

busSTRUT Shop Drawing Set

Grid (Small) - 7'-6" x 7'-6" 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.

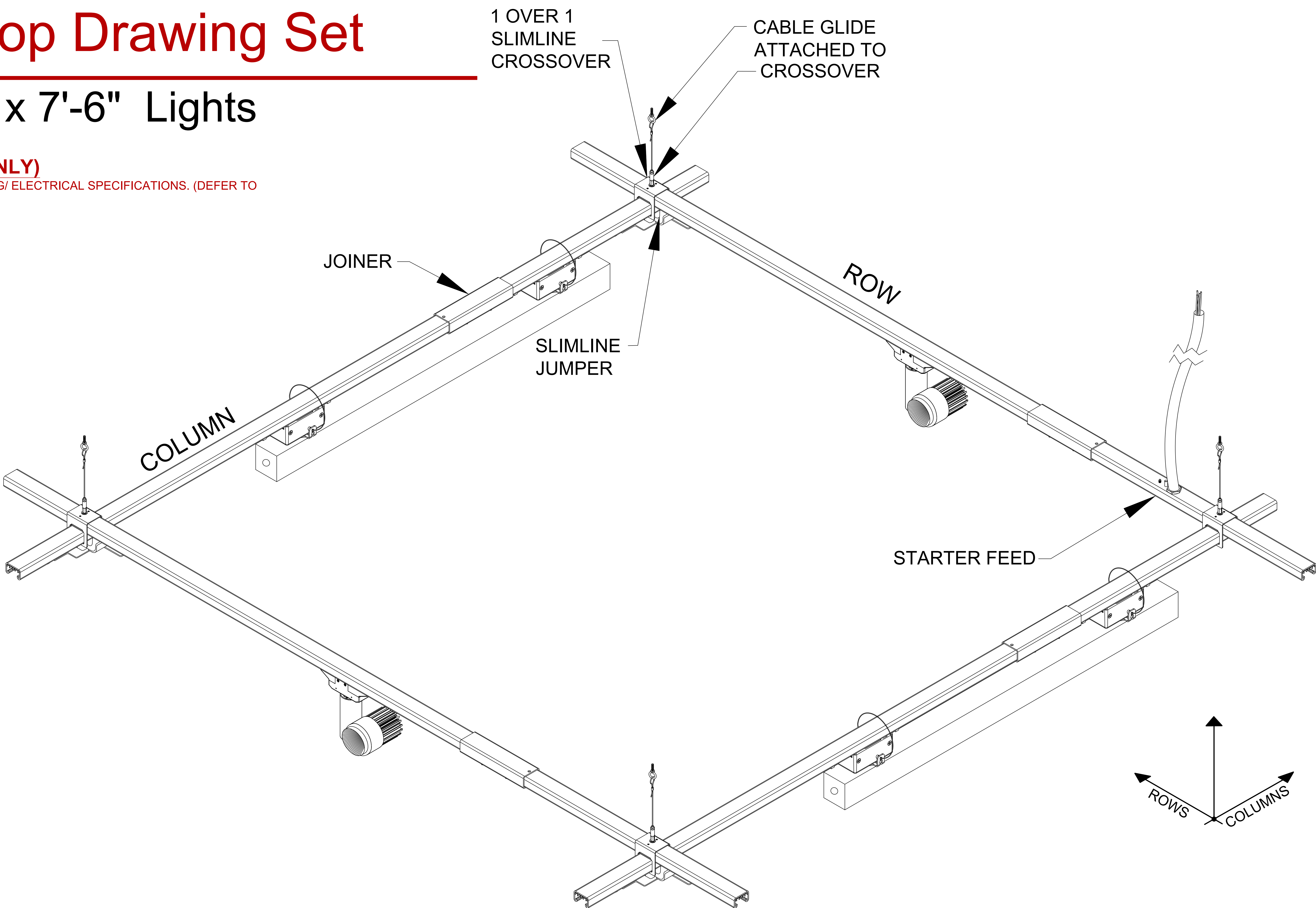
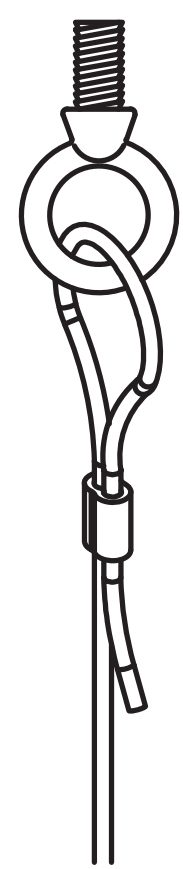


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E-b01 E-b02	Typical Installation Instructions		KEY MOUNTING RULES	Legend	APPROVAL
E-b1 E-b2	Lighting Plan, BOM, & Labor Hours Assembly Plan		<p>Rows are to be mounted on top of Columns. Crossover sleeve runs with Rows.</p> <p>Row</p> <p>Column</p>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

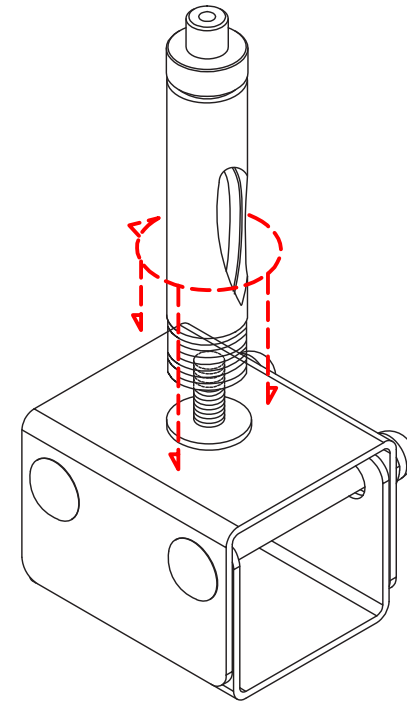
STEP 1

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).

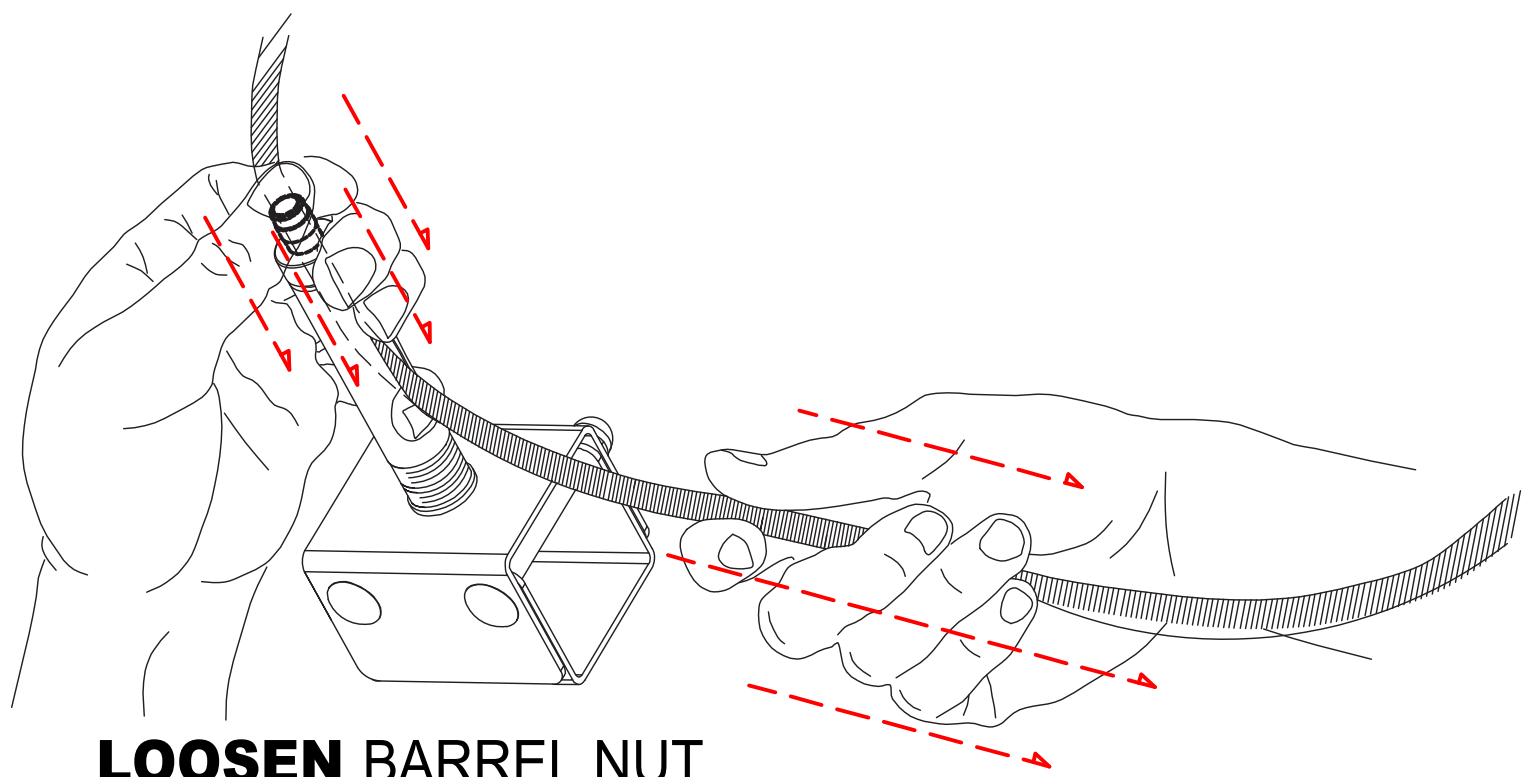
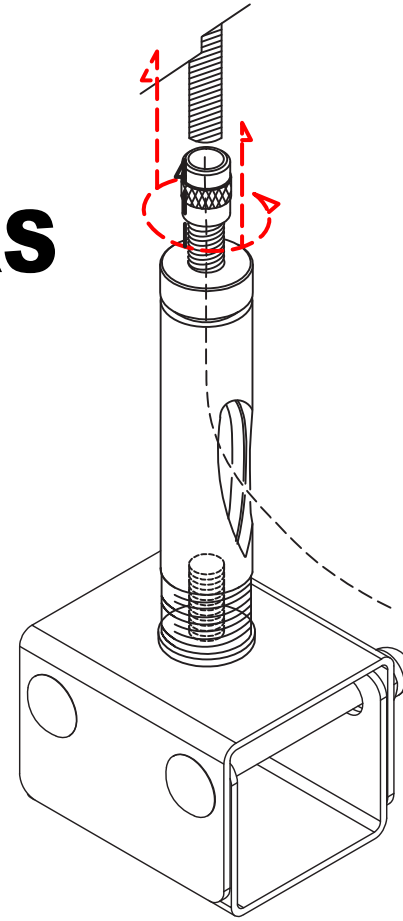


2 ASSEMBLE HANGERS (HM-S)

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

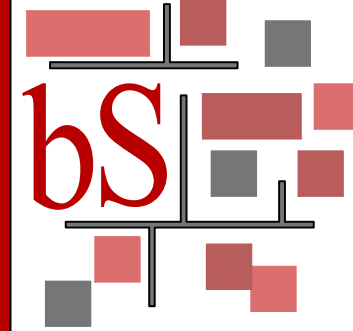
Turn the first knob

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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DRAWN BY
JOHN LOCH

