

busSTRUT Shop Drawing Set

Express Rectangle (Medium) - Power Drops

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.

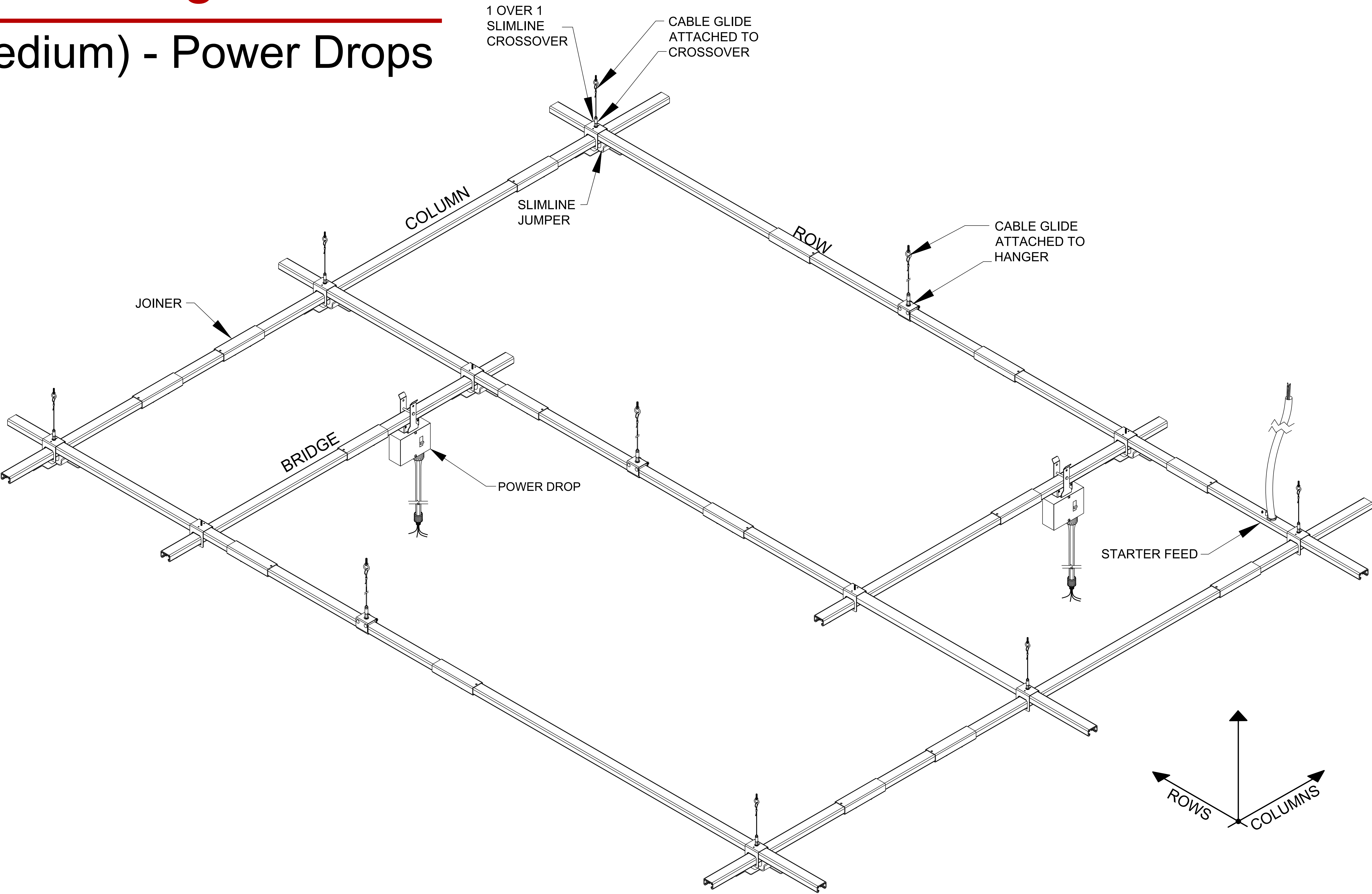


TABLE OF CONTENTS		KEY MOUNTING RULES		APPROVAL
E-b01 E-b02	Typical Installation Instructions		Rows are to be mounted on top of Columns. Crossover sleeve runs with Rows.	Legend - busSTRUT 20 / Single Deck 30" Starter Feed - Joiner 1/1 Slimline Crossover - Slimline Jumper
E-b1 E-b2	Lighting Plan, BOM, & Labor Hours Assembly Plan			

bs

STRUT

busSTRUT

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Issue Date

11/01/2024

Revision

BID / REVIEW

busSTRUT SHOP DRAWING SET(ONLY)
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ARCHITECTURAL /
ENGINEERING OR ELECTRICAL
DRAWINGS

XX

BT

XXXX

REVISION DESCRIPTION

XX-XX-XX

DATE

NO.

1

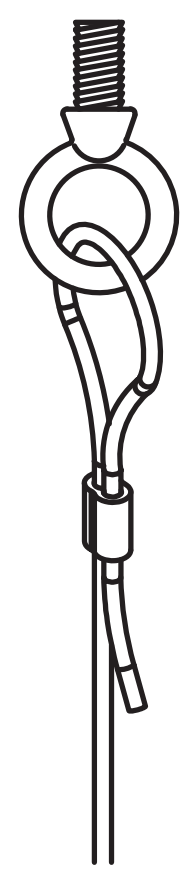
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ARCH E (48x36)

NOT TO SCALE

COVER SHEET

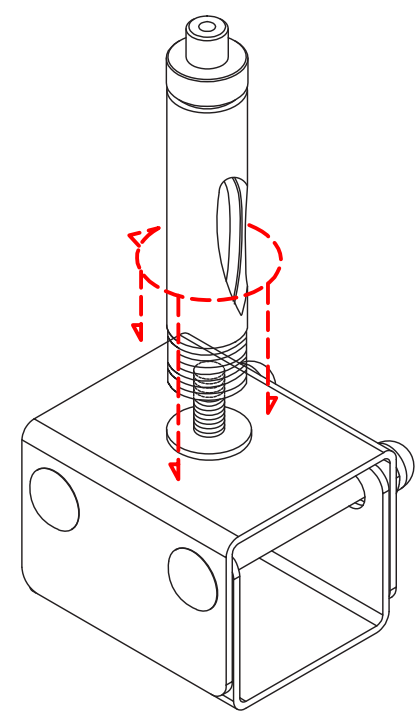
STEP 1

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).

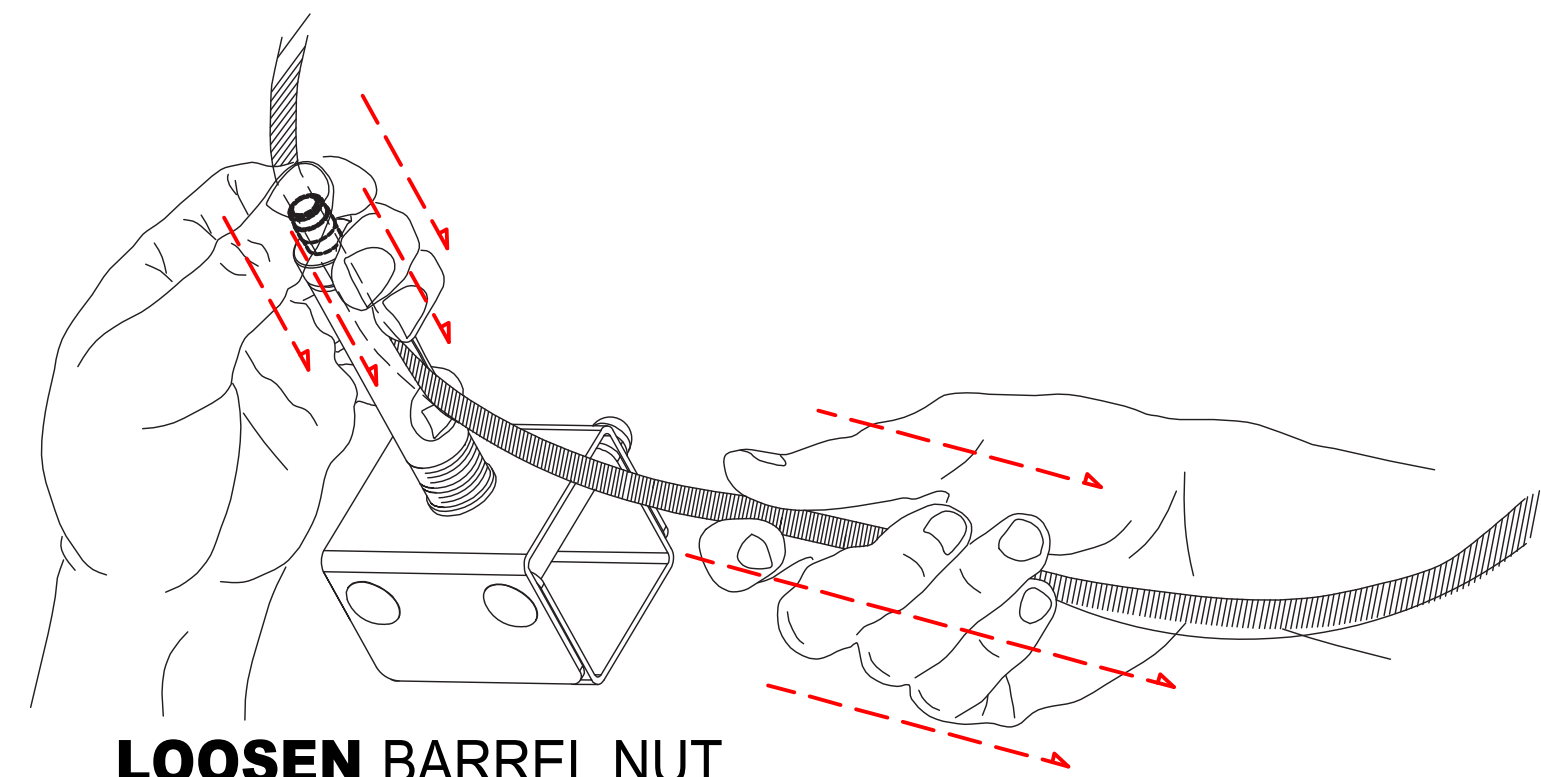
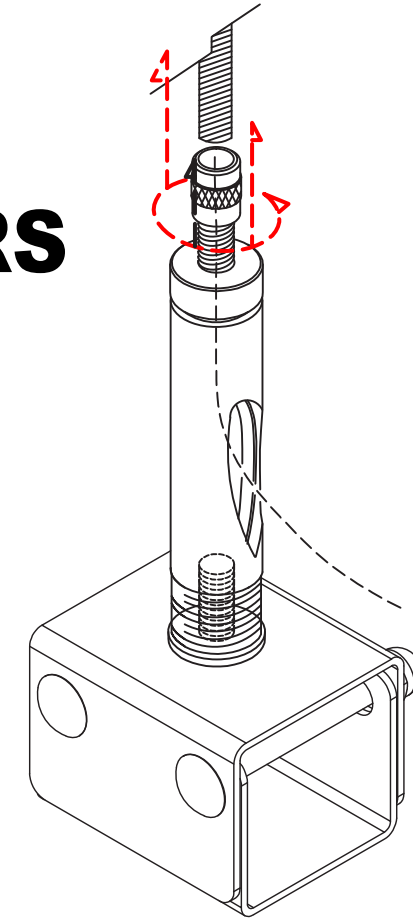


2 ASSEMBLE HANGERS (HM-S)

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.

