

**SELECTORS**  
**ROTARY TEST**  
**USING 40C TEST SET OR DIAL HAND TEST SET**  
**35-E-97 COMMUNITY DIAL OFFICES**

**1. GENERAL**

**1.01** This section describes a method of testing the rotary action of local, toll and incoming selectors in No. 35-E-97 community dial offices using the No. 40C test set on Western Electric Company (WECo) manufactured selectors or a dial hand test set on both WECo and Automatic Electric Company (AECo) manufactured selectors.

**1.02** This section is reissued to discontinue the use of the No. 40C test set when testing AECo selectors because the marginal conditions imposed by this test set are not suitable for testing AECo selectors. Also revised are the procedures for testing WECo selectors on levels associated with AECo switches. Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

**1.03** The tests covered are as follows:

**A. Selector Rotary Test — WECo Selectors — Using No. 40C Test Set:** This test checks, under marginal conditions, the ability of selectors of WECo manufacture to pass busy trunks and to stop on an idle trunk after passing over busy trunks. It also checks these selectors for faulty adjustment of the cam springs, and for faulty back contact pressure on the cut-through relay.

**B. Selector Rotary Test — Using Dial Hand Test Set:** This test checks the rotary action of the selector. It also checks WECo selectors for faulty adjustment of the cam springs, and for faulty back contact pressure on the cut-through relay. This test is intended for use on AECo selectors; it can also be applied to WECo selectors when a No. 40C test set either is not available or not applicable due to the absence of a battery supply jack on selector frames.

**1.04** A different level should be used each time the test is performed, so that eventually every selector will have been tested on each level.

**1.05** These tests cannot be made on the following levels: Vacant levels, levels to out-trunk switches, levels on which a digit is repeatedly absorbed, restricted service and levels arranged to "block."

**1.06** Whenever the method calls for connecting to a selector test jack, first observe that the switch is in a normal position and then monitor on the circuit. If there is an indication that the switch has been seized by a call, disconnect from the switch.

**1.07** The No. 40C test set is in a monitoring condition with key No. 1 normal. The dial hand test set is in a monitoring condition with the switch on the dial hand test set in the MON position.

**1.08** When testing an incoming selector, the trunk should be made busy in the approved manner for the duration of the test. It will also be necessary to insert a make-busy plug into the test jack of the associated trunk circuit.

**1.09** In Test A the rotary action of the selector is usually slower than is normally experienced in service due to the resistance in the sleeve circuit but the slow speed is not an indication of trouble.

**1.10** When testing on levels associated with AECo switches arranged with battery on the sleeve of the trunk, operate MB keys on these switches. When operating MB keys care should be exercised in determining the number made busy at one time so that service to this group will not be adversely affected.

**1.11 Lettered Steps:** A letter a, b, c, etc, added to a step number in Part 3 of this section indicates an action which may or may not be required depending on local conditions. The con-

dition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

1.12 Local instructions shall be followed with reference to recording any register operations caused by performing these tests.

## 2. APPARATUS

### Tests A and B

2.01 No. 477A (make-busy) tools, as required.

2.02 No. 258C (make-busy) plugs, as required.

### Test A

2.03 No. 40C test set.

**Note:** Transfer the brown lead from the No. 40C test set cord from terminal 4 to terminal 3 of the No. 240H plug. On the improved No. 40C test set using the No. 716E receiver this change has been made.

### Test B

2.04 No. 1011G dial hand test set, equipped with a No. 2W40A cord consisting of a W2CL cord, a No. 471A jack and a No. 240H plug, or equivalent dial hand test set.

## 3. METHOD

### STEP

### ACTION

### VERIFICATION

#### A. Selector Rotary Test — WEC Co Selectors — Using No. 40C Test Set

- 1 Connect No. 336A plug of W1AE cord to 48V battery supply jack on selector frame, and No. 360B tool to test set.
- 2 Connect No. 360B tool associated with black conductor of test set cord to W terminal of No. 240H plug.
- 3a If testing WEC Co selectors on levels associated with AEC Co switches —  
Operate MB keys on AEC Co switches.  
  
**Note:** When operating MB keys care should be exercised in determining the number made busy at one time so that service will not be adversely affected.
- 4 Insert No. 240H plug of test set into test jack of selector under test.
- 5 Operate No. 1 key.
- 6b If selector is arranged to absorb first digit on all levels or level under test —  
Position adjustable spring of No. 240H plug so it will not make contact with sleeve wiper terminal of test jack assembly.
- 7b Dial level selected for test.
- 8 Position adjustable spring of No. 240H plug so it makes contact with sleeve wiper terminal of test jack assembly.

Selector steps to level dialed and restores.

STEP	ACTION	VERIFICATION
9	Dial level selected for test.	Selector steps to level dialed and rotates with positive and smooth action at uniform speed to 11th rotary position.  <i>Note:</i> Listen in receiver of No. 40C test set during rotary action of selector and note that no clicking noise is heard.
10	Release No. 1 key as soon as possible after selector reaches 11th rotary position to avoid excessive vibration of rotary magnet.	Selector releases.
11	Repeat Steps 5 through 8, as required.	
12	Dial level selected for test.	Selector steps to level dialed and rotates with positive and smooth action.
13	While still holding No. 1 key operated — Operate No. 2 key before selector has rotated to 8th position.	Selector stops on an idle trunk.
14	Release No. 2 key and maintain No. 1 key operated.	Selector does not release.
15	Dial a digit.	Observe that there is no vertical kick of the shaft and that no relay chattering is heard within the switch.
16	Release No. 1 key.	Selector releases.  <i>Note 1:</i> Local selectors which stop falsely on a busy trunk will not release on releasing No. 1 key. In this case remove No. 240H plug from selector test jack.  <i>Note 2:</i> Toll selectors may not release until No. 240H plug is removed from selector test jack.
17	Remove No. 240H plug from selector test jack.	
18	Repeat Steps 3a through 17 as required on other selectors to be tested.	
19a	If testing WECOs selectors on levels associated with AECOs switches — Restore MB keys.	
20	Remove No. 336A plug from battery jack.	

#### B. Selector Rotary Test — Using Dial Hand Test Set

- 1a If testing WECOs selectors on levels associated with AECOs switches — Operate MB keys on AECOs switches.
- Note:* When operating MB keys care should be exercised in determining the number made busy at one time so that service will not be adversely affected.

STEP	ACTION	VERIFICATION
2	Insert No. 240H plug of handset into test jack of selector under test.	
3	Operate switch on handset to TALK position.	
4b	If selector is arranged to absorb first digit on all levels or level under test— Position adjustable spring of No. 240H plug so it will not make contact with sleeve wiper terminal of test jack assembly.	
5b	Dial level selected for test.	Selector steps to level dialed and restores.
6	Position adjustable spring of No. 240H plug so it makes contact with sleeve wiper terminal of test jack assembly.	
7	Dial level selected for test.	Selector steps to level dialed and rotates with positive and smooth action at uniform speed to 11th rotary position.  <b>Note:</b> If testing WECOs selectors listen in receiver of handset during rotary action of selector and note that no clicking noise is heard.
8	Operate switch on handset to MON position as soon as possible after selector reaches 11th rotary position to avoid excessive vibration of rotary magnet.	Selector releases.
9	Remove No. 240H plug from selector test jack.	
10	Repeat Steps 1a through 9, as required, on all other selectors to be tested.	