

## 2AB TELEPHONE ANSWERING SET

### INSTALLATION AND MAINTENANCE

#### 1.00 GENERAL

This section provides for the installation and maintenance of the 2AB telephone answering set.

#### 2.00 TRANSPORTING

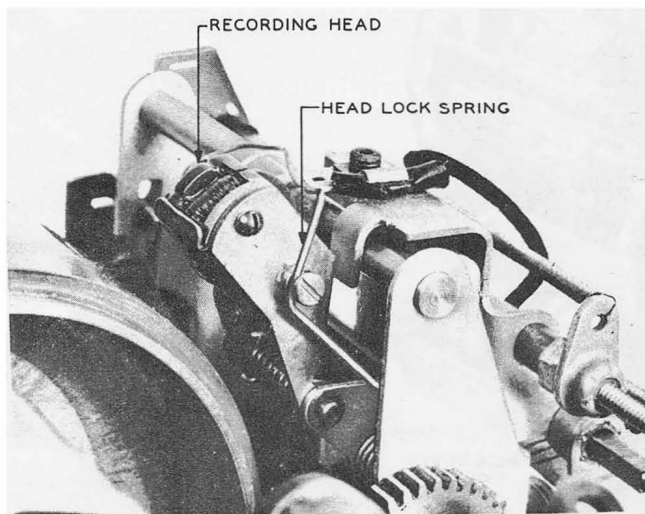
The 2AB telephone answering set must be handled carefully at all times to avoid damage. Before transporting, secure the recording head by means of head lock spring (see Fig. 1).

#### 3.00 LOCATION

In general, locate answering set in accordance with the customer's wishes. Since answering set is remotely controlled, it need not be located adjacent to the telephone set which con-

trols it. Consideration must be given to the following:

- A desk, table, or shelf strong enough to support set must be provided by customer. Set weighs approximately 30 pounds.
- Answering set must be installed on a level surface.
- Set is equipped with an 8-foot power cord and must be located within reach of a standard ac outlet.
- Avoid placing the set in locations where it would be exposed to the weather.
- The 2AB telephone answering set is designed to operate in a temperature range of 0 to 120 degrees Fahrenheit.



**Fig. 1 — 2AB Telephone Answering Set, Recording Head Shown Locked by Recording Head Lock Spring in Position for Transporting**

