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*Garrard*

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**SP.25 Mk II**  
**Single Record Playing Unit**

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**Instruction Manual**

# Garrard

## SP.25 Mk II SINGLE RECORD PLAYING UNIT



## Introduction

The Garrard SP.25 Mk II is a four speed single record playing unit incorporating an improved tubular aluminium pickup arm with a resiliently mounted counterbalance weight and a calibrated dial to set stylus force easily. It is elegantly styled, and has many features associated with more costly equipment, such as a cueing device to lower and raise the pickup gently, a patented pickup arm bias compensator and a lightweight plug-in pickup shell which will accommodate a wide range of cartridges. In addition it has a large, loaded turntable driven by a magnetically screened resiliently mounted Garrard Laboratory Series electric motor, through a retractable rubber wheel. The pickup returns to its rest automatically after playing a record and unit switches off.

Should you require any further information or advice not covered by this booklet, please write to our Technical Service Department. For spare parts and service returns, write to our Service and Spares Department. Address: Newcastle Street, Swindon, Wilts. (Swindon 5381).

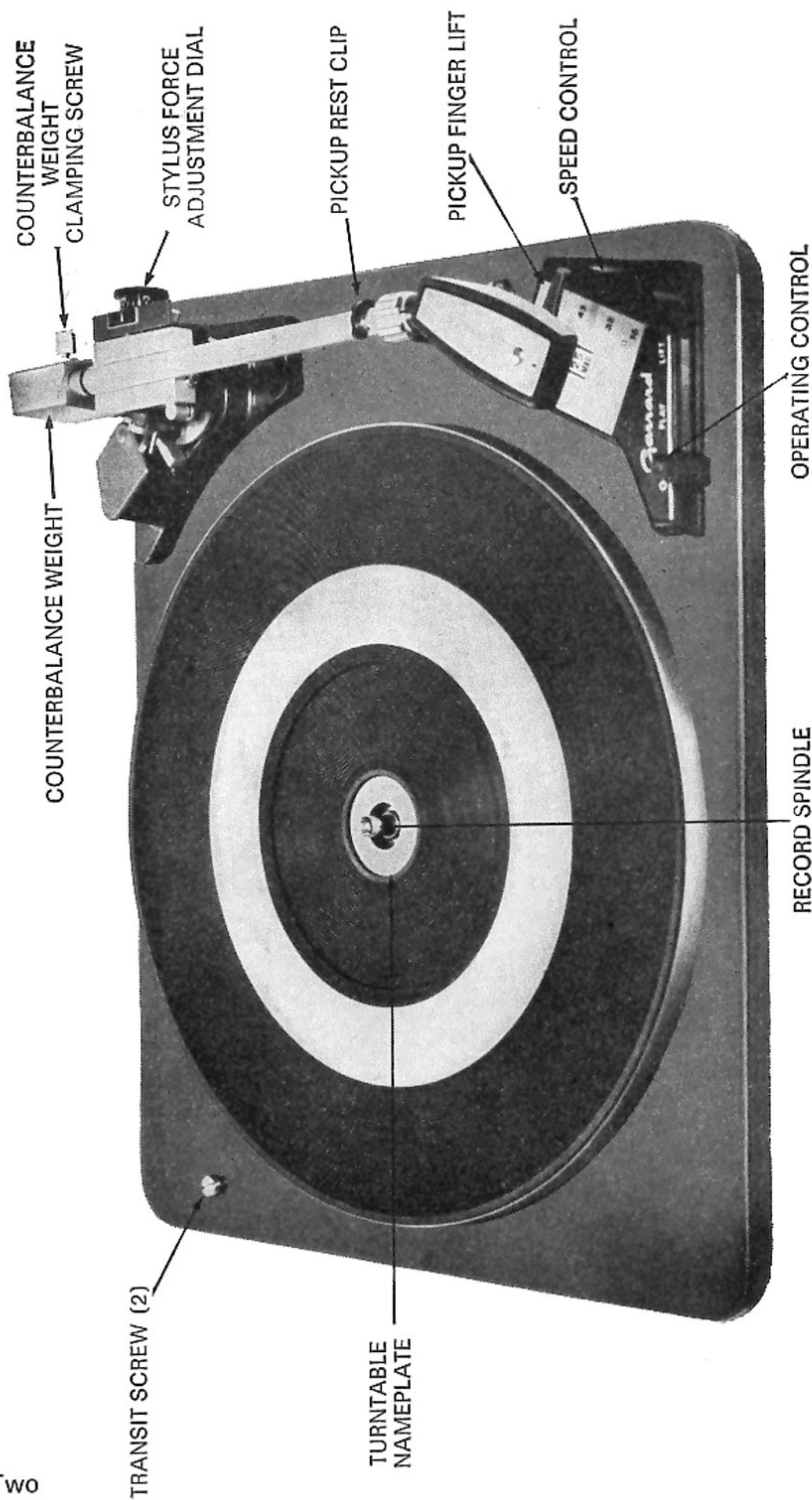


Diagram 1

# Operation

The SP.25 Mk II will play single records up to 12" diameter. The pickup arm, will lift and return to its rest after playing the record, and the unit will switch off automatically.

Large hole 7" - 45 r.p.m. records may be played by fitting the 45 r.p.m. adaptor.

## To operate

1. Check that turntable speed and stylus are correct for the type of record to be played.
2. Place the record on the turntable and release the clip holding the pickup arm to its rest.
3. (a) Move the operating control to 'Lift', align stylus above record and move control to 'Play'. The pickup will then lower gently on to record.  
or (b) To operate without cueing, move the operating control to 'Play' and place pickup on record.

