

busSTRUT Shop Drawing Set

Express Rectangle (Large) - 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.

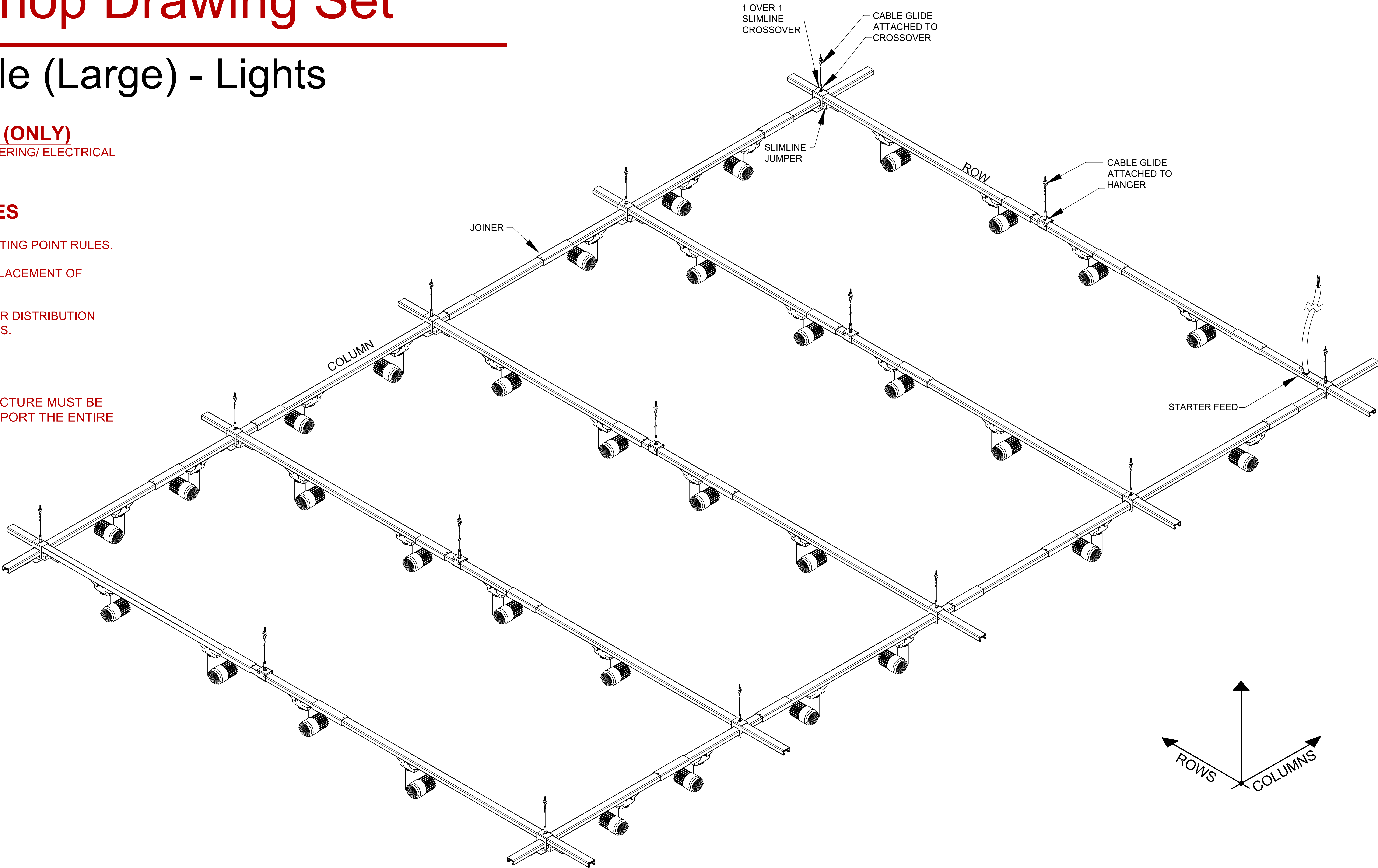


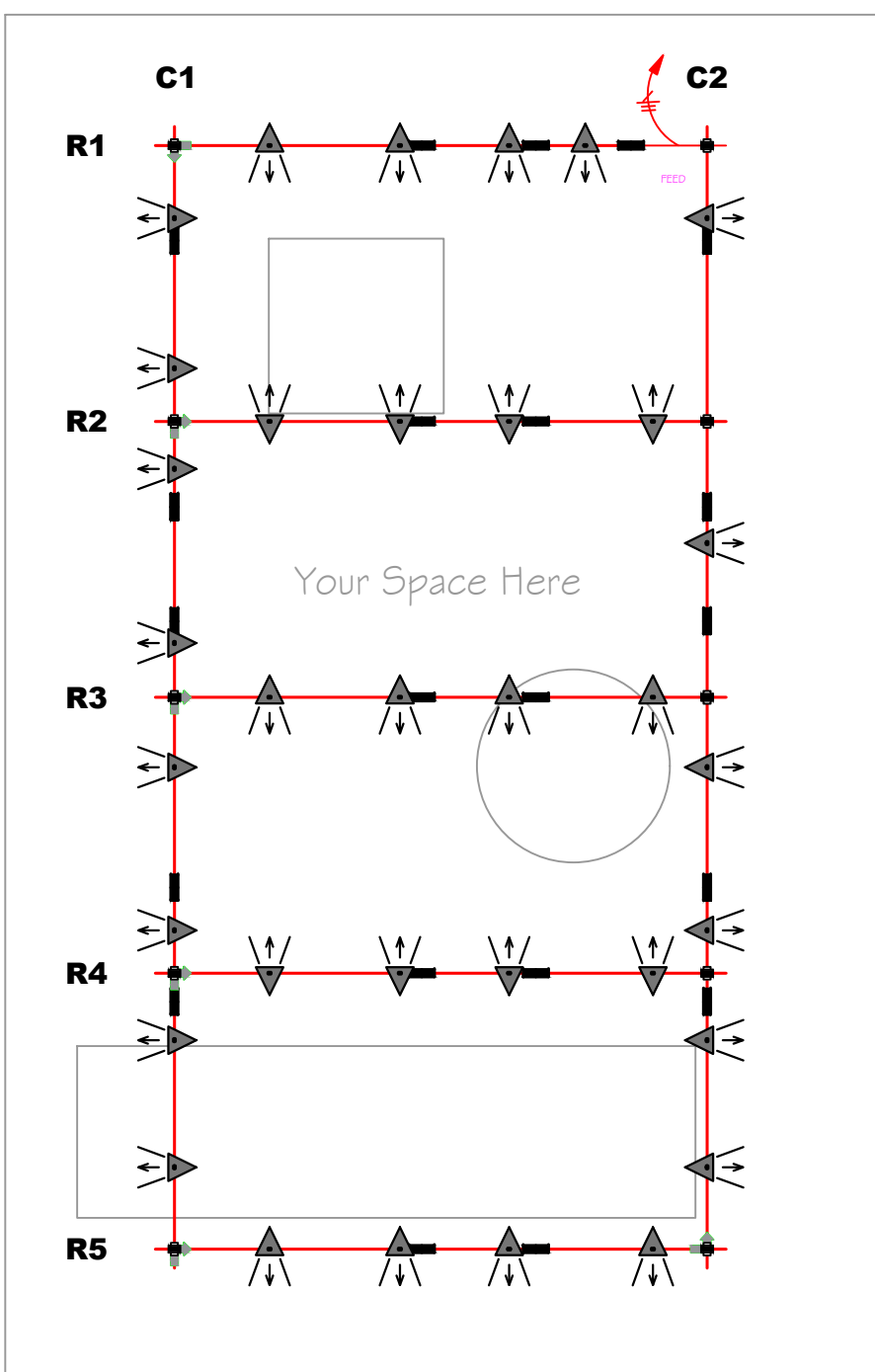
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Typical Installation Instructions