DATE
10/23/2024

ISSUED FOR
BID / REVIEW

TYPICAL
busSTRUT Installation Instructions

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

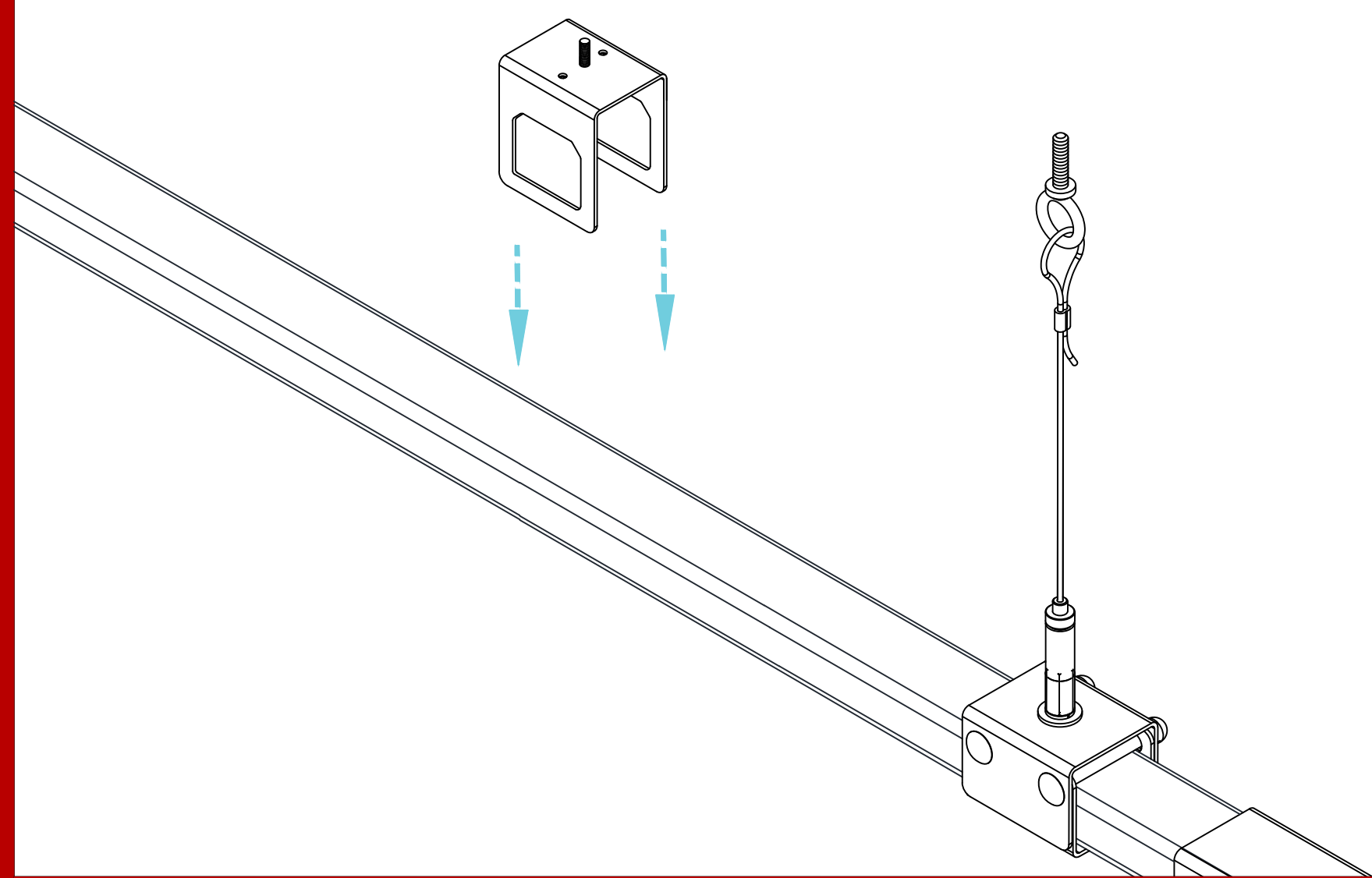
NO.	DATE	DESCRIPTION	BY
1			

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

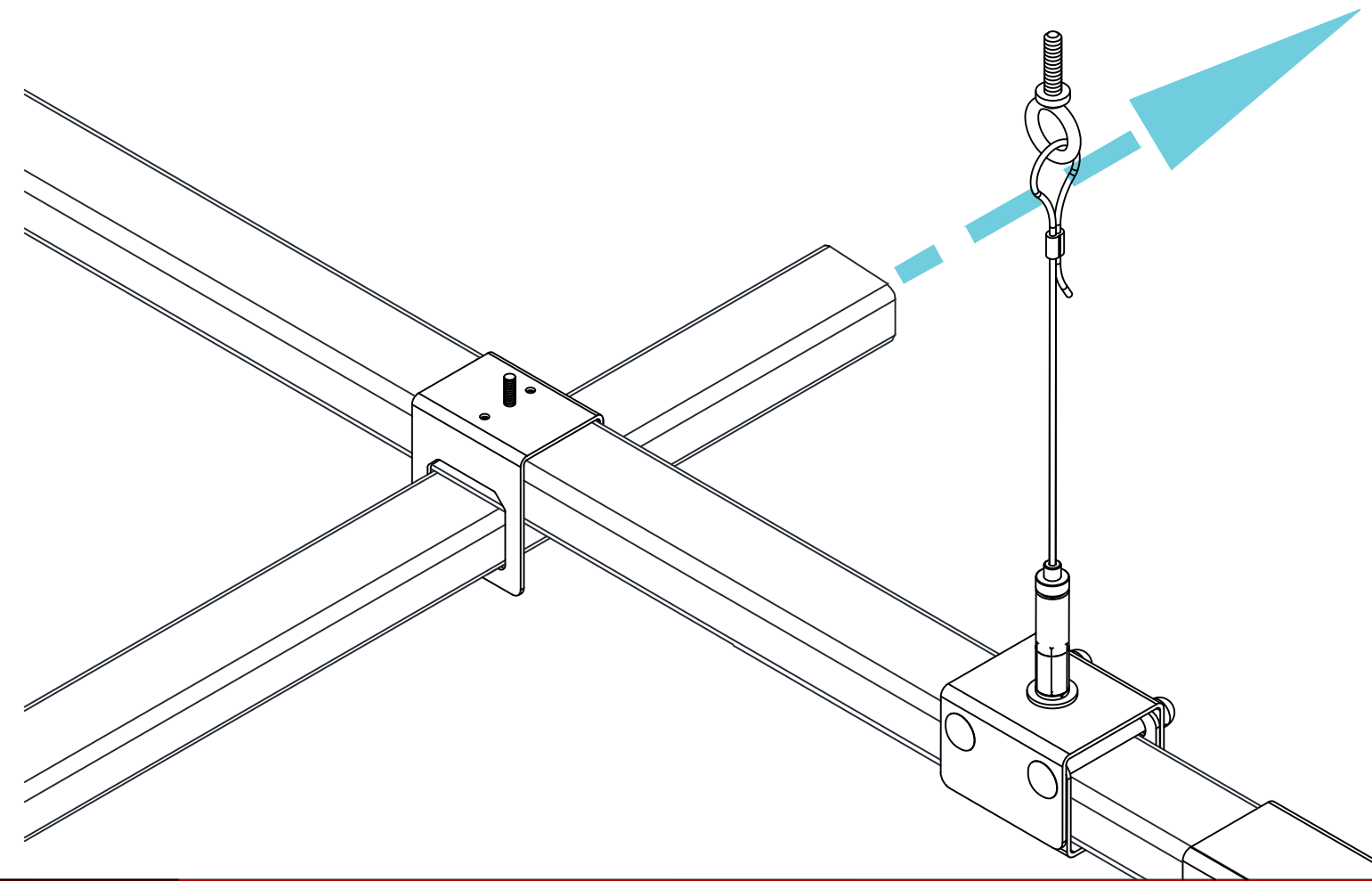
STEP 3

INSTALLING CROSSOVERS DROPPING ON

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



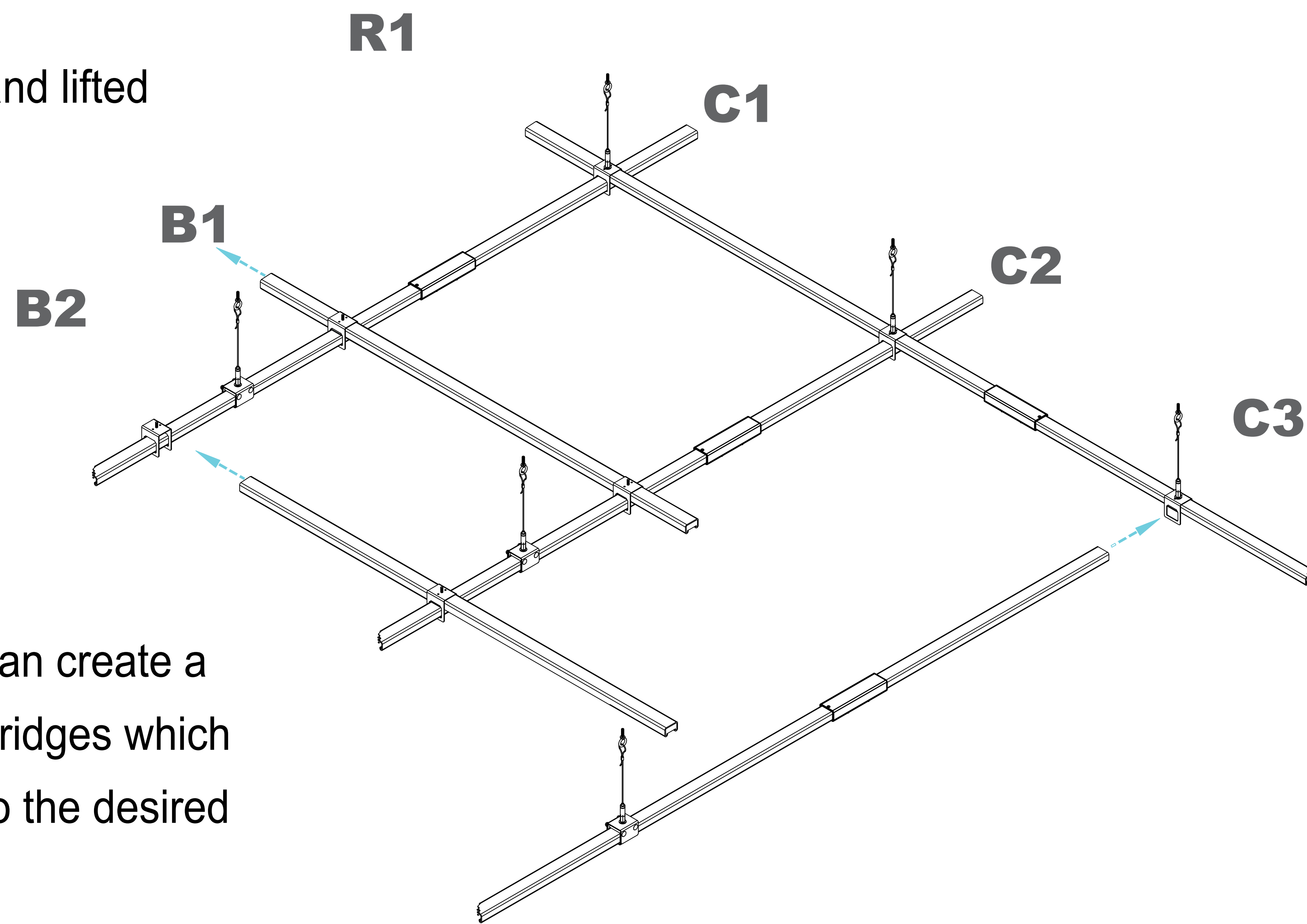
Slide perpendicular runs of busSTRUT through the crossover and tighten the set screws.



