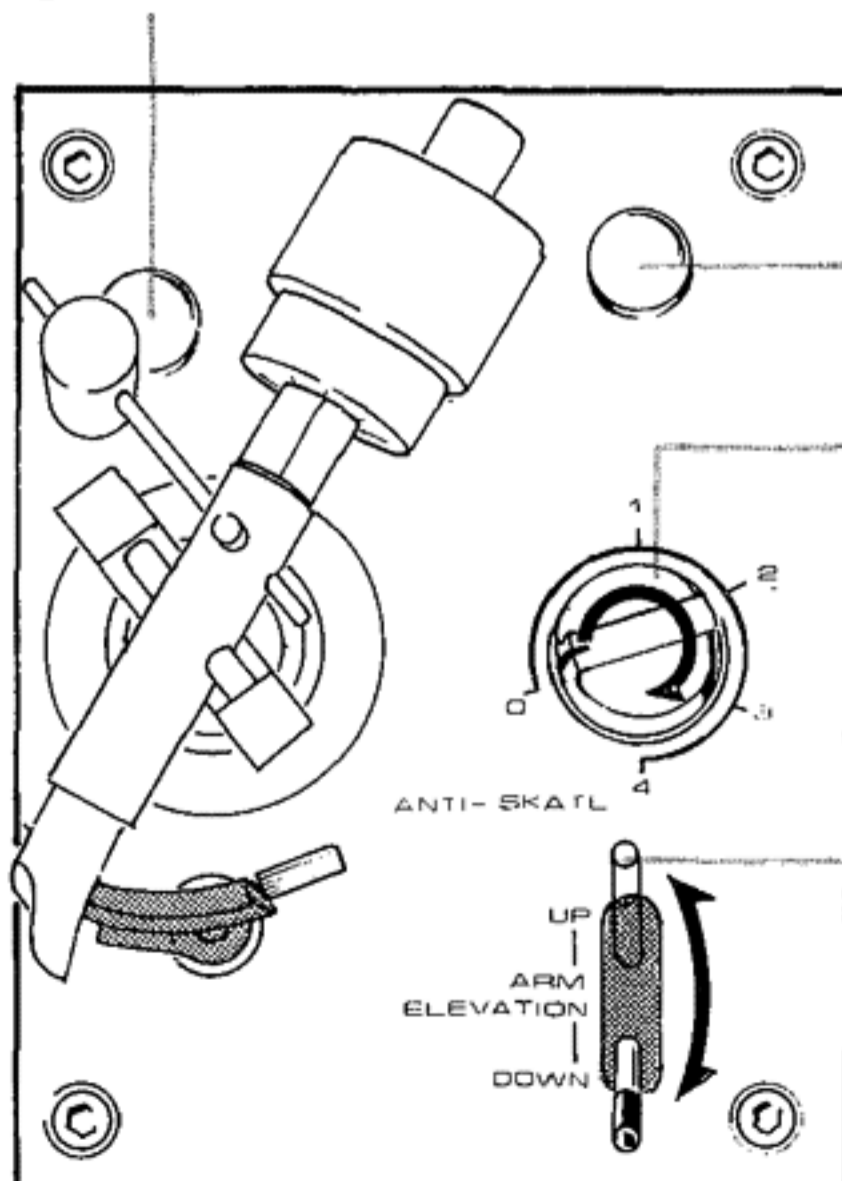


45 RPM ADAPTOR

Place over the center shaft when playing 45rpm EP (large hole) records.



* This plug should not be removed.



ADJUSTMENT OF AUTOMATIC DESCENT POSITION

There is a plug covering the adjusting screw. For details in making adjustments, see page 16.

ANTI-SKATE KNOB

Set to the same value as used for tracking force. For details see page 8.

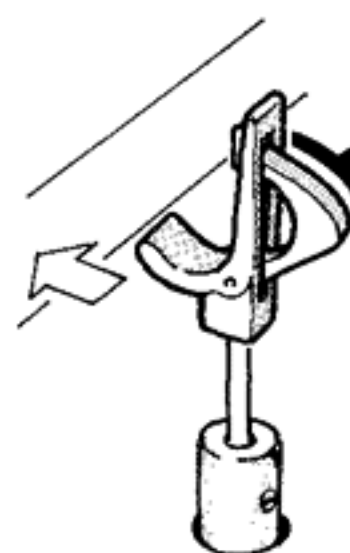
ARM ELEVATION LEVER

Controls ascent and descent of the tonearm.

UP To raise the tonearm from the record surface.
 DOWN To lower the tonearm to the record surface.
 The ARM ELEVATION lever must be in this position for automatic play.

ARM REST

The arm rest supports the tonearm when it is not in use. When the turntable is not being used for a while, close the clamp around the tonearm as shown in the figure on the right.



Opening the clamp



Closing the clamp

RECORD SIZE SELECTOR

When using automatic play the record size should be set by this selector.

- 30-12" 30cm (12 inch) LP Records
- 25-10" 25cm (10 inch) LP Records
- 17-7" 17cm (7 inch) LP Records or 45 RPM-Records

SPEED ADJUSTMENT KNOB

To adjust the pitch of a record being played place the Quartz lock switch in the OFF position, and vary platter speed by means of the SPEED ADJ. knob. Turning the knob in the (+) direction increases speed (and pitch), by up to 6%. Turning in the (-) direction decreases speed and pitch by the same amount.

REPEAT BUTTON

If this button is depressed before pressing the START button, the record will automatically repeat.

QUARTZ LOCK SWITCH

When this button is depressed (ON) a quartz oscillator provides the reference signal by which the PLL circuit controls platter speed. In this position, platter speed will be precisely the rated speed 45 or 33-1/3 RPM, depending on the setting of the speed switching button.

