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Garrard

Model SP. 25 Single Record Playing Unit INC MK III

(with SP.25 Mk II supplement) AT REAR

GRG 3 6 9

ENGINEERS' SERVICE MANUAL AND SPARE PARTS LIST

Introduction

The Garrard SP.25 is a high quality single record playing unit, elegantly styled and incorporating many practical features. The pick-up arm, of the modern, tubular type, has ball-bearing pivots. A cue and pause device is fitted so that the arm can be positioned over the record before play, and gently lowered by the pickup arm control. The pickup arm returns automatically to its rest after play. These refinements, together with the pickup lifting feature, considerably reduce the risk of accidental damage to record or stylus through mishandling. In addition, the large turntable, foam-damped suspension springs, pickup arm bias compensator and plug-in pickup head, reflect the attention to detail and quality built into this unit. It is made as a dual voltage range model, suitable for 100/130 and 200/250 volts a.c. and as a low voltage range model, suitable for 100/130 volts a.c. The dual voltage range model is fitted with a voltage changeover block. These units are suitable for two power supply frequencies depending on the motor pulley fitted. Both pulleys may be coloured for easy identification: Nickel for 50 and Brass for 60 Hz. supplies. On later units identification may be by means of the size of the pulley base: pulley base diameter smaller than the 78 revs/min step for 50 Hz, larger for 60 Hz.

Should you require any further information or advice not covered by this Manual, our Technical Service Department will be pleased to help. For spare parts and service returns contact our Service and Spares Department. Address: Garrard, Kembrey Street, Swindon, Wilts. Tel: Swindon (0793) 6211; or in other countries your Garrard Agent.

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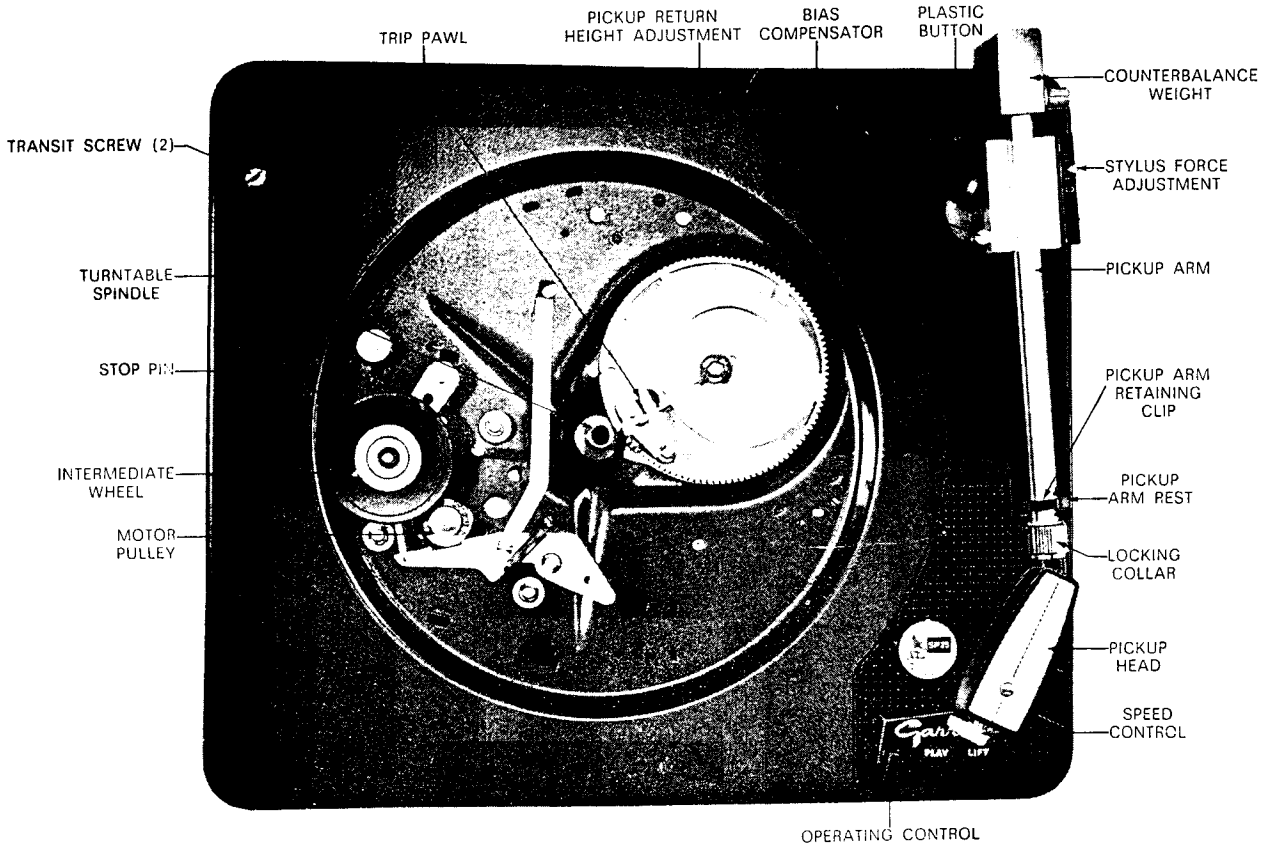

