TELEPHONE 706...

Maintenance

1 GENERAL This instruction deals with the maintenance of Telephones 706 and similar types, having both conventional and printed wiring. In the case of a similar type telephone, this TI should be read in conjunction with the TI referring to that type. A brief description of the Telephone 706 is contained in C3 B1000.

2 Circuit and wiring diagrams for the different types of installations are listed in the Index to N Diagrams.

3 STOCK OF SPARE PARTS FOR REPLACEMENT PURPOSES A normal stock of spare items for replacement purposes comprising the apparatus listed in Table I should be held at each faultsmens headquarters.

TABLE I

Telephone Cover, 2/DCO/609, Colour	Mouthpiece No. 21A, Colour
Switch No. 5A-3	Transmitter-inset No. 16 (see par 16)
Thermistor No. 1A-1	Receiver-inset No. 4T
Regulator No. 1	Cord, Inst, No. 4/88AK Colour - 10in
Bell No. 59A-1, Unmounted	Cord, Inst, No. 3/108AA Colour - 54 in
Bell-gong No. 24A	Cord, Inst, No. 4/83AA Colour - 54 in
Bell-gong No. 24B	Button Foot Part No. 2/DBU/259
Earpiece No. 26A, Colour	Weight, Part No. 1/DWE/7

If the telephones or components appear particularly prone to trouble, the facts should be reported on Form A646 via the normal channels.

4 MAINTENANCE REPLACEMENTS Where items other than those detailed in Table I are faulty, change the instrument. Attempts must not be made to replace items wired to printed wiring or to repair printed wiring. The complete telephone should be changed.

DISMANTLING AND ADJUSTMENT OF COMPONENTS

5 COVER

5.1 Removal Loosen the two captive screws on the cradle with a Screwdriver, Instrument, No. 2. Lift the rear of the cover so that it hinges on the two locating tongues at the front. When it is raised sufficiently to clear the dial, draw it forward to disengage the two tongues. Observe that the dial number ring floats in its recess to facilitate removal.

5.2 Replacement With the cover at an angle of approximately 45°, locate the two tongues on the cover in the slots in the base and lower the rear of the cover hingeing on the tongues. Tighten the captive screws.

5.3 The escutcheon plates, through which the gravity switch plungers pass, are not part of the case and if the case is changed, they must be removed and transferred to the new case. An adjuster detent No. 1 may be used for this purpose.

6 GRAVITY-SWITCH CLIP A clip is provided on the left hand column of the gravity-switch bracket to hold the switch in the depressed condition and enable maintenance to be done without giving a signal to the exchange.

7 FEET Where slipping of a telephone with Feet Part No. 1/DBU/259 is experienced, the feet should be replaced by Part No. 2/DBU259. Remove existing feet by pulling off. Slightly moisten the projection on the new feet which should be partly engaged in the hole then given a firm twist.

When Feet Part No. 2/DBU/259 are fitted to alleviate slipping, ensure that a Handset Cord, Instrument No. 4/88AK is fitted (see par 17).

8 DIAL To remove dial, together with its mounting clip, loosen the screw securing the clip to the gravity-switch and swing the dial in an arc towards the front of the instrument. It may then be lifted out of the slots located in the plate above the bell-gongs. A faulty dial should be dealt with in accordance to B5202.

9 DIAL OUTER NUMBER RING This is secured by a spring clip inside the cover which has four tongues protruding through the dial aperture to engage in the recesses in the inner edge of the number ring. Remove by easing the tongues of the spring clip from the recesses in the number ring with a bradawl or other pointed instrument.

10 BELL 59A Remove the dial and adjust the bell in accordance with B4105, but with the following addition. To adjust the armature travel, slacken the two screws on the centre limb of the bell. The screws should not be removed as difficulty may be found in replacing them.

11 REGULATOR The sensitivity regulator is mounted on a printed wiring panel, and is located between the gravity-switch brackets. It is operative with the five point connexions plugged into the jack in the base. The regulator should be in circuit through its five point connexions on all telephones except for the following conditions.

11.1 Faulty regulator

11.2 Fault locating in the telephone

11.3 to give temporary service

In these cases, the regulator panel should be removed by easing out with a side to side motion, and replaced so that the reverse end, with the three points connection, is in the jack. The panel has a key-way to ensure correct insertion in either direction. If complaints are received that the regulators in early sample telephones shine through the cases, the lamps should be painted with Paint, retouching, black.