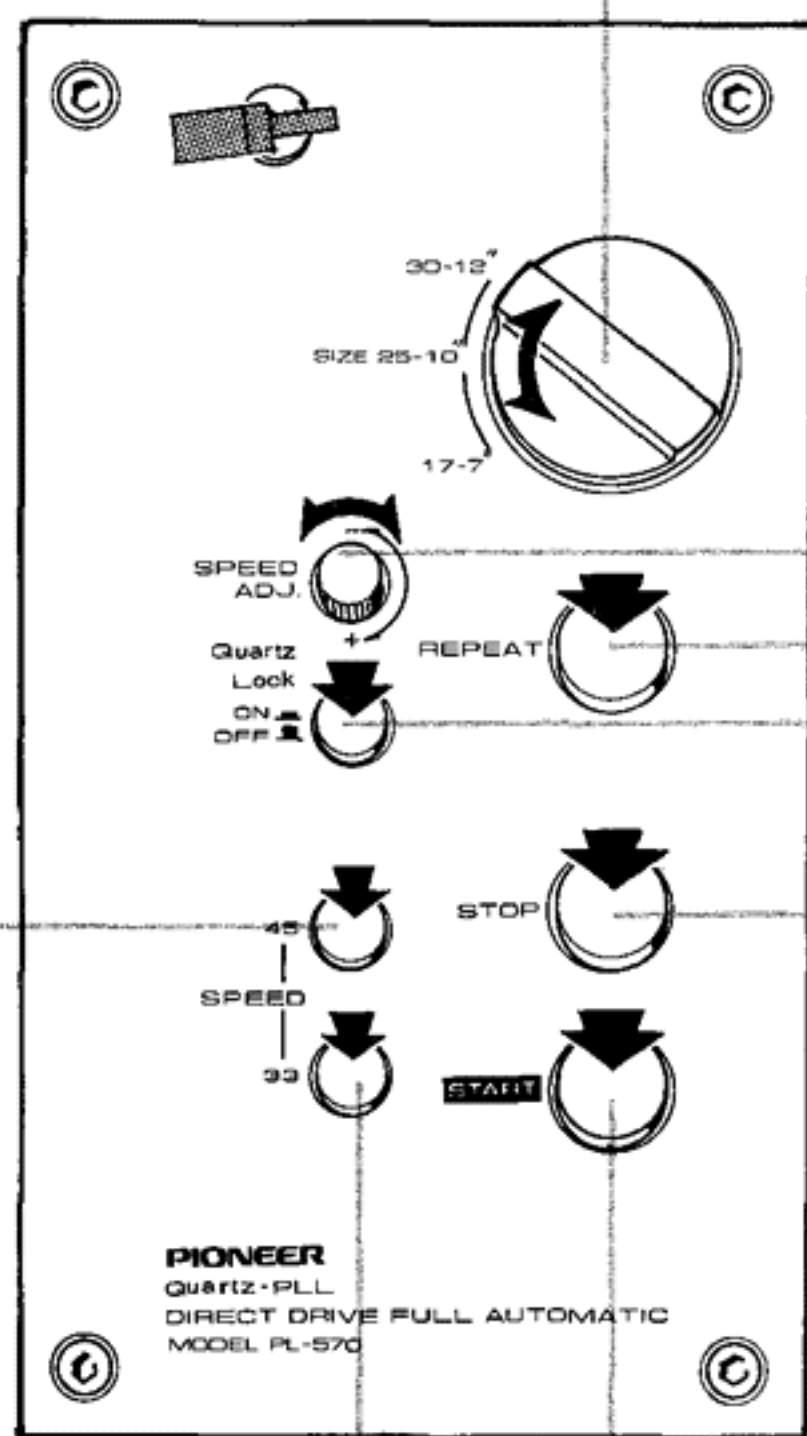
STOP BUTTON

If this button is pressed while a record is playing, the tonearm will return to the arm rest and the motor will be turned off. Use the STOP button to cancel the REPEAT function.

START BUTTON

When the START button is depressed, the platter will begin to rotate, the tonearm will be brought to the record surface automatically, and play will begin.

Before pressing the START button the RECORD SIZE selector should be at the proper setting. If this has been done, the stylus will automatically descend at the lead-in groove of the record.