SLIDING ON

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

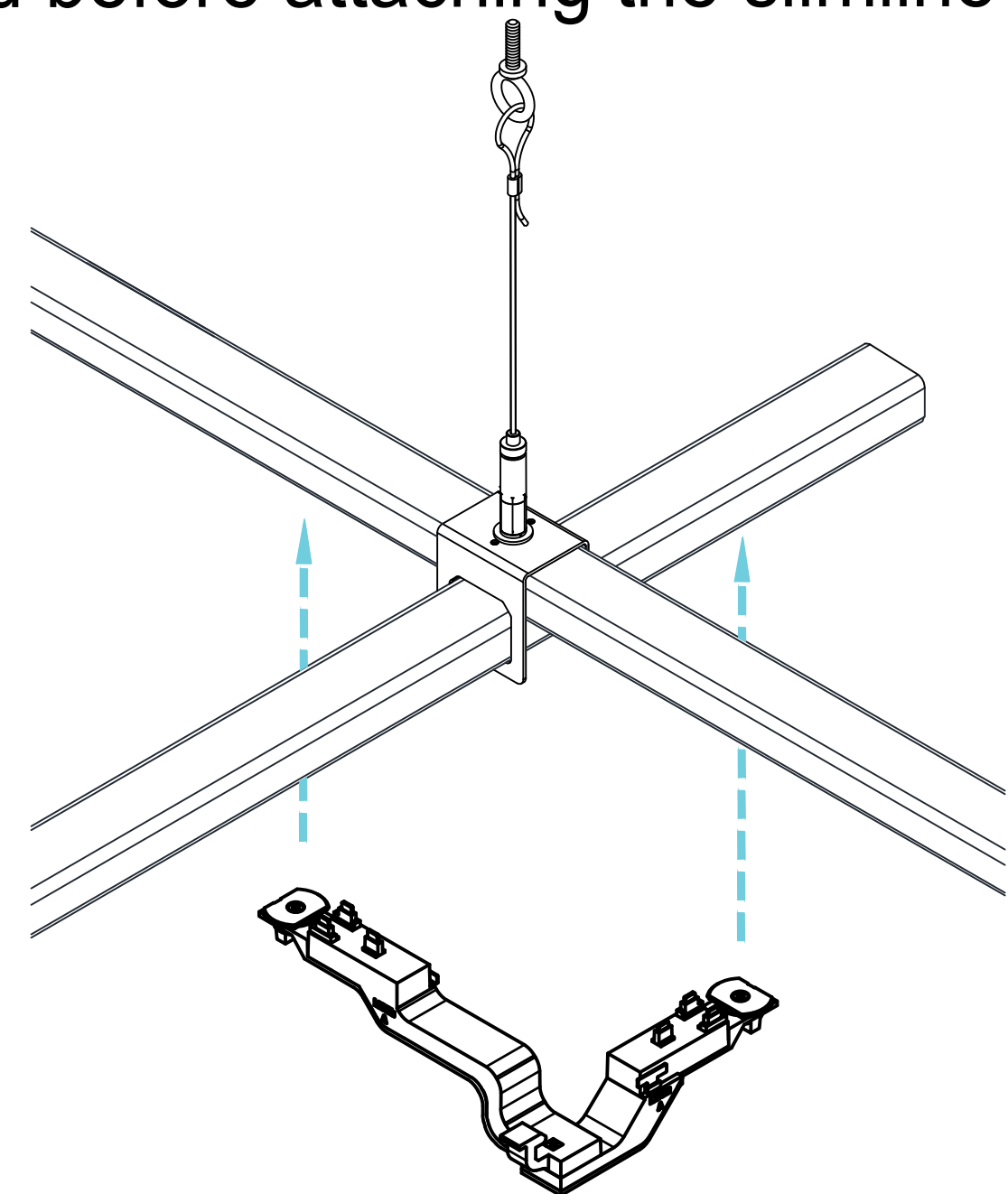
Perpendicular runs can create a full grid or be short bridges which are easily moved into the desired position.



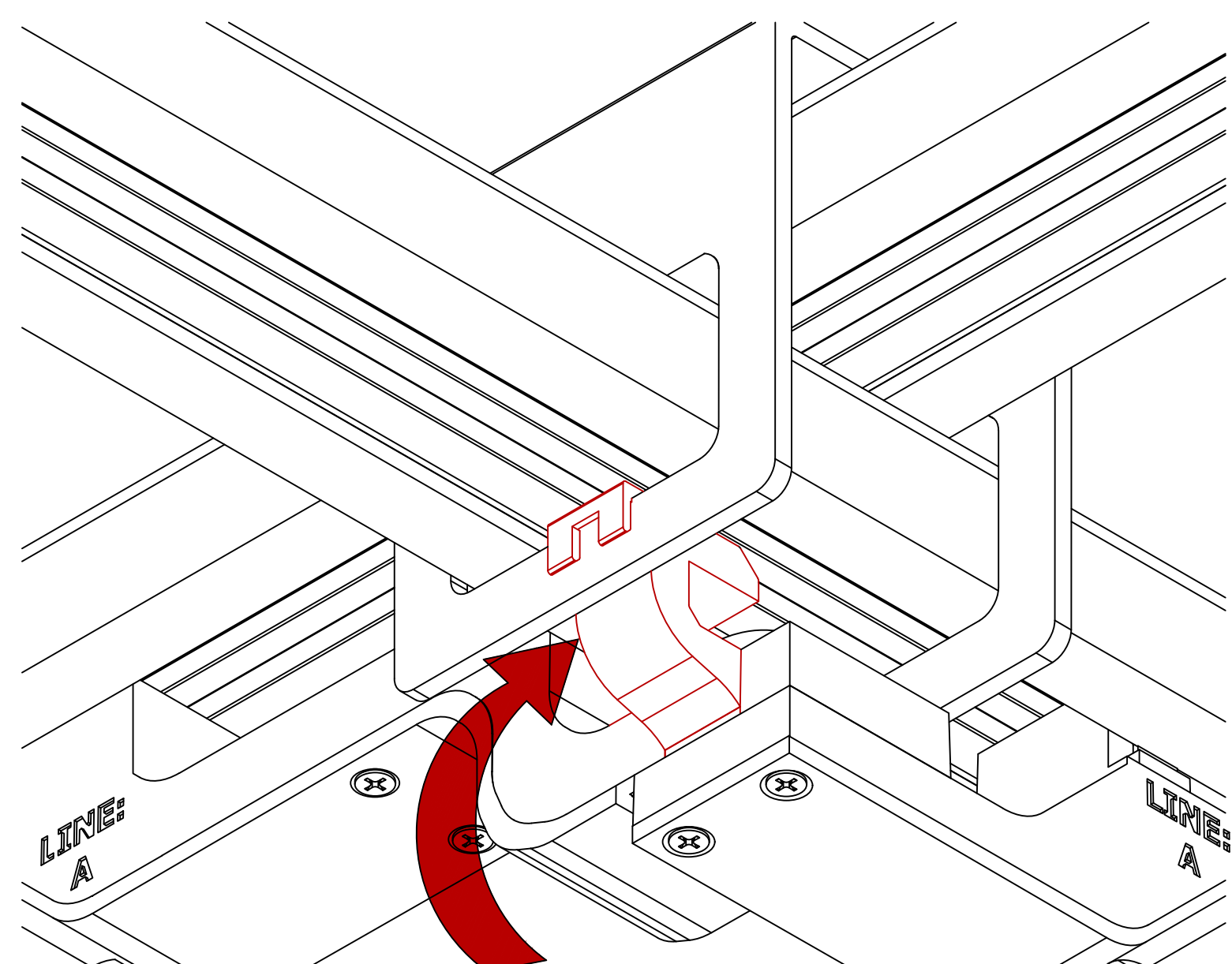
STEP 4A

SLIMLINE JUMPER

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

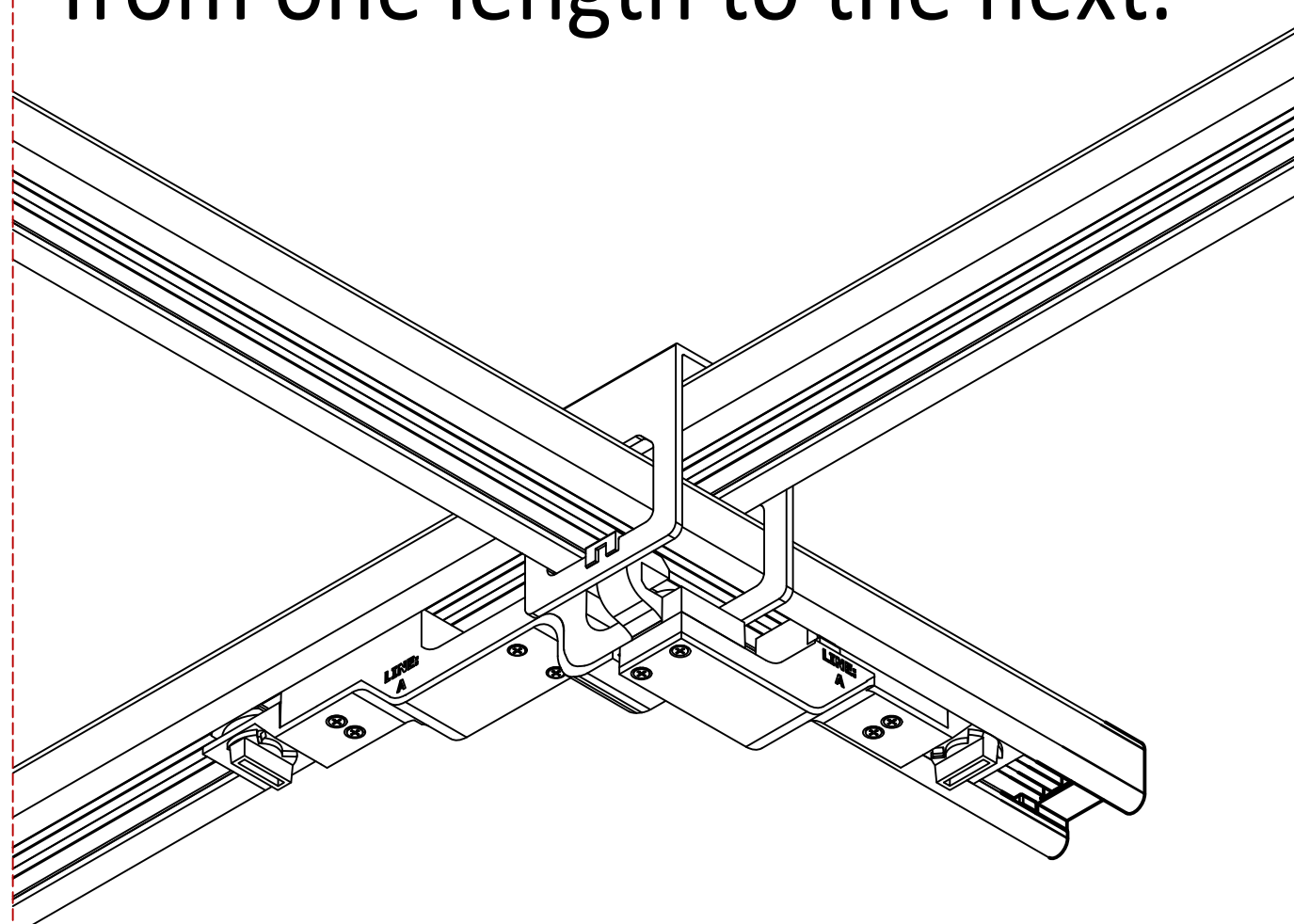


First, clip the jumper to the crossover.