12 AUXILIARY SWITCHES These are of the microswitch type with or without other components and are mounted on the gravity-switch bracket. If a fault develops change the item. When inserting the label, ensure that the small retaining lip of the label fully enters the slot in the rear of the plunger. Failure to do so may result in the plunger becoming bowed and binding on the case.

13 GRAVITY-SWITCH SPRING SET To facilitate cleaning or adjustment of the gravity-switch spring-set, remove the dial, regulator and microswitch. Withdraw the plastic dust-cover by pulling outwards from the contact-end on conventionally wired telephones and upwards on printed wiring telephones.

The springs number from the bracket outwards. Observe that some springs consist of two individual tongues and each half should be tensioned separately. Twinning should be ensured by bending the contact ends of the springs.

13.1 **Contact cleaning** Use a Cleaner, Contact, No. 1, check adjustments and, if necessary, re-adjust as described in 13.2

13.2 Spring-set adjustment

13.2.1 On conventionally wired telephones, remove the spring-set by withdrawing the two screws and the gravity-switch bracket.

13.2.2 On printed wiring telephones, it is not possible to remove the spring-set and the adjustment in 13.2.3 must be done in situ.

13.2.3 Straighten springs with Pliers, Adjusting, No. 1 and adjust to lie parallel with the mounting. Tension both tongues of Spring No. 3 against the buffer to obtain a minimum-pressure of 12 grams measured with a Gauge, Tension No. 1 just in front of the contacts.

13.2.4 Remount the spring-set if this has been removed and, with the gravity-switch depressed by hand, adjust its position before tightening the screws so that a perceptible clearance is obtained between Spring No. 3 and its buffer. Tighten the fixing screws.

13.2.5 With the gravity-switch fully depressed by hand, adjust Spring No. 4 to give a minimum contact clearance of 10 mils from Spring No. 5.

13.2.6 With the gravity-switch fully depressed by hand, adjust Spring No. 1 to give a contact clearance from Spring No. 2 which is perceptibly greater than the clearance obtained between Springs Nos. 4 and 5.

13.2.7 With the gravity-switch released, tension Spring No. 2 against Spring No. 1 to give a minimum contact pressure of 12 gms.

13.2.8 With the gravity-switch released, tension Spring No. 5 against Spring No. 4 to give a minimum contact pressure of 12 gms.

13.2.9 Using a Gauge, Tension No. 3, ensure that the pressure required to fully depress the plungers is less than 135 gms.

14 ADD-ON-UNITS (see also paragraph 15, Weights)

14.1 **Adapters, Local Battery, Nos. 5 and 6** If trouble is experienced with either of these adapters, no attempt should be made to adjust the springs. The adapter should be replaced (see 14.1.1 and 14.1.2 below).

14.1.1 **Replacement of Adapter, Local Battery, No. 5** Mount the Adapter in position and, with the gravity-switch depressed by hand, adjust its position before tightening the screws so that a perceptible clearance is obtained between Spring No. 6 and 7. Tighten the fixing screws.

14.1.2 **Replacement of Adapter, Local Battery, No. 6** Mount the Adapter in position and, with the gravity-switch depressed by hand, adjust its position before tightening the screws so that a perceptible clearance is obtained between Spring No. 8 and its buffer. Tighten the fixing screws.

14.2 Adapter Plan-set No. 1

ADJUSTMENTS

14.2.1 Remove spring-set from gravity-switch bracket.

14.2.2 Straighten springs with Pliers, Adjusting, No. 1 and adjust to be parallel with the mounting. Tension both tongues of Spring No. 8 against the buffer to obtain a minimum pressure of 12 gms.

14.2.3 Tension both tongues of Spring No. 7 against Spring No. 6 to give a minimum contact pressure of 12 gms. Also ensure that there is a minimum contact clearance of 10 mils between Springs No. 7 and 8.

14.2.4 Tension both tongues of Spring No. 10 against Spring No. 9 to give a minimum contact pressure of 12 gms.

14.2.5 Replace spring-set with the gravity-switch depressed by hand, adjust its position so that there is a minimum contact clearance of 10 mils between Springs Nos. 6 and 7 and Springs Nos. 9 and 10.