33-1/3 RPM BUTTON

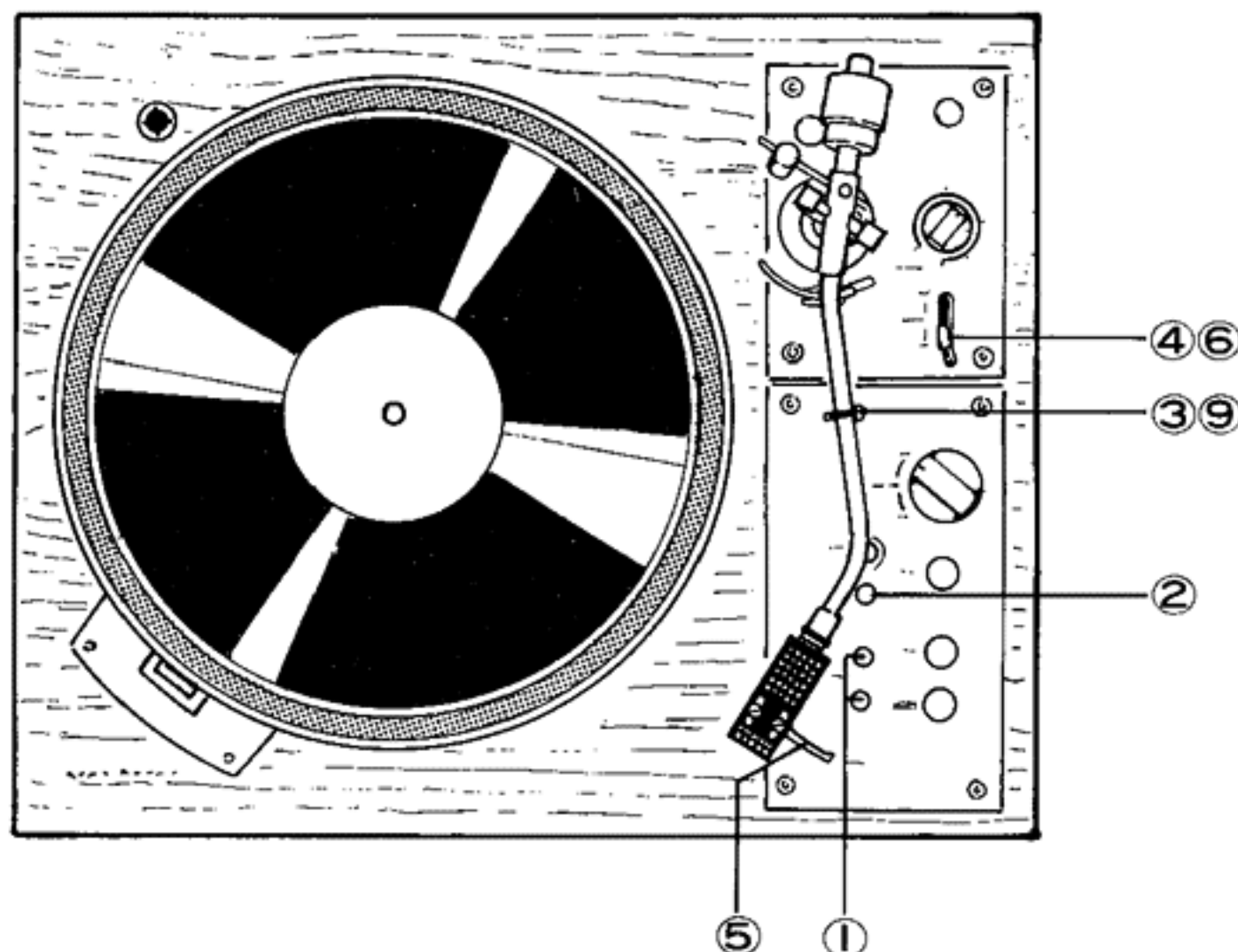
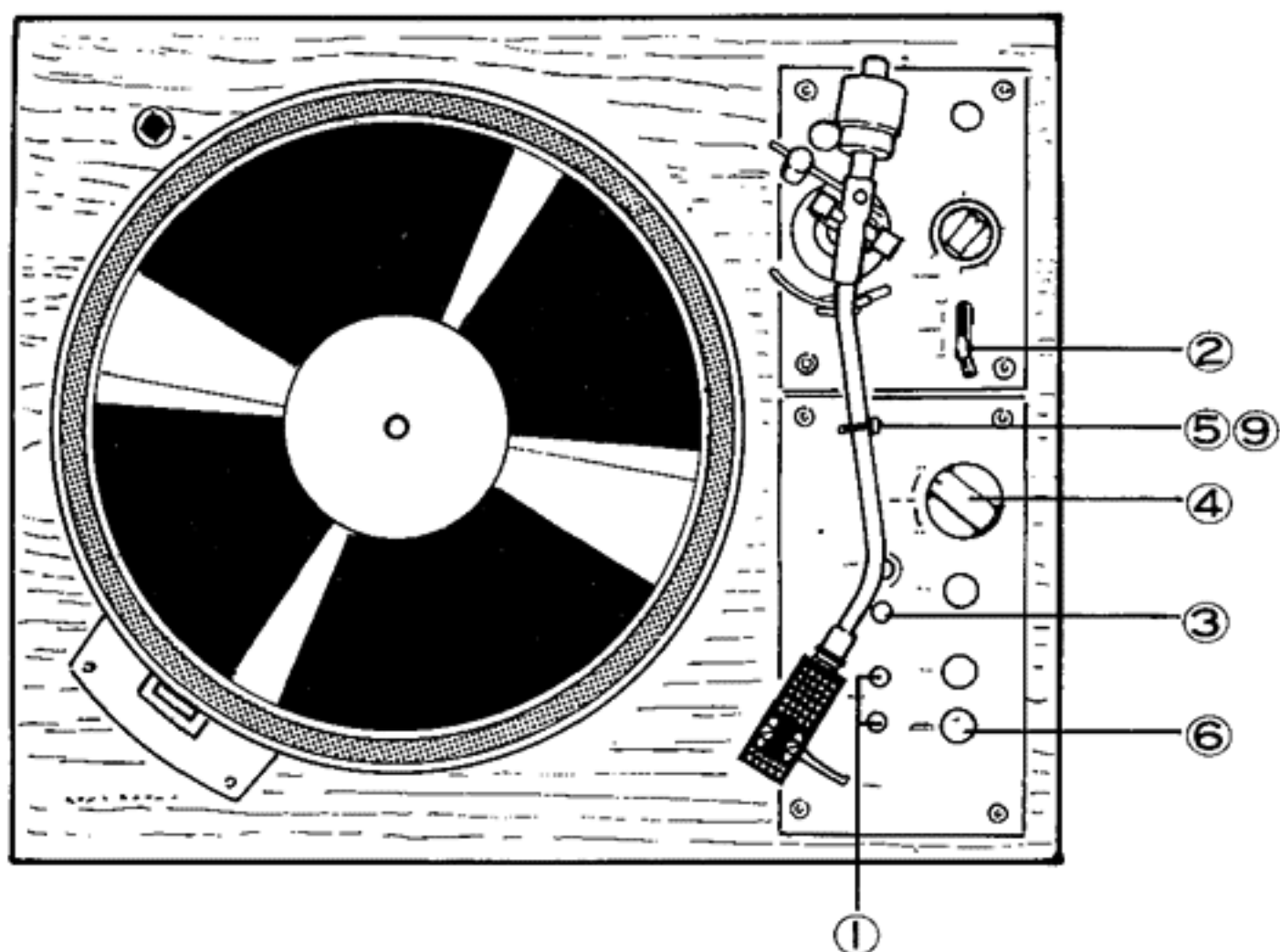
Depress this button when playing a 33-1/3rpm record.

45 RPM BUTTON

Depress this button when playing a 45rpm record.

PLAYING PROCEDURE

The numbers shown in the illustrations indicate playing procedure.



AUTOMATIC MODE

Procedure

1. Place the record on the platter, and push the appropriate speed button.
2. Make sure that the ARM ELEVATION lever is in the DOWN position.
3. Depress the Quartz LOCK button.
4. Set the record size selector (SIZE) to either 30-12", 25-10", or 17-7", according to the size of the record.
5. Remove the stylus cover, and release the tonearm clamp.
6. Gently push the START button. The strobe light will come on, and the platter will begin rotating. Then the tonearm will slowly move over the lead-in grooves and the stylus will descend to start playing the record.
7. Set the tone and volume controls on the stereo amplifier to the desired levels, and enjoy the recording.
8. At the end of the record, the auto-return mechanism will operate, and the tonearm will return to the arm rest. At the same time, the power source will be shut off, and the platter will stop rotating.
9. Fasten the tonearm clamp, and attach the stylus cover to protect the stylus.

NOTE:

When the REPEAT button is depressed the tonearm will automatically re-enter the play function at the record end, and re-play the record any number of times. To cancel the repeat function, press the STOP button.

