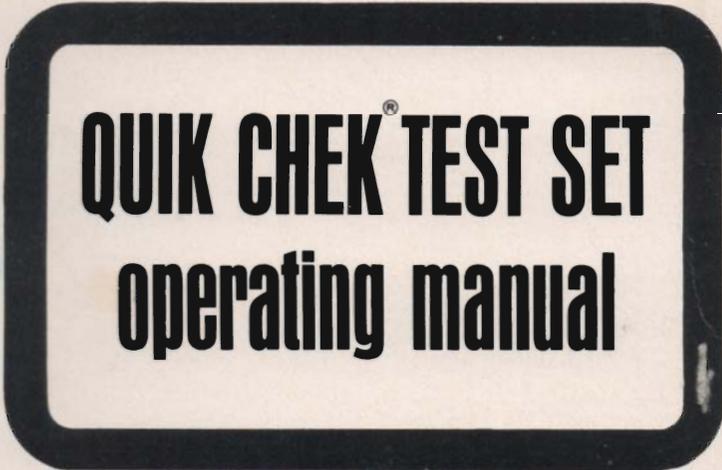


CMC



QUIK CHEK[®] TEST SET
operating manual

CMC 707A
CMC 707B
CMC 710A
CMC 710-I

CMC 707 & 710 QUIK CHEK® TEST SETS
DESCRIPTION AND OPERATION

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1. GENERAL

1.01 This Section is issued to provide the description and instructions for the operation and use of the CMC 707 and CMC 710 QUIK CHEK® TEST SETS (see Figures 1 and 2). These Test Sets are used for routing PBX, CDO and large SXS central offices to determine the necessary adjustments and/or repairs for the equipment.



Figure 1

1.02 The Test Sets will check the operation of the A relay, the B relay release timing (test or readjust values), the C relay release timing and the rotary speed of SXS switches. They will make complete loop and leak pulsing tests.

1.03 The Sets will also check the polarity of switches and trunks and any digit absorbing features.

1.04 The test set operator can monitor wiper and switch noise, observe tones and announcements and talk over circuits when required.

1.05 The Test Sets require no warm up time. They can be used with a shoulder harness, strapped to a ladder or placed on a cart.

2. DESCRIPTION

2.01 The Quik Chek Test Sets are available in five models.

The 714-XY is designed for use on Stromberg-Carlson XY equipment and is covered in the CMC 714 Practice. The remaining four models are as described below:

(a) The CMC 707-A QUIK CHEK is designed for use by the Associated Bell System Companies where the B relay release values are 500 and 750 milliseconds for the readjust and test values respectively. This Test Set is used to perform the tests in Paragraphs 1.02 and 1.03 on local switches and trunks.

(b) The CMC 707-B QUIK CHEK is designed for use by companies using GTE Automatic Electric switches or others where the B relay release values are 375 and 500 milliseconds for the readjust and test values respectively. This Test Set is used to perform the tests in Paragraphs 1.02 and 1.03 on local switches and trunks.

(c) The CMC 710-A QUIK CHEK is designed for use by the Associated Bell System Companies for checking A relays at both 10-20 milliamps and 20-40 milliamps (simplex mode only) depending upon circuit requirements. It checks B relay release timing at 500 or 750 milliseconds. This Test Set will test the operating features of intertoll selectors, combined intertoll-toll transmission selectors and intertoll through selectors with either loop or simplex pulsing in addition to the tests performed by the CMC 707-A model.

(d) The CMC 710-1 QUIK CHEK is designed for use by companies using GTE Automatic Electric switches or others where the A relays operate at 10-20 milliamps or 20-40 milliamps (simplex mode only) and the B relay release timing is 375 or 500 milliseconds. This Test Set will test the operating features of intertoll selectors, combined intertoll-toll transmission selectors and intertoll through selectors with either loop or simplex pulsing in addition to the tests performed by the CMC 707-B model.

Test Set Arrangement CMC 707-A & 707-B

2.02 The following controls, LED's and jacks are located on the face of the CMC 707 Models of the Test Set (see Figure 1):

(a) **DIGIT SWITCH** — Numbered 1-10, C, and CAL. Pulses supplied correspond to the digit selected. C provides continuous pulsing CAL. is used to calibrate the Test Set.

(b) **FUNCTION SWITCH** — Provides for the following test settings:

A OPR. — A relay, operate

A SOAK — short

A N.O. — A relay, non-operate

B RLS. — B relay, release

C RLS. & ROT. — C relay, release & rotary speed test

POLARITY-MON. — Polarity test, push-to-talk, Monitor

LP 1400 — 10 or 12 PPS, 68.5%

LK A — 10 or 12 PPS, 60.5%

LP 1200 — 10 or 12 PPS, 68.5%

LK B — 10 or 12 PPS, 60.5%

LP 750 — 10 or 12 PPS, 68.5%

LK 16 K — 10 or 12 PPS, 60.5%

(c) **TEST** and **RLS.** buttons — Perform tests, release equipment.