FINISHED HEIGHT

*It is the contractor and/or engineer's responsibility
to determine correct connection to structure (beam
clamp, etc).

LEVEL busSTRUT AND TRIM CABLE

FINISHED HEIGHT

BE SURE TO FOLLOW
busSTRUT MOUNTING
RULES (SEE busSTRUT
shop drawings)

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*

ATTACH INSERT

ATTACH JOINERS TO EACH END OF
CONNECTING busSTRUT

Line up **center** of insert with
etched centerline on joiner
sleeve

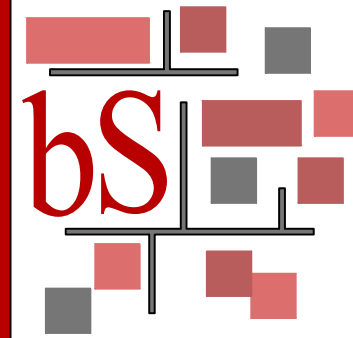
Turn the first knob

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

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.

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



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DESIGNED BY
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CHECKED BY
JOHN LOCH
DRAWN BY
JOHN LOCH
DATE
11/01/2024
ISSUED FOR
BID / REVIEW

TYPICAL
busSTRUT Installation Instructions

busSTRUT
SHOP DRAWING SET(ONLY)
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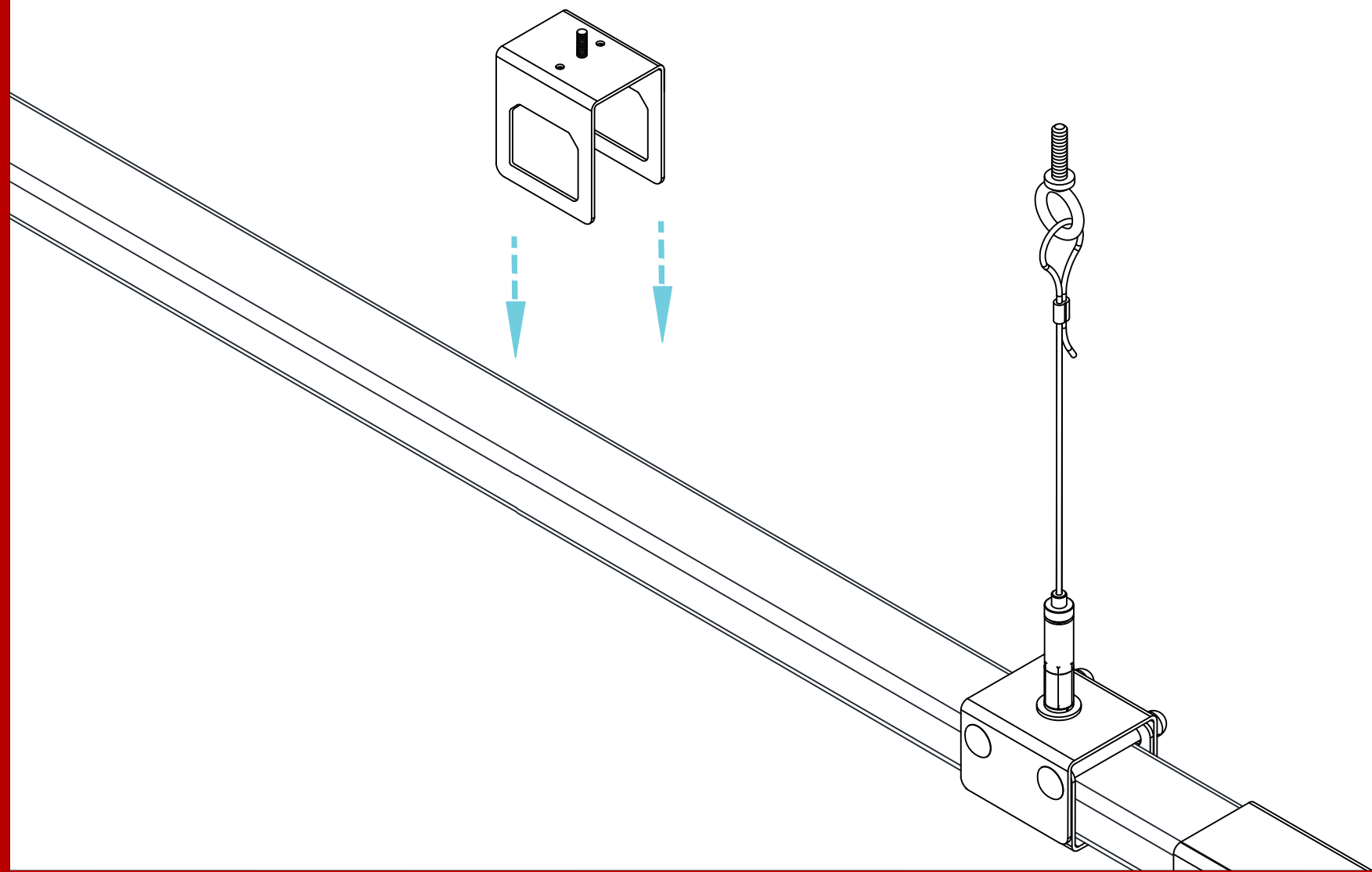
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PAPER SIZE:
ARCH E (48x36)
NOT TO SCALE
DRAWING NUMBER
E-b01

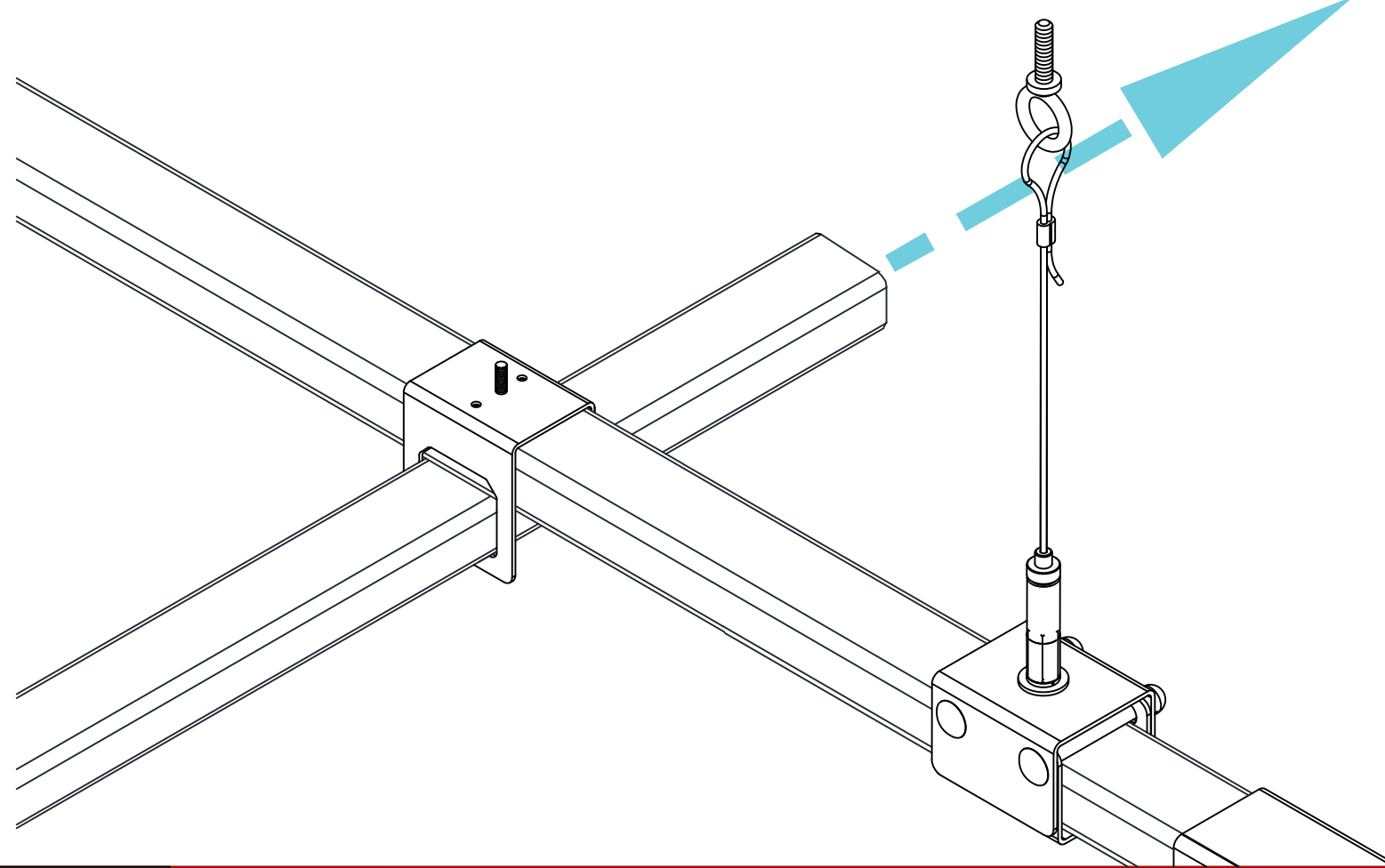
STEP 3

INSTALLING CROSSOVERS DROPPING ON

Crossovers can be dropped onto suspended busSTRUT to create an intersection with a perpendicular run of busSTRUT.



