

520-TYPE TELEPHONE SETS

EXPLOSIVE ATMOSPHERES

IDENTIFICATION, INSTALLATION, CONNECTIONS, AND MAINTENANCE

1. GENERAL

1.01 This section contains information for the 520-type telephone sets at locations containing an explosive atmosphere.



Before performing any work on the 520-type telephone set, the crafts-person must refer to Section 502-415-100.

Warning: Telephone apparatus or wiring shall not be installed in a location where acetylene gas may become present in the atmosphere.

1.02 The reasons for reissuing this section are listed below. Revision arrows are used to emphasize the more significant changes.

- Show 23A lock removed
- Revise Fig. 1, 2, 3, and 6 to update information
- Revise Table A.

1.03 The 520A telephone set is intended for manual service and the 520B is equipped with an 8-type rotary dial. These sets are intended for use in hazardous (explosive atmosphere) locations. These sets are designed to provide security against ignition of the surrounding atmosphere. All parts of the telephone set which might produce an electrical spark are completely enclosed and any spark or flame which might be created in the set will be extinguished before reaching the outside atmosphere.

2. IDENTIFICATION

2.01 The 520-type telephone set (Fig. 1 and 2) consists primarily of two major components, an apparatus unit and a base. These parts are made of

high tensile strength aluminum alloy to withstand any explosion within the telephone set.

Ordering Guide

2.02 Order as follows:

- Set, Telephone, 520A-03, Black only
- Set, Telephone, 520B-03, Black only
- Each set includes:

Unit, Apparatus, 15A (manual set, 520A)

Unit, Apparatus, 15B (rotary dial set, 520B)

Set, Hand, G11A-Type (refer to paragraph 2.07)

Base, 814459574 (P-44E957).

2.03 The 15A apparatus unit consists primarily of a cover, 814459251 (P-44E925) apparatus blank, 4228P or 4010B network, ringer motor assembly, two gongs, a line switch assembly, and a G11A-type handset.

2.04 The 15B apparatus unit consists primarily of a cover, 8A or 8AA rotary dial, 4228P or 4010B network, ringer motor assembly, two gongs, line switch assembly, and a G11A-type handset.

2.05 The base (Fig. 3) provides an external projection to engage corresponding threads in the apparatus unit. It also provides spring-type contact terminals for line and ground conductors.

Note: The 15-type apparatus units may be mounted on bases [814459574 (P-44E957) or 811056654 (P-10E665)] previously installed for use with 9-type apparatus units.

