BELL SYSTEM PRACTICES
Station Operations Manual
Associated Station Apparatus

SECTION C43.021.2
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AT&TCo Standard

2A TELEPHONE ANSWERING SET

INSTALLATION AND CONNECTIONS

1.00 GENERAL

This section was formerly Station Installation and Maintenance Section C55.617, Issue 3. Except for editorial changes and renumbering for inclusion in the Station Operations Manual, no other revisions have been made.

2.00 TRANSPORTING

2.01 The 2A telephone answering set must be handled carefully at all times to avoid damage.

2.02 Secure the recording head by means of the head lock spring. For early-type sets, see Fig. 1. For standard sets, see Fig. 2.

3.00 LOCATION

In general, locate the answering set in accordance with the customer's wishes. Consideration must also be given to the following:

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

4.00 INSTALLATION

4.01 Do not connect the 2A telephone answering set to the power supply until all the installation work described herein is completed.
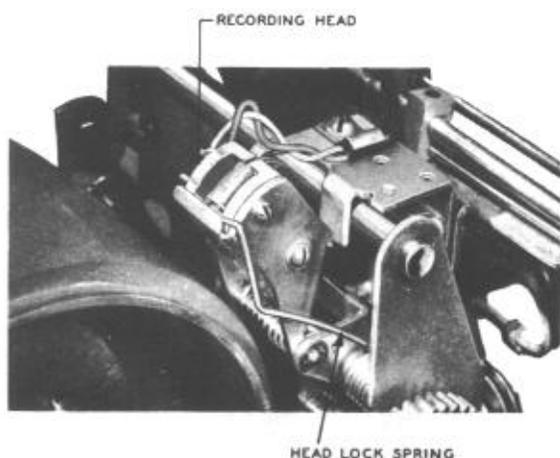

Fig. 1 — Early-type Set Showing Recording Head Locked by Head Lock Spring in Position for Transporting

Fig. 2 — Standard Set Showing Recording Head Locked by Head Lock Spring in Position for Transporting
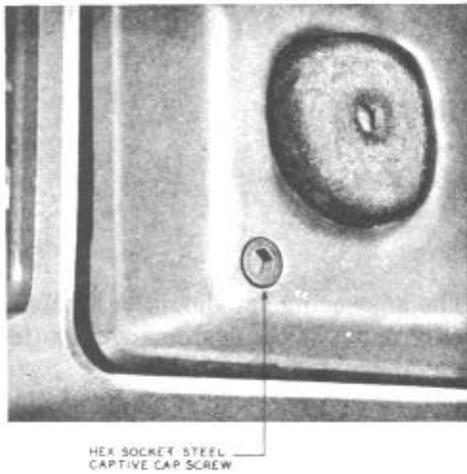
Fig. 3 — Left Front Corner of Base Showing
Hex Socket Captive Screw

4.02 Protect the customer's desks, tables, etc, from being scratched and damaged.

4.03 The cover of the 2A telephone answering set should be removed in the following manner:

1. Remove the function selector and OFF-ON knobs by loosening the two hex head steel cap screws (5/64 Allen head) in each knob.

2. • On the early-type set, remove the START and STOP buttons by loosening the hex head steel cap screws (5/64 Allen head) in each knob.
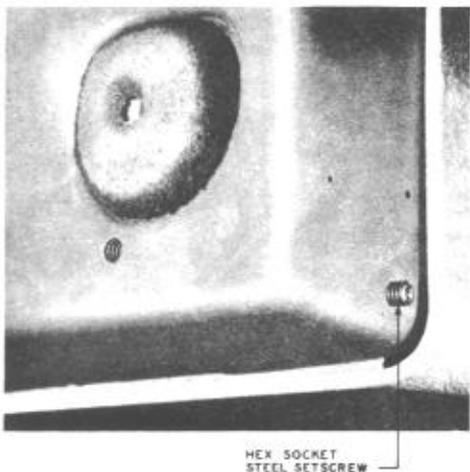