Diagram 1

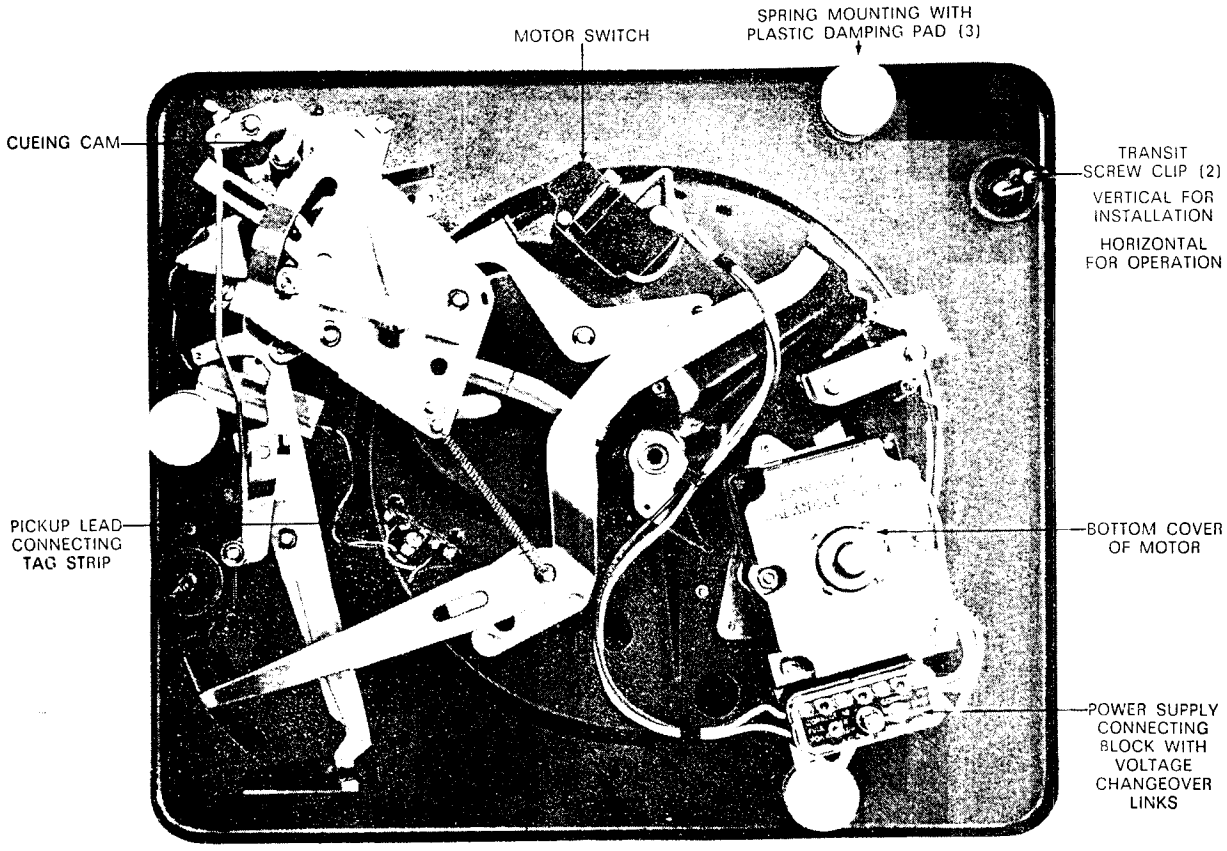

Diagram 2

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Operation

(Note: Model SP.25 Mk II cue and pause control is not integral with the operating control)

The Garrard Model SP.25 will play single records up to 12" diameter. The pickup arm will lift and return to its rest after playing a record, and the unit will switch off automatically. Cue and pause facilities are also provided. 7" - 45 r.p.m. records with large centre holes may be played by fitting a large hole 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 pick-up will then lower gently on to record.
   (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 the record player is not in use.

Cue and Pause

Move the control to LIFT and the pickup arm will rise from the record. Move the control to PLAY and the pickup arm will lower on to the record.

To Stop

Either: Move the control to LIFT, swing the pickup arm back to its rest, then move the control to 'OFF'.

Or: Move the control to LIFT, then swing the pickup arm into the centre of the record, when the trip mechanism will operate; return 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 records, store and clean them as recommended by the record manufacturers. Replace the stylus when worn and clean away any accumulated dust.

Maintenance

Before carrying out maintenance, the unit should be disconnected from its power supply and the stylus protected.

The motor, turntable spindle and 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 a light oil. Pivots of levers should be lightly oiled if the mechanism becomes stiff to operate. Remove all traces of oil from the motor pulley, intermediate wheel and inside turntable rim by wiping these driving surfaces with a clean cloth.

If the pickup lowers rapidly, the damping fluid controlling this movement should be renewed. On earlier units, proceed as follows (on later units see SP.25 Mk II supplement). To do this, take off the spring clip at the control end of the cueing link so that the cueing cam shown on Diagram 7 can be pivoted to expose the cueing lifting spindle. Remove the spring clip from the end of the lifting spindle and withdraw the cueing piston sleeve, to clean and recharge it with damping fluid. The damping fluid, reference no. 71724, is available from our Spares Department and may be applied with a matchstick. Take care to replace the small washer between the piston and the shoulder on the cueing spindle, since its absence would also lead to rapid lowering.

To remove the turntable, take out the record spindle and prise 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 under diametrically opposite sides of the flange.

When replacing the turntable, check that the control is in the OFF position and that the gap in the teeth of the cam gear is adjacent to the turntable spindle with the trip pawl (see Diagram 1) 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 that the rubber location is not damaged when sandwiching the nameplate into position, using a screwdriver or penknife as a lever.

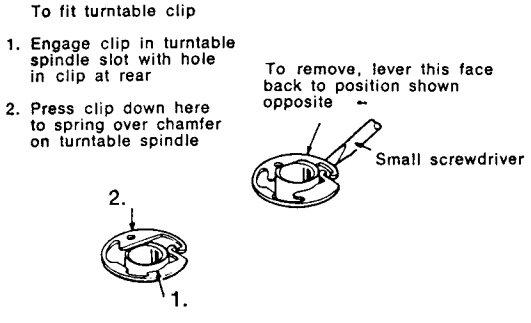

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Diagram 3

Adjustments

Before making an adjustment, the unit should be disconnected from its power supply, and the stylus protected.

Motor Pulley Height
The top of the motor pulley should be level with the top of the intermediate wheel stop pin shown on Diagram 1. If necessary, slacken the grub screws holding the pulley, raise or lower it, then retighten both screws equally.

Intermediate Wheel Height
The intermediate wheel should run in the centre of the appropriate pulley step and must not touch the side of an adjacent step. If necessary, raise or lower the intermediate wheel height setting blade. This blue, spring steel blade is found beneath the unit plate and alters the height of the support bracket on which the rubber intermediate wheel is mounted.

Pickup Return Height
The height that the pickup arm lifts off the record after it has tripped in the centre of a record can be adjusted by turning the top screw at the left-hand side of the pickup arm pivot bracket (see Diagram 1). The height should normally be set so that the underside of the arm clears the lower step of the pickup rest by $\frac{1}{32}$" (0.8 mm) 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 $\frac{13}{32}$" (10mm). If necessary, this height can be adjusted by removing the button from the upper casting cover (see Diagram 1), to give access to the slotted cueing lifting spindle which, when turned clockwise, will increase the cueing height and counterclockwise will decrease it.

Pickup Stylus Force
To set the stylus force, unscrew the knurled screw holding the pointer on the stylus force scale and slide the pointer to the zero mark on the scale. Now loosen the screw holding the counterbalance weight on the rear of the pickup arm. With the pickup arm off its rest and free to pivot, slide the weight along it until the arm is horizontal, indicating the point of balance with the pickup head. Tighten the counterbalance weight fixing screw. To set the required stylus force, slide the pointer along the scale graduated in gramme divisions from one to five, then tighten the pointer locking screw at the appropriate mark. Stylus force should be set to the pickup cartridge manufacturer's recommended figure. SP.25 Mk II stylus force adjustment is described in the supplement at the rear of this manual.

To Remove and Replace the Pickup Head
To remove the pickup head, unscrew its locking collar (see Diagram 1) 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 engage the Pickup Arm Bias Compensator
The unit may be supplied with the bias compensator disengaged. If this is the case, then the pin bracket should be swung to the position shown in Diagram 4 so that its pin will carry the compensator weight as the pickup arm tracks. This weight should pivot quite freely in order that the compensator can function correctly and counteract the inherent force which drives the pickup arm inwards when a record is being played. This force decreases as the pickup moves across the record and it will be seen that compensation is progressively reduced.

