

busSTRUT Shop Drawing Set

Express Rectangle (Medium) - Lights

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.

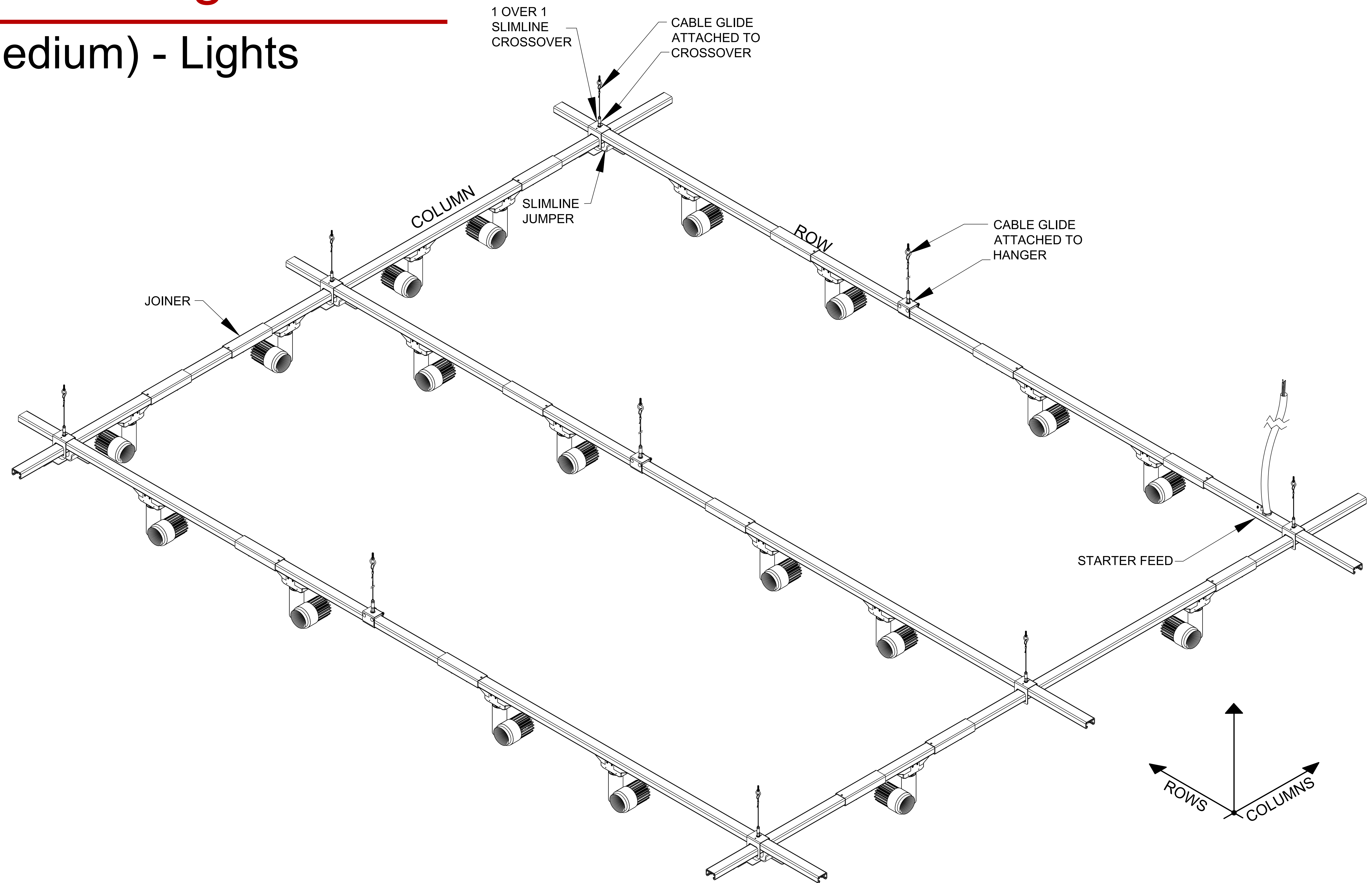
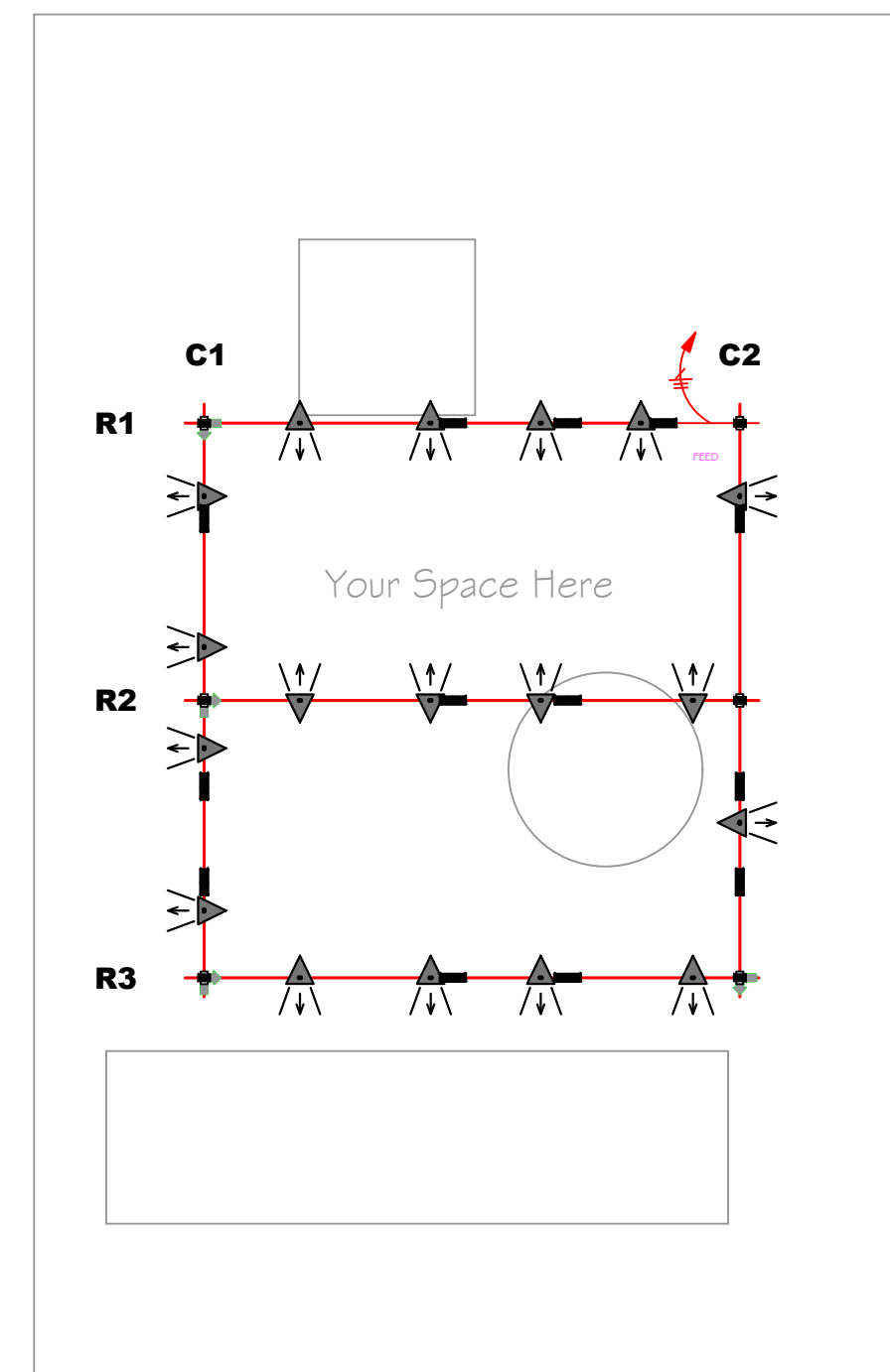


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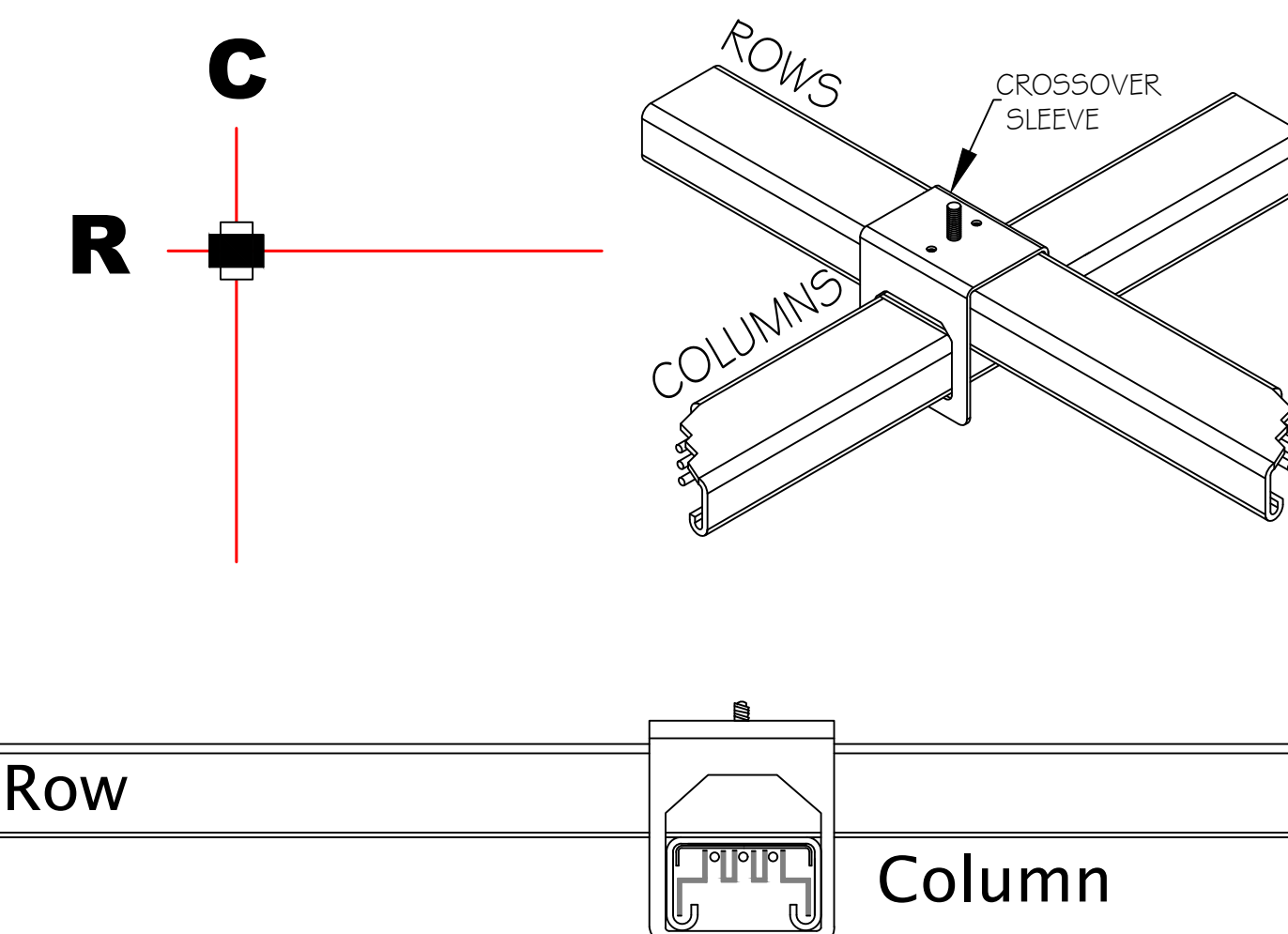
E-b01
E-b02 Typical Installation Instructions

E-b1
E-b2 Lighting Plan, BOM, & Labor Hours
Assembly Plan



KEY MOUNTING RULES

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

APPROVAL

busSTRUT SHOP DRAWING SET (ONLY)
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DRAWINGS

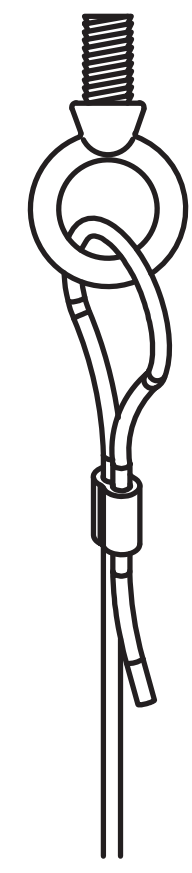
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PAPER SIZE:
ARCH E (48x36)
NOT TO SCALE

COVER SHEET

STEP 1

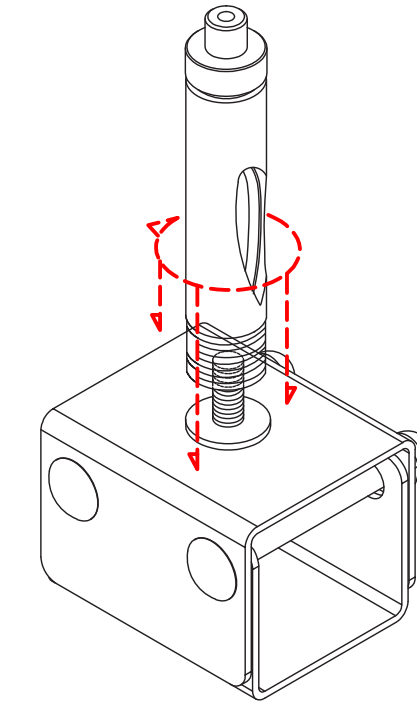
SUSPENDING busSTRUT



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).

