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Garrard

MODEL AP76

instruction manual

Garrard

MODEL AP76 single record playing transcription unit
with facility for automatic play of single records

Garrard Engineering Limited, Swindon, Wiltshire



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introduction

The Garrard Model AP76 is a transcription quality 3-speed (78, 45 and 33 $\frac{1}{3}$ rev/min) single record playing unit, which features automatic set-down of the pickup arm when required. Operation is controlled by tabs grouped conveniently at the front of the unit.

It is suitable for use with power supplies of 100/130 or 200/250 volts AC and 50Hz or 60Hz, depending on the size

of the motor pulley fitted. Power consumption is approximately 8 watts.

This Garrard unit requires the minimum of attention but, if you need advice not provided by this manual, please contact your dealer or write to our Technical Service Department.

Here are brief descriptions of some special features of your unit:—

The Pickup Arm

The tubular arm with its bias compensator (calibrated for spherical and elliptical styli) is counterbalanced by a decoupled weight.

Stylus force is easily set using the built-in gauge.

Almost any modern pickup cartridge requiring a stylus force of 1 gramme or more can be fitted to the slide-in carrier.

The arm can be lowered steadily on to a record, using the fluid-damped 'cue and pause' facility, under either manual or automatic control. It can also be lowered directly by hand. After playing a record the arm will return to its rest and the unit will switch off.

The Turntable

A large diameter turntable with precision-finished, oil-retaining bearings contribute to smooth running and long life.

For minimum record wear, the record spindle rotates with the turntable.

The Motor

The Garrard 4-pole induction motor is resiliently suspended. It drives the turntable at a steady speed by way of a rubber wheel which is protected by being retracted when not in use.

