ERECTING FRAMES
HOISTING CENTERS
CEILING SUPPORTED

CONTENTS

1. GENERAL
2. PRECAUTIONS
3. INSTALLING EQUIPMENT
4. HOISTING CENTER VS. IN-PLACE HOISTING
5. HOISTING CONSTRUCTION

1. GENERAL

1.1 Scope

1.11 This section covers common information applying to the procedures for the construction of ceiling supported hoisting centers. (Specific requirements for Duct and ESS frameworks are covered in Section 19F of this handbook and Handbook 261, respectively.)

1.2 Associated Information

1.21 Reference should be made to floor plan drawings and specification information furnished the job.

1.3 Arrangement of Tools

1.31 Prior to the starting operations covered by this section, the tools and other items required should be arranged at the work location so as to minimize fatigue and inconvenience while handling.

2. PRECAUTIONS

2.1 Precautions Against Personal Injury and Equipment Damage

2.11 The precautions to be taken against personal injury and to prevent damage to equipment and service interruptions are covered in this section or in other sections of this series with the associated operations. General precautions are covered in the general sections of this handbook and in Handbook 0. These precautions are to be observed at all times, as they apply to the particular operation being performed.

3. INSTALLING EQUIPMENT

3.1 With the exception of the R-3447 portable hoisting center (Section 19A1) tools and materials required for the operations covered in this section are included in the general tool kits, and are normally available on the job. Use the R-3447 only on those jobs where ceiling inserts are not provided at the hoisting center.

NOTE: Extra auxiliary framing bars, channels, threaded rods, etc., which may be required for the installer's convenience only, in connection with installing operations such as the temporary auxiliary framing used at the hoisting center and which will not become a part of the telephone plant should be requisitioned as "Supplies". It is recommended that this material be transferred from job to job within an Area, where possible.

4. HOISTING CENTER VS. IN-PLACE HOISTING

4.1 The point at which erection of the frames should be started is governed to a large extent by the particular job floor plan layout and job conditions.

4.2 The following table may be helpful in determining when to construct a Hoisting Center or erect a frame in-place

TABLE I

ERECTION OF BAYS IN-PLACE VS. WITH A HOISTING CENTER

Hoisting Center	In-Place
1. All frameworks except unstable single bay frameworks with 19" and 23" mounting plate widths.	All depending on floor space conditions.
2. Storage area normally located adjacent to hoisting center location	Horizontal bays sometimes extremely difficult to maneuver around corners. Tight conditions require frame to be upended and faced in new direction.
3. Dollies must be provided to transport bays vertically.	No dollies required. However, overhead conditions may require walking bay into place after it is erected.
4. Floor space will normally be available to accomodate single and double bay frame works.	Depending on available floor space, aisle width and overhead conditions at final position, it may be impossible to erect a double bay in place.
5. Superstructure and hoists are installed only once.	Superstructure must be installed at each position where a bay is to be erected. In certain cases lights must be removed.
6. Erecting is done in an open area where damage to other equipment is not possible.	Location requires working around operating equipment. Mechanical protection for working equipment may be required.
7. Obstructions, such as ladder track, superstructure or lighting may have to be removed from main aisle and cross aisles.	In some cases, obstructions may have to be removed only at positions where a bay is to be erected.
8. Minimum or no interference with maintenance activities.	Interferes with maintenance activities.

