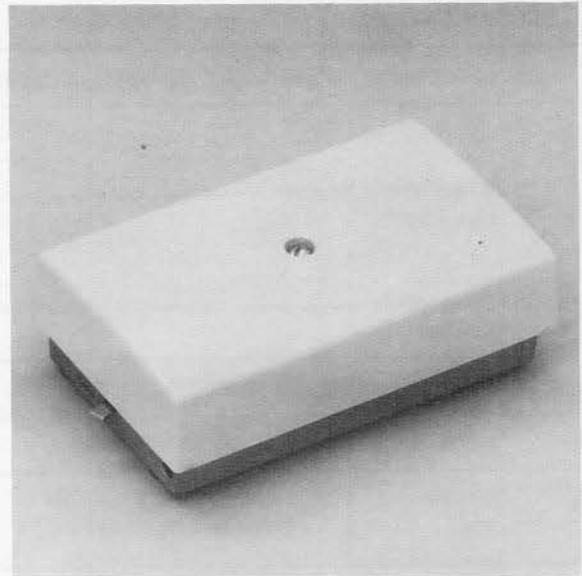


MODEL 136 RINGER

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Figure 1: Model 136 Ringer

1. INTRODUCTION

1.01 This document covers the Model 136 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.

2. GENERAL DESCRIPTION

2.01 The Model 136 ringer (see Figure 2) is a single-gong, straight-line, biased-type extension ringer equipped with a mechanical volume control and assembled on a die-cast frame with a beige-colored, molded-plastic cover. 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 ringer frame. The fluctuating magnetic field produced by the coil causes the

armature to vibrate and the clapper to strike the gong. Increased sensitivity is provided by biasing the armature with a small permanent magnet.

2.03 The Model 136 ringer is compact and can be used either as a main ringer or as an extension ringer. Screw terminals are provided for all lead connections. The ringer can be mounted at four shock-absorbing rubber grommets located on the ringer frame.

2.04 The Model 136 ringer is identified by a code number stamped in ink on the back of the ringer frame. Refer to ordering information in Table A for an explanation of each code number and ringer information.

3. REMOVAL

3.01 To remove the ringer from its mounting location, proceed as follows:

- (a) Remove the cover from the ringer frame by loosening the cover mounting screw and lifting the cover.

TABLE A
ORDERING INFORMATION

CODE NUMBERS			
RINGER CODE NUMBERS ARE FORMED IN TWO STEPS AS FOLLOWS:			
(1) Ringer Model Number (See Part 1)		000136	OBA
(2) Ringer Style (See Part 2)			
PART 1 RINGER MODEL NUMBER		PART 2 RINGER STYLE	
CODE	DESCRIPTION	CODE	DESCRIPTION
000136	Model 136 Extension Ringer, Miniature	OBA	Straight-Line, Biased-Type Ringer With Volume Control

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- (b) Disconnect the ringer line cord leads that come into the ringer.
- (c) Loosen and remove the four screws that mount the ringer at the rubber grommets.

4. DISASSEMBLY

4.01 To disassemble the ringer, proceed as follows:

- (a) Disconnect the coil assembly leads from the terminal board.
- (b) Loosen and remove the two screws that hold the terminal board to the ringer frame.
- (c) Lift the terminal board, the stop lever, the spacer, and the lock lever from the ringer frame.
- (d) 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.
- (e) Loosen and remove the screw that holds the armature and clapper assembly to the ringer frame. Lift the armature and clapper assembly from the ringer frame.

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

5. REPLACEMENT PARTS

5.01 Replacement parts for the Model 136 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 ringer frame while ensuring proper alignment with the pins on the ringer frame.
- (b) Slide the core laminations into the coil assembly. Position the coil assembly with the leads on top of the coil; align the holes in the core laminations with the holes in the support pole piece assembly.