NOTICE

Not for use or disclosure outside the
Bell System except under written agreement

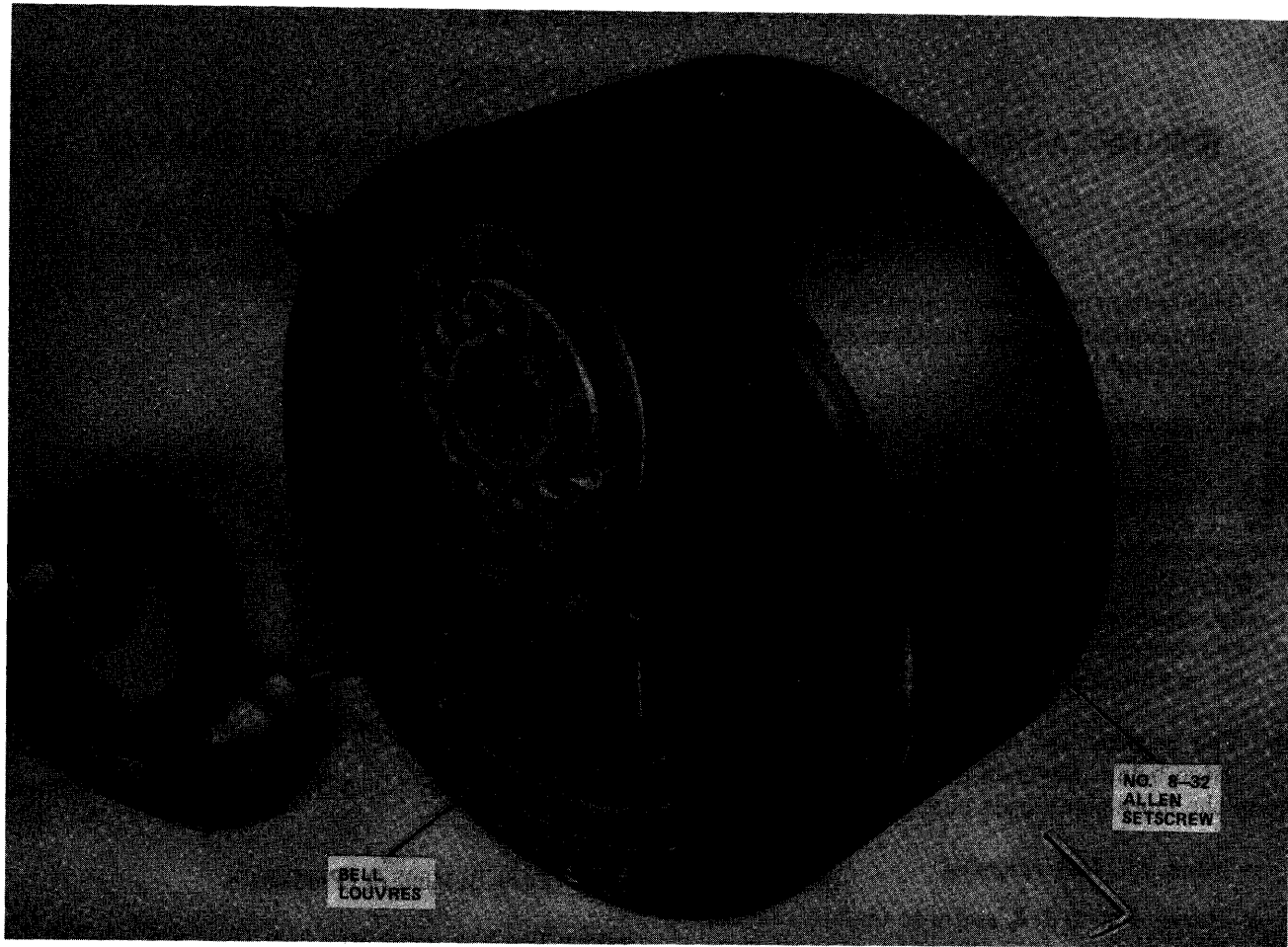


Fig. 1—520B Telephone Set

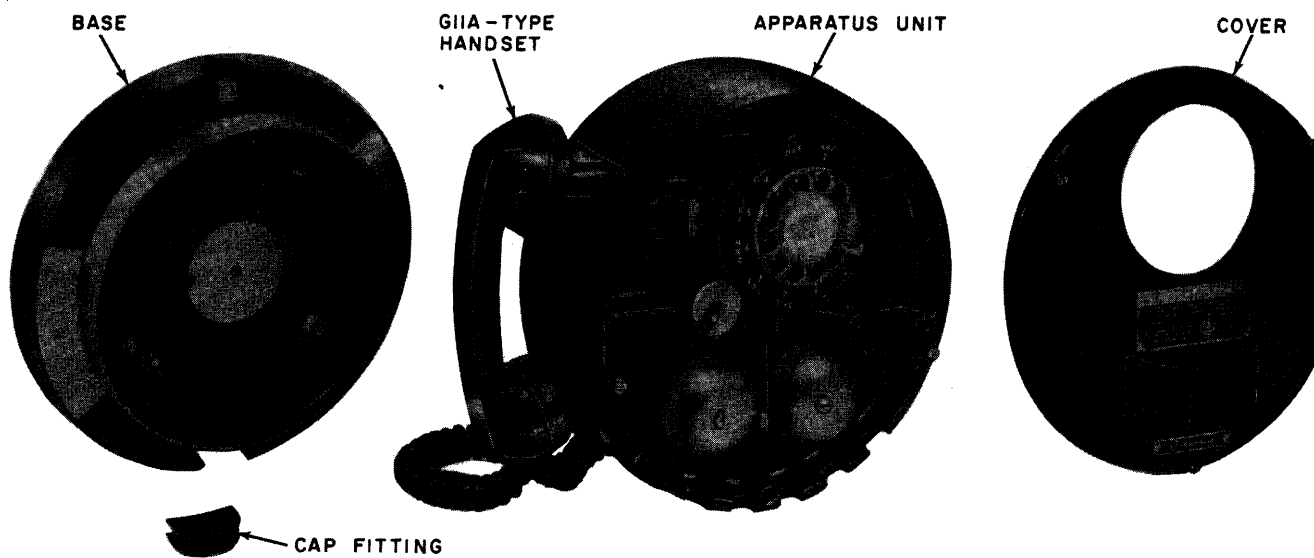


Fig. 2—520B Telephone Set, Exploded View

2.06 The apparatus unit, which screws onto the base, contains the telephone set components (Fig. 3). Three projecting studs located on the back of the apparatus unit make contact with the three spring terminals in the base, thus carrying line and ground connections into the unit. The earlier versions of the apparatus unit are equipped with a 23A lock and two keys. Keys are interchangeable with all 320-, 520-, and 2520-type telephone sets. ♦The current versions of the apparatus unit are equipped with a No. 8-32 Allen setscrew (Fig. 1) which performs the same function as the 23A lock by engaging the locking pin, which then allows the cover to be secured. ♦The early and current version sets cannot be locked unless the locking pin is engaged in the locking hole in base of set.

2.07 The 520-type telephone sets and associated apparatus unit is equipped with G11A-type handset. The handset is equipped with a H4DT cord which may be obtained in a 4-foot length for the G11A4 handset and in a 9-foot length for the G11A9 handset. ♦The G11A4 is shipped with all telephone sets and apparatus units unless the order specifies a G11A9 handset. ♦

2.08 The G11C4-03 and G11C9-03 are optional handsets for use in the 520-type telephone set used in long loop service.

2.09 The G11C-type handset is the same as the G11A-type except it contains a different receiver unit and can be identified by the letters **LB2** stamped on the face of the receiver cap holes.

2.10 The 520-type telephone set is designed for wall or pedestal mounting. The 166A backboard is used for wall installation. The 5A pedestal is used for floor installations (Fig. 5).

3. INSTALLATION AND CONNECTIONS

3.01 Installation of the 520-type telephone set must follow the requirements and precautions outlined in Section 502-415-100 and any local regulations pertaining to hazardous locations.

3.02 It is recommended that all associated apparatus (conduit, junctions, union, etc.) be assembled and installed prior to the installation of the telephone set.

