

Subject: Power Column (P950E) and Ceiling Ring (P959/P959-01) Installation Instructions

Introduction

This document describes how to install the ceiling ring (P959/P959-01) and Power Column (P950E). Prior to installation, the appropriate facility medical gas lines and electrical raceways should have been run to the location. Refer to the as-built drawings for specific information.

Read and understand all of these instructions before installing the ceiling ring (P959/P959-01) and Power Column (P950E).

Tools required:

Adjustable wrench	Screwdriver
Phillips head screwdriver	Socket wrench set
Pliers	Drill
Plumb bob	Level

Parts required:

(2)	50028	Jack screw
(1)	55726	6" base cover moulding
(1)	50109	Bag assembly
and		
(2)	50047-1	Guide tube (for 8' to 8.5' (244 cm to 259 cm) ceilings)
or		
(2)	50047-2	Guide tube (for 8.5' to 9' (259 cm to 274 cm) ceilings)
or		
(2)	50047-3	Guide tube (for 9' to 9.5' (274 cm to 290 cm) ceilings)

50109, Bag assembly, includes the following items:

(2)	52658	Slide insert
(6)	28293	Nut
(6)	15338	Screw

Related Documents: [Power Column Service Manual \(man042\)](#)

For post-installation troubleshooting and repair, complete parts list, and accessory information, refer to the [Power Column Service Manual \(man042\)](#). For issues or problems related to this product, call Hill-Rom Technical Support at 800-445-3720 for assistance.

Description

The Power Column (P950E) is a modular system providing a variety of power and gas outlets and accessory attachment locations. The Power Column (P950E) is available in two different cross-section styles:

- Classic—23" x 7" (58 cm x 18 cm)
- Narrow—15" x 7" (38 cm x 18 cm)

Shipping Container Contents

The Power Column (P950E) is shipped in two containers. The larger container contains the main housing (A). The smaller container contains the top shroud (B), guide tubes (C), jack screws (D), cover moulding (E), and parts bag (F) (see figure 1 on page 3). The top shroud (B) and guide tubes (C) come in various lengths, according to the ordered specifications.

Contractor Responsibilities



WARNING:

During installation, ensure that all national and local electrical and medical gas codes are followed, particularly the National Electrical Code®¹ (NEC®²), National Fire Protection Association (NFPA) 99, and Canadian Standards Association (CSA) standards. Failure to do so could result in personal injury or equipment damage.

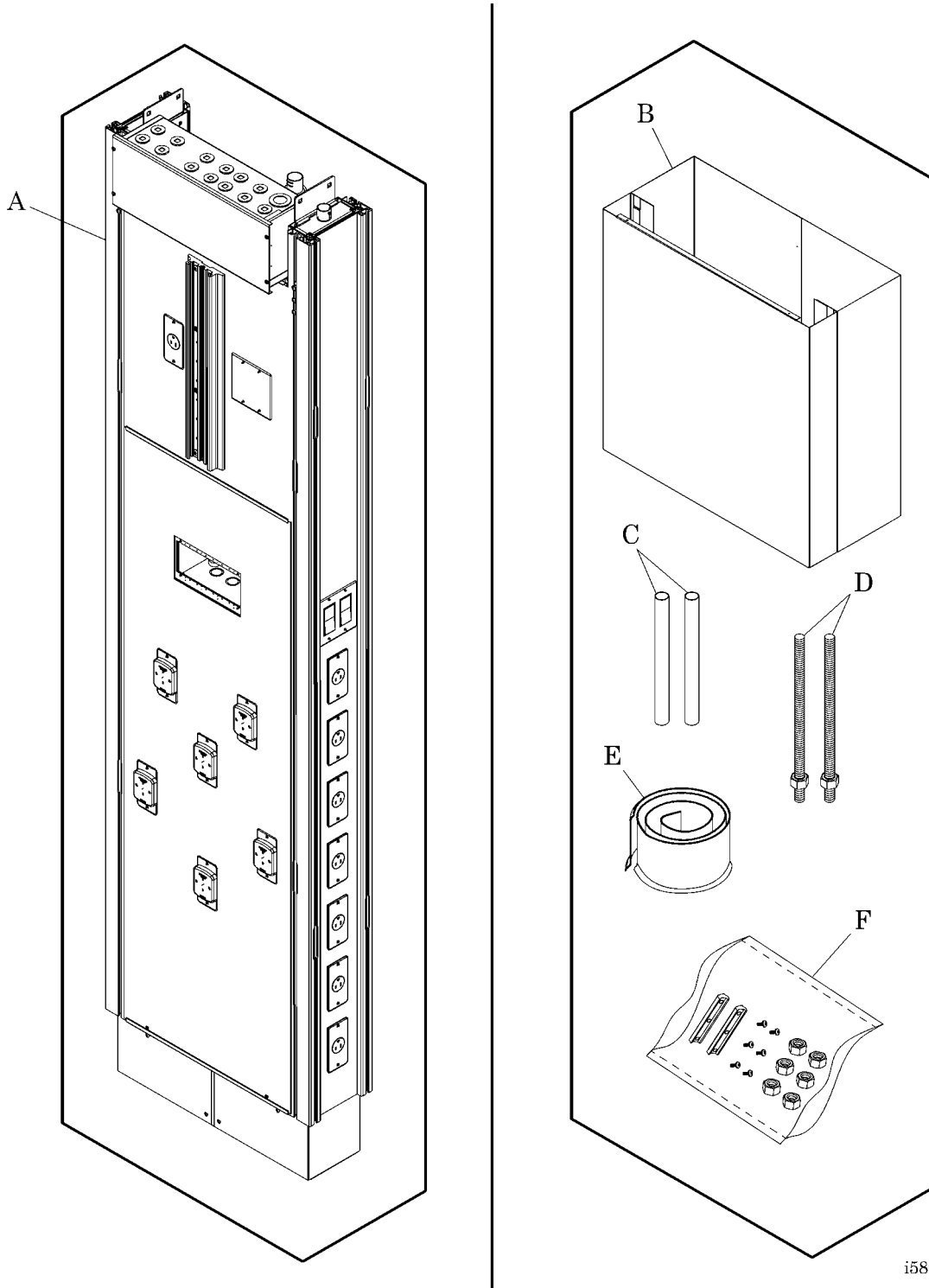
During installation, ensure that all national and local electrical and medical gas codes are followed, particularly the following:

- NFPA 70, *National Electrical Code*® (NEC®)
- NFPA 99
- CSA 22.1, *Canadian Electrical Code—Safety Standards for Electrical Installations*
- CSA Z305.1, *Nonflammable Medical Gas Piping Systems*
- CSA Z318.5, *Commissioning of Electrical Equipment and Systems in Health Care Facilities*
- CSA Z318.6, *Commissioning of Medical Gas Systems in Health Care Facilities*
- CSA Z318.7, *Commissioning of Communication Systems in Health Care Facilities*

1. National Electrical Code® is a registered trademark of National Fire Protection Association, Inc.

2. NEC® is a registered trademark of National Fire Protection Association, Inc.

Figure 1. Power Column (P950E) Packaging (Classic Style)



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The **installing contractor** shall attach each Power Column (P950E) to the ceiling by ceiling mounting rings tied to the building structure, install and anchor the base to the floor, adjust the jack screws (D), and install the base cover according to these instructions.

The **electrical contractor** shall furnish and install conduit and wire to connect the Power Column (P950E) to building services as shown on the shop drawing wiring diagram at the pre-wired main junction box. When the power column has an isolation power system, the electrical contractor shall install an isolation transformer according to the manufacturer's instructions.

The **mechanical contractor** shall provide primary connectors to the pre-manifolded medical gas risers above the top of the Power Column (P950E). It shall be the responsibility of the mechanical contractor to perform and certify all pressure tests as required by NFPA 99 and CSA Z305.1 standards.

The **communications contractor** shall make wiring pulls through the provided conduit, and hook up and install equipment in the provided backboxes. The communications contractor shall also conduct all tests to ensure that the system operates correctly.