(d) **RECEIVER — TRANSMITTER** — Used to check tones and recorded announcements. A **TALK** button and **VOLUME** control give the Quik Chek an amplified push-to-talk circuit.

(e) **MILLIAMMETER** with two controls for setting the values of current to margin the A relay.

(f) **N.O. ADJ.** Control — Used to set the Adjust Non-Operate current value for the A relay.

(g) **OPR. ADJ.** Control — Used to set the Adjust Operate current value for the A relay.

(h) **10 PPS/12 PPS** — Either 10 or 12 pulses per second can be supplied to the switch under test. (B and C relay tests must be made using 12 PPS).

(i) **POLARITY** — Observe burning LED or lamp for **STRAIGHT** or **REVERSE** indication.

- (j) BATT and TEST jacks provide patching arrangement to C.O. battery and the switch under test.
- (k) 750 ms (707A Model)
500 ms (707B Model)

To make an operation test of the B relay at the test value, push the TALK button with the FUNCTION switch set at the B RLS. position.

Test Set Arrangement – CMC 710-A & 710-I

2.03 The following controls, LED's and jacks are located on the face of the CMC 710 Models of the Test Set (see Figure 2):

- (a) LP 10-20/SX 20-40 Conversion Switch – This switch converts the Test Set from loop operation to simplex operation and changes the meter from the 20 to the 40 milliamperere scale.



Figure 2

- (b) DIGIT SWITCH: Numbered 1-10, C and CAL. Pulses correspond to the digit selected. C provides continuous pulsing, CAL. is used to calibrate the Set.
- (c) FUNCTION SWITCH: Provides for the series of tests described in Paragraphs 6.07 and 6.15.
- (d) TEST and RLS. Buttons – Performs tests and releases equipment.

- (e) RECEIVER – TRANSMITTER: Used to check tones and recorded announcements. A TALK button and VOLUME control give the Quik Chek an amplified push-to-talk circuit.

- (f) MILLIAMMETER: With two scales 10-20 mA and 20-40 mA for margining A relays on both simplex and loop circuits.

- (g) OPR. ADJ.-N.O. ADJ.: For setting variable current flow values on operate and non-operate settings.

- (h) 10 PPS/12 PPS: Either 10 or 12 pulses per second can be supplied to the switch under test. (B & C relay test must be made using 12 PPS).

- (i) POLARITY: STRAIGHT lamp or LED for straight and REVERSE lamp or LED for reverse. (Not used in simplex testing).

- (j) BATT and TEST JACKS: Provide patching arrangements to C.O. battery and to switch under test.

- (k) 750 ms (710-A Model)
500 ms (710-I Model)

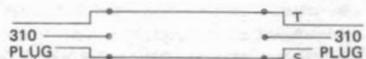
Test value B release

Functions only with FUNCTION SWITCH in B RLS. position. Push TALK switch to change timing value.

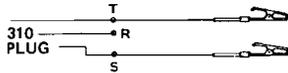
3. TEST CORDS

3.01 The following test cords are required when performing tests with the Quik Chek Test Sets:

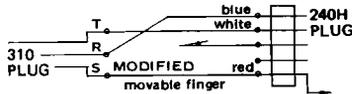
- (a) 2P9A Test Cord – A two-conductor cord, 9-ft. long, equipped with a 310 plug on each end. Used for a power cord when the office is equipped with power jacks.



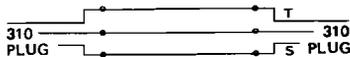
For central offices and dial PBX's equipped with battery and ground clip-on terminals: 2W12A Test Cord—A two-conductor cord, 9-ft. long, equipped with a 310 plug on one end and alligator clips on the other end.



(b) 3P35A Test Cord — A three-conductor cord, 9-ft. long, one end equipped with a 310 plug and the other with a 240H plug, modified as follows:



(c) 3P7A Test Cord — A three-conductor cord, 6-ft. long, equipped with a 310 plug on each end.



4. PREPARATION

Connections

4.01 Make the following connections for all models of the Test Set:

- (1) Insert the 310 plug of the power cord into the BATT jack on the face of the Quik Chek and connect the other end to 48V C.O. battery.
- (2) Insert the 310 plug of the 3P35A test cord into the TEST jack of the Quik Chek and the 240H plug into the switch test jack.

NOTE: For rotary switches with 310-type test jacks, substitute the 3P7A test cord for the 3P35A test cord.