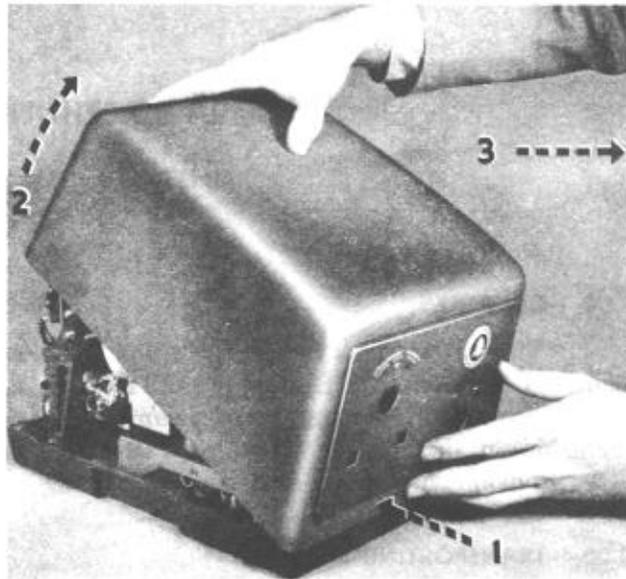Fig. 4 — Left Rear Corner Base Showing
Hex Socket Setscrew

Fig. 5 — Hand Position and Direction of Movement in Removing Cover

• On the standard set, remove the OPE-RATE button by loosening the lockscrew on the underside of the button.

3. Loosen the two hex socket setscrews (5/64 Allen head) in the back edge of the base and the two hex head socket captive screws (5/32 Allen head) near the front edge of the bottom of the base (see Fig. 3 and 4).

4. Raise the rear of the cover until it clears the apparatus inside; then slide the cover forward off the knob and button levers (see Fig. 5).
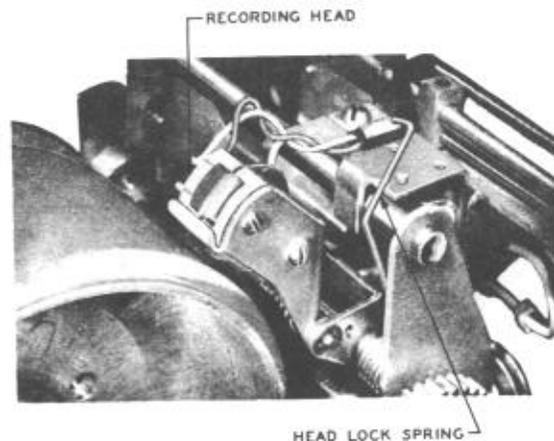

Fig. 6 — Recording Head Shown in Operating Position with Head Lock Spring in Notch in Carriage Bracket

5. Release the recording head. Place the head lock spring in the notch in the carriage bracket (see Fig. 6).

Caution: Do not try to rotate the announcement drum or fly wheel by hand because of the danger of stripping the gears. Avoid touching the surface of the recording band of the announcement drum or allowing dirt or other 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.

4.04   For early-type sets:

1. Insert the telephone set mounting cord through the rubber grommet and Tinnerman cord clamp, and terminate on answering set terminal strip TS1 as shown in Part 8 of this practice (see Fig. 7 and 8).