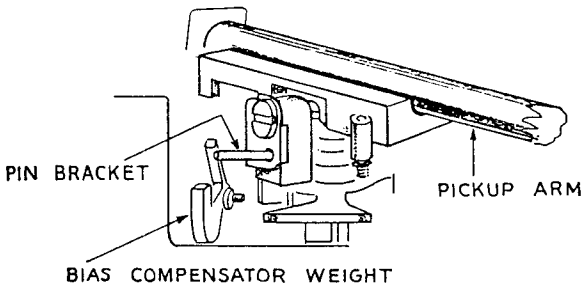

Diagram 4

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Installation

Dimensions

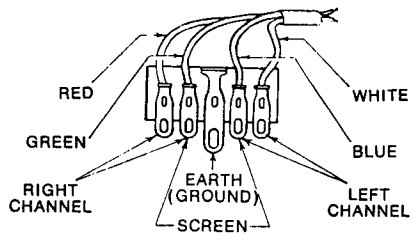
The Garrard SP.25 is $15\frac{1}{16}$" (383 mm) wide by $12\frac{1}{2}$" (317 mm) front to rear; $2\frac{7}{8}$" (73 mm) above and $2\frac{3}{4}$" (70 mm) below lower edge of unit plate. The actual dimensions, including the maximum rear and side overhang of the pickup arm, are given.

Recommended minimum clearances, which will allow the unit to float freely on its suspension springs and to be clamped to the motor board for transit purposes, will be obtained by adding $\frac{1}{2}$" (13 mm) to each dimension. According to the design of cabinet or case additional clearance may be required for playing 12" (305 mm) records. Recommended motor board thickness is between $\frac{5}{16}$" (8 mm) and $\frac{1}{2}$" (13 mm). If a thicker board is used, it will be necessary to recess the transit screw holes to $1\frac{1}{8}$" (29 mm) diameter from the underside to allow the clips on the ends of the transit screws to be turned.

Fitting Unit

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, turntable clip and name plate will be found in packets stapled to the carton liner. The counterbalance weight for the pickup arm is also 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 setting stylus force will be found above. If the turntable is not fitted, follow the instructions given in the last paragraph of "Maintenance" on page 5.

Connect a lead from the power supply to the two terminal screws in the voltage changeover block after checking that the position of the wire links has been correctly set in accordance with the diagram moulded into the block's cover. If a power supply socket is fitted to the unit, then a lead terminated by the appropriate plug should be connected.



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

Diagram 5

The motor should be earthed by connecting a lead from a good earthing point to the earthing terminal on the motor.

Connect screened audio leads from the amplifier to the tag strip as shown on Diagram 5. Note on later units that the blue lead may be black.

If the unit is connected to an amplifier whose wiring is not isolated from the power supply, isolating components, either capacitors or transformers, should be incorporated in the pickup circuit, otherwise the pickup circuit can become live.

When phono leads are fitted, Brown Phono lead is R.H. channel, Grey phono lead is L.H. channel. 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 the transit screw clips vertical, assemble the unit to the motorboard. When the unit is in place, turn the clips horizontally so that the unit cannot be lifted off the board. Before transporting the unit, turn both transit screws counterclockwise until the unit is firmly clamped. Screw them down before using the unit again.

Fitting Cartridge

A plug-in pickup shell, designated M7, is used on the SP. 25, although an alternative shell, known as M6, having a deeper front to accommodate larger pickup cartridges, is also available. These are supplied with or without a pickup cartridge according to requirements. The pickup cartridge mounting kit, part no. 59048, which is supplied when a cartridge is not fitted, contains a set of cartridge fixing accessories comprising:

Mounting plate
Two 6BA x $\frac{3}{16}$" (5 mm) screws
One 6BA x $\frac{1}{8}$" (3 mm) screw

These parts allow most types of cartridge to be fitted by screwing the cartridge to the mounting plate and securing the assembly to the pickup shell with the $\frac{1}{8}$" (3 mm) screw. Cartridges having a single fixing hole may be fitted directly to the pickup shell using the $\frac{1}{8}$" (3 mm) screw.

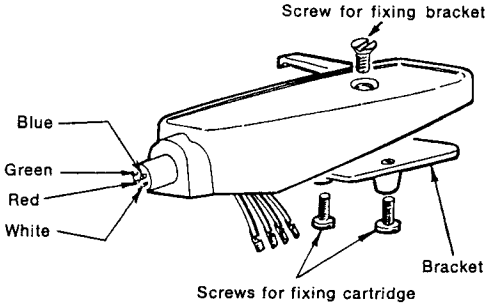


Diagram 6

Connect the colour-coded leads in the pickup shell to the output tags on the cartridge. Do not solder leads direct to the cartridge. If the cartridge terminations are sockets, a special connector must be used. The connections should be made as follows:—

Red to Right Channel
Green to Right Channel (Earthy)
White to Left Channel
Black or Blue to Left Channel (Earthy)

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.

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Cue and Pause Mechanism

For SP.25 Mk II see supplement at rear of Manual

The purpose of this mechanism is to lower the pickup on to the record and lift it again at any required time before completion of the record simply by moving the operating control. The control is moved to PLAY in order to start the turntable. When moved to its right hand extremity, that is to LIFT, the motion is transferred to the pickup lifting platform by way of a wire link which pivots the cueing cam controlling the vertical movement of a spindle connected to the platform. These parts are shown in Diagram 7. The pickup can then be moved inwards until it is immediately above the point at which play is required to commence.

The control will remain at LIFT with the pickup poised above the record (pause) until moved back to PLAY when the pickup will lower slowly and steadily. This action is brought about by the cueing cam returning to its original position, thereby releasing the cueing spindle which, in turn, retracts the pickup lifting platform. Although the cueing spindle returns under pressure from the friction spring, its movement is damped by the presence of a viscous fluid between a piston on the spindle and the cylinder in the lower casting through which it passes.