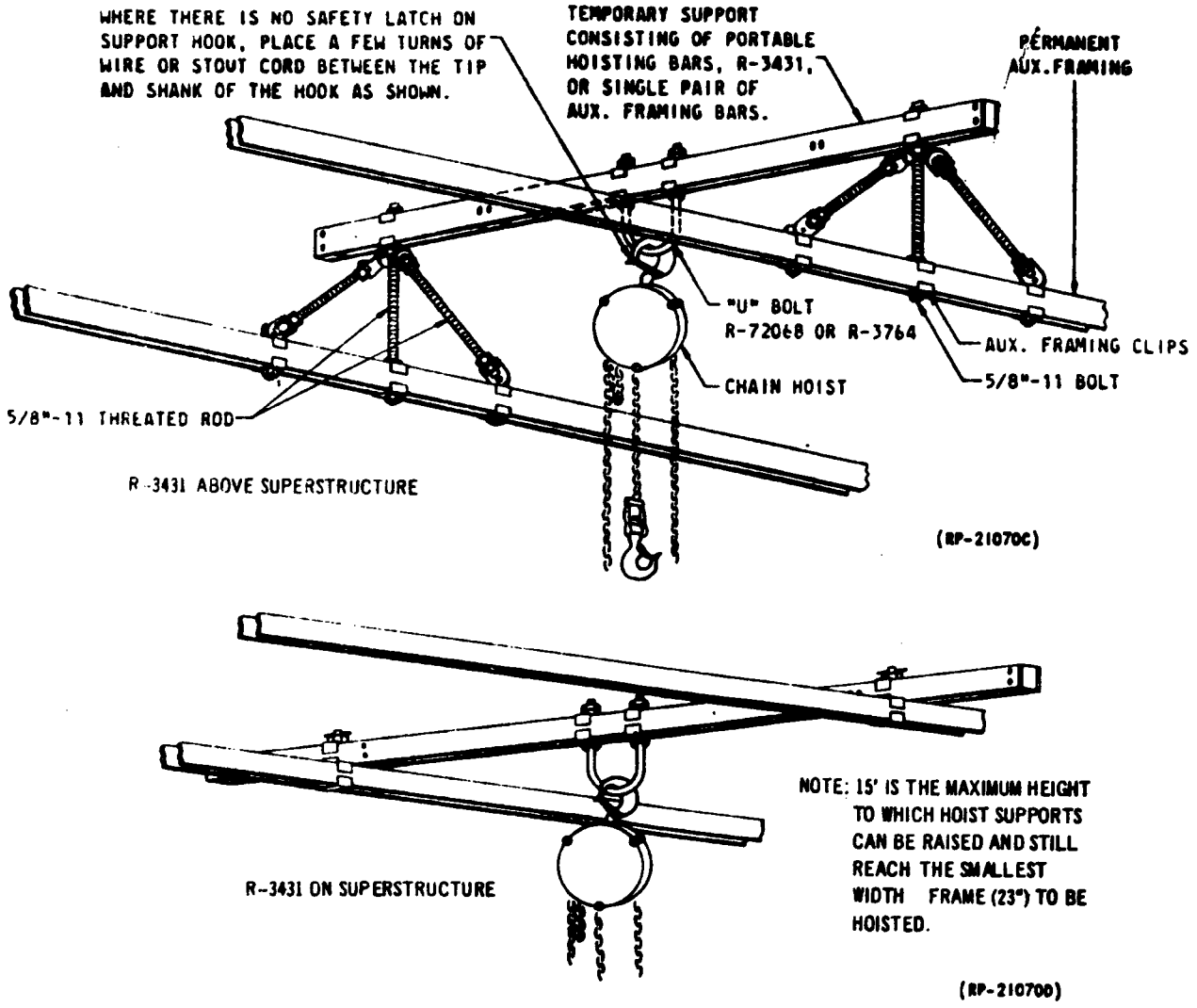

FIG. 1 ARRANGEMENT OF HOISTING BARS FOR HOISTING FRAMES WEIGHING NOT MORE THAN 800 LBS. (PARS. 5.12, 5.14, 5.16)

5. HOISTING CONSTRUCTION

5.1 Shop assembled frames and racks may be erected by means of hoists supported by one of the following arrangements.

5.11 Always use the R-3431 portable hoisting bars for erecting frames.

5.12 The R-3431 is a portable, prefabricated, hoisting bar, with quick acting "T" bolt type clamp at each end for securing to regular auxiliary framing as shown in Figures 1 to 3. A R-72068 or R-3764 "U" volt is located at the center of each member for attaching a chain hoist.

CAUTION: Before the R-72068 or R-3764 U- volt is used be sure that it is not appreciably worn and that it is free from defects. If any doubt exists concering its safe use, return it to Regional Distributing House.

5.13 When R-3431 portable load bars are unavailable, auxiliary framing bars or channels for supporting the hoist may be used.

5.14 The R-3431 portable load bars, auxiliary framing bars or channels for supporting the hoist are suspended temporarily by superstructure and threaded rods from ceiling inserts or beam clamps as shown in Figures 1 to 3.

CAUTION: Where there is danger that the weight of the frame and hoists will exceed the load that may be safely placed on the temporary hoist support, the bars or channels should be braced from the floor by 4" x 4" lumber or 2" pipe shown in Section 11B, Figure 11A.

5.15 Safe loads for beam clamps, ceiling inserts, threaded rods, lag screws and framing bars can be found in the general safety precautions section of this handbook.