After playing the record, the pickup arm will automatically lift and return to its rest and the motor will switch off. For safety, the pickup arm should be clipped to its rest when not in use.

## Pause

Move the control to "Lift" and the pickup arm will be raised from the record.

Move the control to "Play" and the pickup arm will again lower on to the record.

## To stop

Either: Move the control to "Lift", swing the pickup arm back to the pickup rest then move the control to "Off".

Or: Move the control to "Lift" then swing the pickup arm into the centre of the record; the trip mechanism will then operate, returning the pickup arm to its rest and the motor will switch off.

Moving the control from "Play" to "Off" switches off the motor leaving the pickup on the record.

Note: To obtain best results from your records, see that they are stored and cleaned as recommended by the record manufacturers. Do not leave records on the turntable when not in use. Replace the stylus when worn and keep it free from accumulated dust.

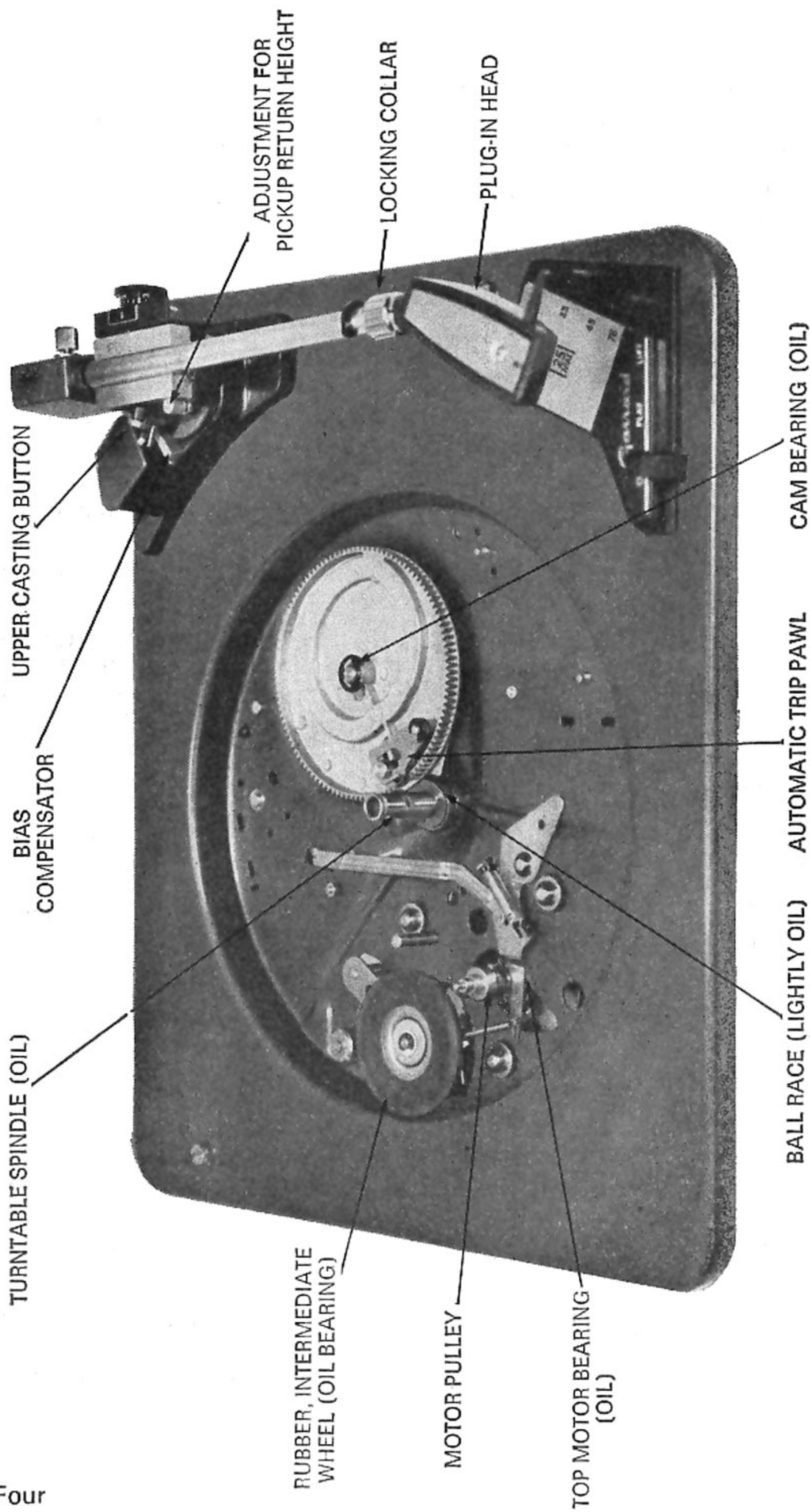


Diagram 2

# Maintenance

The motor, turntable spindle and rubber intermediate wheel bearings are of the oil retaining type and rarely need lubricating. When the need for oil is apparent, remove the turntable and lubricate these bearings with fine machine oil. Oiling and greasing points are shown on diagrams 2 and 7. Pivot points for levers should be lightly oiled if the mechanism becomes hard to operate, or if mechanical noise develops which can be damped by a spot of oil at the offending point. Remove excess oil from the motor pulley, rubber intermediate wheel and inside turntable rim by wiping these driving surfaces with a clean cloth.

If the lowering action of the pickup arm loses its gentle characteristic, the damping fluid should be renewed. To do this, take off the spring clip at the control end of the cueing link so that the cueing cam can be pivoted to expose the cueing lifting spindle. Remove the upper casting button and unscrew the cueing lifting spindle exposed, withdrawing it from beneath sufficiently to clean and recharge its lower end with damping fluid. The damping fluid is available from our Service Department and may be applied using a matchstick.