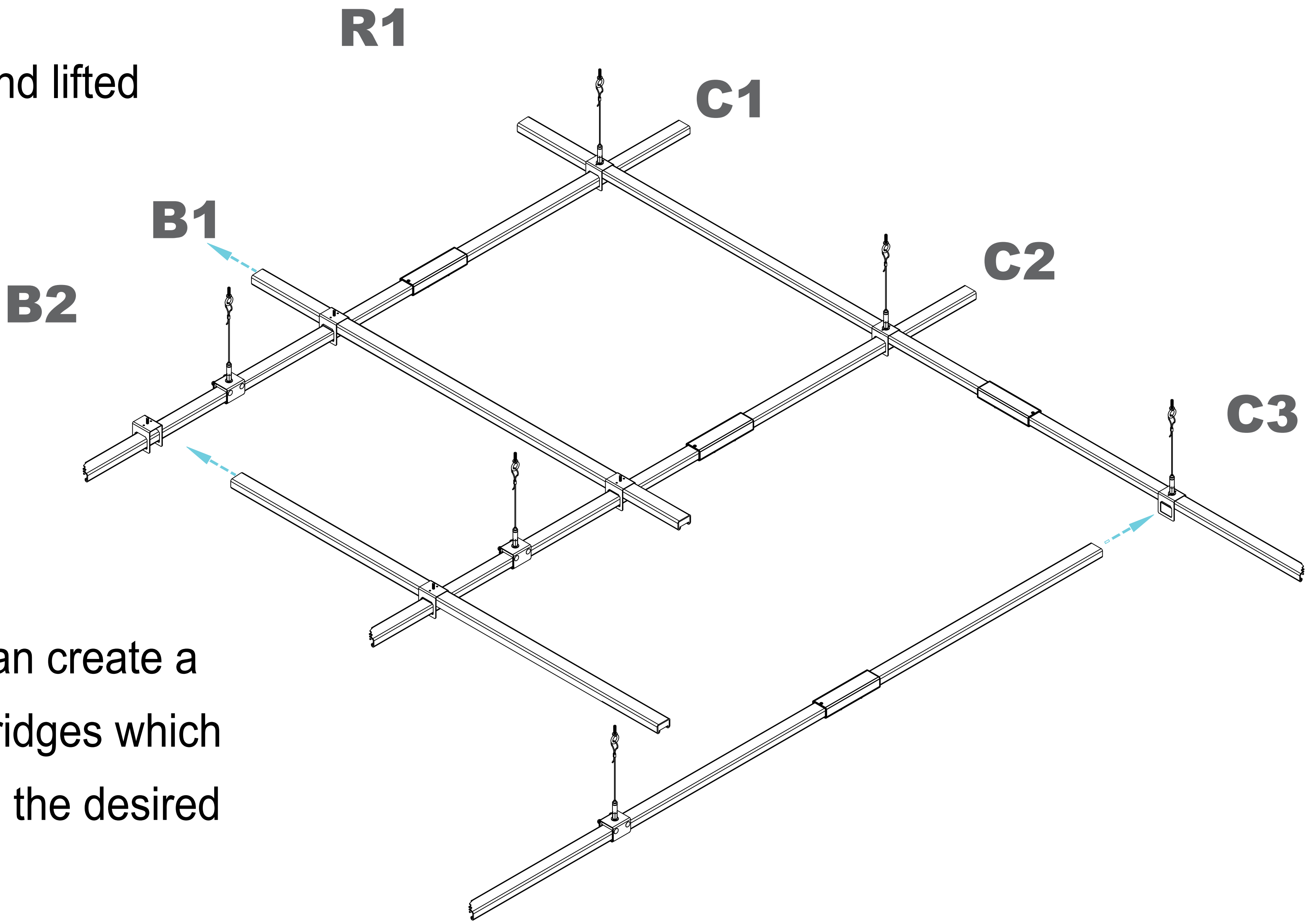
Slide perpendicular runs of busSTRUT through the crossover and tighten the set screws.



SLIDING ON

Crossovers can be slid into position and lifted to create perpendicular bridges.

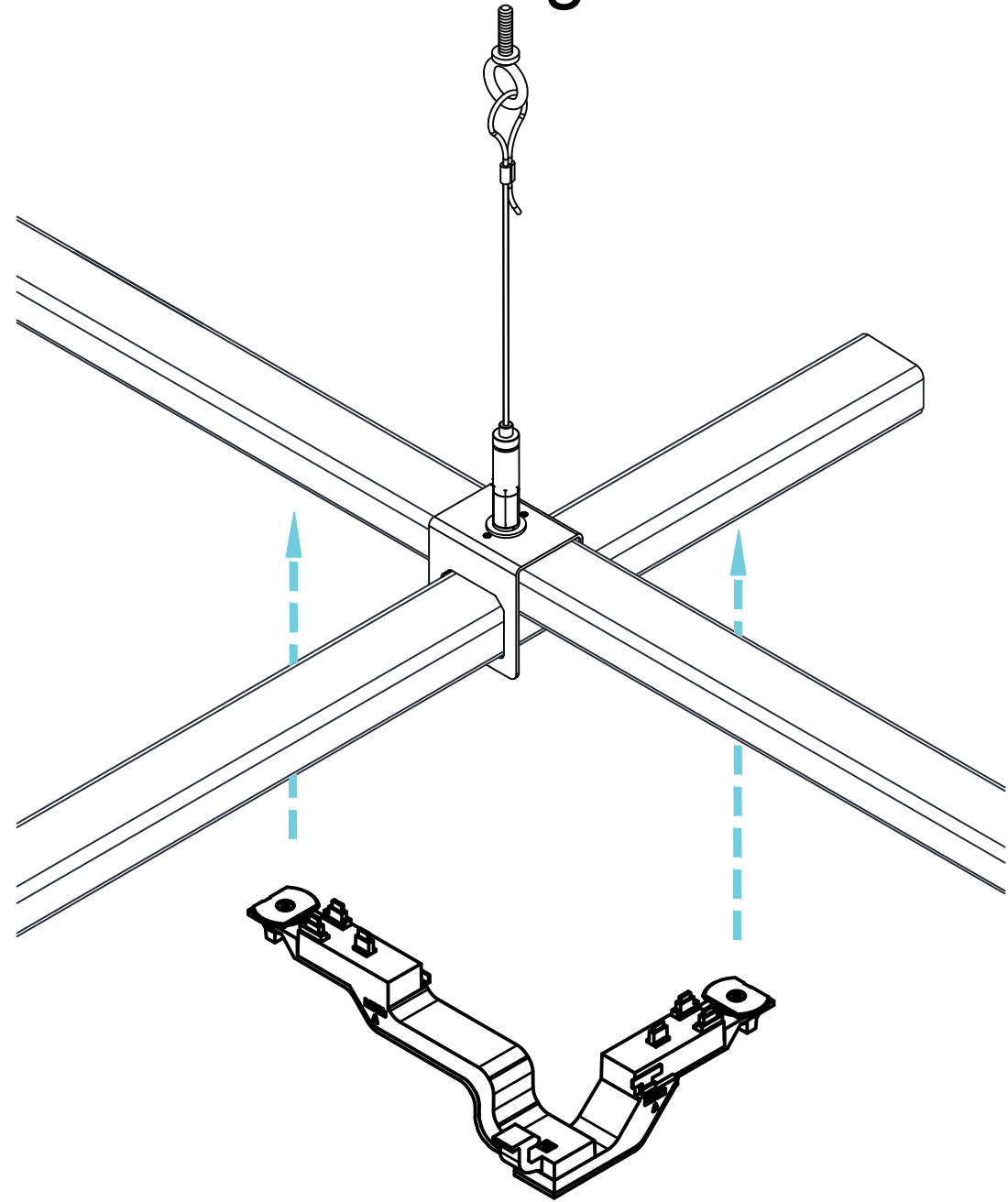
Perpendicular runs can create a full grid or be short bridges which are easily moved into the desired position.



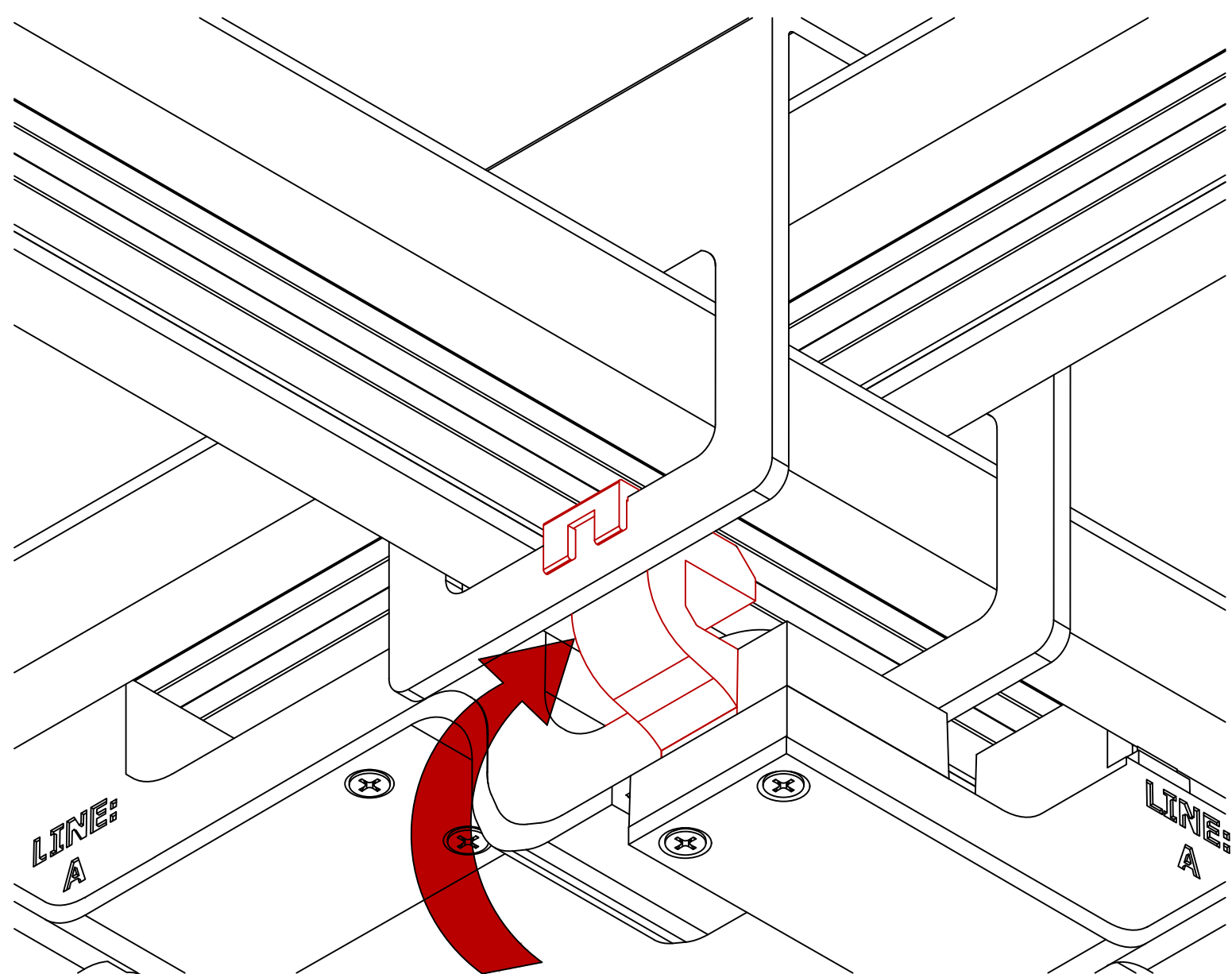
STEP 4A

SLIMLINE JUMPER

Make sure that the slimline crossover is tightened before attaching the slimline jumper.