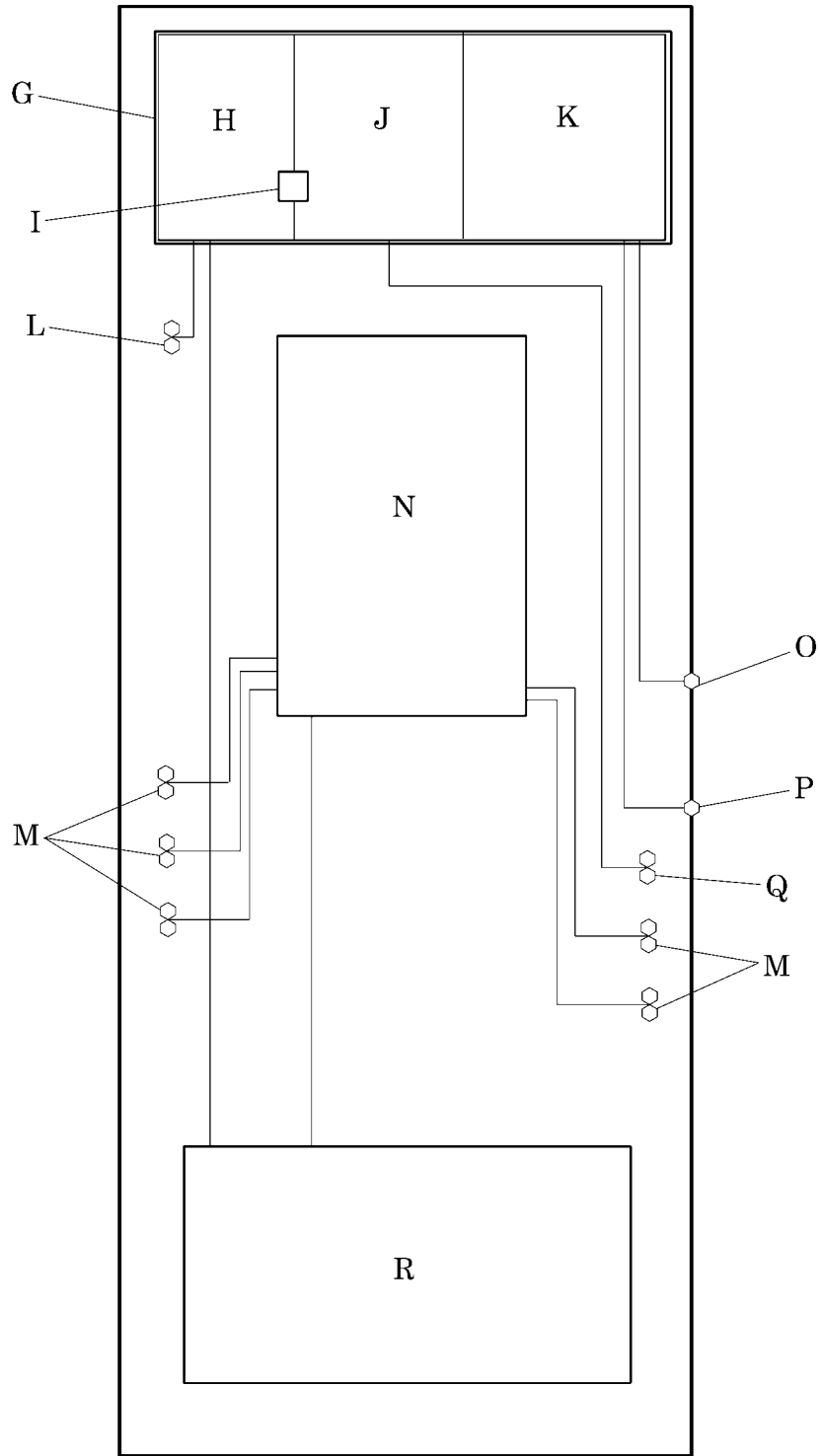
After hook up and installation of the Power Column (P950E), the **installing contractor** shall complete installation of shrouds and accessory equipment according to the manufacturer's instructions, and check out the entire installation for proper operation. Finally, the installing contractor shall remove all fingerprints and smudges from all exposed surfaces.

Reference Figures

The following figures and associated tables are included in this document as reference material:

- Power Column (P950E) Electrical System Block Diagram (Classic Style) (see figure 2 on page 5) and (see table 1 on page 6)
- Power Column (P950E) Electrical System Block Diagram (Narrow Style) (see figure 3 on page 7) and (see table 2 on page 8)
- Medical Gas and Electrical Access Information (Classic Style) (see figure 4 on page 9) and (see table 3 on page 10)
- Medical Gas and Electrical Access Information (Narrow Style) (see figure 5 on page 9) and (see table 3 on page 10)
- Medical Gas and Electrical Access Dimensions (Classic Style) (see figure 6 on page 11)
- Medical Gas and Electrical Access Dimensions (Narrow Style) (see figure 7 on page 12)
- Power Column (P950E) Height Dimensions (Classic or Narrow Style) (see figure 8 on page 13), (see table 1 on page 6), and (see table 3 on page 10)

Figure 2. Power Column (P950E) Electrical System Block Diagram (Classic Style)



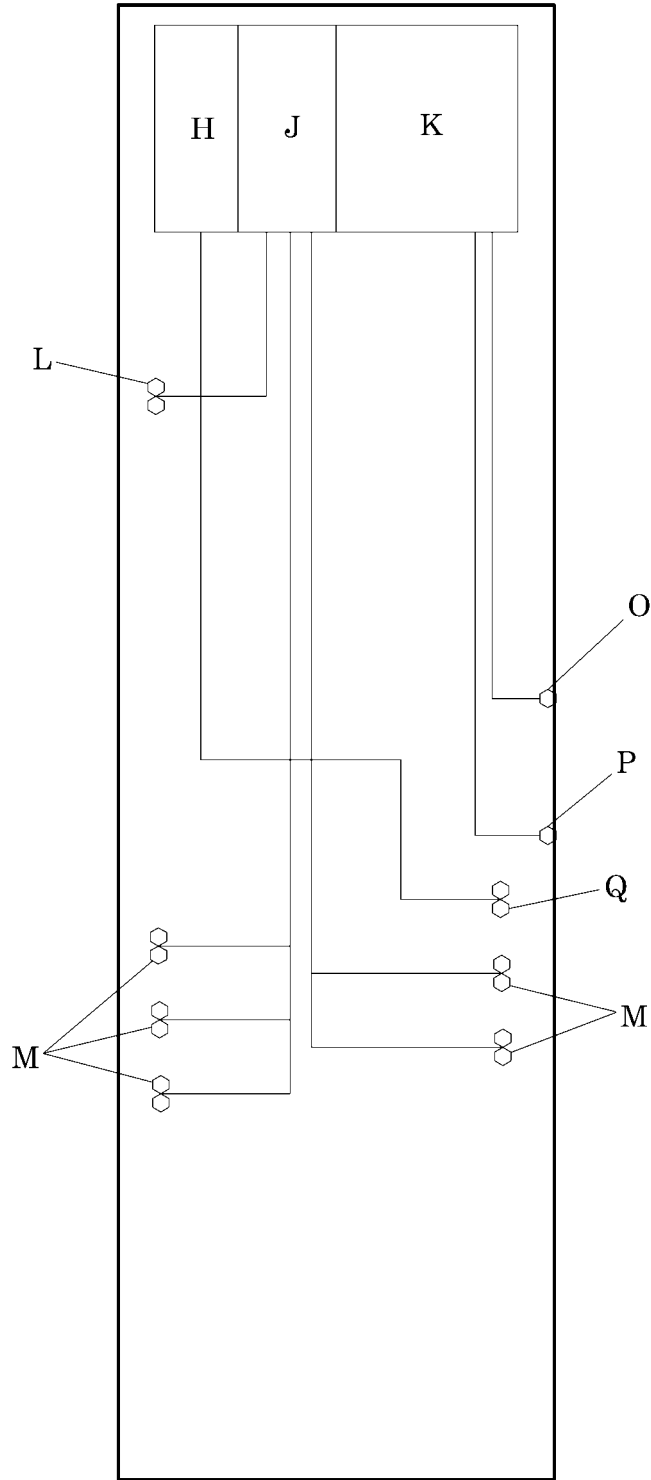
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For a description of each callout, refer to table 1 on page 6.