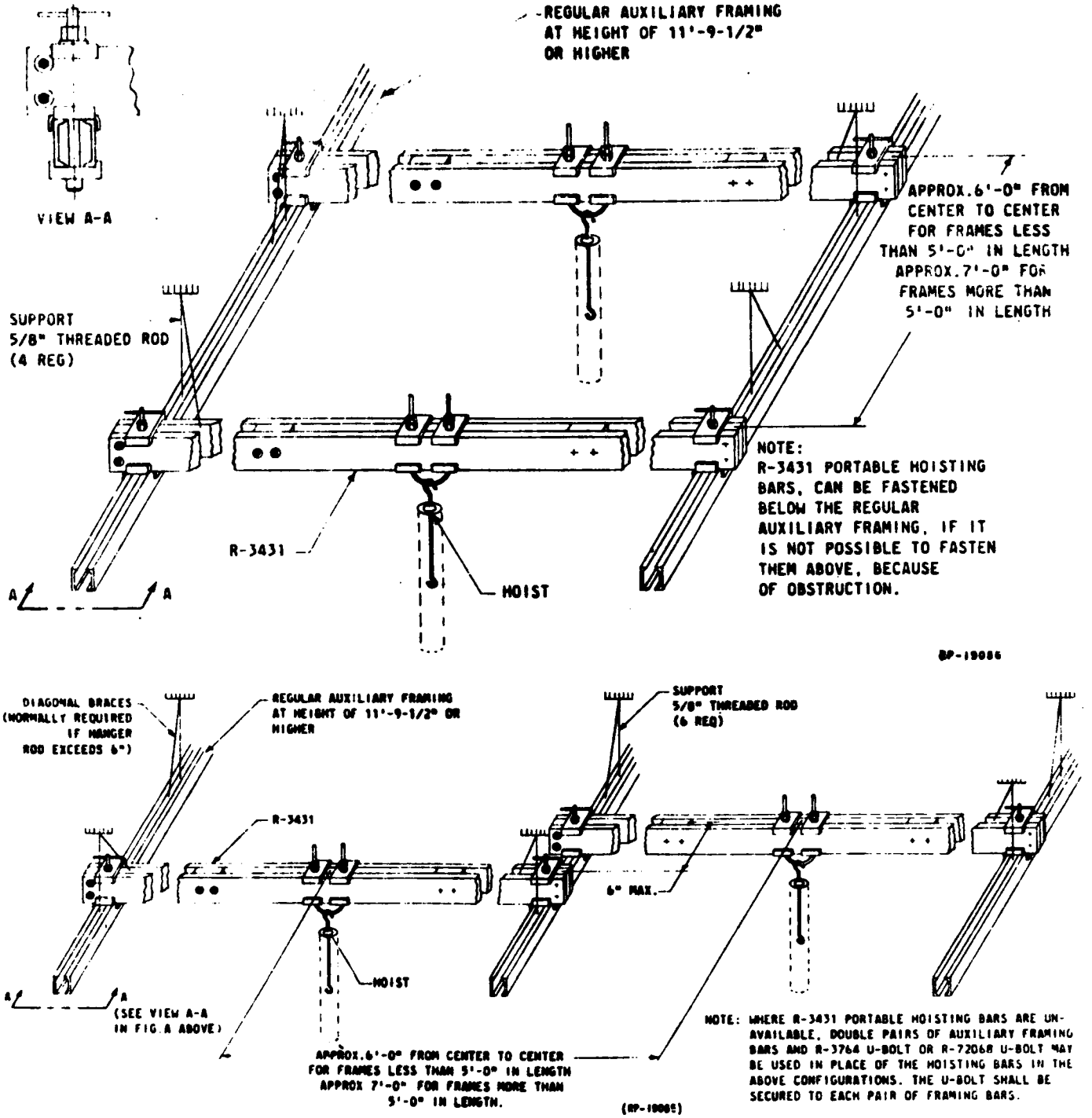

FIG. 2 ARRANGEMENT OF HOISTING BARS FOR HOISTING FRAMES WEIGHING NOT MORE THAN 1400 LBS. (PARS. 5.12, 5.14)

5.16 The bars or channels for supporting the hoist are installed temporarily above the auxiliary framing over frames previously erected and supported where necessary from the framing by means of the threaded rod supports and braces. See Figure 1. Double capacity may be acheived when using framing bars or channels, other than the R-3431 load bars, by using two pairs of bars for temporary support of the t- bolt instead of a single pair when attached to auxiliary framing support.

5.17 The hoist is supported from the auxiliary framing (braced from the floor by 4" x 4" lumber where necessary), or 2" pipe shown in Section 11B, Figure 11A.