To remove the turntable, take out the record spindle and lever out the nameplate from the turntable centre using a screwdriver or penknife and taking care not to buckle the nameplate or damage its location. Remove the turntable clip as shown in diagram 3 and lift off the turntable with equal pressure on diametrically opposite sides.

When replacing the turntable check that the control is in the "Off" position and that the gap in the teeth of the cam is adjacent to the turntable spindle with the trip pawl (see diagram 2) pushed away from the turntable spindle. The turntable will now slide on easily. Replace the turntable clip as shown in diagram 3. If the turntable nameplate has its location in the rubber mat take care, using a screwdriver or penknife as a lever, that the rubber location is not damaged when sandwiching the nameplate into position.

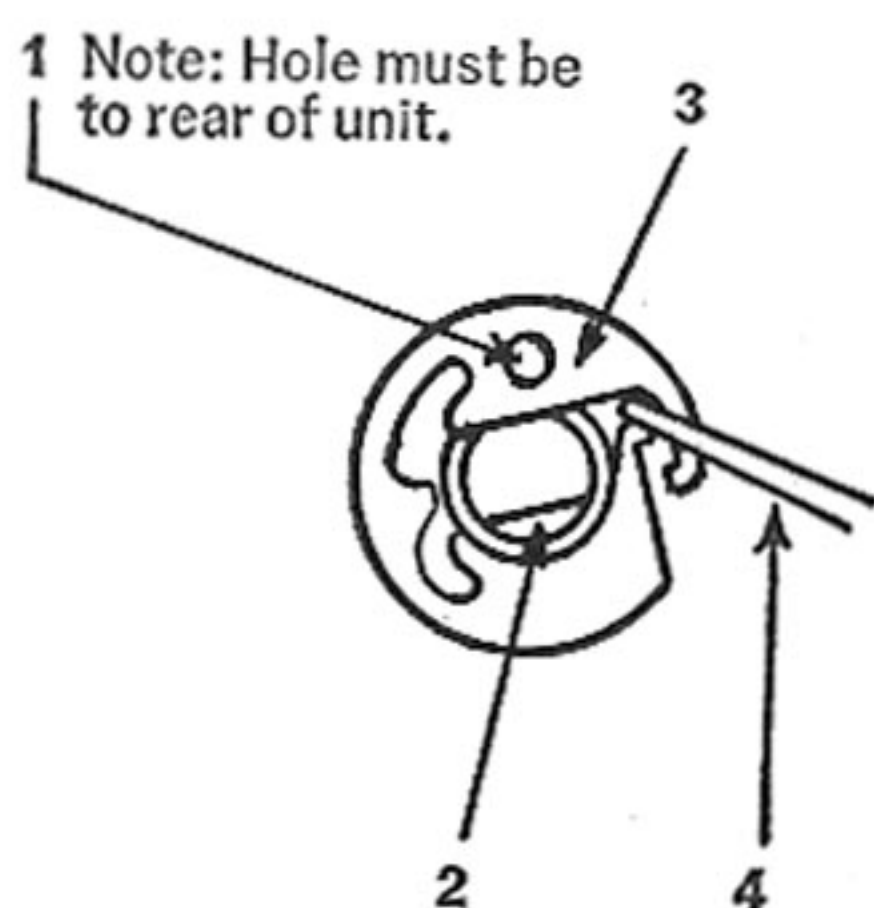


Diagram 3

## TO FIT TURNTABLE CLIP

1. Position clip on turntable spindle with small hole at rear of unit.
2. Engage clip in spindle slot.
3. Press clip down to spring over chamfer on spindle.
4. To remove clip, lever with small screwdriver, as shown in diagram 3, to spring clip from chamfer.