Calibration Check

4.02 Prior to performing any routine testing with the Quik Chek Test Set, the following calibration checks should be made:

4.03 The test equipment required to perform the calibration check is as follows:

- (a) CMC 7350 Current Flow Test Set or equivalent.
- (b) Pulse Speed and Percent Break Meter (J-94723-A or equivalent)
- (c) 2P9A or 2W12A Power Cord
- (d) 3P7A Test Cord

Milliammeter Check

4.04 Before connecting the Quik Chek Test Set to the Current Flow Test Set (CMC 7350 or equivalent) adjust a control potentiometer on the Current Flow Test Set to a current not to exceed 20 mA with a short across the Tip & Ring of the 3P7A test cord. The switches on the Current Flow Test Set should be positioned as shown in Figure 3.

4.05 On the Quik Chek Test Set, turn the DIGIT switch to the CAL. position. Turn the N.O. ADJ. potentiometer fully counterclockwise to cut in all resistance.

4.06 Using a 3P7A or equivalent test cord, each end equipped with 310 plugs, patch the TEST jack of the Current Flow Test Set to the TEST jack of the Quik Chek Test Set. Operate the control switch of the Current Flow Test Set and the TEST key of the Quik Chek Set and set a value of 10 mA using the potentiometer on the Current Flow Test Set. Compare milliammeter readings at 10 mA, 15 mA, and 20 mA. Using the Quik Chek N.O. ADJ. potentiometer to adjust to the various values beyond 10 mA.

4.07 If necessary, readjust the meter in the Quik Chek Test Set at 15 mA by means of the adjusting screw on the face of the meter.

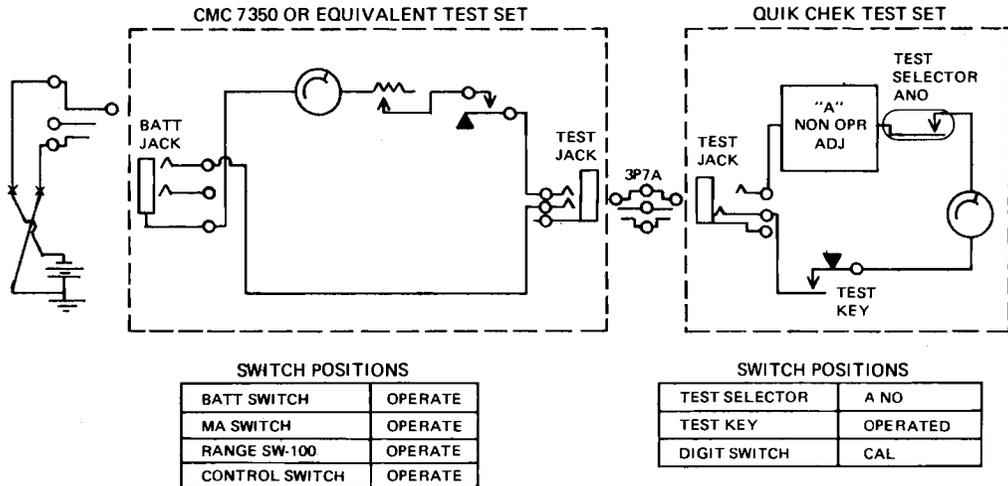


Figure 3 Test Equipment Arrangement for Calibration Check of Millimeter.

Pulse Speed Check

- 4.08 Using the two-conductor power cord, connect battery and ground to the BATT jack of the Quik Chek Test Set. Connect the TEST jack of the Quik Chek Test Set to the P jack of the Pulse Checking Test Set (J-94723-A). All calibration checks shall be made with the Quik Chek in a flat position, face up.
- 4.09 Operate the PPS key on the Pulse Checking Test Set (J-94723-A).
- 4.10 Operate the FUNCTION switch of the Quik Chek Test Set to the LK A position and operate the PULSE SPEED selector to either the 10 PPS or 12 PPS position. With the DIGIT selector set for continuous pulsing, depress the TEST key and read the speed of the pulses registered on the meter of the Pulse Checking Test Set.
- 4.11 If the pulse speed exceeds ± 0.5 PPS variation from the requirements, the Test Set should be recalibrated. (see Paragraph 7.02).
- 4.12 If a pulse speed meter is not available, it is possible to check the pulse speed with a stop watch or a watch with a sweep-second hand as described in the following Paragraphs.
- 4.13 Using the two-conductor cord, connect 48V battery and ground to the BATT jack of the Quik Chek Test Set.
- 4.14 Operate the FUNCTION switch to the POLARITY & MON. position.
- 4.15 Operate the DIGIT switch to the CAL. position.
- 4.16 Operate the PPS key to 10 or 12, whichever is appropriate.
- 4.17 Operate the TEST key; you should hear 10 skip pulses from the pulse generator within the Set every ten seconds (use a stop watch or a watch with a second hand). For 12 PPS, there will be 72 skips a minute or 12 each 10 seconds.
- 4.18 If either speed fails to check within ± 0.5 PPS, the Test Set should be recalibrated (see Paragraph 7.02).
- 4.19 If the pulse speed meets the requirements, the percent break should be good and will not require checking in the field.