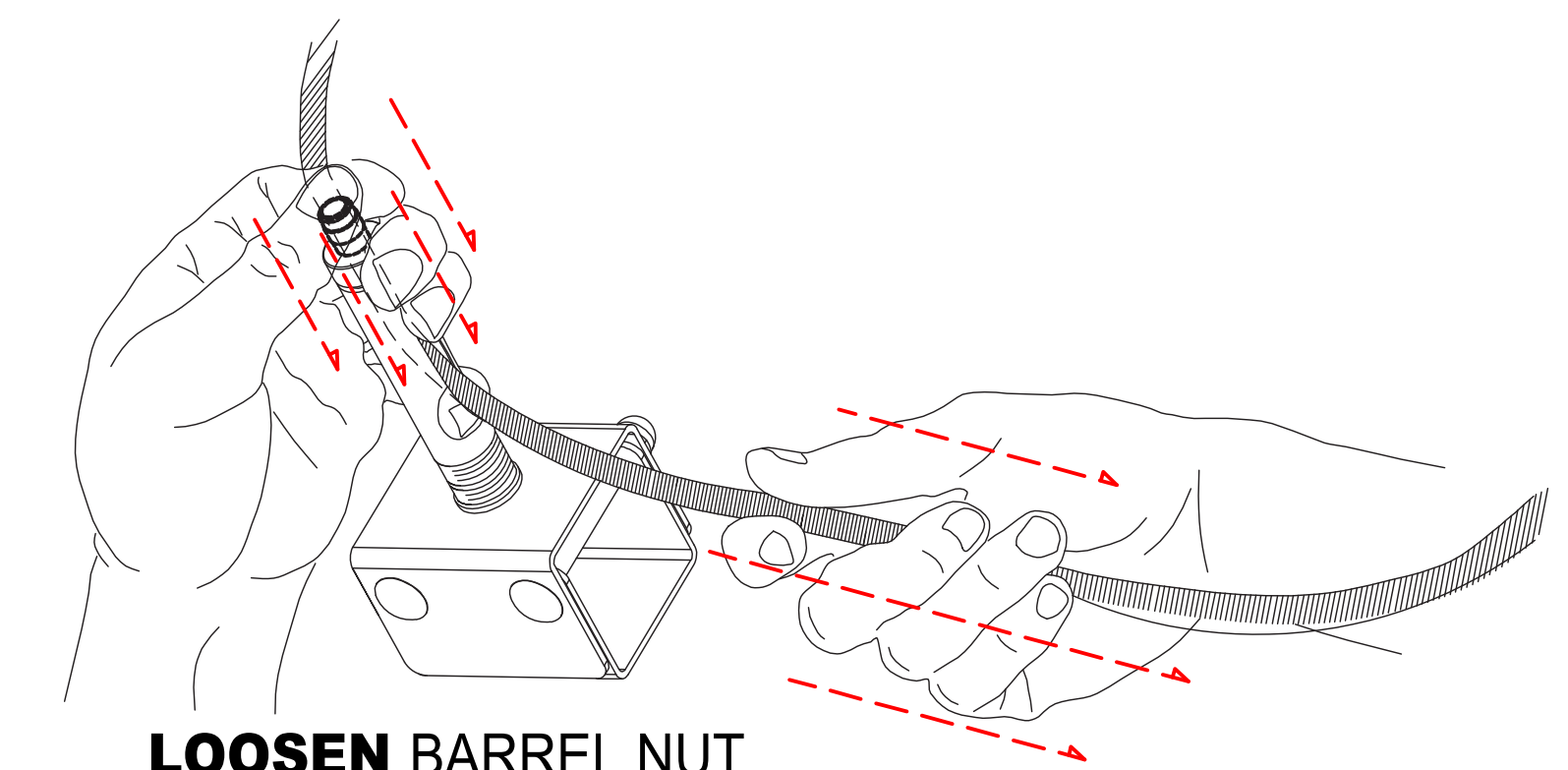
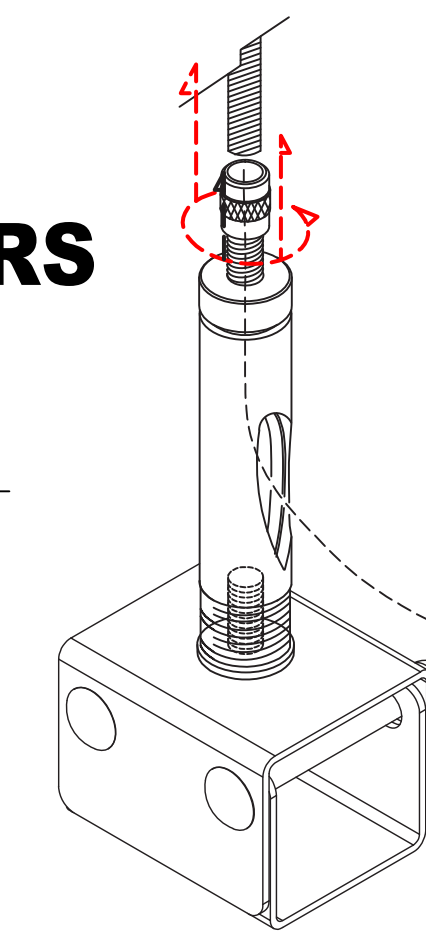


2 ASSEMBLE HANGERS (HM-S)

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

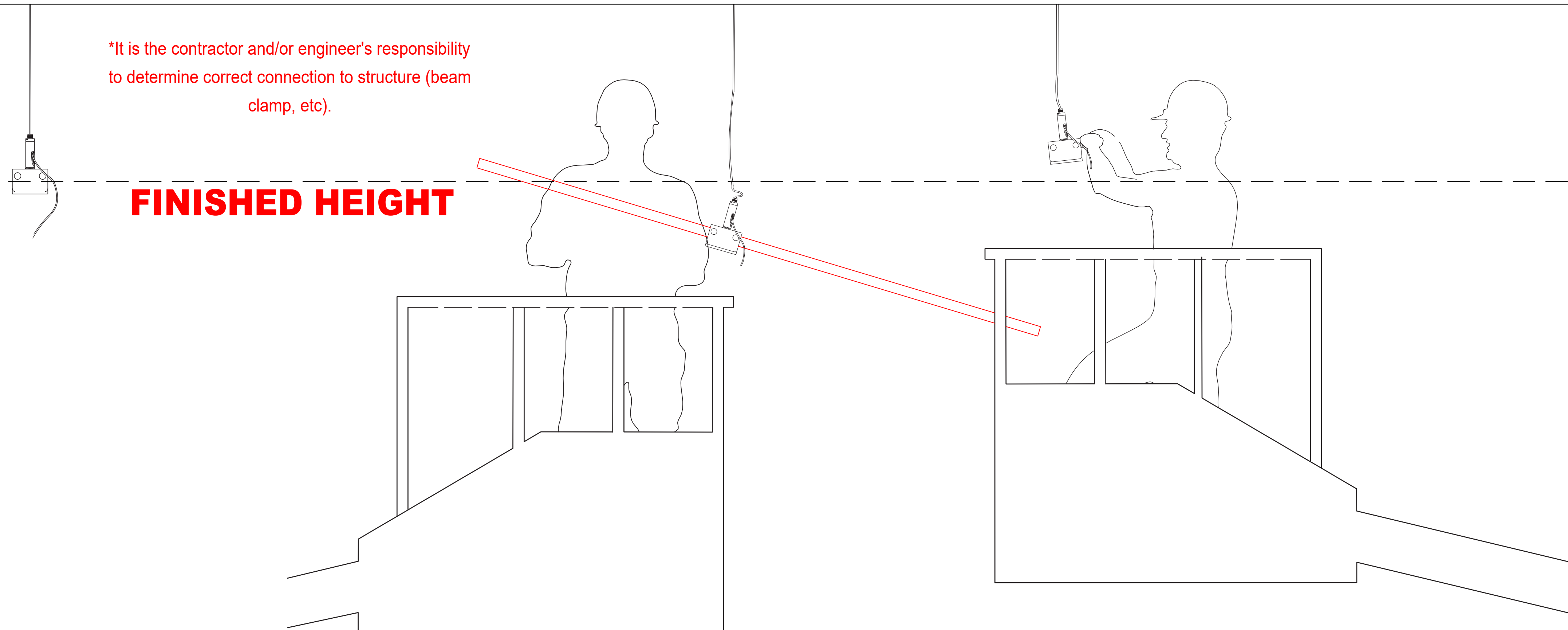
SLIDE busSTRUT THROUGH SUSPENDED HANGERS

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.

FINISHED HEIGHT

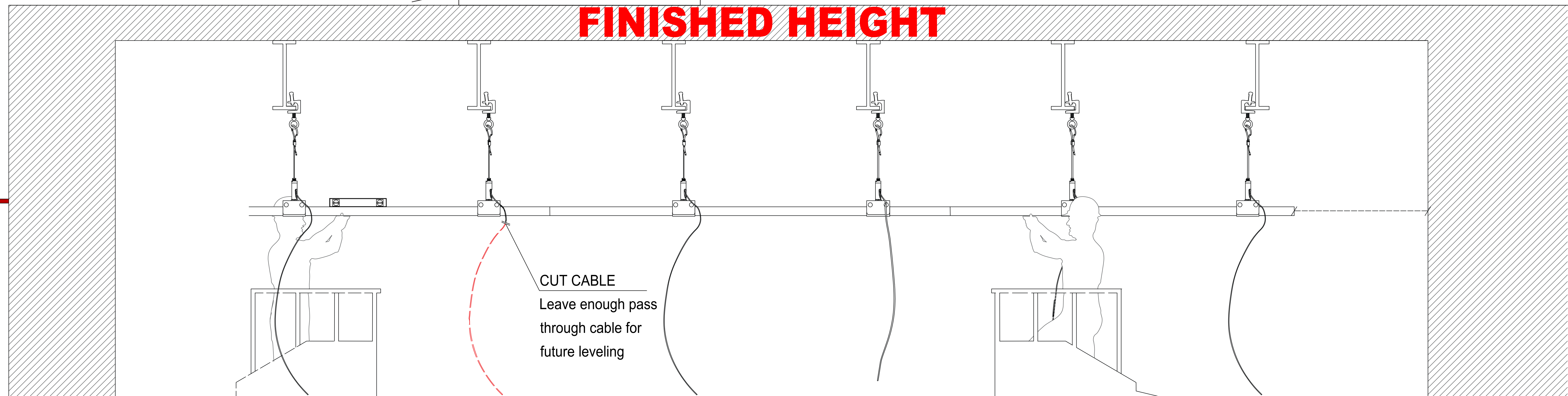
*It is the contractor and/or engineer's responsibility to determine correct connection to structure (beam clamp, etc).



