4- TYPE SIGNALS
REQUIREMENTS AND ADJUSTING PROCEDURES

1. GENERAL

1.01 This section covers 4 type signals.
This section is reissued to incorporate material from the addendum in its proper location.

1.02 Reference shall be made to Section 020-010-711, covering General Requirements and Definitions for additional information necessary for the proper application of the requirements listed herein.

1.03 Part 1, "General" and Part 2, "Requirements" form part of the Western Electric Co. Inc. Installation Department handbook.

1.04 Operate means that when the operate current is applied the armature shall touch the magnet cores.

1.05 Non-Operate means that when the non-operate current is applied, the shutter shall not move from its position of rest on the mounting strip.

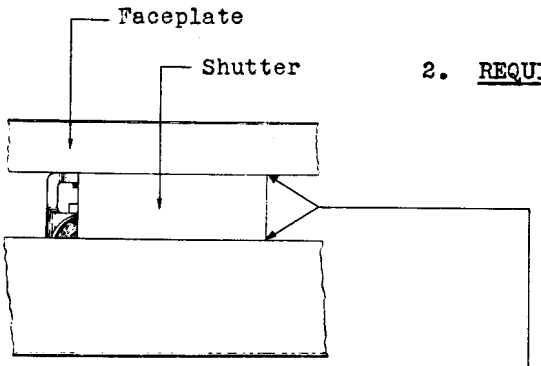

Fig. 1

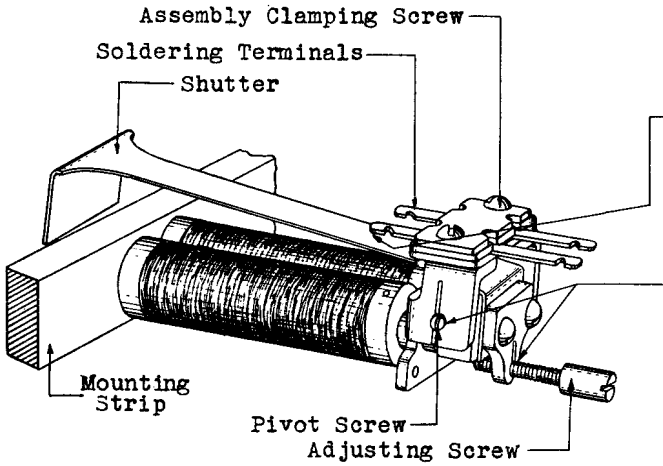

Fig. 2

2. REQUIREMENTS

2.01 Mounting The signals shall be securely fastened to the mounting. Gauge by feel.

2.02 Armature Movement The armature shall move freely in its bearings and shall have a slight side play, but this side play shall be max. .005" measured when the armature is moved from side to side in line with the axis of the pivot screws. Gauge by eye and by feel.

2.03 Visibility of Shutter With the signal in the operated position the face of the shutter shall cover the entire opening in the faceplate viewed directly from the front. In the unoperated position the shutter shall not be exposed. Gauge by eye.

2.04 Clearance Between Shutter and Soldering Terminals With the signal in the operated position there shall be a clearance between the shutter and the soldering terminals of approximately 1/16". Gauge by eye.

2.05 Tightness of Pivot Screws and Adjusting Screw The pivot screws and the adjusting screw shall be sufficiently tight to hold their adjusted positions. Gauge by feel.

2.06 Electrical Requirements The signal shall meet the electrical requirements specified on the circuit requirement table.

3. ADJUSTING PROCEDURES

TOOLS

Code No.	Description
35	Screw-driver - 3-1/2"
303	Spring Adjuster
KS-6015	Duck-bill Pliers
-	Jeweler's Screw-driver 1-7/8" Long, Width of Blade .080"
-	Bell System Cabinet Screw-driver - 3-1/2" per A.T.& T.Co. Drawing 46-X-40
-	Bell System P-Long Nose Pliers - 6-1/2" per A.T.& T.Co. Drawing 46-X-56

MATERIALS

KS-7860	Petroleum Spirits
-	Toothpicks - Hardwood - Flat at one end, pointed at other

3.001 Before making any of the adjustments covered in procedures 3.02 to 3.06 inclusive, loosen the panel locking screws with the 3-1/2" cabinet screw-driver, after which the panel may be swung forward on its hinges to give access to the various parts of the signals referred to in this section.

3.01 MOUNTING (Rq.2.01)

M-1 If the signal is loose on its mounting, remove the face plate by removing the face plate mounting screws with the No. 35 screw-driver.