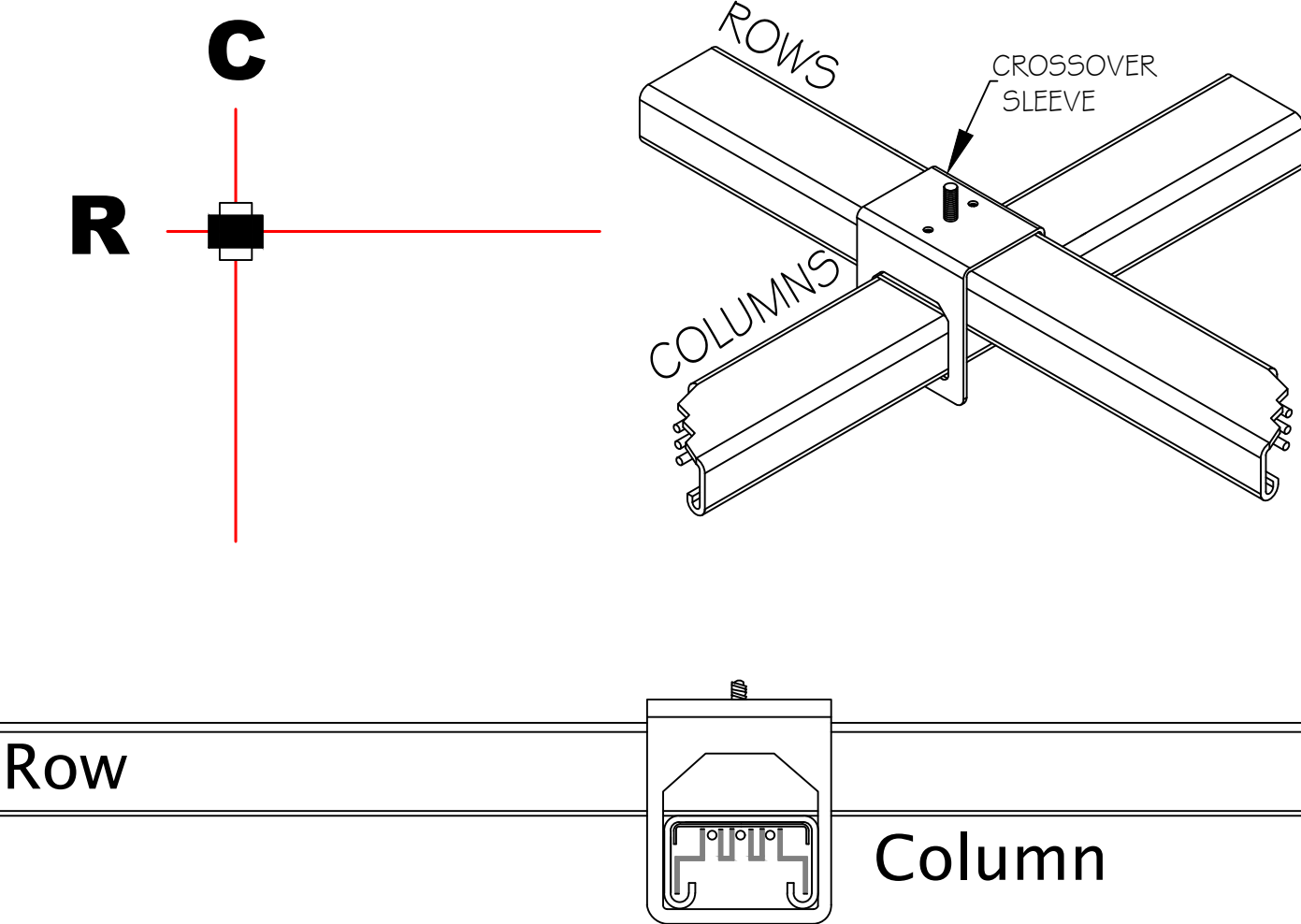
E-b1
E-b2

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

bs

busSTRUT

805 Hillside Road
Suite C
Westerville, OH
43081

TEL: 614.933.8895
E-MAIL: info@busstrut.com
WWW.BUSSTRUT.COM

Principal Engineer

LARRY GELLERT

Drawn By

JOHN LOCH

Check By

JOHN LOCH

Date

11/01/2024

Revision

BID/REVIEW

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

XX

BT

XXXX

REVISION DESCRIPTION

XX-XX-XX

DATE

XX

NO.

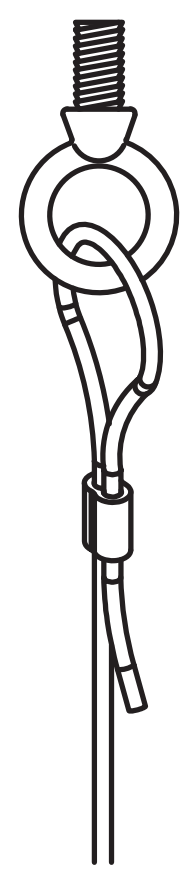
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ARCH E (48x36)

NOT TO SCALE

COVER SHEET

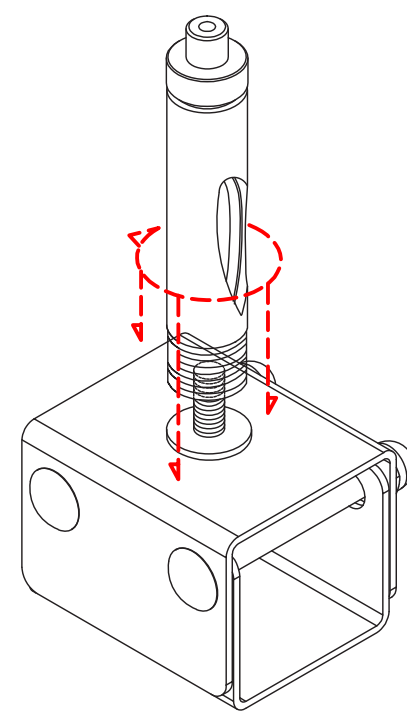
STEP 1

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).

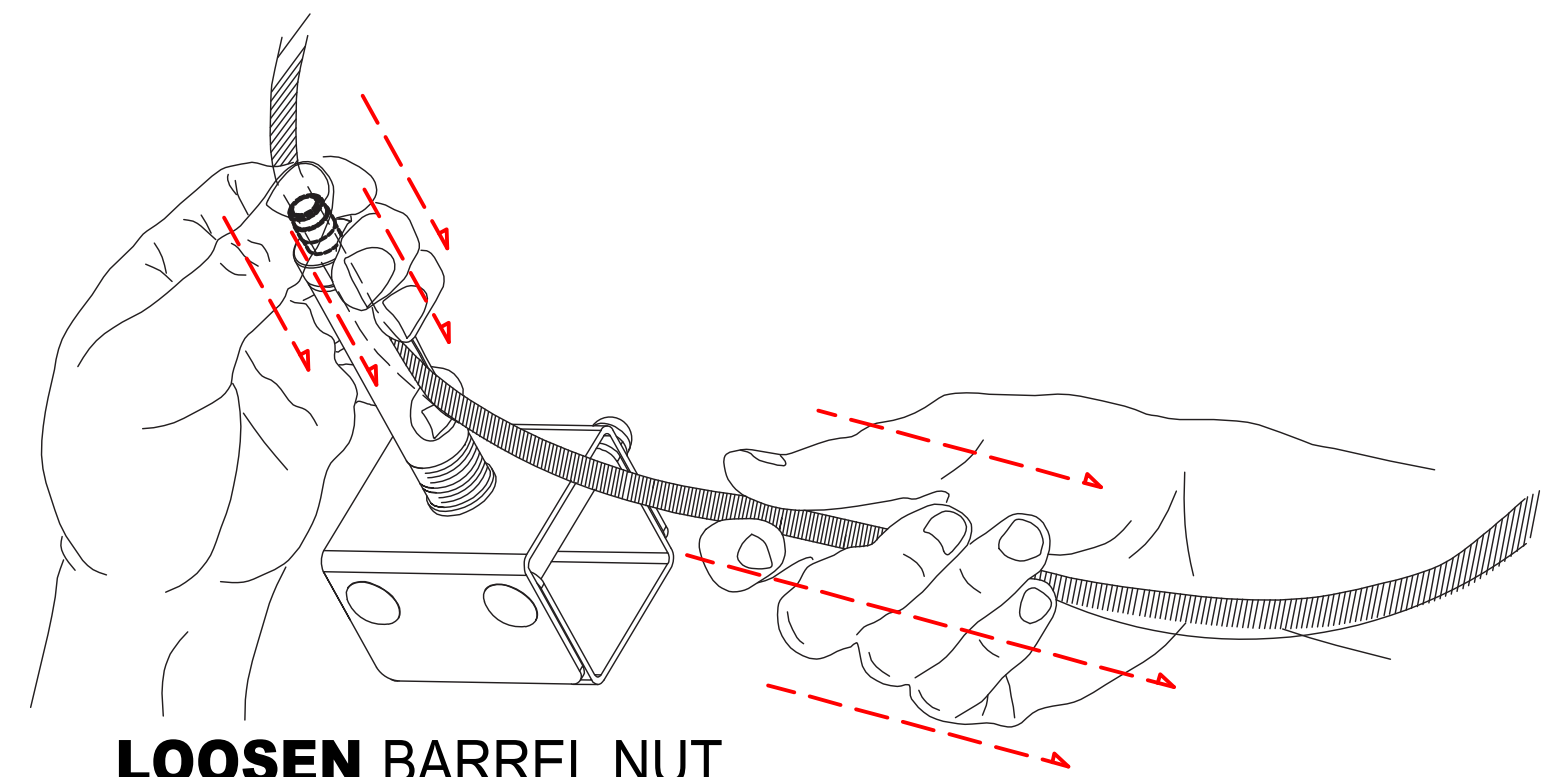
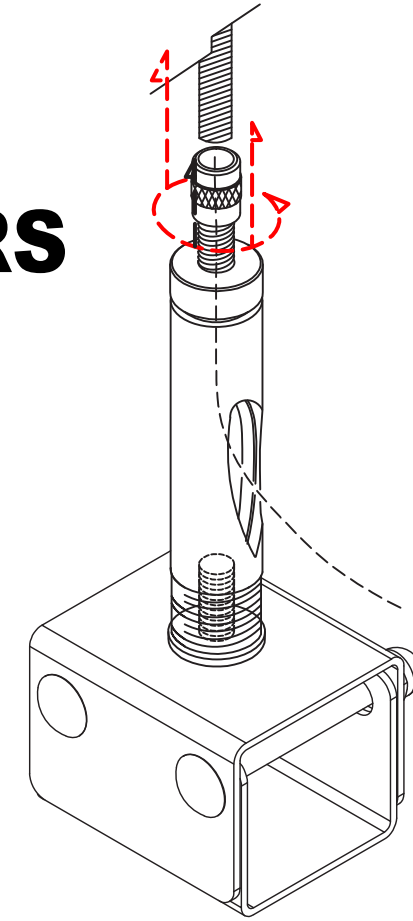


2 ASSEMBLE HANGERS (HM-S)

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

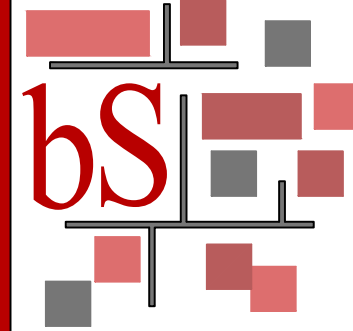
Turn the first knob

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.



busSTRUT

805 Hilldowne Road
Suite C
Westerville, OH
43081
TEL: 614.933.8695
E-MAIL:
INFO@busSTRUT.COM
WWW.BUSSTRUT.COM

DESIGNED BY
LARRY GELLERT

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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ARCHITECTURAL /
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DRAWINGS