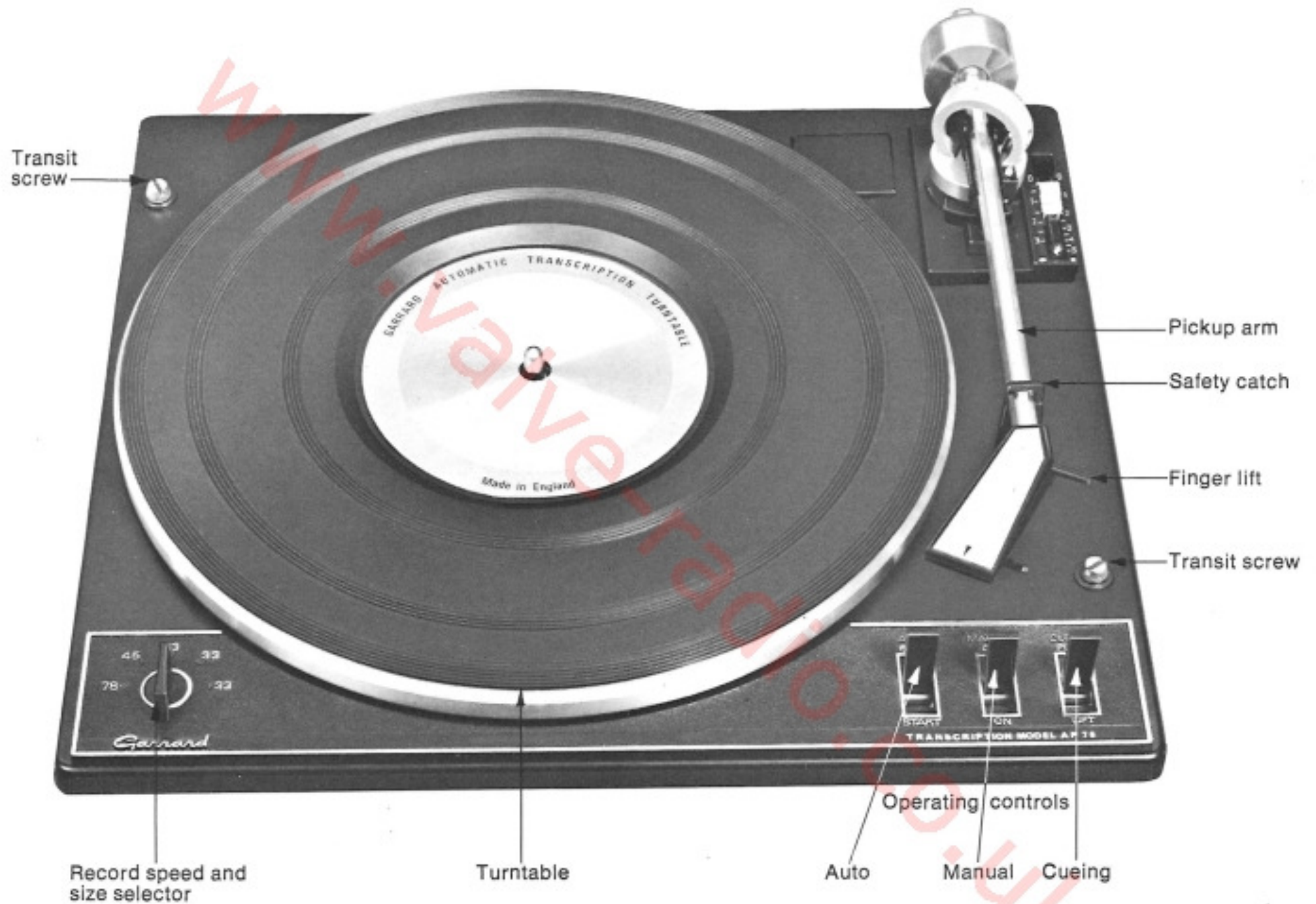


Diagram 1 View of AP76 showing parts referred to in 'Operating Instructions'

instructions for use

Before use:

- 1 Check that both transit screws are turned fully clockwise so that the unit floats freely on its mounting springs.
- 2 Unclip the pickup arm from its rest by releasing the safety catch and remove the stylus guard, if one is fitted.
- 3 All operating control tabs are in the vertical position when the unit is switched off.

operating instructions

- 1 Check that the correct stylus is in position, and that the record speed selector setting is correct for the record to be played. Proceed as follows:—

(a) Manual Operation

Place a record on turntable, move the MANUAL control to 'ON' and place the pickup on the record by means of the finger lift or;

(b) Cueing Operation

Move the CUEING control to 'LIFT', align the pickup over the record at the point where it is desired to commence play, then return the control to 'PLAY', when the pickup will be lowered on to the record, or;

(c) Automatic Operation

Check that the record speed and size selector control is set correctly for the record to be played, then move the AUTO control to 'START'. The pickup will automatically lower at the beginning of the record.

2 Cue and Pause Operation

To raise the pickup from the record during play, move the CUEING control to 'LIFT'. To resume playing, return the control to 'PLAY'.

This facility will be found useful for selecting any passage on a record, or for interrupting play (pausing) without switching off.

The pickup will automatically return to its rest and the unit switch off, after the record has been played.

3 Stop

To stop a record, move the AUTO control to 'STOP' while it is playing. The pickup arm will then return to its rest and the unit switch off.

4 Repeat

A record will be automatically replayed from the beginning if the AUTO control is moved to 'START' while it is playing.

installation

These instructions can be disregarded if the record playing unit is already installed.

1 **Prepare the mounting board**, using the template provided.

2 **Make the following wiring connections:**

(a) **AMPLIFIER:** For stereo reproduction from a stereo cartridge, solder two screened pickup leads to the tags on the back of the audio connector, as shown on diagram 2, or plug two phono leads (optional extras – see Spare Parts List on page 12) into the right-hand channel socket marked R and the left-hand channel socket marked L. For mono reproduction from a mono cartridge, use the right-hand channel only. For mono reproduction from a stereo cartridge, parallel both channels by connecting one short-circuiting wire link between the red and white and another between the black (or blue) and green leads.

caution: Before connecting to an amplifier check that its chassis and wiring are isolated from the power supply. If in doubt, consult your dealer concerning suitable isolating components.

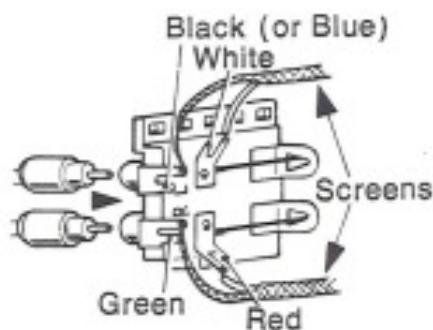


Diagram 2 Pickup lead connections (two methods)

(b) **POWER SUPPLY AND EARTH:** Attach a 3-core flexible power supply lead to the two terminals inside the connecting block (blue wire to screw 'N' and brown wire to screw 'L'), then set the links for the supply voltage as shown on diagram 3.

