busSTRUT Shop Drawing Set

160A Single-Phase (4x40A) 120V

40A
LINE
FEED

HANGER

POWER DROP
QUAD OUTLET

BREAKERED
OUTLET BOX

40A
busSTRUT
OVER 40A
busSTRUT
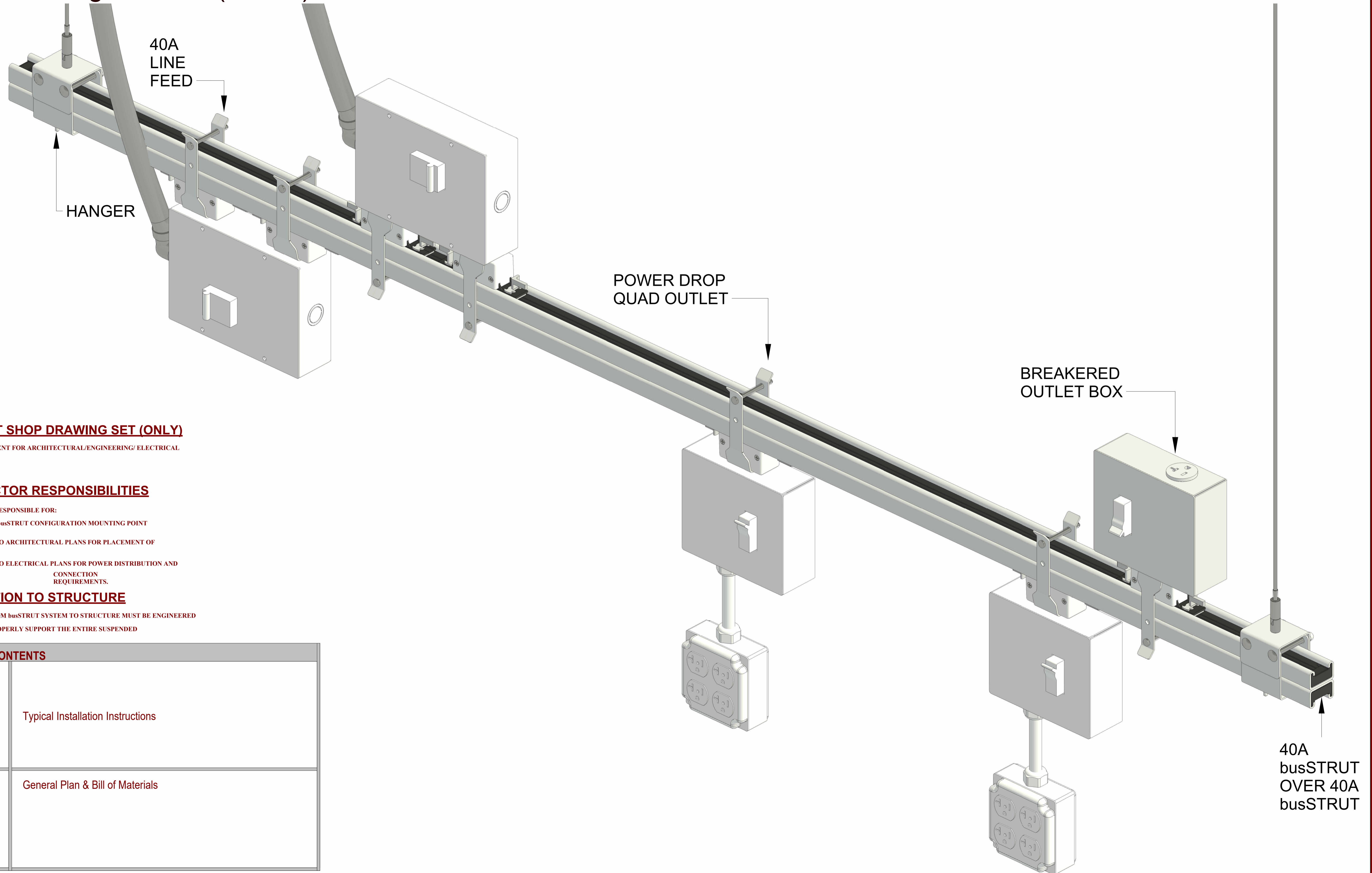
busSTRUT SHOP DRAWING SET (ONLY)

NOT A REPLACEMENT FOR ARCHITECTURAL/ENGINEERING/ ELECTRICAL SPECIFICATIONS.

(DEFER TO THEIR DRAWINGS)

CONTRACTOR RESPONSIBILITIES

CONTRACTOR IS RESPONSIBLE FOR:

1.- FOLLOWING busSTRUT CONFIGURATION MOUNTING POINT RULES.

2.- REFERRING TO ARCHITECTURAL PLANS FOR PLACEMENT OF LIGHTS.

3.- REFERRING TO ELECTRICAL PLANS FOR POWER DISTRIBUTION AND ELECTRICAL CONNECTION REQUIREMENTS.

CONNECTION TO STRUCTURE

ATTACHMENT FROM busSTRUT SYSTEM TO STRUCTURE MUST BE ENGINEERED AND INSTALLED TO PROPERLY SUPPORT THE ENTIRE SUSPENDED WEIGHT.
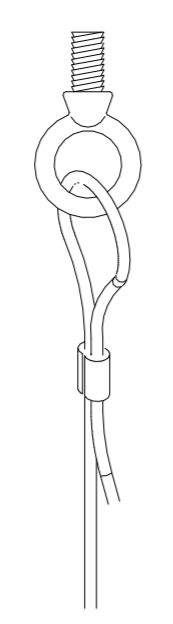
PAPER SIZE:
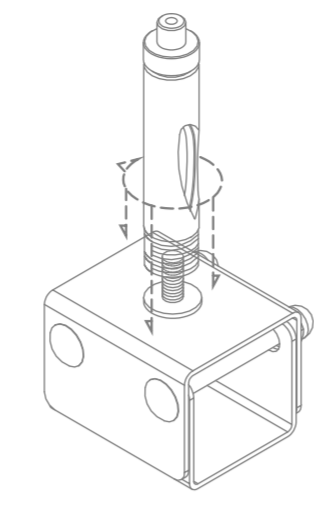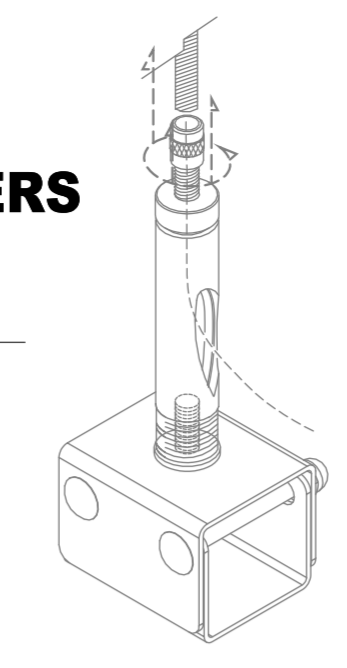ARCH E (48x36)
NOT TO SCALE