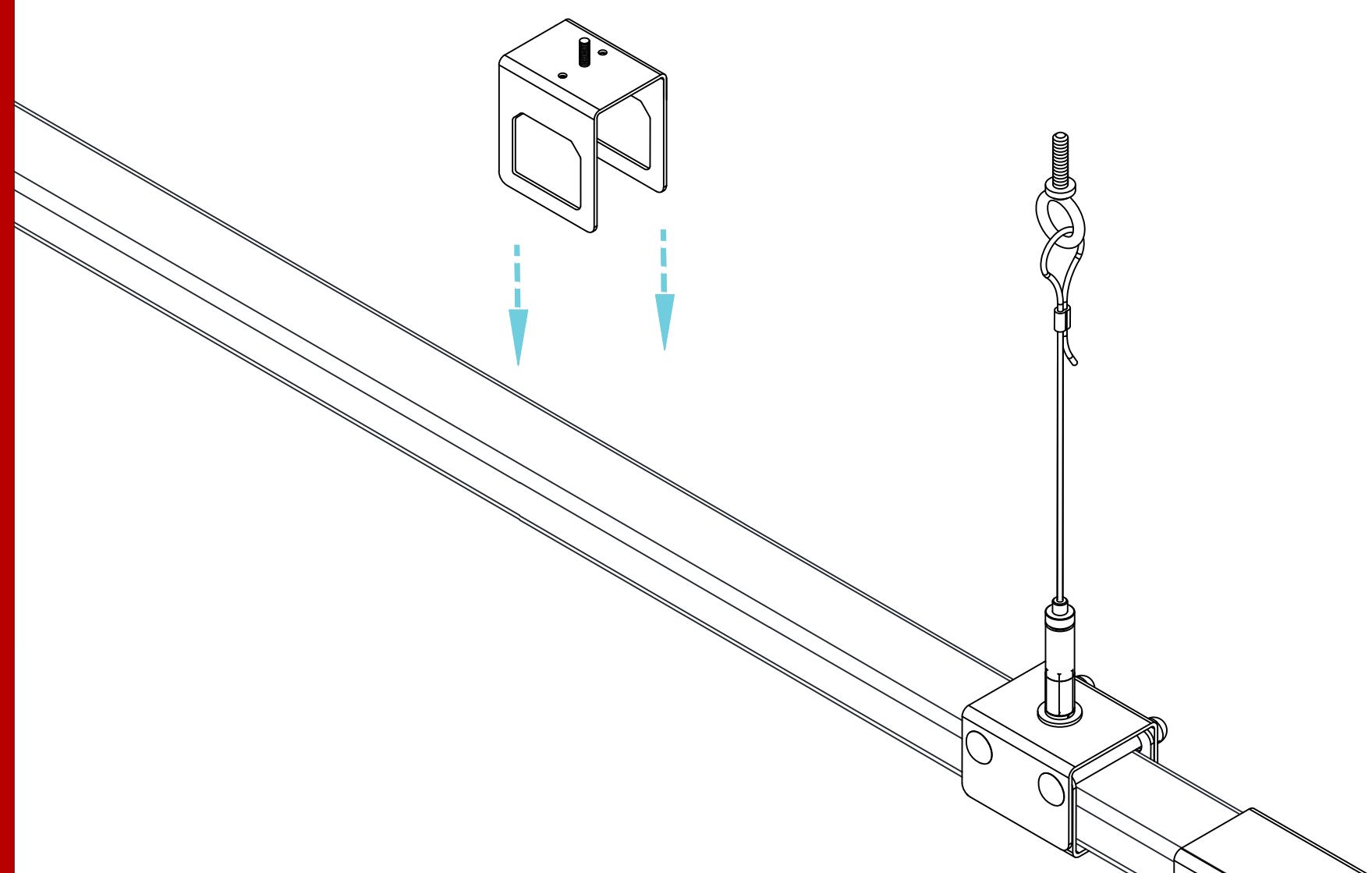
NO.	DATE	DESCRIPTION	BY
1	11/01/24	ARCH E (48x36)	XX

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

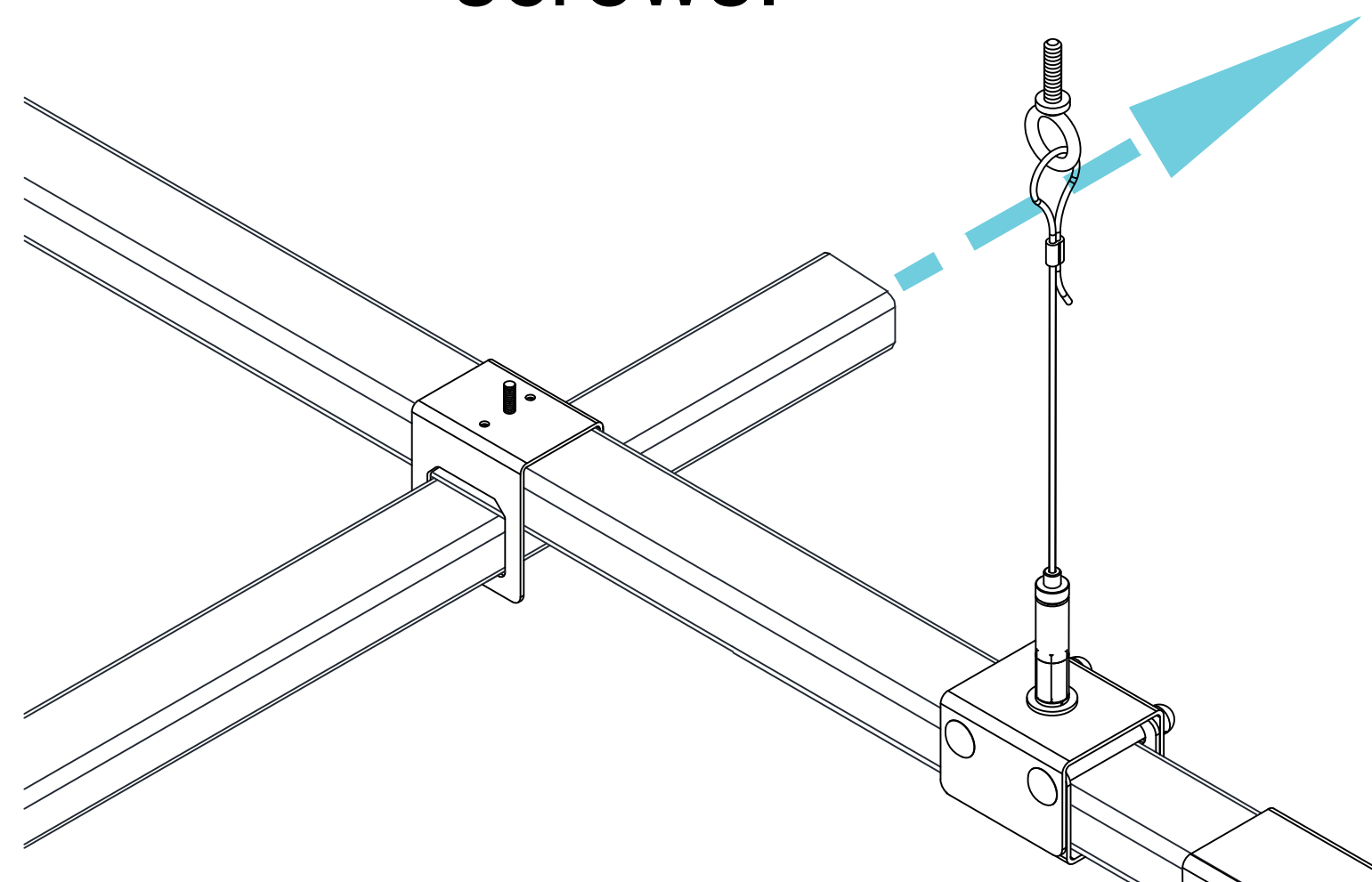
STEP 3

INSTALLING CROSSOVERS DROPPING ON

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

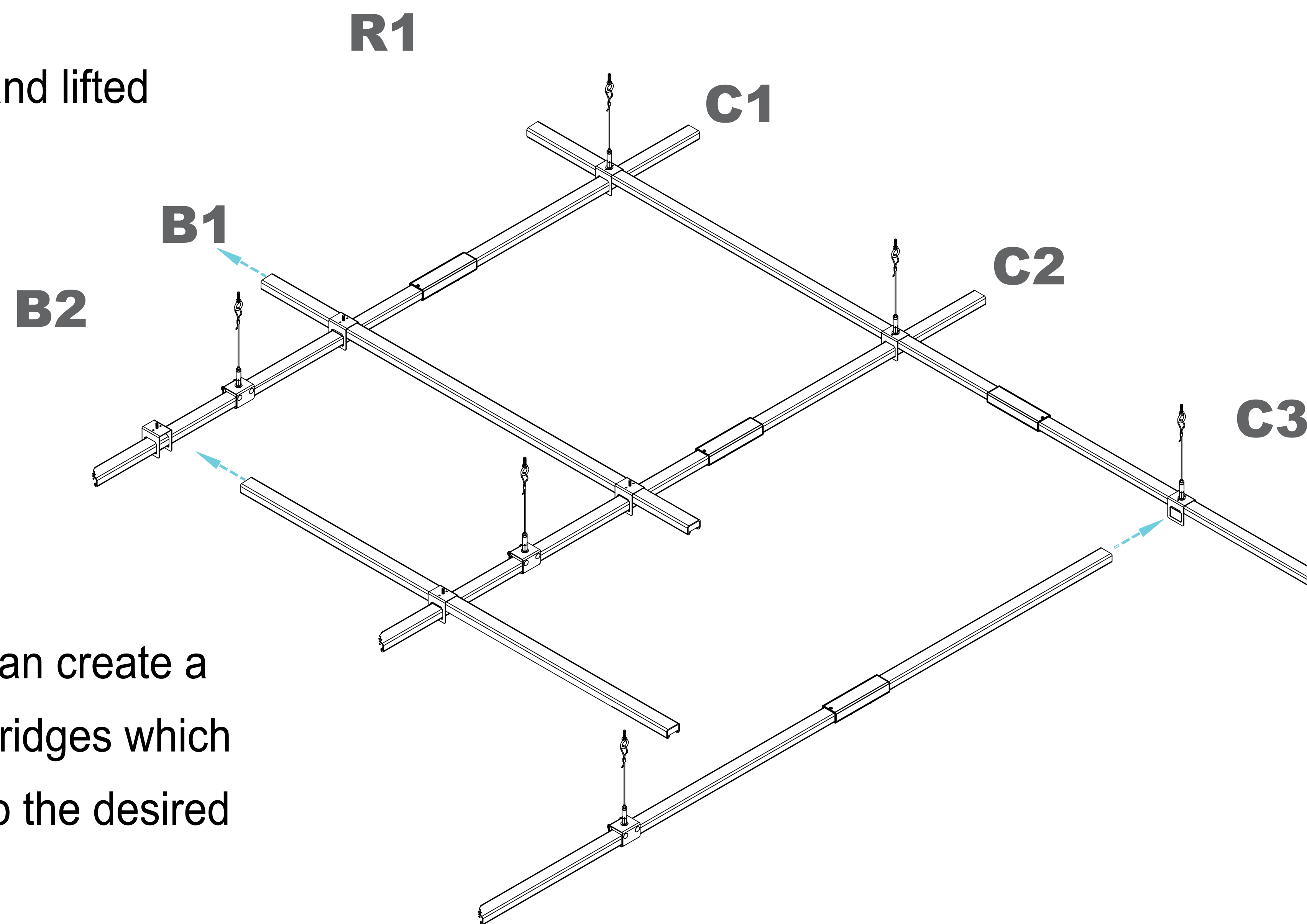


Slide perpendicular runs of busSTRUT through the crossover and tighten the set screws.