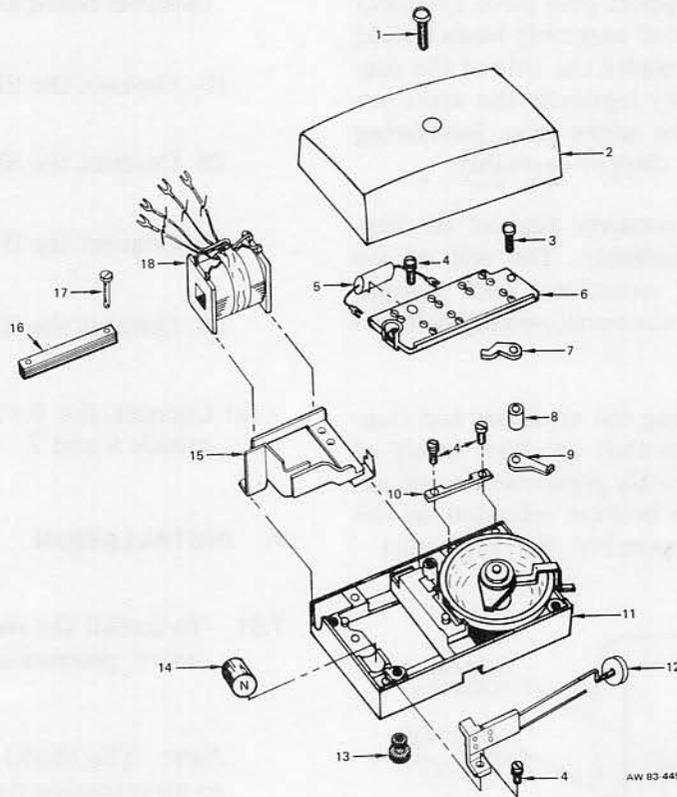


Figure 2: Model 136 Ringer, Exploded View

TABLE B
REPLACEMENT PARTS LIST

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED
		Model 136 Ringer	136-0BA
1	190178-102	Lock Screw (Cover Mounting)	1
2	190192-101	Cover	1
3	069778-101	Screw	1
4	075408-102	Screw, With Lockwasher	4
5	183603-101	Capacitor, 0.47 MFD, 250 Volt	1
6	190148-101	Terminal Board Assembly	1
7	190143-101	Lever, Stop	1
8	190141-101	Spacer	1
9	190142-101	Lever, Lock	1
10	190144-101	Retainer, Cord	2
11	190146-101	Frame And Gong Assembly	1
12	190066-101	Armature And Clapper Assembly	1
13	075371-101	Foot, Rubber	4
14	184177-101	Magnet	1
15	075398-101	Support Pole Assembly	1
16	075395-101	Core, Laminations	18
17	075409-104	Screw, Lamination Mounting	2
18	185480-102	Coil 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); this prevents the wires from interfering with the armature and clapper assembly.

(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.

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 bracket mounted on the support pole piece assembly. (See Figure 3.)

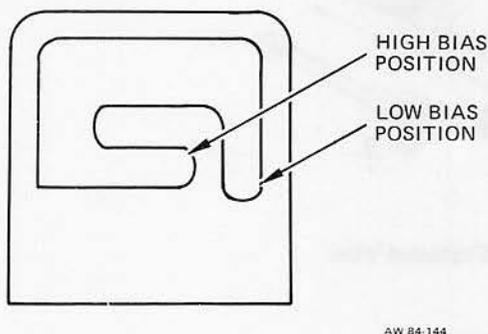


Figure 3: Adjustment Positions of the Bias Spring

(e) Place the armature and clapper assembly into the gap of the support pole piece assembly; the clapper should be resting inside the gong. Ensure that the mounting bracket for the armature and clapper assembly is positioned against the magnet.

(f) Place the terminal board mounting screw through the hole in the top right-hand corner of the terminal board.

(g) Slide the stop lever, spacer, and lock lever in place on the terminal board mounting screw.

(h) Position the terminal board on the ringer frame and mount it to the ringer frame using two screws.

(j) Connect the ringer coil assembly leads to the terminal board as follows:

(1) Connect the SL-RD lead to terminal 1.

(2) Connect the SL lead to terminal 1.

(3) Connect the BK lead to terminal 6.

(4) Connect the RD lead to terminal 7.

(k) Connect the 0.47 mfd capacitor across terminals 5 and 7.

7. INSTALLATION

7.01 To install the ringer on a wall or mounting-board, proceed as follows:

Note: The Model 136 ringer is normally used as an extension ringer that is connected across the Tip and Ring leads of a line at a connecting block; it is used with the original telephone ringer. The Model 136 ringer can also be used as an extension ringer for a subscriber with Tip Party Identification if the ringer inside the telephone is disconnected and the Model 136 ringer is connected in place of the original ringer. Refer to the telephone circuit label for Tip Party Identification terminal connections.

(a) Install the ringer line cord to the wall, or through a hole in the wall if the line cord is to be hidden.

(b) Mount the ringer to the wall using four screws. Ensure that the ringer line cord passes through either the slot in the back of the ringer frame or through one of the slots on each end of the frame.

Note: If the ringer line cord is inserted through one of the slots on the end of the ringer frame, it can be secured in place using one of the cord retainers located on the ringer frame.