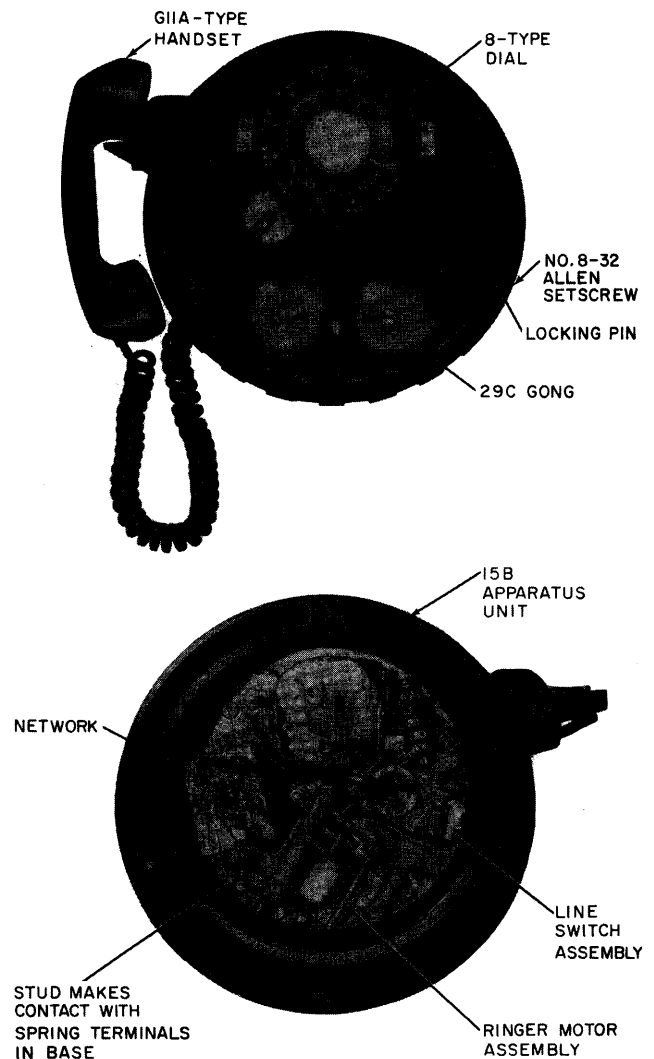


Fig. 3—Interior and Front View of 15B Apparatus Unit

Note: Base assembly may be installed at this time.



Antiseize compound RM-642708 (furnished with set) must be applied to threaded areas of both apparatus unit and base to prevent galling and freezing of threads when the two are assembled. THERE SHALL BE NO SUBSTITUTES FOR THE SPECIFIED ANTISEIZE COMPOUND.

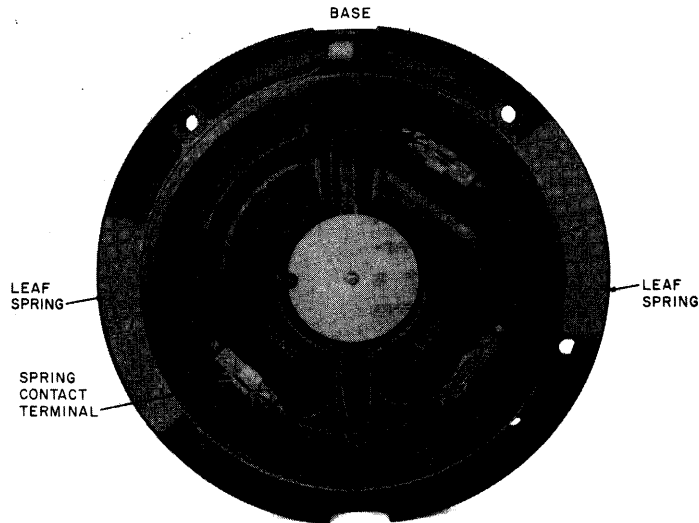


Fig. 4—Local Wiring in Base

3.03 Connect local wiring to terminals in base of set (Fig. 4). Check unused pipe plug to insure that a minimum of five threads are engaged to permit installation of special cap fitting. Slide cap fitting into place over pipe plug. This cap must be assembled to base prior to assembly of the apparatus unit to the base.

A. #520-Type (Early Version)◆

3.04 Secure apparatus unit to base as follows.

- (a) Insert key in 23A lock and actuate lock to permit release of locking pin (key will not withdraw from lock).
- (b) Screw apparatus unit a minimum of eight turns to antiseize-coated threads of base until leaf springs of base make contact with apparatus unit (there will be approximately 1/8-inch clearance between apparatus unit and base).
- (c) Align apparatus unit with base to permit depression of locking pin into hole in base. Depress locking pin and actuate 23A lock. Remove key.

B. #520-Type (Current Versions)

3.05 Secure apparatus unit to base as follows.

- (a) Loosen No. 8-32 Allen setscrew (Fig. 1) to permit release of locking pin.