2. Insert a suitable mounting cord (D3AY or equivalent) through the rubber grommet and Tinnerman cord clamp, and terminate on the connecting block or 531C subscriber set and terminal strip TS1 as shown in Part 8 (see Fig. 7 and 8).
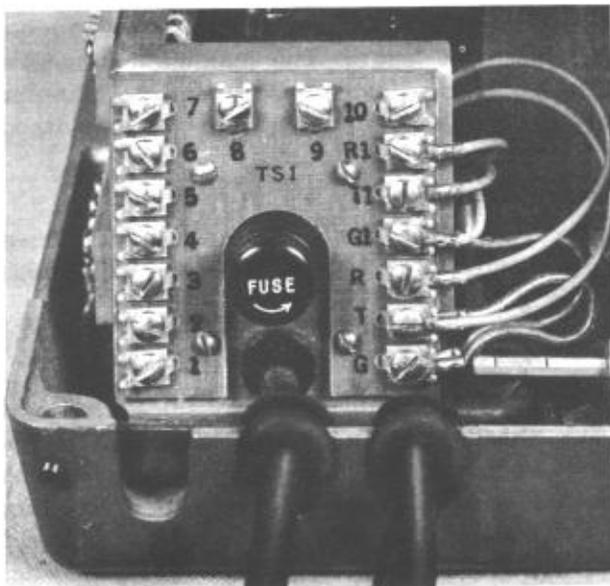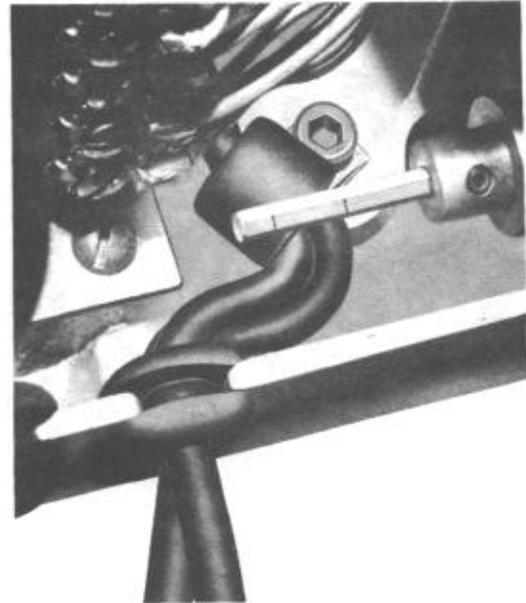

Fig. 8 — Early-type Set Showing Mounting Cords Through Grommet and Tinnerman Cord Clamp

4.05   For standard sets:

1. Insert the telephone set mounting cord through a rubber grommet, fasten cord to bracket, and terminate on answering set terminal strip TS1 as shown in Part 8 (see Fig. 9 and 10).

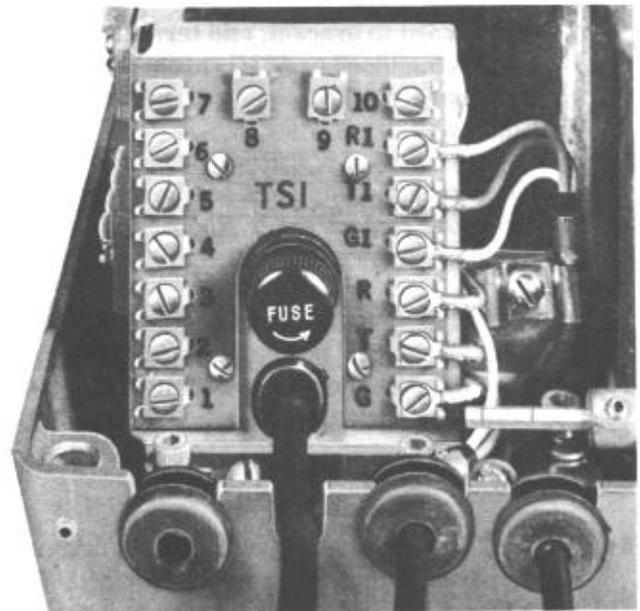Fig. 7 — Early-type Set Showing TS1 Terminal Strip with Mounting Cords Terminated