Table 1: Power Column (P950E) Electrical System Block Diagram (Classic Style)

Callout Letter	Description
G	Main junction box
H	Line voltage (normal power)
I	Ground location
J	Line voltage (emergency power)
K	Phone, low voltage, and communication
L	Patient monitor power receptacle
M	Normal power receptacle (quantity as specified)
N	Circuit breaker panel (if specified)
O	Connection to Nurse Call provision
P	Connection to telephone provision
Q	Emergency power receptacle (quantity as specified)
R	Isolation transformer (if specified)

Figure 3. Power Column (P950E) Electrical System Block Diagram (Narrow Style)



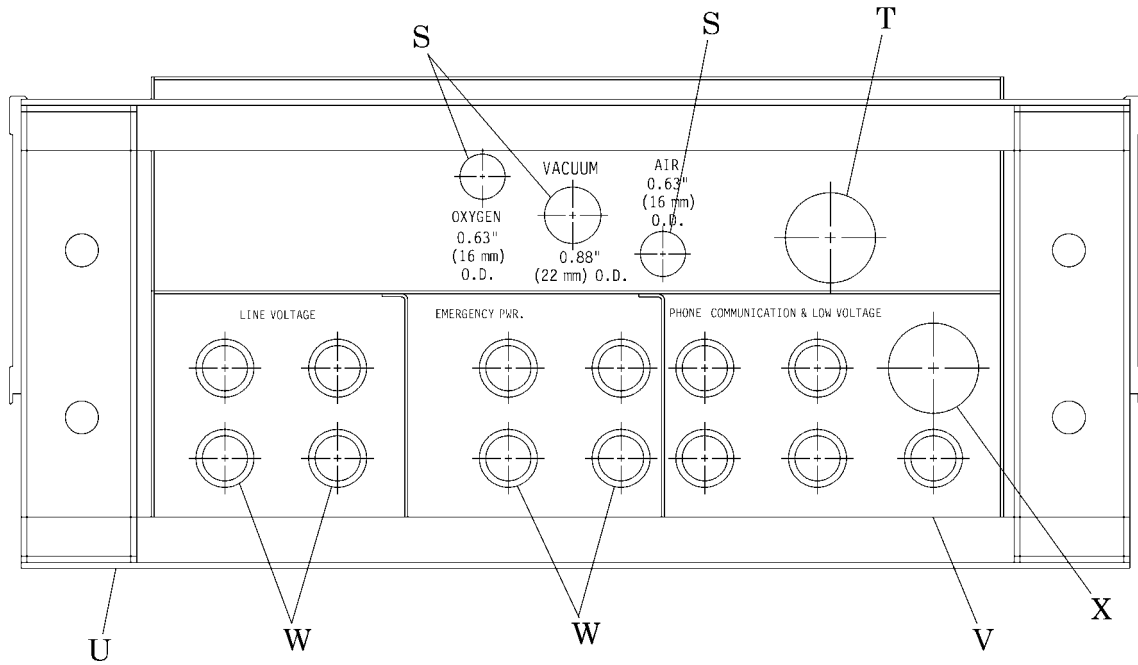
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For a description of each callout, refer to table 2 on page 8.

Table 2: Power Column (P950E) Electrical System Block Diagram (Narrow Style)

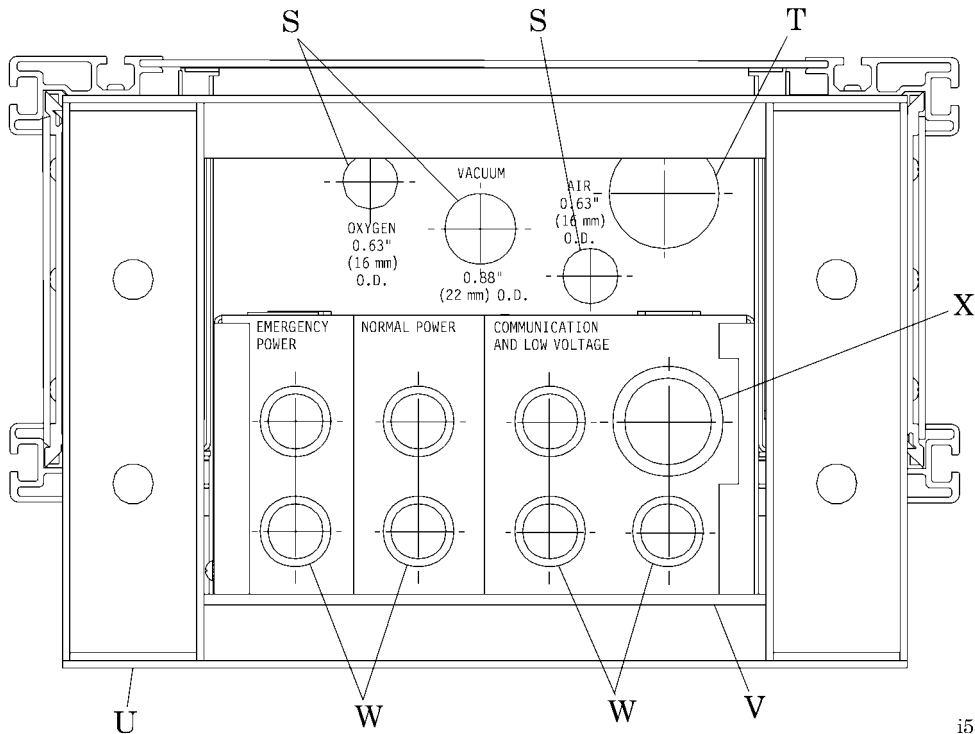
Callout Letter	Description
H	Line voltage (normal power)
J	Line voltage (emergency power)
K	Phone, low voltage, and communication
L	Patient monitor power receptacle
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O	Connection to Nurse Call provision
P	Connection to telephone provision
Q	Emergency power receptacle (quantity as specified)

Figure 4. Medical Gas and Electrical Access Information (Classic Style)



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Figure 5. Medical Gas and Electrical Access Information (Narrow Style)



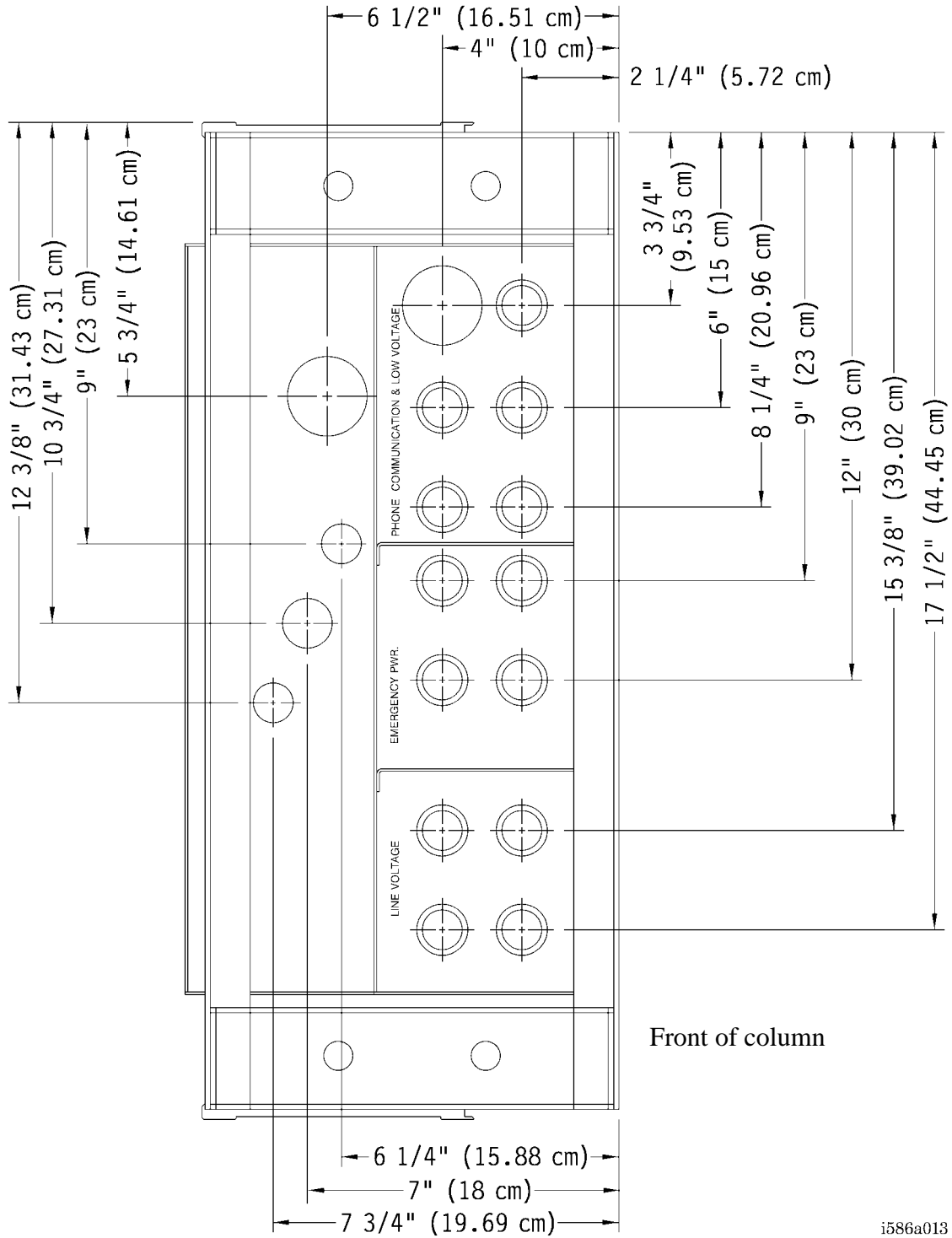
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For a description of each callout, refer to table 3 on page 10.