- (b) Screw apparatus unit a minimum of eight turns to antiseize-coated threads of base until leaf springs of base make contact with apparatus unit (there will be approximately 1/8-inch clearance between apparatus unit and base).

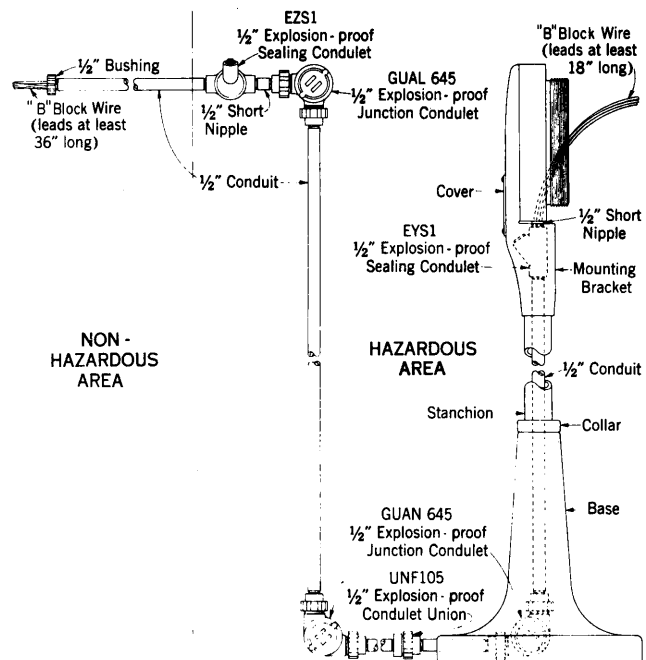


Fig. 5—Floor Installation Using 5A Pedestal

(c) Align apparatus unit with base to permit depression of locking pin into hole in base. Depress locking pin and tighten No. 8-32 Allen setscrew. The cover may now be secured to the apparatus unit by means of the three mounting screws.

3.06 Connections for the 520B telephone set are shown in Fig. 6. Where grounded ringing is employed, the line and ringer connections shown in Table A should be used.

4. MAINTENANCE

Warning: Before removing apparatus unit for any reason, be sure line wires are disconnected at protector. Defects due to any cause, even though seemingly slight, shall be corrected without delay.

4.01 Sets requiring repairs should be removed from service and returned to a Western Electric Service Center.

4.02 To remove apparatus unit from service, turn key in lock on earlier versions or remove cover and loosen No. 8-32 Allen setscrew (Fig. 1) on current versions until locking pin pops out. Apparatus unit may now be screwed off base.