SLIDING ON

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

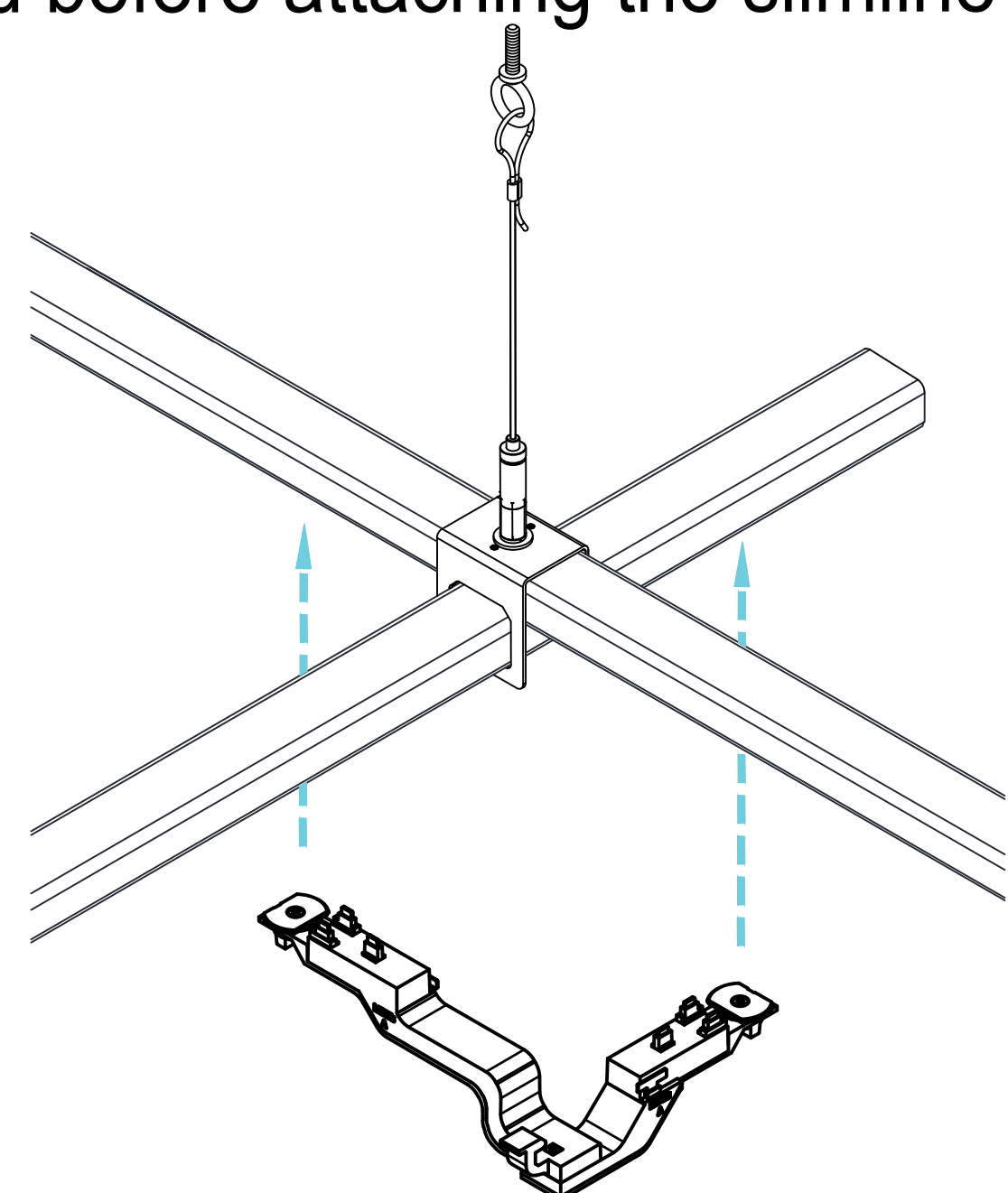


Perpendicular runs can create a full grid or be short bridges which are easily moved into the desired position.

