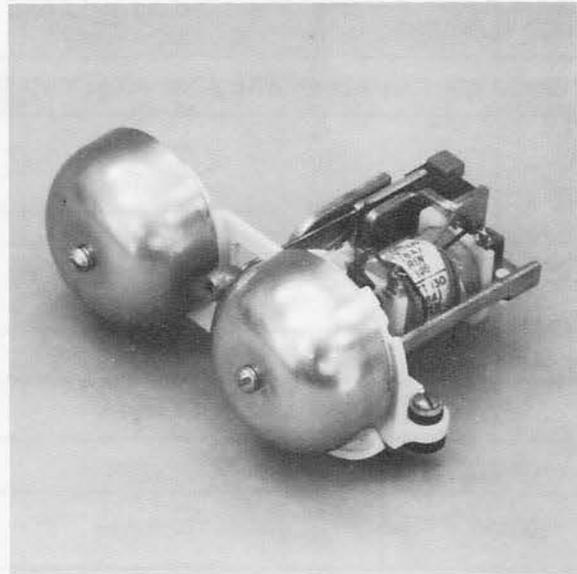


# MODEL 130 RINGER

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Figure 1: Model 130 Ringer

## 1. INTRODUCTION

**1.01** This document covers the Model 130 ringer. (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 applications of the Model 130 ringer in telephones, refer to the appropriate section in Volume 1 of the ITT Telephone Apparatus Practices Manual.

## 2. GENERAL DESCRIPTION

**2.01** The Model 130 ringer (see Figure 2) is a two-gong, straight-line, biased-type ringer equipped with a mechanical volume control and assembled on a plastic frame. A laminated soft-iron core holds the double-wound coil in place. The ringer is designed to ring at 20 or 30 Hz.

**2.02** The armature and clapper assembly is spring-mounted to the frame. The fluctuating magnetic field produced by the coil causes the armature to vibrate and the clapper to strike the gongs. Increased sensitivity is provided by biasing the armature with a small permanent magnet.

**2.03** The ringer is mounted on shock-absorbing rubber grommets. Two grommets are located on the frame. An alignment pin, molded into the frame, is inserted into an additional grommet located at the base of the telephone hookswitch bracket.

**2.04** The ringer is identified by a code number printed on a ringer label attached to the coil assembly. Refer to ordering information in Table A for an explanation of each code number.

## 3. REMOVAL

**3.01** To remove the ringer from the telephone, proceed as follows:

- (a) Remove the telephone housing.

TABLE A  
ORDERING INFORMATION

CODE NUMBERS			
RINGER CODE NUMBERS ARE FORMED IN TWO STEPS AS FOLLOWS:			
(1) Ringer Model Number (See Part 1)			000130
(2) Ringer Style (See Part 2)			OBA
PART 1 RINGER MODEL NUMBER		PART 2 RINGER STYLE	
CODE	DESCRIPTION	CODE	DESCRIPTION
000130	Model 130 Ringer	OBA	Straight-Line, Biased-Type Ringer

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- (b) Remove any telephone component that may obstruct access to the ringer.
- (c) Disconnect the ringer leads.
- (d) Loosen the two mounting screws and lift the ringer from the telephone base.

#### 4. DISASSEMBLY

4.01 To disassemble the ringer, proceed as follows:

- (a) Loosen and remove the two screws that hold the gongs to the frame.
- (b) Remove the gongs and the resonators.
- (c) Using a permanent marker, place a reference mark on the magnet to ensure that proper polarity is maintained during reassembly. The end of the magnet nearest the armature and clapper assembly must attract the north-seeking pole of a compass.
- (d) Loosen and remove the screw that holds the armature and clapper assembly to the frame.
- (e) Lift the armature and clapper assembly from the frame.

- (f) Remove the magnet.
- (g) Loosen and remove the two screws that hold the core laminations to the support pole piece assembly.
- (h) Lift the coil assembly from the frame and remove the core laminations by sliding them through the coil assembly.
- (j) Lift the support pole piece assembly from the frame.