# Installation

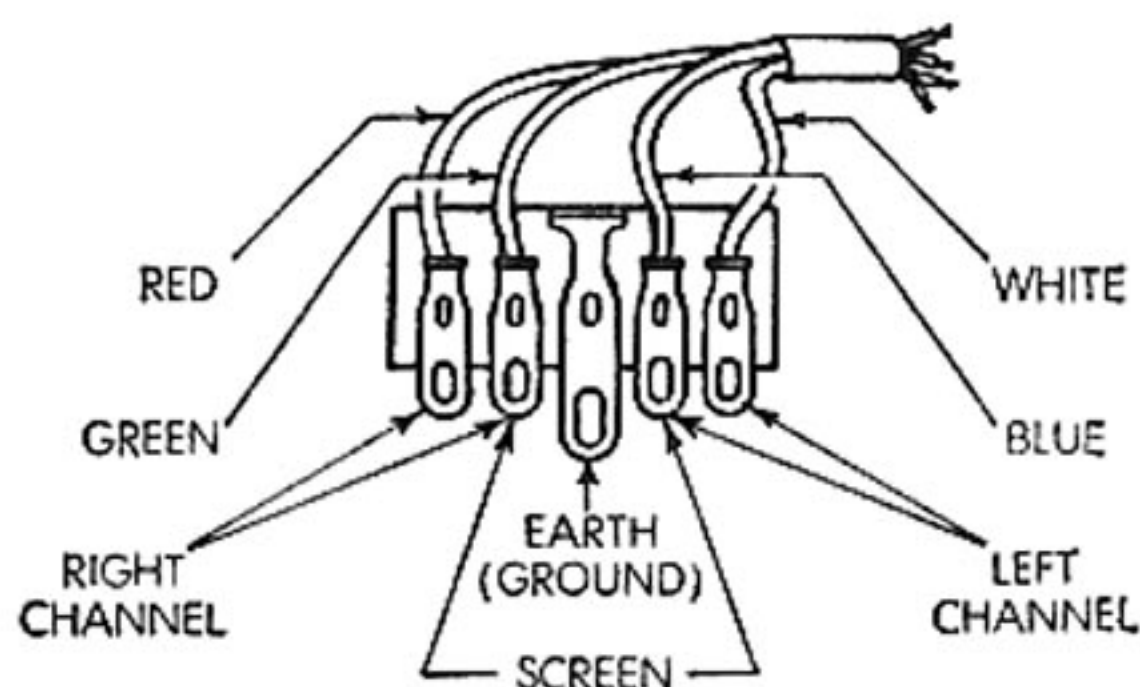
## Dimensions

The SP.25 Mk II requires minimum cabinet space  $15\frac{3}{8}$ " long by  $13\frac{1}{8}$ " wide with clearance for the pickup arm counterbalance weight to overhang  $1\frac{1}{8}$ " max. behind the unit plate and  $1\frac{1}{6}$ " max. to the side of the unit plate, according to the weight of the pickup cartridge fitted. The unit requires  $3\frac{1}{2}$ " space above and  $2\frac{7}{8}$ " below the top of the motor board. Recommended motor board thickness is  $\frac{5}{16}$ " to  $\frac{1}{2}$ ". Should a thicker board be used, recess both  $\frac{9}{16}$ " diameter holes from underneath  $1\frac{1}{8}$ " diameter, to reduce the effective thickness to  $\frac{1}{2}$ ".

## Fitting

The motor board should be drilled and cut out to the template supplied. Do not moisten the template, as it may distort, but fix it to the board with self adhesive tape. Having lifted the unit from the carton, remove all cardboard packing, ties and elastic bands. The record spindle, pickup arm counterbalance weight and any accessories will be found attached to the carton liner. Fit the weight to the rear of the pickup arm with its clamping screw forward (see diagram 1). Instructions for stylus force adjustment can be found on page 10. If the turntable requires fitting, follow the instructions given in the last paragraph of "Maintenance".

Attach a light, flexible lead to the two screw terminals inside the voltage changeover block and connect it to the power supply. The motor should be earthed by connecting a lead from a good earthing point to the earthing tag on the motor. If a power supply socket is fitted to the unit, an appropriate plug should be connected. Connect the audio leads from the amplifier to the tag strip as shown on diagram 4. If the unit is connected to an amplifier whose wiring or chassis is not isolated from the power supply, isolating components, either condensers or transformers, should be incorporated in the pickup circuit, otherwise the pickup circuit can become live. If in doubt consult your dealer.



STEREO PICKUP CONNECTIONS

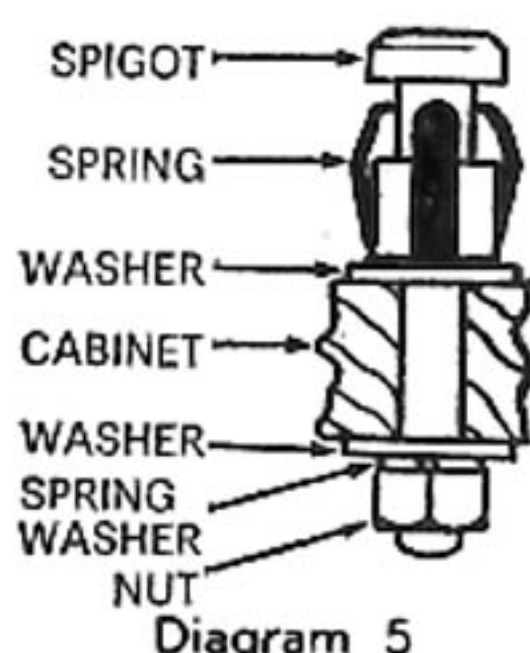
(For Monophonic Cartridges use Right Hand Channel)  
For Monophonic Reproduction when a Stereophonic Cartridge is fitted, parallel the two channels.

Diagram 4

When phono-jack leads are fitted, Brown phono lead is R.H. channel (Red pickup wire), Grey phono lead is L.H. channel (White pickup wire). For monophonic cartridges use Brown phono lead.

Check that the transit screws, looking from the top of the unit, are screwed right down, see diagram 1. Then with their clips vertical, assemble the unit to the board and turn the clips horizontal so that the unit cannot be lifted off the board. Before transporting your unit, turn the transit screws counterclockwise until the unit is firmly clamped. Screw them down before using the unit again.