Table 3: Medical Gas and Electrical Access Information

Callout Letter	Description
S	Medical gas—type K copper tube
T	1¼" flexible conduit with coupling
U	Ceiling ring
V	Power Column (P950E)
W	½" and ¾" (12.70 mm and 19.05 mm) trade size concentric knockout
X	1¼" (3.18 cm) trade size knockout
Y	Floor
AS	Ceiling

Figure 6. Medical Gas and Electrical Access Dimensions (Classic Style)



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Figure 7. Medical Gas and Electrical Access Dimensions (Narrow Style)

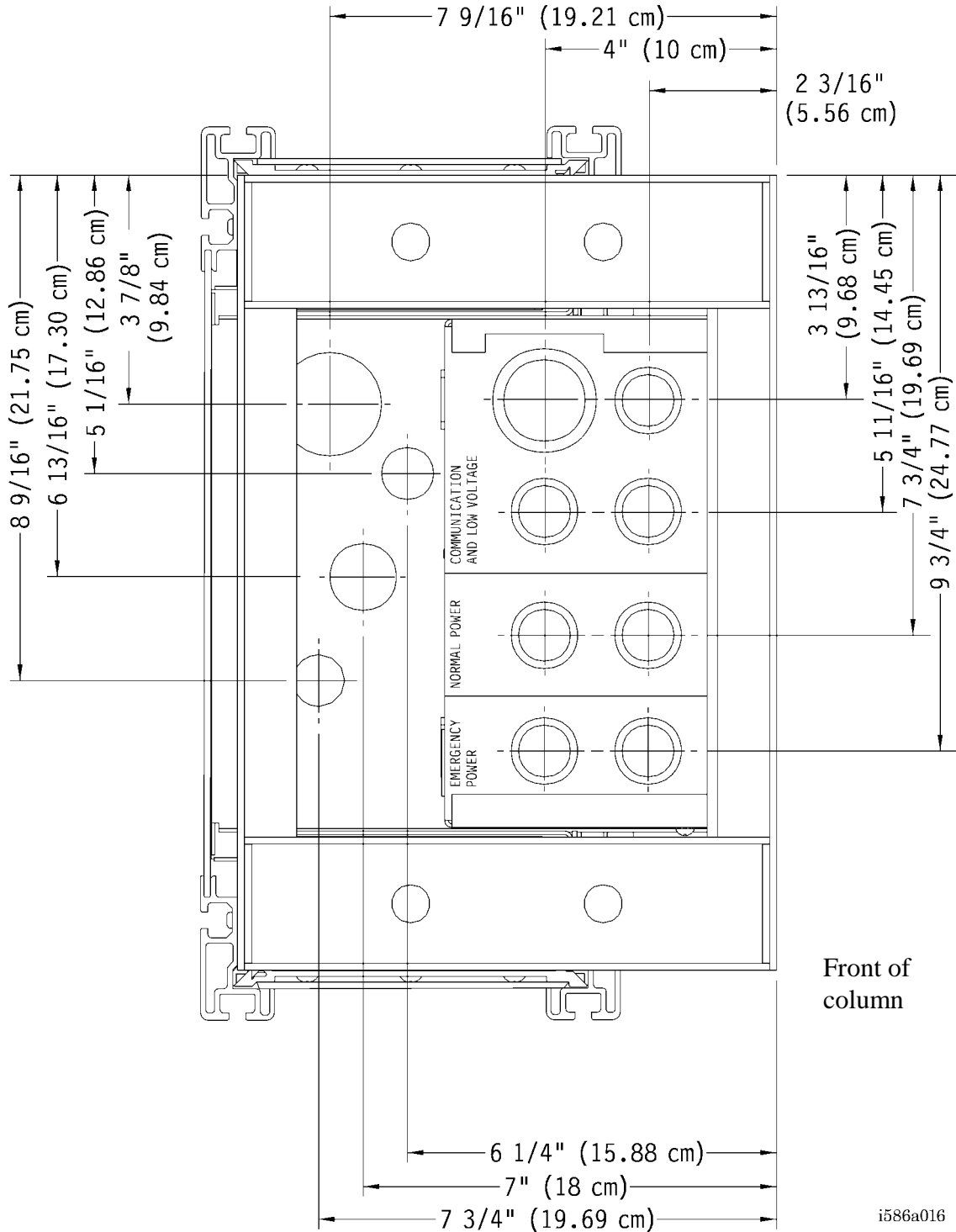
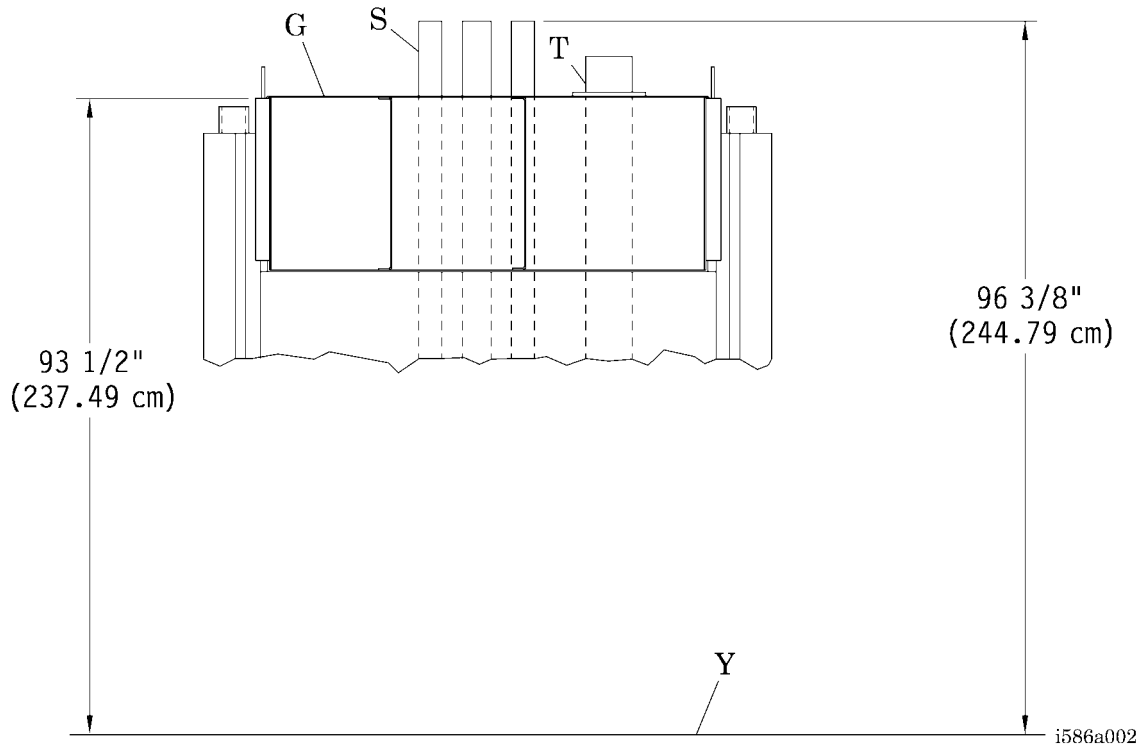


Figure 8. Power Column (P950E) Height Dimensions (Classic or Narrow Style)



For a definition of each callout, refer to table 1 on page 6 and table 3 on page 10.