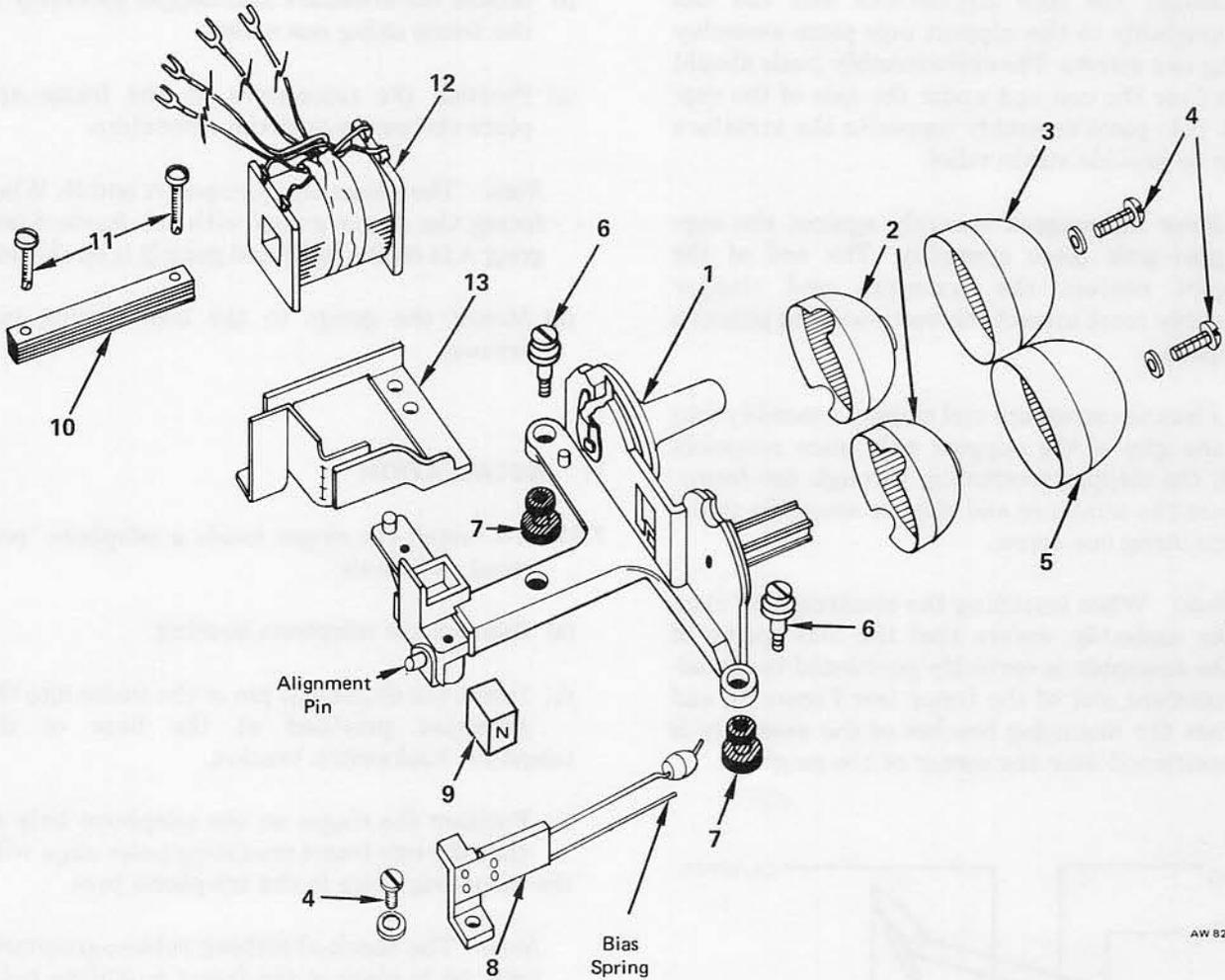
#### 5. REPLACEMENT PARTS

5.01 Replacement parts for the Model 130 ringer are listed in Table B.

#### 6. ASSEMBLY

6.01 To assemble the ringer, proceed as follows:

- (a) Place the support pole piece assembly on the frame, ensuring proper alignment with the pins on the frame.
- (b) Slide the core laminations into the coil assembly. Position the coil assembly with the leads on top of the coil and align the holes in the core laminations with the holes in the support pole piece assembly.