The green/yellow wire is used for earthing by attaching it securely between the two brass washers on the earth terminal screw (see diagram 4).

note: Power supply voltage and frequency details are shown on the side of the motor.

Both links set for high voltage range Links set for low voltage range



Diagram 3 Power supply lead connecting block

3 **Turn both transit screws fully clockwise.** Check that the spring clips are vertical, then assemble the record playing unit to the mounting board. Transit screws must pass through their holes and the mounting springs (with plastic foam damping pads inside) locate in recesses in the board. Turn both transit screw clips horizontal, check that all leads are clear of obstructions and that the unit floats freely on its mounting springs.

4 **Connect the leads to amplifier, earth and power supply** respectively, leaving them slack. The earth connection can be the third pin in your power supply plug.

5 **Set stylus force** (see 'Adjustments' section).

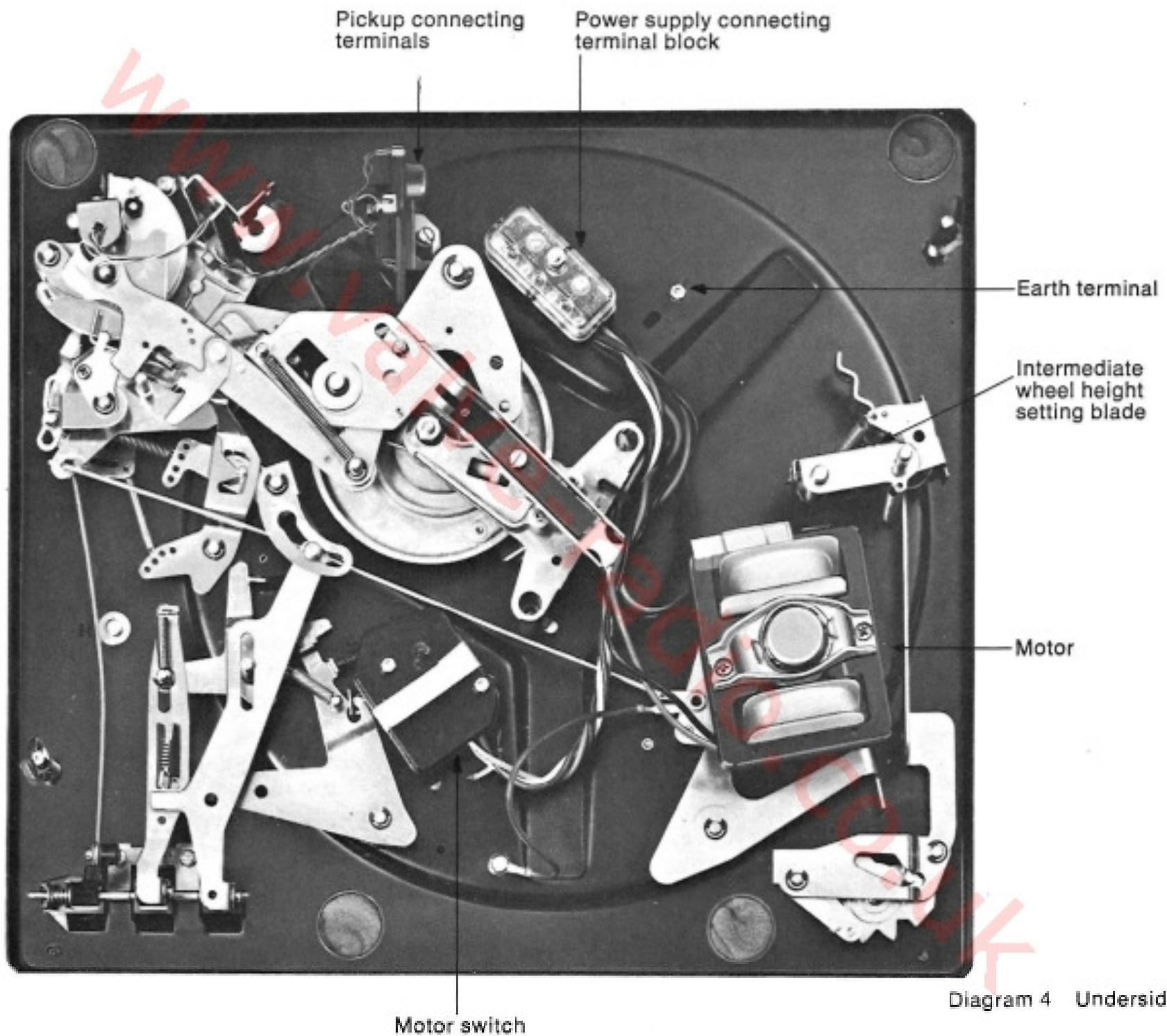
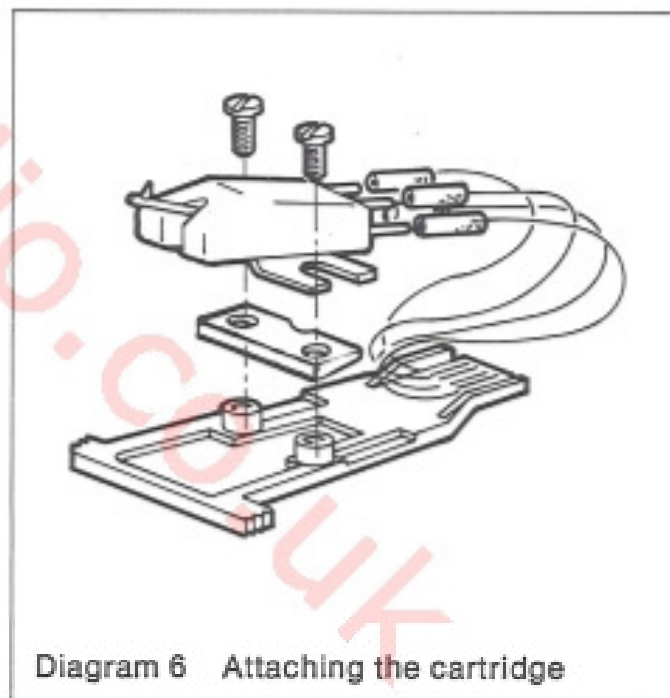
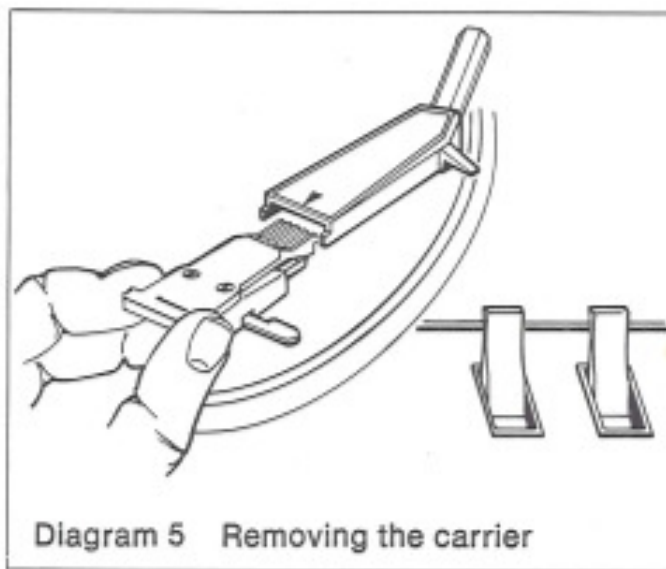