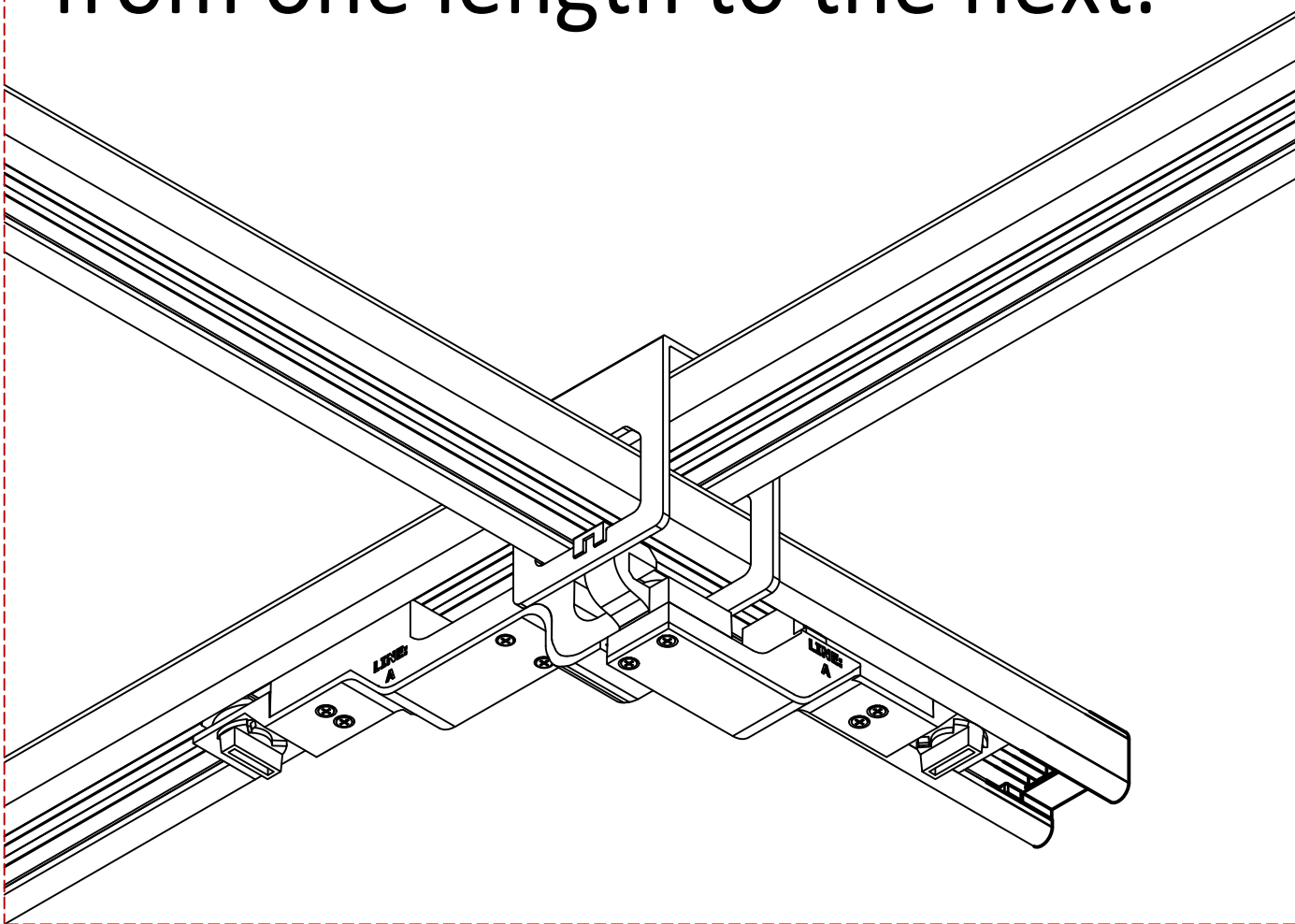


First, clip the jumper to the crossover.

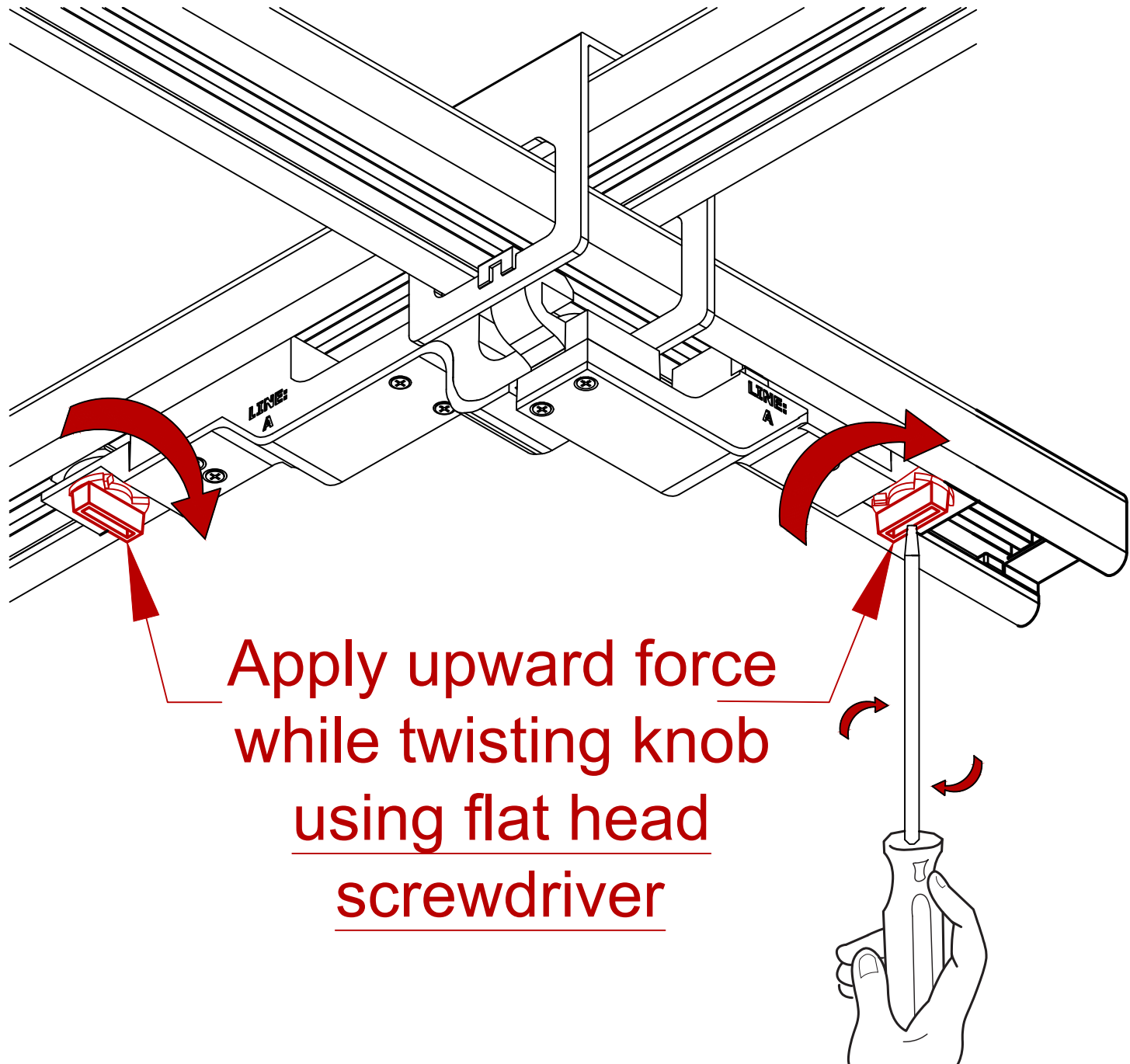


SLIMLINE JUMPER (MD2020-UNIV-IJ2-B-X)

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.

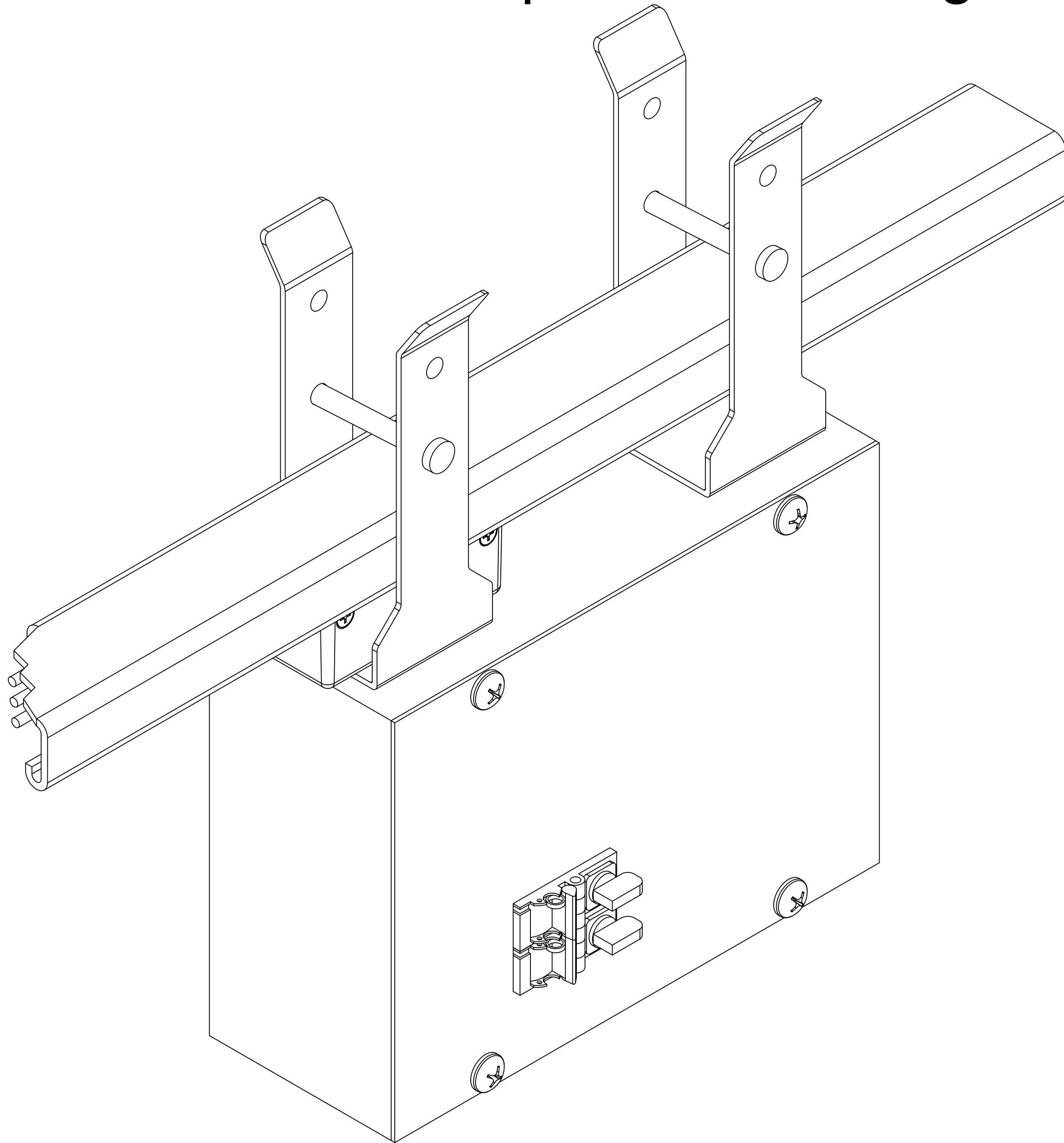


Apply upward force while twisting knob using flat head screwdriver

STEP 4B

LINE FEEDS

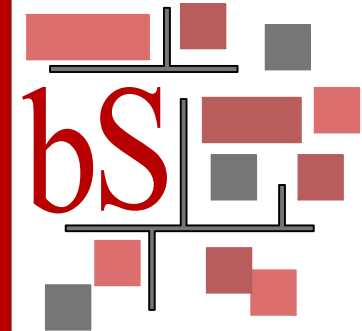
Install line feeds on busSTRUT to power the configuration.



