FUSE ALARMS FOR MISCELLANEOUS CIRCUITS

TESTS

1. GENERAL

1.01 This section describes methods of testing miscellaneous fuse alarms not associated with a specific switching system or power plant.

1.02 This section is reissued for the following reasons:

(a) To specify the use of the W1AF cord for applying test battery to the alarm terminal in the fuse

(b) To delete the instructions relating to the bending of the 411B tool

(c) To revise Test B

(d) To add Test C

(e) To make minor changes.

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted. This reissue affects the Equipment Test List.

1.03 The following tests are covered.

A. Individual Circuit Alarms: This test checks the ability of the fuse alarm to function when a fuse has operated.

B. Battery Distribution Alarms for 35-Type Pilot Fuse: This test checks that the pilot fuse is in parallel with the larger capacity feeder fuse and checks the ability of the fuse alarm to function when the pilot fuse is operated.

C. Battery Distribution Alarms for 70-Type Pilot Fuse: This test checks that the pilot fuse is in parallel with the larger capacity feeder fuse and checks the ability of the fuse alarm to function when the pilot fuse is operated.

1.04 To avoid disturbing personnel normally responsible for responding to these alarms, all persons concerned should be notified before starting tests and again at completion. If during these tests a regular alarm should originate, the tests should be discontinued immediately so that the alarm will sound in the usual manner. The proper persons should be notified that a regular alarm is sounding.

1.05 To avoid overheating of the receiver when the test receiver is being used, it should be connected across fused battery or ground and the alarm terminals or resistances as short a time as possible.

1.06 The test receiver should be kept away from the ear when testing to avoid excessively loud clicks.

1.07 Not all of the testing cords that are described in Part 2 are required for each test. Some cords are optional depending on physical layout of equipment involved in the tests.

2. APPARATUS

2.01 Testing cord, W1AY cord, 8 feet 6 inches long, equipped with two KS-6278 connecting clips (for establishing test connection to alarm bars or alarm studs).

2.02 Testing cord, W1AY cord, 8 feet 6 inches long, equipped with one KS-6278 connecting clip and one 411B tool (used for connecting battery to apparatus as required).

2.03 Testing cord, W1AF cord, 8 feet 6 inches long, equipped with a KS-6278 connecting clip and a 411B tool (used to momentarily establish test connections to alarm bars or alarm studs).

2.04 Testing cord, W1AY cord, 8 feet 6 inches long, equipped with one 411B tool and one 141 cord tip (used for connecting battery to apparatus, as required, where connection to battery for testing is to be made using the 720A battery pickup tool).

2.05 720A (battery pickup) tool (used in a spare 70-type fuse position to obtain source of battery for test purposes).

2.06 KS-14510 volt-ohm-milliammeter (VOM), or equivalent.

2.07 716C test receiver with a W2AB cord equipped with two 360A tools (2W21A cord), a KS-6278 connecting clip, and a 411B tool.

2.08 3-inch C screwdriver (for removing and replacing 35-type fuses).

3. METHOD

STEP	ACTION	VERIFICATION
A.	**Individual Circuit Alarms**	
1	Test for voltage on alarm bar or cap of fuse block using VOM. ***Note:*** To test the alarm circuit of 70-type fuses mounted in an individual fuse block, insert the tip of the 411B tool (attached to the W1AF cord) into the aperture of the fuse block cap (not the hole through which the colored head of the fuse protrudes) and touch the exposed alarm test point. To test the alarm circuit of 70-type fuses mounted in a modular fuse block (such as the 22- or 23-type block), insert the tip of the 411B tool (attached to the W1AF cord) into the aperture provided in the fuse block cover (not the hole through which the colored head of the fuse protrudes), for the alarm to be tested, and touch the alarm bar.	No voltage present.
2	Measure resistance of alarm bar or cap of fuse holder to ground using VOM.	Minimum 200 ohms.
3	Connect battery to alarm bar or cap of fuse block using test cord in accordance with local battery supply arrangement; see Note under Step 1.	FA lamp lighted. Aisle pilot lamp lighted (where provided). Audible alarm sounds.
4	Remove battery.	FA lamp extinguished. Aisle pilot lamp extinguished (where provided). Audible alarm silenced.
B.	**Battery Distribution Alarms for 35-Type Pilot Fuse**	
	Caution: When testing alarm-type pilot fuses, every precaution should be taken to avoid accidental grounding of the test equipment as the battery sides of these fuses are directly connected to main distributing fuses.	
1	Remove fuse from pilot fuse position.	

STEP	ACTION	VERIFICATION
2	Test for battery on one fuse post using test receiver.	Battery present.
3	Test for battery on other fuse post using test receiver.	Battery present.
4	Test for battery on fuse alarm stud using test receiver.	No battery present.
5	Measure fuse alarm stud resistance to ground using VOM.	Minimum 200 ohms.
6	Connect battery to pilot fuse alarm stud using test cord in accordance with local battery supply arrangement; see Note under Step 1, Test A.	FA lamp lighted. Aisle pilot lamp lighted (where provided). Audible alarm sounds.
7	Remove battery from pilot fuse alarm stud.	FA lamp extinguished. Aisle pilot lamp extinguished (where provided). Audible alarm silenced.
8	Replace pilot fuse removed in Step 1.	

C. Battery Distribution Alarms for 70-Type Pilot Fuse

Caution: See Caution in Test B.

1	Remove fuse from pilot fuse position.	
2	Test for battery on spring upon which base of fuse normally rests using test receiver.	Battery present.
3	Test for battery on contact nearest small slot in fuse block using test receiver.	Battery present.
4	Test for voltage on alarm ring (contact nearest large slot in fuse block) using VOM.	No voltage present.
5	Measure alarm ring resistance to ground using VOM.	Minimum 200 ohms.
6	Replace pilot fuse removed in Step 1.	
7	Connect battery to alarm bar or test point using test cord in accordance with local battery supply arrangement; see Note under Step 1, Test A.	FA lamp lighted. Aisle pilot lamp lighted (where provided). Audible alarm sounds.
8	Remove battery from alarm bar or test point.	FA lamp extinguished. Aisle pilot lamp extinguished (where provided). Audible alarm silenced.