# SELECTORS AND SELECTOR-CONNECTORS ROTARY TESTS 700C AND 710C PBX (DIAL EQUIPMENT)

## 1. GENERAL

1.01 This section describes methods of testing the rotary or trunk hunting action of selectors and selector-connectors at a No. 700-C or No. 710-C P B X The tests covered are:

**(A) Without Bank Busying Tool**

**(B) With Bank Busying Tool**

1.02 This section has been reissued to cover an alternate method for making selector rotary tests which does not require the use of a bank busying tool, to include the No. 710-C P B X and to cover minor changes.

1.03 These tests should be made on one level from each selector or selector-connector. A different level should be used each time, so that all switches will eventually be tested on all levels, except that incoming selectors and incoming selector-connectors should not be tested on the zero level.

1.04 The No. 240H plug covered in test (A) can only be used where the wiper cords are terminated at the test jack assembly of the switch.

1.05 These tests should be made during a period when the traffic is light, since sleeve grounds on busy trunks would cancel the test margins while passing such trunks.

1.06 Any switch on which a failure is encountered should be made busy until the trouble is cleared.

## 2 APPARATUS

**Test (A)**

2.01 No. 63G (250-ohm) Resistance or equivalent.

Note: This resistance should be mounted on the under side of the fibre handle of the No. 240A or No. 240H plug.

2.02 Dial Hand Test Set equipped with a No. 4CB Dial and either a No. 240A or No. 240H Plug.

Note: When using the No. 240H plug connect one side of the resistance to the sleeve terminal and the other side to the auxiliary contact terminal of the 240H plug. When using the No. 240A plug connect one side of the resistance to the sleeve terminal of the No. 240A plug and the other side to the cord covered in 2.03.

2.03 W1M Cord 2 ft. long or W1A Cord 2 ft. long.

Note: This cord will be required only when using the No. 240A plug.

**Test (B)**

2.04 Dial Hand Test Set equipped with a No. 4CB Dial and a No. 240A Plug.

2.05 One No. 370A Bank Busying Tool, the first four terminals of which should be strapped together and connected through a No. 63G (250-ohm) Resistance or equivalent to a W1B Cord equipped at one end with a No. 59 Cord Tip. (For 100 point banks.)

2.06 One No. 370B Bank Busying Tool, the first four terminals of which should be strapped together and connected through a No. 63G (250-ohm) Resistance or equivalent to a W1B Cord equipped at one end with a No. 59 Cord Tip. (For 200 point banks.)

Note: The No. 63G resistance mentioned in 2.05 and 2.06 should be mounted on the under side of the handle of the bank busying tool.

2.07 One No. 528 Receiver (or equivalent) equipped with cords and test picks.

**Tests (A) and (B)**

2.08 No. 375A Make-Busy Tools, as required.

## 3. METHOD

**(A) Without Bank Busying Tool**

3.01 Note that the selector or selector-connector to be tested is idle. Connect either the No. 240A or No. 240H plug of the dial hand test set to the test jack of the switch and operate the C button.

3.02 If using the No. 240A plug connect the KS-6780 cord tip of the W1M or W1A cord either to the sleeve wiper terminal at the test jack assembly or, if the switch is not arranged for test jack termination of the wiper cords, connect it directly to the terminal end of the sleeve wiper. If using the No. 240H plug adjust the auxiliary contact spring so that it makes contact with the sleeve wiper terminal at the test jack assembly. This places a ground on the sleeve wiper of the switch.

3.03 With the C button of the dial hand test operated, dial the number of the level to be used for the test. Place the receiver to the ear immediately after dialing. Observe that the selector or selector-connector steps to the level dialed and rotates with a positive and smooth action and at a uniform rate of speed to the eleventh rotary position. A clicking noise in the receiver during the rotary movement of the switch may indicate faulty cam spring adjustment or faulty back contact pressure on the relay contacts in series with the windings of the A relay.

Note 1: When testing incoming selectors and incoming selector-connectors, the sleeve and ground springs of the dial hand set plug should be strapped together. On incoming selector-connectors, equipped with test jacks having six springs, the plug should be inverted and connected to the four lower springs of the test jack.

Note 2: The use of the resistance in the sleeve circuit usually results in slower rotary action than is normally experienced in service, but if the action is positive, smooth and uniform, slow speed is not an indication of trouble.

3.04 As soon as the selector or selector-connector reaches the eleventh rotary position, release the C button, to avoid excessive vibration of the rotary magnet. Observe that the switch releases properly.

3.05 Remove the plug of the dial hand test set from the test jack and disconnect the KS-6780 cord tip from the sleeve wiper terminal or sleeve wiper if it has been used.

**(B) With Bank Busying Tool**

3.06 Select the bank of an unequipped switch position, or the bank of an idle switch. If the bank of an idle switch is used, make the switch busy.

3.07 Place the bank busying tool over the sleeve contacts on the level on which the test is to be made.

3.08 Check that the first four trunks on this level are not busy, by testing with a test receiver for the absence of ground on the cord connected to the bank busying tool. If they are not busy connect the cord to ground.

Note: A grounded bank busying tool, when placed on busy trunks, will prevent release of busy switches and station lines until it is removed.

3.09 Connect the dial hand test set to the test jack of an idle switch. With the C button operated, dial the level

to which the bank busying tool is connected. Place the receiver to the ear immediately after dialing. Observe that the selector or selector-connector steps to the level dialed and rotates with a positive and smooth action and at a uniform rate of speed to the first idle trunk. A clicking noise in the receiver during the rotary movement of the switch may indicate faulty cam spring adjustment or faulty back contact pressure on the relay contacts in series with the windings of the A relay.

Note 1: When testing incoming selectors and incoming selector-connectors, the sleeve and ground springs of the dial hand set plug should be strapped together. On incoming selector-connectors, equipped with test jacks having six springs, the plug should be inverted and connected to the four lower springs of the test jack.

Note 2: The use of the resistance in the sleeve circuit usually results in slower rotary action than is normally experienced in service, but if the action is positive, smooth and uniform, slow speed is not an indication of trouble.

3.10 Should the switch pass the fifth trunk, check the sleeve contacts with a test receiver to determine that it has not passed an idle trunk.

3.11 Remove the plug from the test jack and observe that the switch releases properly.

3.12 Should the switch stop on a busy trunk, remove the plug from the test jack and then manually rotate the shaft to the next idle trunk or to the eleventh position, from which it will release.

3.13 Repeat the tests covered by 3.06 to 3.12 inclusive on all switches which are multipled straight to the level grounded by the bank busying tool.

3.14 If the bank busying tool has been on the sleeve contacts of an equipped switch, move the bank busying tool to an adjacent switch in the same multiple bank division, and then test the switch on which it was originally placed.

## 4. REPORTS

4.01 The required record of these tests should be entered on the proper form.