COVER
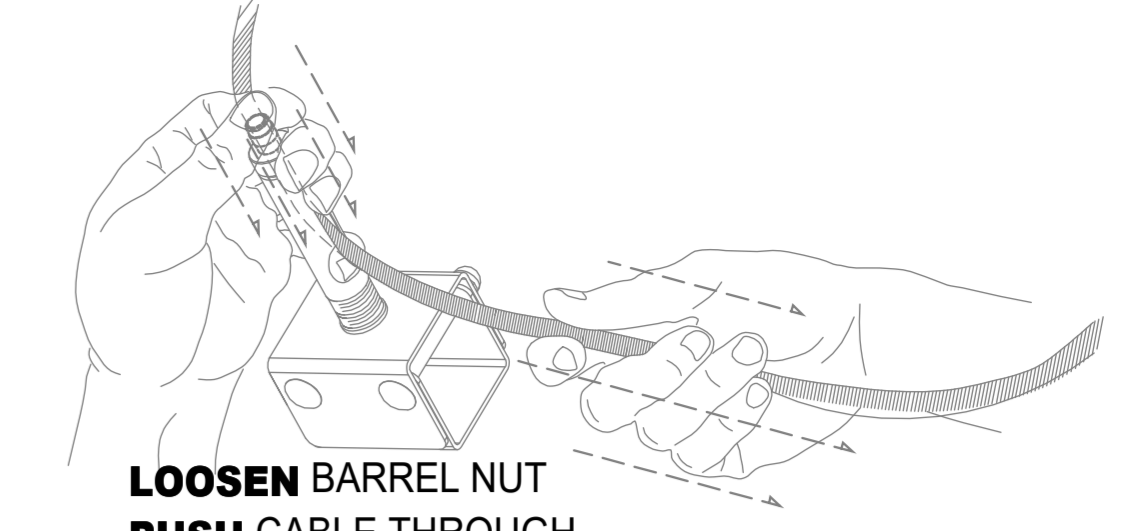SHEET

STEP 1

SUSPENDING busSTRUT

1
SUSPEND CABLES
(CG-XX)
ATTACH CABLE
ASSEMBLY to STRUCTURE
*It is the contractor and/or engineer's responsibility to determine correct connection to structure (beam clamp, etc).

2
ASSEMBLE HANGERS
(HM-S)
ASSEMBLE HANGERS AND
ATTACH CABLE GLIDE

3
ATTACH HANGERS TO CABLES
(CG-XX)
FEED CABLES THROUGH
GLIDE TO ATTACH

**LOOSEN** BARREL NUT
PUSH CABLE THROUGH
PULL CABLE FOR SLACK

SLIDE busSTRUT THROUGH SUSPENDED HANGERS

Assemble

Create cable suspended runs of **busSTRUT**. *Usually, these are running perpendicular to structural joists.* **Insert** busSTRUT lengths through hangers/crossovers working from **FINISHED HEIGHT**.
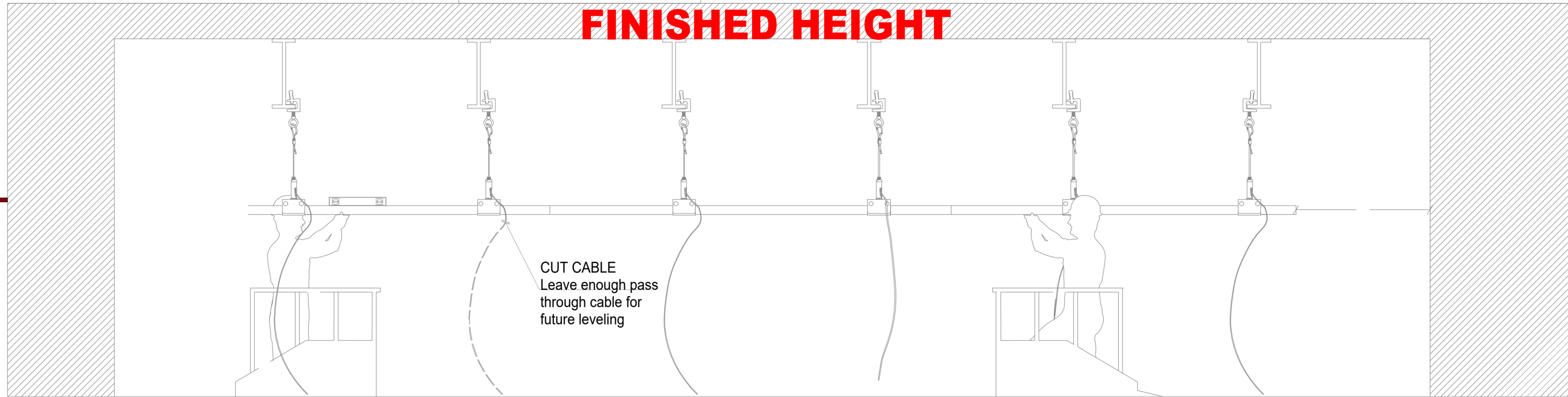
*It is the contractor and/or engineer's responsibility to determine correct connection to structure (beam clamp, etc).

