

Underside view of the "front" panel referred to under "Dismantling." The printed circuit panel seen at the bottom of the picture is normally fixed at right-angles to the moulding.

Circuit Description—continued

The L.W. aerial tuning coil L1 is short-circuited for M.W. operation, and the tuning capacitance is increased on L.W. by shunting C1 across the tuning circuit.

In the oscillator circuit the L.W. range is covered by shunting C12 across the M.W. tuning circuit. Negative feedback is introduced between V2 anode and control grid circuits by C15. The D.C. potential developed across the detector diode load resistor R9 is fed back to V1 and V2 to provide automatic gain control.

Intermediate frequency 470kc/s

The diode output is amplified by V3 pentode and passed to the pentode output valve V4, from which it is transformer-coupled by T1 to the low impedance speech coil.

CIRCUIT ALIGNMENT

- 1.—Connect an output meter across the speaker, and a signal generator to the control grid of V1 (pin 6) via a 0.1µF capacitor.
- 2.—Switch the receiver to M.W. Turn the tuning control fully anti-clockwise and the volume control fully clockwise. Feed in a modulated 470kc/s signal and adjust the cores of L3, L4, L7 and L8 (location reference B3) in that order for maximum output, reducing the generator output as the circuits are aligned in order to avoid A.G.C. action.
- 3.—Terminate the output lead of the signal generator with a loop of wire,

and place the loop close to the ferrite rod aerial. Tune the receiver to the calibration mark at 230m. Feed in a 1,300kc/s signal and adjust C10 (C2) for maximum output.

- 4.—Tune the receiver to 500m. Feed in a 600kc/s signal and adjust the core of L5 (C3) for maximum output.
- 5.—Repeat operations 3 and 4 until no further improvement can be obtained.
- 6.—Tune the receiver to the calibration mark at 230m. Feed in a 1,300kc/s signal and adjust C3 (C2) for maximum output.
- 7.—Tune the receiver to 500m. Feed in a 600kc/s signal and slide the adjusting ring along the ferrite rod for maximum output.
- 8.—Switch the receiver to L.W. Feed in a 210kc/s signal and tune it in on the receiver. Slide the former of L1 (C1) along the ferrite rod for maximum output.

GENERAL NOTES

Batteries.—The batteries recommended by the manufacturers are: H.T., Ever Ready B126, Drydex 526 or Vidor L5512, rated at 90V each; L.T., Ever Ready All-Dry 35, Drydex H1184 or Vidor L5040, rated at 1.5V each.

Switches.—S1-S3 are the waveband switches, ganged in a small rotary unit mounted on the metal plate of the receiver chassis. Its position is shown in the chassis illustration in location reference

B3. S1 only closes on M.W., and S2, S3 only close on L.W.

Battery Switches.—The L.T. and H.T. battery switches S4, S5 are contained in a small unit mounted on the edge of the plastics body moulding, shown in location reference B1. The switches are operated by a spring-loaded plunger that is automatically depressed when the lid of the case is closed, to switch the set off. They are therefore always closed, and the set switched on, when the lid is open or when the plastics body is removed from the carrying case.

DISMANTLING

Removing Chassis.—The plastics body moulding which forms the "front" panel, seen when the lid of the case is opened, is hinged at the front to permit access to the battery compartment. When it is raised on its hinges it can be stood vertically, when the hooked ends of two retaining pins that hold the hinges are visible, one above each hinge.

If these pins are withdrawn, and the panel body is allowed to fall back again into its former horizontal position, the panel can be lifted straight out off the hinge pegs, their socket holes being straight slots.

To remove the pins, insert a hooked tool or a screwdriver blade into the hook and pull the hook straight upwards, in line with the edge of the panel body moulding. If they are pulled or pushed sideways, or if pliers are used to pull them out, the small pieces of plastics that shape the hinge retaining form may be broken.

When inserting the tool in the hook, a piece of thin card should be slipped behind the pin before drawing it out. Otherwise the tool, whose point lies on the body moulding, will scrape off the paint and score a line on the side members of the body.

When the body moulding is lifted out of the case it comes away complete with the receiver, including speaker and rod aerial, but the battery leads should be removed from the batteries. Bear in mind that the set is switched on.

Removal of the small chassis from the back of the body panel is a simple matter of pulling off the waveband and volume control knobs and removing three self-tapping screws with Phillips heads. The chassis is then free to the extent of the leads to the tuning gang and aerial (which are very short), the speaker and the battery switch unit.

MODEL 344B

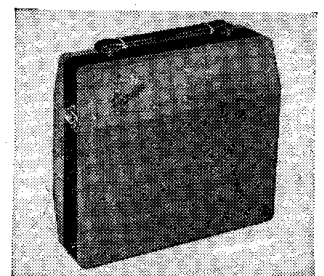
Model 344B is the earlier version of "Flair" and does not use a printed circuit chassis. It has the following differences in component values and circuitry:

The value of V1 screen grid decoupling capacitor C5 and V3 screen grid decoupling capacitor C21 is 0.02µF, V4 grid bias resistor R14 is 560Ω. H.T. decoupling capacitor C22 is 32µF.

V2 neutralizing capacitor, C15, is not used. R8 is also omitted, and so is C19, formed by the stray capacitance of a short length of screened lead.

The positions in the circuit of S3 and C12 are interchanged.

Valve voltages are approximately the same as those given overleaf in the table for Model 346B; except that the value at V1 screen grid is 63V and that at V3 anode, 25V.



Closed view of the Ferguson 344B.