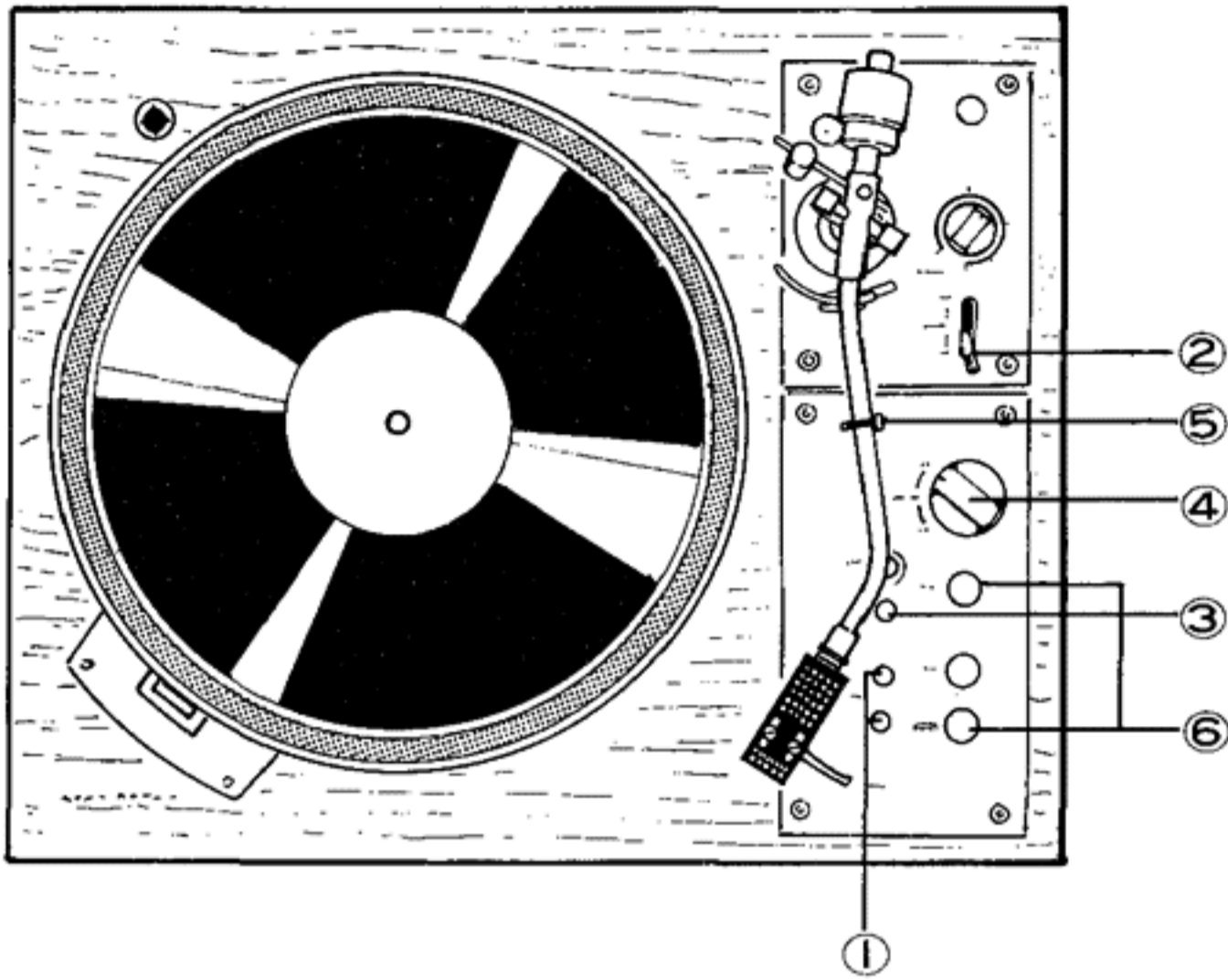
MANUAL MODE

Procedure

1. Place the record on the platter, and push the appropriate speed button.
2. Depress the Quartz LOCK button.
3. Remove the stylus cover, and release the tonearm clamp.
4. Make sure that the ARM ELEVATION lever is in the UP position.
5. Gently move the tonearm over to the desired position on the record. The strobe light will come on, and the platter will begin rotating.
6. Set the ARM ELEVATION lever to the DOWN position. The stylus will slowly descend to the record surface and begin playing.
7. Set the tone and volume knobs on the stereo amplifier to the desired levels and enjoy the record.
8. At the end of the record, the auto-return mechanism will operate, and the tonearm will return to the arm rest. At the same time, the power source will be shut off, and the platter will stop rotating.
9. Fasten the tonearm clamp, and attach the stylus cover to protect the stylus.

NOTE:

When the ARM ELEVATION lever is placed in the DOWN position the tonearm will descend to the record surface and play will begin. Take care that the stylus is properly positioned over the record before moving the ARM ELEVATION lever, to avoid damage to the stylus or record.



REPEAT MODE

Procedure

1. Place the record on the platter, and push the appropriate speed button.
2. Make sure that the ARM ELEVATION lever is in the DOWN position.
3. Depress the Quartz LOCK button.
4. Set the record size selector (SIZE) to either 30-12", 25-10", or 17-7", according to the size of the record.
5. Remove the stylus cover, and release the tonearm clamp.
6. Depress the REPEAT button and then push the START button. The strobe light will come on, and the platter will begin rotating. Then the tonearm will slowly move over the lead-in grooves, and the stylus will descend to start playing the record.
7. Set the tone and volume knobs on the stereo amplifier to the desired levels, and enjoy the recording.
8. At the end of the record, the auto-return mechanism will operate, and the tonearm will return to the arm rest. Then, the tonearm will again move over the record, and the record will be played again. To stop the repeat playing, push the STOP button.

NOTE:

If the REPEAT button only is pushed, record play will not begin. The START button must also be pushed.

TO STOP THE RECORD WHILE PLAYING

Push the STOP Button

The tonearm will rise from the record and return to the arm rest. At the same time, the turntable power source will be shut off and the platter will stop rotating.

Return the tonearm to the arm rest by hand

Set the arm lift lever to the UP position, and return manually to the arm rest. The turntable power source will be shut off and the platter will stop rotating.

NOTE:

To permit the tonearm to enter the arm rest, the ARM ELEVATION lever should be in the DOWN position.

TO TEMPORARILY INTERRUPT PLAYING

Move the Arm Lift Lever to the UP position

Since the arm lift mechanism is independent of the auto-mechanism, the tonearm can be raised and lowered in either the automatic or manual mode. This feature is very convenient for listening to just one band from an LP, for example.