FINISHED HEIGHT

LEVEL busSTRUT AND TRIM CABLE
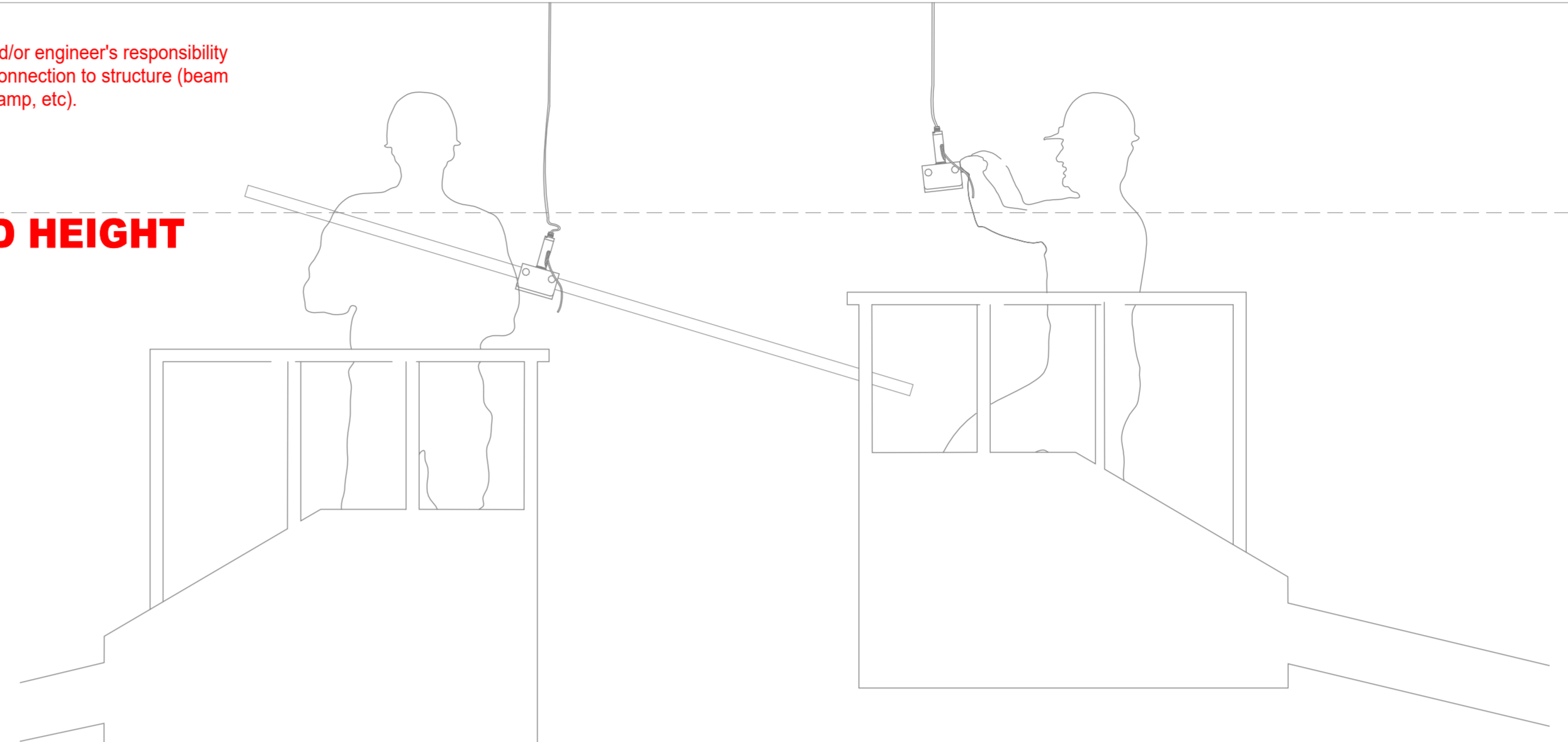
BE SURE TO FOLLOW busSTRUT MOUNTING RULES (SEE busSTRUT shop drawings)

FINISHED HEIGHT

CUT CABLE
Leave enough pass through cable for future leveling

STEP 2

INSERT JOINERS

ATTACH JOINERS TO EACH END OF
CONNECTING busSTRUT

JOINERS
(M-JB)

Joiners are used to mechanically and electrically connect individual busSTRUT lengths.
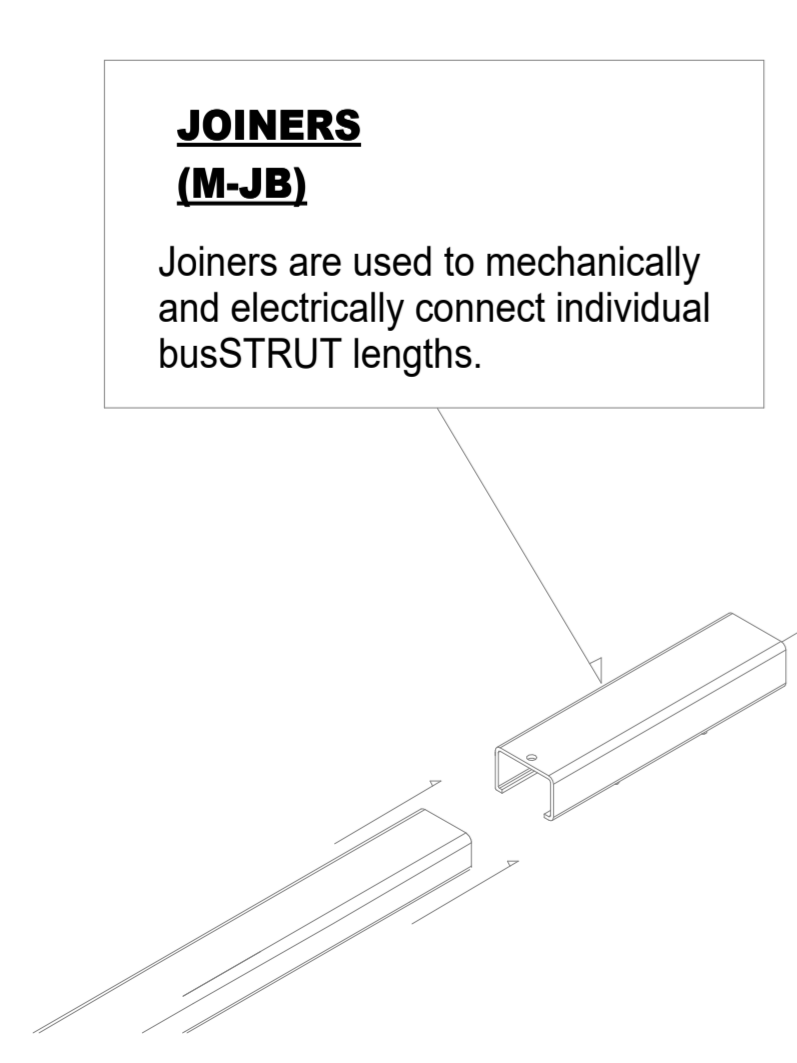
TIGHTEN JOINERS
TIGHTEN SET SCREWS ON THE BOTTOM OF THE
JOINER

