MODELS 33 AND 38 ROTARY DIALS

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Figure 1: Models 33 and 38 Rotary Dials

1. INTRODUCTION

1.01 This document covers the Models 33 and 38 rotary dials. (See Figure 1.) A general description as well as information on removal, disassembly, replacement parts, assembly, installation, and adjustments is included.

1.02 Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For information concerning telephones that these dials are used in, refer to the appropriate section in Volume 1 of the ITT Telephone Apparatus Practices Manual.

2. GENERAL DESCRIPTION

2.01 The Models 33 and 38 rotary dials (see Figure 2) consist of a rigid metal bracket on which are mounted the gear train, contact spring assembly, numeral ring, mainspring and spider assembly, finger plate, and miscellaneous parts. The gear train is protected by a plastic dust cover. Each model is available with either a metropolitan-style numeral ring (letters and numerals) coded G, or a regular-style numeral ring (numerals only) coded D. The Model 38 rotary dial is also available with only dots at the finger holes (no letters or numerals) coded H. The Models 33 and 38 rotary dials are similar with the exception of an additional set of contacts appearing in the Model 38 rotary dial to allow its use with handsfree equipment.

2.02 When the dial finger plate is rotated clockwise and released, a pair of pulsing contacts interrupts the telephone line current once for each unit of the dialed digit. Telephone switching equipment is operated in accordance with the number of pulses received. The dials are factory-adjusted to 10 pulses per second (nominal), and a pulse ratio with a break period of 61.5% of the pulse duration.

2.03 The Models 33 and 38 rotary dials are identified by a code number stamped in ink on the back of the dial. Refer to Table A for ordering information and for an explanation of each code number. Variations of the Models 33 and 38 rotary dials are briefly described in the following paragraphs.

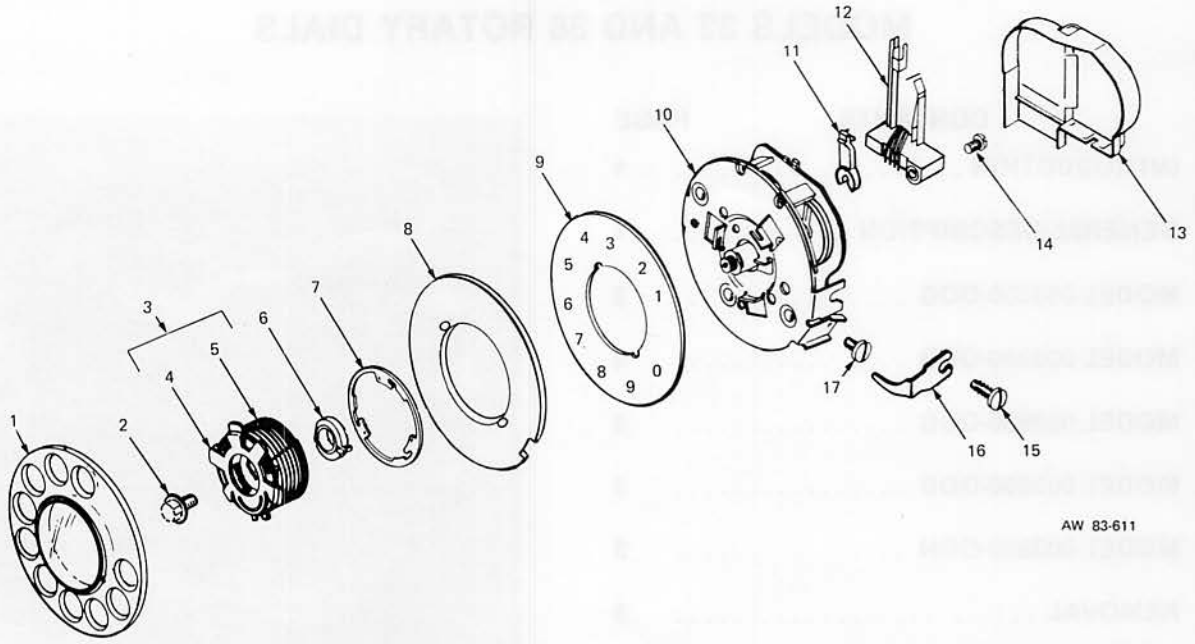

Figure 2: Models 33 and 38 Rotary Dials, Exploded View

TABLE A

ORDERING INFORMATION

CODE NUMBERS		
DIAL CODE NUMBERS ARE FORMED IN TWO STEPS AS FOLLOWS:		
(1) Dial Model Number (See Part 1) — 003300 (2) Numeral Ring Style (See Part 2) — OOG		
PART 1 DIAL MODEL NUMBER		
CODE	**DESCRIPTION**	**NUMERAL RING STYLE**
003300	Model 33 Rotary Dial (For Standard Telephones)	OOG, OOD
003800	Model 38 Rotary Dial (For Handsfree Operation)	OOG, OOD, OOH
PART 2 NUMERAL RING STYLE		
CODE	**DESCRIPTION**	
OOG	Metropolitan (Letters And Numerals)	
OOD	Regular (Numerals Only)	
OOH	Dots Only	