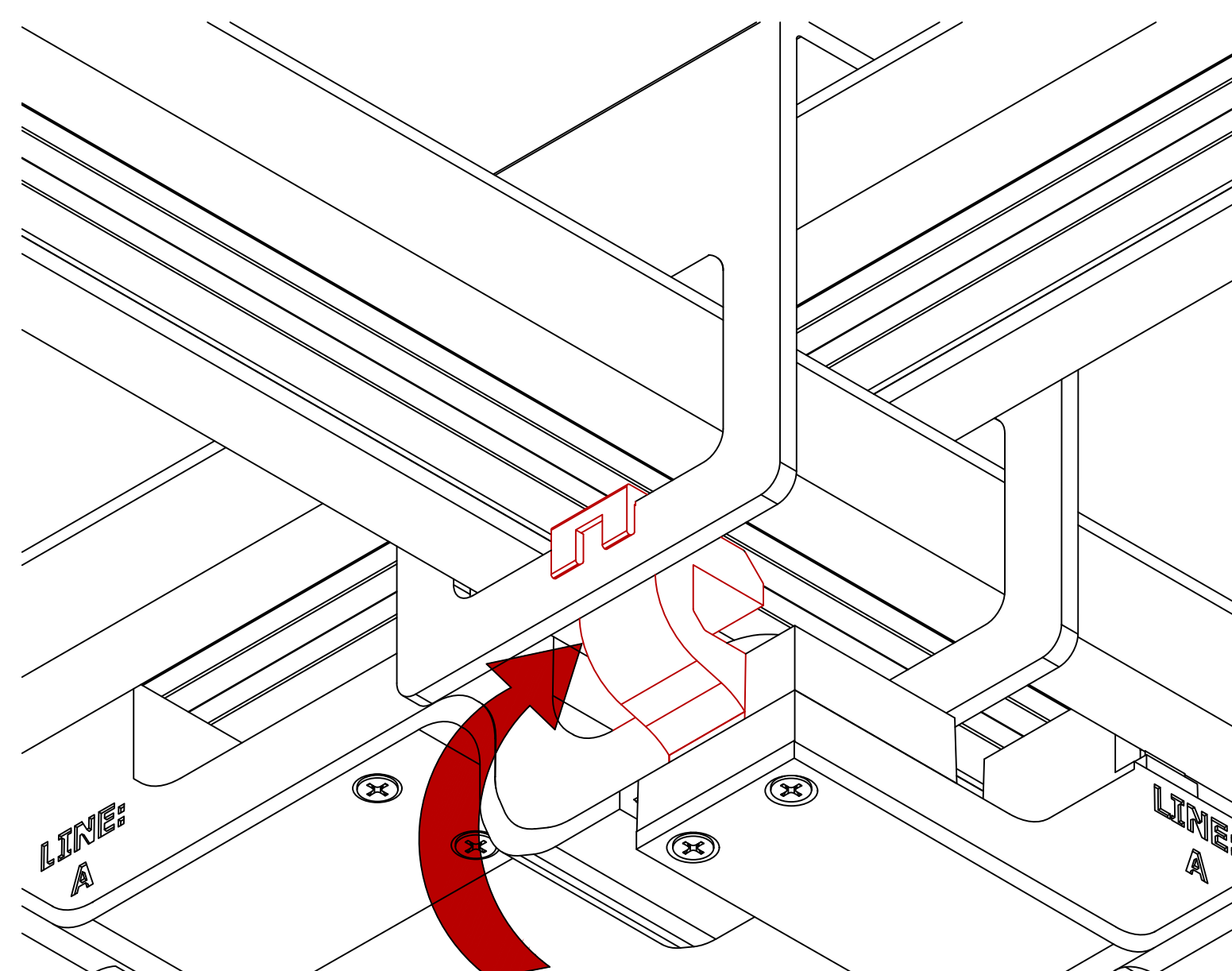
STEP 4A

SLIMLINE JUMPER

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

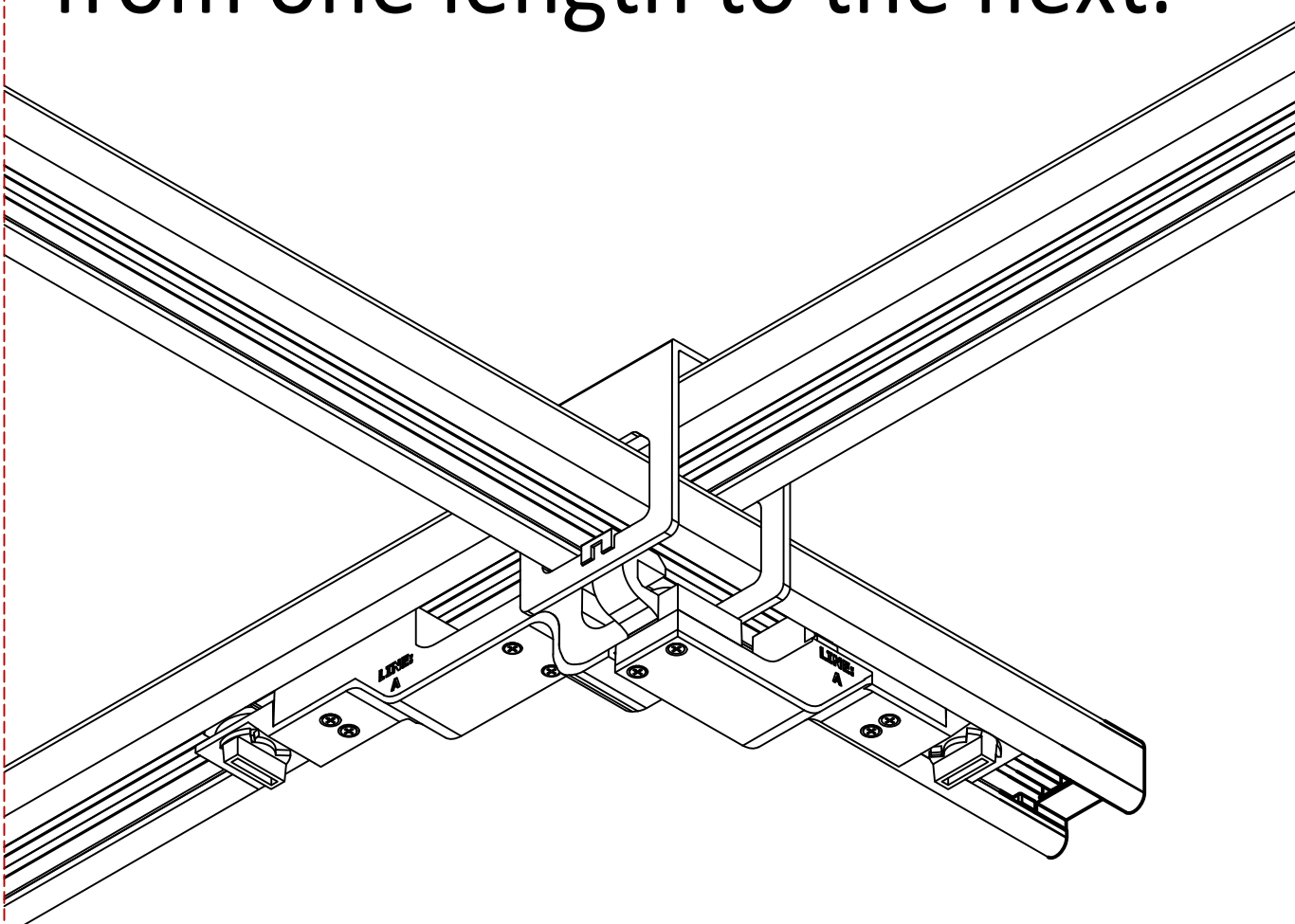


First, clip the jumper to the crossover.

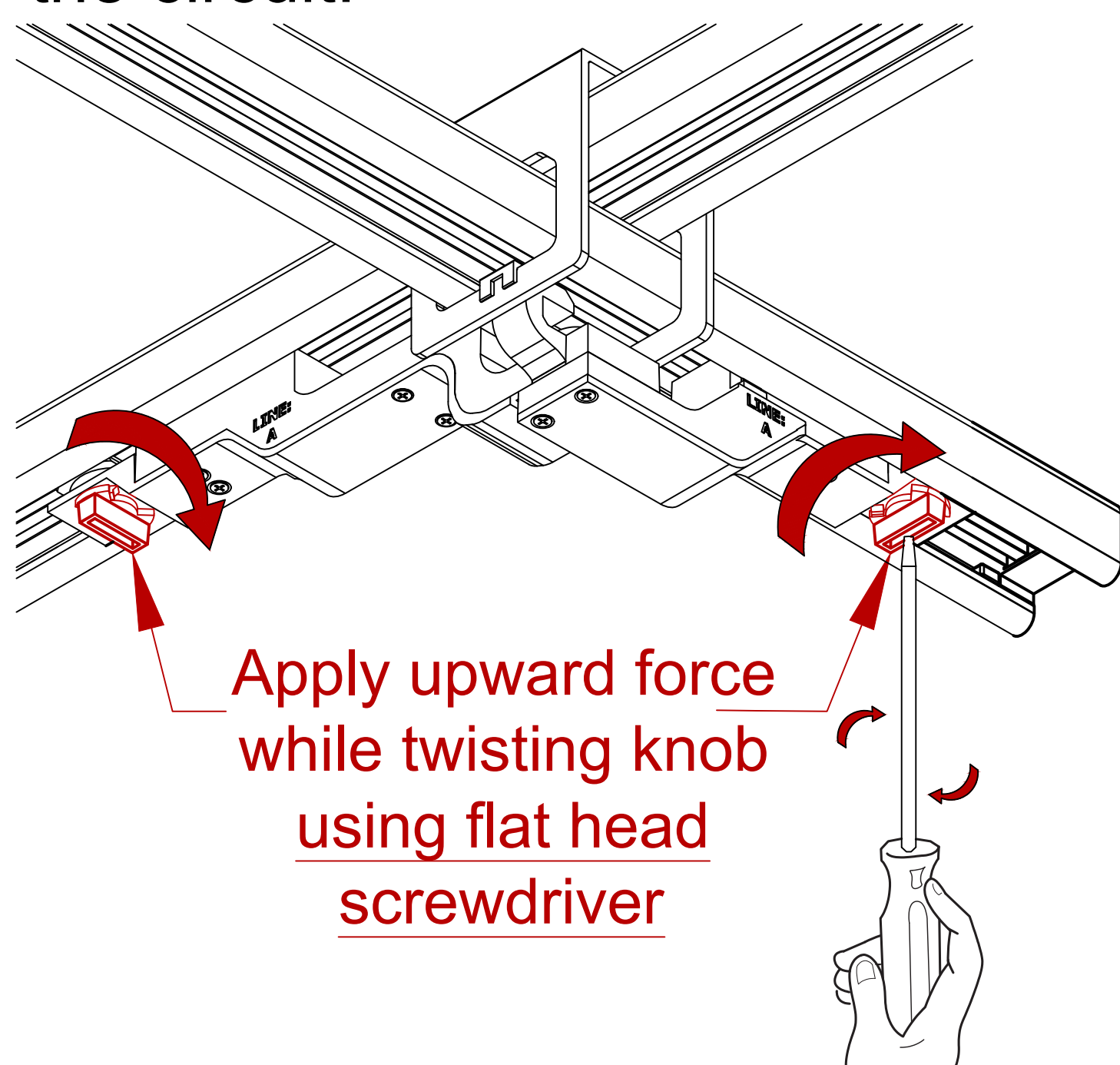


SLIMLINE JUMPER (MD2020-UNIV-IJ2-B-X)

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.



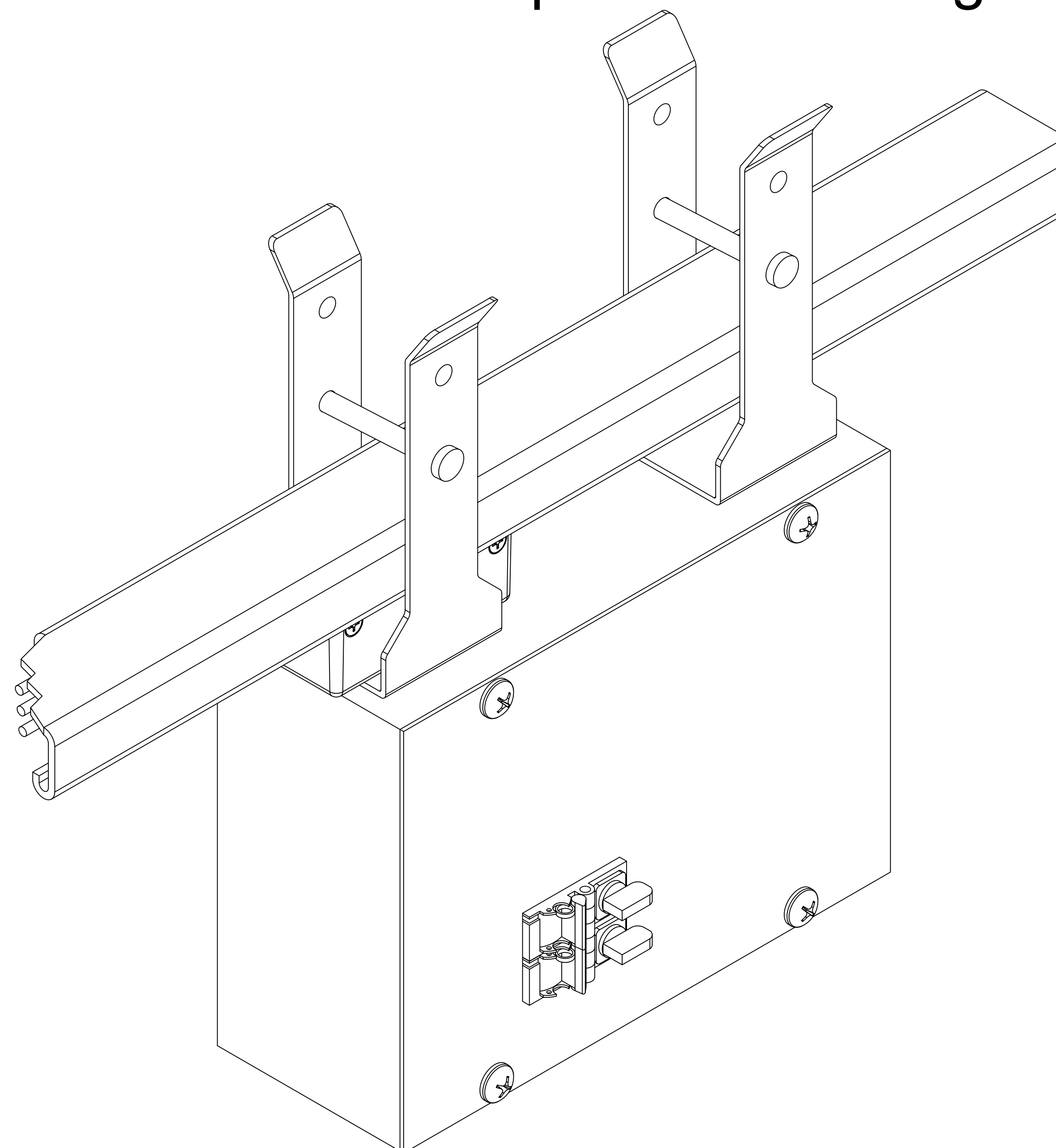
Seat the jumper into the busSTRUT by squeezing tightly on one side and turning the knob. Then, turn the other knob to complete the circuit.



STEP 4B

LINE FEEDS

Install line feeds on busSTRUT to power the configuration.