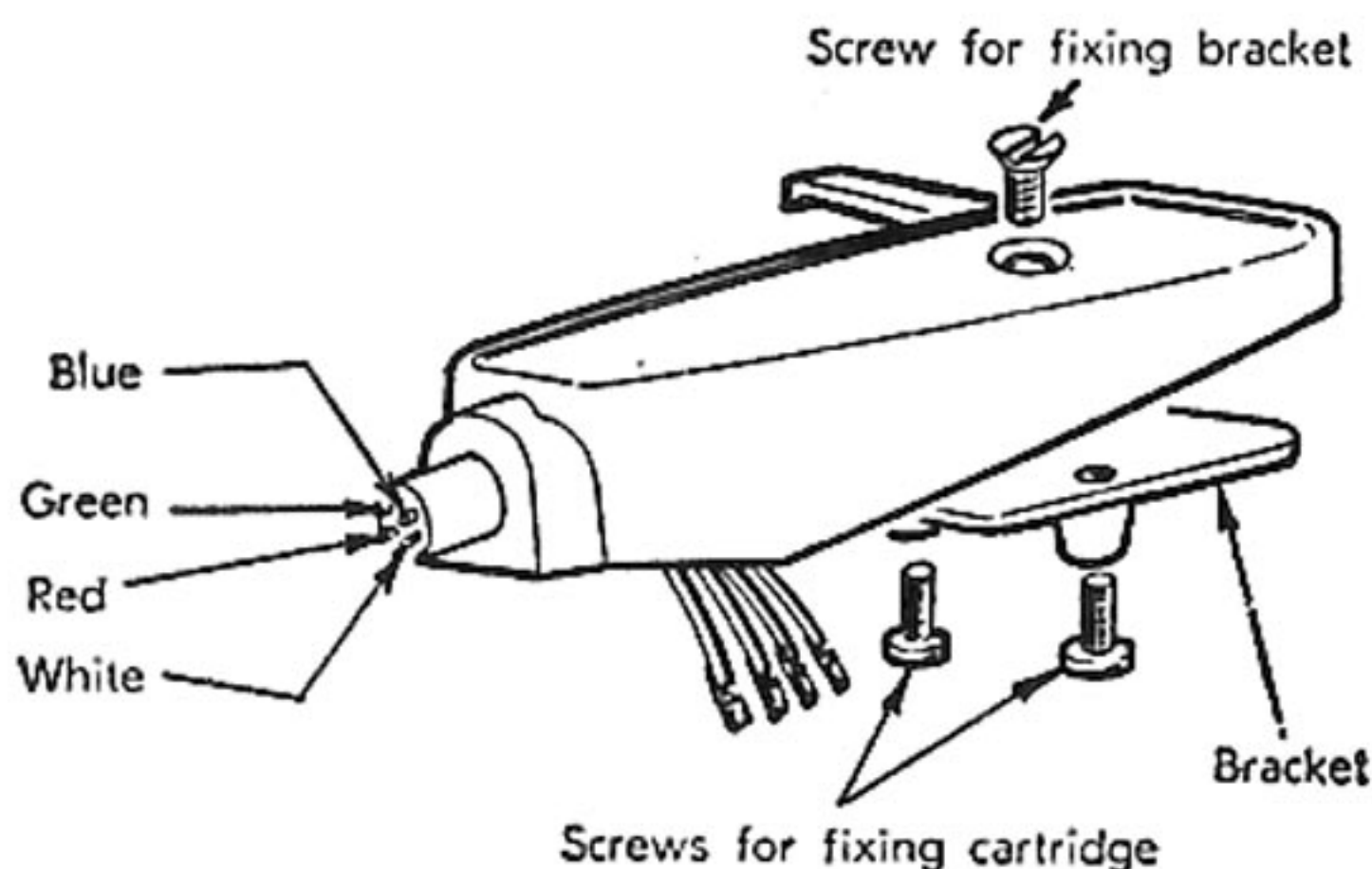
If desired, the 45 r.p.m. adaptor, when not in use, may be parked on a spring stud supplied for the purpose. Drill a hole  $\frac{1}{8}$ " diameter through the cabinet at a convenient place and assemble the kit of parts as shown in Diagram 5. Press the adaptor onto the spigot where it will be held by the spring.



## Fitting Cartridge

A plug-in pickup shell, type M7, is used on the SP.25 Mk II. The pickup hardware kit, part no. 59048, which is supplied when a cartridge is not already fitted, contains a mounting bracket, two 6 BA screws  $\frac{3}{16}$ " long and a 6 BA screw  $\frac{1}{8}$ " long.

These parts allow most types of cartridge to be fitted without difficulty by screwing the cartridge to the mounting bracket and securing the assembly to the pickup shell with the  $\frac{1}{8}$ " screw. Cartridges having a single fixing hole may be fitted directly to the pickup shell using the  $\frac{1}{8}$ " screw.