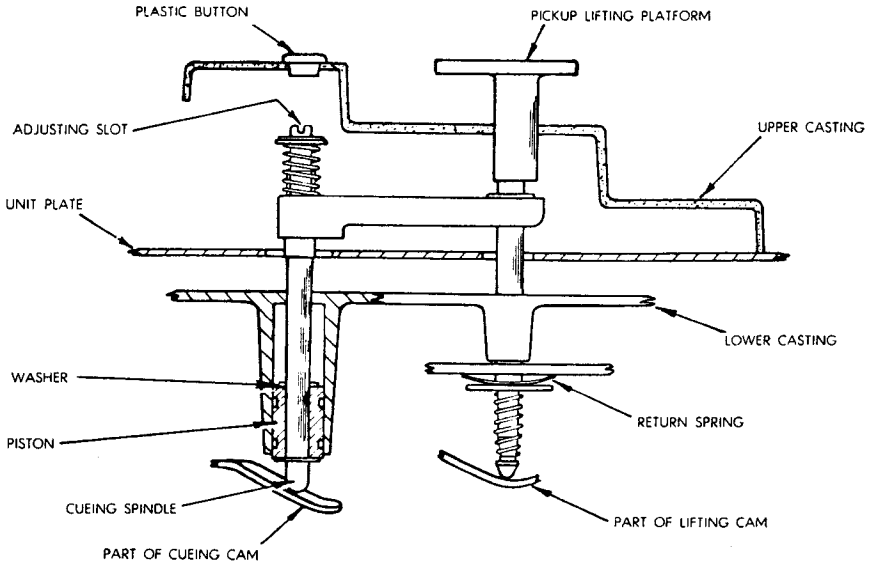

Diagram 7

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FAULT CHART

Before servicing the Record Playing Unit should be disconnected from its power supply and the pickup cartridge protected. Numbers in brackets refer to parts shown on Diagrams 8 and 9.

FAULT	CAUSE	CORRECTION
PICKUP ARM MOVEMENT		
Pickup begins to lower, then swings in.	1. Pickup leads not free.	Relieve any strain in leads and keep them clear of slot in unit plate.
	2. Lifting spring (36) or friction spring not working.	Check that lifting spring has not slipped over its retaining shoulder and is not damaged or obstructed. Check that triangular, blue spring steel friction spring is working; with lifting spring held clear, deflecting it away from pickup cam (40), it should spring back. Replace either of these springs if faulty.
Pickup will not lift sufficiently to return to its rest.	1. Pickup return height incorrectly set.	See "Adjustments" for correct setting.
Pickup lowers rapidly.	1. Insufficient damping fluid.	See "Maintenance".
Pickup arm will not lower on to record.	1. Lifting spindle unit (7) sticking.	With pickup arm raised, pull up lifting spindle and watch for it to return under spring pressure. If it does not, examine beneath unit to see that no leads or mechanism impede it. Check that lifting spring (36) has not slipped over its retaining shoulder. Lubricate lifting spring with light, machine oil.
	2. Pickup cueing height incorrectly set.	See "Adjustments" for correct setting.
	3. Damaged cueing link (34).	Re-shape or replace.
Pickup jumps first few grooves of record.	1. Stylus force too low.	See "Adjustments".
	2. Worn or wrong size stylus.	Check that stylus is correct for type of record being played. Examine stylus under a magnifying glass and replace if chipped or worn.
	3. Pickup leads not free.	Relieve any strain in leads and keep them clear of slot in unit plate.
	4. Groove guard on record.	Some records are made with a raised rim around the edge of the record to guard the record surface. If the stylus lowers on the slope of this rim, it may jump across the first few playing grooves. Therefore, make certain that the stylus lands just inside the raised rim.
	5. Too much friction in friction link (37).	Lubricate friction link along its slot, with light grease.
Pickup remains in centre of record, or repeats in record groove when nearing centre of record.	1. Stylus force too low.	Check stylus force and adjust as described under "Adjustments".
	2. Accumulation of dust on stylus or worn stylus.	Remove dust. Check stylus with magnifying glass. Replace if worn.
	3. Pickup leads not free.	Relieve any strain in leads and keep them clear of slot in unit plate.
	4. Pickup cartridge case (10) touching record.	Check that cartridge bracket fixing screw and cartridge fixing screws are tight. If stylus bar is bent, replace it.
	5. Too much friction on automatic trip links.	Guard stylus and move pickup arm slowly inward by hand. Should any stiffness be felt, check associated levers for freeness.

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FAULT	CAUSE	CORRECTION
TURNTABLE SPEED		
Speed varies erratically.	1. Oil on driving surface.	Remove turntable and clean all driving surfaces (see "Maintenance").
	2. Motor pulley (16) loose or height incorrect.	Check that grub screws are tight. See "Turntable runs excessively fast or slow", Cause 4.
	3. Motor shaft tight.	If the motor shaft is tight in its bearings, it will not turn freely when spun with the fingers. This condition may be caused by using heavy lubricating oil, or by mis-aligned motor bearings. See "Motor runs slowly", Causes 1 and 2, for correction.
Speed varies consistently (Wow and Flutter).	1. Tight turntable spindle.	Revolve turntable by hand without engaging trip mechanism. If it does not turn freely remove turntable (see "Maintenance") and wipe its bearing and spindle with clean cloth. Oil spindle and ball race (21) with light, machine oil. Remove surplus oil.
	2. Dirt on inside of turntable rim.	Remove turntable (see "Maintenance") and clean inside turntable rim with clean cloth.
	3. Loose motor pulley (16).	See "Speed varies erratically", Cause 2.
	4. Flats on intermediate wheel (17).	Slight flats can often be removed by running the unit continuously for a few hours. If this does not suffice, replace intermediate wheel. To avoid flats on the intermediate wheel always switch off by means of the operating control.
	5. Bent shaft or unbalanced rotor.	Should the motor shaft with pulley removed (if the removable type) be more than .0005″ out of truth or the motor vibrate badly, the rotor and shaft assembly should be replaced. The rotor and shaft are integral and no attempt should be made to separate them.
Turntable does not revolve when motor is running.	1. Oil on driving surfaces.	Remove turntable and clean all driving surfaces (see "Maintenance").
	2. Intermediate wheel tension spring not functioning.	Check that the spring attached to the end of lever (15) is still in place. Move the Control to "Manual" and watch to make sure that the spring goes into tension. If not, it means that the spring has stretched and should be replaced.
	3. Intermediate wheel support bracket (18) not free.	Check that this bracket is free to move in the slot in the unit plate. The intermediate wheel (17) should engage motor pulley firmly on switching the Control to "Play" and retract freely when switching to "Off". If bracket (18) is tight, check speed change mechanism underneath unit plate. Look for damage to mechanism and lubricate the intermediate wheel support spindle and speed change spindle with light, machine oil.
Turntable runs excessively fast or slow.	1. Voltage range of motor set incorrectly.	Disconnect power supply and examine connections. Check that specification on motor corresponds to that of the power supply. If dual voltage range model, check changeover block connections against instructions on its cover. Make sure links in block are tight and making good contact.
	2. Incorrect motor pulley (16).	Remove turntable (see "Maintenance") and check pulley coding, see reference in "Introduction" section, page 1. If incorrect, replace it. When ordering, quote SP.25 and frequency of power supply.
	3. Tight intermediate wheel (17) bearing.	Spin intermediate wheel when disengaged from motor pulley to see if it runs freely. If it does not, remove it, clean its spindle and bearing, then lubricate with light, machine oil and reassemble.
	4. Motor pulley (16), or intermediate wheel height incorrect.	See "Adjustments".