NOTE: The methods outlined in 5.16 and 5.17 above may be used on small additions where dolly trucks are not provided. They may also be used on any job where a few frames are received after the dolly trucks have left the job.

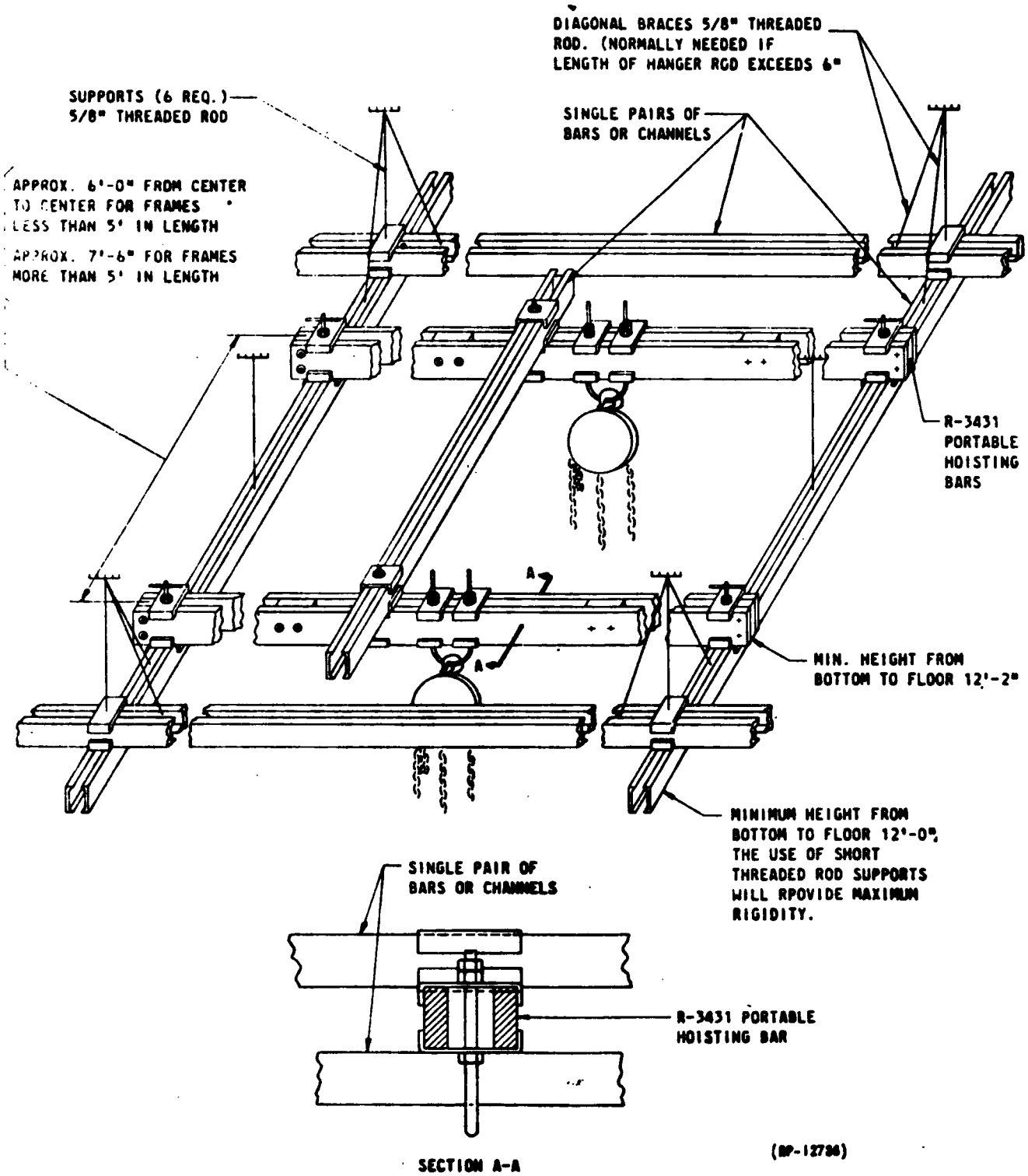

FIG. 3 ARRANGEMENT OF HOISTING BARS FOR HOISTING FRAMES WEIGHING MORE THAN 1400 LBS. (PAR. 5.14)

No arrows are shown due to extensive changes.

Superintendent, Installation Engineering

Reason for Reissue:
(1) To include R-3431 Portable Hoisting Bars.
(2) To remove erecting methods.

Replaces Section 19A2 dated 5-19-60.