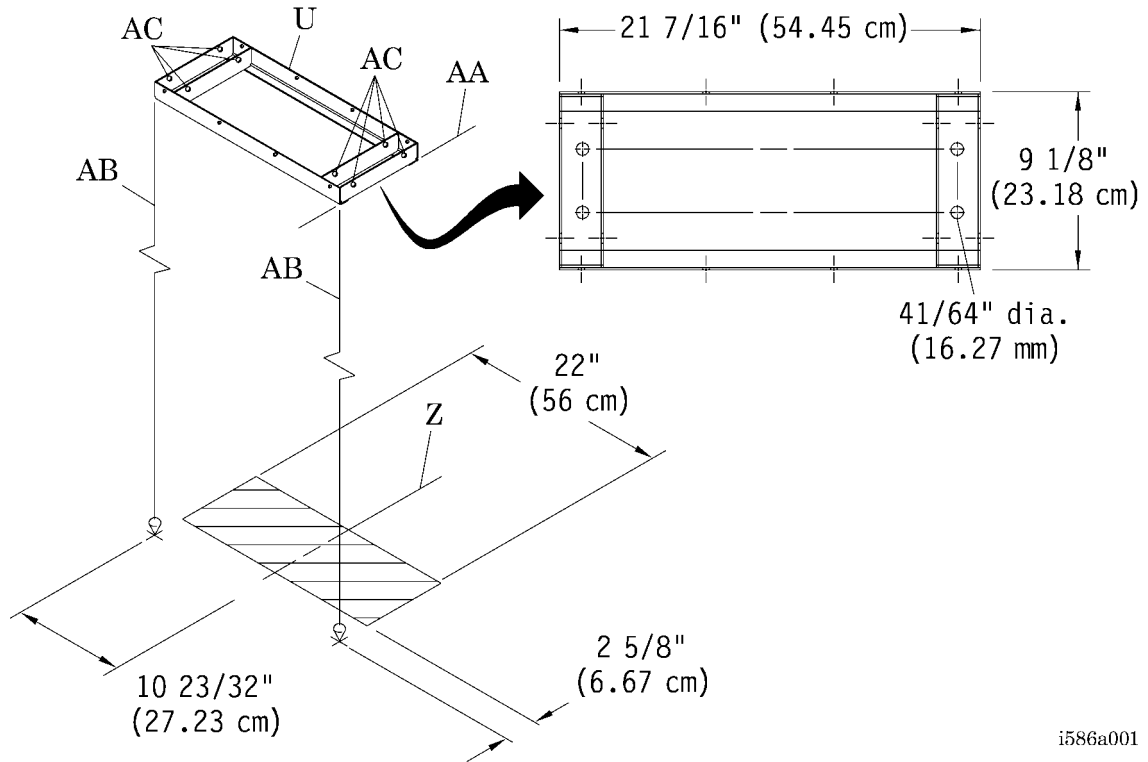
Pre-Installation

1. Before installing, ensure that all parts are accounted for.
2. If anything is missing or damaged, call Hill-Rom Technical Support at 800-445-3720 for assistance.
3. Read all of the installation instructions.
4. Coordinate installation with the responsible people in the appropriate trades. See "Power Column (P950E) Packaging (Classic Style)" on page 3.
5. Review the architectural drawings to verify the correct location of the product.

Installing the Ceiling Ring (P959/P959-01)

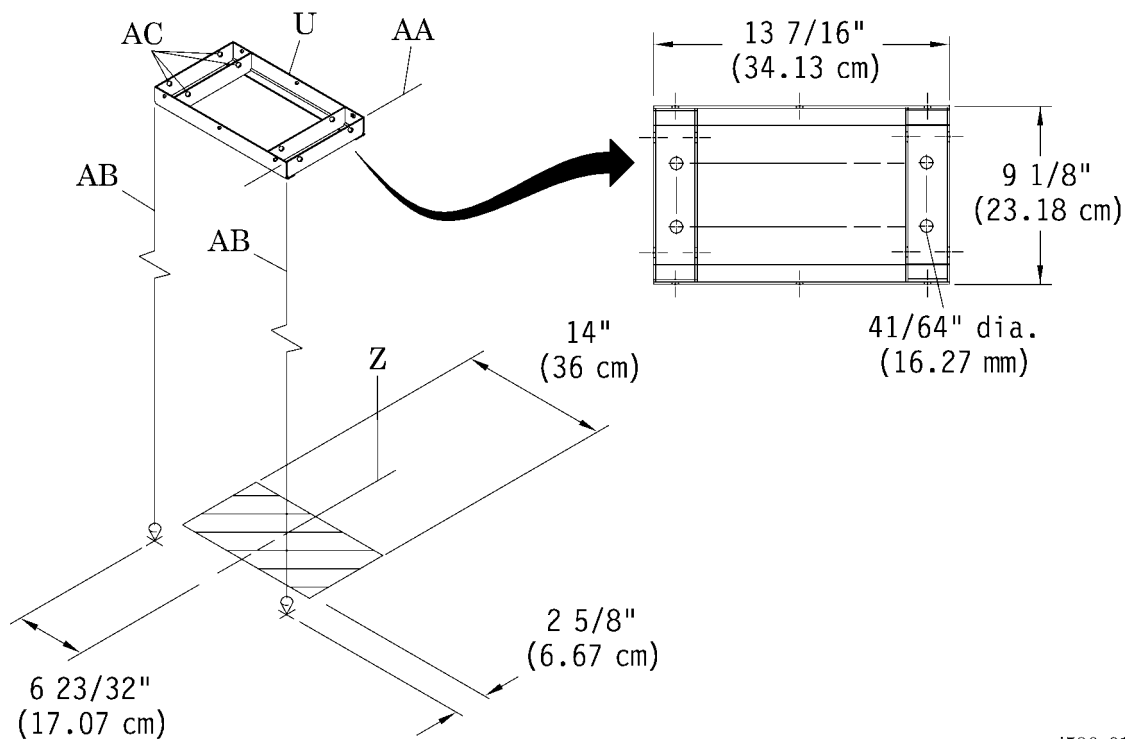
1. From the facility's plans, locate the column front face line and four corners.
2. Establish the centerline (Z) of the column:
 - On a **Classic** style Power Column (P950E), establish the centerline (Z) 11" (28 cm) from a corner point (see figure 9 on page 15).
 - On a **Narrow** style Power Column (P950E), establish the centerline (Z) 7" (18 cm) from a corner point (see figure 10 on page 15).
3. Locate the following two points on the floor:
 - 2 5/8" (6.67 cm) in front of the column face
 - On a **Classic** style Power Column (P950E) only—10 23/32" (27.23 cm) on either side of the column centerline (Z)
 - On a **Narrow** style Power Column (P950E) only—6 23/32" (17.07 cm) on either side of the column centerline (Z)
4. Drop a plumb bob from the building overhead structure to each point.
5. Determine the ceiling surface height (AA), and mark the plumb line (AB).
6. Position the ceiling ring (U) with temporary rigging, with the corners of the ceiling ring (U) touching the plumb lines (AB) and the flat surface of the ceiling ring (U) at the ceiling surface height (AA) marked on the plumb lines (AB).
7. Adjust the temporary rigging until the ceiling ring (U) is level.
8. Install contractor-furnished structural bracing between the ceiling ring (U) and the building overhead structure through the eight pre-drilled holes (AC) in the ceiling ring (U).