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Figure 2: Model 130 Ringer, Exploded View

TABLE B  
REPLACEMENT PARTS LIST

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED
		Model 130 Ringer	130-0BA
1	185481-101	Frame	1
2	075372-101	Resonator	2
3	075396-101	Gong A	1
4	182845-102	Screw, Mounting W/Lockwasher	3
5	075397-101	Gong B	1
6	075366-101	Screw, Frame Mounting	2
7	075371-101	Grommet, Rubber	2
8	075393-102	Armature and Clapper Assembly	1
9	184973-101	Magnet	1
10	184972-101	Laminations, Core	15
11	075407-110	Screw, Laminations Mounting	2
12	185480-101	Coil Assembly	1
13	184971-101	Support Pole Piece Assembly	1

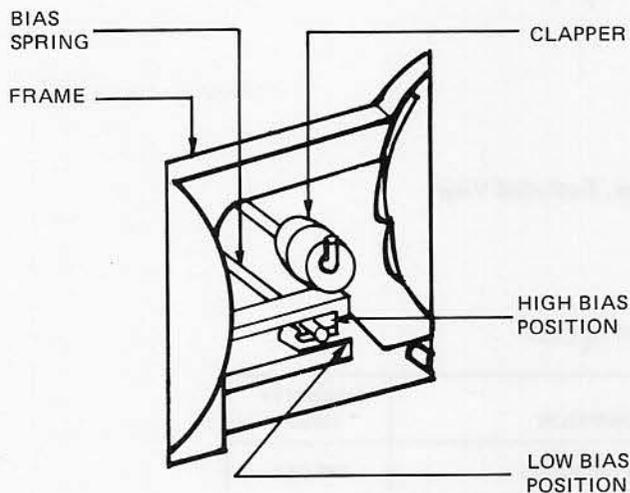
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(c) Mount the core laminations and the coil assembly to the support pole piece assembly using two screws. The coil assembly leads should pass over the coil and under the side of the support pole piece assembly (opposite the armature side) to provide strain relief.

(d) Place the magnet securely against the support pole piece assembly. The end of the magnet nearest the armature and clapper assembly must attract the north-seeking pole of a compass.

(e) Place the armature and clapper assembly into the gap of the support pole piece assembly with the clapper protruding through the frame. Mount the armature and clapper assembly to the frame using one screw.

*Note:* When installing the armature and clapper assembly, ensure that the bias spring of the assembly is correctly positioned in the adjustment slot of the frame (see Figure 3), and that the mounting bracket of the assembly is positioned over the corner of the magnet.



Notes: This ringer is shipped with the bias spring in the high bias position and is adjusted to ring at 77 VAC, 20 Hz. For lower voltages and 30 Hz ringing, the bias spring can be moved to the low bias position.

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Figure 3: Bias Spring Adjustment  
(As viewed when facing the ringer gongs)

(f) Mount the armature and clapper assembly to the frame using one screw.

(g) Position the resonators on the frame and place the gongs over the resonators.

*Note:* The gongs are stamped A and B. When facing the ringer gongs with the frame down, gong A is on the right and gong B is on the left.

(h) Mount the gongs to the frame using two screws.

## 7. INSTALLATION

7.01 To install the ringer inside a telephone, proceed as follows:

(a) Remove the telephone housing.

(b) Insert the alignment pin of the frame into the grommet provided at the base of the telephone hookswitch bracket.

(c) Position the ringer on the telephone base so that the two frame mounting holes align with the mounting holes in the telephone base.

*Note:* The shock-absorbing rubber grommets must be in place in the frame mounting holes and in the telephone hookswitch bracket.

(d) Mount the ringer to the telephone base using two screws.

(e) Connect the ringer coil assembly leads to the telephone network. Refer to the telephone circuit label.

(f) Install the telephone housing.

## 8. ADJUSTMENTS

### Volume Control

8.01 Ringer volume is controlled by turning the thumbwheel on the bottom of the ringer. When facing the ringer gongs with the ringer frame down, turn the thumbwheel to the left to increase the volume. To silence the ringer, remove the telephone housing, disconnect the red or black lead, and tape and store the disconnected lead.

### **Bias Spring**

**8.02** The ringer is shipped with the bias spring in the high bias position to ring at 77 VAC, 20 Hz. For lower voltages and 30 Hz ringing, the bias spring can be moved to the low bias position. (See Figure 3.)

### **Clapper-to-Gong Clearance**

**8.03** If the clapper is not centered between the gongs (causing improper ringing to occur), the clapper arm may be bent slightly, but carefully, to center the clapper for coarse adjustment. Fine adjustment is made by rotating the gongs.