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

LEVEL busSTRUT AND TRIM CABLE

FINISHED HEIGHT



CUT CABLE
Leave enough pass through cable for future leveling

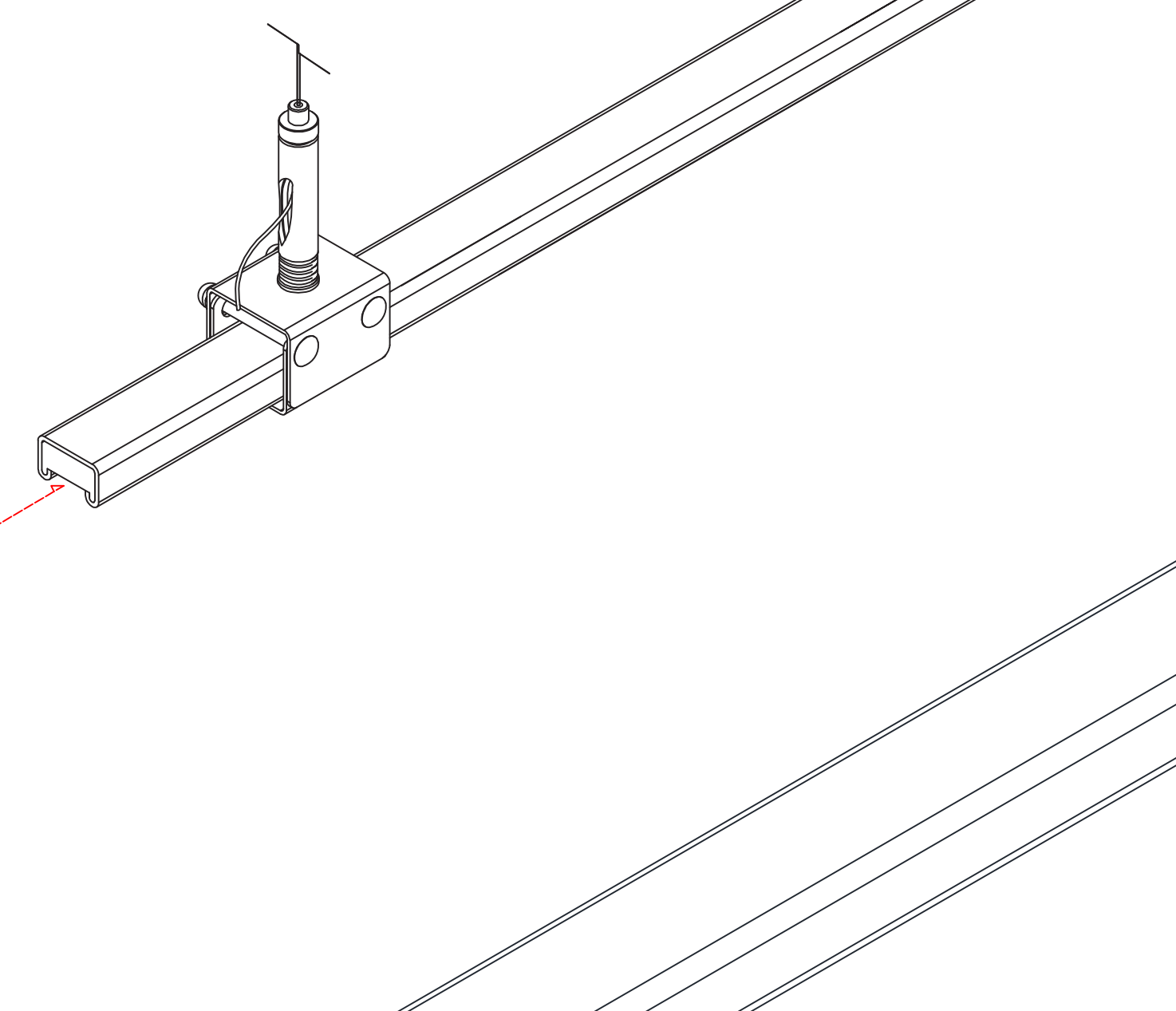
STEP 2

INSERT JOINERS

ATTACH JOINERS TO EACH END OF CONNECTING busSTRUT

JOINERS (M-JB)

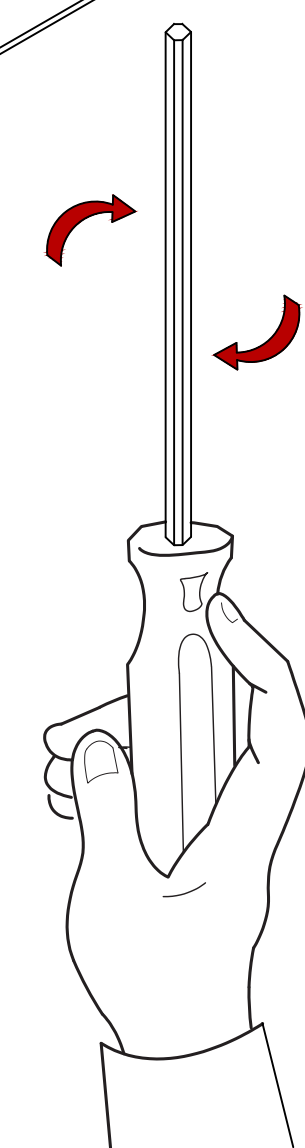
Joiners are used to mechanically and electrically connect individual busSTRUT lengths.



TIGHTEN JOINERS

TIGHTEN SET SCREWS ON THE BOTTOM OF THE JOINER

Joiners require 3/32 Hex key for tightening set screws



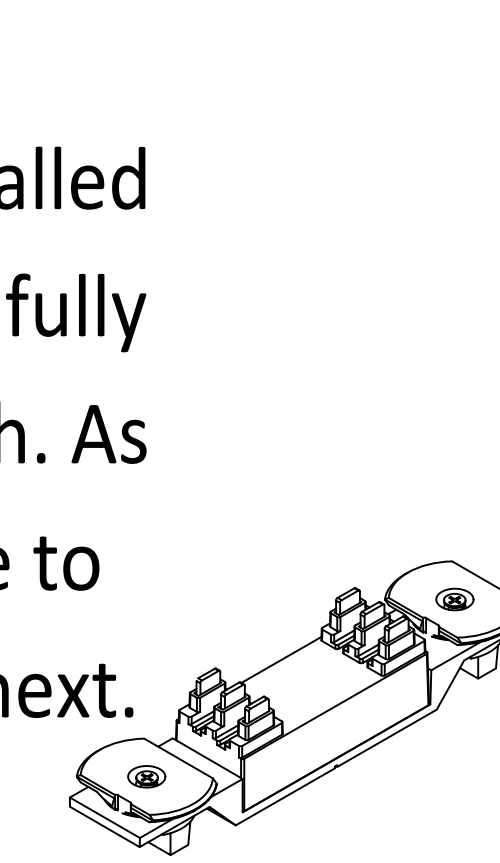
ATTACH INSERT

ATTACH JOINERS TO EACH END OF CONNECTING busSTRUT

Line up center of insert with etched centerline on joiner sleeve

JOINER INSERT (M-JI-X)

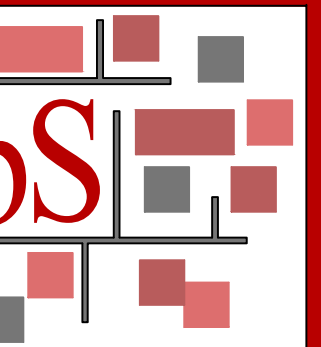
A single piece unit that is installed with two knobs, one must be fully turned in each abutting length. As a result, power can continue to flow from one length to the next.



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.



busSTRUT

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DESIGNED BY

LARRY GELLERT

CHECKED BY

JOHN LOCH

DESIGNED BY

JOHN LOCH

DATE

11/01/2024

FOR

BID / REVIEW

TYPICAL
busSTRUT Installation Instructions

busSTRUT SHOP DRAWING SET (ONLY)
NOT A REPLACEMENT FOR ARCHITECTURAL / ENGINEERING OR ELECTRICAL DRAWINGS

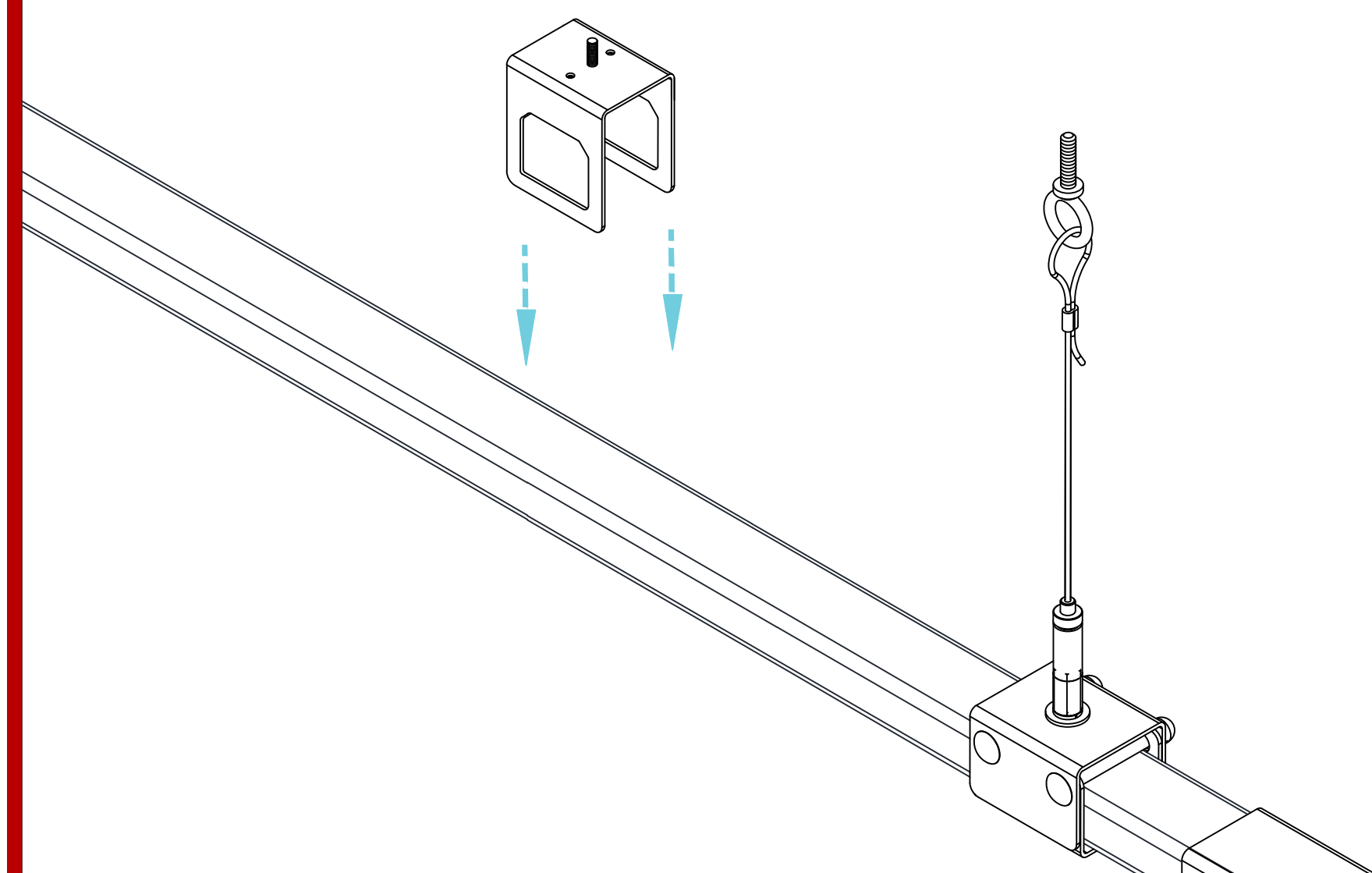
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PAPER SIZE: ARCH E (48x36)
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DRAWING NUMBER
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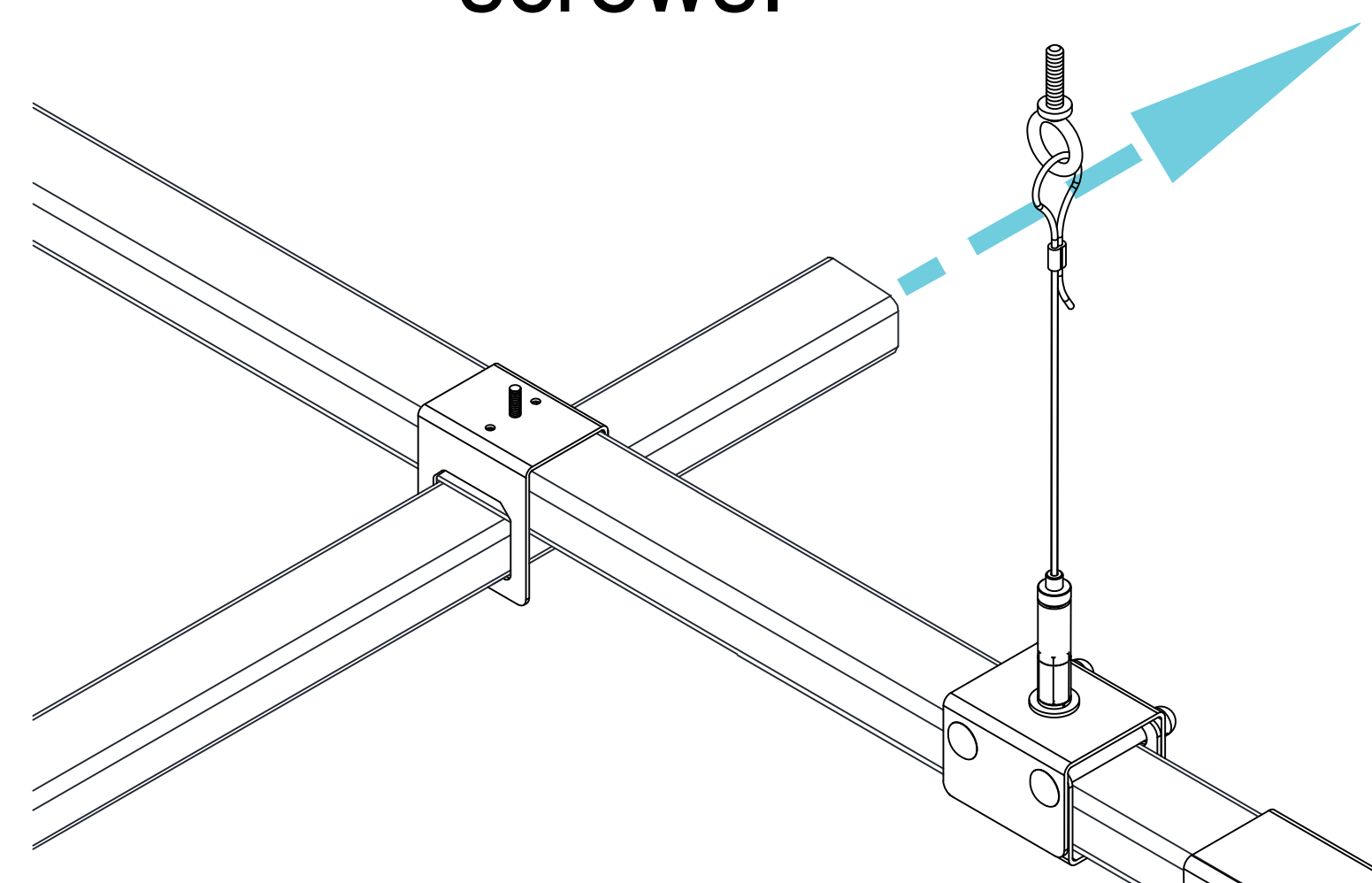
STEP 3