5. TEST PROCEDURES CMC 707-A & 707-B

Preliminary

- 5.01 Make the Test Set connections as described in Paragraph 4.01.
- 5.02 Turn the FUNCTION SWITCH to the A SOAK position. Push TEST button. Turn the FUNCTION SWITCH to the A OPR. position. Push the TEST button and adjust the MILLIAMMETER reading to the test value (15.1), readjust value (14.8) or other desired value by turning the OPR. ADJ. knob. Release the TEST button.
- 5.03 Return the FUNCTION SWITCH to the A SOAK position. Push the TEST button to soak the A relay, release the TEST button.
- 5.04 Turn the FUNCTION SWITCH to the A N.O. position. Push the TEST button and adjust the meter to the test value (13.9), readjust value (14.4) or other desired value by turning the N.O. ADJ. knob. Release the TEST button. The Quik Chek Test Set is ready for routine use.
- 5.05 If a subscriber is encountered during any test through misdialing or plugging into a busy switch, the Quik Chek operator may converse with him by turning the FUNCTION switch to the POLARITY & MON. setting and operating the TALK button.

Step-By-Step Tests

- 5.06 The following Paragraphs cover the tests which may be made with the Quik Chek Test Set (Model CMC 707) on Step-by-Step switches in all types of Step-by-Step offices, including C.D.O.'s, Centrex, and PBX's.
- 5.07 The Tests are as follows:

- (a) A RELAY: This is a Quik Chek of the A RELAY using the Current Flow TEST values specified in the circuit requirements.
- (b) B RELAY RELEASE: This is a Quik Chek of the B RELAY releasing time.

- (c) C RELAY RELEASE and ROTARY-SELECTORS: This is a Quik Chek of the C RELAY releasing time, cut in, and rotary stepping.
- (d) POLARITY: This is a Quik Chek of the continuity and polarity of switches and selector level trunks.
- (e) DIGIT ABSORBING: This is a Quik Chek of the digit absorbing features of selectors.
- (f) LOOP PULSING: This is a Quik Chek method of making loop pulsing tests on selectors and connectors.
- (g) LEAK PULSING: This is a Quik Chek method of making leak pulsing tests on selectors and connectors.

- 5.08 If it is found necessary to monitor and/or talk on a connection, set the FUNCTION switch on the POLARITY & MON. position. Monitor with the TALK key normal. To talk, the TALK key is held operated. The speaker is disconnected while talking. The TALK key is non-locking.
- 5.09 Local procedures should apply in busying out switches, trunks, etc.
- 5.10 Records of troubles found and other reports should be made out as required locally.

Method for Performing Tests

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
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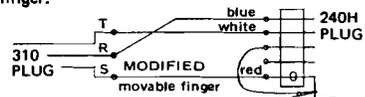
A RELAY TEST

3	Set the FUNCTION switch to the A OPR. position. Insert the 240H plug into the test jack of the switch under test.	NONE
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Section CMC 707
Issue A

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>	<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
4	Operate the TEST key and adjust the OPR. ADJ. potentiometer until the meter reads the milliamps specified for the operate test requirement.	NONE	9	Repeat Steps 5, 6, 7 and 8 until all switches have been tested.	Same as Steps 5, 6, 7 and 8
5	Set the FUNCTION switch on A N.O. position, operate the TEST key, adjust the N.O. ADJ. potentiometer until the meter reads the milliamperes specified for the non-operate test requirement.	NONE	10	Remove the 240H plug from last switch tested.	
6	With the OPR. and N.O. settings adjusted as in Steps 4 and 5, operate the FUNCTION switch to A SOAK position. Operate the TEST key momentarily, then set the FUNCTION switch to the A OPR. position, and again operate the TEST key momentarily.	Note that the A RELAY operates when the TEST key is operated.	B RELAY RELEASE TEST		
7	Operate the FUNCTION switch to A SOAK, operate the TEST key, change the FUNCTION switch to A N.O. and operate the TEST key momentarily.	Note that the A RELAY does not operate.	3	Operate the FUNCTION switch to the B RLS. position.	NONE
8	Remove the 240H plug from the test jack of the switch and insert it in the next switch to be tested; or if preferred, make other desired tests on the same switch.	NONE	3A	CMC 707-A QUIK CHEK The B RELAY can be checked at either the 500 milliseconds readjust value or the 750 milliseconds test value.	NONE
			3B	CMC 707-B QUIK CHEK The B RELAY can be checked at either the 375 millisecond readjust or the 500 millisecond test values.	NONE
			4	Operate the DIGIT switch to the C position for continuous pulsing.	NONE
			5	Operate the PPS switch to the 12 PPS position.	NONE
			6	Insert the 240H plug into the test jack of the switch under test.	NONE
			CMC 707-A QUIK CHEK (Bell System) 500 Millisecond Test		
			7A(1)	(The B release value is 500 milliseconds pulsed continuously when the FUNCTION switch is in the B RLS. position).	

