M- AND N-TYPE RINGERS

IDENTIFICATION AND MAINTENANCE

1. GENERAL

1.01 This section contains information on the M1A, M1B, M2B, and N1A ringers.

1.02 This section is reissued to update all figures to show latest version of M- and N-type ringers.

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 The M1A, M1B, and N1A ringers are intended for use in desk telephone sets. The M2B ringer is intended for use in wall telephone sets.

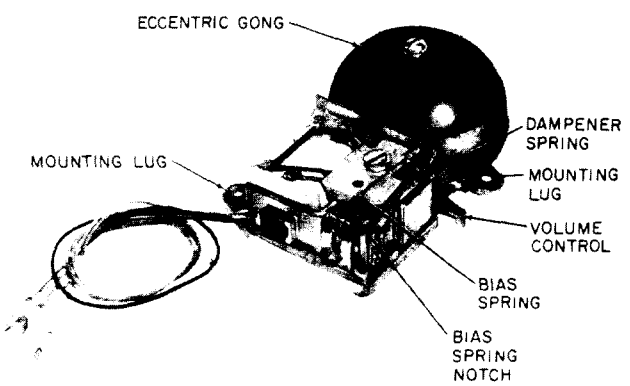

Fig. 1—M1A Ringer (manufactured after March 1, 1979)

2. INDENTIFICATION

2.01 The M-type (Fig. 1 and 2) and N-type (Fig. 3 and 4) ringers are high-impedance, single-coil, single-gong ringers. The coil on the M1A, M2B, and N1A has four spade-tipped leads

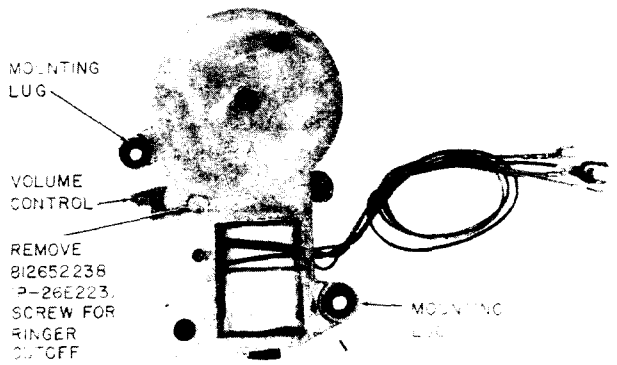

Fig. 2—M1A Ringer, Rear View

for use where tip-party identification is required (Fig. 5A). Where tip-party identification is not required, use the two-lead M1B ringer (Fig. 5B).

Use the BK and S-R leads when 2650 ohm identification is required. DO NOT use the 2500 ohm winding which may result in bell tap due to reversed ringer bias.

2.02 These ringers are designed to operate in series with an 0.45 μf capacitor.

DESIGN FEATURES

A. Ringer Cutoff

2.03 These ringers are provided with a mechanical volume control. There are three volume positions: ***high, low,*** and ***off.*** The ***off*** position on the M1A, M1B, and N1A ringers is blocked by a factory placed machine screw. Remove the screw

for ringer cut off feature (Fig. 2 and 4). Access to the screw is through a hole provided in the base of the telephone set.

To avoid breaking volume control arm when replacing blocking screw, be sure volume control is in the high position.

B. Gong

2.04 The 61A gong used in these ringers is eccentric. The resonator is built in and needs no adjustment. Table A shows clapper to gong clearance.

C. Bias Spring

2.05 The M1A ringer is shipped from the factory (after March 1, 1979) with the bias spring disengaged (low bias position). The M1B, M2B, and N1A ringers are shipped with the bias spring engaged (high bias position).

D. Dampener Spring

2.06 The dampener spring shown in Fig. 1 and 2 is used in both M- and N-type ringers.

3. MAINTENANCE

3.01 Table B shows bias spring settings for class of service and number of ringing bridges allowed.

3.02 After positioning the bias spring, test ringer according to local instructions.

Note: When ring-back circuits are provided by the local central office, these facilities must be used instead of ringback from local test desk. The ringing voltage supplied from the local test desk may be higher and give false indications of proper operation.

3.03 If bell taps during dialing and bias spring is in low bias position:

- Check ringer and set for proper wiring
- If wiring is correct, change bias spring to high bias position
- Repeat ringer test.

3.04 If the ringer fails to operate, check that:

- Volume control is not in ***off*** position
- Armature airgap is free of obstruction or foreign material.