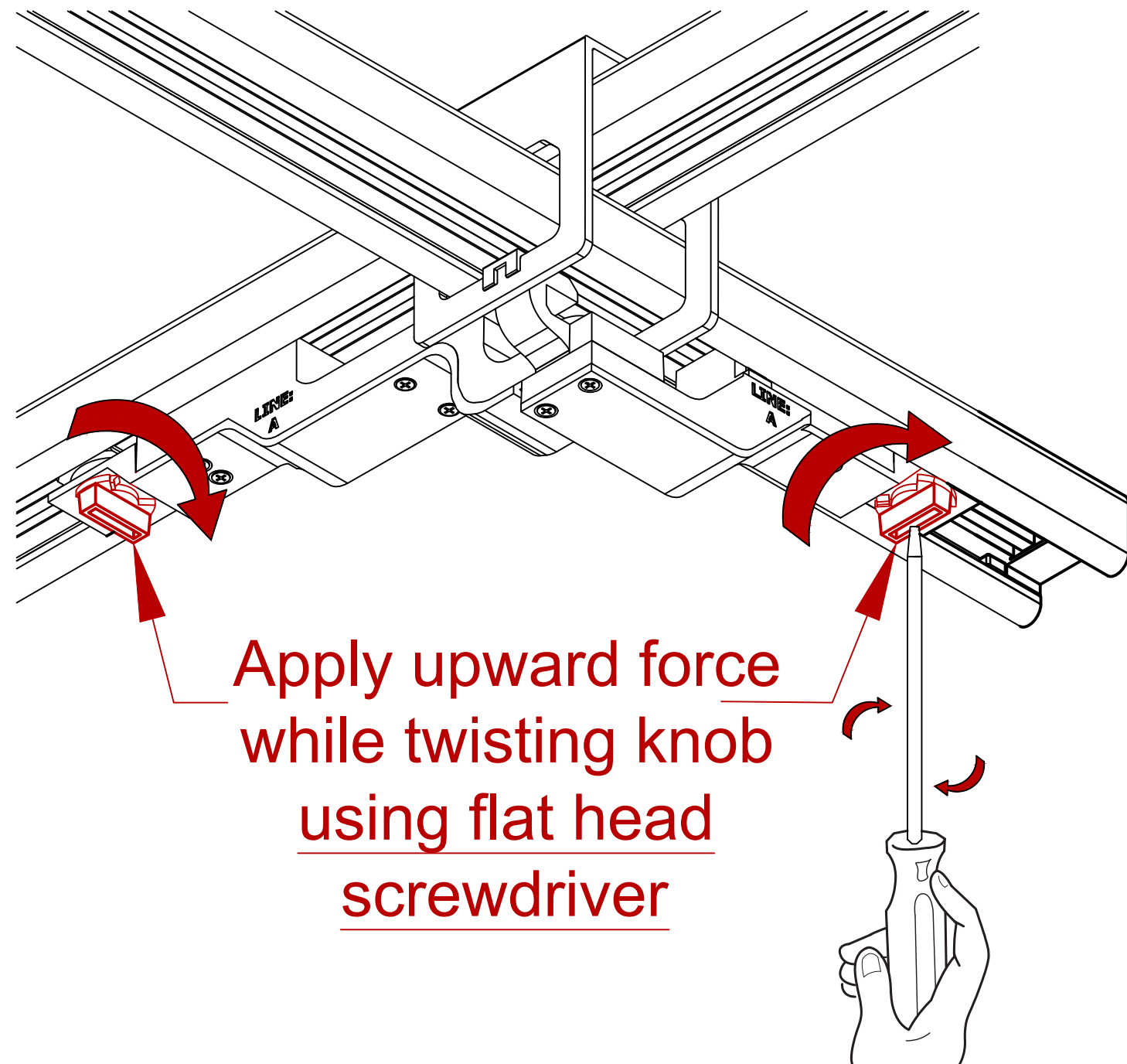


SLIMLINE JUMPER (MD2020-UNIV-IJ2-B-X)

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.



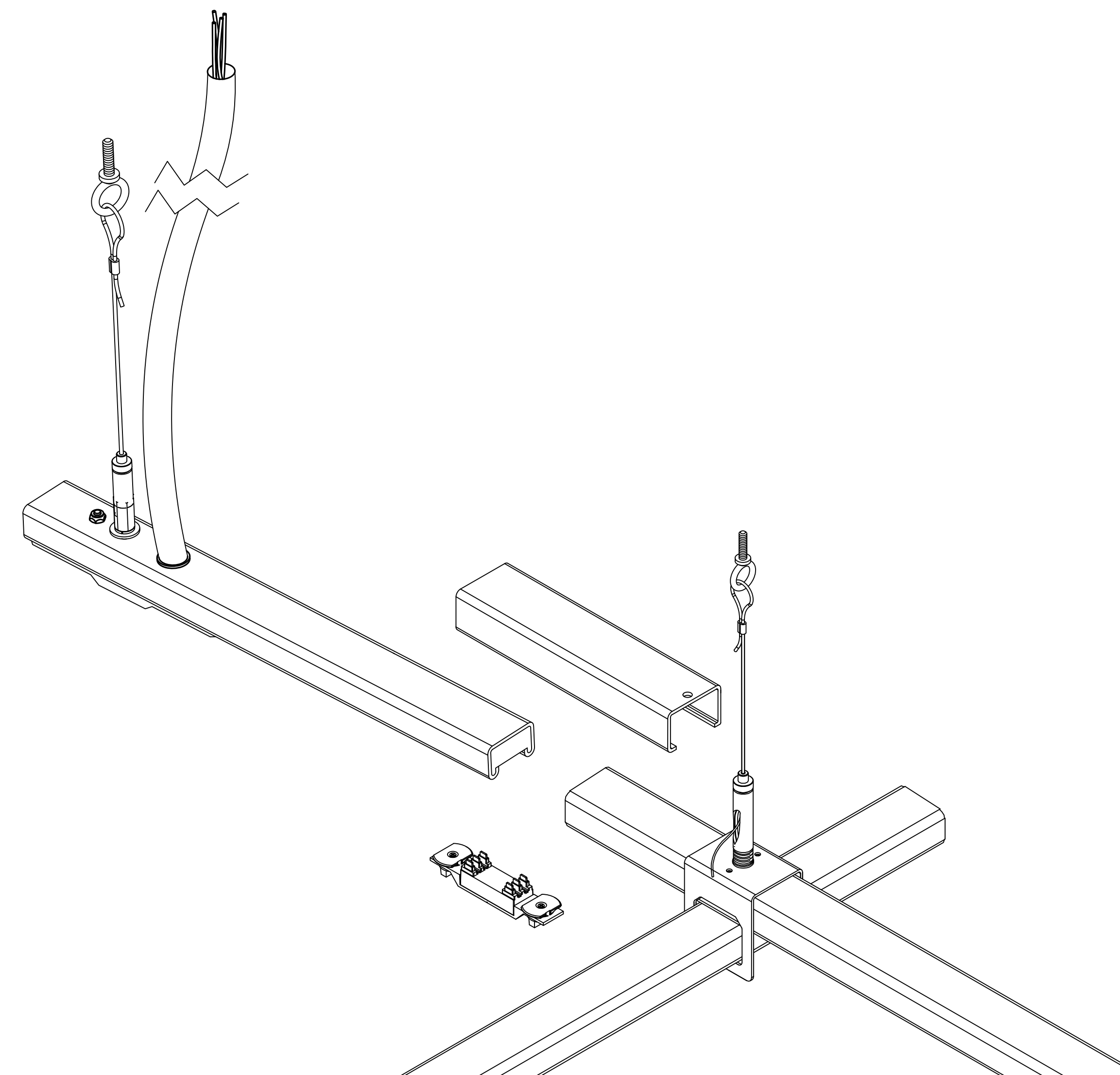
Apply upward force while twisting knob using flat head screwdriver

STEP 4B

STARTER FEED

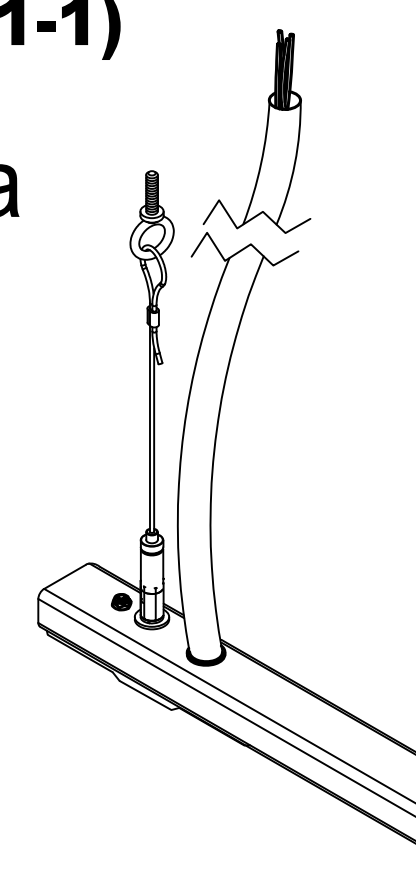
The Starter Feed comes with a 1/4-20 Stud to create an additional hang point and a 15' 12/4 SOOW Cord to connect power to the system.

Attach the cable glide to the stud and tighten. Connect the aircraft cable as shown in Step 1.