INSTALLING CROSSOVERS DROPPING ON

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

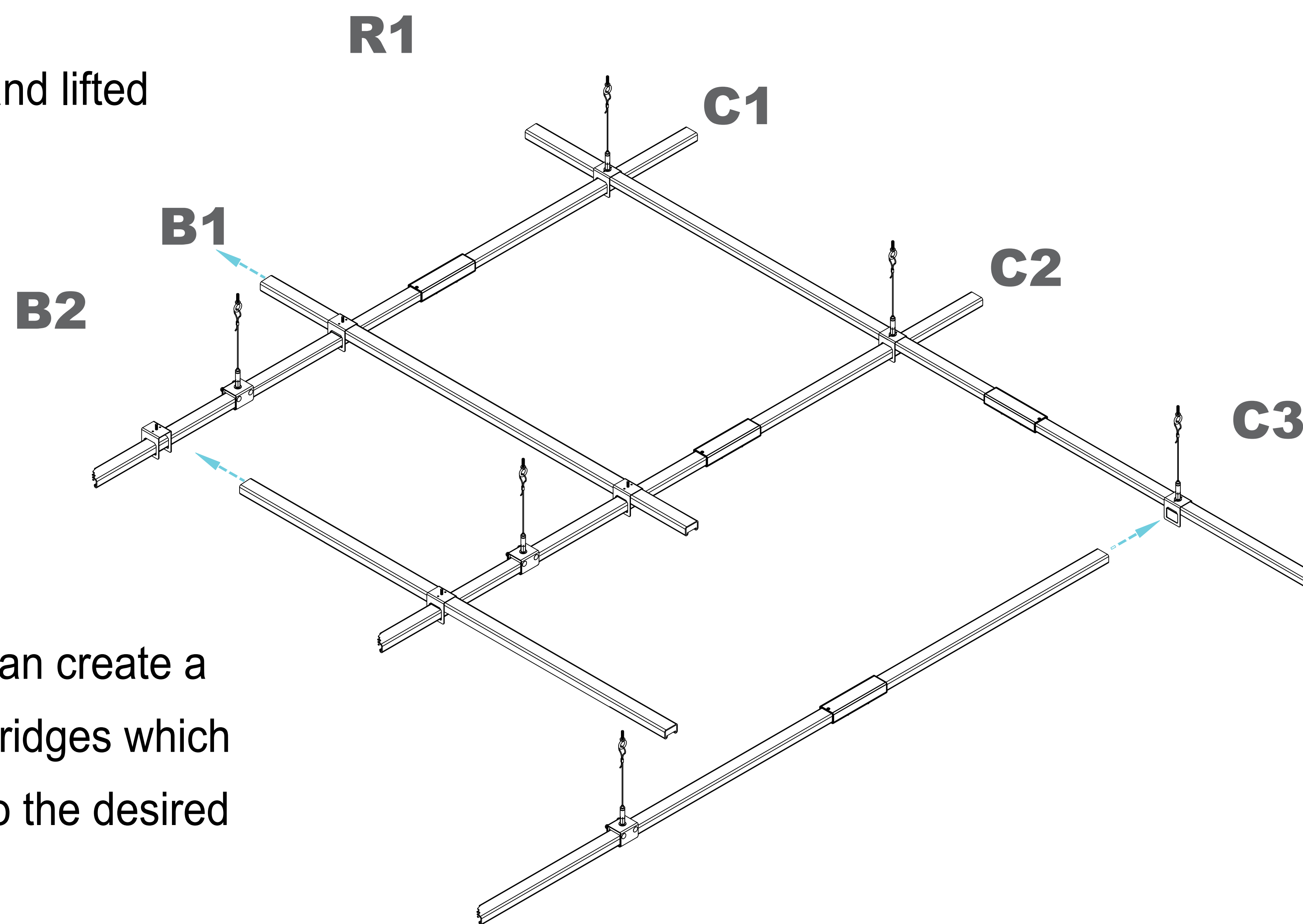


Slide perpendicular runs of busSTRUT through the crossover and tighten the set screws.



SLIDING ON

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

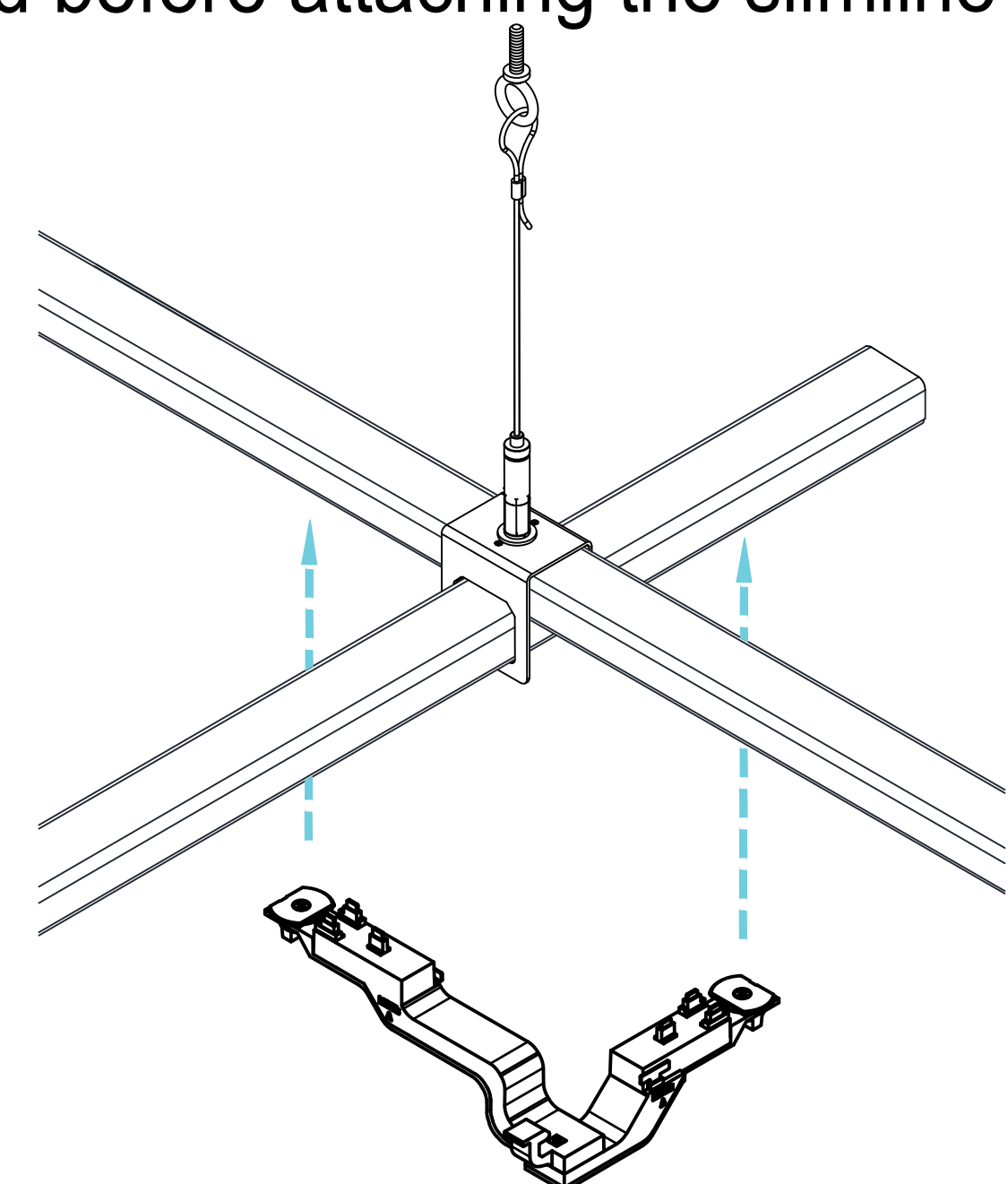


Perpendicular runs can create a full grid or be short bridges which are easily moved into the desired position.