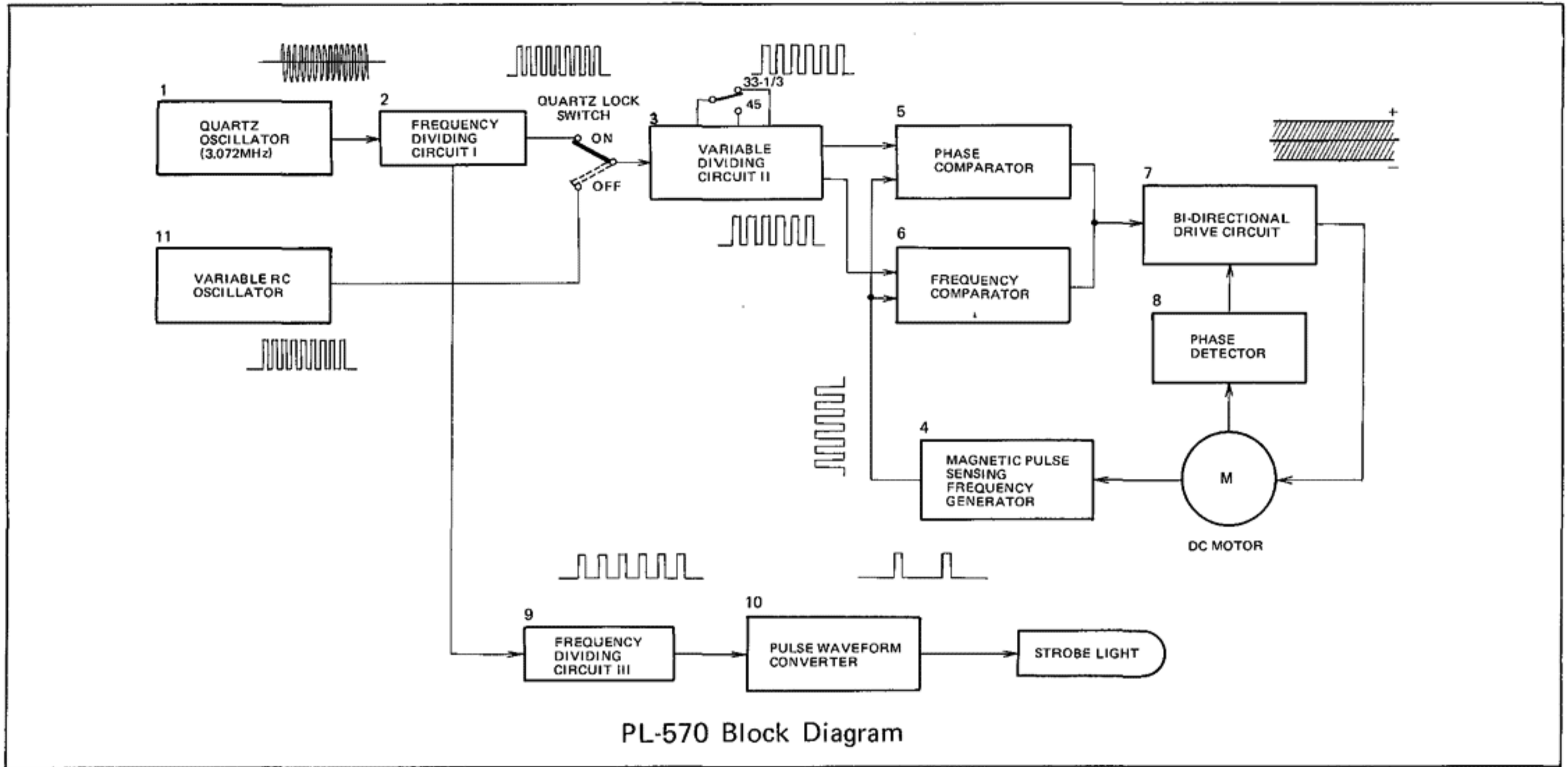
CAUTIONS

- When closing the arm clamp around the tonearm the ARM ELEVATION lever should be in the DOWN position.
- When changing headshells, always fasten the tonearm to the arm rest with the tonearm clamp, to help avoid applying excessive force to the tonearm.
- Be careful not to bump against the turntable while it is in use, as this can result in damage to the stylus or the record.
- Do not force the tonearm closer than 40mm to the center shaft or away from the arm rest. These can damage the internal mechanism and make fully automatic operation impossible.
- Place only one record at a time on the platter. When two or more records are stacked on the platter, the stylus will not contact the record groove perpendicularly, and normal playing will not be possible.
- Do not disconnect the AC cord while the stylus is on a record, as this may result in damage to the stylus or the record.
Also, when the AC cord is plugged into an outlet on the amplifier, plug it into one that is unswitched.
- If the START button is pushed while the tonearm clamp is engaged, the platter will begin to turn even though the tonearm does not move. If a moment, however, the safety override mechanism will automatically turn off power to the turntable.

Quartz PLL D.D. MOTOR OPERATING PRINCIPLES

The PL-570 uses a PLL controlled Hall motor which derives its reference signal from a quartz oscillator. The operating principles of this motor will be explained below.

- 1. Quartz Oscillator:** Produces a reference signal according to which the speed of the phono motor is controlled. This is the heart of the PL-570. Because its output signal is not subject to changes in temperature, humidity, or operating time, highly stable and precise motor speeds are assured.
- 2. Frequency Dividing Circuit I:** This divides the stable, very high frequency signal from the quartz oscillator (3.072MHz) by an integral number to obtain a frequency of 6kHz.
- 3. Variable Dividing Circuit II:** This divides the 6kHz signal to a reference frequency corresponding to one of the two platter speeds of 45 or 33-1/3 RPM. It is this signal against which the signal from the frequency generator in the platter will be compared.
- 4. Magnetic Pulse Sensing Frequency Generator:** Magnetic induction which occurs in the motor speed sensing plate when the rotor magnets pass over it produces an alternating current corresponding to platter speed.
- 5. Phase Comparator:** The phase of signals from the platter frequency generator are compared with the phase of the reference signal obtained from Variable Dividing Circuit II. A corrective voltage corresponding to difference in phase is produced, and this voltage is added to the motor drive current to either accelerate or decelerate the platter by the amount required to maintain rated speed. In this sense the platter (motor) is phase locked, for undeviatingly accurate servo control.
- 6. Frequency Comparator:** In the same manner as the phase comparator, the frequency of the signal from the platter frequency generator is compared with the reference frequency derived from the quartz oscillator. This circuit is in parallel with the phase comparator, to provide the final link of the PLL (phase locked loop) which gives the motor its outstandingly sensitive response to any tendency of the speed to drift.
- 7. Bi-Directional Drive Circuit:** This circuit controls motor speed in response to outputs of the phase and frequency comparators. An accelerative or decelerative torque is applied to the platter depending on the needs of the motor at a given instant. This system provides external forces which tend to change platter speed, and provides instant change to the selected speed when switching from 45 to 33-1/3 RPM or back.
- 8. Phase Detector:** Three Hall devices are installed at 120° phase angles in the motor. As the rotor turns, the Hall devices emit voltages corresponding to the polarity of magnets contained in the rotor. Transistor switching in the bi-directional drive circuit is controlled by these voltages (wound rotor switching).
- 9. Frequency Dividing Circuit III:** The flashing light of the stroboscope also derives its frequency from the quartz oscillator. This frequency dividing circuit supplies the signal by which light pulses are timed.
- 10. Pulse Waveform Converter:** The width of the input signals to the stroboscope light are narrowed to produce short pulses of light which clearly illuminate the platter timing marks. According to the setting of the speed selector, one of two frequencies of flashing can be obtained from the light, so that only one row of marks is required on the rim of the platter.
- 11. Variable RC Oscillator (for Variable Speed Use):** This circuit provides a signal of variable frequency for use in adjusting platter speed. To vary the pitch of sound reproduced from records, it is necessary to have a variable reference signal for use by the PLL circuit. If the quartz lock switch is placed in the OFF position, the speed of the motor will be synchronized according to the frequency obtained from this circuit, as determined by the setting of speed adjustment knob on the control panel. The range of control provided by this oscillator is $\pm 6\%$.