20A LINE FEED

Shown on single decked busSTRUT

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CHECKED BY: JOHN LOCH
DRAWN BY: JOHN LOCH
DATE: 11/01/2024
REVISION: BID/REVIEW

TYPICAL
busSTRUT Installation Instructions

busSTRUT
SHOP DRAWING SET(ONLY)
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REV	DATE	DESCRIPTION
1		

PAPER SIZE:
ARCH E (48x36)
NOT TO SCALE
DRAWING NUMBER
E-b02

SINGLE DECK	 GRAY 20 AMP'S M20-3-40-V-(L)	 CG-(LENGTH)	 HM-S	 M-JB	 ICM-S	 P20-3-40-UNIV-FDX-X-F	 P20-3-40-UNIV-30-CM-F 1-1	
	 BLACK 40 AMP'S M40-3-80-V-(L)							
DOUBLE DECK	 EMPTY-STRUT M00-(L)	 CG-(LENGTH)	 HD-S	 D-JB	 ICD-S	 MD4020-UNIV-JC-F-90-12 MD2020-UNIV-IJ2-B-X		
	 DOUBLE-STRUT M00-(L) NOTE: CIRCUITS "A" AND "B" ON BOTTOM CIRCUITS "C" AND "D" ON TOP							

STREET LIGHTS: 12 gauge "x" 1" x 1.58" braided cable with GLIDE® features two 16 AWG symmetrical surrounding a 16 AWG center conductor. Crossovers, Includes cable-glide and a pair of 40 Amp circuits 40 Amps Maximum with bussTRU720, alternatively two 40 Amp circuits 80 Amps Maximum with bussTRU1060, 2.5, 5, and 20' lengths. Rated for use to 277/480V. Double check with standard hardware for trunking.	HANDERS: Single and Double Hangers are for use with bussTRU720. Each is an "I" steel design. Electrical Joints: The upper piece includes a threaded stud with cable-glide. bussTRU720 cable bolt.	JONERS: Single and Double are for use with bussTRU720. Lengths are joined together mechanically with the "I" steel design. Electrical Joints: The upper piece includes a threaded stud with cable-glide. bussTRU720 cable bolt.	CROSSOVERS: For use with intersecting bussTRU720. Each is an assembled two-part unit for building grid configurations and bridges. The upper piece includes a threaded stud to link with bussTRU720 cable-glide.	JUMPERS: For use with both bussTRU720 and bussTRU1060. The fused 400V Jumper Cables can be used to electrically connect bussTRU720 Trunks to bussTRU720 Branches and electrically connecting bussTRU720 to bussTRU1060.	LINE FEEDS: For use with powerline single-type bussTRU720. Junction Box features energy code type "Intimts" (breakoutless) holders and 3 Pole Fuses. Assembled up to 277/480V. Can be positioned anywhere along bussTRU720 to reduce the lengths of run.
STARTER FEEDS: For use with powerline single-type bussTRU720. Utilized when no current limiting is required on the bussTRU720. Must be positioned at the beginning of a run.					

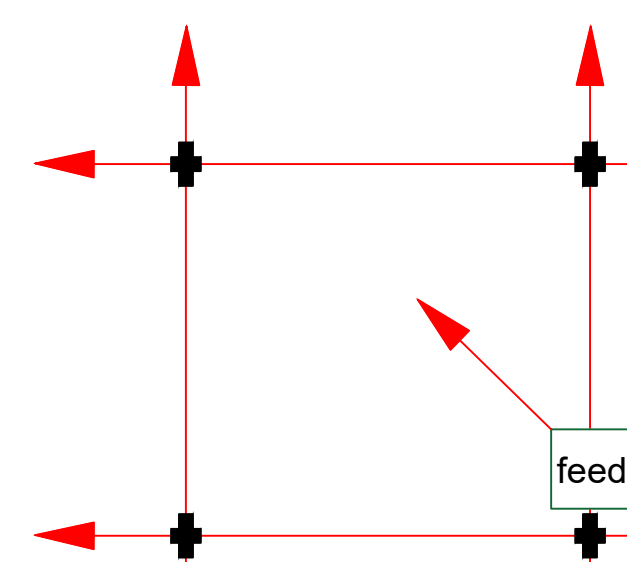
RECTANGLE PD Medium						busSTRUT Bill of Materials										Finish TBD: Galvanized, White, or Black				Drawn By John Loch		Checked By John Loch		Date 11/1/2024	
						busSTRUT LENGTHS				busSTRUT Hardware						busSTRUT POWER									
						busSTRUT 20				Joiners		Hangers		C-GI	Xover	Jcord	Line		GEN	ACT					
						M20-3-40-27T-2.5-F-2B	M20-3-40-27T-3-F-2B	M20-3-40-27T-5-F-2B	M20-3-40-27T-7-F-2B	SINGLE M-JB-F-X	JOINER INSERT M-JI-F-X	NON-ELECTRIC JOINER INSERT M-JI-F-NE	SINGLE HM-S-F-ST-LFX	DÉCOR BRACKET MKU-ST-A-F	C-GI CG-E-15-B-GL	Xover ICM-S-F-ST-X	JUMP CORD MD40-20-UNIV-J-CF-90-12-GO2	F-X MD20-20-UNIV-IJ2-F-X	STARTER FEED CENTER MOUNT P20-3-40-UNIV-JK-NB-F	P20-3-40-UNIV-30-CM-F-1-1	POWER DROP MD40-2-120-CB20-DC-XX-LE-F	BRL-4-40L-30K80-ST-WD-F	BR-LUCY-U-309-30-F-(OC)		
R/C	Amps	LF	BF	2.5	3	5	7	M	INS	NE-INS	M	DB	C-GI	1/1	12"	INVS	JK	30ST	PD	GEN	ACT				
Rows																									
R1	20	15	15	1	1		1	3	3		1	3	3	2				1							
R2	20	15	15		1	1	1	2	2		1	3	3	2											
R3	20	15	15		1	1	1	2	2		1	3	3	2											
SUB TOTAL		45	45	1	3	2	3	7	7		3		9	6		2		1							
R/C	Amps	LF	BF	2.5	3	5	7	M	INS	NE-INS	M	DB	C-GI	1/1	12"	INVS	JK	30ST	PD	WW	LUCY				
Columns																									
C1	20	15.5	15.5	1	2		1	3	3								1								
C2	20	15.5	15.5	1	2		1	3	3								1								
SUB TOTAL		31	31	2	4		2	6	6							2									
R/C	Amps	LF	BF	2.5	3	5	7	M	INS	NE-INS	M	DB	C-GI	1/1	12"	INVS	JK	30ST	PD	GEN	ACT				
Bridges																									
B1	20	8	8		1	1		1	1					2			1			1					
B2	20	8	8		1	1		1	1					2			1			1					
SUB TOTAL		16	16		2	2		2	2					4		2				2					
STORE TOTAL		92.0	92.0	3	9	4	5	15	15		3		9	10		6		1	2						

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

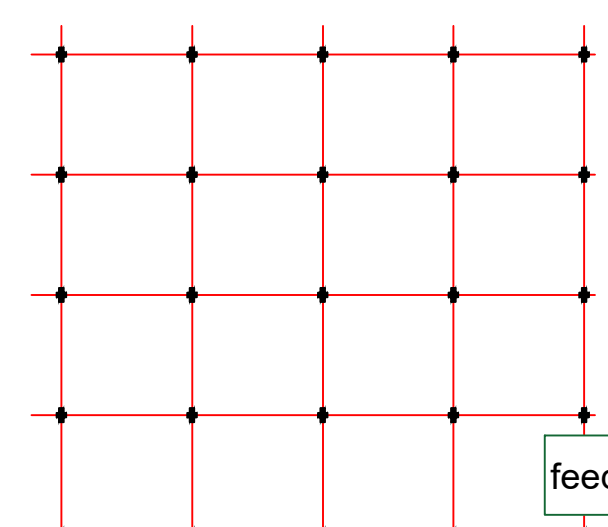
bus.STRUIT LABOR									
ITEMS	Qty.	U/M	STANDARDIZED				TOTAL HRS		
			LABOR HOURS		min	hrs			
LENGTHS	92	LF	x	2.75	0.05	=	4		
JOINERS	15	EA	x	12	0.20	=	3		
HANGERS	9	EA	x	25	0.42	=	4		
CROSSOVERS	10	EA	x	10	0.17	=	2		
ATTACHMENTS	2	EA	x	8	0.13	=	0		
JUMPERS	6	EA	x	6	0.10	=	1		
FEEDS	1	EA	x	15	0.25	=	0		
bus.STRUIT SUB-TOTAL							=	14	
FIXTURES									
ACCENT		EA	x	8	0.13	=	0		
LINEARS		EA	x	20	0.33	=	0		
bus.STRUIT READY LIGHTS SUB-TOTAL							=	0	
TOTAL TIME							=	14	

busSTRUT system is designed to be BID separately.

Bid from the **feeds-in**.

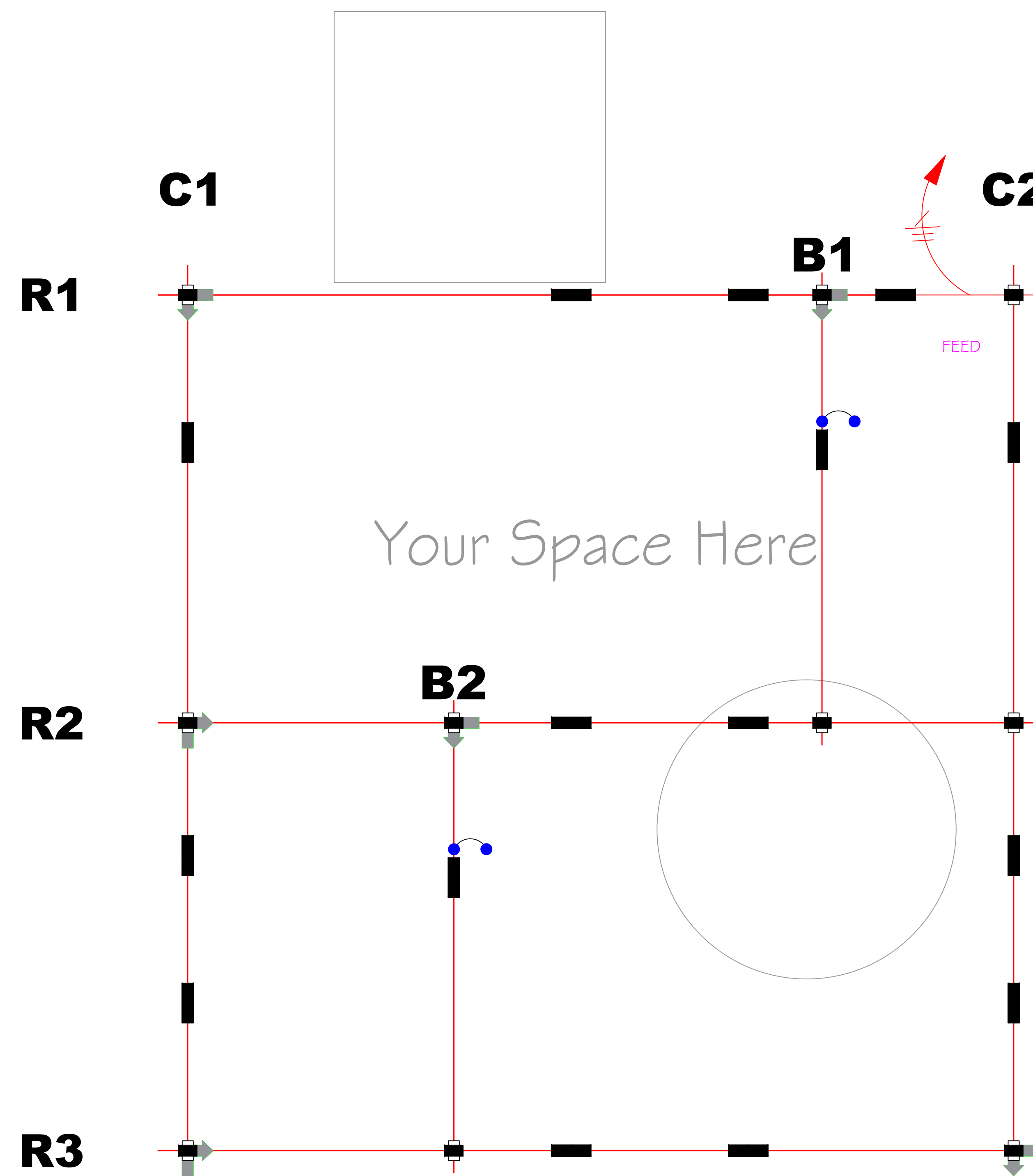


* Powered by a minimal amount of feed boxes.