Diagram 4 Underside view of AP76

fitting the pickup cartridge

- 1 Unclip the pickup arm from its rest, hold it about $\frac{1}{2}$ in above the rest with one hand and withdraw the slide-in cartridge carrier with the other, in the manner shown on diagram 5. Hold the arm in the same way when refitting the carrier.
- 2 Secure the cartridge to its carrier using the screws and the cartridge tilting wedge, deeper edge forward (see diagram 6).
- 3 Attach the leads to the cartridge output terminals in accordance with its manufacturer's instructions and the following colour code:
Red to right-hand channel
Green to right-hand channel 'earthy' connection
White to left-hand channel
Blue to left-hand channel 'earthy' connection
If the cartridge has three output pins or tags use the green lead, or the green and blue leads connected together, as common. Insulate and tuck away any unused lead.
If a mono cartridge is fitted, use the right-hand channel wiring only.
note: Do not solder leads directly to the cartridge as the heat could cause severe damage: use the tags supplied with it.
- 4 Replace the slide-in cartridge carrier into the front of the pickup arm and push it until a slight 'click' is felt.
- 5 Check and, if necessary, reset the following in accordance with the instructions under the heading 'Adjustments' on page 9: (a) stylus force, (b) pickup lowering position, (c) pickup lifting height, and (d) pickup lifting height restriction.



adjustments

Stylus Force:

To counterbalance the pickup arm turn the adjusting screw (A) so that the pointer (B) indicates 0 on scale. With the pickup arm off its rest and free to pivot, turn the counterbalance weight (C) until the pickup arm balances with the stylus tip at the height of the top face of one record on the turntable. Return the arm to its rest and secure it with the safety catch. Apply the stylus force recommended by the maker of the cartridge fitted by turning the screw (A) until the pointer shows the required force on the scale. Graduations on the stylus force scale represent 0 to 5 grammes.

Pickup Arm Bias Compensator:

After setting stylus force, slide the bias compensator weight (D) up or down its carrying arm until the calibration line is against the number corresponding to the stylus force in grammes.

In order to satisfy the different operating requirements of cartridges with spherical or elliptical styli, two scales for setting the bias compensator weight are provided.

The scale for cartridges with spherical styli is marked ●, and the scale for elliptical styli is marked ○. Both scales represent grammes of stylus force.

Pickup Lowering Position:

This setting governs the position at which the pickup is lowered automatically on to the record. Turn screw (E) clockwise to move the lowering position inwards or counterclockwise to move it outwards.

Pickup Lifting Height:

This setting governs the height to which the pickup arm rises automatically. There should be $\frac{3}{4}$ in (19mm) between the stylus tip and the top face of a record on the turntable as the pickup returns to its rest. Turn the adjusting screw (F)

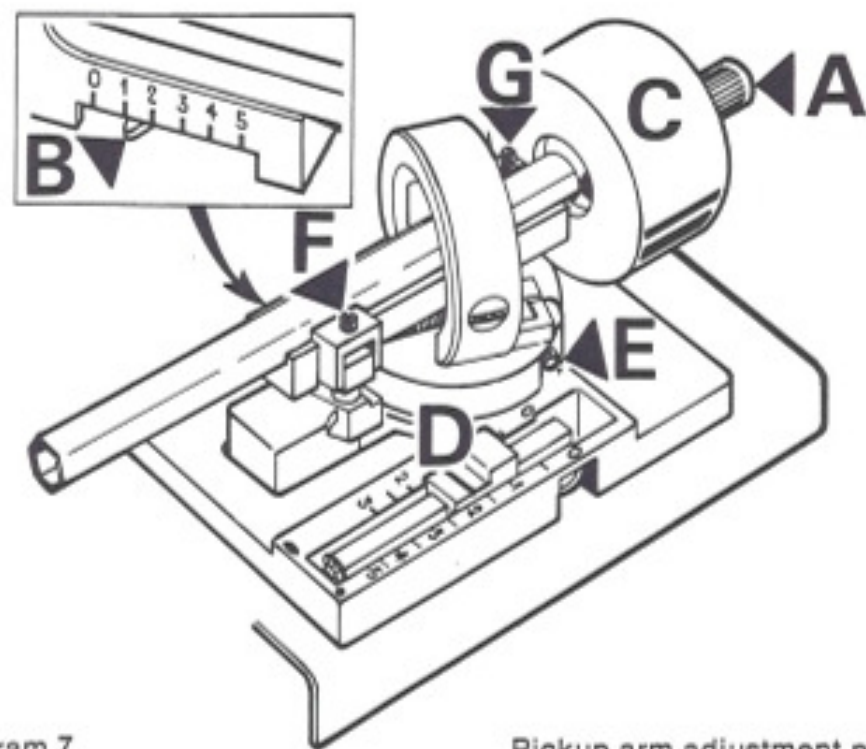


Diagram 7

Pickup arm adjustment points

clockwise to increase or counterclockwise to decrease this height.