Quartz LOCK SWITCH AND THE SPEED ADJUSTMENT

When the Quartz LOCK switch is in the ON position a quartz oscillator provides the reference signal to the PLL to hold the motor at precisely the rated RPM. Under normal circumstances it should never be necessary to change the platter speed. For special applications, however, the Quartz LOCK switch can be turned to the OFF position and the platter rotational speed adjusted by the user.

The speed adjustment knob of the PL-570 is not provided to adjust the platter to turn at rated speed, but rather, to permit records to be played at other than rated speed. The speed adjustment works by means of a high-precision RC oscillator with variable output frequency. In the variable mode, the PLL circuit receives its reference frequency from this oscillator instead of the quartz oscillator. This ensures that the speed to which the platter is set by the adjustment knob will be as accurately held as in quartz-locked operation.

With the Quartz LOCK switch in the OFF position, turning the adjustment knob in the (+) direction increases speed (causing a higher pitched sound), and vice versa. To use this adjustment, turn it slowly in either direction, as desired, until the pitch of the record being played is the one you desire.

This adjustment permits you to change the pitch of a record to match an accompanying musical instrument, or to compensate for a slightly out-of-tune instrument on the record.

The 6% range (in either direction) of adjustment this provides is equivalent to approximately half a note on the musical scale.

TURNTABLE CARE AND MAINTENANCE

ADJUSTMENT OF AUTOMATIC DESCENT POSITION

The location at which the stylus descends on the record surface in the automatic mode is set at the factory, and should not require readjustment. However, if for any reason the stylus descends in the wrong location, adjust the tonearm as follows:

1. Remove the rubber plug in the rear right corner of the motor board and locate the accessory screwdriver to be used for adjustments (see Fig. 21).
2. Place a 30cm LP record on the platter.
3. Set the record size selector to 30, and push the START button. This is to confirm how far off the mark the descent position is. Be careful not to allow the stylus to be damaged.
4. When the direction and extent of the deviation are understood, turn the starting position adjusting screw with the accessory screwdriver, adjusting it as follows (Refer to Fig. 22):
 - When the stylus descends outside of the lead in grooves (too far from the center), turn the adjusting screw clockwise;
 - When the stylus descends inside of the lead in track (too close to the center), turn the adjusting screw counter-clockwise;Each one turn of the adjusting screw moves the starting point about 15mm.
5. When adjustment is completed replace the rubber plug. It should not be necessary to remove the plug at the left.

NOTE:

When adjusting the automatic descent position, be careful not to damage the stylus or record.

CHOOSE A LEVEL LOCATION

The PL-570 must be used in a horizontal position. If the surface on which it is placed is horizontal, the feet will require no adjustment to the factory settings. If, however, the mounting surface is not flat, or horizontal, the feet should be adjusted as shown in Fig. 23.