20A LINE FEED

Shown on single decked busSTRUT

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

SINGLE DECK	 GRAY 20 AMPS M20-3-40-V-(L)	 CG-(LENGTH)	 HM-S	 M-JB	 ICM-S	 P20-3-40-UNIV-FDXX-F P20-3-40-UNIV-30-CM-F 1-1	
	 EMPTY-STRUT MOO-(L)						
DOUBLE DECK	 DOUBLE-STRUT NOTE: GROUNDS ON AND ON BOTTOM GROUNDS ON C AND ON TOP	 CG-(LENGTH)	 HD-S	 D-JB	 ICD-S	 JUMPER CABLE MD4020-UNIV-JC-F-90-12 MD2020-UNIV-IJ2-B-X	

STEEL hvsuSTR12 features 1" x 1" x 1/8" threaded rods. The two 12" long 40mp circuits 40 Amp Maximum with hvsuSTR120, alternatively two 40 Amp circuits, 40 Amp Maximum with hvsuSTR140, 2, 5, 10, and 20" lengths. Rated for use to 277V/800. Double decks with standard hardware included.	BRANDED Cable with GLIDE: For use with hvsuSTR120 and Double Hangers are for use with hvsuSTR140. Each is an assembled two-part unit. The upper piece includes a cable factory assembled cable looped threaded 1/4-20" type hvsuSTR1 cable-glide.	HANGERS: Single and Double Hangers are for use with hvsuSTR140. Each is an assembled two-piece unit. The upper piece includes a threaded stud for factory assembled cable looped threaded 1/4-20" type hvsuSTR1 cable-glide.	JONERS: Single and Double are for use with hvsuSTR120. Lengths are joined together mechanically with the assembled two-piece unit. The upper piece includes a Twist T Turn Plug-In and electrical ground to bridge power. And continuous grounding is through the base steel by means of a permanently affixed copper grounding bar.	CROSSOVERS: For use with intersecting hvsuSTR120. Each is an assembled two-part unit for building grid and crossover. The upper piece includes a threaded stud for use with hvsuSTR140 cable-glide.	JUMPERS: For use with both hvsuSTR120 and hvsuSTR140. The 4000 4002t Jumper Cables can be used to electrically connect hvsuSTR120 and hvsuSTR140 Trunks to hvsuSTR120 Branches and electrically connecting hvsuSTR120 to hvsuSTR140. LINE FEEDS: For use with powerline single-ended hvsuSTR1. Junction Boxes feature energy code type "Intertek" (breakfast holders) and 3 Pole fuses. Rated for use to 277V/800. Can be positioned anytime hvsuSTR120 to reduce the lengths of homomus. Electrically connecting hvsuSTR120 to hvsuSTR140. STARTER FEEDS: For use with powerline single-ended hvsuSTR1. Utilized when no current limit is required on the hvsuSTR1. Must be positioned at the beginning of a run.
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busSTRUT Bill of Materials																	Drawn By		John Loch			
ROWS Large LT				Finish TBD: Galvanized, White, or Black													Checked By		John Loch			
																	Date		10/4/2024			
				busSTRUT LENGTHS				busSTRUT Hardware						busSTRUT POWER								
				busSTRUT 20				Joiners			Hangers		C-GI	Xover	Jcord	Line			GEN	ACT		
				M20-3-40-277-2.5-F-2B	M20-3-40-277-3-F-2B	M20-3-40-277-5-F-2B	M20-3-40-277-7-F-2B	M-JB-F-X	M-JI-F-X	NON-ELECTRIC JOINER INSERT	M-JI-F-NE	HM-S-F-ST-LFX	MKU-ST-A-F	CG-E-15-B-GL	ICM-S-F-ST-X	MD4020-UNIV-ICF-90-12-G02	MD2020-UNIV-1J2-F-X	P20-3-40-UNIV-JK-NB-F	P20-3-40-UNIV-30-CM-F 1-1	MD40-2-120-CB20-DC-XX-LX-F	BRL-4-40L-30K80-ST-WD-F	BR-LUCY-J-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	
R4	20	15	15		1	1	1	2	2		1		3	2		1					4	
R5	20	15	15		1	1	1	2	2		1		3	2		1					4	
SUB TOTAL		75	75	1	5	4	5	11	11		5		15	10		4		1			20	
R/C	Amps	LF	BF	2.5	3	5	7	M	INS	NE-INS	M	D	C-GI	1/1	12"	INVS	JK	30ST		WW	LUCY	
Columns																						
C1	20	30	30		3		3	5	5							1					8	
C2	20	30	30		3		3	5	5							1					6	
SUB TOTAL		60	60		6		6	10	10							2					14	
STORE TOTAL		135.0	135.0	1	11	4	11	21	21		5		15	10		6		1			34	

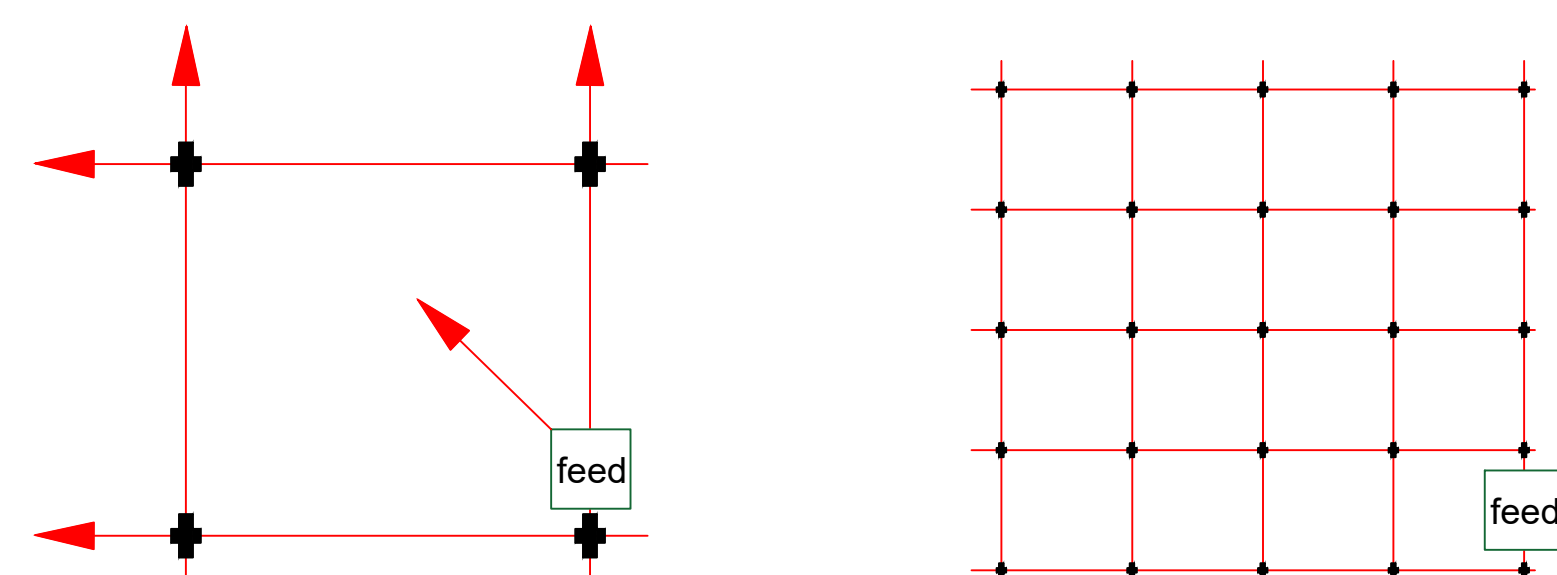
busSTRUT provides time-tested standard labor hours per part, which are then multiplied by the project's Bill of Materials.

bus.STRU T LABOR									
ITEMS		Qty.	U/M	STANDARDIZED LABOR HOURS			TOTAL HRS		
					min	hrs	60		
bus.STRU T SYSTEM	LENGTHS	<u>135</u>	LF	x	2.75	0.05	=	6	
	JOINERS	<u>21</u>	EA	x	12	0.20	=	4	
	HANGERS	<u>15</u>	EA	x	25	0.42	=	6	
	CROSSOVERS	<u>10</u>	EA	x	10	0.17	=	2	
	ATTACHMENTS		EA	x	8	0.13	=	0	
	JUMPERS	<u>6</u>	EA	x	6	0.10	=	1	
	FEEDS	<u>1</u>	EA	x	15	0.25	=	0	
bus.STRU T SUB-TOTAL							=	19	
FIXTURES	ACCENT	<u>34</u>	EA	x	8	0.13	=	5	
	LINEARS		EA	x	20	0.33	=	0	
	bus.STRU T READY LIGHTS SUB-TOTAL							=	5
TOTAL TIME							=	24	

busSTRUT system is designed to be BID separately.

Bid from the **feeds-in**.

* Powered by a minimal amount of feed boxes.