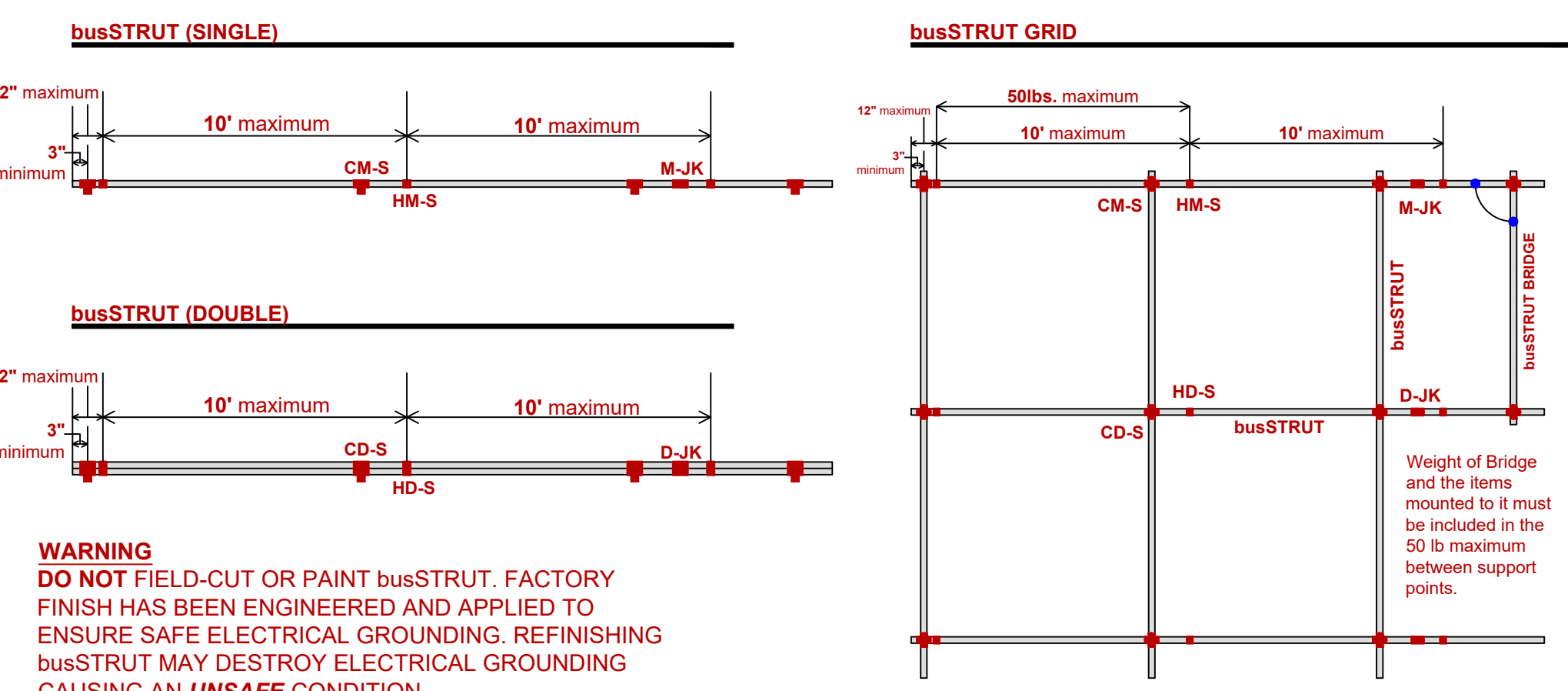


	busSTRUT 20 / Single Deck
	30" Starter Feed
	Joiner
	1/1 Slimline Crossover
	Slimline Jumper

busSTRUT
LIGHTING PLAN ONLY
 THIS DRAWING IS MEANT TO SHOW THE LOCATION OF busSTRUT
LIGHTS ONLY. IT IS NOT A REPLACEMENT FOR: ARCHITECTURAL
 / ENGINEERING / ELECTRICAL SPECIFICATIONS. (SEE THEIR
 DRAWINGS)



Mounting Rules



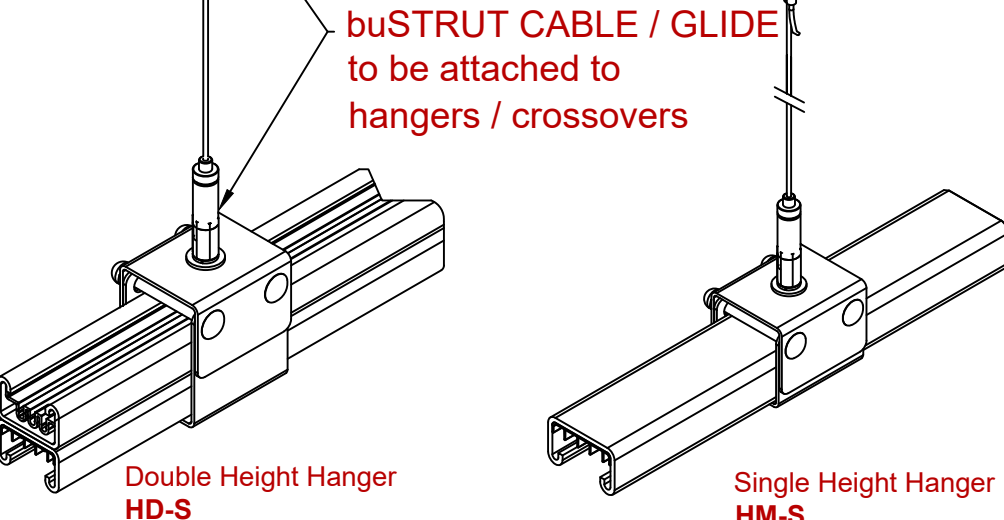
Do NOT remove the factory installed end caps from the busSTRUT

CAUTION: TIGHTEN ALL JOINER SET SCREWS TO 10 in/lbs

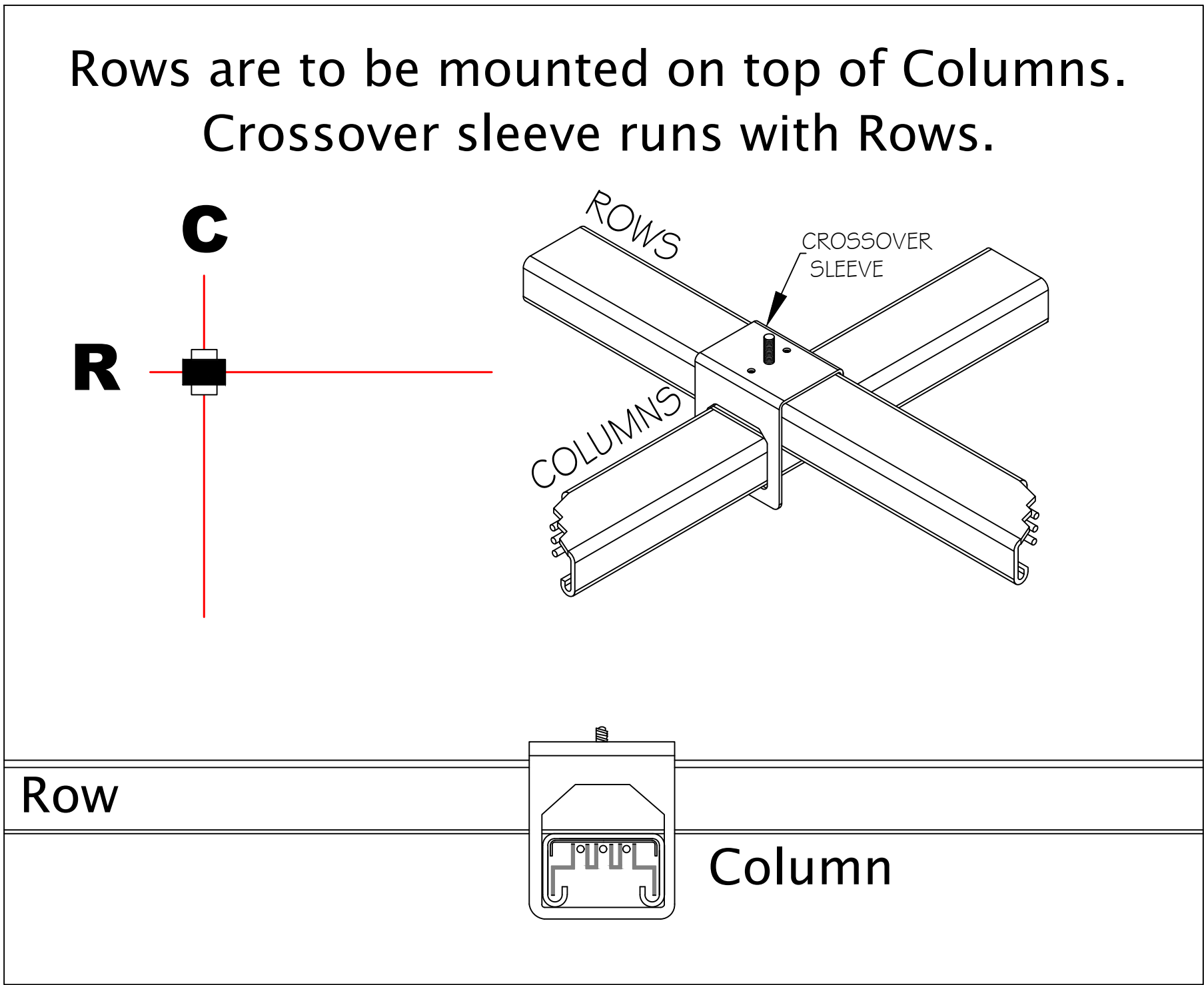
Removal voids ETL listing, warranty, and could create a dangerous electrical condition