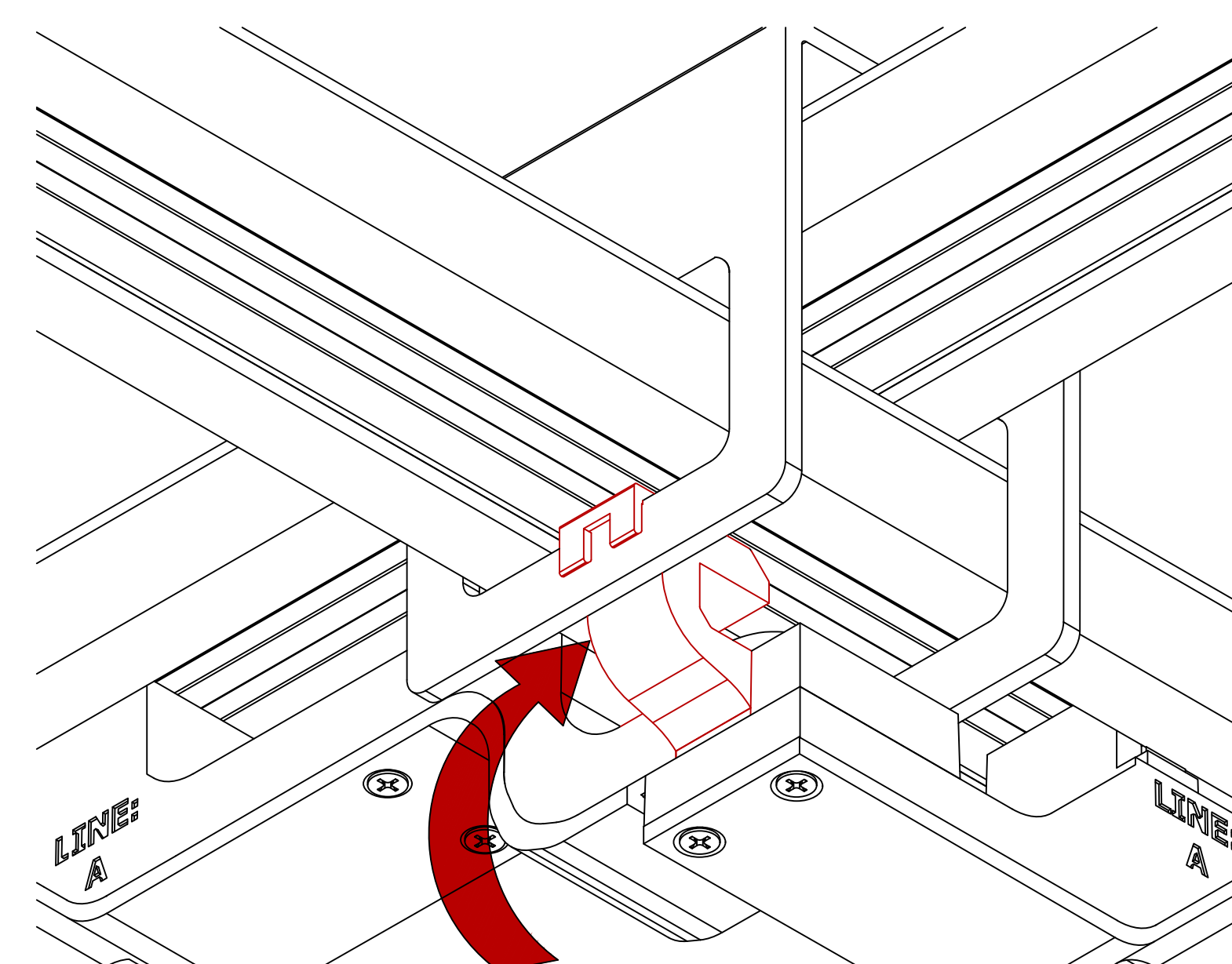
STEP 4A

SLIMLINE JUMPER

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

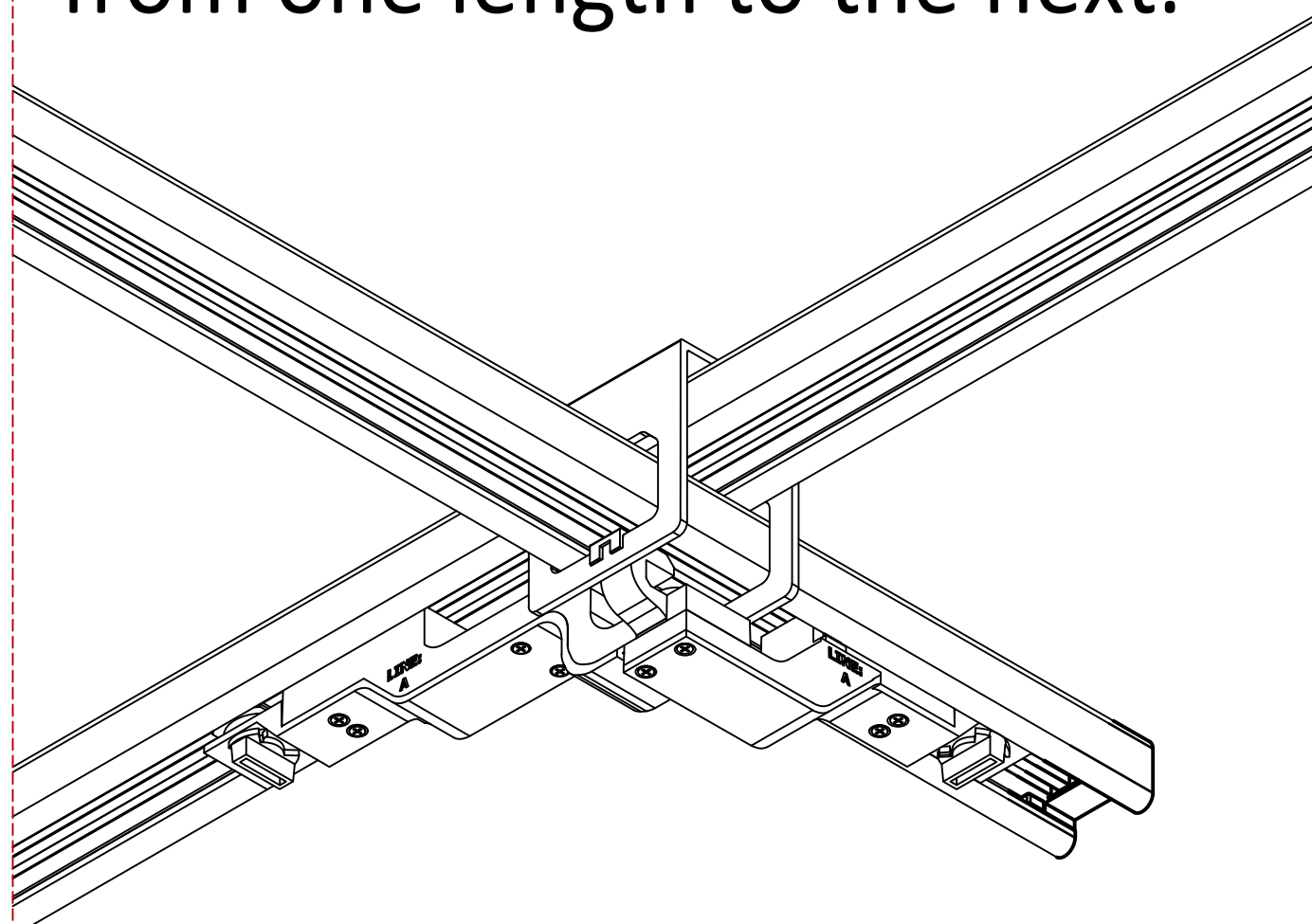


First, clip the jumper to the crossover.

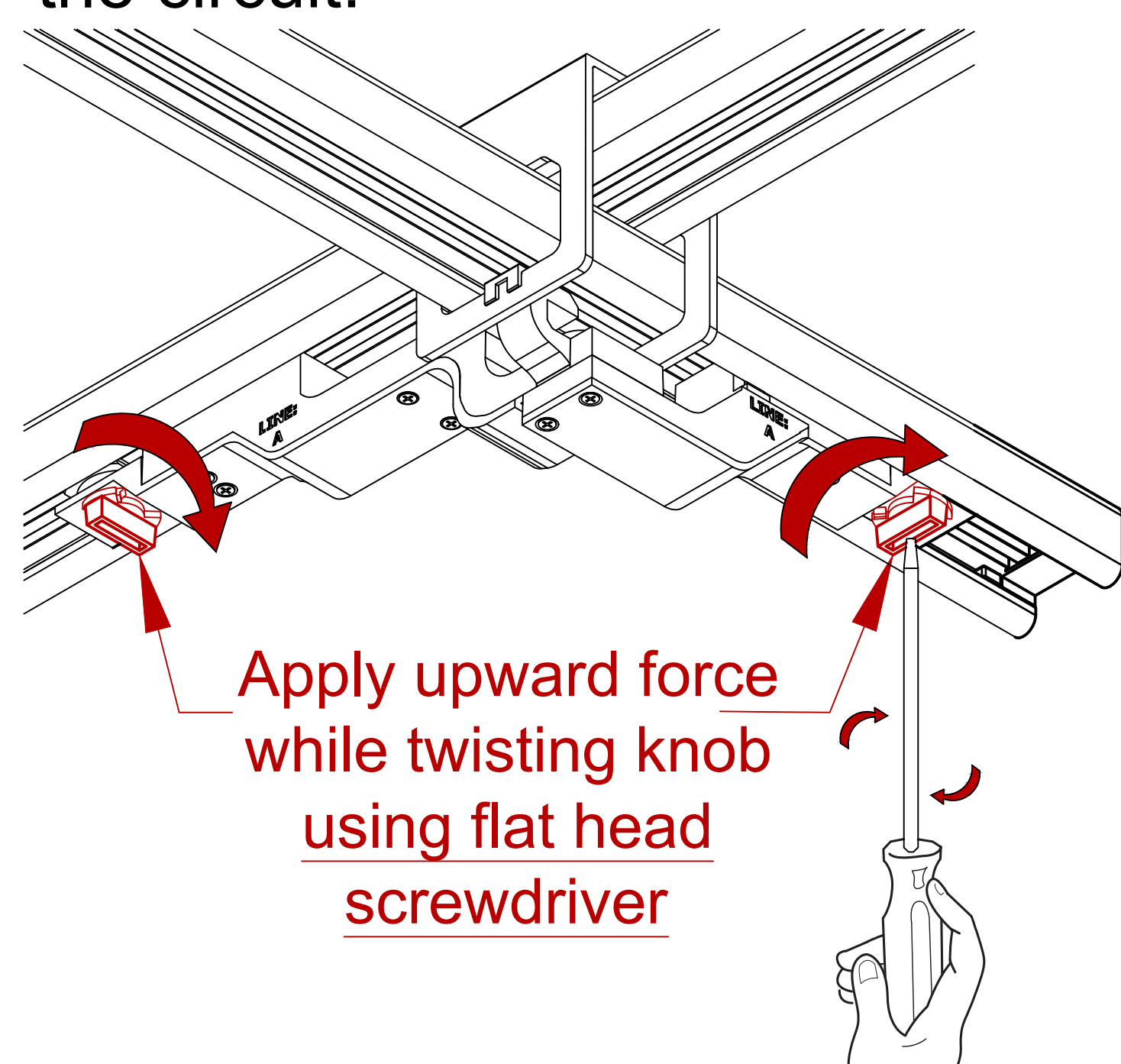


SLIMLINE JUMPER (MD2020-UNIV-IJ2-B-X)

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.

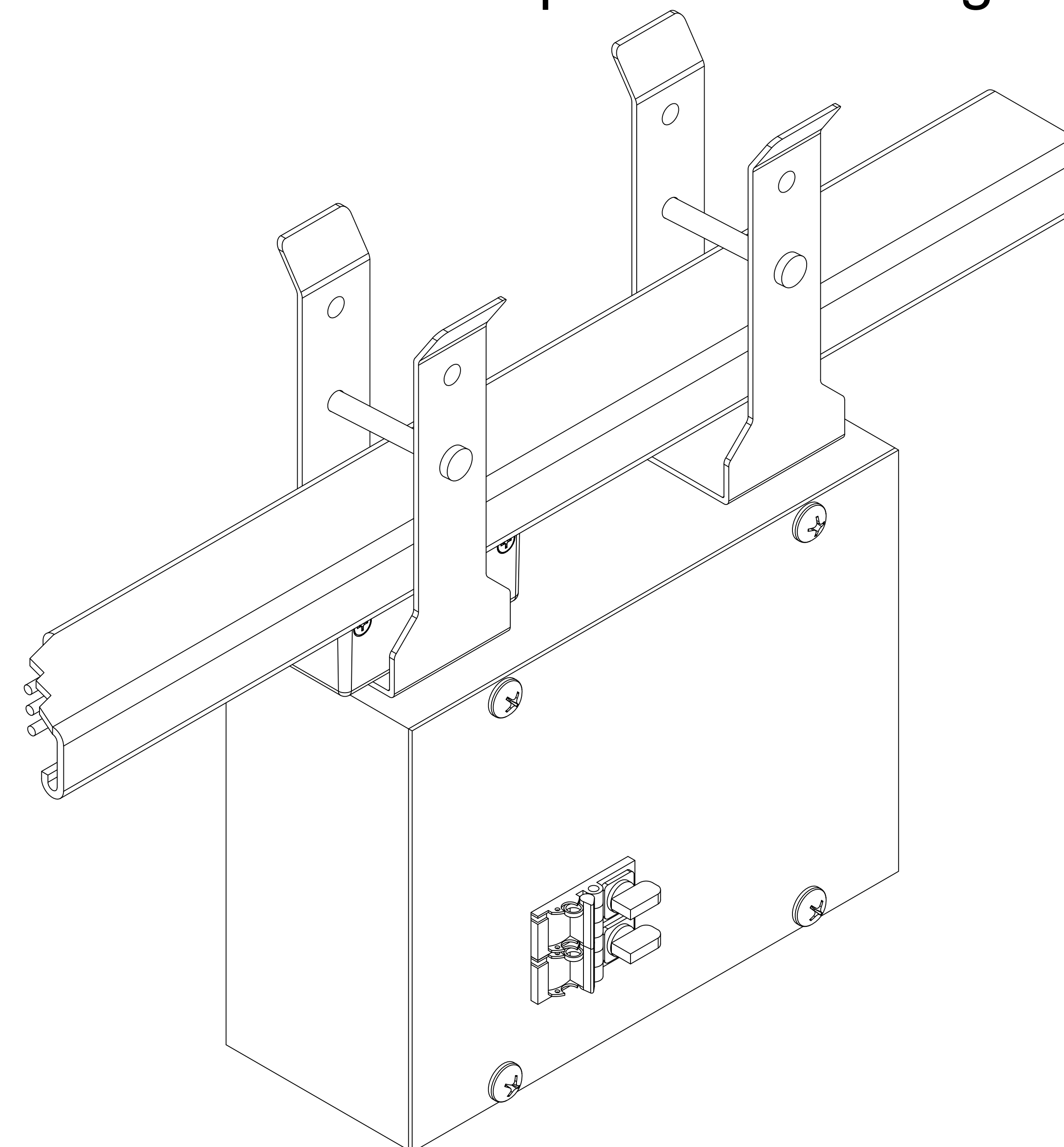


Apply upward force while twisting knob using flat head screwdriver

STEP 4B

LINE FEEDS

Install line feeds on busSTRUT to power the configuration.

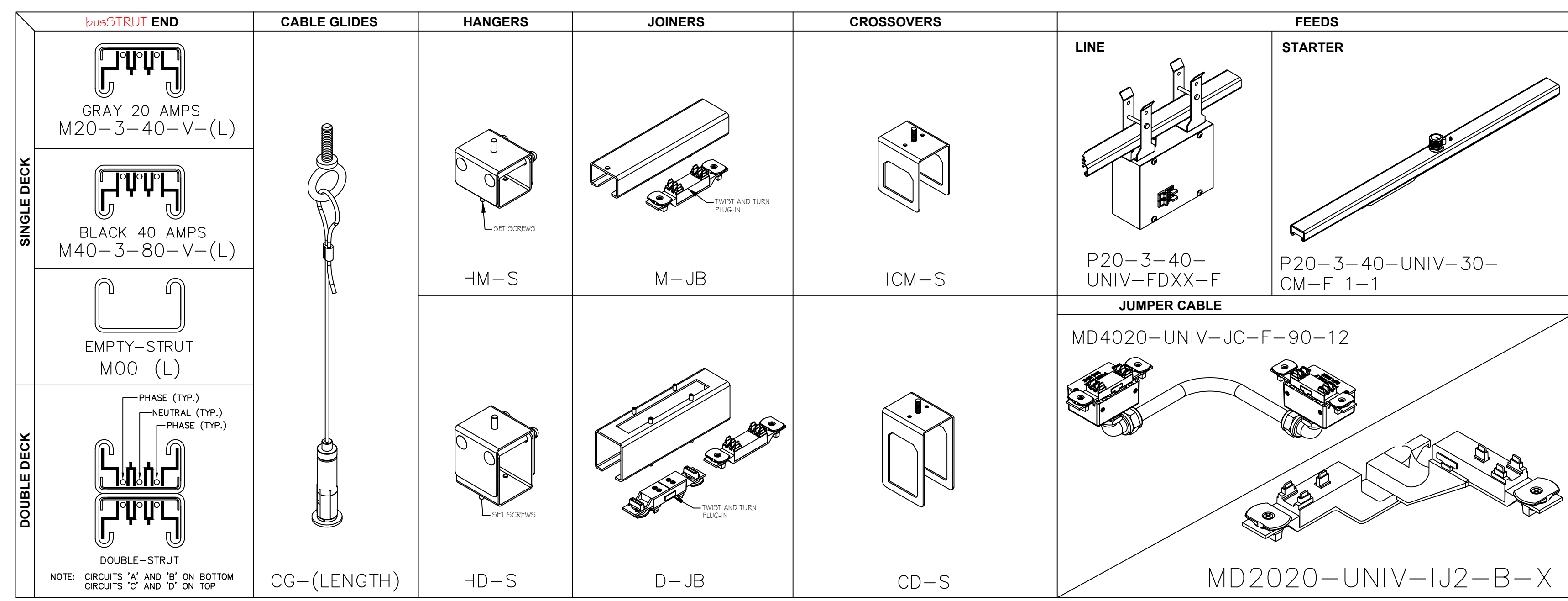


20A LINE FEED

Shown on single decked busSTRUT

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busSTRUT Parts



busSTRUT 12 gauge 1" x 1" x 1.58" STEEL. **busSTRUT** features two Hot wire assemblies 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 GUIDE: For use with **busSTRUT**. Hangers/Crossovers. Includes cable-glides 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-glides.