*Joiners require 3/32 Hex key
for tightening set screws*

JOINER SLEEVE
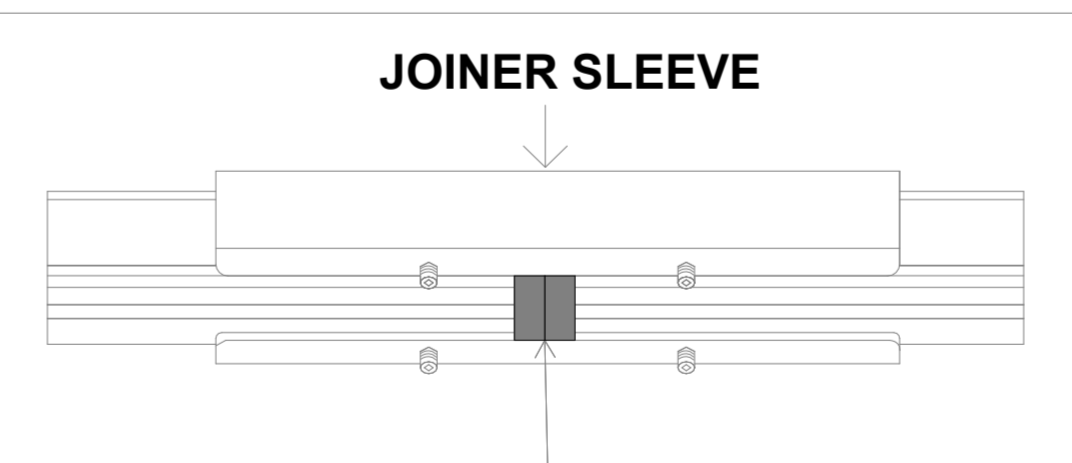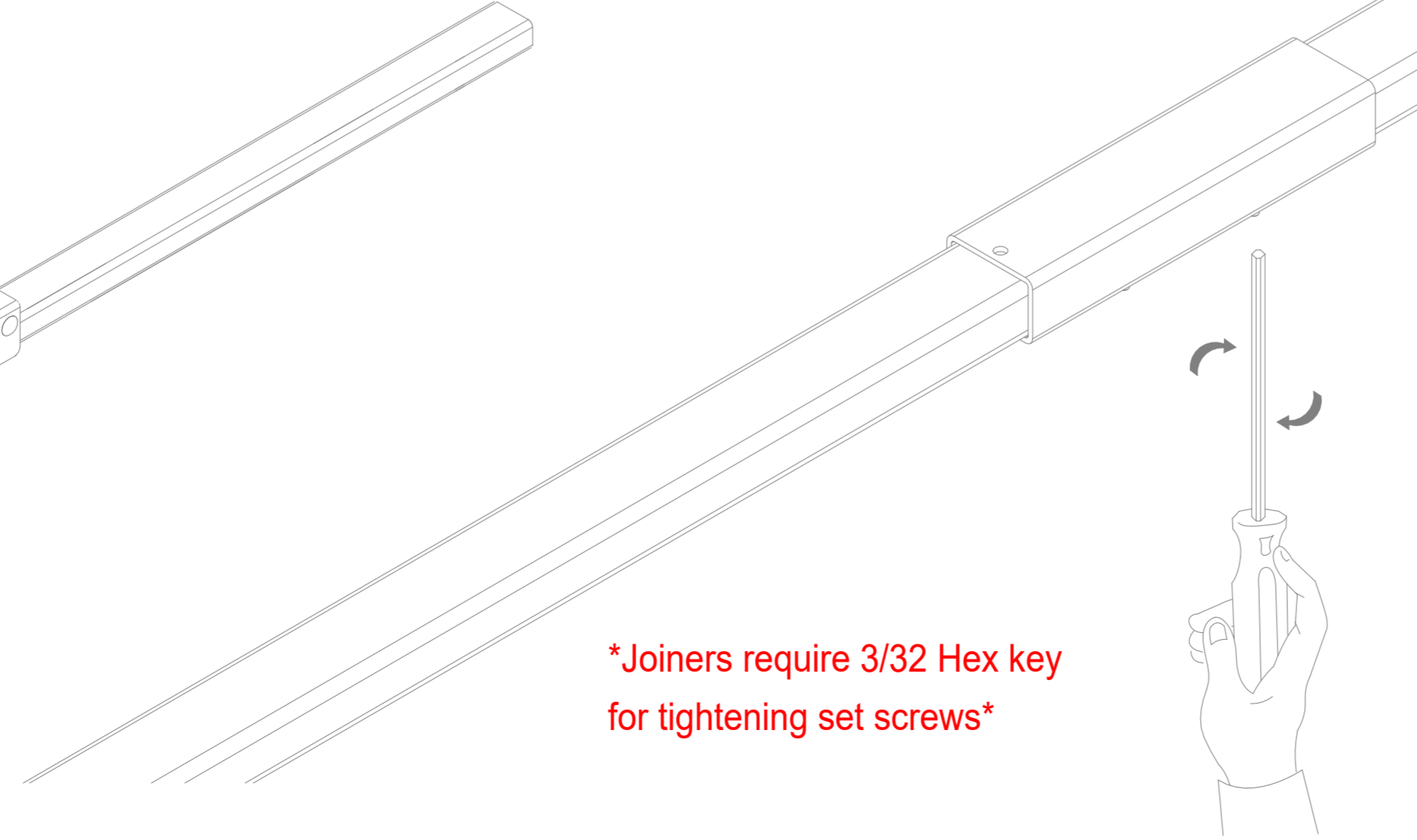
CAUTION: Ensure end caps are flush and touching / connected -to-one-another inside joint.

JOINER INSERT
(M-JI-X)

A single piece unit that is installed with two knobs, one must be fully turned in each abutting length. As a result, power can continue to flow from one length to the next.