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FAULT	CAUSE	CORRECTION
Speed slightly fast or slow.	1. Wrong size pulley (16).	If turntable fails to run within reasonable speed limits after following preceding instructions, time turntable speeds with a watch while playing a record. Send pulley, quoting Model SP.25 and turntable speeds to our Technical Service Department and your pulley will be replaced by one of correct size.
Motor runs slowly.	1. Motor lubrication.	The rotor shaft should spin freely by hand. If it does not, dismantle the motor and clean bearings and rotor shaft. Lubricate with thin machine oil and reassemble.
	2. Motor bearings out of line.	If rotor shaft will not spin freely, although properly lubricated, tap body of motor with a piece of wood such as a screwdriver handle, to shock self-aligning bearings into line and free rotor shaft. Should a faulty bearing or ineffective retaining spring be found, replace appropriate cover assembly.
	3. Motor coils incorrect polarity.	The polarity of the coils should be the same. If the motor runs slowly, check polarity and if necessary change over the leads to one coil. If a plug-in bobbin motor, change over the leads in one plug.
	4. Motor coil(s) open circuit.	The two coils are connected in parallel to run on low voltage on the dual voltage model. If one winding becomes open circuit, the motor will run slowly. Check continuity and if necessary proceed as stated under "Motor will not start", Cause 4. On single voltage range models, windings are connected in series, and if an open circuit occurs the motor will not run.
	5. Motor pulley wrong size for power supply frequency.	Check motor pulley coding - see reference in introduction section, page 1.
Motor runs hot.	1. Normal running conditions.	Provided motor current does not greatly exceed the following figures at the voltage stated, the temperature of the motor should not rise above its designed running temperature. 115 volts, 60 Hz. 0.1 amp 240 volts, 50 Hz. 0.06 amp Although Garrard motors are designed to run under unventilated conditions, as much ventilation as possible is beneficial.
	2. Short circuit in coil(s).	Check windings for short circuit with an ohmmeter. If unsatisfactory, proceed as stated under "Motor will not start", correction 4.
	3. Incorrect voltage.	Check that voltage specification on motor corresponds to voltage of the power supply. If supply voltage is too high, the coils may burn out. If a voltage changeover block (27) is fitted, check that its links are set correctly.
	4. Insulation leakage to earth.	Test insulation between windings and frame with a 500 volt insulation test meter; it should not be less than two megohms. It is recommended that the motor be earthed from its earthing terminal to a good earthing point.

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FAULT	CAUSE	CORRECTION
Motor will not start.	1. No power supply.	Check that current is reaching motor switch by means of a test lamp or meter.
	2. Loose connections.	See "Interference on reproduction", Cause 2.
	3. Bad switch contact.	See "Interference on reproduction", Cause 1.
	4. Open circuit coils.	Check coils (26) for continuity. If continuity check is not satisfactory, disconnect the motor leads, noting their connections, particularly for a dual voltage model. Remove turntable (see "Maintenance") and withdraw motor from its suspensions. Fit replacement motor. This is facilitated on later models which have plug-in bobbin connections.
NOISE		
Interference on reproduction.	1. Bad switch (44) contact.	Turn power supply off and remove cover from switch. Check that leads are securely soldered, contacts are clean and that they close when control is moved to "Play". To do this, it may be necessary to screw the switch to unit plate temporarily without cover.
	2. Loose power supply lead connections.	Examine all connections to make sure of good electrical contact. If a dual voltage model, check that voltage changeover links (27) are tight on their studs. Scrape any tarnish from studs. See the links are set to correct voltage as shown on changeover block cover (27).
	3. Loose pickup cartridge connections.	Check that pickup leads are securely soldered to pickup cartridge tags and tagstrip (31). See diagrams 5 and 6. Also check continuity of leads by removing tags from cartridge and checking circuit from tags to tagstrip. See that tags are a tight fit on pins. Do not solder leads direct to cartridge as heat will damage the element.
Mechanical noise.	1. Lack of lubrication.	See "Rumble", Cause 2.
	2. Flats on intermediate wheel (17).	See "Speed varies consistently (Wow and Flutter)", Cause 4.
	3. Loose lever.	Eliminate buzzing or chattering noise by touching each lever in turn. A spot of light oil on pivots and points of contact should remedy the trouble when offending lever is found.
Rumble.	1. Motor pulley (16) height incorrect.	See "Turntable runs excessively fast or slow", Cause 4.
	2. Lack of lubrication.	Remove turntable (see "Maintenance") and clean turntable spindle and bearing and ball race (21); lubricate then with a light oil. Remove any excess oil.
	3. Faulty spring mountings.	Check that springs (46) support the unit free of cabinet. See that motor is free in its rubber suspensions (28) and that unit is not affected by attachment of a heavy power supply cable.
	4. Dirt on intermediate wheel (17).	Clean the rubber intermediate wheel with a cloth, or scrape driving surface lightly to remove any foreign matter.
	5. Rubber intermediate wheel (17) perished.	Should intermediate wheel have hardened with age, showing cracks on its surface, replace it.
	6. Motor pulley (16) not fitted correctly.	Ensure that both fixing grub screws (16) are equally tightened.
	7. Incorrect pickup match with amplifier.	Make sure that pickup matching circuit is to pickup and amplifier manufacturers' recommendations.

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FAULT	CAUSE	CORRECTION
AUTO SWITCH		
Fails to switch off when record has played.	1. Excessive friction on control lever (12).	Check that movement of control lever is not restricted and its associated levers are not damaged. Should any lever be damaged, repair or replace it. Grease end of control lever that operates switch lever (42).
	2. Switch-off lever (41) tight.	Check that this lever moves freely between unit plate and lower casting (38). When tail of this lever is moved away from pickup arm, it should return under spring pressure. For switch mechanism to work properly, switch-off lever tail must be square with unit plate. If it has been bent in transit, carefully reshape it.
PICKUP TRACKING		
Stylus fails to track correctly.	1. Dust build-up on stylus.	Remove accumulated dust from stylus.
	2. Stylus force too low.	See "Adjustments".
	3. Worn or wrong size stylus.	Check that stylus is correct for type of record being played. Examine stylus under a magnifying glass and replace if chipped or worn.
	4. Pickup leads pulled tight or trapped in mechanism.	Make certain that the leads are clear of sides of slot in unit plate and of any other obstruction.
	5. Pickup arm bias compensator not pivoting freely.	Remove compensator and clean its spindle.

