MULLARD RECORD PLAYER

TYPE 2978

The type 2978 record player is a two-speed unit for playing 78 r.p.m. normal and 33⅓ r.p.m. microgroove records. It is fitted with a crystal pick-up, which in turn is equipped with a dual sapphire stylus, one point of which is for playing 78 r.p.m. records, the other for playing 33⅓ r.p.m. records.

For playing 78 r.p.m. records, the speed changing arm is put to the "N" position and the pick-up control knob turned to reveal "N." For playing 33⅓ r.p.m. records the respective positions of the controls are "L" and "M."

To start the unit working it is necessary to lift the pick-up arm from its rest and move it away from the unit. This causes the starting switch to engage. The operating pressure required on the switch is light, and care should be taken not to use too heavy force in starting up. Stopping of the unit is automatic with the pick-up stylus running into the running-out groove.

PRECAUTIONS DURING REPAIRS.

When the unit has to be removed from the receiver cabinet, or a receiver in which a unit is installed has to be turned over on a side, tie the pick-up arm to its rest to prevent damage to it.

Make certain that wiring does not touch the motor plate otherwise the spring suspension will be hindered and "rumbling" may occur.

When replacing the turntable on its spindle, hold a post card, or some similar type of card, against the rubber driving band to prevent the rim of the turntable damaging the band.

ADJUSTMENT OF AUTOMATIC SWITCH.

An adjustment altering the point at which the automatic switch operates is provided. The regulating control for the adjustment is at the base of the pick-up arm pivot point. Pulling the control forward delays the instant of switching off, whilst pushing it back advances the switching off time.

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 arm bears against an insulated pin which brings the two switch contacts together. As the pick-up arm is brought back preparatory to playing the record, the insulated pin is held by the spring-loaded hinged lever and the contacts remain closed.

As the playing of the record progresses and the pick-up arm is carried toward the centre of the turntable, the tumbler arm is moved toward the free end of the spring-loaded hinged pin. With the movement of the stylus into the record running-out groove, the tumbler arm comes against the spring-loaded hinged lever and moves it toward the switch plate. This movement releases the friction grip of the lever against the insulated pin and causes the switch contacts to open. The switch contacts open under this action because of the tension between them in the closed position. They remain open because movement of the outer contact is restricted by a moulded stepped pin.

MOTOR PLATE SUSPENSION.

It is essential for good running that the space between the motor plate and the unit plate be about 2 m.m. at all three suspension points. The dished retaining washer nuts should be paint sealed to prevent movement after this adjustment is made.

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

PICK-UP HEAD.

The crystal cartridge, fitted with a dual stylus, which is used in this unit is type AG3105. Fig. 1 gives details of the method of securing the cartridge.

PICK-UP ARM MOUNTING.

The pick-up arm mounts on the top end of the switch spindle. To remove the arm, loosen the small screw which is mounted in the end of the switch spindle and is accessible from the rear end of the pick-up arm. When this screw is sufficiently loose, the leaf spring located inside the spindle moves back and releases the pick-up arm hinge bar and allows the arm to be lifted clear. When remounting the arm it is advisable to paint seal the fixing screw.

MAINS SWITCH AND ADJUSTMENT KNOB MOUNTING.

The two pieces are inter-connected by means of a triple bayonet connector. This connection at the same time serves to mount the parts on the moulded cover. Leaf springs attached to the switch provide the tension against the cover which enables this to be done. To remove the switch and adjusting knob, first remove the pick-up arm and flex (see "Pick-up Arm Mounting"); press firmly on the switch to relieve the pressure of the bayonet connector on the adjusting knob and turn the knob in an anti-clockwise direction.