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 to electrical insert to bridge power. And continuous grounding wires through the bus itself by means of a permanently affixed copper grounding bar.

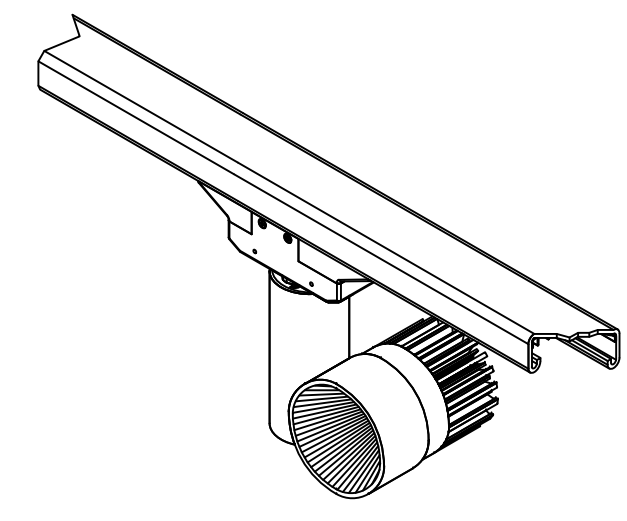
CROSSOVERS: For use with intersecting **busSTRUT**. Each is an assembled two-part unit for building grid configurations and bridges. The upper piece includes a threaded stud for use with **busSTRUT** cable-glides.

JUMPERS: For use with both **busSTRUT** (20) and **busSTRUT** (40). The fused 400Z Jumper Cables can be used to electrically connect **busSTRUT** (40) Trunks to **busSTRUT** (20) Branches and/or electrically connecting **busSTRUT** (20) to **busSTRUT** (20).

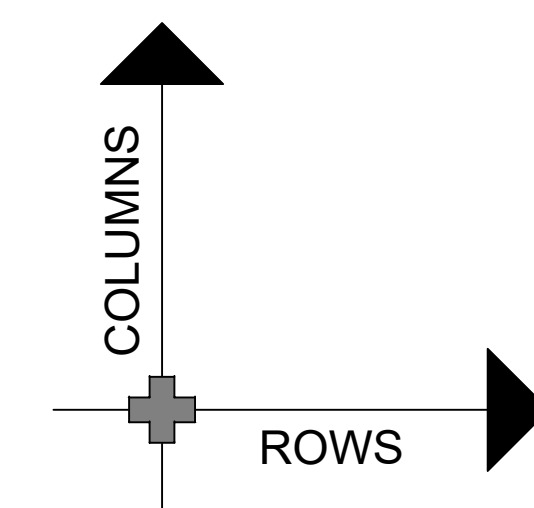
LINE FEEDS: For use with powering single-decked **busSTRUT**. Junction Box features energy code type "Tentative" (Overcurrent holder) and 3 Pole Fuses. Available up to 277/480V. Can be positioned anywhere along **busSTRUT** to reduce the lengths of trunks.

STARTER FEEDS: For use with powering single-decked **busSTRUT**. Utilized when no current limiting is required on the **busSTRUT**. Must be positioned at the beginning of a run.

Lights



ACCENT LIGHT
BR-LUCY-U-309-30-F-(OC)
N.T.S.

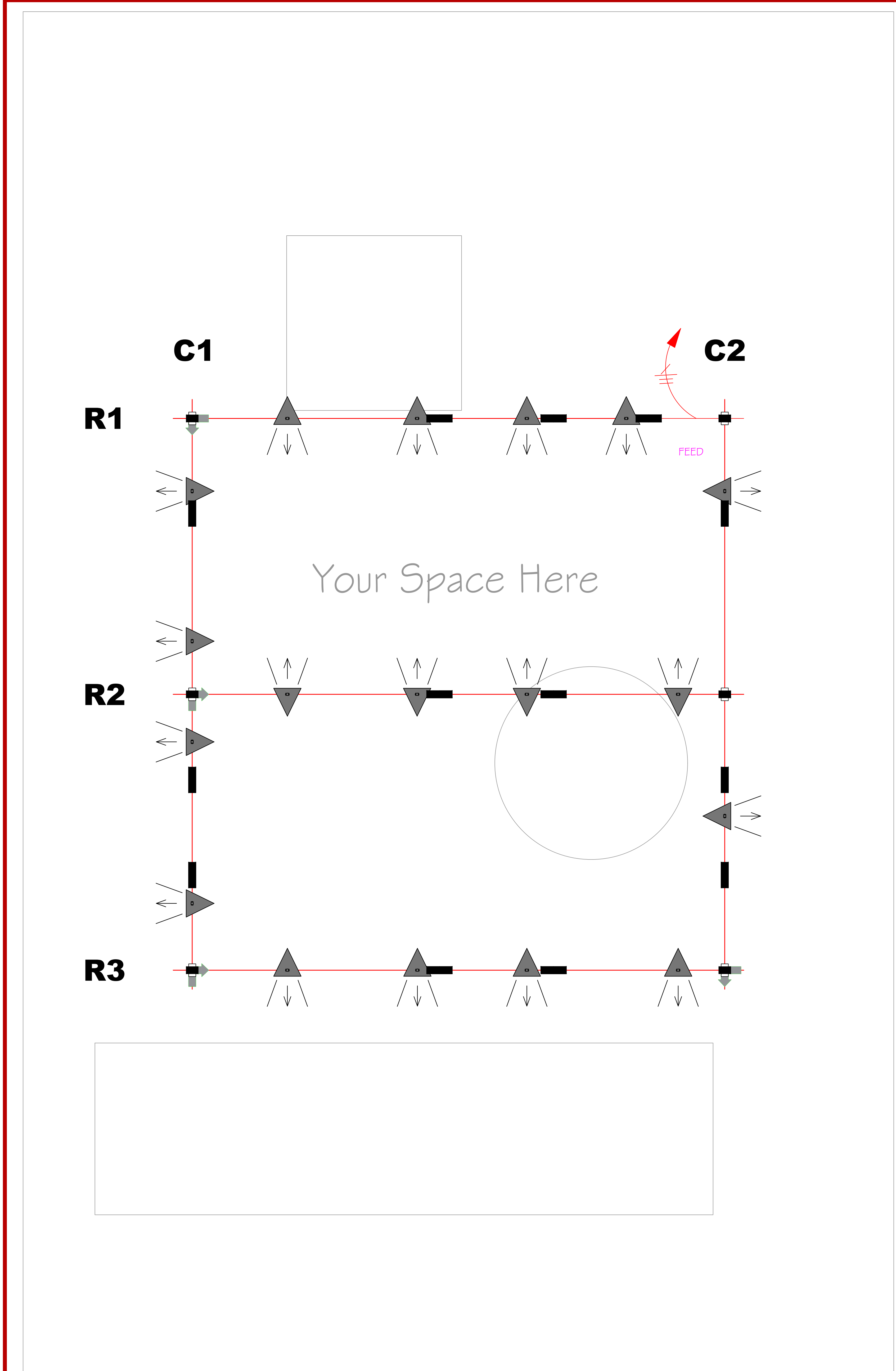


Legend

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

Lighting Plan

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)



Bill of Materials

busSTRUT Bill of Materials

RECTANGLE Medium LT		Finish TBD: Galvanized, White, or Black														Drawn By	John Loch					
																Checked By	John Loch					
																Date	11/1/2024					
		busSTRUT LENGTHS				busSTRUT Hardware				busSTRUT POWER						GEN	ACT					
		busSTRUT 20				Joiners		Hangers		C-GI	Xover	Jcord	Line									
						SINGLE	NON-ELECTRIC JOINER INSERT	SINGLE	DÉCOR BRACKET			JUMP CORD	STARTER FEED CENTER MOUNT	POWER DROP								
						M-JB-F-X	M-JI-F-X	M-JI-F-NE	HM-S-F-ST-LFX	MKUST-A-F	CG-E-15-B-GL	ICM-S-F-ST-X	MD4020-UNIV-JCF-90-12-G02	MD2020-UNIV-IJ2-F-X	P20-3-40-UNIV-JK-NB-F	P20-3-40-UNIV-30-CM-F-1-1	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		2				1			4
R2	20	15	15		1	1	1	2	2		1		3		2			1				4
R3	20	15	15		1	1	1	2	2		1		3		2			1				4
SUB TOTAL	45	45	45	1	3	2	3	7	7		3		9	6	6			1				12
Columns																						
C1	20	15.5	15.5	1	2		1	3	3								1					4
C2	20	15.5	15.5	1	2		1	3	3								1					2
SUB TOTAL	31	31	31	2	4		2	6	6								2					6
STORE TOTAL	76.0	76.0	76.0	3	7	2	5	13	13		3		9	6	6			1				18

Labor Hours

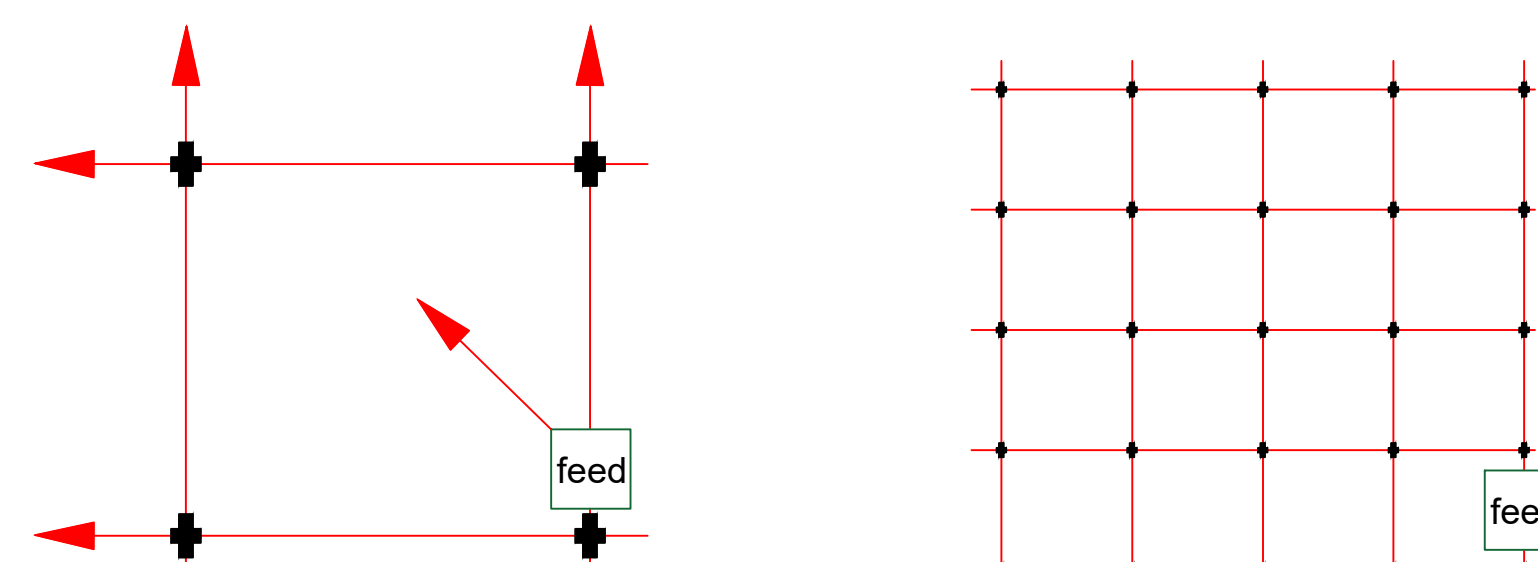
busSTRUT provides time-tested standard labor hours per part, which are then multiplied by the project's Bill of Materials.

busSTRUT LABOR					
ITEMS	Qty.	U/M	STANDARDIZED LABOR HOURS		TOTAL HRS
			MIN	PER 60	
LENGTHS	76	LF	2.75	0.05	= 3
JOINERS	13	EA	12	0.20	= 3
HANGERS	9	EA	25	0.42	= 4
CROSSOVERS	6	EA	10	0.17	= 1
ATTACHMENTS		EA	8	0.13	= 0
JUMPERS	4	EA	6	0.10	= 0
FEEDS	1	EA	15	0.25	= 0
busSTRUT SUB-TOTAL					= 11
ACCENT	18	EA	8	0.13	= 2
LINEARS		EA	20	0.33	= 0
busSTRUT READY LIGHTS SUB-TOTAL					= 2
TOTAL TIME					= 14

busSTRUT system is designed to be BID separately.