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MODEL 003300-OOG

2.04 The Model 003300-OOG rotary dial is designed for use in multibutton telephones. It contains one set of normally-open contacts that closes to short circuit the telephone receiver during dialing. One set of pulsing contacts is provided to interrupt the line current once for each unit of a dialed digit. This dial has a 3-inch diameter, metropolitan-style numeral ring displaying both letters and numerals.

MODEL 003300-OOD

2.05 The Model 003300-OOD rotary dial is the same as the Model 003300-OOG rotary dial with the exception that it has a 3-inch diameter, regular-style numeral ring displaying numerals only.

MODEL 003800-OOG

2.06 The Model 003800-OOG rotary dial is designed for use in handsfree telephones, or multibutton telephones used in connection with handsfree equipment. It contains one set of normally-open contacts that closes to short circuit the telephone receiver during dialing, and also an additional set of contacts to mute the handsfree speaker during dialing. One set of pulsing contacts is provided to interrupt the line current once for each unit of a dialed digit. This dial has a 3-inch diameter, metropolitan-style numeral ring displaying both letters and numerals.

MODEL 003800-OOD

2.07 The Model 003800-OOD rotary dial is the same as the Model 003800-OOG rotary dial with the exception that it has a 3-inch diameter, regular-style numeral ring displaying numerals only.

MODEL 003800-OOH

2.08 The Model 003800-OOH rotary dial is the same as the Model 003800-OOG rotary dial with the exception that it has a 3-inch diameter numeral ring displaying only dots at the finger holes.

3. REMOVAL

3.01 To remove the dial from the telephone, proceed as follows:

(a) Remove the telephone faceplate.

(b) Remove the telephone housing.

(c) Loosen the two dial mounting screws and lift the dial from the dial mounting brackets.

(d) Disconnect the dial leads from the telephone.

4. DISASSEMBLY

4.01 To disassemble the dial, proceed as follows:

(a) Rotate the finger plate completely clockwise.

(b) Insert the straightened end of a paper clip or similar tool into the hole that is now about 1/4 inch to the left of the tip of the finger stop. (See Figure 3.)

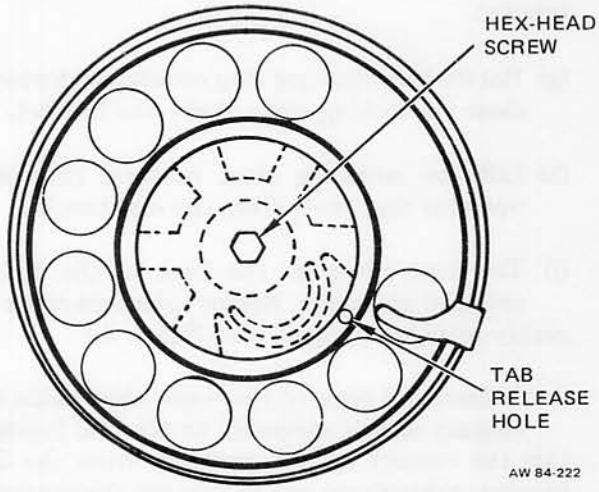

Figure 3: Location of Tab Release Hole

(c) Press down on the paper clip to spring the tab of the spider. Rotate the finger plate clockwise to release it. Work the finger plate off of the spider and out from under the finger stop.

(d) While holding the spider firmly, remove the hex-head screw. Lift the spider from the main shaft and work the mainspring out of the dial bracket. (See Figure 4).

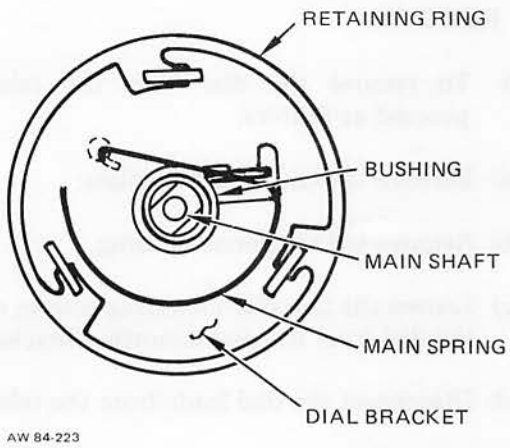

Figure 4: Installation of Spring and Spider Assembly

Note: The mainspring can be removed from the spider assembly if necessary.