3.05 If ringer continues to fail, replace ringer according to local instructions. If the ringer is replaced, an M1A, M2B, or N1A ringer must be used if tip party identification or multiparty ringing is required. In all other applications the M1B may be provided.

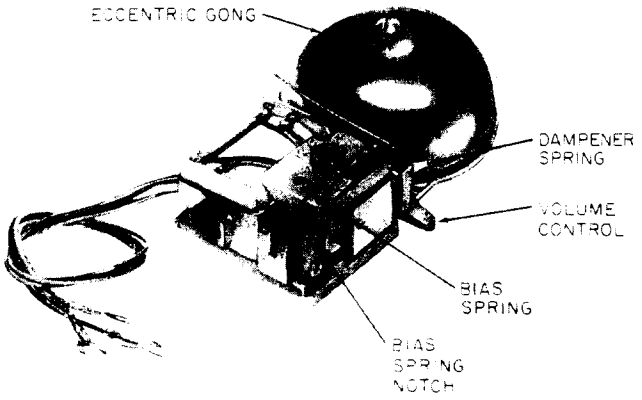

Fig. 3—N1A Ringer (manufactured after March 1, 1979)

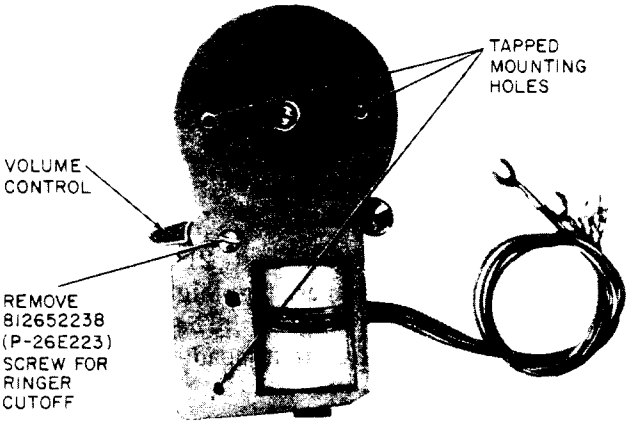

Fig. 4—N1A Ringer, Rear View

3.06 For information on the maximum number of ringers that can be used for various services and loop lengths, refer to Section 500-114-100. For information relating to inductive noise associated with grounded ringing, refer to Section 500-112-100.

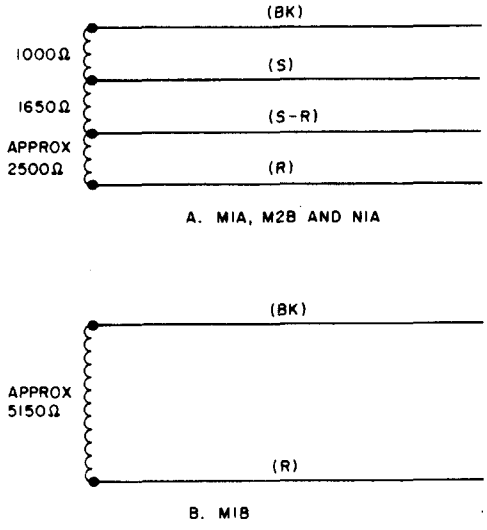

Fig. 5—M- and N-Type Ringers, Schematic

TABLE A

CLAPPER TO GONG CLEARANCE

RINGER	CLEARANCE
M1A, M1B	0.010 to 0.020 inch
M2A, M2B	0.008 to 0.016 inch (ringer vertically mounted)
N1A	0.014 to 0.020 inch

TABLE B

BIAS SPRING POSITION

SERVICE	BIAS POSITION
Bridged Ringing	
Individual Line (Note 1)	Low
Nonselective Party Lines	Low
PBX Stations	High
Grounded Ringing	
2-party Flat and Message Rate (Note 2)	High
4-party Semiselective (Notes 2 and 3)	High
4-party Selective	Low
8-party Semiselective	Low
Divided Code	Low

Note 1: When only a few (one or two) ringers are bridged across the line or the loop is short, bell tap may occur. To correct bell tap, change bias spring to high bias position.

Note 2: Bias spring must be in high bias position on all two-party flat and message rate service and most four-party semiselective service (see Note 3) to prevent cross ringing (ringing of uncalled party when called party answers).

Note 3: When five ringers are connected between same side of line and ground and operation is not satisfactory, bias spring may be placed in low bias position on all ringers on the same side of line. If condition is not corrected, change ringer.