(c) For bridged ringing, connect the ringer line cord leads from the telephone or main distribution frame to the ringer terminal board as follows:

- (1) Connect the Ring lead to terminal 5 of the terminal board.
- (2) Connect the Tip lead to terminal 6 of the terminal board.

(d) Install the cover to the ringer frame using one screw.

8. ADJUSTMENTS

Volume Control

8.01 Ringer volume is controlled by moving the volume control lever on the side of the ringer frame. (See Figure 4.) An indicating arrow for increasing the loudness of the ringing is stamped in ink on the ringer frame.

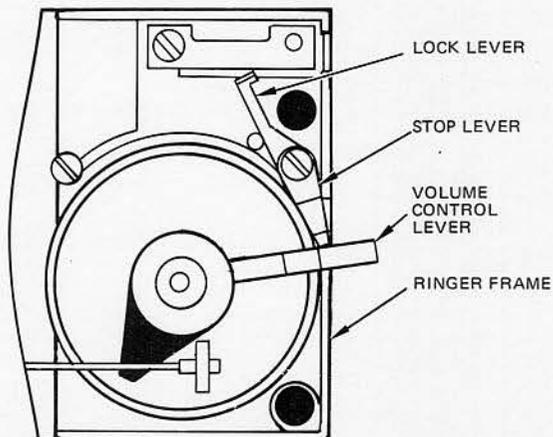


Figure 4: Stop Lever in Silent Ringer Position

8.02 The ringer can be silenced by loosening the terminal board mounting screw that holds the stop lever and moving the stop lever to allow the volume control lever to be placed in the ringer silencing position on the ringer frame. The volume control lever can be locked into place by positioning the lock lever over the volume control lever as shown in Figure 5. Tighten the terminal board mounting screw after adjustment is complete.

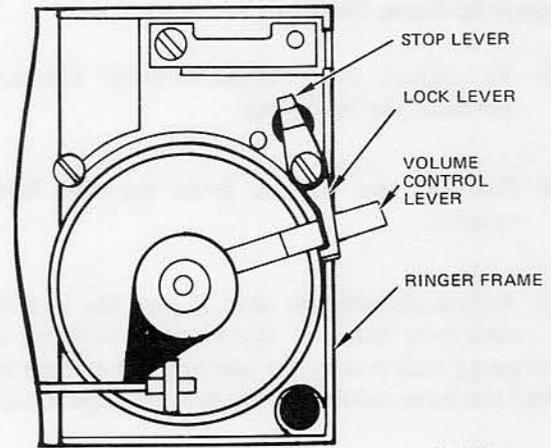


Figure 5: Lock Lever in Locked Silent Ringer Position

8.03 The lock lever can be positioned to prevent the volume control lever from being moved into the low volume position. This is accomplished by positioning the lock lever as shown in Figure 6.

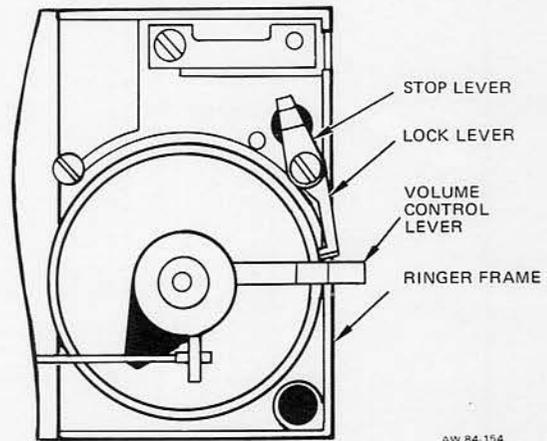


Figure 6: Lock Lever in Position to Prevent Low Ringing

Bias Spring

8.04 The ringer is shipped with the bias spring in the high bias position for ringing 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

8.05 To adjust the clapper-to-gong clearance, perform the following:

- (a) Position the volume lever for the lowest volume.
- (b) Adjust the clapper arm to provide 1/16 inch clearance between the clapper bushing and the gong; this is done by bending the clapper arm near the base to obtain the desired adjustment.

(c) Adjust the rubber cam to provide 1/16 inch clearance between the clapper bushing and the rubber cam; this is done by rotating the rubber cam.

(d) Position the volume lever to silence the ringer; the rubber cam should contact the clapper bushing.

(e) Adjust the clapper arm so the clapper bushing will contact the rubber cam squarely; this is done by bending the clapper arm near the base to obtain the desired adjustment.