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>	<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
7A(2)	Operate the TEST key momentarily.	The switch steps to the first level; does <i>not</i> cut in; and releases; continuing as long as the 240H plug remains in the test jack.	8	Remove the 240H plug from the switch under test and insert it in the test jack of the next switch to be tested, or proceed to C RLS. & ROT. test on the same switch.	The switch steps to the first level; does <i>not</i> cut in; and releases; repeating as long as the 240H plug remains in the test jack.
<p>750 Millisecond Test</p>			9	Repeat Step 8 until all switches have been tested; operate the RLS. key; and remove the 240H plug from the last switch tested.	The switch will return to normal and the pulsing in the Test Set will stop.
7A(3)	Operate the TEST key momentarily and hold the TALK button in the operate position. (This changes the release value to 750 milliseconds). The Talk circuit is operative only when the FUNCTION switch is in the POLARITY & MON. position.	The switch steps to the first level; does <i>not</i> cut in; and releases; continuing as long as the 240H plug remains in the test jack.	<p>C RELAY RELEASE & ROTARY TEST (SELECTORS)</p>		
<p>CMC 707B QUIK CHEK (Independent Companies)</p> <p>375 Millisecond Test</p>			3	Operate the FUNCTION switch to the C RLS. & ROT. position.	NONE
7B(1)	(The B release value is 375 milliseconds pulsed continuously when FUNCTION switch is in the B RLS. position).		4	Operate the DIGIT switch to the C position for continuous pulsing.	NONE
7B(2)	Operate the TEST key momentarily.	The switch steps to the first level; does <i>not</i> cut in; and releases; continuing as long as the 240H plug remains in the test jack.	5	Operate the PPS switch to 12 PPS position.	NONE
<p>500 Millisecond Test</p>			6	Insert the 240H plug into the test jack of the switch under test.	NONE
7B(3)	Operate the TEST key momentarily and hold the TALK button in the operate position. (This changes the release value to 500 milliseconds). The Talk circuit is operative <i>only</i> when the FUNCTION switch is in the POLARITY & MON. position.	The switch steps to the first level; does <i>not</i> cut in; and releases; continuing as long as the 240H plug remains in the test jack.	7	Place the movable finger of the 240H plug so that it will make good contact with the sleeve wiper terminal just below the test jack springs. On some switches clip lead ground must be used in addition to the movable finger.	NONE



Section CMC 707

Issue A

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>	<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
8	Operate the TEST key momentarily.	The switch steps to the first level; cuts in; rotates to the ninth, tenth or eleventh rotary step, and releases. Repeating as long as the 240H plug remains in the test jack.			NOTE: If the STRAIGHT lamp or LED is burned out or broken, the Quik Chek will not out-pulse in POLARITY & MON. position. Replace with a 24B or equivalent lamp, using standard lamp extracting tools. LED equipped Sets should be checked with a Simpson meter (or equivalent) if no polarity or continuity indication is received.
9	Remove the 240H plug from the switch under test and insert it in the test jack of the next switch to be tested, or leave it in the same switch and make the POLARITY test.	The switch steps to the first level; cuts in; rotates to the ninth, tenth or eleventh rotary step, and releases. Repeating as long as the 240H plug remains in the test jack.			
10	After all switches have been tested, operate the RLS. key and remove the 240H plug from the switch.	The switch will return to normal and the pulsing in the Test Set will stop.			
POLARITY TEST OF TRUNKS FROM SELECTOR LEVELS					
3	Operate the FUNCTION switch to the POLARITY & MON. position.	NONE	8	Flip the switch across the trunks.	Lamps indicate straight or reversed polarity.
4	Operate the DIGIT switch to the number which corresponds to the level to be tested.	NONE	8	Operate the RLS. key momentarily.	The switch will restore to normal.
5	Operate the PPS switch to position 10 or 12, whichever is appropriate.	NONE	9	Repeat Steps 4, 7 and 8 until all levels have been tested.	The same as Steps 4, 7 and 8.
6	Insert the 240H plug into the test jack of the switch under test.	The switch will be seized.	10	Remove the 240H plug and repeat Steps 4, 6, 7, 8, 9 until all trunks in all shelves have been tested.	The switch will restore to normal.
7	Operate the TEST key momentarily.	The switch will step up and cut in on the level indicated by the DIGIT switch.	11	Remove the 240H plug from the last switch.	The switch will restore to normal.
DIGIT ABSORBING TEST					
			3	Operate the FUNCTION switch to the POLARITY & MON. position.	NONE
			4	Operate the DIGIT switch to the number which corresponds to the level to be tested.	NONE