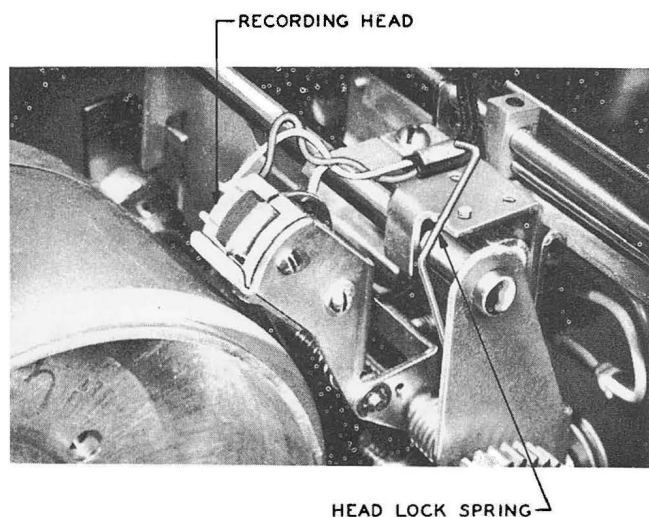
#### 4.00 INSTALLATION



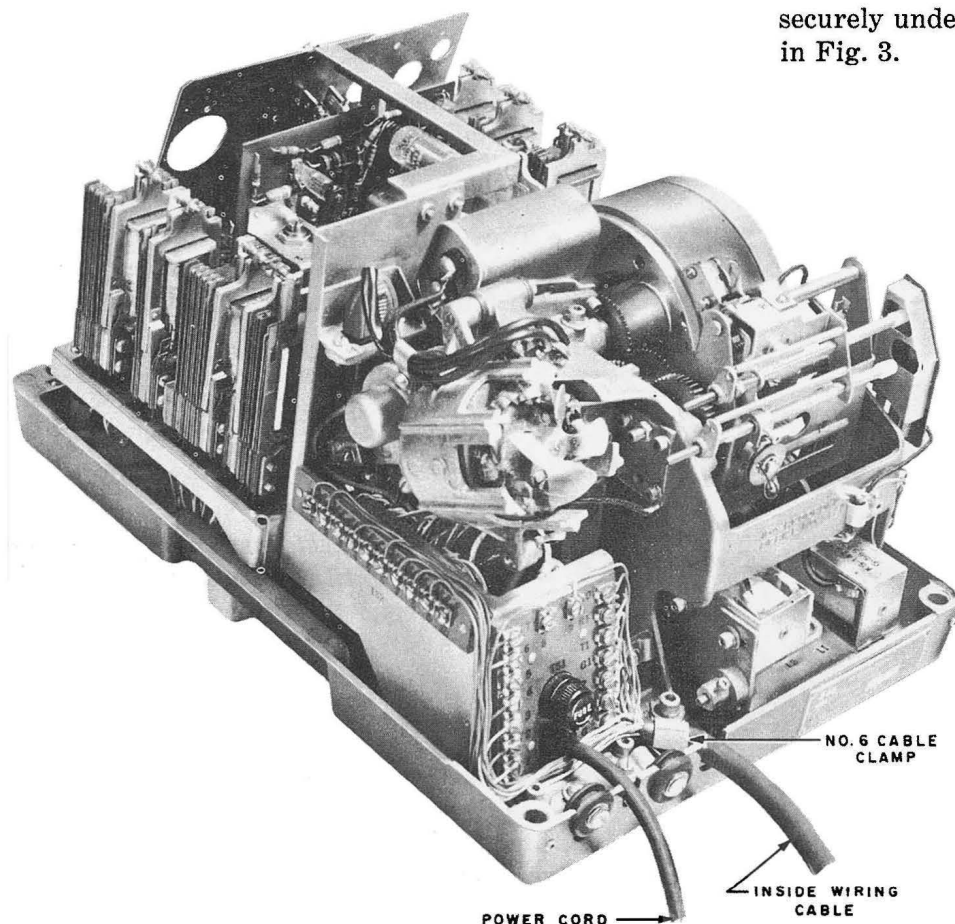
*Do not connect answering set to power supply until all installation work is complete.*

- 4.01** To remove cover from answering set, loosen the two hex-socket headset screws in the back edge of the base and the two hex-socket head captive screws near front edge of the bottom of the base. Raise cover carefully.

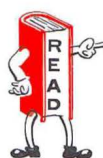
**4.02** To release recording head, remove head lock spring from recording head and place in notch in carriage bracket (see Fig. 2).



**Fig. 2 — 2AB Telephone Answering Set, Recording Head Shown in Operating Position with Recording Head Lock Spring in Notch in Carriage Bracket**



**Fig. 3 — Cable Arrangement**



*Do not attempt to rotate announcement drum or flywheel by hand because of danger of damaging machine. Avoid touching surface of recording band of the announcement drum or allowing dirt or foreign material to fall on the band. If loose matter is observed on the band, wipe off lightly with a clean KS-2423 twill jean or other approved lint-free cloth.*

**4.03** Install announcement circuit cable as follows:

1. Remove rubber grommet from cable entrance slot nearest center of answering set.
2. Remove cable clamp from bracket nearest entrance slot.
3. Install No. 6 cable clamp under hex-socket head mounting screw (see Fig. 3).
4. Form cable into entrance slot and fasten securely under No. 6 cable clamp as shown in Fig. 3.



**4.04** Announcement time adjustment should be set to maximum, unless otherwise instructed to meet local requirements.

## 5.00 ADJUSTMENTS

For adjustments of 2AB telephone answering set, see section entitled 2A Telephone Answering Sets — Adjustments.

## 6.00 MAINTENANCE

**6.01** Work actually done on the customer's premises should be limited to verification and analysis of trouble, readily made adjustments as described in adjustment section, and replacement of accessible parts which are normally available through supply channels.

**6.02** Disassembly of answering set should be governed by local instructions.



*Extreme care must be used while working on the answering set with cover removed since 115 volts ac and 75 volts dc are present on certain terminals.*