Pickup Lifting Height Restriction:

This setting prevents the pickup arm from rising higher than the pickup lifting height described in the previous paragraph. Turn the adjusting screw (G) clockwise to increase or counterclockwise to decrease restriction.

Motor:

The AP76 has a motor suitable for 100/130 and 200/250 volts AC with a combined voltage changeover and power supply connecting block.

Two interchangeable motor pulleys are available, for 50Hz and 60Hz supplies. (See 'Speed' section).

If the turntable fails to start when the unit is switched on and

adjustments (continued)

the power supply is in order, disconnect the supply, take off the nut holding the cover of the voltage changeover block (see diagram 4) and remove the cover. Check that both wire links and the power supply lead make good contact with the studs and terminal screws respectively.

Speed:

If the turntable runs slow or fast, the motor pulley (see diagram 8) may be incorrect for the power supply frequency. The pulley is identifiable by the diameter of its base: for 50Hz this is smaller than the 78 rev/min step and for 60Hz it is larger. To fit another pulley, remove the turntable (see 'Maintenance'), loosen both small screws in the pulley and lift it off. If it does not lift easily, apply gentle heat to the base of the pulley with a clean soldering iron to expand it. The new pulley may need similar treatment to ensure a perfect fit. Retighten both screws equally.

The intermediate wheel (see diagram 8) should run approximately in the centre of each pulley step and not overhang or rub an adjacent step. To alter the height of the wheel, raise or lower the blue spring steel setting blade (see diagram 4).

Pickup Tracking:

If the pickup fails to track the record, check that radius of the stylus tip is correct for the type of record being played and that it is free from accumulated dust. The stylus should be microscopically examined by your dealer at regular intervals and a new stylus fitted as soon as necessary. Make sure that the stylus force is not lower than 1 gramme or that specified by the manufacturer of the cartridge, whichever is higher, and that the pickup leads are not pulled tight or trapped beneath the unit plate. Check for free movement of the pickup arm and its bias compensator.

maintenance

Before carrying out any adjustment always disconnect the power supply to the unit and protect the pickup stylus; if necessary, move the AUTO control to START and rotate the turntable clockwise by hand to actuate the mechanism.

Lubrication:

When the need is apparent, apply a spot of fine-grade machine oil to the oil-retaining bearings of the motor, turntable and rubber intermediate wheel. When applying oil, take care that none comes into contact with any driving surface, or turntable speed may be affected. Do not oil the cueing mechanism: its movement is controlled by special damping fluid which is sealed in during manufacture.

To remove the Turntable:

Carefully peel the rubber mat off the turntable (the adhesive tape is used for transit purposes and may be discarded). Slide off the spring clip retaining the turntable, noting its location for re-assembly, and lift it clear. When refitting the turntable, rotate it clockwise slowly by hand, to move the intermediate wheel aside.

To remove the Slide-in Cartridge Carrier:

Follow the instructions in paragraphs 1 and 5 under the heading 'Fitting the Pickup Cartridge' on page 8.

