6800

COMMON SYSTEMS TEST CIRCUIT FOR 209FF, 209FK, 209FL, AND 209FM RELAYS

CHANGES

B. CHANGES IN APPARATUS

B.1 Superseded	Superseded By
1-1/3 amp. ringing fuse	1/2 HV ringing fuse

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Options are assigned to the 8C, 12C and 13C lamps.

D.2 Prior to this issue equipment note 202 referred to J93006E instead of J93017A.

D.3 Terminal punchings are added in Figure K.

All other headings, no change.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 3310-MHK-RLL-GJ

COMMON SYSTEMS
TEST CIRCUIT
FOR 209FF, 209FK, 209FL, AND 209FM RELAYS

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Prior to Issue 4-D the title was as follows:

COMMON SYSTEMS
TEST CIRCUIT
FOR 209FF, 209FK AND 209FL RELAYS

All other headings under "Changes", no change.

1. PURPOSE OF CIRCUIT

1.1 The purpose of this circuit is to provide means for adjusting the 209FF, 209FK, 209FL and 209FM relays.

2. WORKING LIMITS

2.1 None.

3. FUNCTIONS

3.1 Provides means for plugging any 209FF, 209FK, 209FL or 209FM relay into a connecting block for testing and readjusting.

3.2 The connecting block is arranged to connect all windings of the 209FF, FK, FL, or FM relay series aiding for test purposes.

3.3 Provides means by the operation of key (DM) and manipulation of the potentiometer for demagnetizing the relay under test before testing or readjusting.

3.4 Provides means for patching to a relay adjusting test set for the purpose of applying test or readjust values.

3.5 Provides a resistance network arranged to reduce the test current in the relay under test in proportion to the current reading on the meter of the relay adjusting test set.

3.6 Lamps (G) and (R) light to indicate the contact with which the armature is in contact.

3.7 The 48 V. jack provides battery and ground supply for the relay adjusting test set.

4. CONNECTING CIRCUITS

4.1 Relay adjusting test set.

4.2 Circuits using 209FF, 209FK, 209FL and 209FM relays.

DESCRIPTION OF OPERATION

5. READJUSTING 209FF, 209FK, 209FL OR 209FM RELAYS

When a 209FF, 209FK, 209FL or 209FM relay is to be tested or readjusted, it is withdrawn from the circuit where it is used and inserted in the 18A connecting block of the test circuit. Either the (G) or (R) lamp will light depending upon which contact the armature happens to be in contact with. Jack (TST) is then patched to the (TEST T&R) jack of the relay adjusting test set. Jack (48 V.) may be used for supplying battery and ground to the relay adjusting test set. The 18A connecting block is wired so that all windings of the relay under test will be connected series aiding for test purposes.

In order to condition similar relays to the same electrical characteristics regardless of previous biasing soaks, it is necessary to demagnetize the relay immediately before applying the specified test or readjust values. It is, therefore, necessary to set the relay adjusting test set to read the specified test and readjust values before demagnetizing the relay. The (DM) key is then operated which transfers the relay windings from the relay adjusting test set to an alternating current supply through the potentiometer. The knob of the potentiometer is turned clockwise to the extreme right-hand position, then turned slowly to the extreme left-hand position and left in this position until key (DM) is restored to normal. This operation builds up alternating current through the windings of the 209 type relay to a maximum and then gradually reduces the alternating current to zero thus bringing the relay to a full demagnetized state. When the alternating current is maximum the relay armature may vibrate between its contacts and both lamps will flash intermittently. The restoration of the (DM) key will connect the relay to the relay adjusting test set for application of the test or readjust values specified for the particular relay under test. When applying operate and non-operate tests to the relay in the usual manner for polarized relays, the lighting of lamps (G) and (R) will indicate the resultant effect of movement or non-movement of the armature.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 3340

REP)
FJS) DO