Required to ensure grounding

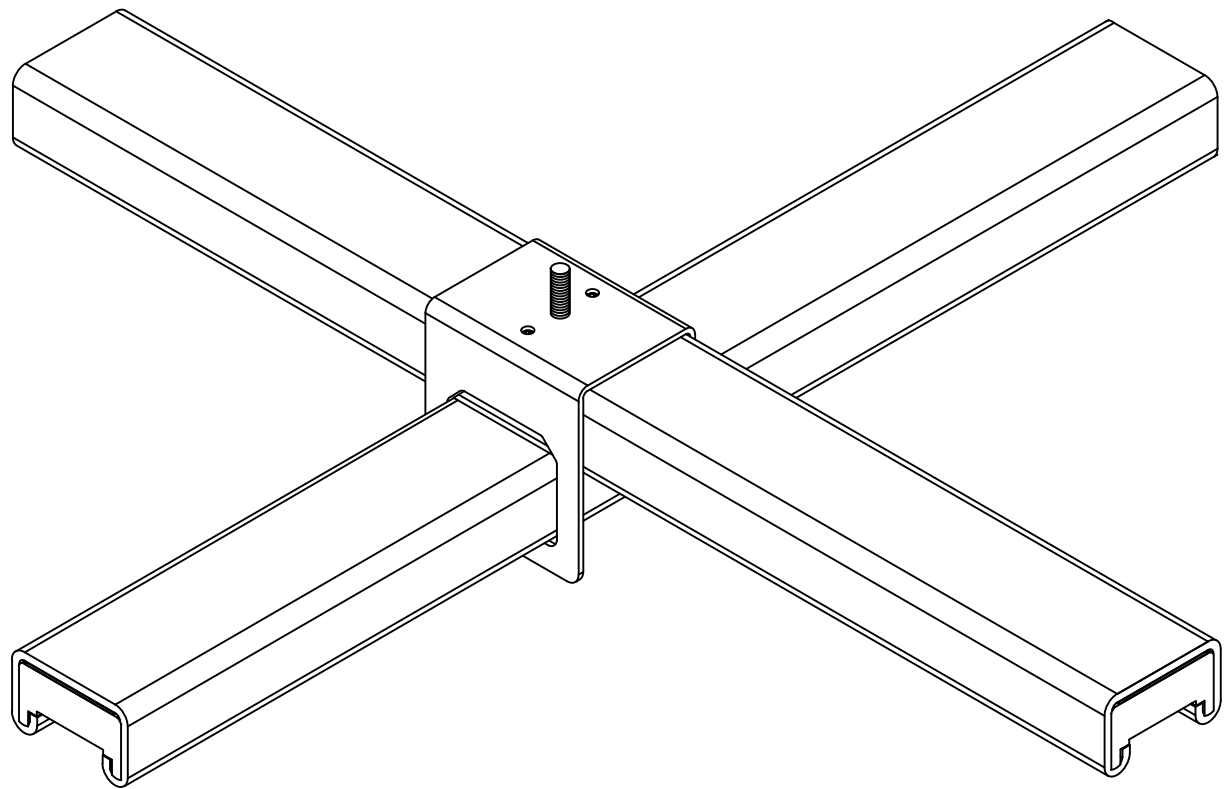
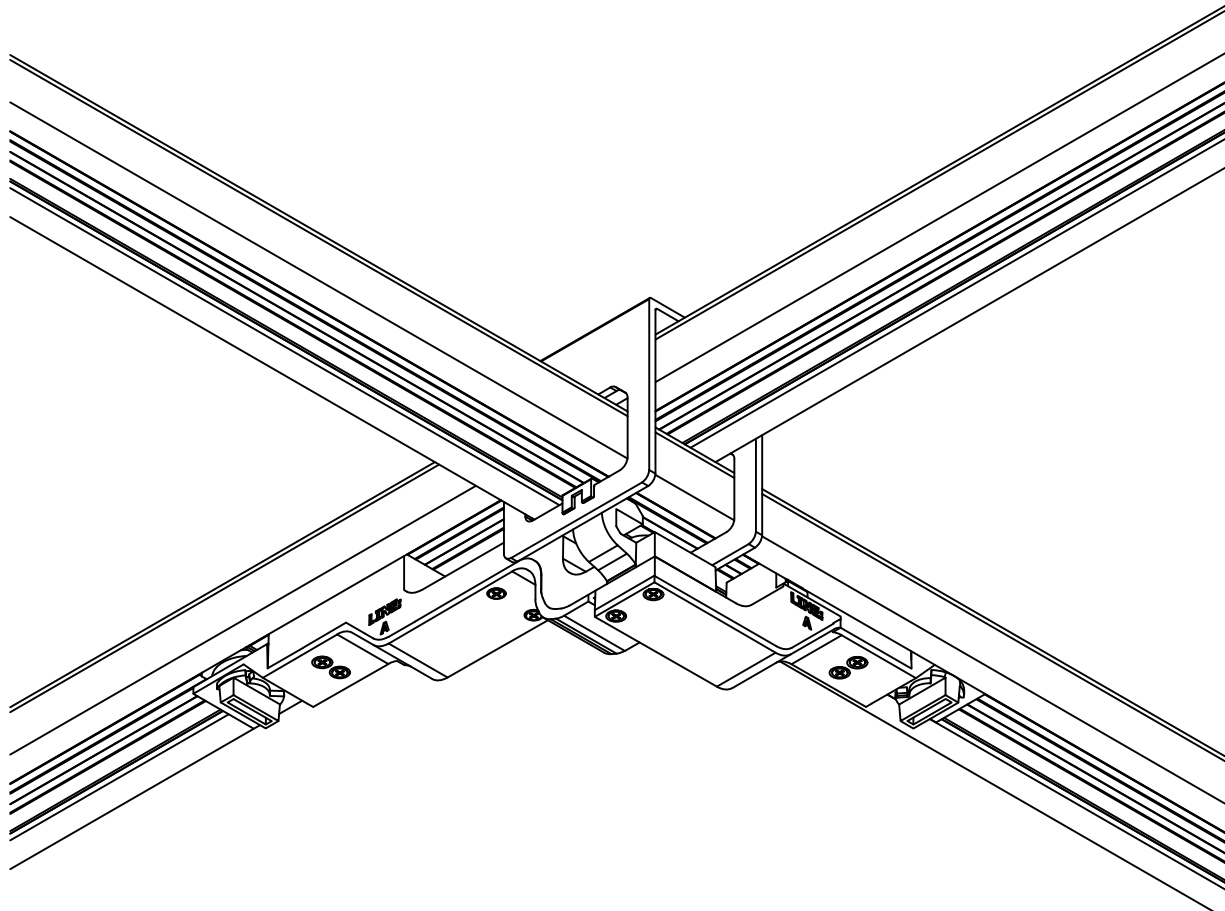
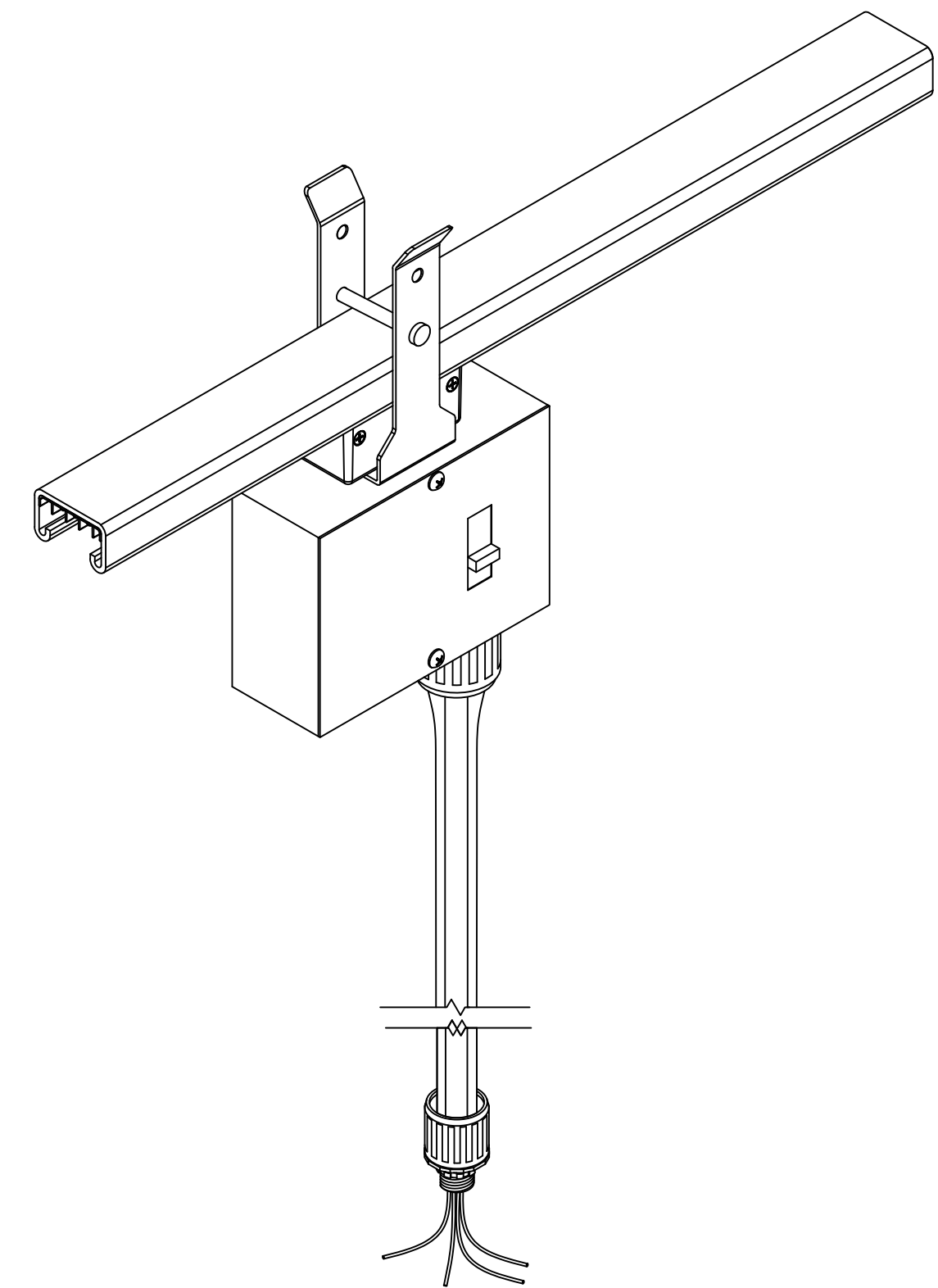
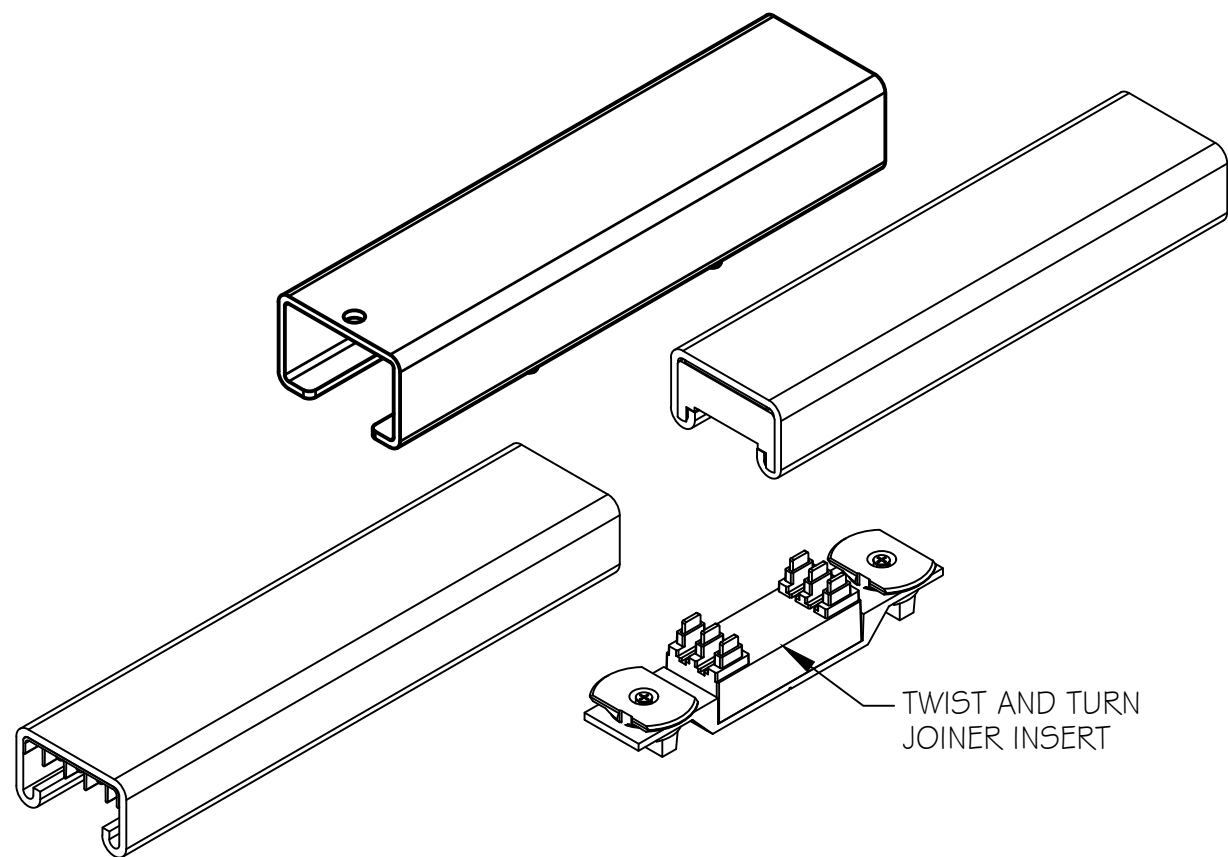
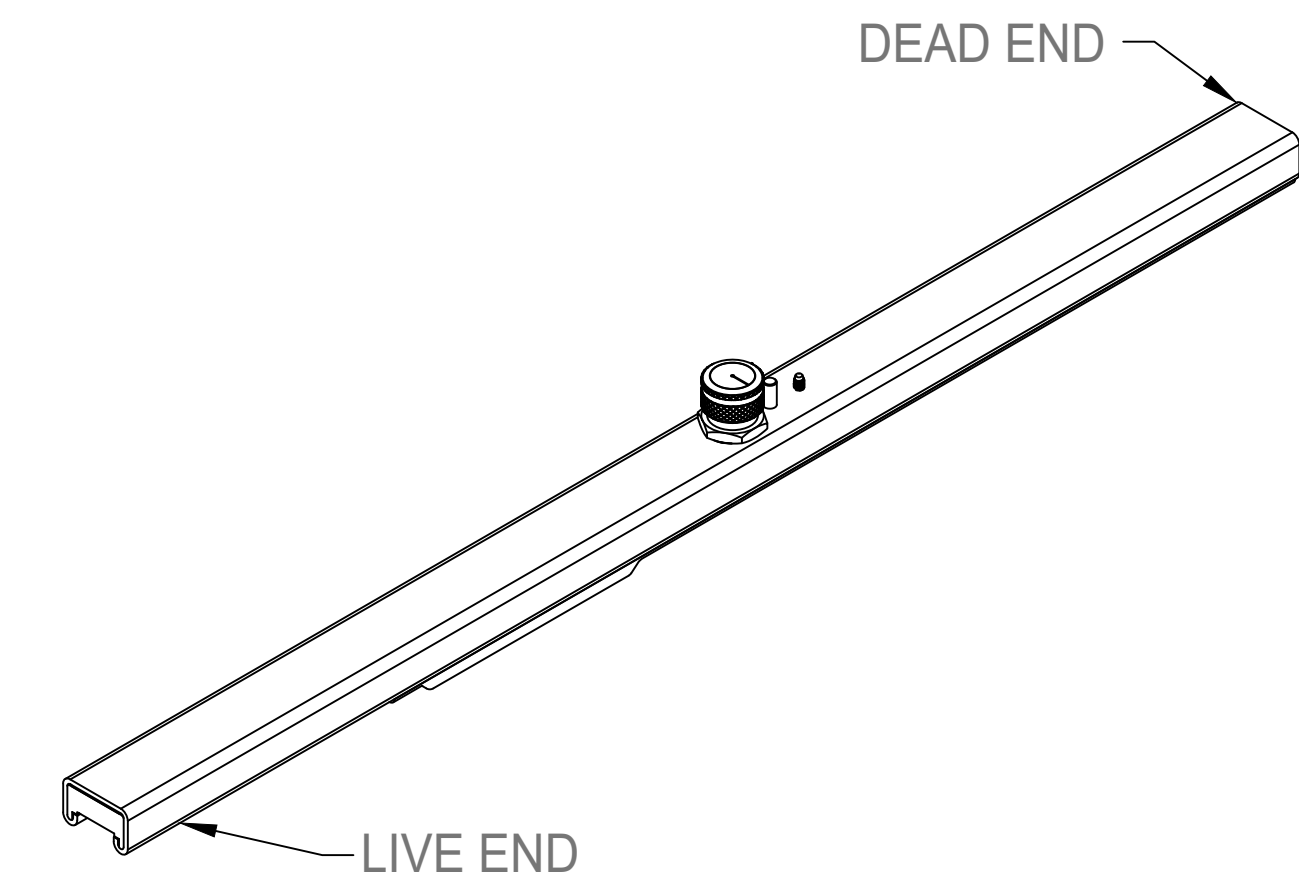
- DISTANCE:**
 - 10'** MAXIMUM 10' spacing between support points
 - 12"** Support point must be within 12" from every end or corner
 - 3"** MINIMUM 3" of busSTRUT to be exposed beyond end of mounting hangers and/or crossovers
- WEIGHT:**
 - 50 lbs** Maximum 50 pounds between support points (Include weight of busSTRUT System)
 - Weight of 1 foot of busSTRUT:
 - Single (MIN) - 1.5 lb per Linear Foot (not including connected weight)
 - Double (MAX) - 3 lb per Linear Foot (not including connected weight)
- FITTERS**
 - 40 lbs** The busSTRUT Flip-Fitters (with metal bracket) are rated for 40 lbs maximum static, vertical load.
 - Flip-Fitters without metal bracket are for use with standard track light fixtures only. Consult for maximum weight restrictions.
- CONNECTION TO STRUCTURE BY OTHERS**
 - Attachment from busSTRUT System to structure must be engineered and installed to properly support the entire suspended weight.