Fig. 9 — Standard Set Showing TS1 Terminal Strip with Mounting Cords Terminated
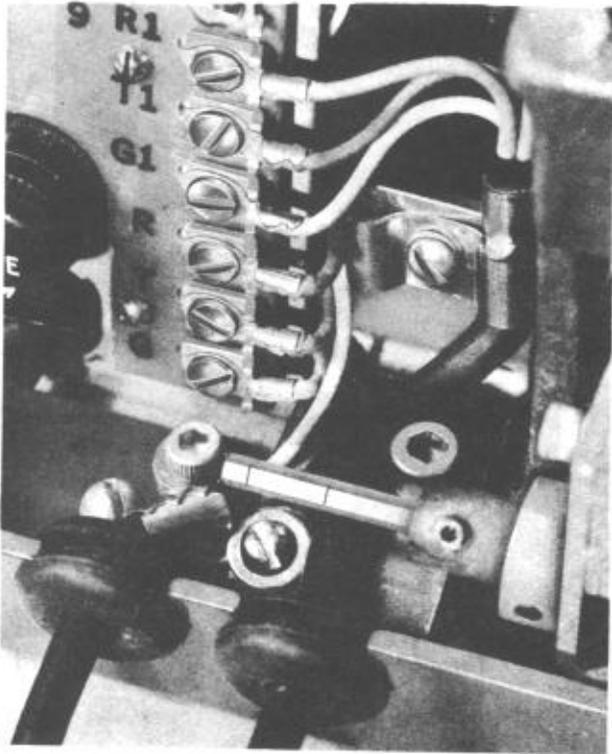
Fig. 10 — Standard Set Showing Mounting Cords Through Grommets and Attached to Bracket

2. Insert a suitable mounting cord (D3AY or equivalent) through a rubber grommet, fasten cord to bracket, and terminate on the connecting block or 531C subscriber set and terminal strip TS1 as shown in Part 8 (see Fig. 9 and 10).

4.06 Place grommets in slots as shown in Fig. 7 and 9 and replace cover, knobs, and buttons of 2A telephone answering set.

4.07 With the OFF-ON knob in the OFF position, insert the power plug in the power outlet. The 2A telephone answering set should then be ready for operation.

5.00 POWER SUPPLY

5.01 The 2A telephone answering set is designed to operate on an ac power supply of 105 to 125 volts 60 cycles. The stand-by power consumption is about 10 watts, and the operating power consumption is about 70 watts.

5.02 Direct current must not be connected to a 2A telephone answering set. If the only available power supply is dc, a KS-15662 inverter, or equivalent, must be used. Refer to C Section entitled DC-AC Inverter for Use with Telephone Answering Sets, for information.

5.03 A fuse (AGC, 1 ampere 250 volts) is provided as protection (see Fig. 7). If the Bell System medallion is not illuminated when the set is turned on, this fuse should be checked and replaced if found operated.

Note: The OFF-ON light (Bell System medallion) is not provided in the initial production of standard 2A telephone answering sets. Later standard 2A sets are equipped with the OFF-ON light.

5.04 The power plug shall be secured in the power outlet as described in C Section entitled Station Systems, Power Supply, Installation and Maintenance.

6.00 MESSAGE LENGTH AND DICTATE LIGHT FLASHING ADJUSTMENT

6.01 The adjustable limit switch controls the actual announcement length. The adjustable mechanical stop, which is marked in steps of 15, 30, 45, and 60 seconds, controls the maximum announcement length. The maximum announcement length is adjusted to 30 seconds in manufacture and should not be changed in the field without authorization.

6.02 To adjust the maximum announcement length, the following steps should be taken (see Fig. 11).

1. Loosen hex head setscrew in tube.

2. Move the adjustable mechanical stop until the desired time marking is at the tube entrance. Do not permit the adjustable mechanical stop to rotate as it is being moved to its new position. If it rotates it will not engage the adjustable limit switch (see Fig. 12).