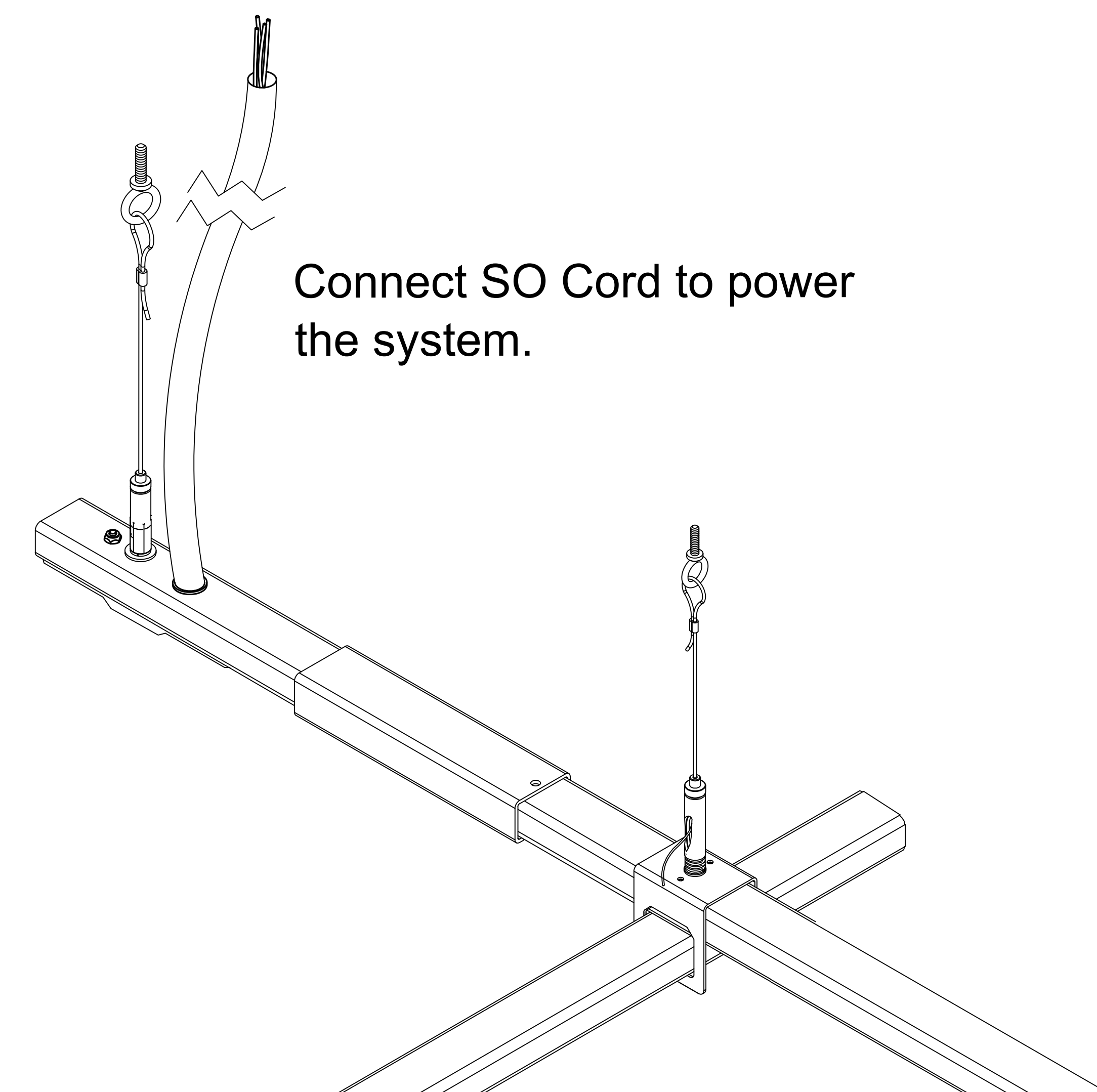
STARTER FEED (P20-3-40-UNIV-30-CM-F 1-1)

This 30" length supplies power to a configuration from the preassembled cord and to the abutting length via a joiner insert that must be installed.

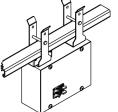
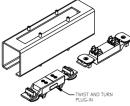
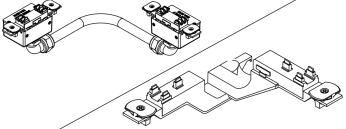


Once the starter is properly suspended, connect the starter to the suspended grid using a Joiner and Insert as shown in Step 2.

Connect SO Cord to power the system.



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

	busSTRUT® END	CABLE GLIDES	HANGERS	JOINERS	CROSSOVERS	LINE	FEEDS
SINGLE DECK	 <p>GRAY 20 AMPS M20-3-40-V-(L)</p>		 <p>HM-S</p>	 <p>M-JB</p>	 <p>ICM-S</p>	 <p>P20-3-40- UNIV-FDXX-F</p>	 <p>P20-3-40-UNIV-30- CM-F 1-1</p>
	 <p>BLACK 40 AMPS M40-3-60-V-(L)</p>		 <p>EMPTY-STRUT MOO-(L)</p>	 <p>HD-S</p>	 <p>D-JB</p>	 <p>ICD-S</p>	 <p>JUMPER CABLE MD4020-UNIV-JC-F-90-12 MD2020-UNIV-IJ2-B-X</p>
DOUBLE DECK	 <p>PHASE (TYP.) NEUTRAL (TYP.) PHASE (TYP.)</p> <p>DOUBLE-STRUT MOO-(L)</p> <p>NOTE: ORIENTATE 'A' AND 'B' ON BOTTOM CIRCUITS 'C' AND 'D' ON TOP</p>	CG-(LENGTH)					

<p>STEEL BUSHTRU[®] 12 gauge 1" x 1/8" STEEL BUSHTRU[®] features two Hot wires and is specifically announcing a center Neutral wire. It has 20 Amp circuits 40 Amps Maximum with bushTRU[®]/20, alternatively two 40 Amp circuits 80 Amps Maximum with bushTRU[®]/40, 2.5, 5, 10, and 20' lengths. Rated for use up to 2747460V. Double coats with standard hardware for trunking.</p>	<p>BRAIDED CABLE with GLIDE[®] For use with bushTRU[®] and bushTRU[®] Crossovers. Includes cable-glide and cable with factory assembled cable with looped threaded 1/4"-20 eye bolt.</p>	<p>HANDERS: Single and Double Hangers are for use with bushTRU[®]. Each is an assembled two-part unit. The upper piece has a threaded stud with cable looped threaded with cable.</p>	<p>JOINERS: Single and Double for use with bushTRU[®]. Lengths are joined together mechanically with the 4000 Series Electrical Joiners. Each includes a Twist & Turn Plug-In electrical insert to break through the bus itself by means of a permanently affixed corner joining bar.</p>	<p>CROSSOVERS: For use with intersecting bushTRU[®]. Each has a twist 4000 Joiner Cable can be used for electrical connections and joints. The pieces are assembled a threaded stud for use with bushTRU[®] cable-glide.</p> <p>JUMPERS: For use with both bushTRU[®]/20 and bushTRU[®]/40. The 4000 Joiner Cable can be used for electrical connections and joints. The pieces are assembled a threaded stud for use with bushTRU[®] cable-glide.</p> <p>LINE FEEDS: For use with powering single bushTRU[®]. Junction Box features energy code type "limiter" (breakover/hot holders) and 7 Pole Filters. Available in 10' and 748749V. Can be positioned anywhere along bushTRU[®] to reduce the lengths of power.</p> <p>STARTER FEEDS: For use with powering single bushTRU[®]. Utilized when no current limiting is required on the bushTRU[®]. Must be positioned at the beginning of a run.</p>
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Small Grid LT										<div> <div>busSTRUT</div> <div> <div>Finish TBD:</div> <div>Galvanized, White, or Black</div> </div> </div>										Drawn By Checked By Date		John Loch John Loch 10/23/2024					
										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	M20-3-40-27T-10-F-2B	M-JB-F-X	M-JI-F-X	M-JI-F-NE	M-M-S-F-STLFX	CG-E-15B-GL	1CM-S-F-ST-X	MD4020-UNIV-JC-F-90-12 G02	MD2020-UNIV-IJ2-F-X	P20-3-40-UNIV-JK-NB-F	P20-3-40-UNIV-30-CM-F 1-1	P40-3-60-UNIV-FD-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	10	M	INS	NE-INS	M	C-GI	1/1	12"	INVS	JK	30ST	40	GEN	ACT						
Rows																											
R1	20	7.5	7.5				1		1	1			2	2				1					1				
R2	20	7.5	7.5	1			1		1	1			2	2		1							1				
SUB TOTAL		15	15	1		2			2	2			4	4		1		1					2				
R/C	Amps	LF	BF	2.5	3	5	7	10	M	INS	NE-INS	M	C-GI	1/1	12"	INVS	JK	30ST	40	GEN	ACT						
Columns																											
C1	20	7.5	7.5	1			1		1	1						1						1					
C2	20	7.5	7.5	1			1		1	1						1						1					
SUB TOTAL		15	15	2		2			2	2						2						2					
STORE TOTAL		30.0	30.0	3		4			4	4			4	4		3		1			2	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	STRANDED LABOR HOURS			TOTAL HRS		
					min	hrs	60		
bus.STRUIT SYSTEM	LENGTHS	30	LF	x	2.75	0.05	=	1	
	JOINERS	4	EA	x	12	0.20	=	1	
	HANGERS	4	EA	x	25	0.42	=	2	
	CROSSOVERS	4	EA	x	10	0.17	=	1	
	ATTACHMENTS		EA	x	8	0.13	=	0	
	JUMPERS	3	EA	x	6	0.10	=	0	
	FEEDS	1	EA	x	15	0.25	=	0	
bus.STRUIT SUB-TOTAL							=	5	
FIXTURES	ACCENT	2	EA	x	8	0.13	=	0	
	LINEARS	2	EA	x	20	0.33	=	1	
	bus.STRUIT READY LIGHTS SUB-TOTAL							=	1
TOTAL TIME							=	6	

ACCENT LIGHT
BR—LUCY—U—309—30°—F—(OC)

N.T.S.



The diagram shows a side view of a track-mounted accent light fixture. It has a cylindrical body with a ribbed heat sink and a mounting bracket. Below the fixture, a triangle represents the light beam spread, with a downward arrow indicating the direction of the beam.

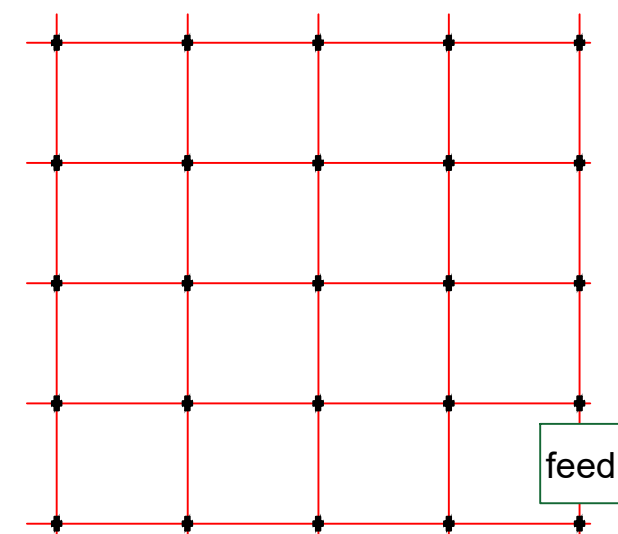
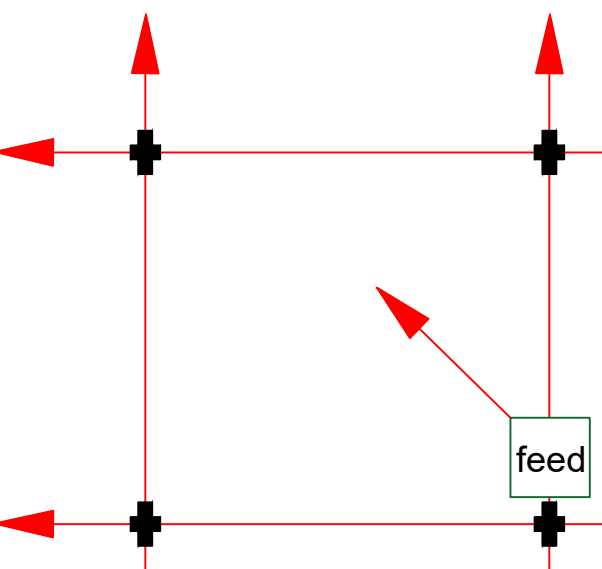
4" LED DOWNLIGHT
BRL—4—40L—30K80—ST—WD—F

N.T.S.