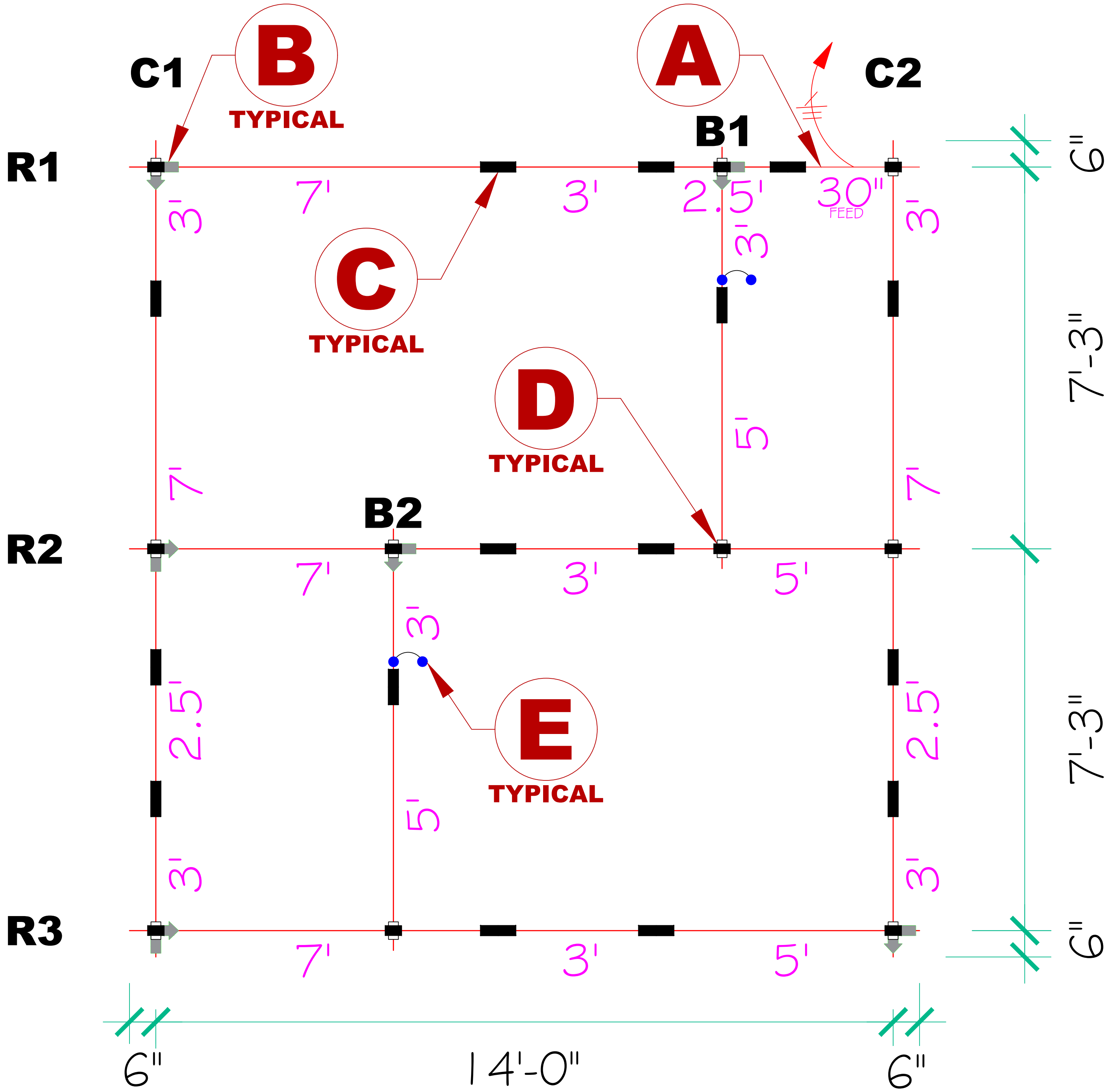
Project Specific Rules



ISO Details



Dimensions



Legend

	busSTRUT 20 / Single Deck
	30" Starter Feed
	Joiner
	1/1 Slimline Crossover
	Slimline Jumper

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PRINCIPAL IN CHARGE: LARRY GELLERT
CHECKED BY: JOHN LOCH
DRAWN BY: JOHN LOCH
DATE: 11/01/2024
REVISION: BID/REVIEW

Assembly Plan
Rectangle Medium - Power Drops

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SPEC DRAWING SET(ONLY)
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DRAWINGS

NO.	DATE	REVISION	DESCRIPTION	BY
1	11/01/24	1	ISSUED FOR CONSTRUCTION	JOHN LOCH

PAPER SIZE:
ARCH E (48x36)

SCALE 3/4" = 1'-0"

DRAWING NUMBER
E-b2

- busSTRUT Lengths
Used in this Project
- 2.5'
 - 3'
 - 5'
 - 7'

