

PREVENTION OF SERVICE INTERRUPTIONS
ATTACHMENT WECO HANDBOOK 0, SECTION 14

1. GENERAL

- 1.01** This section face sheet is issued to assign its 9-digit number and title in place of the previous 9-digit number, 201-112-014, which was assigned to the section entitled "Prevention of Service Interruptions — Attachment WECO Handbook 0, Section 14." The previous 9-digit assignment is canceled. Notice of cancellation and a cross reference to this section number will remain in the appropriate Division Index for a minimum of 12 months.
- 1.02** When this section is reissued, it will be issued in a standard format.
- 1.03** Recommendations for changes, additions, or deletions to this section should be forwarded as specified in Section 000-010-015.
- 1.04** The old section and any current addendum and attachments should be removed from their previous place in the file and attached behind this page and then filed by the new number.

NOTICE

Not for use or disclosure outside the
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PREVENTION OF SERVICE INTERRUPTIONS
ATTACHMENT WECO HANDBOOK 0, SECTION 14

1. GENERAL

1.01 The purpose of this section is to make Western Electric Handbook 0, Section 14 dated 9-21-67 available to the central office maintenance force. This handbook section covers precautions to be taken when installing private line service

equipment and may be used as a guide during installation of equipment by the Western Electric Company.

1.02 This section replaces one of the attachments (Handbook 0, Section 14) to Section 201-112-001, Issue 4.

PREVENTING SERVICE INTERRUPTIONS
PRIVATE LINE SERVICE EQUIPMENT

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1. GENERAL

1.1 Scope of Section

1.11 This section supplements Sections 10, 11, 12 and 13 and is intended to emphasize the precautions to be taken by the installer to prevent service interruptions on private line service equipment.

1.12 Private line services utilize the following general types of circuit facilities:

Telephone (Voice Circuits)
Telegraph (DC or VF Carrier)
Program Transmission
Television
Telephotograph

1.2 Associated Information

1.21 General installation requirements, as applying to both the Installer and the Telephone Company, are covered in Section 9 of Handbook 3.

1.3 Special Character of Private Line Service

1.31 While continuity of all service is of the utmost importance, private line services are unique in that their operation may be of equal importance 24 hours of the day, seven days a week. For example, the news services, which cover a vast network over the country and make use of telephone, telegraph, and telephotograph equipment.

1.311 Radio and television programs involve coast to coast network circuits over program transmission and television facilities.

1.312 The government is continually transmitting vast quantities of ordinary and military data over private line facilities, and certain additional facilities must be kept available for use in case of emergency.

1.32 Although private line service equipment is designated with special warning plugs and tags at equipment bays, patch and test bays, and cross-connecting areas, it may lose its special identity when routed over carrier or microwave facilities.

2. VULNERABLE LOCATIONS

2.1 Private line services are susceptible to the most damaging interference with service at:

(a) Fuse panels and other distributing points for common power supply - particularly 130-volt battery.

(b) Carrier supply equipment.

(c) Patching jacks, cross-connecting areas, and special switching equipment.

2.2 Figure 1 shows the failures, as listed in Section 10, which definitely involved private line services.

2.3 It should be kept in mind that interruptions in carrier or microwave facilities may involve telephone or voice frequency telegraph services. K carrier, for example, may also involve program transmission.

3. PRELIMINARY PROCEDURES

3.1 Make sure that everyone involved in working on, or near private line service equipment, both supervisors and installers, are thoroughly versed in the information in the other sections of this handbook, as well as this section.

3.2 Apply extreme care and diligence in the preparation of the written method of procedure and its review with the interested telephone people, considering at all times the great importance of the services involved on the private line facilities.

3.21 See that everyone involved, jointly looks over and discusses the work locations, clearly identifying private line service equipment to be worked on, or such equipment in the vicinity of work locations, including groups of any carrier or microwave equipment that may possibly be associated.

| Hazard | Example |
|---|--|
| 2. Live bus bars or exposed current supply leads at or near work location. | When installing dummy fuses 130V and 24V bus bars were crossed with screwdriver. Service interrupted on 140 telegraph repeaters; 75 carrier systems; 205 ringers; 4 program networks and 8 telegraph carrier systems for 2-1/2 minutes. |
| 3. Connecting or disconnecting leads, cutting cables on modifications, relocations or removals before they have been positively identified by electrical tests. | Wrong cross-connection disconnected during relocation of phantom set units interrupted service on a duplex circuit for 65 minutes. Two cables cut in error interrupted service on two voice frequency carrier telegraph systems for 1 minute and thirteen telephone circuits for 3 hours. |
| 4. Grounded framework or conduits at or near work involving live power equipment bus bars and current supply leads. | While removing insulation from live 600,000 CM cable the point of skinning knife touched frame lighting conduit interrupting service on 5 airline teletype circuits and 1 civil aeronautics authority teletype circuit for 6 minutes. |
| 7. Deviations from handbook requirements and methods or method of procedure | An R-1357 electric drill with its housing grounded, was used to drill a live bus bar thereby operating a 70 ampere 130V discharge fuse. Service was interrupted on 77 K carrier and 3 telegraph carrier systems for 13 minutes. |

FIG. 1 TYPICAL FAILURES (PAR. 2.2)

3.3 Assure that all people involved know the necessary fuse locations, including spare fuses and their adequacy. Make sure the associated alarms are understood and that they are in working order.

3.4 Make sure that the necessary tools are available, and that they are properly taped or otherwise insulated, as required.

4. PRECAUTIONS

NOTE: Protect the various types of power equipment according to the methods described in Section 11 of Handbook 22.

4.1 Review all applicable common and specific precautions and safeguards with the telephone company representative when ready to start work and work closely with him at all times.

4.2 Pay careful attention at all times to the handling of armored cables and shielded cable or wire, particularly the ends of such cable or wire in the vicinity of power bays and at the equipment area where it terminates.

4.3 Put special emphasis on the protection of 130-volt battery supply.

4.4 Be extremely cautious in removing cross-connections or any other wiring or when cutting cables. Remove or cut only one or a very few wires at a time, and verify frequently, so as to minimize any trouble in the case of error.

Manager, Engineering Practices

Reason for Reissue:
To remove Paragraph 4.4 and minor changes in Figure 1.

Replaces Section 14 dated 10-18-62.