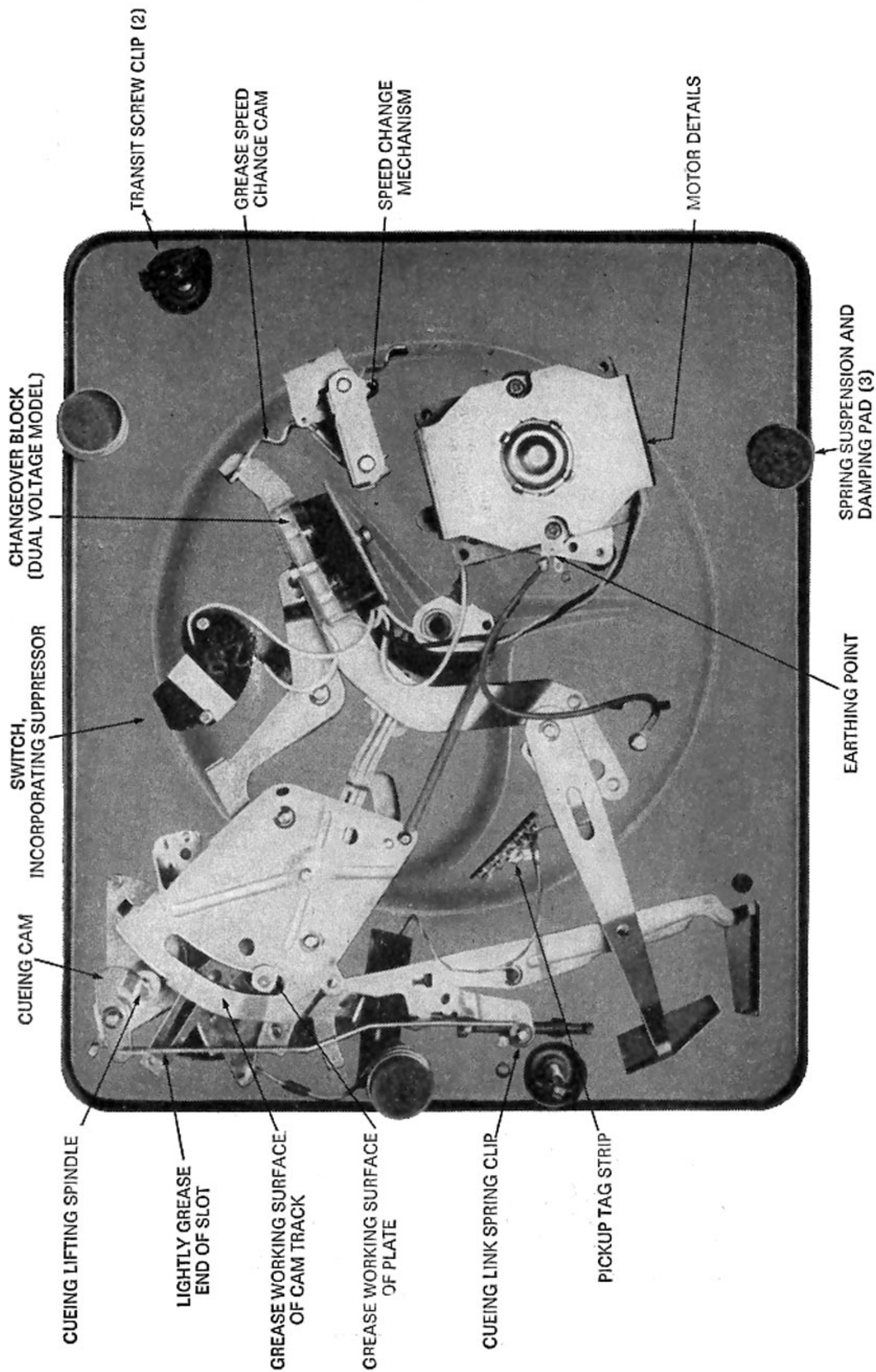


Diagram 7

Connect the colour coded leads in the pickup shell to the connecting tags on the cartridge. Do not solder leads direct to the cartridge. If the cartridge terminations are sockets a special connector must be used. Connect the red lead to the right channel, green to right channel (common), white to left channel and blue to left channel (common).

Information on its connections are usually supplied with the cartridge. For cartridges having three connections, use the green lead as the common connection or join the green and blue leads together and use these as the common connection. For monophonic cartridges use the red and green leads. Insulate and tuck away any leads not required.

When a cartridge has two styli, the stylus presented to the record is shown on top of the stylus rotating device. If no record speed or type appears on it, then a green mark or square indicates a stylus for 78 r.p.m. records and a red mark or triangle indicates a stylus for 33½ and 45 r.p.m. records.

## **Voltage and Frequency**

The Garrard SP.25 Mk II has a low voltage range motor suitable for 100/130 volts A.C., or a dual voltage range motor, suitable for either 100/130 or 200/250 volts A.C. The latter has a voltage changeover block. These units are suitable for various power supply frequencies depending on the motor pulley fitted. The pulleys are coloured for easy identification: Nickel for 50 and Brass for 60 c.p.s.

## **Service Adjustments**

When making an adjustment, protect the stylus by fitting its protective clip, (or if a turnover pickup having a safety mid-position, turn to this position to protect the styli) and disconnect the power supply.

### **Speed**

The SP.25 Mk II will give the required turntable speed within close tolerances. Should, however, the turntable run excessively slow or fast, the motor pulley may not be correct for the frequency of the power supply. Check the pulley colour: Nickel for 50 cycles and Brass for 60 cycles. Fit a replacement pulley if necessary. To gain access to the motor pulley, remove the turntable as described on page 5 under "Maintenance". Should the speed vary during playing examine the motor pulley, rubber intermediate wheel and inside of turntable rim for traces of oil. Wipe them thoroughly with a clean cloth. Check that the two grub screws holding the motor pulley on the motor shaft are equally tight. See that the rubber intermediate wheel runs in the centre of the appropriate pulley step and is not rubbing the side of the adjacent step. If necessary adjust the intermediate wheel height setting blade. This blue spring steel blade beneath the unit plate adjusts the height of the spindle on which the rubber intermediate wheel is mounted.

## Motor

If the motor fails to start when the unit is switched on, check the power supply to see that the current is reaching the motor. With the power supply switched off, check the switch, which is fitted with a suppressor network, shown on diagram 7. See that the switch contacts are clean and make good connection when closed. Make sure the motor is suitable for the voltage of the power supply. The motor details will be found on a label on the side of the motor (see diagram 7), or stamped around the flange of the bottom bearing cover.

If you have a dual voltage range model, check that the links inside the voltage changeover block are tight and correctly set as shown on the voltage changeover block cover (see diagram 7).

## Pickup Return Height

The height that the pickup arm lifts off the record after automatic trip can be adjusted by turning the top screw at the left hand side of the pickup arm pivot bracket (see diagram 2). The height should normally be set so that the underside of the arm clears the lower step of the pickup rest by  $\frac{1}{32}$ " as the arm returns to its rest.

## Pickup Cueing Height

With the control in the "Lift" position and the pickup arm swung over a record on the turntable, the height of the stylus point above the record should be  $\frac{1}{32}$ ". If necessary, this height can be adjusted by removing the button from the upper casting cover (see diagram 2). This gives access to the Cueing Lifting Spindle, which turned clockwise will increase the cueing height and counterclockwise will decrease it.