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>	<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
5	Operate the PPS switch to position 10 or 12, whichever is appropriate.	NONE	5	Operate the PPS switch to 10 or 12, whichever is appropriate.	NONE
6	Insert the 240H plug into the test jack of the switch under test.	The switch will be seized.	6	Insert the 240H plug into the test jack of the switch under test.	The switch will be seized.
7	Operate the TEST key momentarily.	The switch will step to the level indicated by the DIGIT switch and: 1. If the digit is absorbed — the switch will release. 2. If unlocked — the switch will cut in to first idle trunk.		NOTE: On some switches it is necessary to separate contacts 5 & 6 of the test jack assembly with an orange stick in order to perform pulsing tests.	
8	Repeat Step 7 until all digit absorbing features on all digit absorbing levels have been tested.	The same as Step 7.	7	Operate the TEST key momentarily.	Observe that the switch steps evenly to the ninth level and cuts in to the first idle trunk.
9	Operate the RLS. key and remove the 240H plug from the switch under test.	The switch will restore to normal.	8	Operate the RLS. key and remove the 240H plug from the test jack of the switch.	The switch will restore to normal.
10	Repeat Steps 7, 8 and 9 until all switches have been tested.	Same as Steps 7, 8 and 9.	9	Repeat Steps 6, 7 and 8 until all switches have been tested.	Same as Steps 6, 7 and 8.
LOOP PULSING TEST			LEAK PULSING TESTS		
3	Operate the FUNCTION switch to the required Loop position. (LP. 1400, LP. 1200, or LP. 750)	NONE	3	Operate the FUNCTION switch to the required Leak position (L.K.A, L.K.B, L.K.16K)	NONE
4	Operate the DIGIT switch to the 9 position.	NONE	4	Operate the DIGIT switch to the 9 position.	NONE
5	Operate the PPS switch to 10 or 12, whichever is appropriate.	NONE	5	Operate the PPS switch to 10 or 12, whichever is appropriate.	NONE

Section CMC 707

Issue A

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
6	Insert the 240H plug into the test jack of the switch under test.	The switch will be seized.

NOTE: On some switches it is necessary to separate contacts 5 & 6 of the test jack assembly with an orange stick in order to perform pulsing tests.

7	Operate the TEST key momentarily.	Observe that the switch steps evenly to the ninth level and cuts in to the first idle trunk.
8	Operate the RLS. key and remove the 240H plug from the test jack of the switch.	The switch will restore to normal.
9	Repeat Steps 6, 7 and 8 until all switches have been tested.	Same as Steps 6, 7 and 8.

6. TEST PROCEDURES CMC 710-A & 710-I

6.01 Make the Test Set connections as described in Paragraph 4.01

Preliminary Loop Switches

6.02 Operate the CONVERSION SWITCH to the LP 10-20 position. (This converts the Set to loop functions).

6.03 Turn the FUNCTION SWITCH to the A SOAK position. Push the TEST button.

6.04 Turn the FUNCTION SWITCH to the A OPR. position, push the TEST button and adjust the milliammeter reading to the test value (15.1), readjust value (14.8) or other desired value by turning the OPR. ADJ. knob. Release the TEST button.

6.05 Return the FUNCTION SWITCH to the A SOAK position. Push the TEST button to soak the A RELAY. Release the TEST button.

6.06 Turn the FUNCTION SWITCH to the A N.O. position. Push the TEST button and adjust the meter to the test value (13.9), readjust value (14.4) or other desired value by turning the N.O. ADJ. knob. Release the TEST button.

6.07 The following tests are made by selecting the proper settings on the FUNCTION SWITCH:

LOOP 10-20

1.	A OPR.	10-20 mA
2.	A SOAK	Short
3.	A N.O.	10-20 mA
4.	BRLS.	500 ms (CMC 710-A)
		375 ms (CMC 710-I)
5.	CRLS. & ROT.	375 ms (1 x 9)
6.	POLARITY & MON.	Push-to-Talk
7.	LP 1400	10 or 12 PPS, 68.5%
8.	LK A	10 or 12 PPS, 60.5%
9.	LP 1200	10 or 12 PPS, 68.5%
10.	LK B	10 or 12 PPS, 60.5%
11.	SX-1	NA
12.	SX-2	NA

6.08 The Quik Chek is ready for routine use.

6.09 If a subscriber is encountered during any test through misdialing or plugging into a busy switch, the Quik Chek operator may converse with him by turning the FUNCTION SWITCH to the POLARITY & MON. setting and operating the TALK button.