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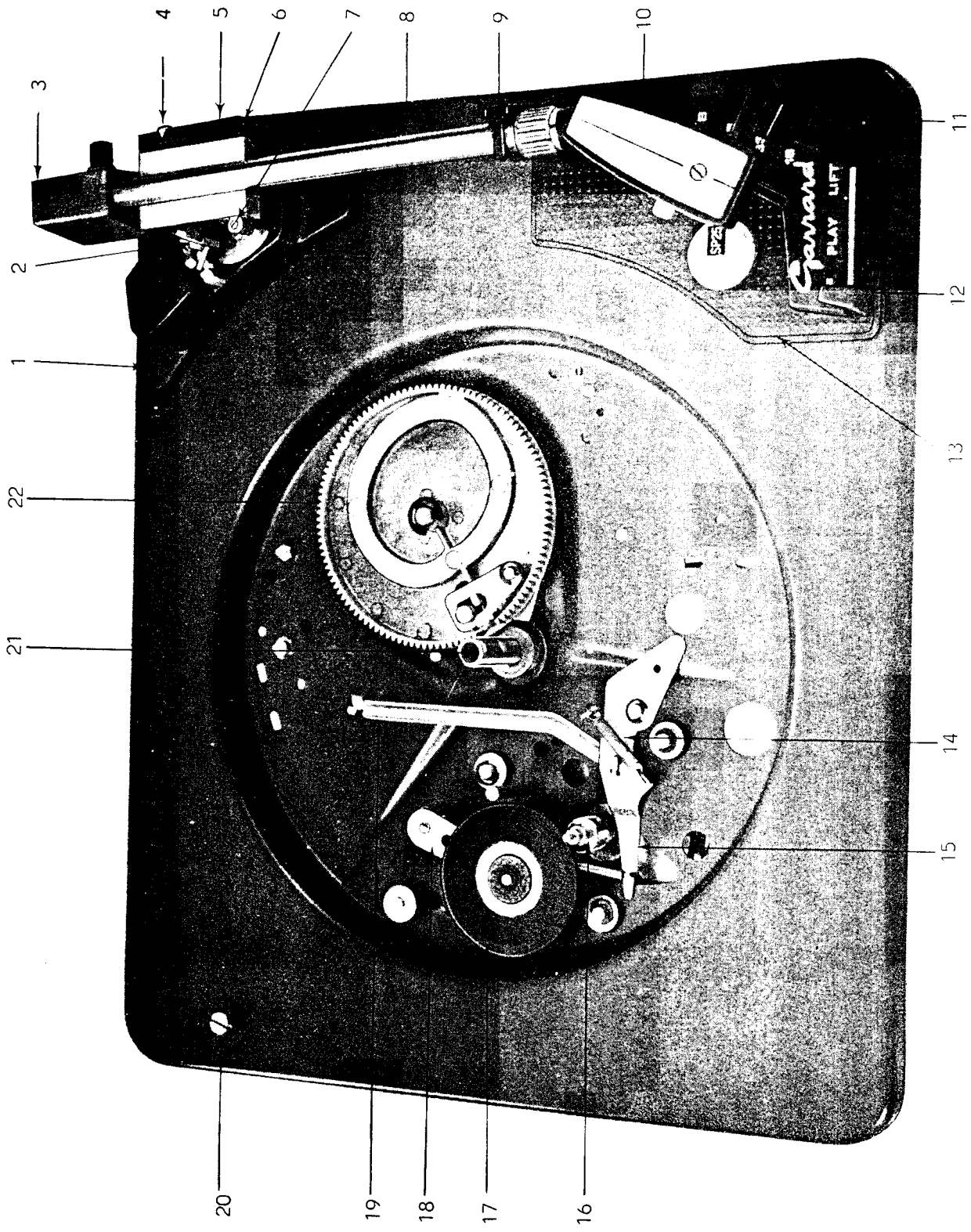

Diagram 8

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SP.25 SPARE PARTS LIST

When Ordering Spare Parts please quote SP. 25, Code Number on Inspection Label, Part Number and Colour if part is enamelled or a moulding.

Ref. No.	Part No.	Description
ABOVE UNIT PLATE		
1	71581/02	Upper Casting Assembly (Note: Later Models as SP.25 Mk II)
	71961	Bias Compensator Weight
	70584	Pivot Pin for Weight
	40649/02	Washer for Pin
	41868	Spring Clip for Pin
	71591/02	Cover for Upper Casting
	71477/05	Button for Cover
2	70585	Left-Hand Pivot Screw
	70845	Bias Compensator Pin Bracket
3	58595/02	Counterbalance Weight
	58919	Screw for Weight
4	58911	Pointer
	44135	Screw holding Pointer
	41099/01	Locking Nut
	71697	Slider
	44713	Stylus Force Spring
5	58902/06	Pickup Bracket
	58909	Stylus Force Plate
	40268/01	Grub Screw
	40906	Locking Screw
	59003	Pivot Screw
	40504	Washer
6	59756	Right-Hand Pivot Screw
7	40240	Adjusting Screw
	41037	Nut for Screw
	44716	Spring for Screw
	71879	Cap for Screw
	58593	Pickup Lifting Platform
	44082	Screw holding Platform
8	71419/01	Pickup Arm Tube and Body with Wiring
	58896/02	Body Casting with Ball Races
9	71040/01	Pickup Rest
	44259	Screw holding Rest
10	58891	M6 Pickup Shell (for deep cartridges)
	70870/01	M7 Pickup Shell (for shallow cartridges)
	59048/05	Cartridge Mounting Accessories for M6 or M7
	70140	Red, Green, White or Blue Pickup Shell Lead
	52002	Plastic Sleeve for Lead
11	58271	Speed Control Lever
	58273	Speed Knob
12	71590	Operating Control Lever
	58273	Operating Knob
13	71587	Control Cover
	70094	"Garrard" Motif
	71586	Identification Disc
14	41503	Tension Spring
15	71357	Tension Lever
	41723	Spring Clip
16	58920	Motor Pulley 50 c.p.s. (Nickel)
	58921	Motor Pulley 60 c.p.s. (Brass)
	44052/01	Grub Screw — 6BA
17	75625	Intermediate Wheel
	40826	Fibre Washer under Wheel
	40985	Plastic Washer above Wheel
	43818	Spring Clip Retaining Wheel
	44819	Tension Spring for Wheel
18	71545	Support Lever
19	71824	Tension Link
20	44120	Transit Screw
	43855	Clip for Screw
21	58229	Ball Race
	40894	Thrust Washer
	58749	Cushion Ring
22	58328	Cam Assembly
	58330	Cam
	41788	Spring Clip Retaining Cam
	58331	Pivot Plate
	58335	Trip Pawl
	41723	Spring Clips
NOT SHOWN		
	71162/01	Cast Turntable with Mat
	71042	Cast Turntable only
	71921	Mat with Trim Ring
	70952	Trim Ring
	71692	Steel Disc Turntable
	57422	Mat for Steel Disc Turntable
	43834	Turntable Retaining Clip
	59830	Record Spindle
	50391/01	45 r.p.m. Adaptor
	71621	Turntable Nameplate
BELOW UNIT PLATE		
23	70218	Speed Cam
24	58212	Index Bracket
	71572	Index Roller
	41848	Index Spring
25	58209	Support Bracket
	44708	Lifting Spring
	58210	Height Setting Blade
	41723	Spring Clip
26	58640	Complete Motor (please state voltage range(s) and frequency when ordering Motor or Motor parts). Note that later Models have Plug-in Bobbin Motor, as SP.25 Mk II