ATTACH INSERT
ATTACH JOINERS TO EACH END OF
CONNECTING busSTRUT

Line up center of insert with etched centerline on joiner sleeve
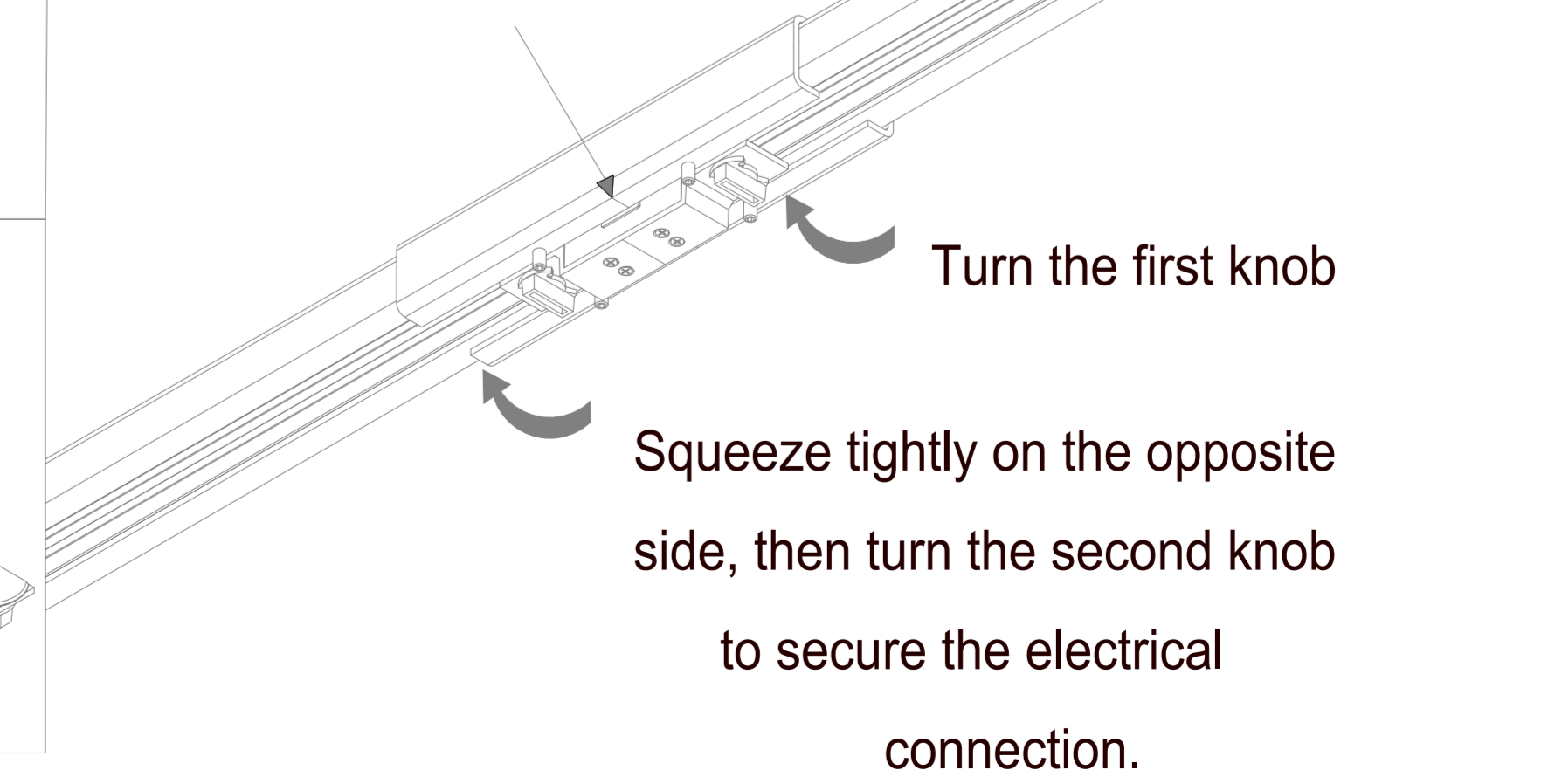
Turn the first knob

Squeeze tightly on the opposite side, then turn the second knob to secure the electrical connection.

**Installation Instruction Guidelines are provided only as that, informative guidelines. Defer to architectural/engineering drawings tailored to the specific project.

TYPICAL
busSTRUT Installation Instructions

PAPER SIZE:
ARCH E (48x36)
NOT TO SCALE
DRAWING NUMBER
E-b0.1

STEP 3

INSTALLING CROSSOVERS
DROPPING ON

Crossovers can be dropped onto suspended busSTRUT to create an intersection with a perpendicular run of busSTRUT.
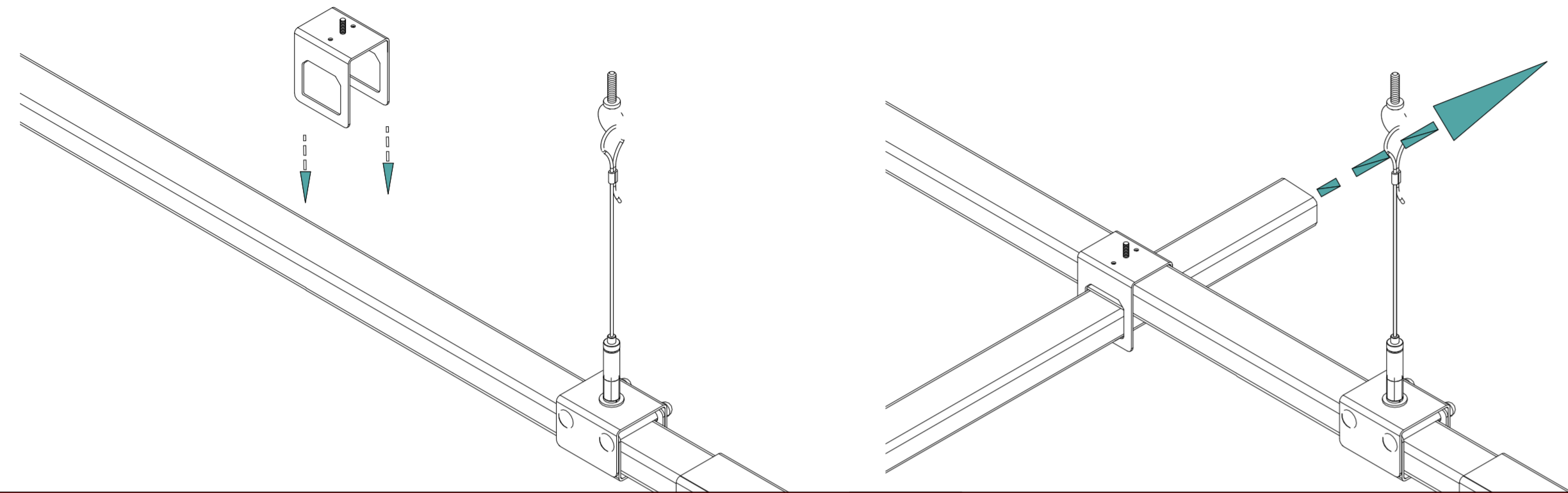
Slide perpendicular runs of busSTRUT through the crossover and tighten the set screws.