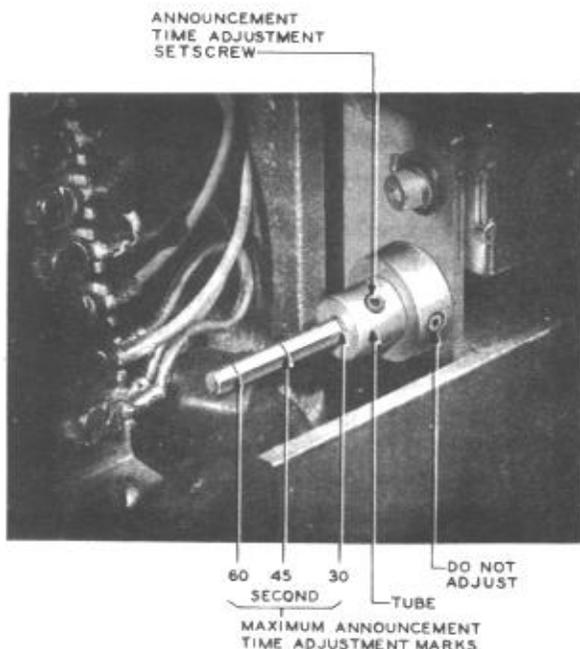3. Tighten hex head setscrew in tube.

Fig. 11 — Adjustable Mechanical Stop, Hex Head Setscrew, and Tube

Fig. 12 — Adjustable Mechanical Stop and Adjustable Limit Switch

4. The dictate light flashing control must be readjusted **after** the position of the adjustable mechanical stop has been changed.

6.03 The dictate light flashing control should be adjusted to give a minimum of 5 seconds of flashing, but may be varied in any degree to a maximum of 30 seconds. This adjustment is made as follows:

- For early-type sets:

1. Loosen the two hex socket cap screws holding the flasher switch mounting (see Fig. 13).

2. Move the mounting bracket that holds the flasher switch to the right to lengthen the period during which the dictate lamp flashes on and off, and to the left to shorten the period.

3. The detent (see Fig. 13) must be located so that it rests between the teeth of the rack which is under the bracket. This position is required to ensure adequate clearance between the flasher switch and its operating bracket. Each tooth in the rack causes a change of about 5 seconds in the flashing time.
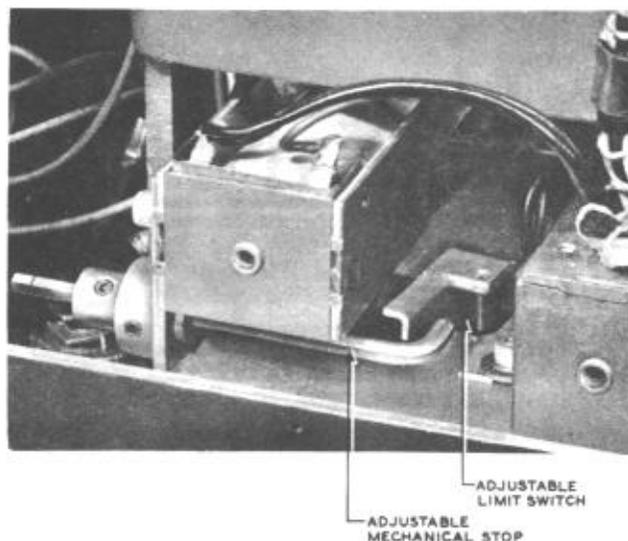
4. Tighten the two hex socket cap screws which secure the flasher switch mounting.

- For standard sets:

1. Operate the 2A telephone answering set in its dictate function and continue the operation until the set stops itself by the operation of the adjustable limit switch.
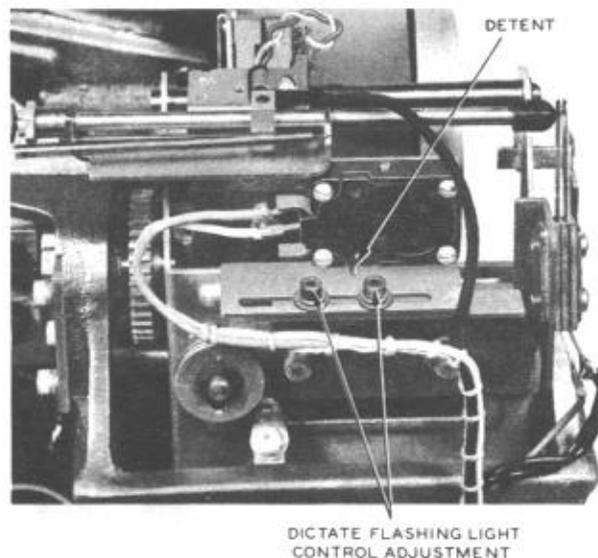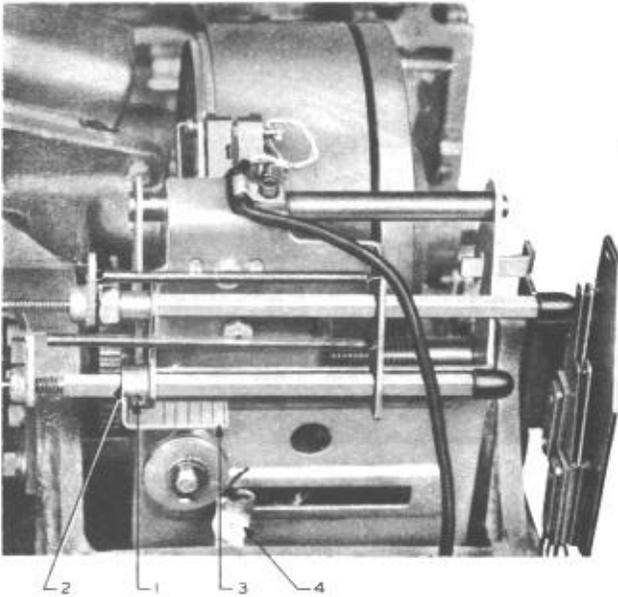

Fig. 13 — Early-type Set Showing Flasher Switch and Mounting Bracket

1 — Hex Socket Screw in Indicator Assembly

2 — Dictate Light Flashing Indicator Assembly

3 — Indicator Marking Dictate Light Flashing Control in 5-second Intervals (Maximum 30 Seconds Flashing)

4 — Carriage Return Line Tie Post

Fig. 14 — Standard Set Showing Dictate Light Flashing Indicator Assembly
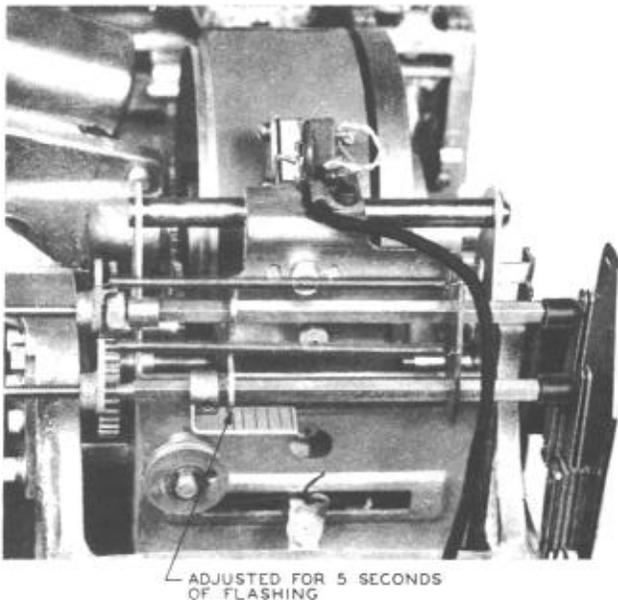

ADJUSTED FOR 5 SECONDS OF FLASHING

Fig. 15 — Standard Set Showing Dictate Light Flashing Indicator Assembly Fully Operated

2. Loosen the hex socket setscrew in the dictate light flashing indicator assembly (see Fig. 14).

3. Move the head carriage to the right by grasping the carriage return line tie post (see Fig. 15) until its movement is stopped by the adjustable automatic stop.

4. While the head carriage is in this position, put slight pressure on the head carriage where the cable clamp is fastened so that the recording head just touches the announcement drum. This pressure will hold the head carriage in position.