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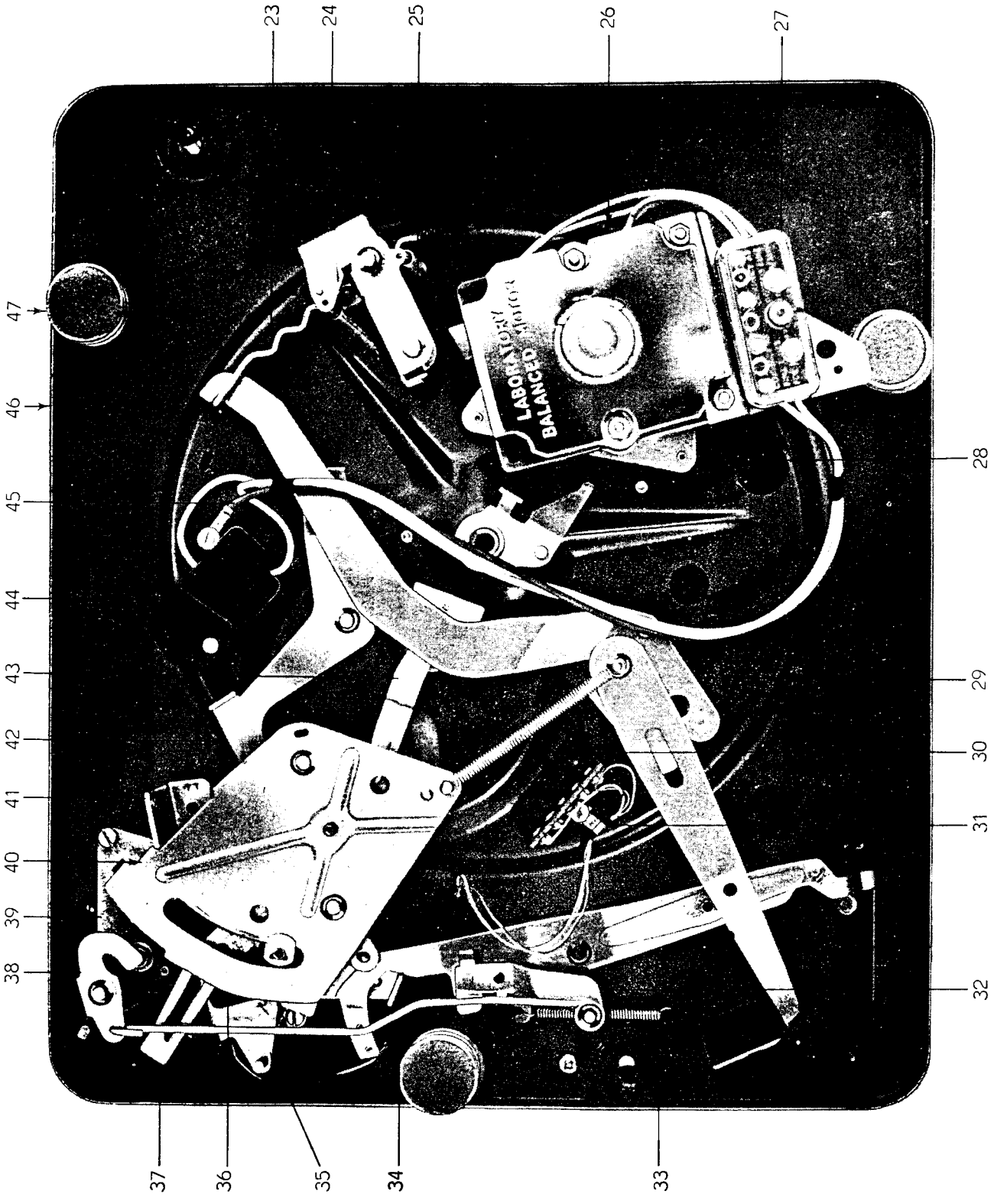

Diagram 9

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Ref. No.	Part No.	Description
	58920	Motor Pulley 50 c.p.s.
	58921	Motor Pulley 60 c.p.s.
	58642	Mounting Plate with Pillars
	40695	Washers
	41723	Spring Clips
27	41012	Nut holding Changeover Block Cover
	58179	Block Cover
	44054	Terminal Screw
	40854	Washer for Screw
	54926	Connector Links
	54981/01	Changeover Block Body with Terminal Screws
	51333	Insulating Plate
	40443	Mounting Pillar
	41012	Nuts for Pillar
	57548	Mounting Bracket
	40085	Screws holding Bracket
	42501	Spring Washer
	41012	Nut
	43000	Solder Tag
	40515	Spring Washer
Note: On later Models item 27 is replaced by Loom Assembly, as SP.25 Mk II		
28	43129	Motor Mount
29	58274	Speed Lever
	43821	Spring Clip
30	44715	Spring
31	58356	Pickup Lead Tag Strip
	44126	Self-Tapping Screw
	43063	Tag holding Leads
32	71677	Cueing Lever
	40537	Washer
	41723	Spring Clip
33	71138	Return Spring
	52417	Rubber Sleeve
34	71605	Cueing Link
35	71681	Pickup Lever
	44711	Overload Spring
	43200	Ball
	71583	Pickup Lifting Spindle
36 (hidden)	44850	Coil Spring
	40514	Washer
	41985	Friction Spring
37	58348	Friction Link
	41723	Spring Clip
38	71610	Cueing Cam
	71601	Pillar
	40105	Screw
	42558	Shakeproof Washer

Ref. No.	Part No.	Description
	40537	Washer
	41723	Spring Clip
	71608	Cueing Lifting Spindle Assembly (hidden by Cam)
	71606	Cueing Lifting Spindle
	71607	Lifting Arm
	44851	Spring
	40831	Washer
	41772	Clip retaining Spring
39	71596	Lower Casting (Note: Later Models with SP.25 Mk II type cueing have Lower Casting as SP.25 Mk II)
	44126	Self-Tapping Screws
	44154	Self-Tapping Screw
40	73272	Pickup Cam
	41723	Spring Clip
41	58290	Switch-Off Lever
	44825	Spring
42	58310	Switch Lever
	41723	Spring Clip
43	72681	Auto Stop Link
	58315	Collar
	44133	Self-Tapping Screw
44	70548/03	Complete Switch with Leads
	58277	Switch Body
	58280	Plunger
	58959	Resistor
	58960	Capacitor
	59355	Switch Blade
	58398	Contact Plate
	58731	Switch Cover
	40228	Screw
	42526	Spring Washer
	41008	Nut
45	53110	Earthing Lead with Tags (Note: Earth Lead as SP.25 Mk II when Plug-in Bobbin Motor fitted)
46	71520	Unit Plate with Pins, Bushes, etc. (Note: Later Models with SP.25 Mk II cueing have Unit Plate as SP.25 Mk II)
47	44752	Mounting Spring
	70447	Damping Pad
	71724	Damping Fluid
For some requirements items 27A and 31A replace items 27 and 31.		
27A	59001	Power Supply Socket
	59310	Socket Insulation Plate
	44154	Self-Tapping Screw
	58999	Line Cord with Jack, Plug and Grounding Lead
31A	59028	Grey Phono Lead
	59029	Brown Phono Lead
	59611	Twin Phono Sockets

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Model SP.25 Mk II Single Record Playing Unit

The Garrard Model SP.25 Mk II Single Record Playing Unit is an improved version of the original Model SP.25.