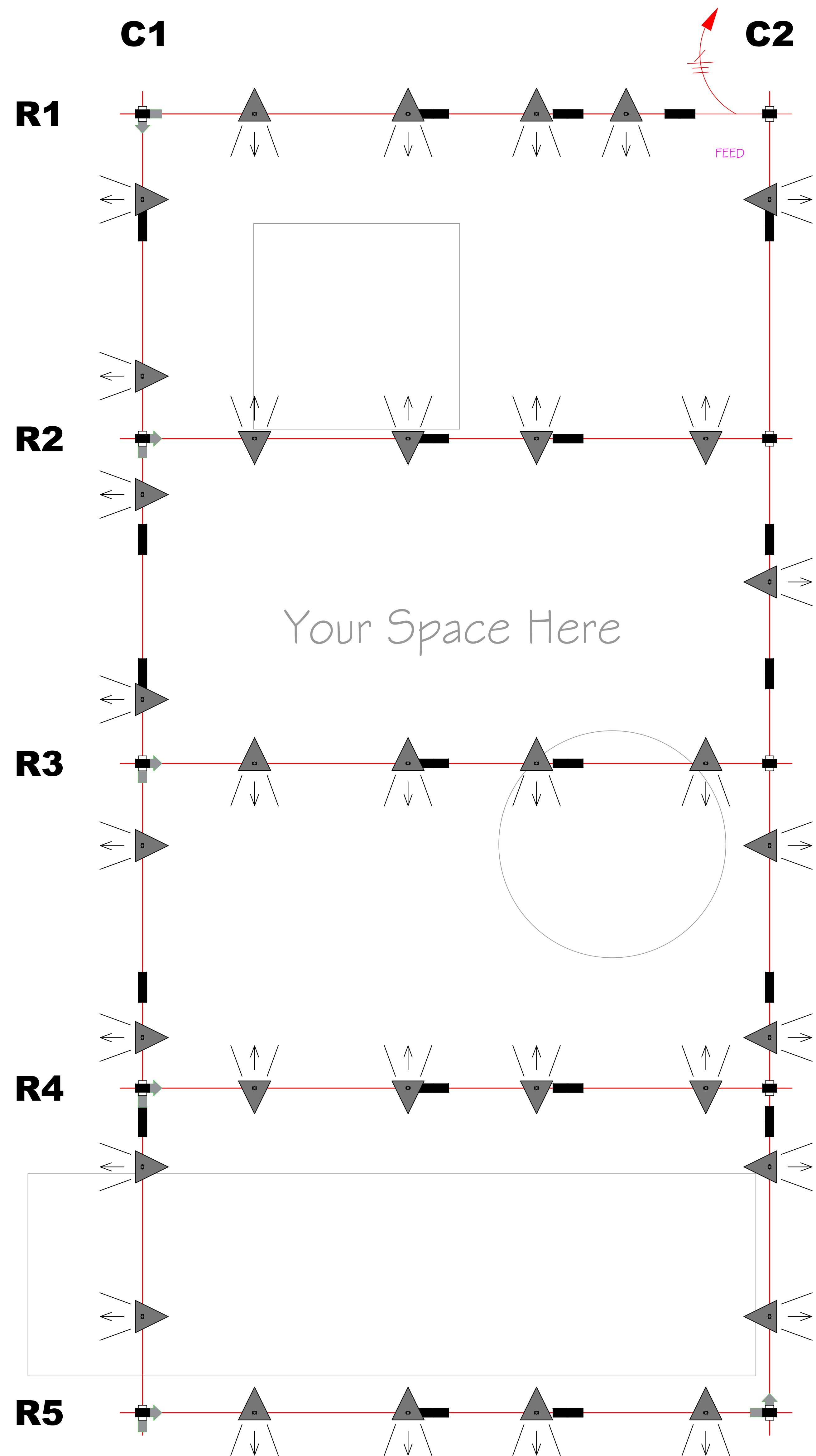


ACCENT LIGHT
BR-LUCY-U-309-30-F-(OC)

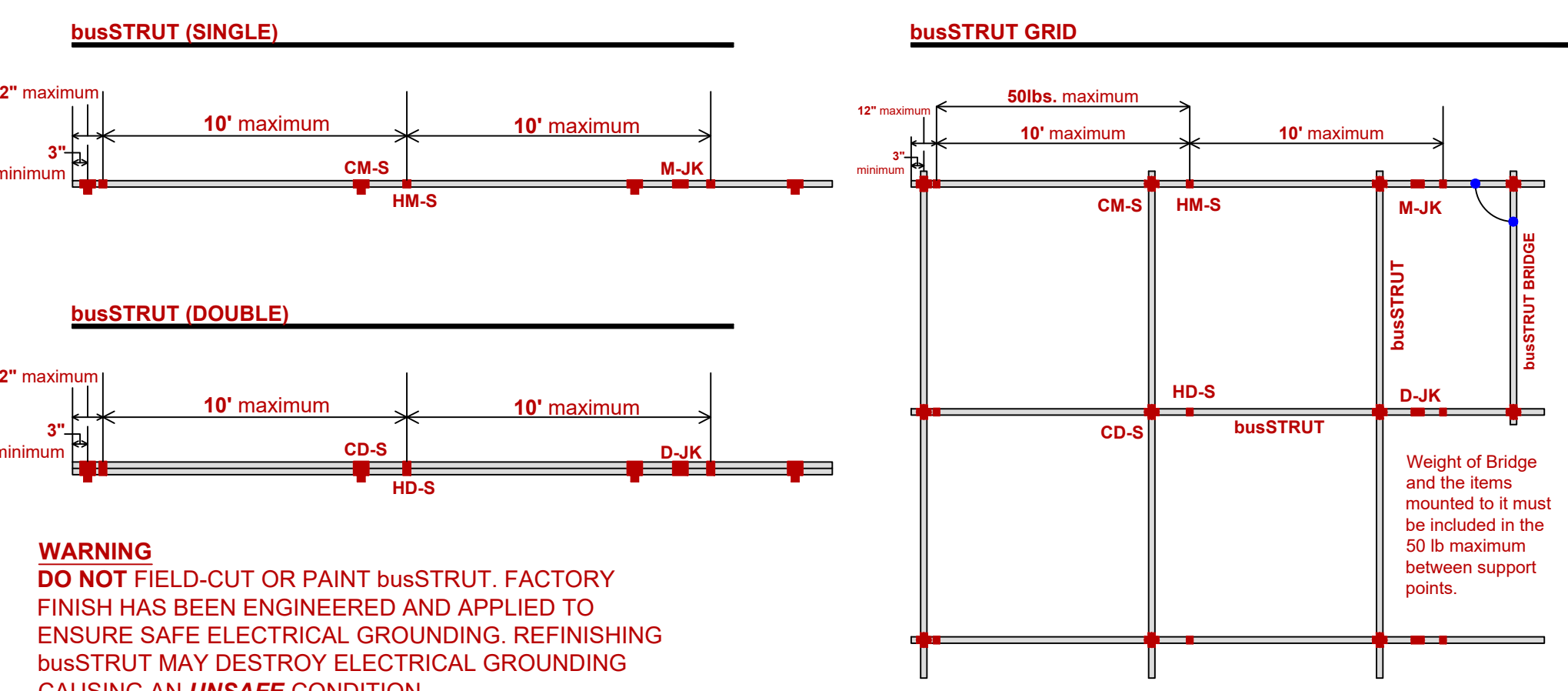
N.T.S.

	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

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

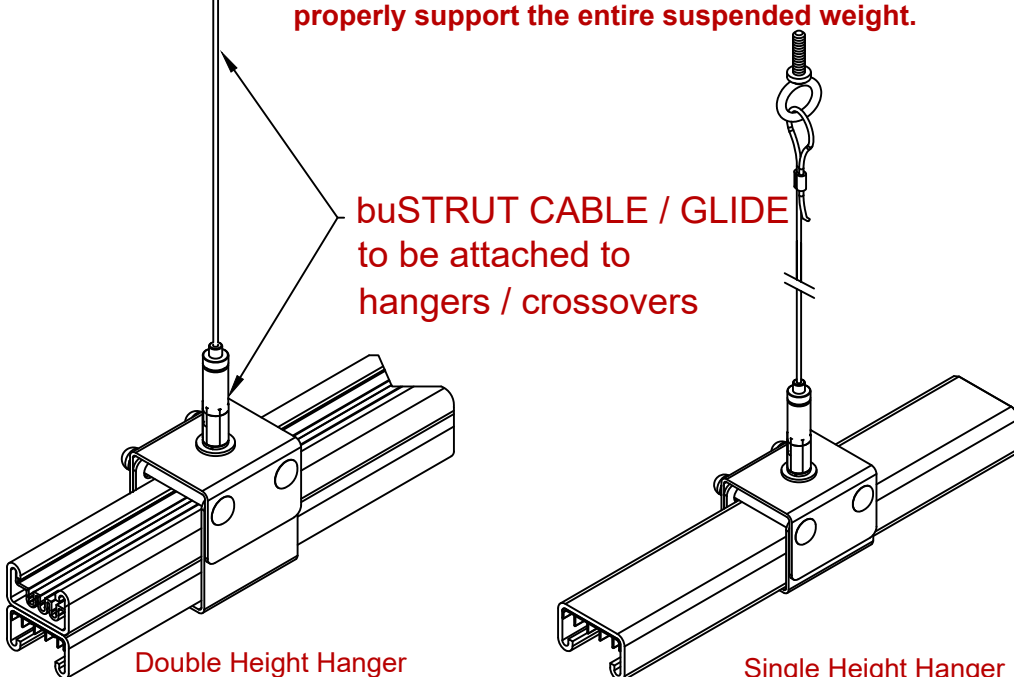
CAUTION:

TIGHTEN ALL JOINER SET SCREWS TO 10 in/lbs

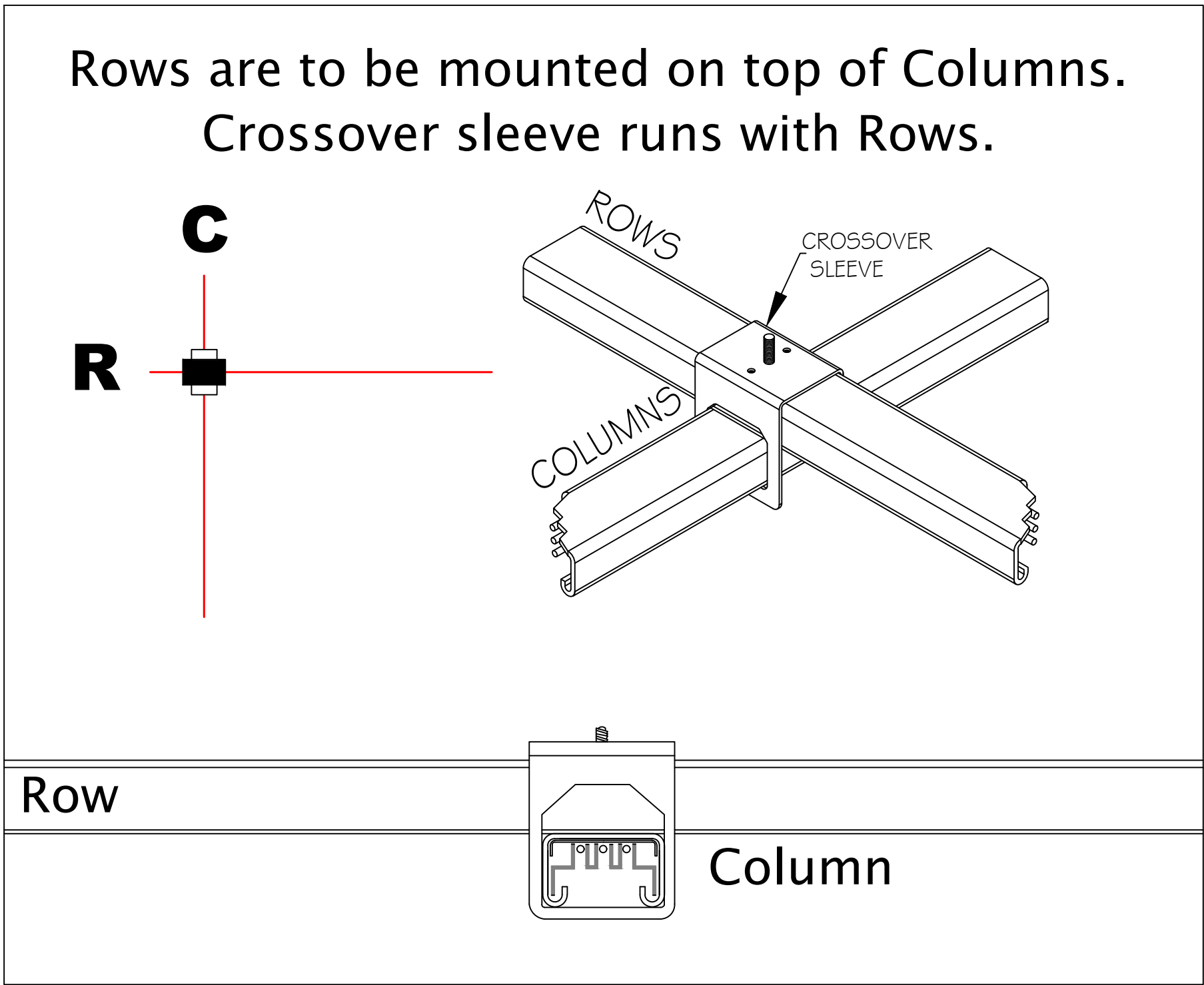
Required to ensure grounding

- 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**

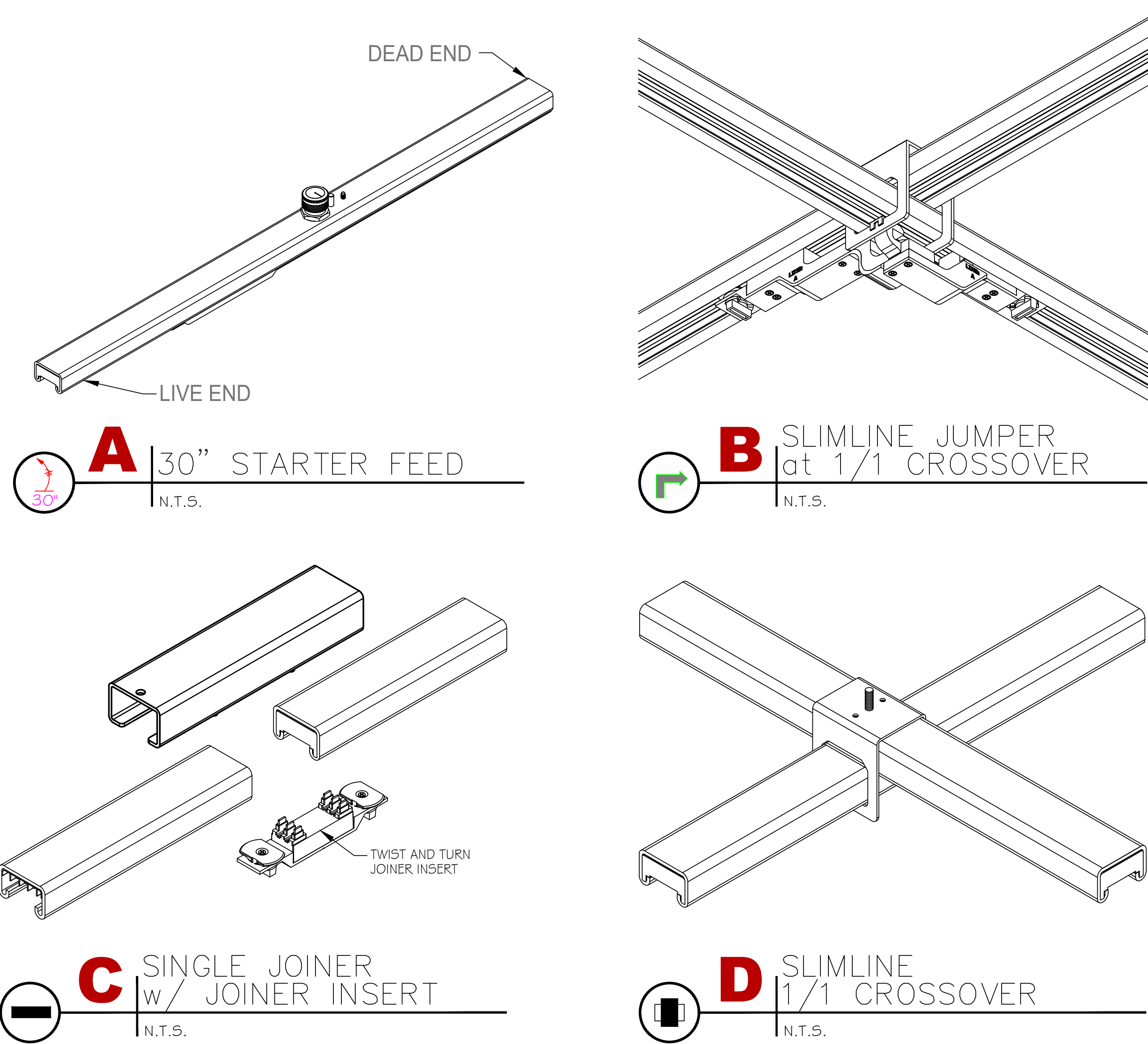
Attachment from busSTRUT System to structure must be engineered and installed to properly support the entire suspended weight.



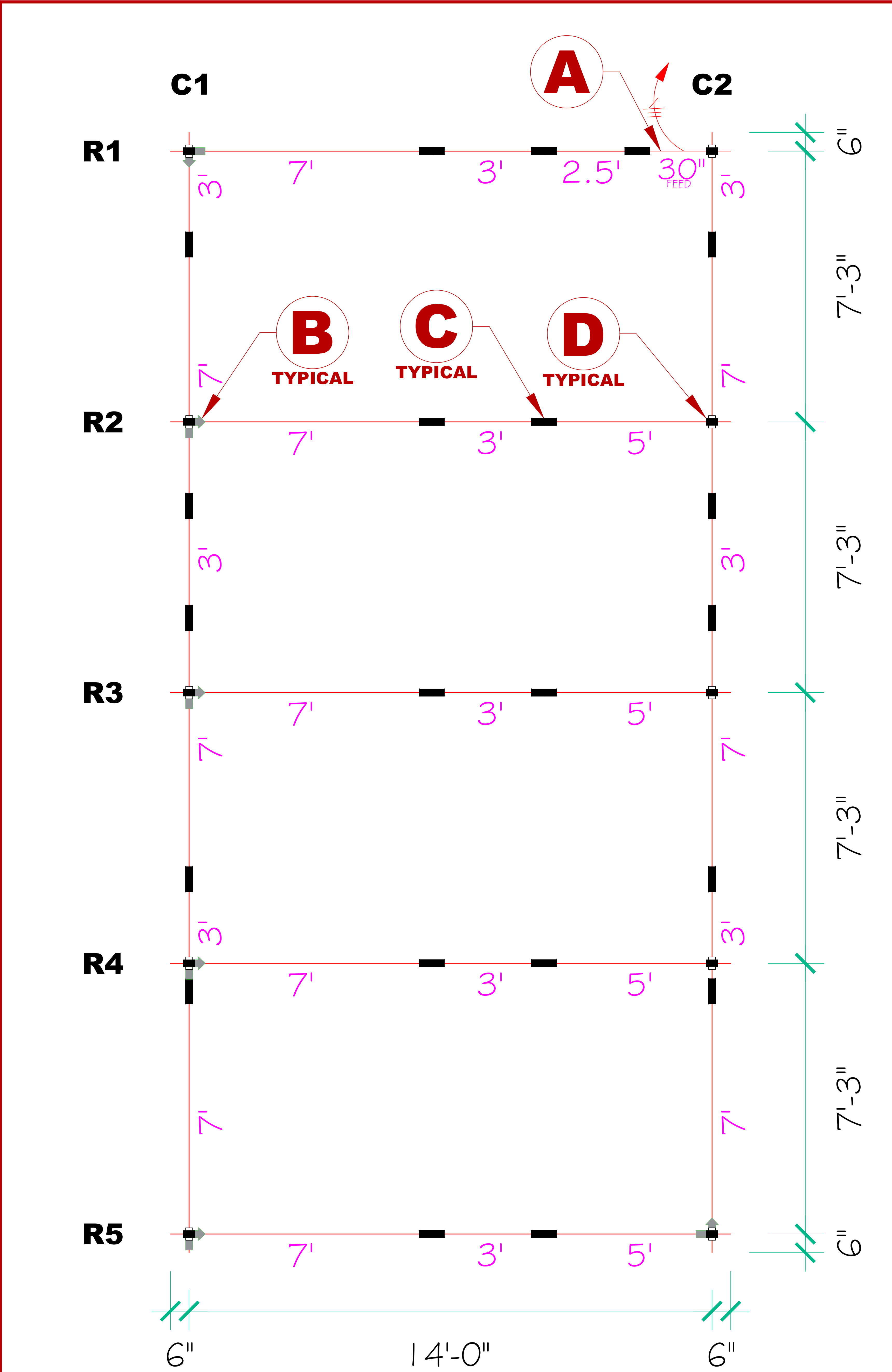
Project Specific Rules



ISO Details



Dimensions



Legend

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

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805 Hillside Road
Suite C
Westerville, OH 43081

TEL: 614.933.8695
E-MAIL: INFO@busSTRUT.COM
WWW.BUSSTRUT.COM

PRINCIPAL IN CHARGE
LARRY GELLERT

CHECKED BY
JOHN LOCH

DRAWN BY
JOHN LOCH

DATE
11/01/2024

REVISION
BID/REVIEW

Assembly Plan
Rectangle Large - Lights

busSTRUT
SPEC DRAWING SET(ONLY)
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DRAWINGS

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

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'