5. While maintaining this pressure, move the dictate light flashing indicator assembly so that the arrow on the head carriage points at the mark on the indicator for the length of the flashing time required.

6. Tighten the hex socket setscrew in the dictate light flashing control indicator assembly.

• The dictate light (E2) flashes when the current through a No. 627 Tungsol thermal flasher is increased by operation of the flasher switch.

6.04 The minimum flashing time should not be adjusted below the first index marking which is 5 seconds, but may be varied in any degree to a maximum of 30 seconds (see Fig. 14 and 15).

7.00 FINAL TESTS

7.01 With the OFF-ON knob in the OFF position, make station dial and ringing tests. The telephone set shall operate in the standard manner.

7.02 Test all features of the 2A telephone answering set, as described in C Section entitled 2A Telephone Answering Set, Description, to check proper functioning.

7.03 Record a suitable announcement message. Example: "This is a recorded announcement from (use customer's telephone number). The telephone company is testing the service and will be finished shortly."

7.04 Stop the set operation at end of announcement.

- For early-type sets:
  Depress the STOP button immediately.

- For standard sets:
  Release the OPERATE button immediately.

7.05 Have the test desk originate a call to verify the proper operation of the set.

7.06 The customer should be instructed regarding the proper operation of the 2A telephone answering set, and cautioned against placing papers, books, or other objects on top of the set.

8.00 CONNECTIONS

8.01 The telephone set associated with all 2A telephone answering sets should have an antisidetone circuit, a high-impedance ringer, and be equipped with an F- or G-type hand set.

8.02 The 2A telephone answering set, as normally connected, is equivalent to one high-impedance ringing bridge.

8.03 If desired, the ringer in the associated telephone set may be connected to ring with the 2A telephone answering set turned on. A strap should be placed between G and G1 on terminal strip TS1. This wiring option will connect the telephone set ringer in parallel with the ringing relay in the answering set when the function selector knob is in AUTOMATIC ANSWER position. When connected in this manner, the installation is equivalent to two high-impedance ringing bridges.

8.04 The 2A telephone answering set should be connected as shown in Fig. 16, 17, and 18.

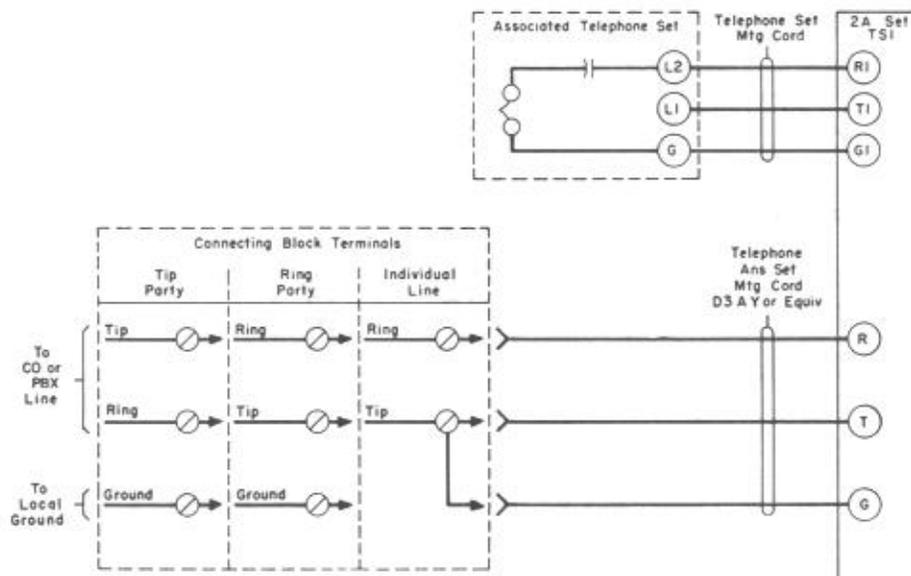**8.05** Wiring changes must be made in the 531C subscriber set as shown in Fig. 17 and 18.