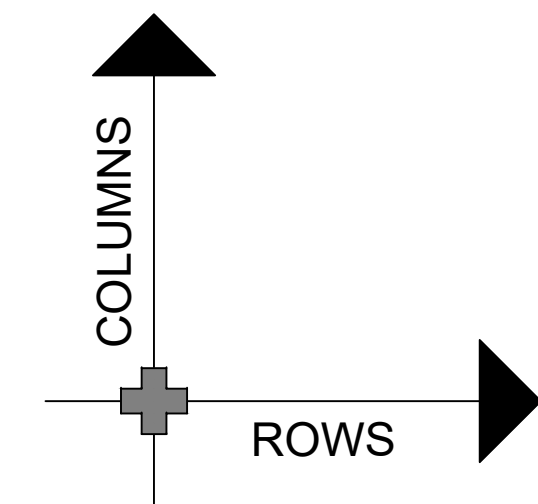


The diagram shows a side view of a long, narrow, rectangular LED downlight fixture. It has a mounting bracket at one end and a small circular detail at the other end.

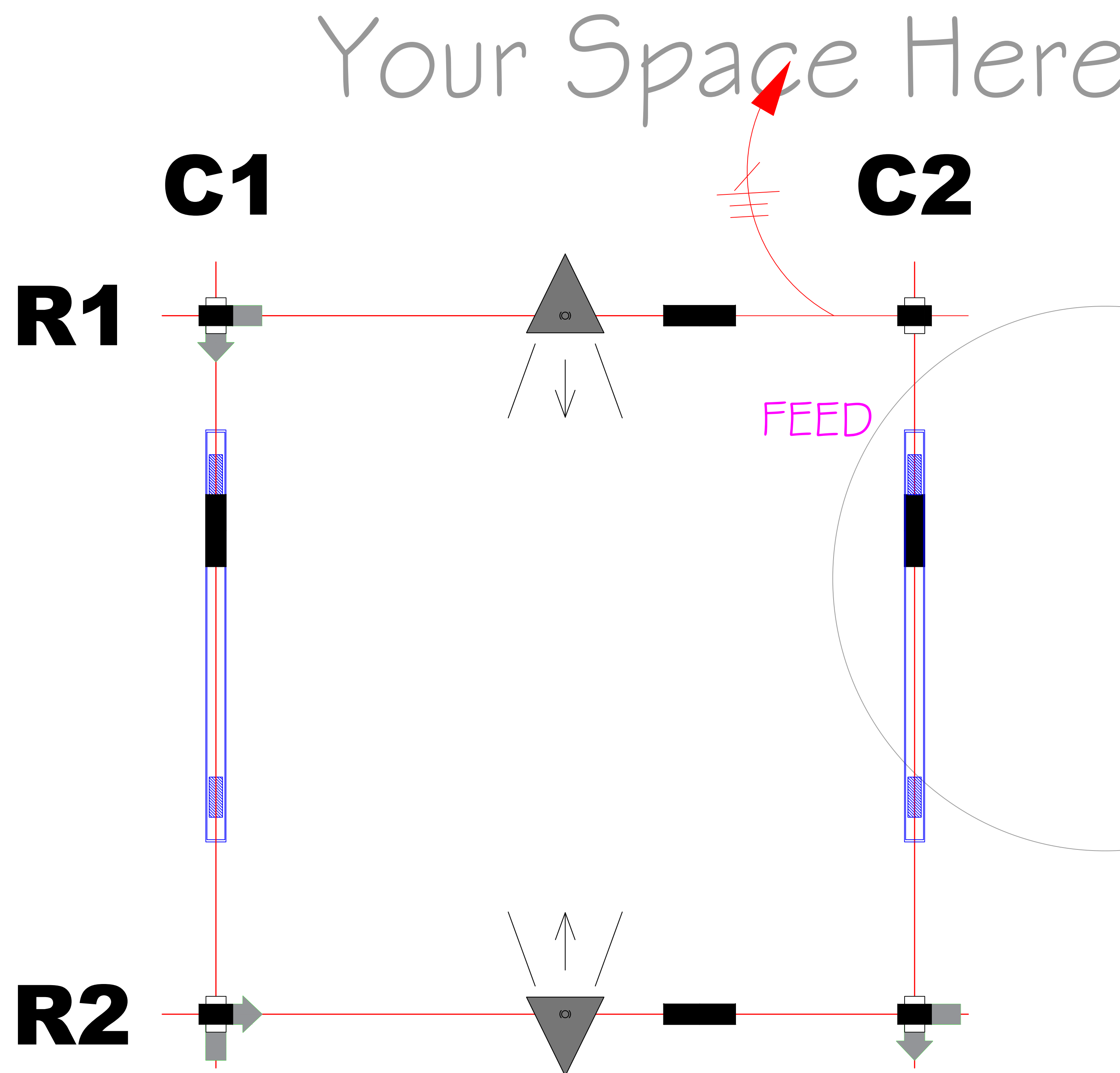
* Powered by a minimal amount of feed boxes.



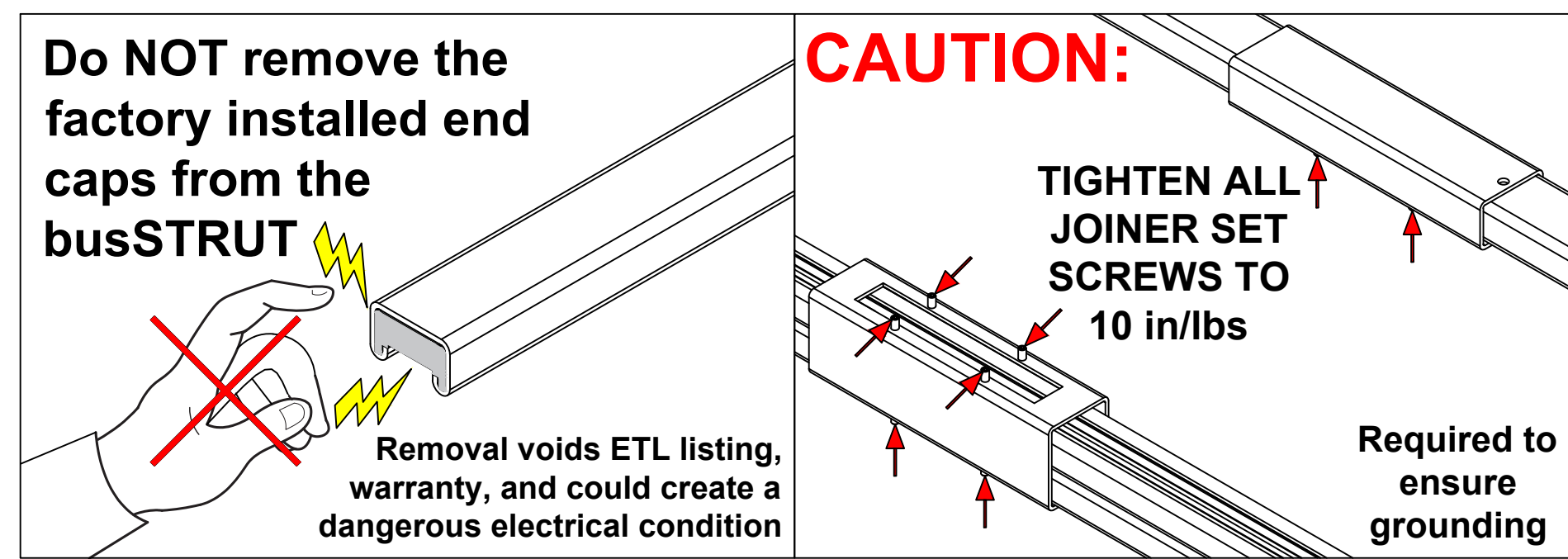
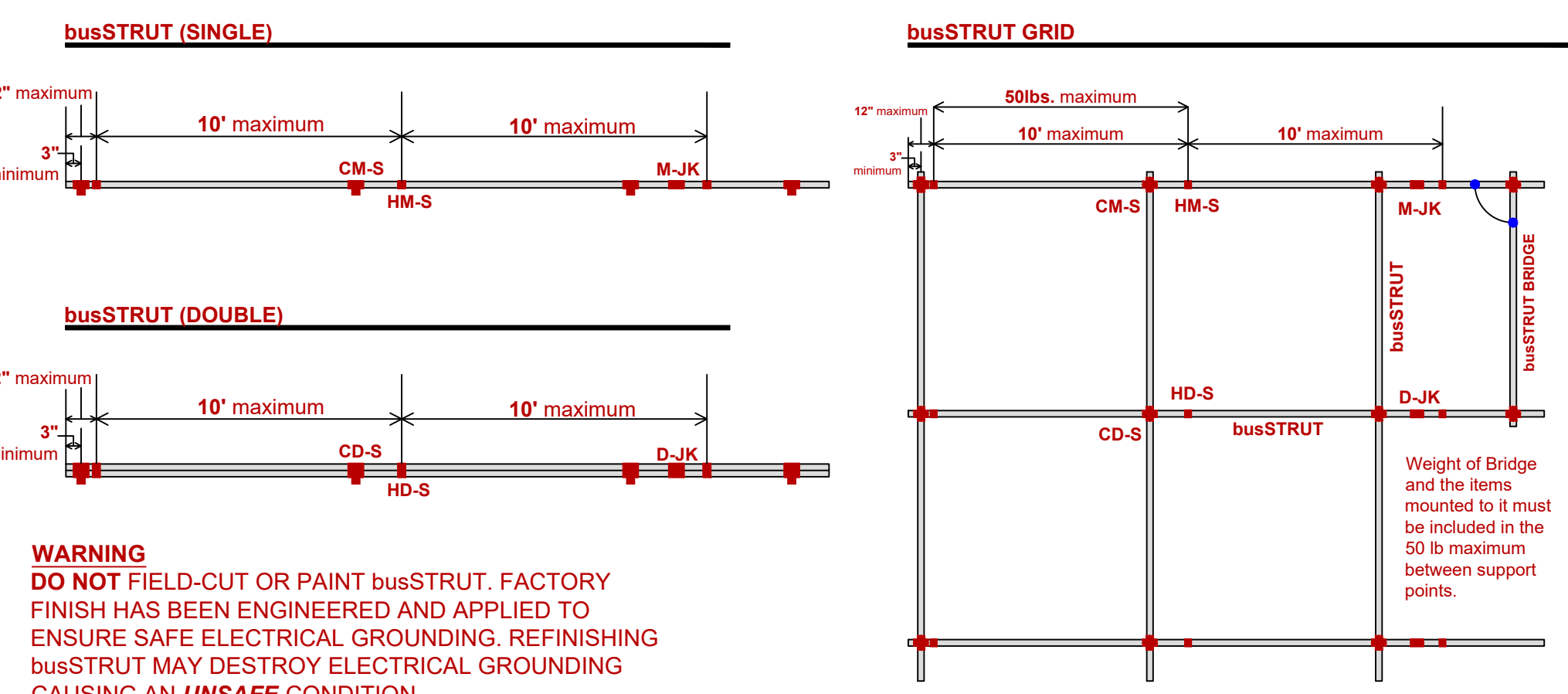
	busSTRUT 20 / Single Deck
	30" Starter Feed
	Joiner
	1/1 Slimline Crossover
	Slimline Jumper