14.3 Part 1/DSP/1233 Remove spring-set from gravity-switch bracket, tension both tongues of Spring No. 7 against Spring No. 6 to give a minimum contact pressure of 12 gms and adjust the contact clearance between Springs Nos. 7 and 8 to be a minimum of 10 mils.

Replace the spring-set and with the gravity-switch depressed, check that the contact clearance between Springs Nos. 6 and 7 is 10 mils minimum.

14.4 Part 1/DSP/1252 Remove spring-set from gravity-switch bracket. Tension both tongues of Spring No. 7 against the buffer to obtain a minimum pressure of 12 gms.

Replace spring-set and adjust its position so that the contact clearance between Springs Nos. 6 and 7 is a minimum of 10 mils. Depress gravity-switch and check by eye that Spring No. 7 has been lifted clear of the buffer.

14.5 Part No. 1/DSP/1256 Remove spring-set from gravity-switch bracket. Tension both tongues of Spring No. 7 against Spring No. 6 to give a minimum contact pressure of 12 gms. Replace the spring-set, and with the gravity-switch depressed, check that there is a minimum contact clearance between Springs Nos. 6 and 7 of 10 mils.

15 WEIGHTS Where a Telephone No. 706 has been fitted with one of the Add-on-Units in paragraph 14, the handset should contain a Lead Weight, Part 1/DWE/7 behind the receiver. The position for the weight is opposite the hole for the receiver wires. To fit the weight, place it with the bevelled edge lying against the inside of the handset moulding between the moulded projections with the curve of the weight fitting into the curve of the handset moulding. The tightness of the weight in the handset can be increased by straightening the curve of the weight.

16 TRANSMITTER INSETS NO. 13C Inset No. 13C should be replaced by Inset No. 16. Where this is done, a Part 1/DRI/150 is required which should be placed about half an inch down inside the mouthpiece where there are three projections to locate the three cut-outs in the ring.

17 CORDS

17.1 Handset Termination The cord is secured in the handset by means of a brass ferrule with two raided splines. Remove the cord from the handset by rotating the ferrule until one of the splines is in line with the arrow embossed on the inside of the handset near the cord entry point. A Spanner, Cranked No. 16 should be used for this purpose. The cord may then be withdrawn.

When replacing the cord, insert the ferrule so that the spline enters the keyway, push home the squared bush on the grommet and ensure that the spline is left out of alignment with the arrow.

17.2 Base termination

17.2.1 On conventionally wired telephones, the cord is secured by means of a metal bracket which fits into slots in the base and can be removed by lifting upwards.

17.2.2 On printed wiring telephones the cords are removed by sliding sideways out of the bracket fitted to the base.

On all telephones the conductors are terminated with spade ended tags and it is necessary only to loosen the screws when removing the fitted cords.

The grommets are part of the cord and cannot be removed.

The handset cord should normally emerge from the left-hand outlet (as viewed from the front) such that the helix leads naturally to the left of the telephone except where it is obvious that the user predominately holds the handset in the right hand, when the procedure should be reversed.

18 CB INSTRUMENTS The dial leads are not removed but the free ends are parked in a special moulding.

In conventionally wired telephones this moulding is located on the base under the gravity tags and in the printed wiring telephone it is mounted on the dial clamping screw.

The pink and orange leads should be located together under the screw provided, thereby maintaining the connection, and the remaining leads should be pressed into the holes or slots.

MISCELLANEOUS

19 LOCAL BATTERIES The maintenance procedure for local batteries is specified in A0013.

20 LABELS The instructions contained in C3 M0010 should be followed whenever a maintenance visit is made.

21 TOOLS The following tools are required for the maintenance of the telephone.

Adjusters, Detent No. 1

Adjusters, Spring No. 3
" " No. 4

Cleaner, Contact, No. 1

Gauges, Feeler, No. 1
" " No. 9

Gauges, Tension No. 1
" " No. 2
" " No. 3

Pliers, Adjusting, No. 1 or No. 1A

Pliers, Wiring, No. 2

Screwdriver, Instrument No. 1
" " No. 2
" " No. 3

Spanner, Cranked, No. 16

Sv5.1.5
(Replacing EI Telephones, Stations, A5253)

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