SLIDING ON

Crossovers can be slid into position and lifted to create perpendicular bridges.
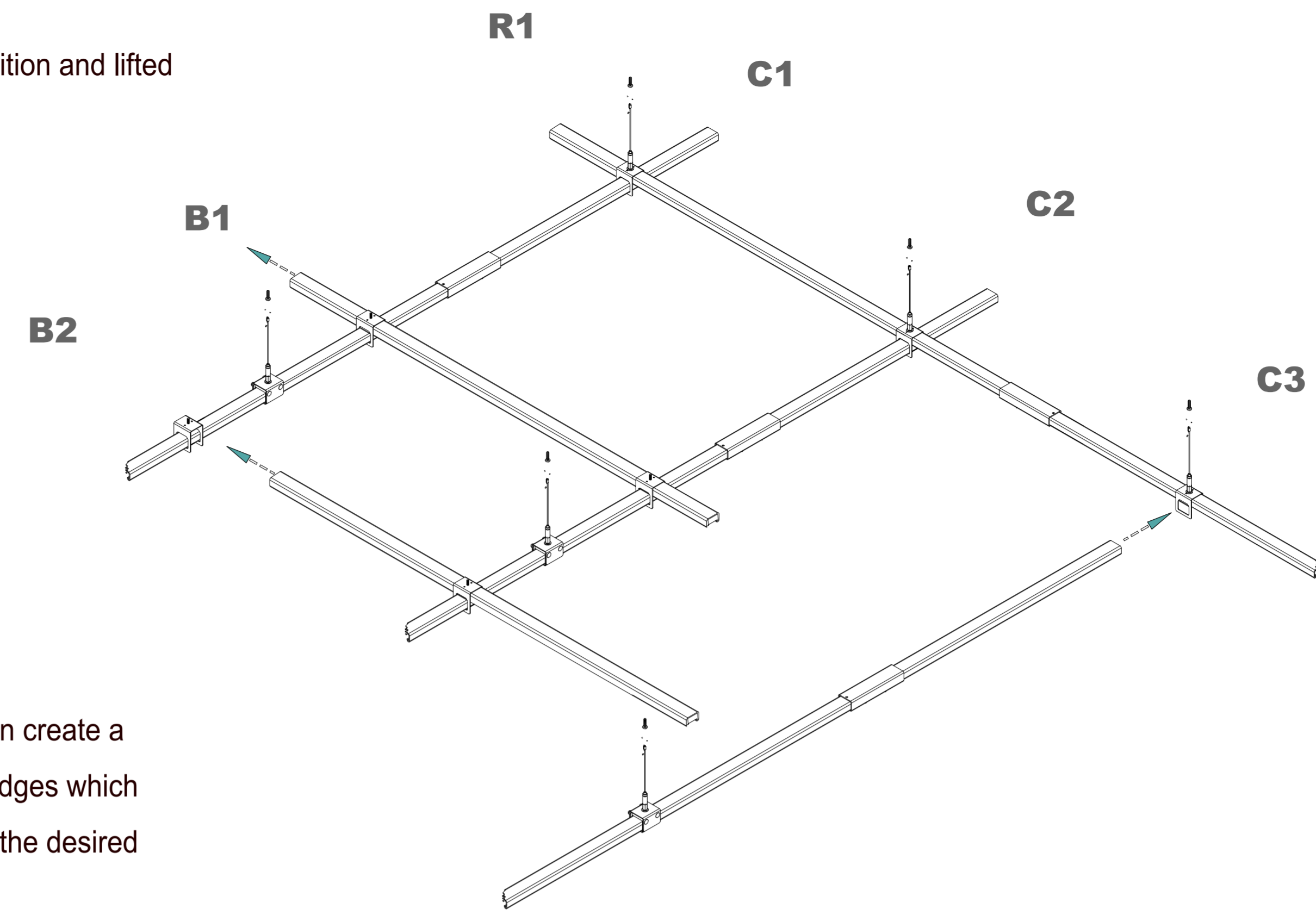
Perpendicular runs can create a full grid or be short bridges which are easily moved into the desired position.

R1
C1
B1
C2
B2
C3

STEP 4A

SLIMLINE JUMPER

Make sure that the slimline crossover is tightened before attaching the slimline jumper.
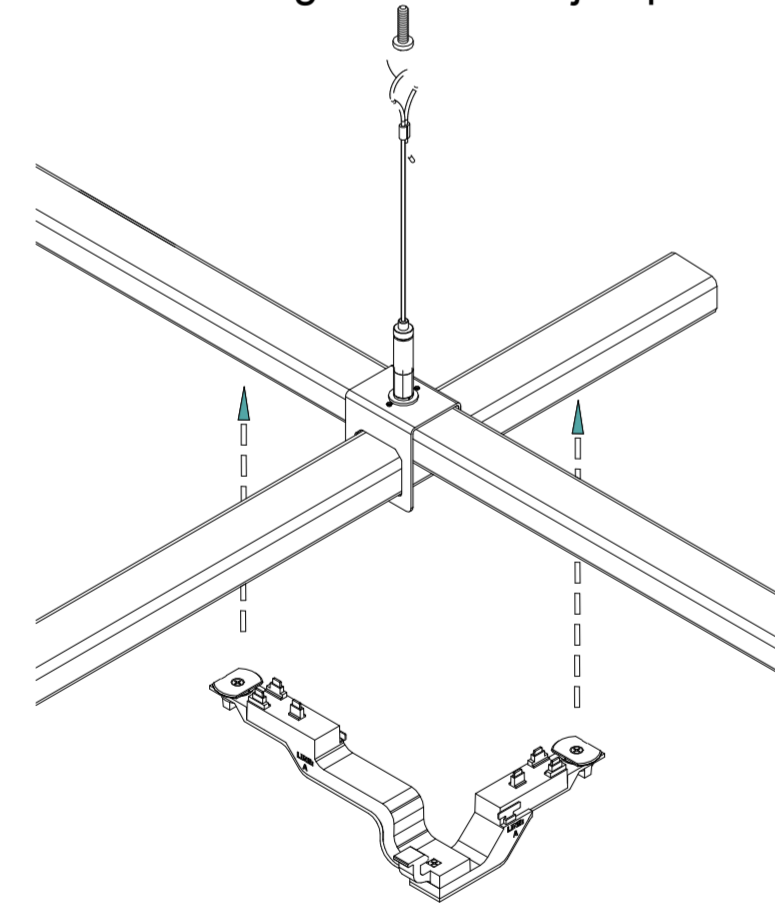
First, clip the jumper to the crossover.