The main differences between the two models are that the Mk II has a dial stylus force adjustment instead of a slide, the pickup arm counterbalance weight is resiliently mounted, and the most significant factor for the service engineer is that the original cueing device has been modified to improve its operation. In addition there are styling changes and the electric motor has plug in connectors.

The two units are similar and except where stated on this sheet the information given in the Engineers Manual for the model SP.25 will also apply to the Model SP.25 Mk II.

Model SP.25 Mk II Single Record Playing Unit

The stylus force adjustment is made by turning the calibrated dial located on the right hand side of the pickup arm pivot. To set or check the stylus force, free the pickup arm from its rest then set the dial to indicate O. Adjust the position of the pickup arm counterbalance weight by loosening the screw holding it and move the weight until the arm is in balance. Tighten the screw holding the weight then turn the dial so that it indicates the stylus force recommended by the manufacturer of the pickup cartridge fitted.

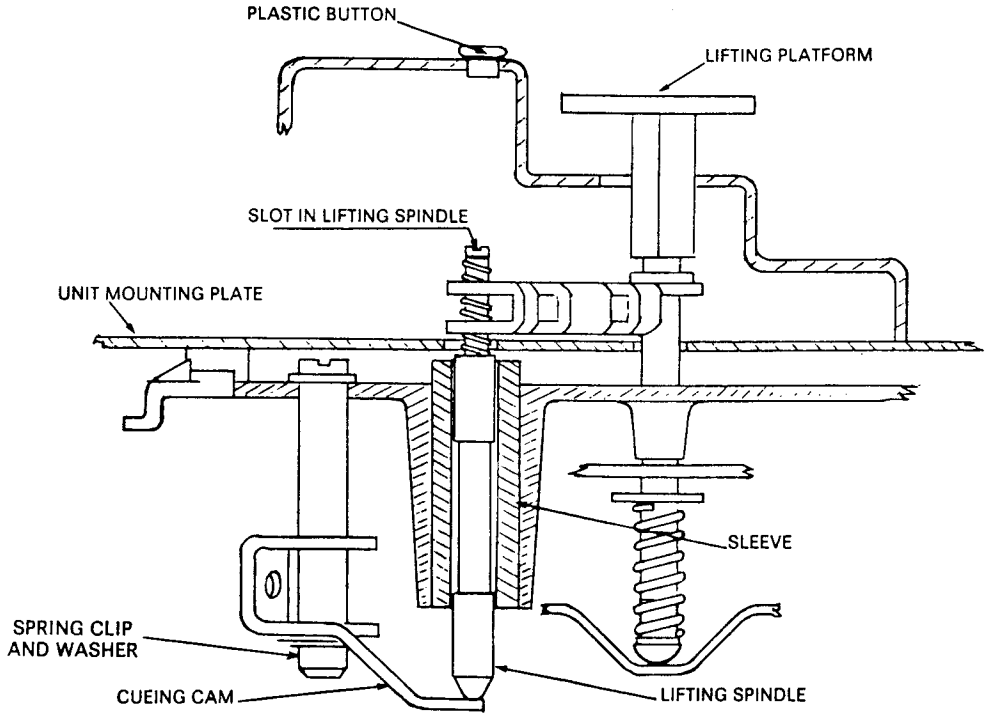
Cue and Pause Mechanism

The lowering of the pickup arm by means of the cue and pause control is damped by means of a special high viscosity grease between the bearing surfaces of the lifting spindle and the sleeve on which it slides.

Normally the original charge of special grease should last for a long period of use, but if for any reason the damping action of the grease fails as it will if ordinary lubricating oil is used on the piston, the original charge of high viscosity grease should be replaced.

To do this first disconnect the power supply and remove the spring clip and washer from the control end of the link operating the cueing. Disconnect this link from the control end and turn the exposed cam so that the lifting spindle is accessible.

Press down the lifting platform and remove plastic button. Insert a screwdriver in the exposed hole and locate it in the slot of the lifting spindle. Turn the spindle ↻ until it can be removed from the lower end of the sleeve. Leave screwdriver in sleeve to hold bracket in position. Thoroughly clean the spindle then apply a thin coating of special Garrard damping fluid, available from our Spares Department, to the two larger diameters. Refit spindle and reconnect link. Reset height of pickup arm as instructed in Manual.



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Model SP.25 Mk II Spare Parts List

Spare Parts for the Model SP.25 Mk II are identical with those on the Model SP.25 with the differences listed below

Part No.	Description	Replaces
73265	Upper Casting and Lifting Platform Assembly	71581 and 58593
73218	Lifting Platform	58593
43860	Spring Clip	New Part
72178	Pickup Bracket Assembly	58902
74505	Marker Plate	New Part
72185	Stylus Force Adjusting Dial	New Part
72186	Disc	New Part
72173	Pickup Arm Tube and Body with wiring	71419
72501	Pickup Rest Assembly	71040
70870/040	M 7 Pickup Shell	70870/91
72506	Speed Control Lever with Knob	58271
73294	Operating Control Lever with Knob	71590
72499	Control Cover	71587
73293	Decor Plate	New Part
71824	Tension Link	58568
43855	Transit Clip	41977
60350	Complete Motor	58640
60369	Voltage Changeover Block with Terminal Screws	54981
40367	Screw securing c.o. block to bracket	New Part
60362	Mounting Bracket	57548
44126	Screws holding Bracket	40085
70329	Pickup Lever Unit	71681
44928	Overload Spring	44711
44930	Lifting Spindle Spring	New Part
58348	Friction Link Unit	70866
71584	Cueing Lifting Spindle Unit	71608
71583	Cueing Lifting Spindle	71606
43818	Circlip	New Part
73269	Lower Casting	71596
73272	Pickup Cam Unit	58317
72681	Auto Stop Link Unit	71051
60365/003	Loom Assembly and Suppressor	New Part
60236	Capacitor	58960
60363	Switch Blade Unit	59355
60391	Earthing Lead	53110
73254	Unit Plate with pins, bushes, etc.	71520

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