Preliminary-Simplex Switches

6.10 Operate the CONVERSION SWITCH to the SX 20-40 position. (This converts the Set to simplex functions).

- 6.11 Turn the FUNCTION SWITCH to the A SOAK position. Push the TEST button.
- 6.12 Turn the FUNCTION SWITCH to the A OPR. position. Push the TEST button and adjust the milliammeter reading to the test value (37.0), readjust value (36.0) or other desired value by turning the OPR. ADJ. knob. Release the TEST button.
- 6.13 Return the FUNCTION SWITCH to the A SOAK position. Push the TEST button to soak the A RELAY. Release the TEST button.
- 6.14 Turn the FUNCTION SWITCH to the A N.O. position. Push the TEST button and adjust the meter to the test value (32.5), readjust value (33.5) or other desired value by turning the N.O. ADJ. knob. Release the TEST button.
- 6.15 The following tests are made by selecting the proper settings on the FUNCTION SWITCH:

SIMPLEX 20-40

1.	A OPR.	20-40 mA
2.	A SOAK	Short
3.	A N.O.	20-40 mA
4.	B RLS.	500-ms (CMC 710-A) 375-ms (CMC 710-I)
5.	C RLS. & ROT.	375-ms (1 x 9)
6.	POLARITY & MON.	Monitor Push-to-Talk
7.	LP 1400	NA
8.	LK A	NA
9.	LP 1200	NA
10.	LK B	NA
11.	SX-1	10 or 12 PPS, 68.5%
12.	SX-2	10 or 12 PPS, 60.5%

- 6.16 The Quik Chek is ready for routine use.
- 6.17 If a subscriber is encountered during any test through misdialing or plugging into a busy switch, the Quik Chek operator may converse with him by operating the TALK button - regardless of the position of the FUNCTION Switch.

Step-By-Step Tests

- 6.18 The following Paragraphs cover the tests which may be made with the Quik Chek Test Set (Model CMC 710-A & 710-I) on Step-by-Step switches in all types of Step-by-Step offices, including CDO's, Centrex, PBX's, including toll equipment.
- 6.19 The CMC 710-A & 710-I Quik Chek Test Set replaces the pulsing set and the applique circuit required for making pulsing tests on switches designed for simplex dialing. In addition, it provides for the standard tests performed by the CMC 707-A & 707-B Quik Chek Test Set.
- 6.20 The tests are as follows:
- (a) A RELAYS: This is a Quik Chek of A RELAYS using the Current Flow Test values specified in the circuit requirement tables.
 - (b) B RELAY RELEASE: This is a Quik Chek of the B RELAY releasing time.
 - (c) C RELAY RELEASE AND ROTARY SPEED TEST: This is a Quik Chek of the C RELAY releasing time, cut in, and rotary stepping.
 - (d) POLARITY: This is a Quik Chek of the continuity and polarity of switches and selector level trunks.
 - (e) DIGIT ABSORBING: This is a Quik Chek of the digit absorbing features of selectors.
 - (f) LOOP PULSING: This is a Quik Chek method of making loop pulsing tests on selectors and connectors.

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(g) **LEAK PULSING:** This is a Quik Chek method of making leak pulsing tests on selectors and connectors.

LK A

(h) **SIMPLEX PULSING:** This is a Quik Chek method of making simplex pulsing tests on toll selectors and connectors.

LOOP 1200

LK B

Preparation For All Tests

6.21 **LOOP DIALING:** When used on local switch trains, the **CONVERSION SWITCH** should be operated to the **LP 10-20** position. Otherwise the preparations in Part 4 apply.

6.27 Unless otherwise noted, the **STEPS, ACTIONS** and **VERIFICATIONS** described in connection with the **CMC 707-A & 707-B Quik Chek** under "Method for Performing Tests" in Part 5 apply.

6.22 **SIMPLEX DIALING:** When used on toll switch trains using simplex switch, the **CONVERSION SWITCH** should be operated to the **SX 20-40** position. Otherwise the preparations in Part 4 apply. (**LP 750** and **LK 16K** are not provided on the **CMC 710-A & 710-I**)

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
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A RELAY TEST

Same as for **CMC 707-A & 707-B** using appropriate operate and non-operate values.

Method For Performing Tests

B RELAY RELEASE TEST

Same as for **CMC 707-A & 707-B**

6.23 **LOOP DIALING:** The **STEPS, ACTIONS** and **VERIFICATIONS** listed in "Method for Performing Tests" in Part 5 and the Paragraphs 5.11 through 5.20 apply.