## Pickup Stylus Force

With the pickup head in position, turn the stylus force adjustment dial to zero. Loosen the screw holding the counterbalance weight to the back of the pickup arm and release the arm from its rest to pivot freely. Slide the weight along the pickup arm until the point of balance is found — the arm will then be horizontal — retighten the screw to secure the counterbalance weight. To set the required stylus force, turn the dial until the figure in grammes recommended by the manufacturer of the pickup cartridge appears opposite the pointer. The scale on the dial is graduated in approximately  $\frac{1}{4}$  gramme divisions.

## Pickup Tracking

Should there be a tendency for the pickup to track incorrectly, check that the correct stylus is being used for the type of record being played, and is free of accumulated dust. Make sure that the

stylus force is that recommended by the pickup cartridge manufacturer. Also check that the pickup leads from the rear of the pickup arm are free and clear of the sides of the slot where they pass through the unit plate. The bias compensator counteracts the tendency for a pickup arm to swing inwards, therefore ensure that the bias compensator pivots freely.

### **To remove and replace the Pickup Head**

To remove the pickup head, unscrew its locking collar (see diagram 2) and gently pull the head from the arm. To replace the head, locate the pin on the pickup head in the slot in the pickup arm and slide the head in. Then bring the locking collar forward and screw it up until tight.

### **To connect the Pickup Arm Bias Compensator**

The unit may be supplied with the bias compensator disconnected. If this is the case slacken the pickup arm pivot screw shown in both diagrams and swing the pin bracket from the position shown in diagram 8(a) to the position shown in diagram 8(b) so that its pin will carry the compensator weight as the pickup arm tracks. Finally, retighten the pivot screw.

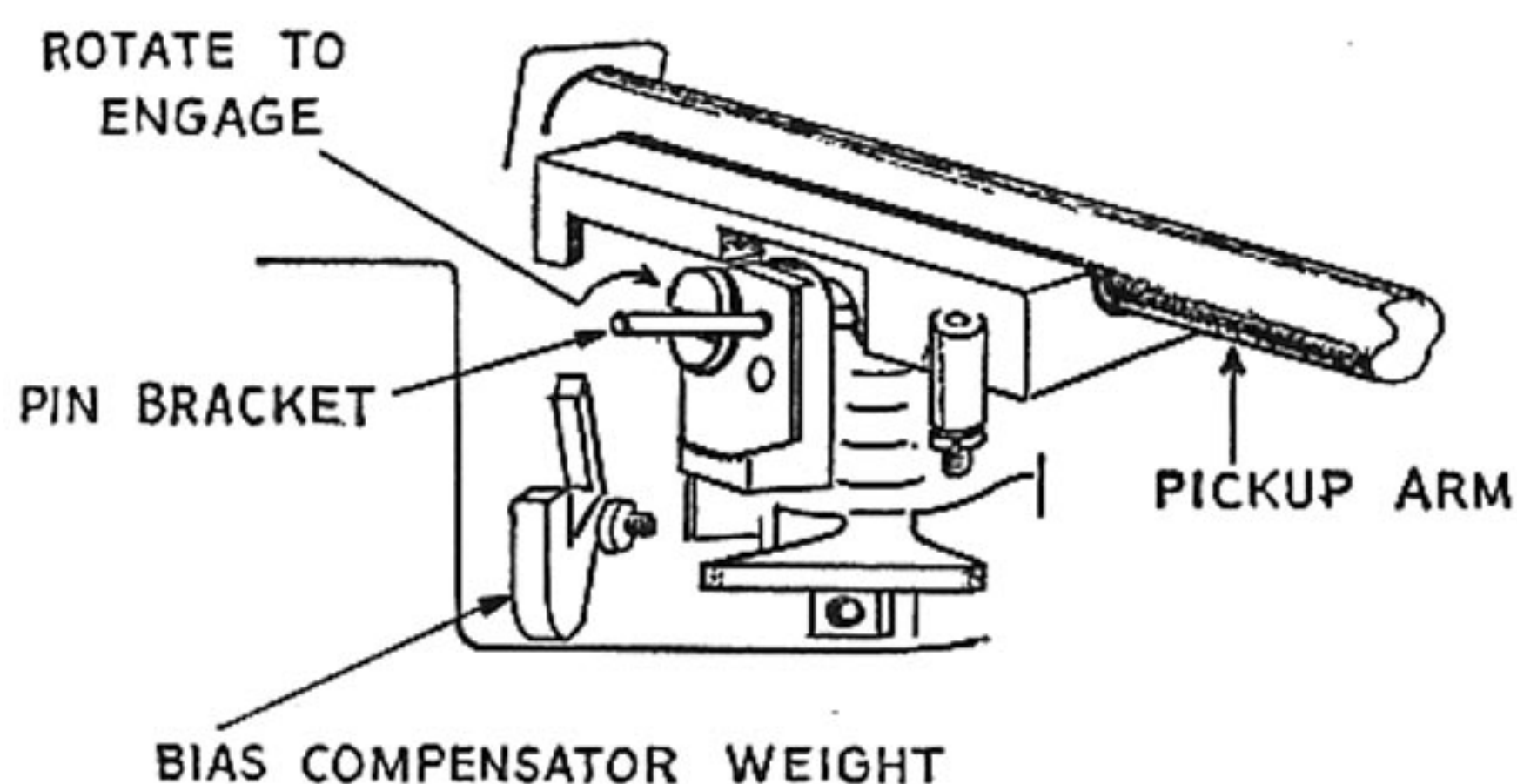


Diagram 8(a)