Bid from the feeds-in.

* Powered by a minimal amount of feed boxes.



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DESIGNED BY
LARRY GELLERT
DRAWN BY
JOHN LOCH
CHECKED BY
JOHN LOCH
DATE
11/01/2024
REVISION
BID/REVIEW

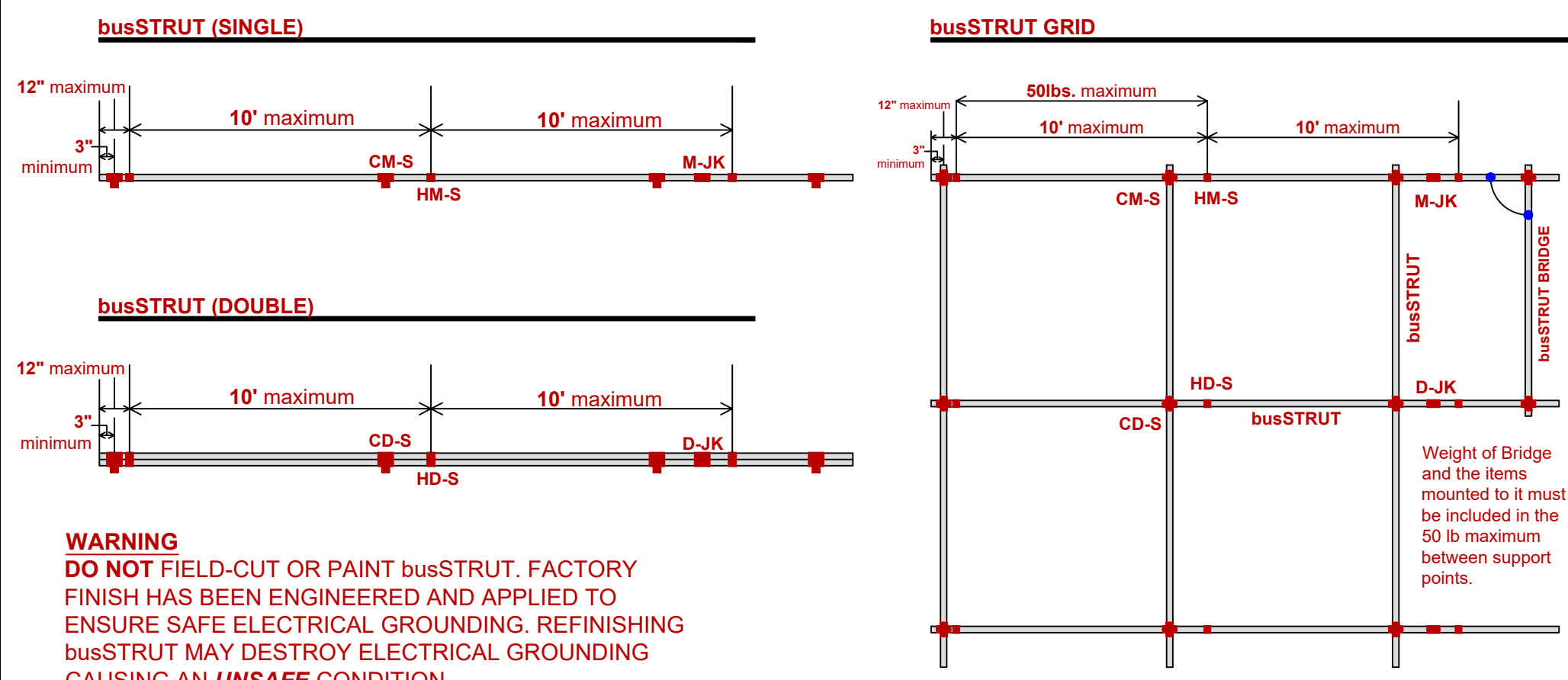
Lighting Plan & Bill of Materials
Rectangle Medium - Lights

busSTRUT SHOP DRAWING (SET ONLY) NOT A REPLACEMENT FOR ARCHITECTURAL / ENGINEERING OR ELECTRICAL DRAWINGS

NO.	DATE	REVISION DESCRIPTION
XX	XX-XX-XX	
XXXX		

PAPER SIZE: ARCH E (48x36)
SCALE 3/4" = 1'-0"
DRAWING NUMBER
E-b1

Mounting Rules



DISTANCE:
10' MAXIMUM 10' spacing between support points

12" Support point must be within 12" from every end or corner

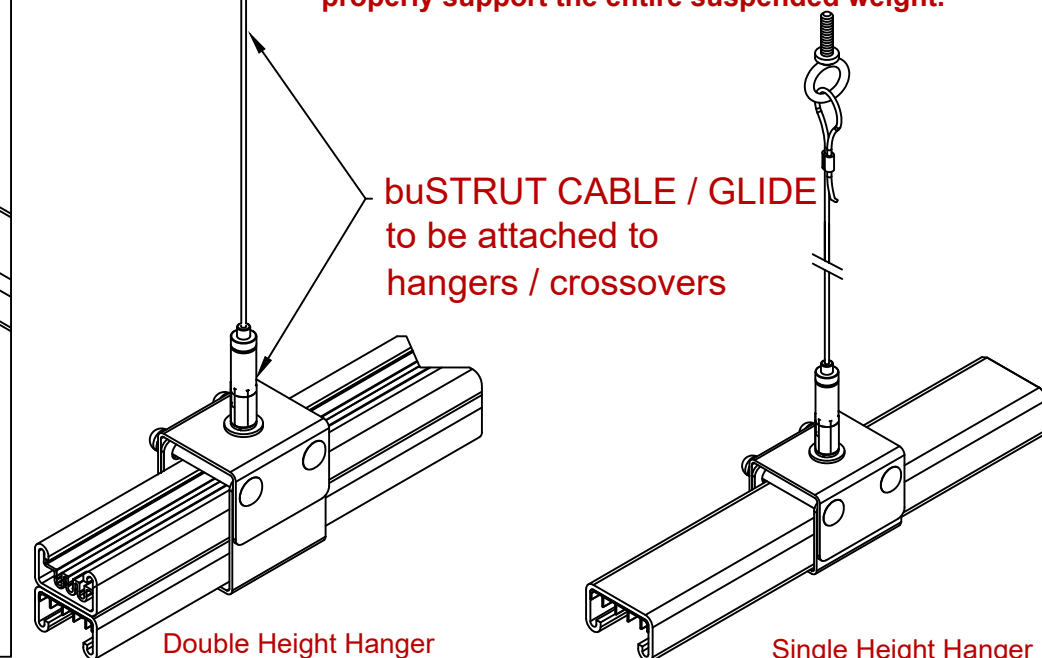
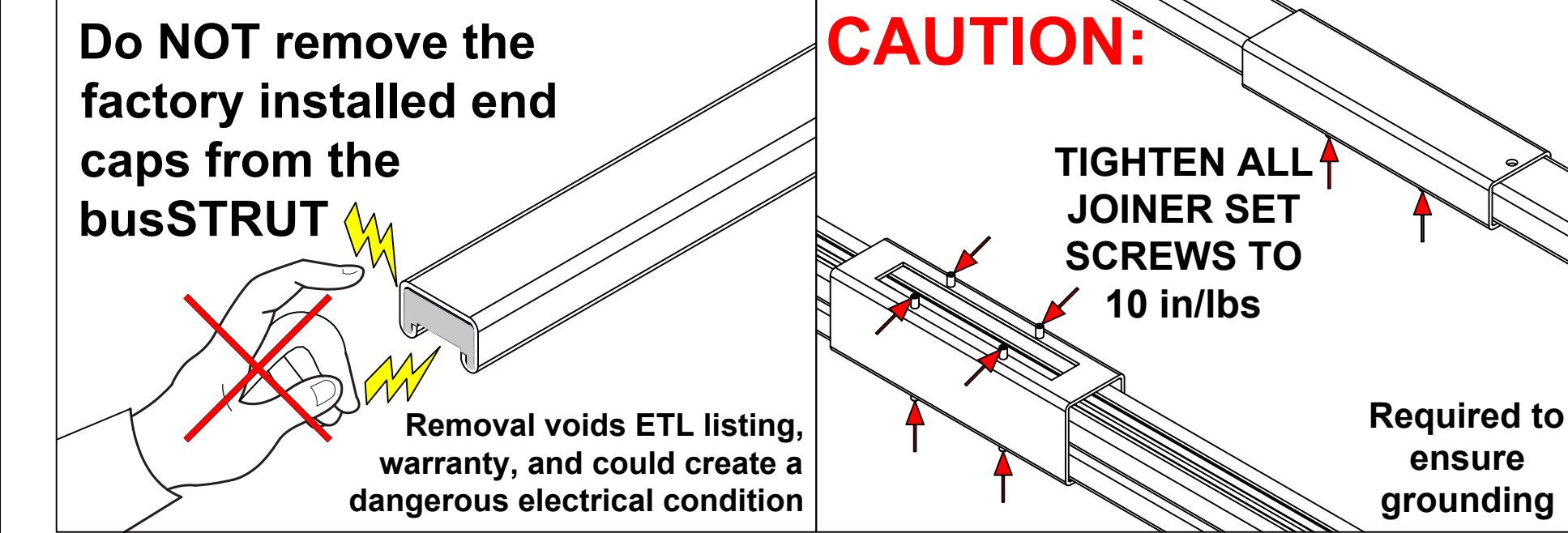
3" MINIMUM 3" of busSTRUT to be exposed beyond end of mounting hangers and/or crossovers

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.

Only busSTRUT fittings and hardware may be mounted directly to busSTRUT.

CONNECTION TO STRUCTURE BY OTHERS
 Attachment from busSTRUT System to structure must be engineered and installed to properly support the entire suspended weight.