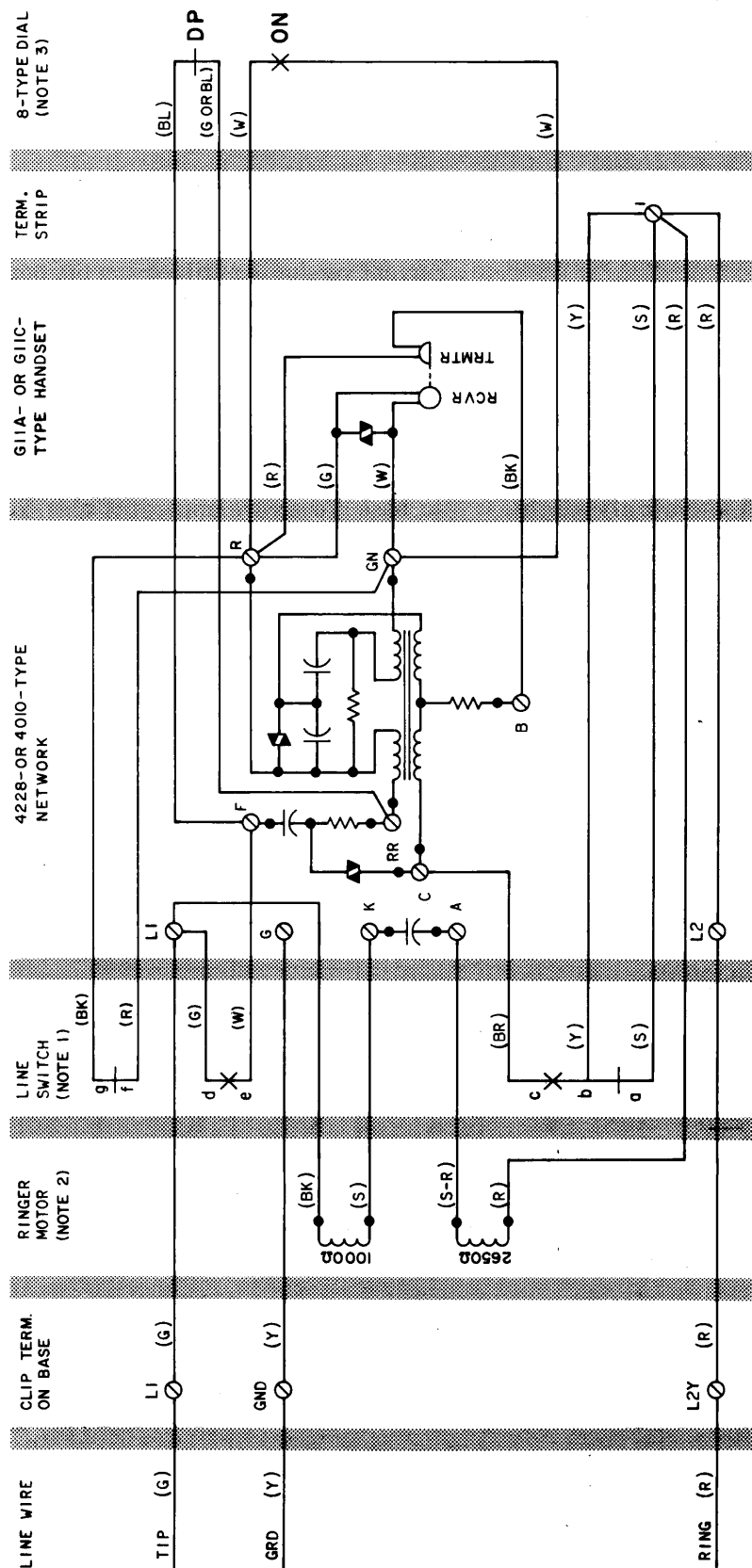
4.03 To replace apparatus unit, remove all dirt and grit from threads of base and apparatus unit, apply antiseize compound to threads, and screw unit to base. To secure apparatus unit to base, refer to paragraphs 3.03 and 3.04.

♦TABLE A♦

520-TYPE TELEPHONE SET
LINE AND RINGER CONNECTIONS

LEAD	COLOR	INDIV OR BRIDGED	RING PARTY	TIP PARTY
Line Wire (Conn to Term. on Base)	R	L2Y	L2Y	L1
	G	L1	L1	L2Y
	Y	GRD	GRD	GRD
Ringer (Conn to Term. on net. and Term. Strip)	R	1	1	G
	BK	L1	G	L1
	S	K	K	K
	S-R	A	A	A

Note: To silence ringer permanently, remove (R) ringer motor lead from 1 of terminal strip; insulate and store.



NOTES:

1. WHEN THE HANDSET IS REMOVED, CONTACT **9f** BREAKS LAST.
2. SET IS FACTORY WIRED FOR BRIDGED RINGING, REFER TO **TABLE A** FOR ALL CLASSES OF SERVICE.
3. FOR MANUAL SERVICE, REPLACE DIAL WITH AN APPARATUS **BLANK** (ORDERED SEPARATELY) AND TRANSFER (w) LINE SWITCH LEAD TO TERMINAL RR OF NETWORK.

DP - DIAL PULSE CONTACT

ON - OFF NORMAL CONTACT

Fig. 6—520B Telephone Set, Connections