C RELAY RELEASE & ROTARY TEST (SELECTORS)

Same as for **CMC 707-A & 707-B**

6.24 **SIMPLEX DIALING:** In addition to providing the standard tests performed by the **CMC 707-A & 707-B Quik Chek Test Set**, the **CMC 710-A & 710-I Model** replaces the pulsing set and the applique circuit required for making pulsing tests on switches designed for simplex dialing.

POLARITY TEST OF TRUNKS FROM SELECTOR LEVELS

Not applicable when being used in Simplex dialing.

6.25 **NOTE:** When the **CMC 710-A & 710-I Quik Chek** is being used in the **SX 20-40** position, and a subscriber is encountered during any test through misdialing, or plugging into a busy switch, the operator may converse with him by operating the **TALK** button, regardless of the position of the **FUNCTION SWITCH**.

DIGIT ABSORBING TEST

Same procedure as for **CMC 707-A & 707-B**, but **FUNCTION SWITCH** should be in **SX-1** or **SX-2** Position.

6.26 The following tests are not applicable to the **CMC 710-A/710-I Quik Chek** when the **CONVERSION SWITCH** is in the **SX 20-40** position:

POLARITY & MONITOR — Polarity Test — N.A.
Monitor & Talk-Available

LOOP PULSING TEST

Not applicable.

LOOP 1400

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>	<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
	LEAK PULSING TEST			CMC 710-A	
	Not applicable.			The SX-2 test provides a 250 ohm path - - similar to the requirements of normal trunks.	
	SX-1			CMC 710-I	
	(Critical Test on the A RELAY - 750 ohms)			The SX-2 test provides a 240 ohm path - Similar to the requirements of normal trunks.	
3	Operate the FUNCTION SWITCH to the SX-1 Position.	NONE			
4	Operate the DIGIT switch to 9.	NONE			
5	Insert the 240H plug into the test jack of the switch under test.	The switch will be seized.	3	Repeat Steps 3 to 8 as described under SX-1. Steps 3, 4, 5, 7 and 8 same as under SX-1.	Step 6 - The switch will step up to level 9 and cut through to the first idle trunk.
6	Operate the TEST key momentarily.	The A RELAY will operate (switch will not step vertically).			
7	Operate the RLS. key and remove the 240H plug from the switch under test.	The switch will restore to normal.			
8	Repeat Steps 5, 6 and 7 until all switches have been tested.	Same as Steps 5, 6 and 7.			
	SX-2			7. MAINTENANCE	
	It is only necessary to use SX-2 when the A RELAY does not meet the requirements imposed by the SX-1 tests.			7.01 The only maintenance to be performed on the Quik Chek Test Set by the field forces is the changing of burned out lamps and the calibration check described in Paragraphs 4.02 through 4.19.	
				7.02 Every six months, or if the Test Set has been exposed to exceptionally rough handling, the Set should be returned through normal channels to the manufacturer, or to a centralized equipment repair center, for complete routine maintenance and calibration.	
				8. REPAIR	
				8.01 It is not recommended that the Test Set be repaired in the field. If, at any time, it requires repairs, the Set should be returned through regular channels to the manufacturer, or to a centralized equipment repair center for repairs. A note should accompany the Unit explaining the nature of the trouble.	

Permission is hereby expressly given to any operating telephone company to use or reproduce this practice in part or total for official telephone company practices, procedures or other documents.

For uses other than official telephone purposes, permission must be requested.

Warranty

We agree that we will repair or exchange, at our option, any part, or parts, returned to us within 90 days of the receipt of the CMC QUIK CHEK Test Set which appear defective in material or workmanship and which our examination shall disclose, to our satisfaction, to be thus defective.

This Warranty does not apply to the QUIK CHEK or any part thereof which has been subjected to accident, alteration, abuse, misuse, damage caused by water, fire or act of God, or which has been used on circuits or voltages other than the normal 48-50 V central office power supply. This Warranty is in lieu of all other agreements, expressed or implied, and we neither assume or authorize any other person to assume for us any obligation or liability in connection with the sale of the QUIK CHEK Test Set.

Communication Mfg. Co. reserves the right: to revise, change or modify the construction of the CMC QUIK CHEK Test Set, or any part, or parts thereof, without incurring any obligation to make such changes or modifications when making repairs or replacements under this Warranty; and in replacing parts under the provisions of this Warranty to furnish an identical part or a part that, in Communication Mfg. Co.'s judgment, is equivalent to the part replaced.

Any QUIK CHEK Test Set returned for repair within a 30 day period of its purchase, will be repaired or exchanged on a "NO COST" basis. Return shipping charges will be borne by Communication Mfg. Co. A set returned during the 31-90 day period of its warranty will be repaired or exchanged on a "NO CHARGE" basis, with shipping charges being paid by the purchaser.