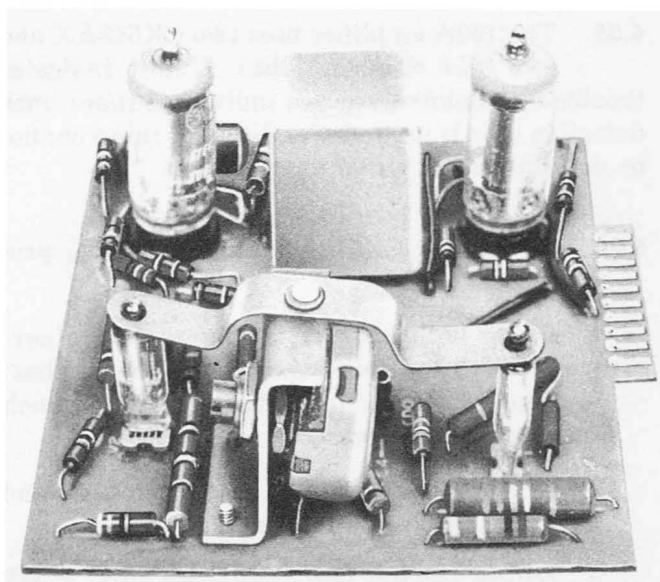
**6.03** The 2AB telephone answering set is equipped with a 152A amplifier. This is a plug-in printed circuit-type amplifier (see Fig. 4).

**6.04** To test, repair, or replace amplifier, remove from chassis as follows:

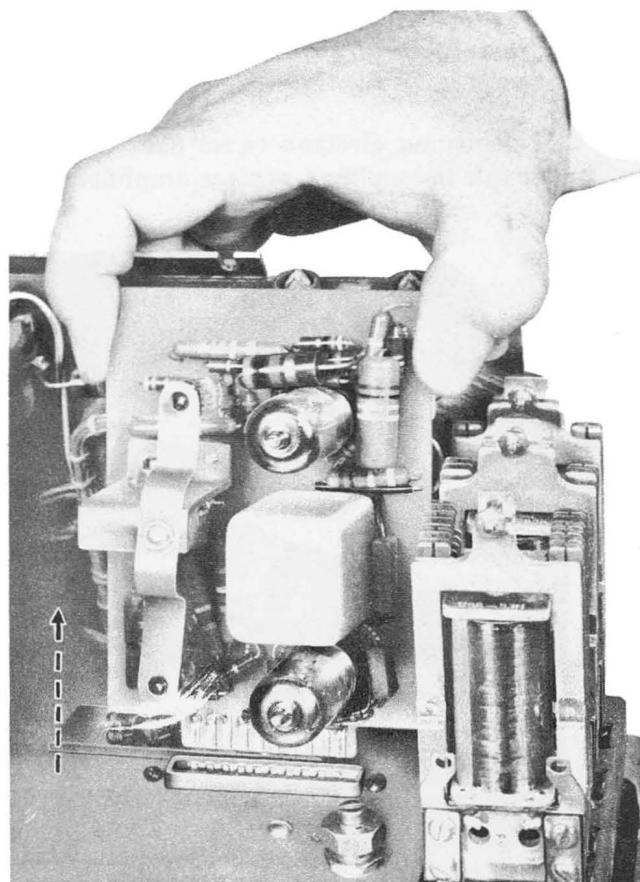
1. Turn power off before removing (or replacing) amplifier.
2. Remove retaining bracket.
3. Grasp amplifier as shown in Fig. 5 and rock gently from side to side while exerting an upward pull.



*Care must be exercised while placing or removing amplifier to avoid damaging metal contacts on its plug end. To avoid damage to the jack, do not rock amplifier from front to rear.*



**Fig. 4 — 152A Amplifier**



**Fig. 5 — Amplifier Removal**

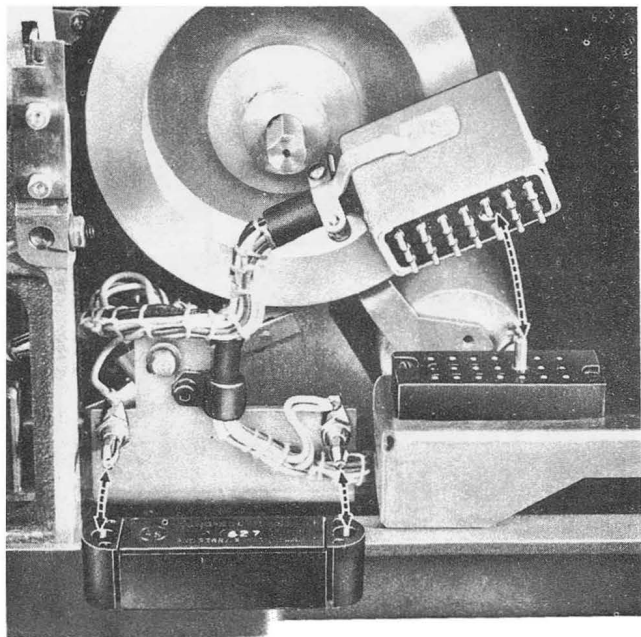
**6.05** The 152A amplifier uses two CK512AX and two 3V4 electron tubes. If test indicates trouble in amplifier, replace individual tubes until defective tube is located. Condition of tubes cannot be determined by visual examination.