SLIMLINE JUMPER (MD2020-UNIV-IJ-B-X)
A single piece unit that is installed with two knobs, one must be fully turned in each abutting length. As a result, power can continue to flow from one length to the next.
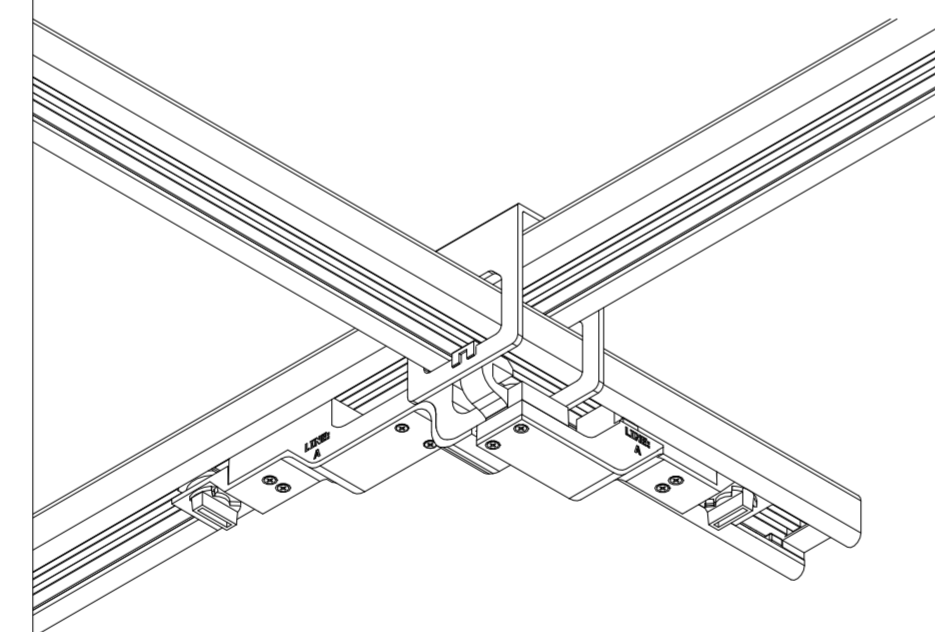
Seat the jumper into the busSTRUT by squeezing tightly on one side and turning the knob. Then, turn the other knob to complete the circuit.
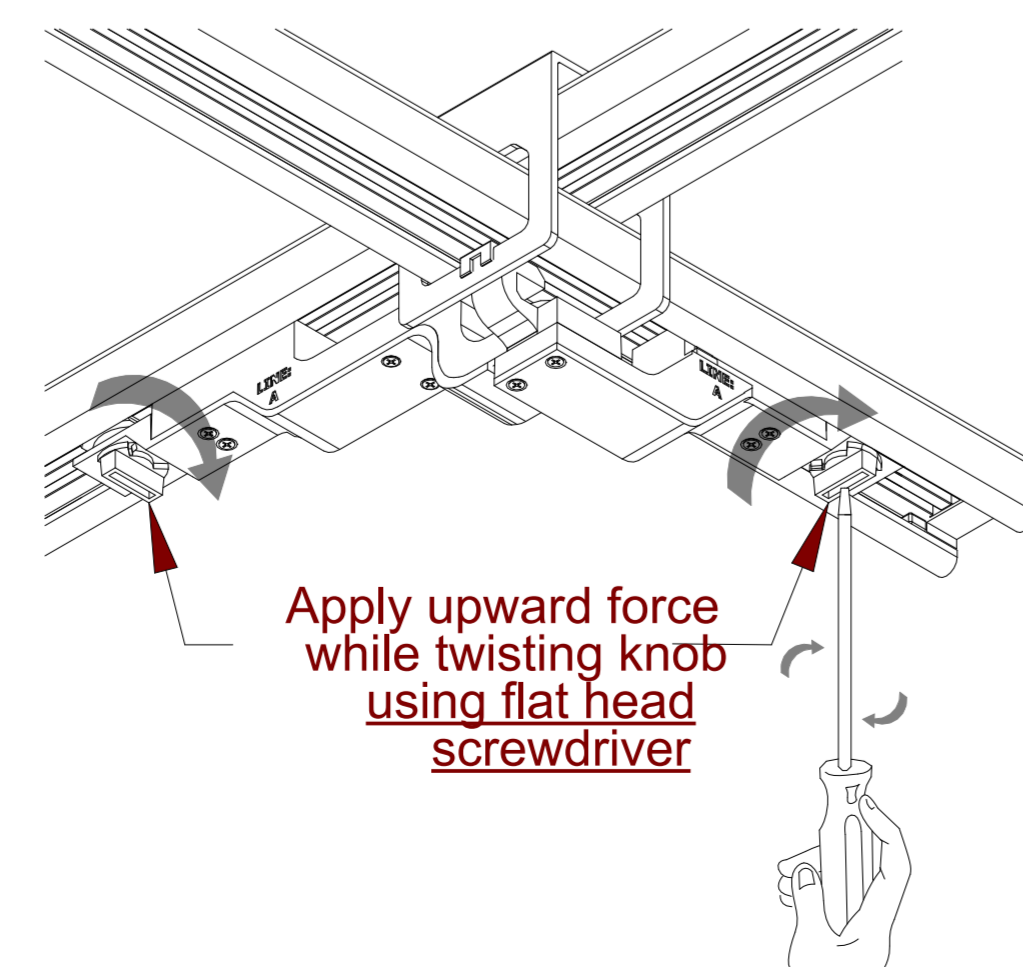
Apply upward force while twisting knob _using flat head screwdriver_

STEP 4B

LINE FEEDS

Install line feeds on busSTRUT to power the configuration.
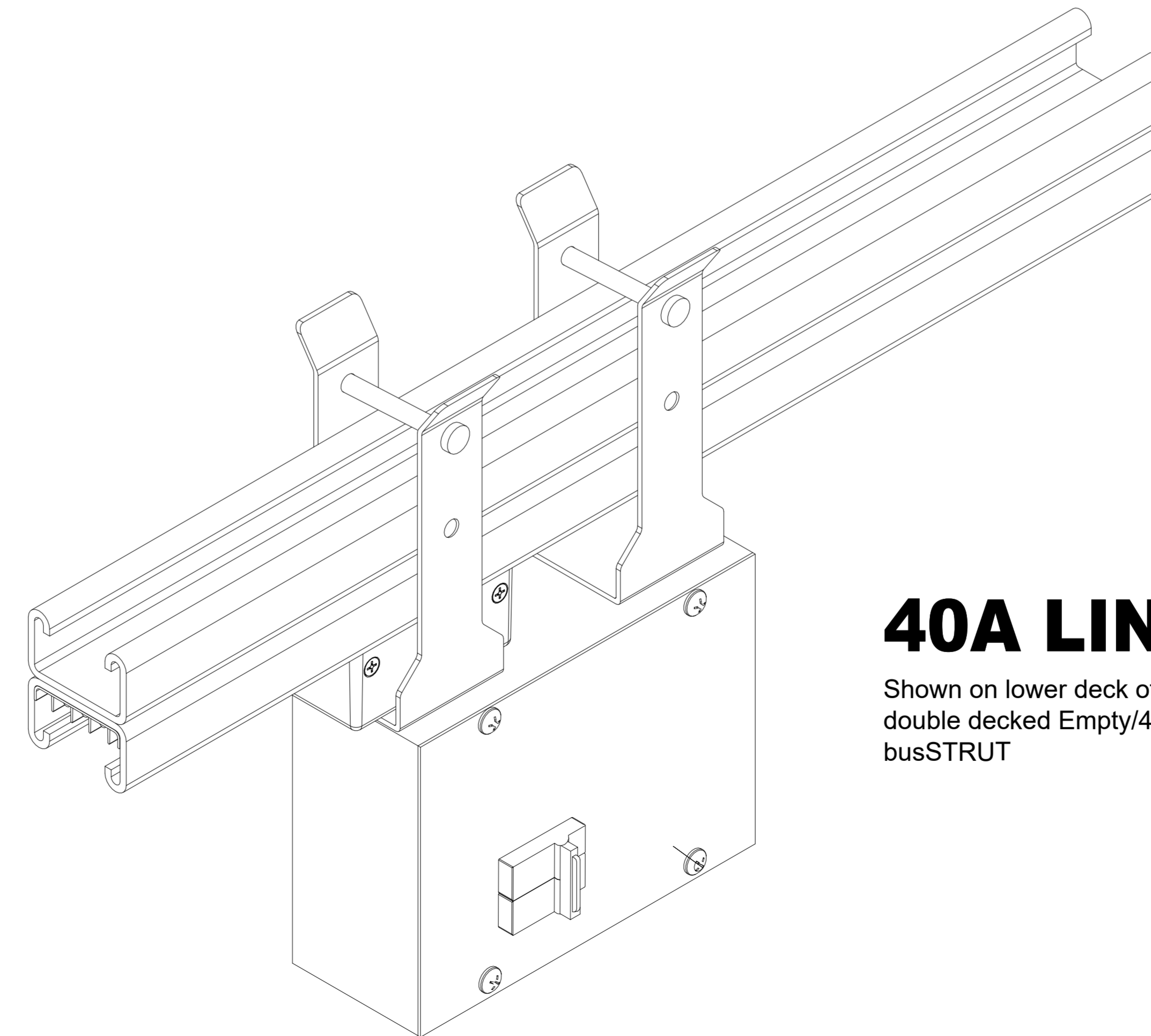
40A LINE FEED