Fig. 16 — Station Connections for Individual Line, 2-party Selective, Flat or Message Rate, Manual or Dial
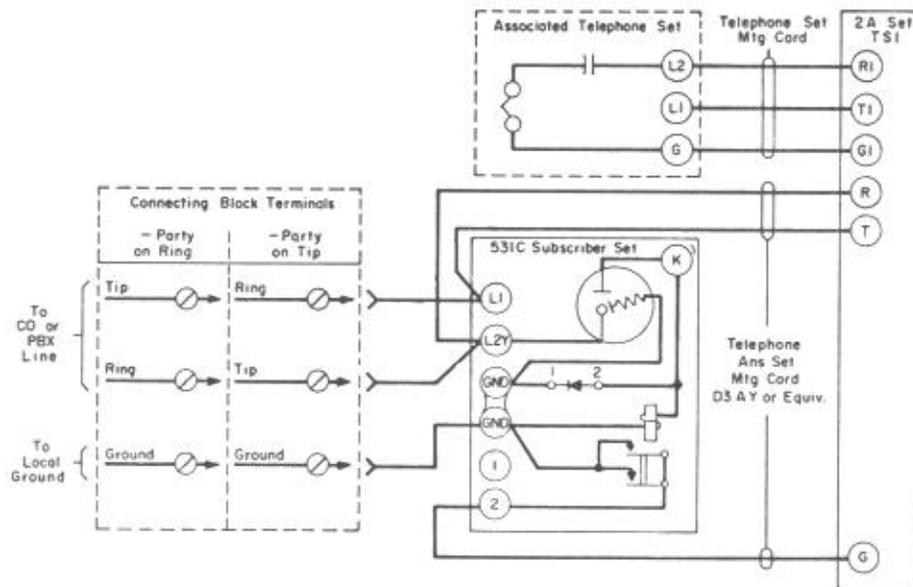
Fig. 17 — Station Connections for 4-party Selective, Flat or Message Rate, Manual or Dial, (−) Party on Tip or Ring
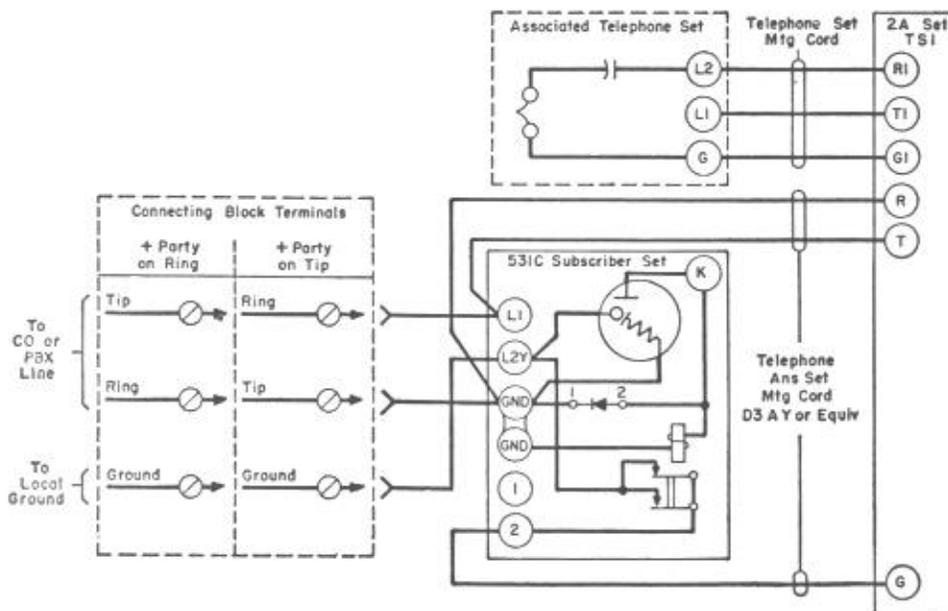

Fig. 18 — Station Connections for 4-party Selective, Flat or Message Rate, Manual or Dial, (+) Party on Tip or Ring