(e) Remove the bushing.

(f) Remove the finger stop by loosening the screw that holds the finger stop to the dial bracket. Lift the finger stop from the dial bracket.

(g) Rotate the retaining ring counterclockwise to clear the locking slots of the dial bracket.

(h) Lift the retaining ring, numeral ring, and numeral ring cover from the dial bracket.

(j) The dust cover on the back of the dial is snapped into place. Remove the dust cover by gently lifting the edges. (See Figure 5.)

(k) Loosen and remove the screw that holds the contact spring assembly to the dial bracket. Lift the contact spring assembly from the dial bracket, taking care not to damage the contacts.

(m) The actuator can be removed by gently pulling it from the main shaft.

Warning: The gear train and bracket assembly is a staked unit and repair is not recommended. Do not disassemble this unit.

5. REPLACEMENT PARTS

5.01 Replacement parts for the Models 33 and 38 rotary dials are listed in Table B.

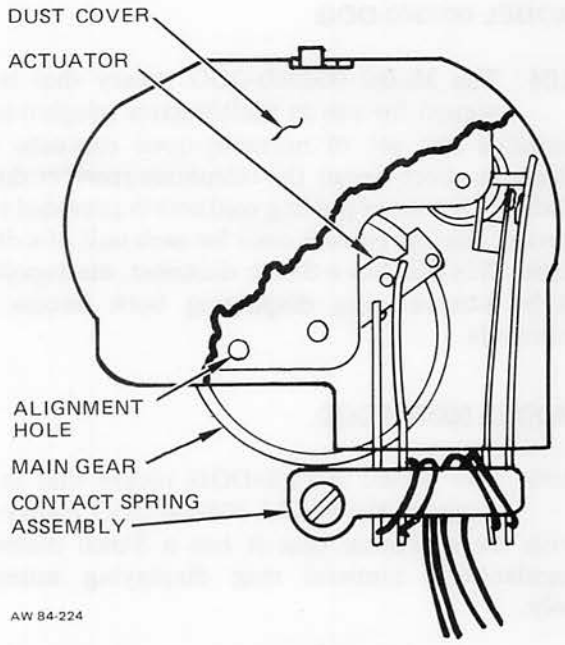

Figure 5: Installation of Dust Cover

6. ASSEMBLY

6.01 To assemble the dial, proceed as follows:

(a) If the actuator has been removed, slip it onto the main shaft with the flat side next to the surface of the main gear. Rotate the actuator counterclockwise to the stop on the main gear. (See Figure 5.) The hole in the main gear will align with the hole in the dial bracket when assembly is complete.

(b) Route the leads of the contact spring assembly around and under the plastic base of the assembly. Position the contact spring assembly so that the two locating studs of the plastic base seat in the two holes provided in the dial bracket. (See Figure 5.)

(c) Check to see that the end of the pulsing lever spring rests on the surface of the impulse cam.

Note: Be sure the dial leads do not interfere with the contact springs or with the main gear. The inner stud of the actuator must rest against the lever spring of the normally-open switch, and the switch contacts must be open when the hole in the main gear is aligned with the hole in the dial bracket. (This applies only if the mainspring and spider are in place so that tension is applied to the actuator.)

Note: The mainspring has a larger diameter when it is free than when it is wound. Usually it will be found that some coils of the spring lie outside one of the three locking tabs on the dial bracket. Use a smooth tool, such as a screwdriver, to work the coils back inside the locking tab.

(m) Ensure that the number card is installed in the finger plate; position the finger plate over the spider so that the digit 0 (or operator) finger hole is over the digit 9 on the numeral ring. Let the finger plate drop into position over the spider; then, rotate the finger plate counterclockwise until it clicks into place.

(n) Install the finger stop to the dial bracket at the position where the slot is located on the numeral ring cover. Tighten the finger stop mounting screw.

Note: The finger stop can be adjusted slightly up or down to provide clearance for the finger plate.

(p) Position the dust cover on the back of the dial as shown in Figure 5 and snap it into place.

7. INSTALLATION

7.01 To install the dial in a telephone, proceed as follows:

(a) Remove the telephone faceplate and housing.

(b) Connect the dial leads to the telephone. Refer to the telephone circuit label for the appropriate connections.

(c) Place the dial in the dial mounting brackets and tighten the mounting screws.

(d) Install the telephone housing and faceplate.

8. ADJUSTMENTS

8.01 Adjustments to the Models 33 and 38 dials pertain to dial speed and contact springs. These adjustments are beyond the scope of this section.