**6.06** To remove CK512AX electron tubes, proceed as follows:

1. Grasp both ends of spring tube retainer; lift both ends until they clear tips of tubes; then rotate spring until it will not touch tubes when released.
2. Grasp CK512AX tube to be removed and withdraw gently from socket.
3. Before placing new CK512AX tube, check length of leads. They should be approximately 1/4 inch long, measured from base of tube. Cut leads to meet this requirement.

*Caution: Be certain when replacing CK512AX tubes that they are inserted in their sockets so that red mark on tube base coincides with molded dot on the socket.*

**6.07** If replacing electron tubes does not clear trouble in amplifier, replace amplifier.



**Fig. 6 — 2AB Telephone Answering Set, Showing Tungsol Thermal Flasher No. 627 Removed**

**6.08** If low-volume level or distortion is experienced, inspect record head and band for dirt. If necessary, clean record head and band with KS-16328, List 2 cleaner as follows:

**Note:** This cleaner is flammable to a small degree and is susceptible to freezing. Precautions should be taken to prevent exposure to sparks, flames, and freezing temperatures.

1. Remove dirt from band by wiping lightly with a clean KS-2423 cloth. Remove dirt from record head with a toothpick or orange stick and then wipe lightly with a clean, dry, KS-2423 cloth.
2. Shake container of cleaner thoroughly before use as components of cleaner have a tendency to separate. Apply a small quantity to a clean KS-2423 cloth and wipe on recording band while the drum is rotating. Wipe cleaner and dirt from drum with a clean KS-2423 cloth. The cleaned drum should be dry and have a polished appearance. Repeat the process if necessary. Since the cleaner contains adequate lubricant, it is not necessary to perform a separate lubrication operation. Also use solution on cloth to clean heads. Dry the recording head thoroughly. Avoid letting the cleaner come in contact with metal parts.

**6.09** If the No. 627 Tungsol thermal flasher becomes defective, remove it by grasping firmly and pulling straight away from side of answering set (see Fig. 6).

**6.10** A 1-ampere fuse is mounted in a fuse holder in the center of TS1. For fuse inspection or replacement, turn fuse holder counterclockwise and withdraw.

**6.11** For maintenance information where KS-15662 inverter is used, see section entitled DC-AC Inverter for Use with Telephone Answering Sets.

**6.12** If it becomes necessary to replace an in-service 2AB telephone answering set, be certain the cable ends are kept clear so that the system can be operated orally.



**7.00 TOOLS AND SPARE PARTS**

**7.01** The following special tools are required for maintenance of the 2AB telephone answering set:

Cloth, twill jean, KS-2423

Tool, 373D, burnishing blade holder

Tools, burnishing blades, 374A, B, and C

Wrenches, key, Allen, hexagonal, 1/16, 5/64, and 5/32 inch

**7.02** The following list contains all the spare parts that are required for field substitution.

Amplifier, 152A—This applies to the coded amplifiers previously described. They can be used interchangeably.

Bracket Assembly, LP-13A979—This bracket is mounted under 10A recorder mounting screw.

Bracket Assembly, LP-17A760—This bracket is mounted under TS1 terminal mounting screws.

Cleaner-lubricant, KS-16328, List 2 (2-ounce or 1-quart bottle)—Cleaner and lubricant for magnetic bands and recording heads.

Flasher, Tungsol, No. 627—Flasher control.

Fuse, AGC, 1 amp 250 volt—F1 power supply fuse.

Holder, fuse, HKP — Power supply fuse holder.

Screw, machine, BH brass 4-40 x 1/4—Used in terminal strip lugs on TS1, TS2, and TS3.

Screw, P-290738—0.112-40 x 1/4 hex-socket steel cap screw in light flashing indicator assembly. Also used in tube of adjustable mechanical stop in standard 2AB telephone answering sets.

Screw, P-290746—0.164-32 x 3/8 hex-socket head steel setscrew used in rear corners of chassis to secure cover.

Tube, electron, CK512AX.

Tube, electron, 3V4—Used in amplifiers.

Washer, lock, spring steel, No. 4.