Shown on lower deck of double decked Empty/40 busSTRUT

TYPICAL
busSTRUT Installation Instructions

PAPER SIZE:
ARCH E (48x36)

NOT TO SCALE

DRAWING NUMBER

E-b0.2

**Installation Instruction Guidelines are provided only as that, informative guidelines. Defer to architectural/engineering drawings tailored to the specific project.

busSTRUT Parts

busSTRUT END	CABLE GLIDES	HANGERS	JOINERS	LINE FEEDS
SINGLE DECK — 20 AMPS M20-3-40-V-(L) — 40 AMPS M40-3-80-V-(L) — EMPTY-STRUT M00-(L)	CG-(LENGTH)	HM-S	M-JB	P40-3-80-UNIV-CB40-B
DOUBLE DECK — DOUBLE-STRUT		HD-S	D-JB	**CROSSOVERS** ICD-S

NOTE: CIRCUITS 'A' AND 'B' ON BOTTOM CIRCUITS 'C' AND 'D' ON TOP

busSTRUT : 12 gauge 1" x 1" x 1-5/8" STEEL busSTRUT features two Hot wires symmetrically surrounding a center Neutral. The result, two 20 Amp circuits 40 Amps Maximum with busSTRUT /20; alternatively two 40 Amp circuits 80 Amps Maximum with busSTRUT /40. 2.5', 5', 10', and 20' lengths. Rated for up to 277/480v. Double decks with standard hardware for trunking.

BRAIDED CABLE with GLIDE: For use with busSTRUT Hangers/Crossovers. Includes cable-glide and cable with factory assembled cable looped threaded 1/4-20" eye bolt.

HANGERS: Single and Double Hangers are for use with busSTRUT . Each is an assembled two-part unit. The upper piece includes a threaded stud for use with busSTRUT cable-glide.

JOINERS: Single and Double are for use with busSTRUT . Lengths are joined together mechanically with the 8" steel sleeve. Electrical Joiner-Kits include both a Twist & Turn Plug-In electrical insert to bridge power. And continuous grounding exists through the bus itself by means of a permanently affixed copper grounding bar.

LINE FEEDS: For use with Line Feeding single-decked busSTRUT . Junction Box features energy code type "limiters" (breakers/fuse holders) and 3 Pole Fitters. Available up to 277/480. Can be positioned anywhere along busSTRUT to reduce the lengths of homeruns.

CROSSOVERS: For use with intersecting busSTRUT . Each is an assembled two-part unit for building grid configurations and bridges . The upper piece includes a threaded stud for use with busSTRUT cable-glide.

Install fitter to intended circuit by lining up the pins as shown:

A HOT NEUTRAL B HOT   A HOT NEUTRAL B HOT

2 x 40A Circuits 120V

2 x 40A Circuits 120V

Legend

⊓	busSTRUT 40A / Single Deck Facing Up
40 LF	40A Line Feed
•	Power Drop Quad Box
•	Breakered Outlet Box

Bill of Materials

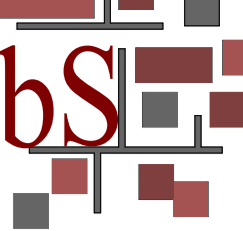| busSTRUT Parts Total				
Type Comments	**Type**	**Ampacity**	**Rated Voltage**	**Count**
CABLE GLIDE	CG-15-G			2
DROP	MD15-2-120-CB15-DC-19-W-SB	15 A	120 V	2
DROP	MD40-2-120-CB15-OB-SB-W White	15 A	120 V	1
FEED	P40-3-80-UNIV-CB40-W	40 A	277 V	1
FEED	P40-3-80-UNIV-CB40-W	40 A	277 V	1
HANGER	HD-S-W WITH 15' CABLE GLIDE			2
LENGTH	M40-3-80-277-07-G-2B	40 A	277 V	2
Grand total				11

Labor Hours

busSTRUT provides time-tested standard labor hours per part, which are then multiplied by the project's Bill of Materials.

Labor Hrs					
Type Comments	**Manufacturer**	**Count**	**Standardized Labor Min**	**Standardized Labor Hrs**	**Total Hrs**
DROP	busSTRUT	3	8.00 min	0.13 h	0.40 h
FEED	busSTRUT	2	15.00 min	0.25 h	0.50 h
HANGER	busSTRUT	2	25.00 min	0.42 h	0.83 h
LENGTH	busSTRUT	2	2.75 min	0.05 h	0.09 h
Grand total					1.83 h

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busSTRUT Plan

Coordination of Power/Data drops to equipment detailed on Sheet E-b3 Circuiting Plan.

A TYPICAL   40 LF   40 LF   B TYPICAL   A

7' - 0"

ISO Details

DROPPING POWER

A 40 AMP FEED (BREAKERED) ON SINGLE DECKED busSTRUT N.T.S.

B POWER DROP QUAD BOX N.T.S.

C BREAKERED OUTLET BOX N.T.S.

General Plan & Bill of Materials

PAPER SIZE:
ARCH E (48x36)
SCALE 1 1/2" = 1'-0"
DRAWING NUMBER
E-b1