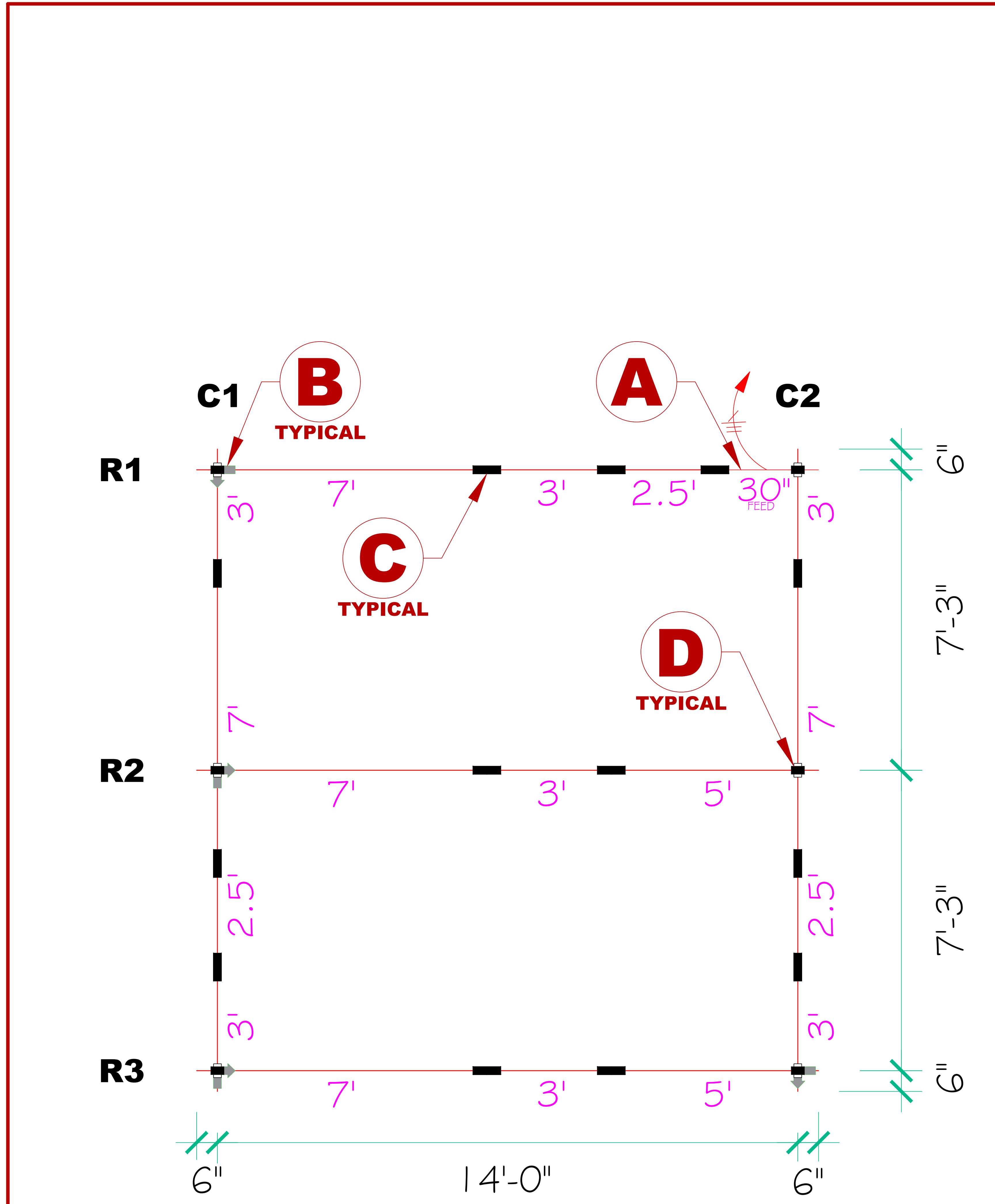
Legend

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

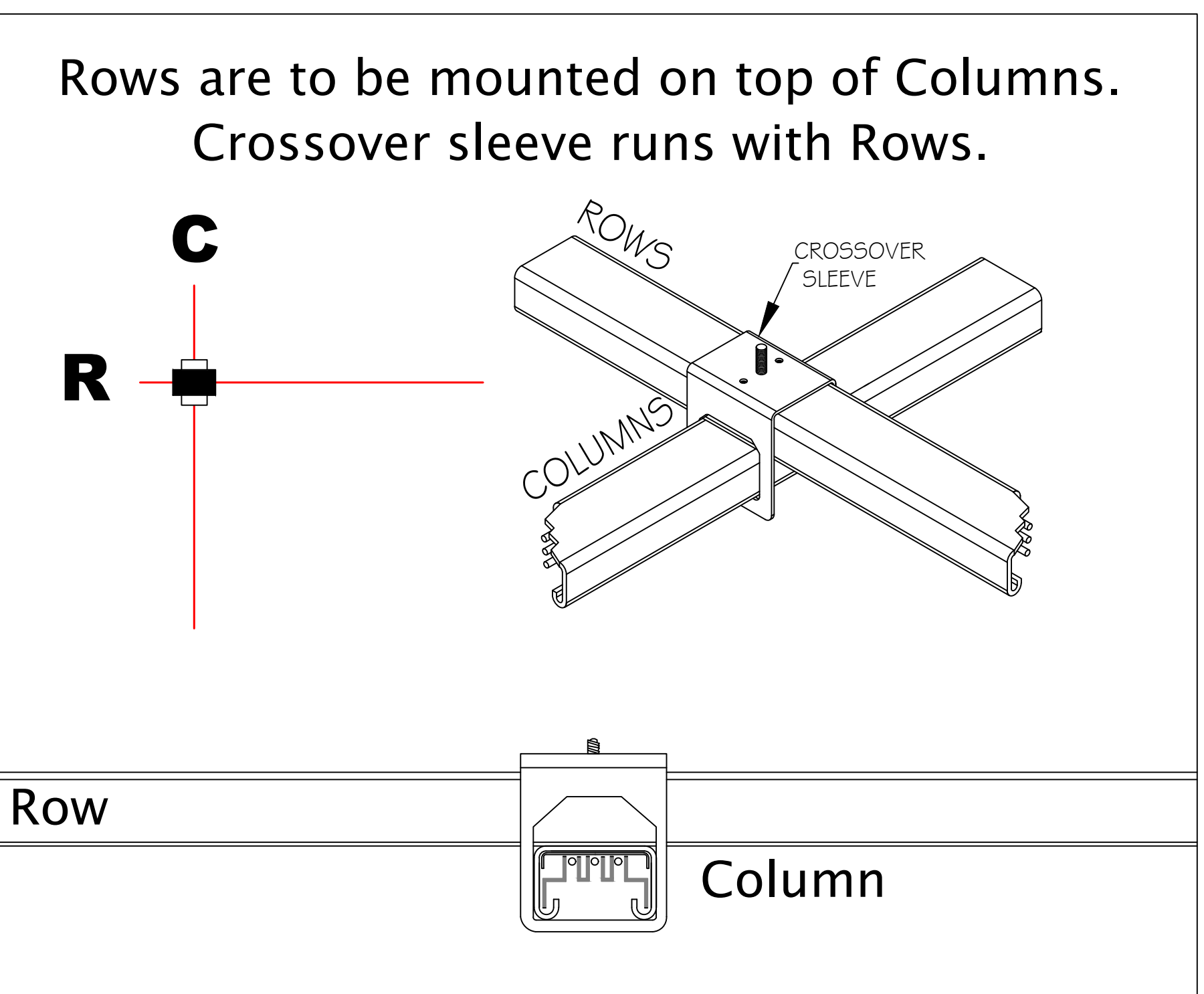
bs
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DESIGNED BY: LARRY GELLERT
 CHECKED BY: JOHN LOCH
 DRAWN BY: JOHN LOCH
 DATE: 11/01/2024
 REVISION: BID/REVIEW

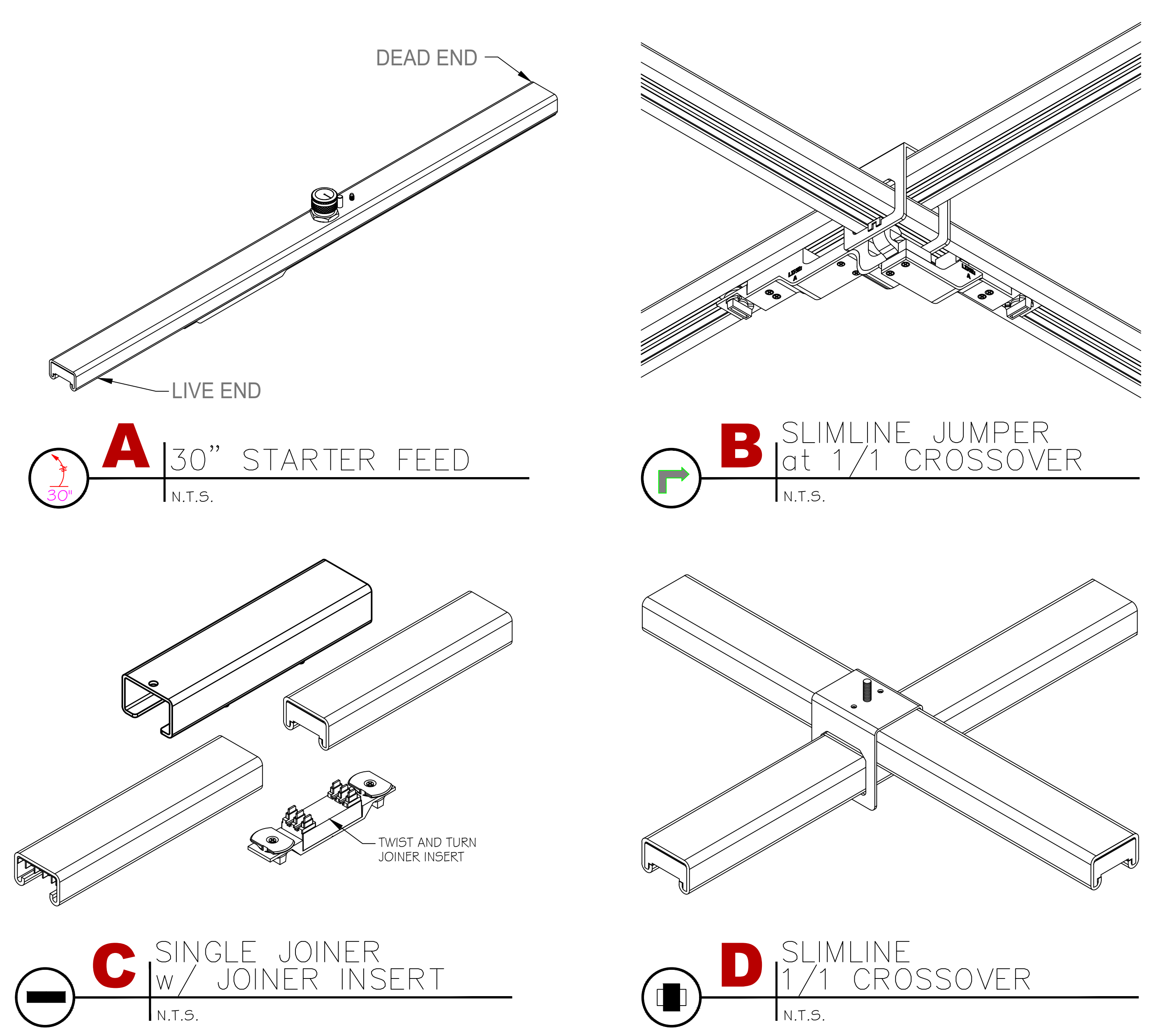
Dimensions



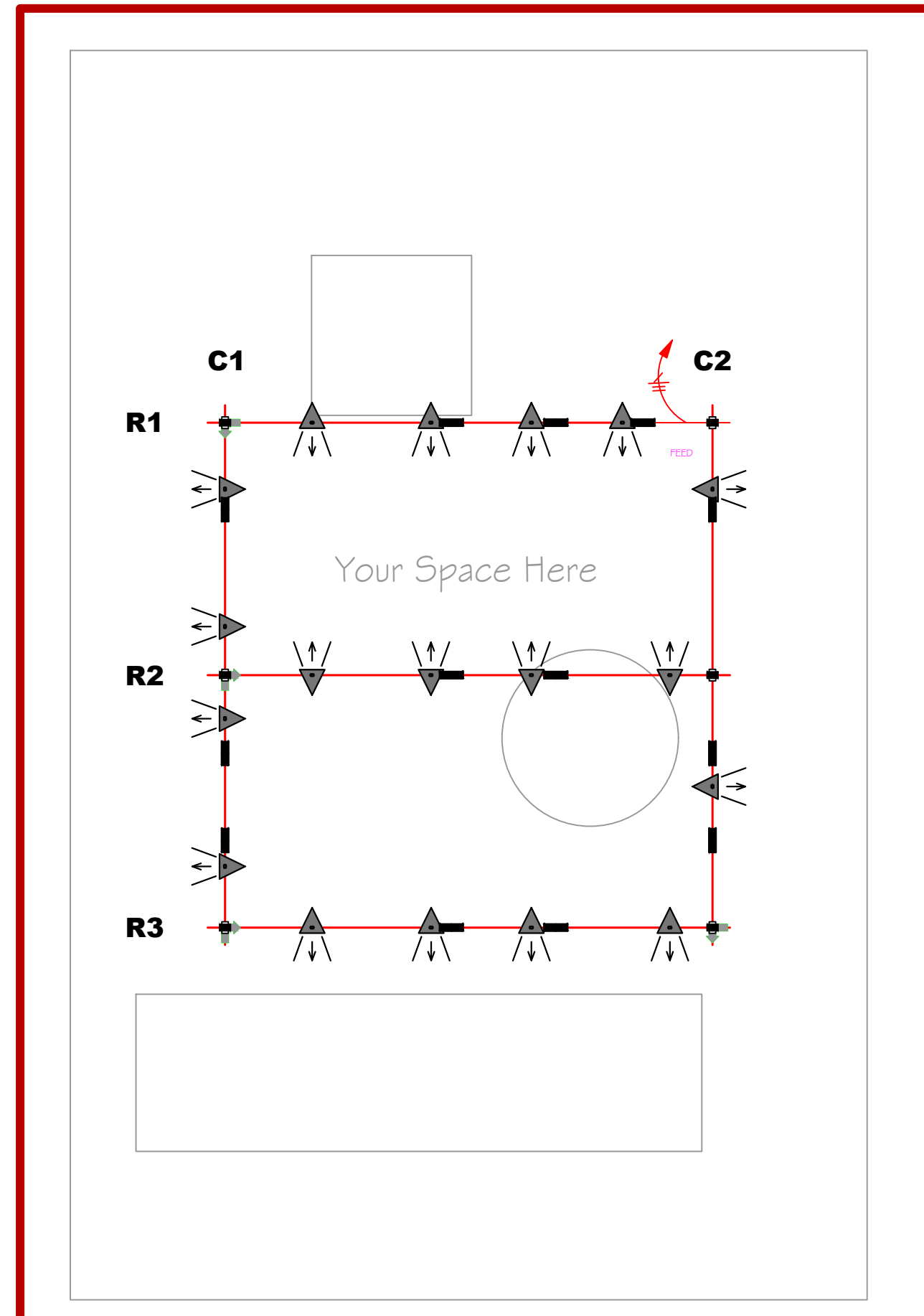
Project Specific Rules



ISO Details



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



Assembly Plan

Rectangle Medium - Lights

busSTRUT DRAWING SET (ONLY) STOP HERE! NO PROCEEDING FOR ARCHITECTURAL, ENGINEERING OR ELECTRICAL DRAWINGS

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