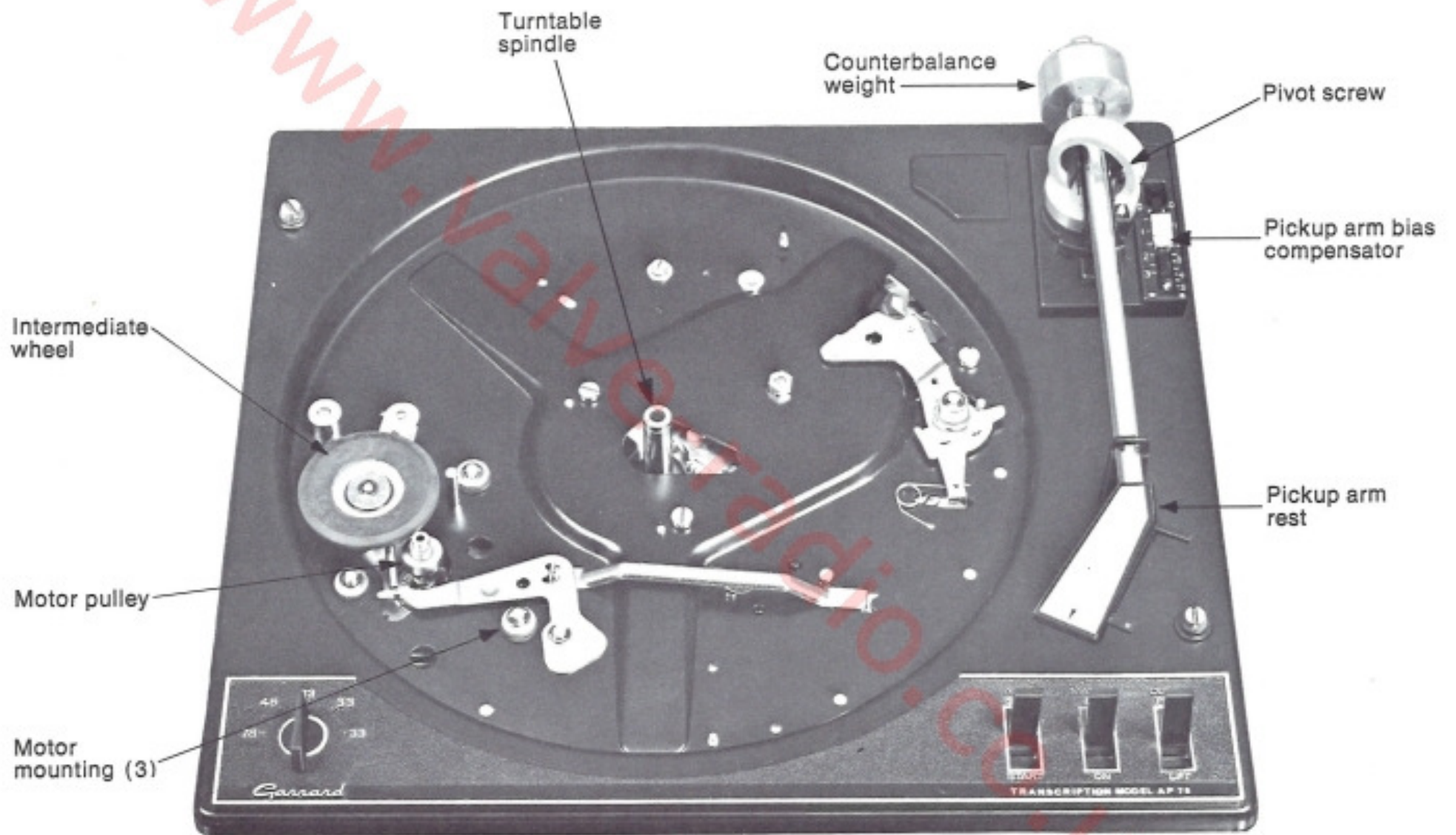


Diagram 8 View of AP76 with turntable removed

spare parts and accessories

For service information or spare parts please contact your Garrard overseas agent or dealer or our Service and Spares Department at Newcastle Street, Swindon, Wiltshire. (Telephone: Swindon 5381). When ordering parts please quote Model AP76, the description of the part required, its part number and, if the part is enamelled or moulded, its colour. If the code number on the coloured label beneath the unit plate is also quoted, the correct part will be supplied.

Description	Part No.
Turntable	74823
Mat, for turntable	73308
Spring clip, to retain turntable	00431/028
Slide-in Cartridge Carrier	C2
Pickup arm	74388
Rest, for pickup arm	74425
Counterbalance weight for pickup arm	74402
Pivot screw, for pickup arm	74407
Bias Compensator, for pickup arm	74803

Description	Part No.
Stylus Force Spring, for pickup arm	44440
Intermediate Wheel	58220
Motor Pulley, 50Hz	60874
Motor Pulley, 60Hz	60872
Motor (State Voltage)	60660
Plug-in motor lead, with switch (state number on tape around switch)	60365
Rubber Mountings, for motor (3)	43129

Optional extras

Adaptor for records with a large centre hole	72698
Coaxial Audio Lead 4ft long with 2 phono plugs	
Grey for left-hand channel	59028
Brown for right-hand channel	59029
Wood Mounting Base	WB4 Mk II
Dust cover for Mounting Base (rigid transparent plastic)	SPC4 Mk II
The AP76 can be played with this cover in position.	

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