

PHILIPS RECORD PLAYER

TYPE AG2001

GENERAL AND OPERATION.

Type AG2001 record player is a three-speed unit suitable for playing at speeds of 78, 45 and 33-1/3 r.p.m. It is fitted with a dual sapphire stylus for playing both normal and microgroove recordings.

Control of speed is by way of a lever, speed markings being moulded into the cover of the unit. The "O" position is an idle position in which the intermediate wheel is not in contact with the motor spindle. This is a safeguard against damage to the rubber intermediate wheel.

With the double sapphire stylus, the point for normal recordings is brought into use when the pick-up head is turned to bring the green dot against the central ridge of the pick-up arm, the microgroove point is brought into use when the red dot is brought against the central ridge.

The on/off switch of the unit is operated by manipulation of the pick-up arm. To start the unit, lift the pick-up arm from its rest and turn it outwards slightly. This movement causes the switch to engage and the turntable should rotate unless the speed selector arm is in the "O" position. When the pick-up arm runs into the running-out groove at the completion of playing a record, the switch automatically turns off the unit.

PRECAUTIONS DURING REPAIRS.

If the unit is to be removed from its cabinet, or if it is to be turned on its side, the pick-up arm should be tied back to its rest in order to prevent damage to the stylus. If the turntable is to be removed from the unit, or if it is to be replaced after removal, first put the speed selector arm in the "O" position.

Make sure that wiring is kept clear of the motor mounting plate otherwise the spring suspension will be impeded and "rumbling" may occur.

ADJUSTMENT OF AUTOMATIC SWITCH.

The point at which the automatic switch operates is adjustable. This is provided by the knob at the base of the pick-up arm pivot point. By pushing the knob lever away from the operator, the point of switching off is advanced, whilst movement in the opposite direction delays the time of stopping.

Because the pick-up arm, the adjusting knob and the switch are all mounted on the same spindle, too heavy a movement of the arm in switching on can upset the switching off point.

ACTION OF THE MAINS SWITCH.

When the pick-up arm is moved outwards in the switching-on action, the switch spindle is turned with it. This moves the tumbler arm which is fixed to the spindle. A leaf on the tumbler bears against an insulated pin; further movement of the pick-up arm causes this pin to be carried forward and close the two mains contacts. As the pick-up arm is brought back in readiness for lowering to the record, the insulated pin is held in position by the spring-loaded hinged lever and the switch contacts are held in the closed position.

As the record playing progresses, a leaf on the opposite end of the tumbler arm is carried toward the spring-loaded hinged lever. At the time the stylus runs into the running-out groove, the tumbler arm hits the spring-loaded hinged lever and this action trips the grip of the lever against the insulated pin and causes the switch contacts to open. The contacts are prevented from closing again by the moulded stepped pin which bears on the switch frame plate.

DRIVE SYSTEM.

The turntable is driven from the motor through the medium of a rubber intermediate wheel. This wheel bears on one of the three stepped portions of the driving collar mounted on the motor spindle depending on the position of the speed selection arm. Movement of the selector arm causes the intermediate wheel to move up and down on the motor spindle.

MAINS SWITCH AND ADJUSTMENT KNOB MOUNTING.

The mains switch and adjustment knob are connected together and mounted to the cover by means of a triple bayonet connector. To detach either of these parts first remove the pick-up arm and flex (see "Pick-up Arm Mounting"). Press the two parts together firmly and turn the knob anti-clockwise to disengage the bayonet joint.

PICK-UP HEAD.

The pick-up head fitted with the dual stylus which is used with this unit is type No. AG3010. The type number of the normal playing stylus is AG5008, and for the microgroove stylus AG5009.

PICK-UP ARM MOUNTING.

The pick-up arm is mounted on the top end of the mains switch spindle. The hinge of the arm is incorporated as part of it. A grub screw, fitted to the hinge and bearing against the switch spindle, retains the pick-up arm.

When refitting the arm, make certain that it is firmly mounted on the shoulder of the spindle before tightening the grub screw.

STROKE OF THE PICK-UP ARM.

Movement of the pick-up arm should be such that with the adjusting knob in its maximum position toward the operator, it should be possible to put the arm on its rest without switching on the motor. In the event of a new switch having been fitted, it may not be possible to do this. A correction can be made by carefully bending the leaf of the switch tumbler arm.

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SERVICE DATA

MOTOR.

The motor is fixed to its mounting plate by three screws. After removal of one of the bearing assemblies, the rotor can be withdrawn.

When re-assembling the motor it is necessary to centre the rotor with 0.2 m.m. feelers. Care should be taken not to misplace the ball in the bottom bearing.

LUBRICATION.

The turntable spindle and the sliding surfaces of the speed selection mechanism should be lubricated with light grease or petroleum jelly. Other moving parts should be lubricated with very small amounts of sewing machine oil.

It is essential that lubricants be used sparingly and any surplus wiped off. No lubricant should be permitted to get on to the surface of the rubber intermediate wheel, the running surface of turntable or the stepped driving collar.

MOTOR PLATE SUSPENSION.

The motor plate is mounted by spring suspension to the main unit plate. The distance between these two plates should be about 1/16" of an inch.

As a precaution against "rumbling" it is necessary to keep the fibre washer which retains the rubber grommet in the spring suspension clear of the spring.

TRANSPORT.

In the event of it being necessary to transport the unit, either separately or mounted in a cabinet, the following precautions should be taken:—

- (a) Tie the pick-up arm to its rest.
- (b) Put the speed selection lever in the "O" position.
- (c) Locate some packing between the motor plate and the unit plate.
- (d) Tie the turntable to the unit plate or pack it separately.

PARTS LIST

MECHANISM

Description	Code No.
Intermediate Wheel	49.928.79
Spring, intermediate wheel tension	49.938.54
Ring, intermediate wheel retaining	07.891.83

MOTOR

Rotor assembly	49.924.78
Stator assembly (coil and laminations)	49.927.02
Upper bearing (complete)	49.927.04
Lower bearing (complete)	49.927.05
Ball, 1/8" (in lower bearing)	89.205.02
Driving collar (50 c/s)	49.938.79
Grub screw for driving collar	49.937.15

SWITCH

Switch assembly (complete)	A3.186.59
Contact spring (outer)	A9.864.04
Contact spring (inner, with lip)	A9.864.05

PICK-UP

Description	Code No.
Pick-up arm	49.945.35
Pick-up flex (bulk)	34.090.12

SPRING SUSPENSION

Rubber grommet, 3x	49.936.00
Spring, 3x	49.935.30
Fibre washer, 3x	49.936.01
Dished retaining washer nut, 3x	49.935.31

UNIT MOUNTING

Conical spring, 3x	CS.211.200
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MISCELLANEOUS

Turntable	A9.864.28
Turntable spindle	49.935.16
Switch adjusting knob	23.690.85
Moulded cover for mechanism	49.928.80