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



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)

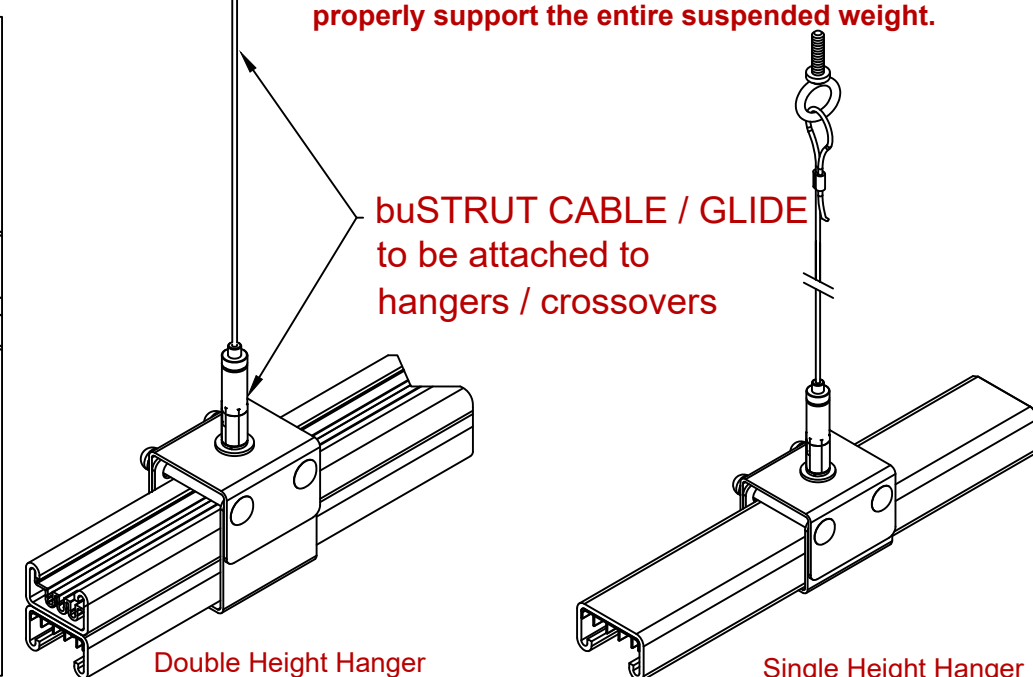
FITTERS

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.