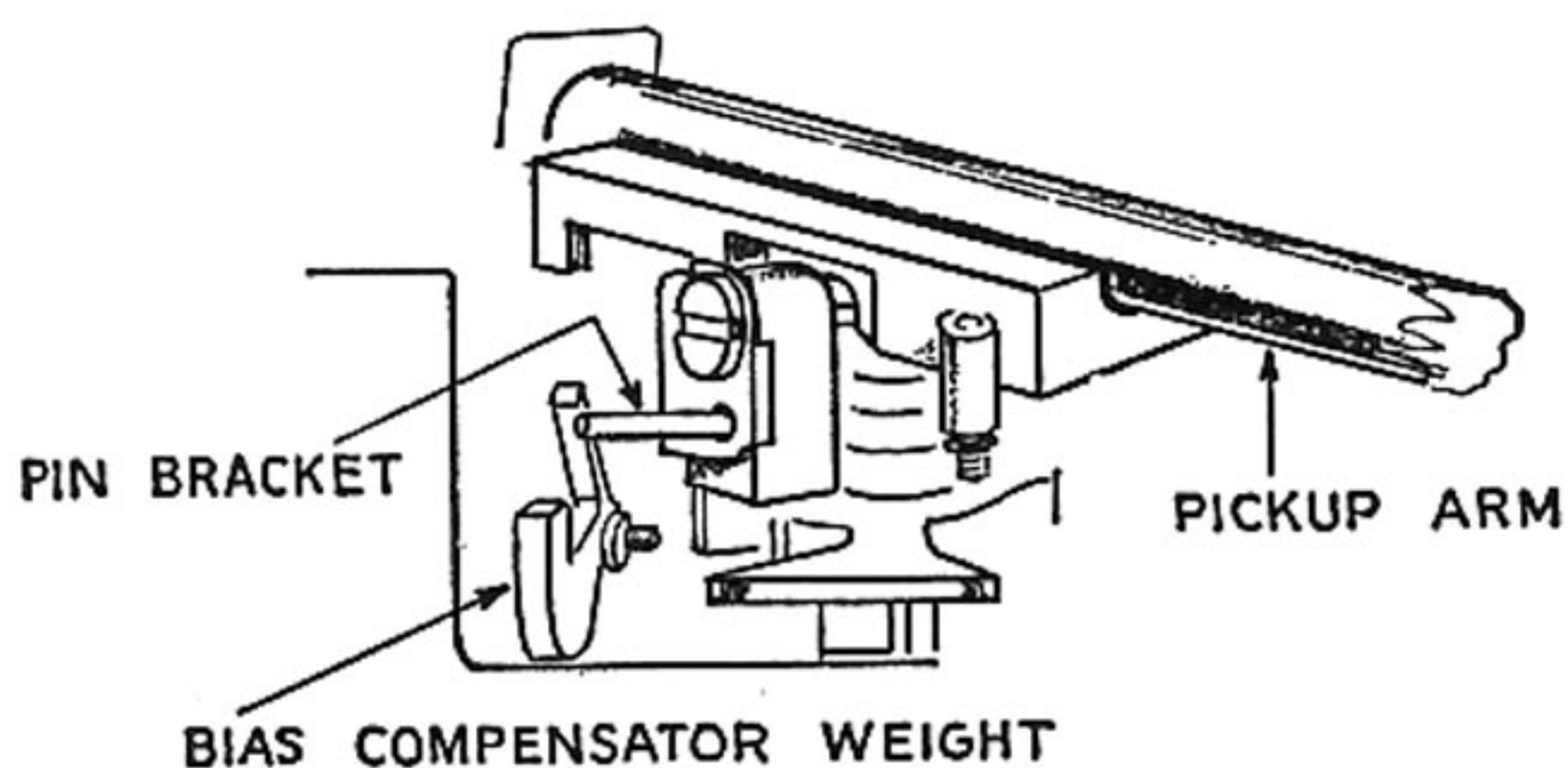


Diagram 8(b)

# SPARE PARTS LIST

When ordering spare parts, quote the model type, code (from inspection label), part number, colour if part is enamelled or plastic and voltage range for motor parts.

| Description                                                                                    | Part Number |
|------------------------------------------------------------------------------------------------|-------------|
| Record Spindle .....                                                                           | 59830       |
| 45 r.p.m. Adaptor .....                                                                        | 72698       |
| Turntable Retaining Clip .....                                                                 | 43834       |
| Turntable Assembly (Slip on Type Mat)                                                          | 71693       |
| Turntable Nameplate for 71693 .....                                                            | 71652       |
| Turntable Assembly (Stick down Type Mat) .....                                                 | 71162       |
| Turntable Nameplate for 71162 .....                                                            | 71524       |
| Pickup Shell M7 (less cartridge) .....                                                         | 70870       |
| Pickup Arm Counterbalance Weight Assembly .....                                                | 59080       |
| Stylus Force Spring .....                                                                      | 44893       |
| Damping Pads (Spring Suspension) .....                                                         | 70447       |
| Spring Clip for Cueing Link .....                                                              | 41723       |
| Moulded Button, covering hole in Pickup Base Casting .....                                     | 71477       |
| Damping Fluid .....                                                                            | 71724       |
| Motor Pulley for 60 cycle Power Supply                                                         | 58921       |
| Motor Pulley for 50 cycle Power Supply                                                         | 58920       |
| Rubber Intermediate Wheel .....                                                                | 58220       |
| Spring for Intermediate Wheel .....                                                            | 44819       |
| Motor complete, less Leads .....                                                               | 60350       |
| Motor Leads complete with Voltage Changeover Block (Dual Voltage Range Model) and Switch ..... | 60365       |
| Pickup Rest .....                                                                              | 72501       |



**Garrard Engineering Limited,  
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