M-2 Raise the shutter, tighten the signal mounting screws with the 3-1/2" cabinet screw-driver and replace the face plate.

3.02 ARMATURE MOVEMENT (Rq.2.02)

M-1 If the armature fails to operate freely, grasp it between the thumb and the forefinger and move it from side to side in line with the axis of the pivot screws and observe whether or not the side-play is within the specified limits.

M-2 If the side play is within the specified limits and the signal fails to operate satisfactorily, clean the armature bearings with a small amount of petroleum spirits applied by means of a clean toothpick. Care should be taken to prevent the petroleum spirits coming in contact with parts of the signal other than the armature bearings and with adjacent apparatus.

M-3 Signals Equipped with Hex. Head Pivot Screws If the amount of side-play is too small, apply the Bell System P-Long Nose Pliers to one of the pivot screws and turn the screw counter-clockwise 1/4 of a revolution. This should give a sufficient amount of side-play. To decrease the amount of side-play turn the pivot screw clockwise.

M-4 Signals Equipped with Slotted Head Pivot Screws When the signal is equipped with slotted head pivot screws, it will be necessary to remove the signal from the mounting as described in M-5 in order to gain access to the pivot screws.

M-5 Remove the face plate mounting screws with the No. 35 screw-driver and remove the face plate. Then raise the shutter to gain access to the signal mounting screws and remove the screws with the 3-1/2" cabinet screw-driver while supporting the signal with one hand from the rear of the cabinet panel.

M-6 With the signal dismounted turn the pivot screws with a jeweler's screw-driver in a clockwise direction to decrease the play and in a counter-clockwise direction to increase the play. After adjusting the armature play, re-mount the signal and replace the face plate.

3.03 VISIBILITY OF SHUTTER (Rq.2.03)
3.04 CLEARANCE BETWEEN SHUTTER AND SOLDERING TERMINALS (Rq.2.04)

M-1 If the shutter does not cover the entire opening in the face plate, adjust the shutter with the No. 303 spring adjuster applied as shown in Fig. 3.

M-2 If there is not the specified clearance between the shutter and the soldering terminals when the

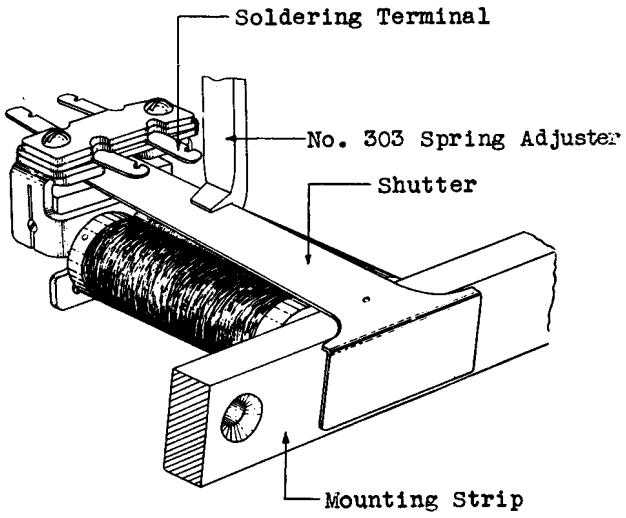

Fig. 3 - Method of Adjusting the Shutter with the No. 303 Spring Adjuster

signal is in the operated position, bend the soldering terminals upward (away from the shutter) with the No. 303 spring adjuster. Exercise care when making this adjustment not to break the connections to the magnet windings.

M-3 If the signals are mounted one above the other on a vertical mounting plate, use the duck-bill pliers for making the adjustments described in M-1 and M-2.

3.05 TIGHTNESS OF PIVOT SCREWS AND ADJUSTING SCREW (Rq.2.05)

3.06 ELECTRICAL REQUIREMENTS (Rq.2.06)

M-1 If a pivot screw or an adjusting screw is loose, remove the screw. In the case of an adjusting screw this is done with the No. 35 screw-driver. In the case of a pivot screw, remove it in accordance with procedure 3.02, M-3 to M-6 inclusive. Apply a pair of P-long nose pliers to the clamp and press it together. This will cause the screw to fit tightly.

M-2 Replace the pivot screw or adjusting screw and check the electrical requirements.

M-3 If the signal does not meet its electrical requirements turn the adjusting screw in or out as required with the No. 35 screw-driver.