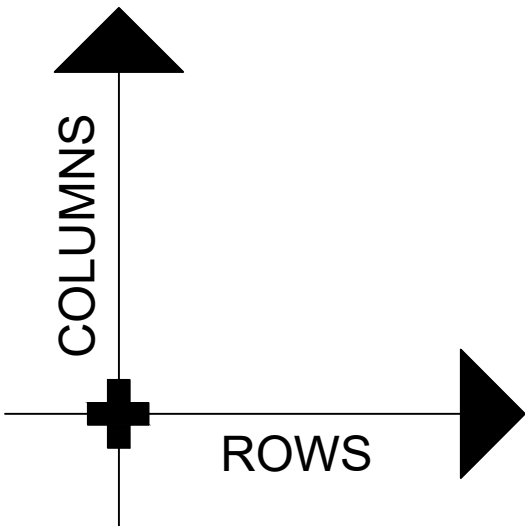
CONNECTION TO STRUCTURE BY OTHERS

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

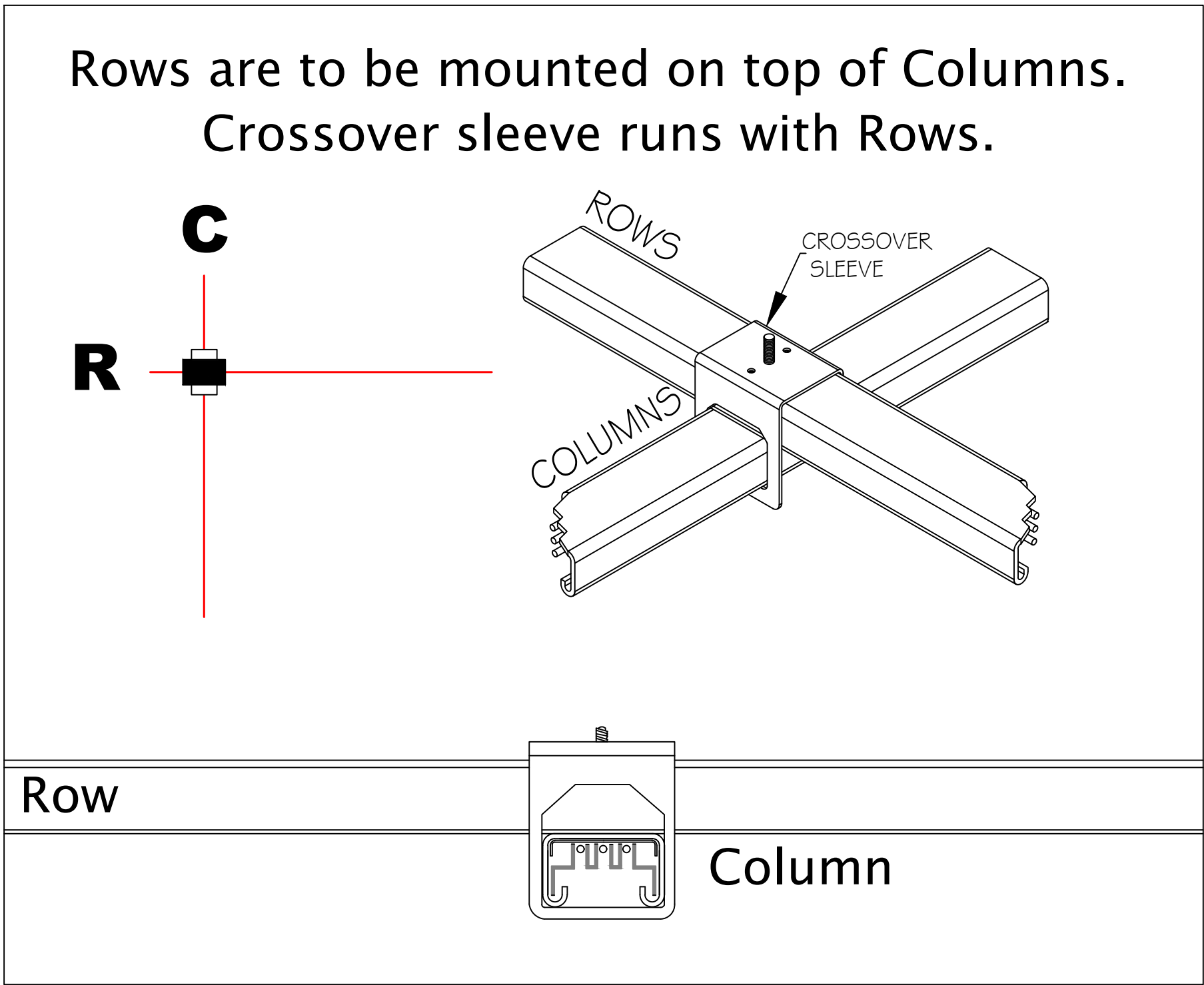


Legend

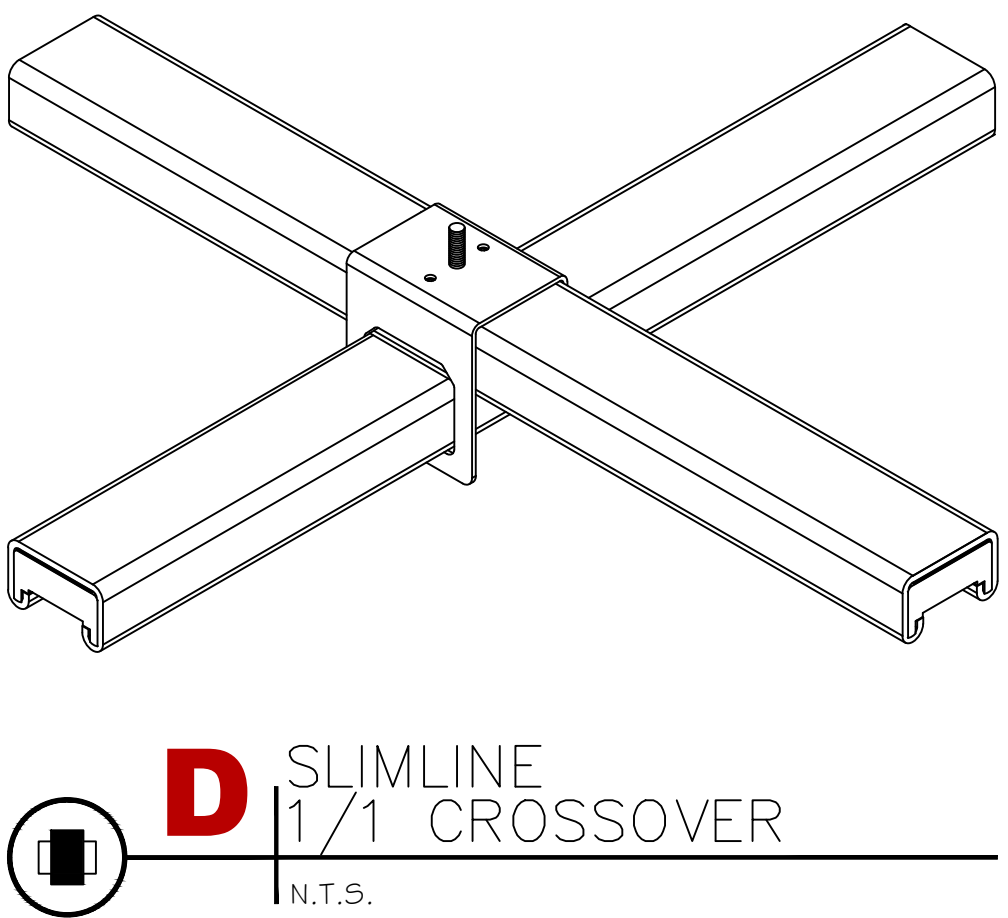
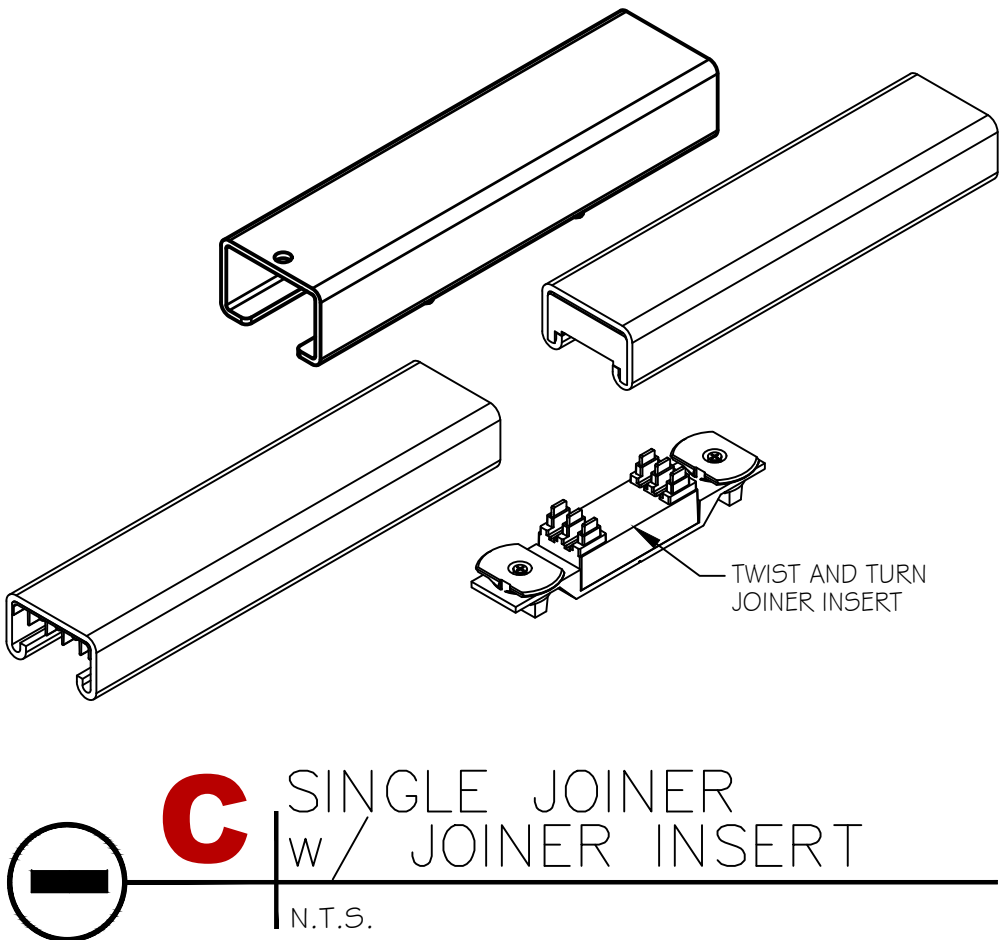
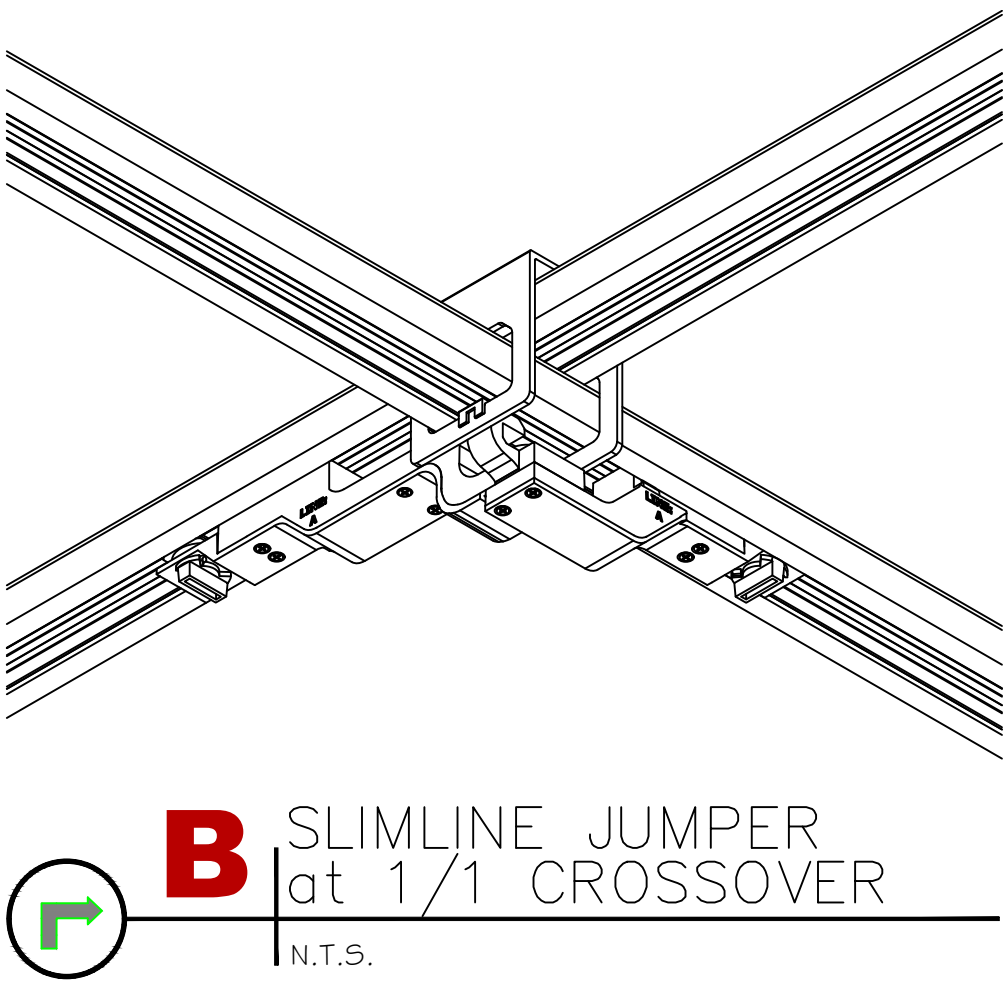
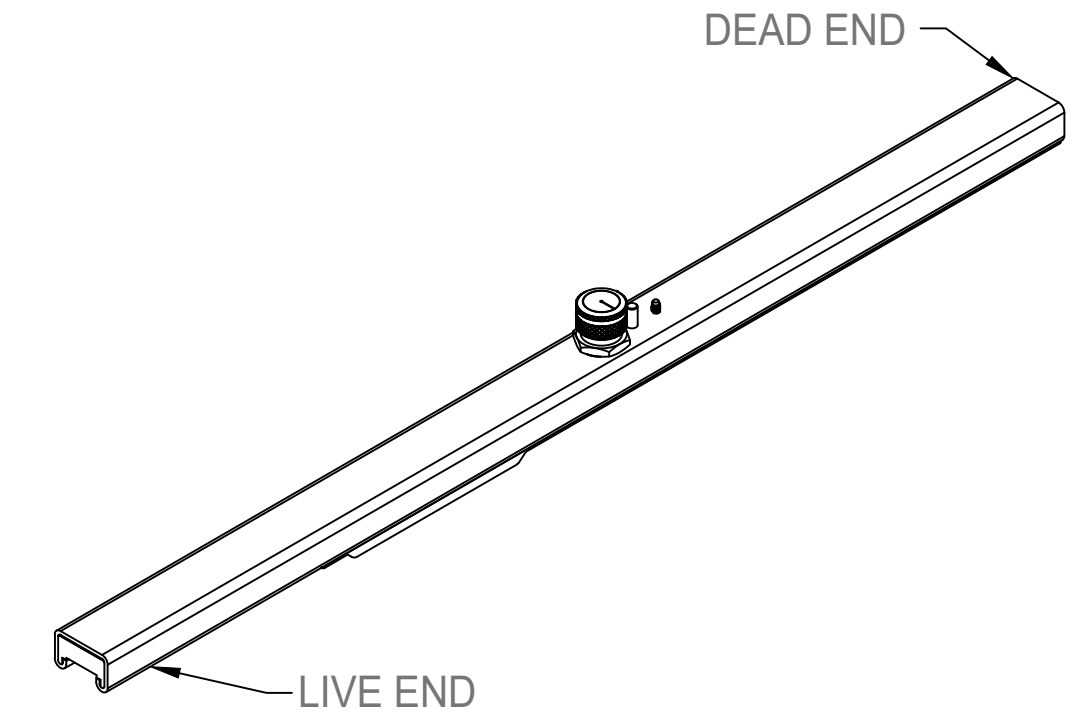
	busSTRUT 20 / Single Deck
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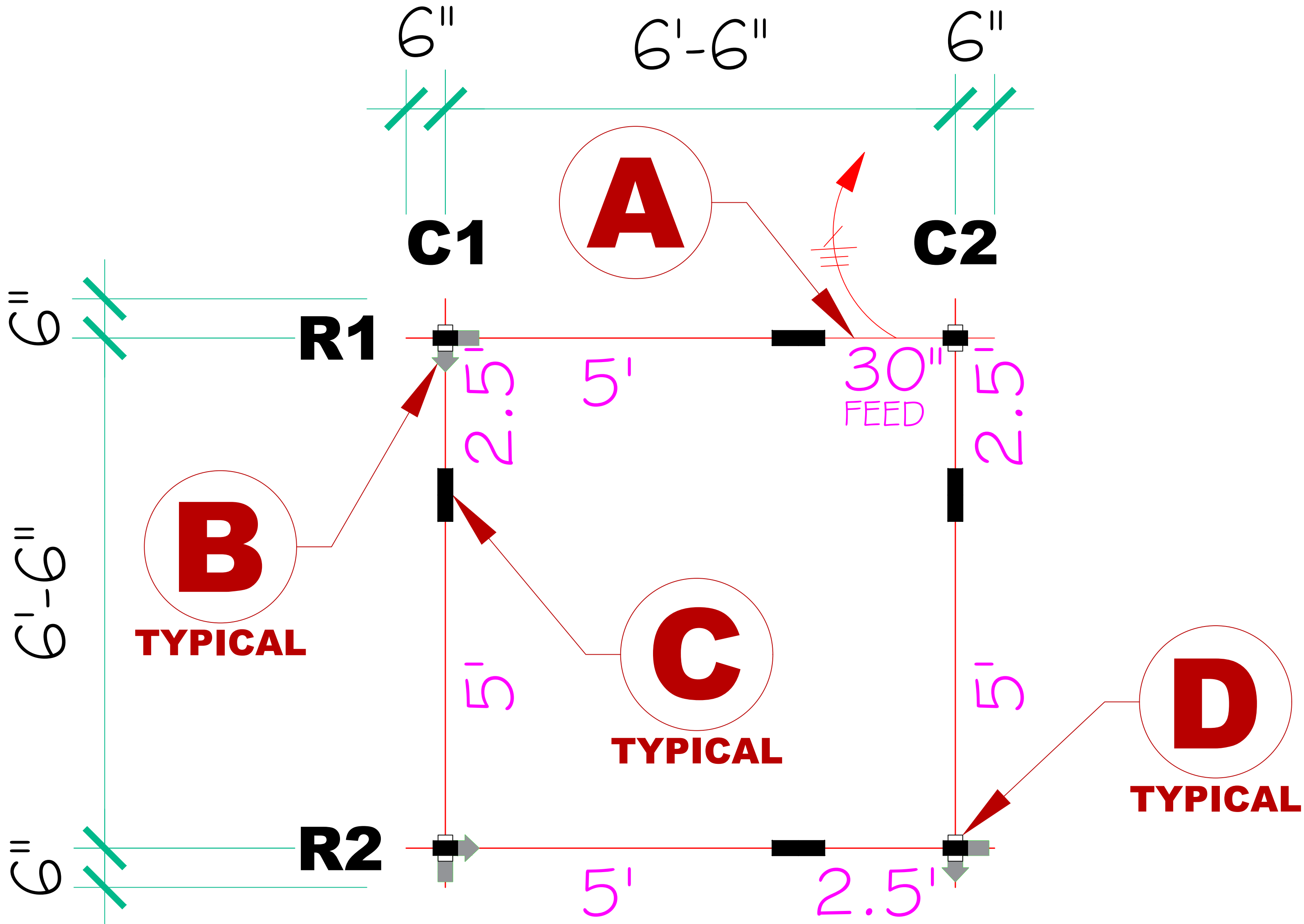
Project Specific Rules



ISO Details



Dimensions



busSTRUT Lengths Used in this Project

2.5'

5'