Figure 9. Ceiling Ring Installation (Classic Style)



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Figure 10. Ceiling Ring Installation (Narrow Style)



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9. For details on bracing methods for various building structures, refer to the appropriate figure (see table 3 on page 10):

NOTE:

Do not obstruct the open middle area of the ceiling ring with the structural bracing. This area needs to be accessible for service drops.

- For open web steel bar joist bracing, refer to figure 11 on page 16.
- For double concrete tee bracing, refer to figure 12 on page 17.
- For cellular steel deck with concrete bracing, refer to figure 13 on page 17.
- For seismic area bracing, refer to figure 14 on page 18.

NOTE:

Depending on ceiling height and plenum space, forces in seismic area bracing will vary slightly. Optional bracing and studs are supplied by others.

Figure 11. Open Web Steel Bar Joist Bracing

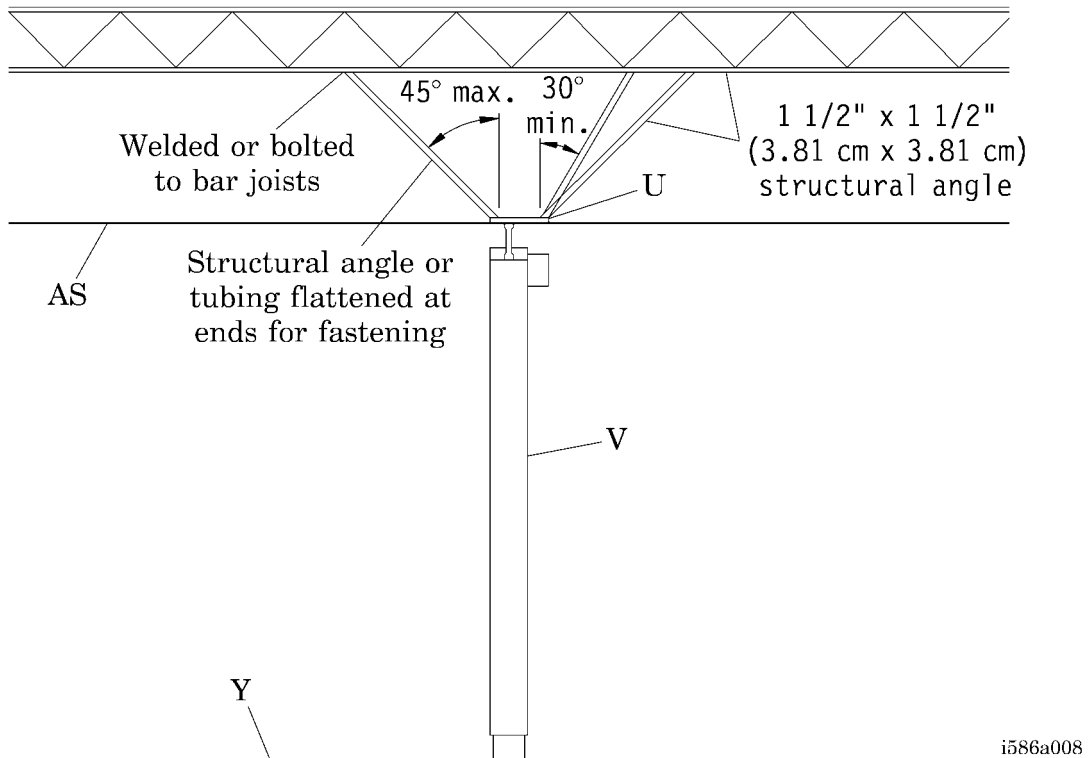


Figure 12. Double Concrete Tee Bracing