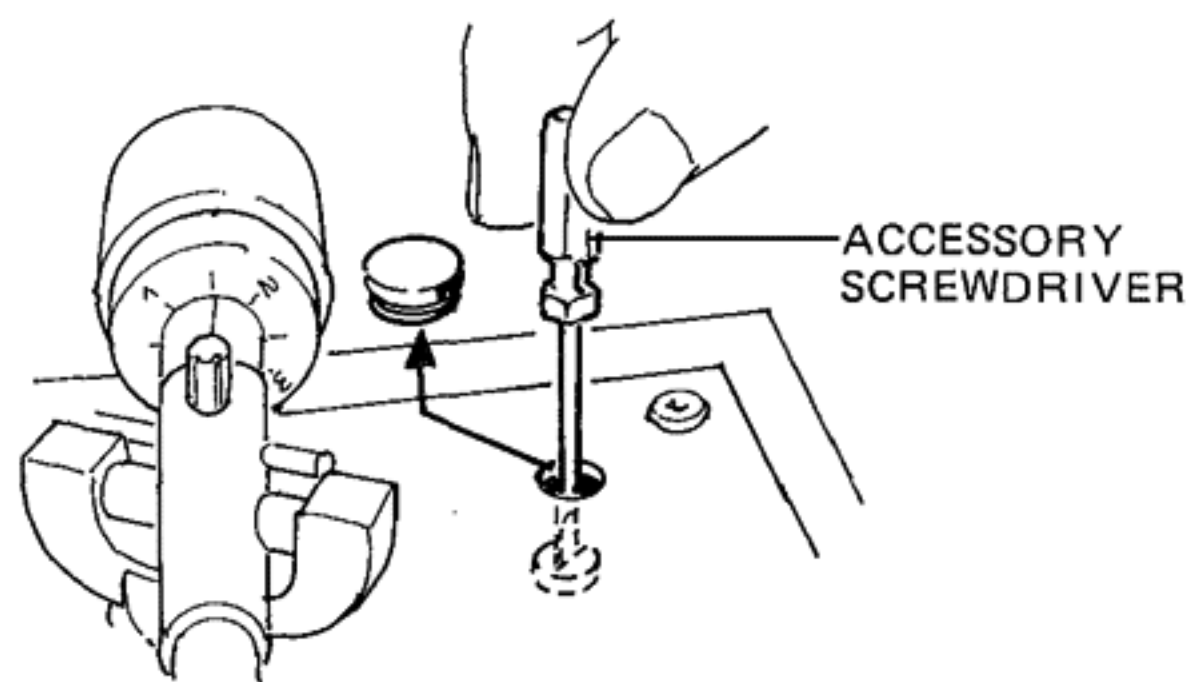


Fig. 21

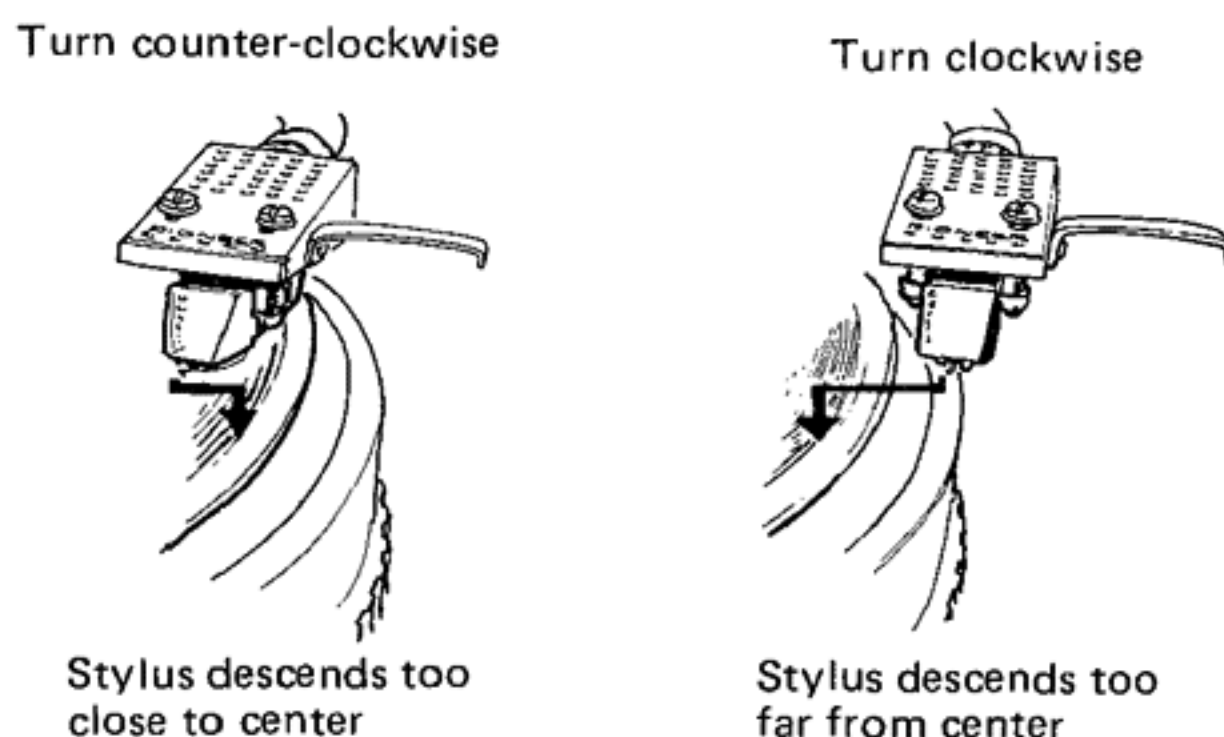


Fig. 22

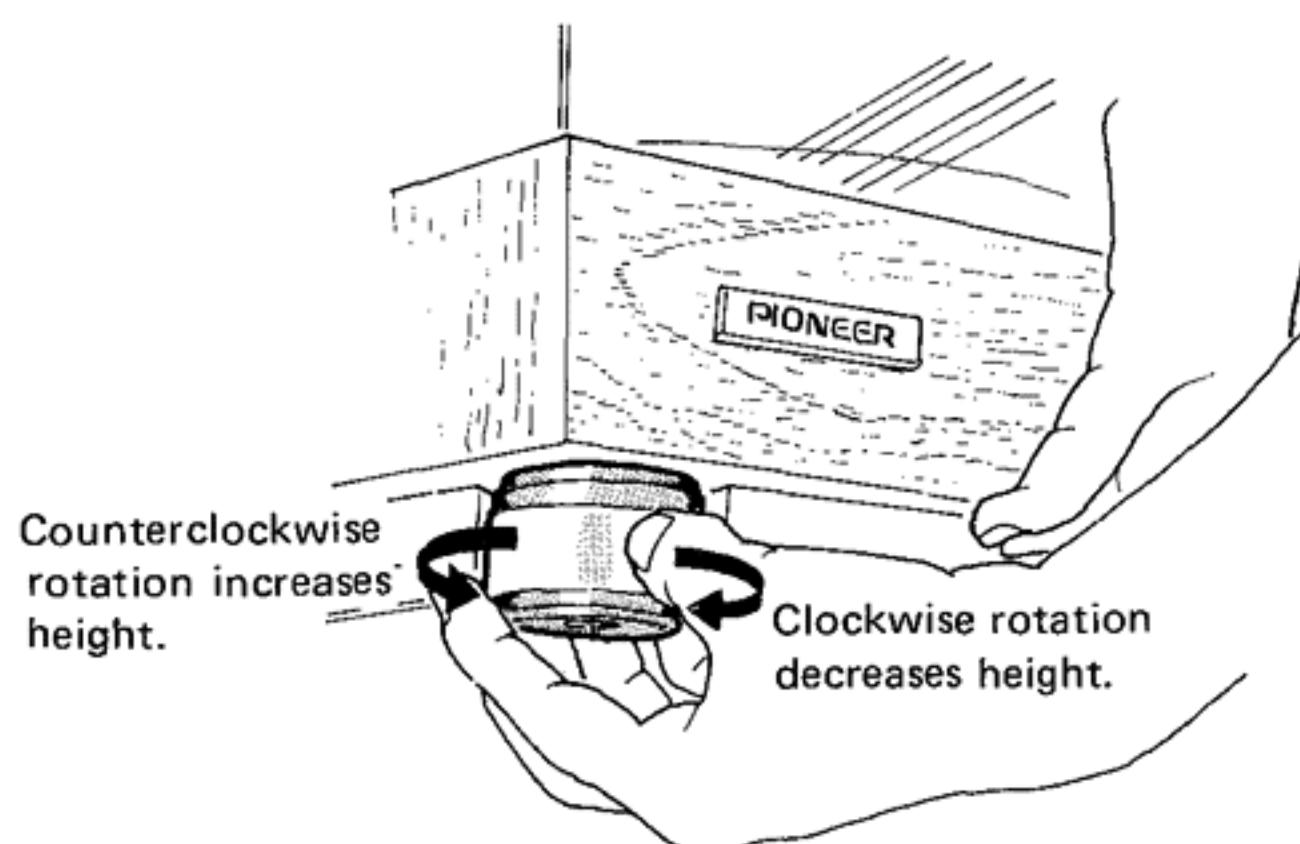


Fig. 23

CORRECT MOTOR OPERATION REQUIRES PLATTER INSTALLATION

If the motor is run with the platter removed, the motor will not operate normally, and may seem to have broken down, but if the platter is installed, it will rotate properly.

ABOUT THE CABINET

When the cabinet or dust cover becomes dusty or dirty, wipe them clean with a polishing cloth or other dry, soft cloth. The surface can be eroded by furniture wax, benzine, insecticides, or other inflammable materials.

NEVER OBSTRUCT PLATTER ROTATION BY HAND

While the platter is rotating, do not restrain it with your hands, etc., as this can cause breakdowns.

LUBRICATION

Since the PL-570 uses oil-less bearings, no lubrication is required.

THE MOTOR IS NOT OWNER SERVICEABLE!

The D.D. motor of the PL-570 is made to extremely high tolerances and operates with extreme mechanical precision. If you should experience difficulty with the motor, do not attempt to disassemble it or otherwise perform repairs; take the unit instead to the nearest Pioneer service center for servicing.

TROUBLE? CHECK IT OUT

Sometimes an operational fault can be mistaken for an equipment malfunction. Before bringing your turntable in for service, check the points described below. Then, if the problem has not been resolved, contact your nearest Pioneer dealer.

<ul style="list-style-type: none"> ● Platter does not rotate. 	<ul style="list-style-type: none"> ● Power source is unplugged. → Plug firmly into AC outlet. (If the cord is plugged into a switched AC outlet on your stereo amplifier, turn the power switch of the amplifier on.)
<ul style="list-style-type: none"> ● No sound is produced. 	<ul style="list-style-type: none"> ● Phono cable is unplugged or improperly connected. → Connect phono plugs firmly to the correct input terminals. (Refer to page 9.) ● Headshell is not properly attached. → Firmly tighten locking collar (Refer to page 6.) ● Cartridge lead wires are loose. → Insert pins firmly (Refer to page 6.) (Make sure amplifier is being properly operated: the function switch is set to PHONO, the tape monitor switch in on, and the volume is sufficient etc.)
<ul style="list-style-type: none"> ● Musical tempo is off. 	<ul style="list-style-type: none"> ● Record speed is not set properly. → Push the correct rpm button (33 or 45) ● Quartz LOCK switch is OFF. → Push it on.
<ul style="list-style-type: none"> ● Strobe mark movement cannot be stopped. 	<ul style="list-style-type: none"> ● Quartz LOCK is off. → Depress Quartz LOCK button to on.
<ul style="list-style-type: none"> ● Excessive noise is produced. 	<ul style="list-style-type: none"> ● Ground lead is disconnected. → Connect it properly (Refer to page 9.) ● Record surface is dusty or dirty. → Clean with good quality cleaner. ● Dust has collected on stylus. → Clean stylus. ● Tracking force is too low. → Adjust to the proper tracking force (Refer to page 8.) (When noise is produced even when the stylus is not in a record groove, the turntable is being affected by the amplifier or some other electrical equipment. Reconsider the location of the turntable and other components.)
<ul style="list-style-type: none"> ● Sound is distorted. 	<ul style="list-style-type: none"> ● Stylus is worn. → Replace with new stylus. ● Dust has collected on stylus. → Clean stylus. ● Tracking force is too low. → Adjust to the proper tracking force. (Refer to page 8.)
<ul style="list-style-type: none"> ● Tonearm does not descend in automatic mode. 	<ul style="list-style-type: none"> ● ARM ELEVATION lever is set to UP. → Set to DOWN.
<ul style="list-style-type: none"> ● Tonearm does not move when START button is pushed in automatic mode. 	<ul style="list-style-type: none"> ● Arm clamp is still fastened. → Unfasten.
<ul style="list-style-type: none"> ● Stylus does not descend to correct position in automatic mode. 	<ul style="list-style-type: none"> ● Adjust automatic descent position as described on page 16.

Feedback howling: Phenomenon caused when sound from speakers is conducted back to the cartridge via the air or other conducting structure to be again amplified to an extremely loud level. If this should occur, immediately turn off the stereo amplifier and relocate the turntable on a firm support where it is not subject to vibration.

SPECIFICATIONS

Motor and Turntable

Motor	Quartz PLL Hall motor
Turntable Platter	324mm diam. aluminum alloy die-cast
Internal Mass	340kg-cm ² (including platter mat mass)
Speeds	33-1/3 and 45rpm
Speeds Control Range	±6%
Wow and Flutter	Less than 0.025% (WRMS)
Signal-to-Noise Ratio	More than 70dB (DIN-B)

Rotational Characteristics

Build-up Time	Within 240° rotation at 33-1/3rpm
Speed Deviation	Less than 0.003%
Speed vs. Load Characteristics	Stable up to 120 grams drag load
Speed Drift	Less than 0.0003%/h at 33-1/3rpm Less than 0.00004%/degree temp. change at 33-1/3rpm

Tonearm

Type	Static-balance type, S-shaped pipe arm
Effective Arm Length	237mm
Overhang	15mm
Usable Cartridge Weight	4g (min.) to 13.5g (max.) (For cartridge weighs over 9 grams, attach the sub weight)
Arm Height Adjust Range	±5mm

Subfunctions

- Warren motor for automatic functions
- Anti-skating force control
- Lateral balancer
- Stylus pressure direct-readout counterweight
- Arm height adjusting device
- Cueing device
- Headshell stand
- Strobe light
- Free stop hinges
- Insulator feet

Semiconductors

ICs	4
Transistors	9
Diodes	12
Hall Elements	3
LED	1
Photo Transistor	1

Miscellaneous

Power Requirements	AC 120V 60Hz
Power Consumption	11W
Dimensions	490(W) x 200(H) x 390(D)mm 19-5/16(W) x 7-7/8(H) x 15-3/8(D)in.
Weight	13.5kg/29 lb 11 oz

Accessories

45rpm adaptor	1
Overhang gauge	1
Screwdriver	1
Sub weight	1
Cartridge mounting screws	6
Cartridge mounting nuts	2
Cartridge mounting washers	2
Operating instructions	1

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

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