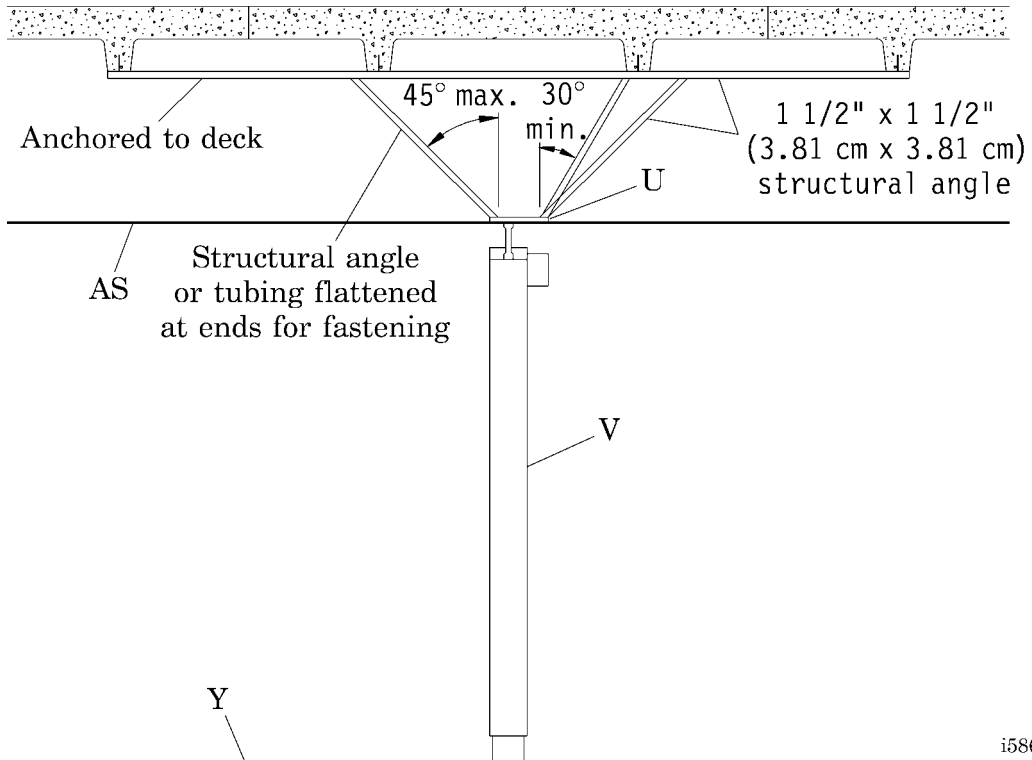


Figure 13. Cellular Steel Deck with Concrete Bracing

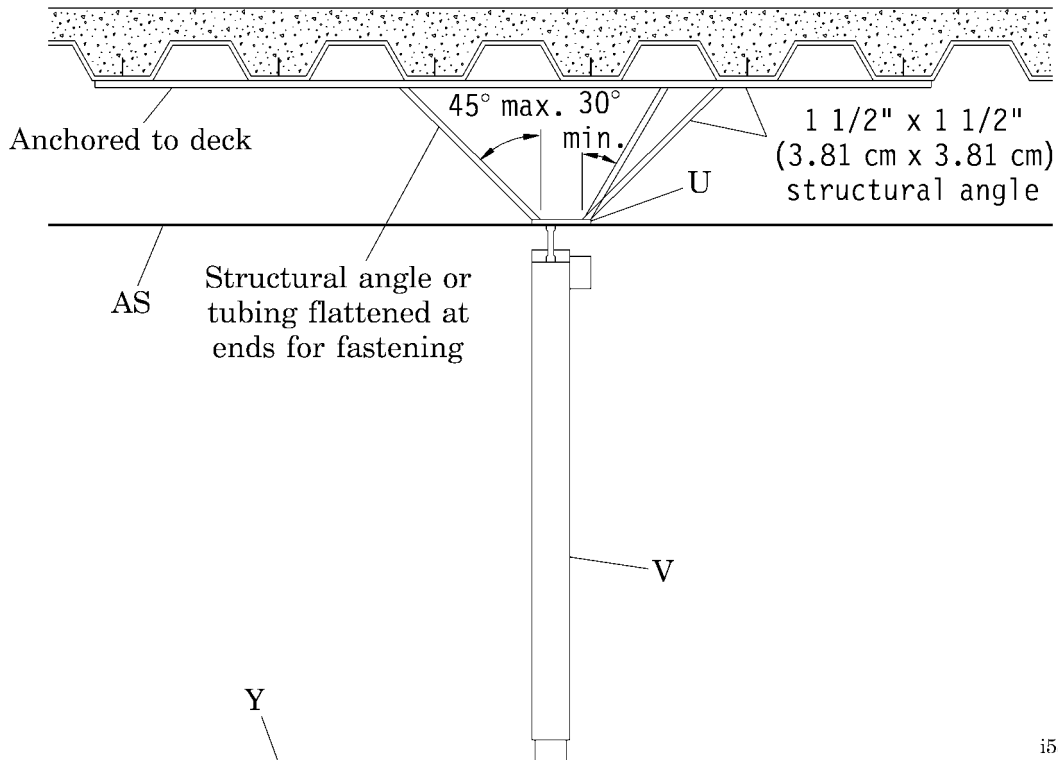
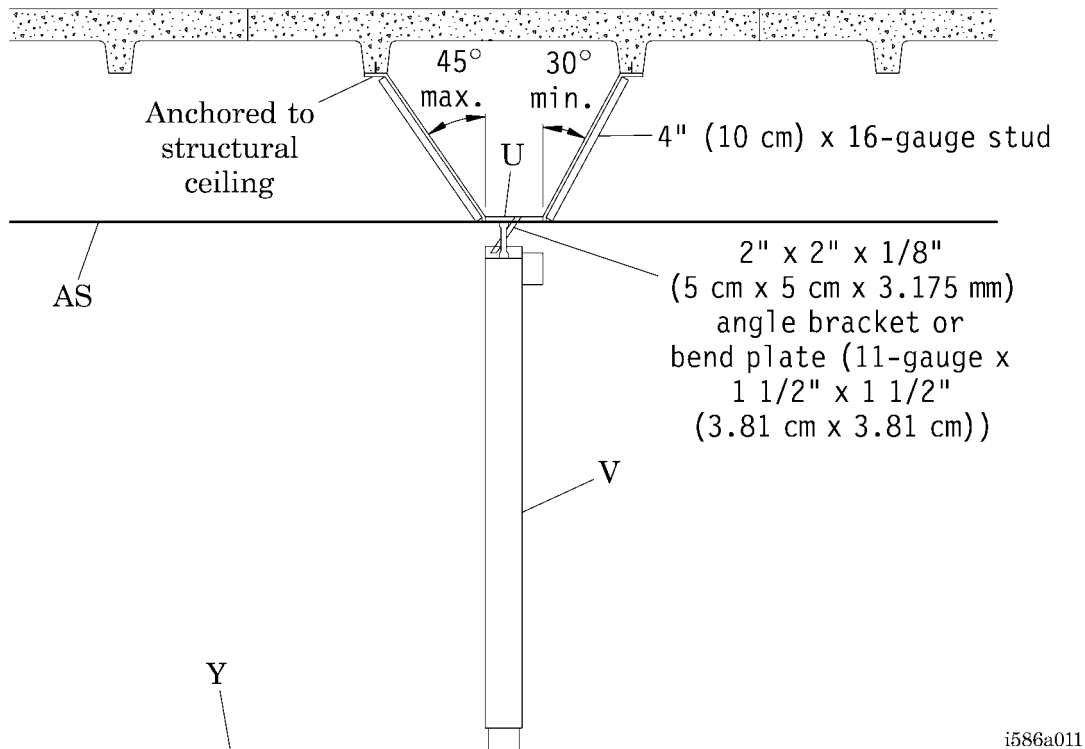


Figure 14. Seismic Area Bracing

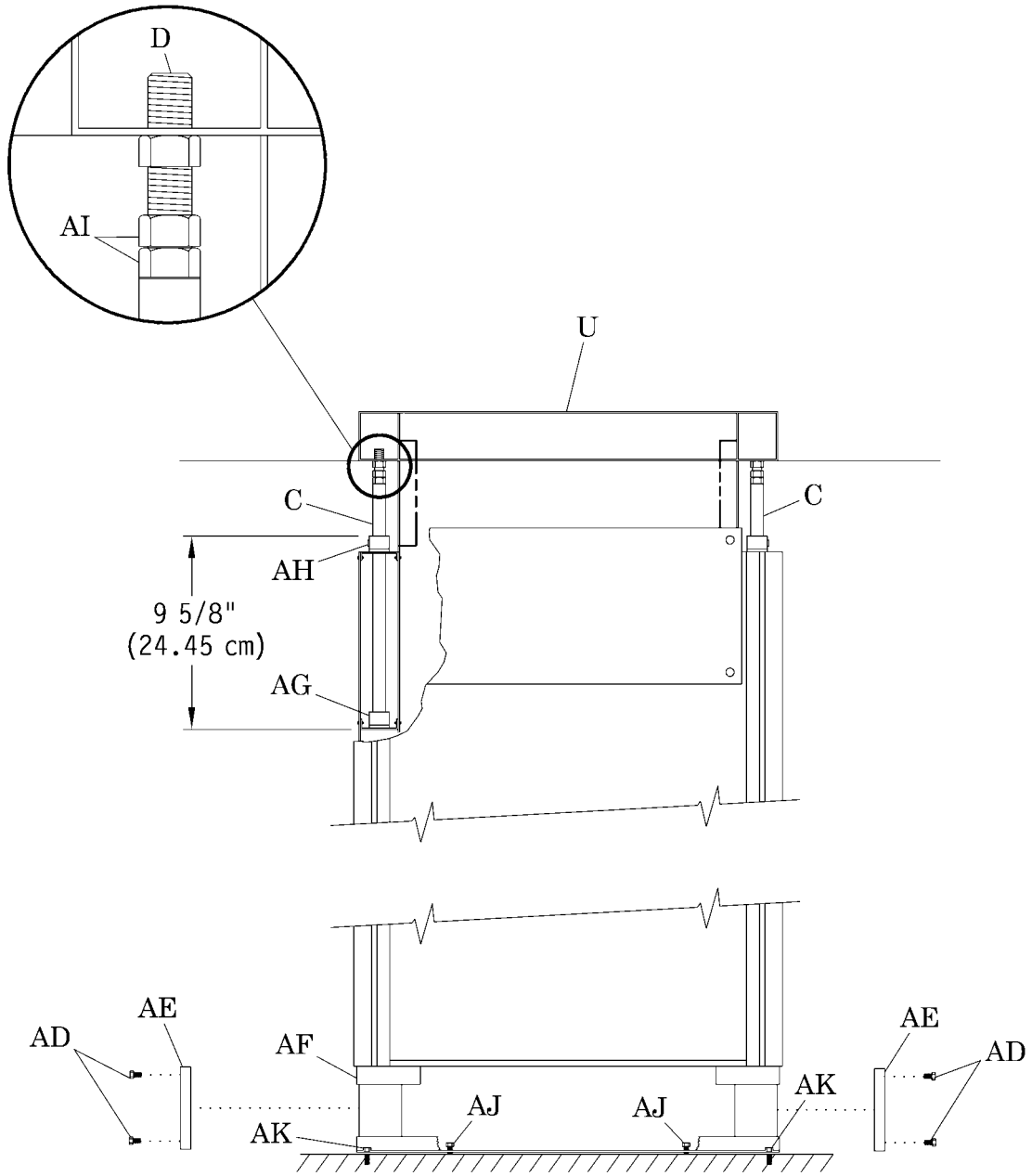


Installing the Power Column (P950E)

Installing the Column Structure

1. Remove packing materials from the column structure, and check for damage.
- NOTE:**
The column length should be 92" (234 cm).
2. Remove the screws (AD) that secure the covers (AE) to the base (AF) of the column structure (see figure 15 on page 19).
 3. Remove the covers (AE) from the base (AF).
 4. Position the column structure face down so that the base (AF) is directly below the opening in the ceiling ring (U).
 5. Remove the guide tubes (C) from the carton.
 6. Insert the guide tubes (C) into the openings provided at the top of the column structure.
 7. Make sure the guide tubes (C) are seated in the internal retaining cups (AG).
 8. Measure and verify that the total length of the **inserted** guide tubes (C) is 9 5/8" (24.45 cm).

Figure 15. Power Column (P950E) Installation



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9. Tighten the set screws (AH) firmly to secure the guide tubes (C) in position.
10. Remove two jack screws (D) and four 5/8" jam nuts (AI) from the carton.
11. Thread two jam nuts (AI) on each jack screw (D) the full length.
12. Insert the long threaded portion of the jack screws (D) into the guide tubes (C).
13. Position the base (AF) of the column structure on the floor, directly below the opening in the ceiling ring (U), and lift the column structure up to the full vertical position.
14. Slide the jack screws (D) out of the guide tubes (C), and insert the jack screws (D) into the holes of the ceiling ring (U) so the welded nuts on the jack screws (D) are ½" (12.7 mm) from the ceiling ring (U).
15. Hold the jack screws (D) in this position, and run the bottom jam nuts (AI) down to make contact with the top of the guide tubes (C).

NOTE:

This will make the column structure freestanding.

16. Adjust the structure levelling screws (AJ) until the column structure is perpendicular to the floor.
17. Mark the floor for anchor locations through the 17/32" diameter holes in the base (AF).

NOTE:

If desired, move the base of the column structure from side to side to drill the holes in the floor.

18. Reposition the column structure, and ensure that it is perpendicular to the floor.

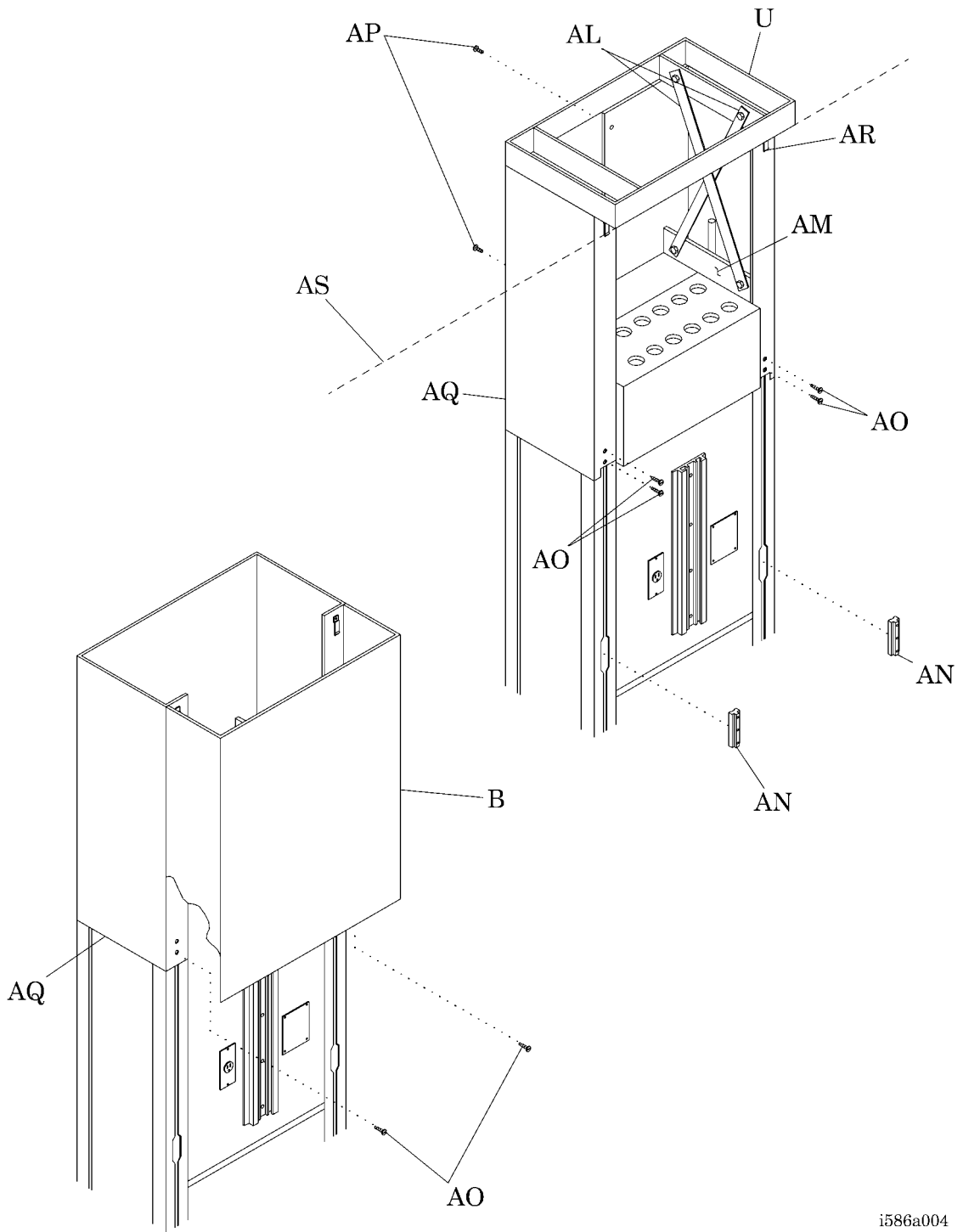


CAUTION:

Do not overtighten the jack screws. Column or ceiling ring distortion or damage may occur.

19. Prevent the jack screws (D) from turning while tightening the bottom jam nuts (AI) until the jack screws (D) are firmly seated against the ceiling ring (U).
20. Lock the jam nuts (AI) in place.
21. Install the contractor-furnished floor anchor bolts (AK).
22. Install the contractor-furnished auxiliary bracing (AL) between the ceiling ring (U) and the tab (AM) at the top of the column structure (see figure 16 on page 21).

Figure 16. Shroud Assembly Installation



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SHOCK HAZARD:

The potential for electrical shock exists with electrical equipment. Failure to follow facility protocol may result in death or serious personal injury.

23. Using the as-built drawings, wire the power column for your specific installation. Make connections in accordance with NFPA 70 (NEC®¹), CSA C22.1, and/or all applicable local codes.
24. Make connections to medical gas the tubing in accordance with the requirements of NFPA 99, Chapter 3, or CSA Z305.1.
25. Install the screws (AD) to secure the covers (AE) on the base (AF) of the column structure (see figure 15 on page 19).
26. Using contractor-supplied adhesive, install the cover moulding (E) (see figure 1 on page 3) around the base (AF) (see figure 15 on page 19).

Installing the Shroud Assembly

1. Unpack the shroud carton.
2. Remove the two slide inserts (AN) and six machine screws (AO) (see figure 16 on page 21) from the bag assembly (F) (see figure 1 on page 3).
3. Remove the two sheet metal screws (AP) from the back of the wrapper halves (AQ), and separate the wrapper halves (AQ) (see figure 16 on page 21).
4. From behind the column structure, place the wrapper halves (AQ) around the column structure, and verify that the latch plate (AR) is toward the ceiling (AS).
5. Install the sheet metal screws (AP) to secure the wrapper halves (AQ).
6. Install the slide inserts (AN) into the track, and push them up so that the top two holes in the slide insert (AN) align with the holes in the wrapper halves (AQ)

NOTE:

The bottom hole receives the screw to attach the shroud.

7. **Start** two machine screws (AO) into each slide insert (AN) through the holes in the bottom of the wrapper halves (AQ). Do **not** tighten them yet.
8. Raise the wrapper halves (AQ) until they contact the ceiling (AS), and tighten the machine screws (AO) securely.
9. Position the top shroud (B) on its edge over the front of the wrapper halves (AQ), and slide the top shroud (B) up until it engages the open end of the latch plate (AR).
10. Push the top shroud (B) up to the ceiling (AS).

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11. Install the remaining machine screws (AO), one in each slide insert (N), to secure the top shroud (B) to the column structure.
12. Tighten the machine screws (AO) securely.

Accessories

1. Verify that all of the specified accessories are accounted for and are not damaged.
2. Install your specific accessory items according to the installation instructions included with that accessory.
3. For accessory parts and information, refer to the *Power Column Service Manual* ([man042](#)).

NOTES:
