

Express Grid (Large) - Power Drops

NOT A REPLACEMENT FOR ARCHITECTURAL/ENGINEERING/ ELECTRICAL SPECIFICATIONS. (DEFER TO THEIR DRAWINGS)

CONTRACTOR IS RESPONSIBLE FOR:

- ATTACHMENT FROM busSTRUT
SYSTEM TO STRUCTURE MUST BE
ENGINEERED AND INSTALLED TO
PROPERLY SUPPORT THE ENTIRE
SUSPENDED WEIGHT.

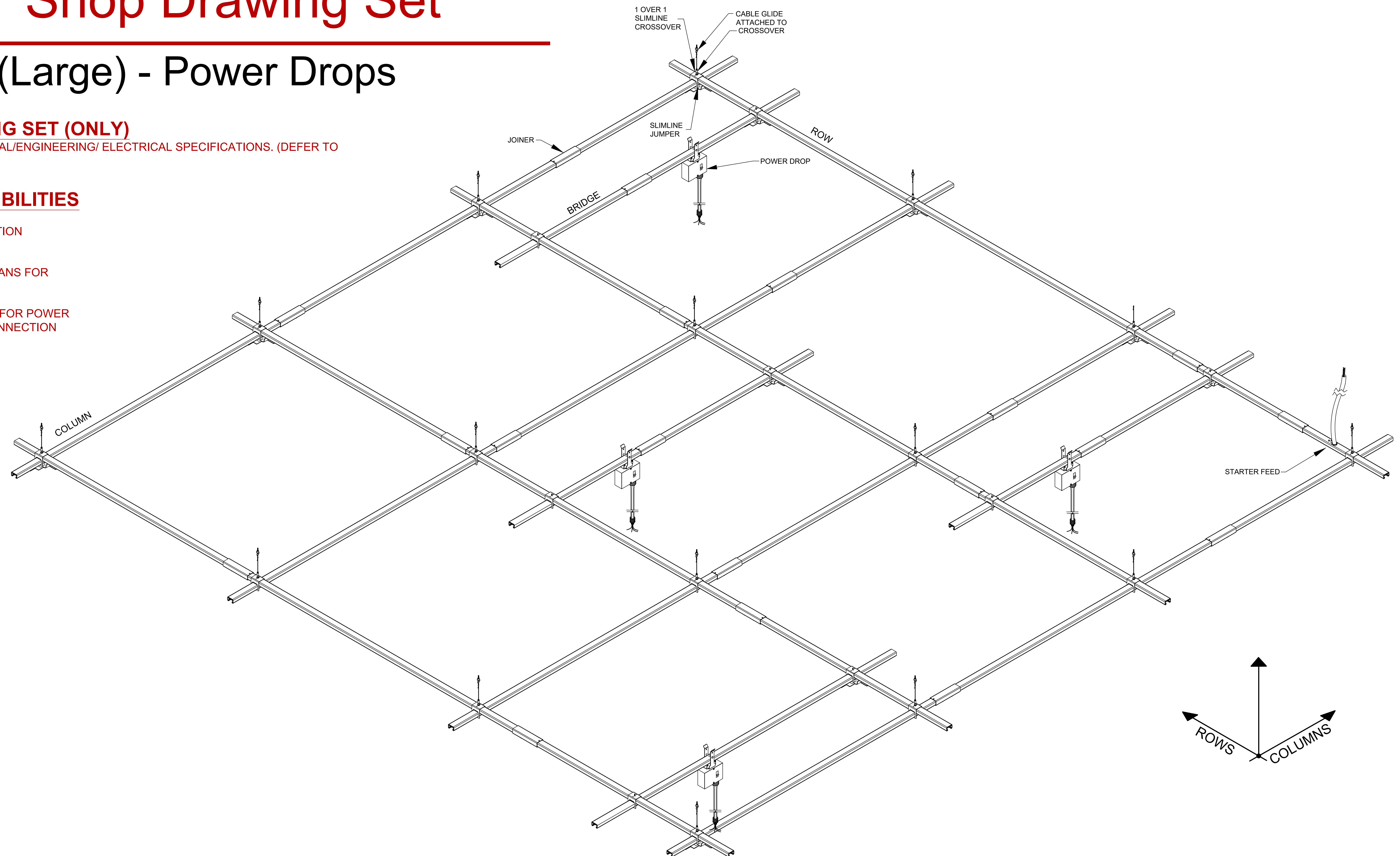
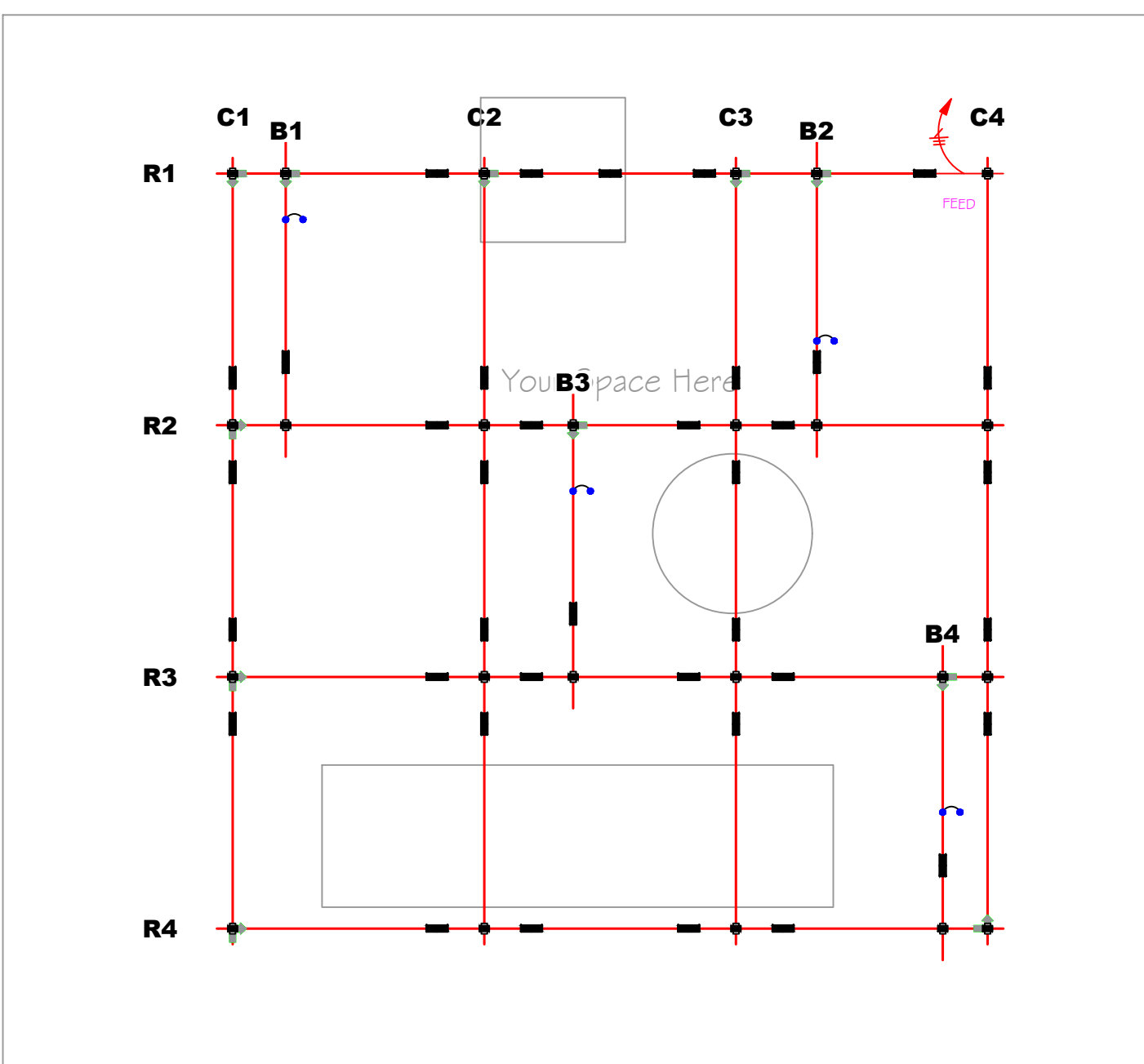
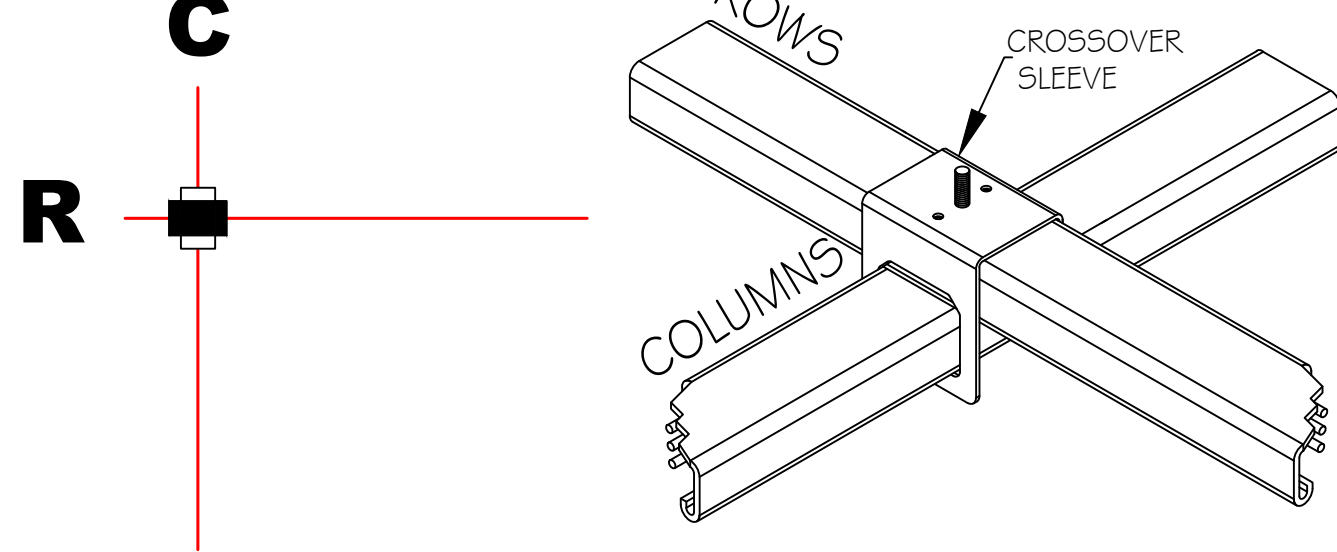
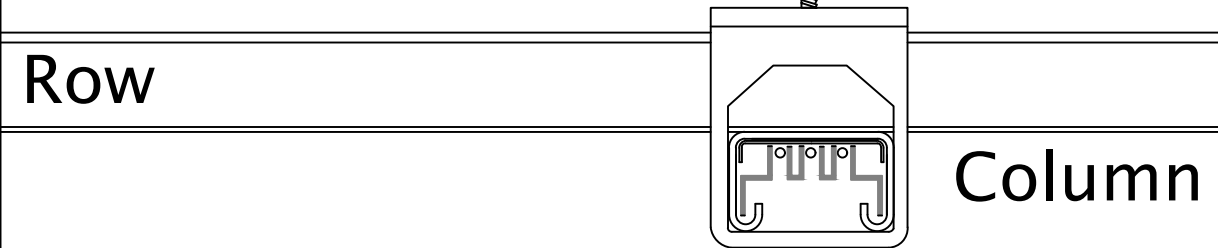
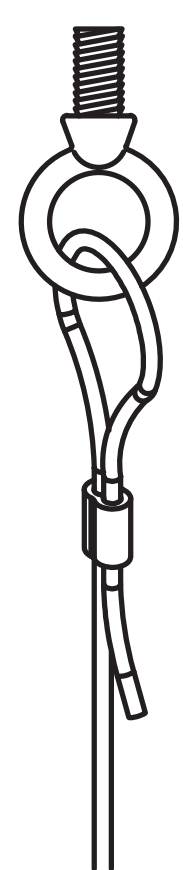


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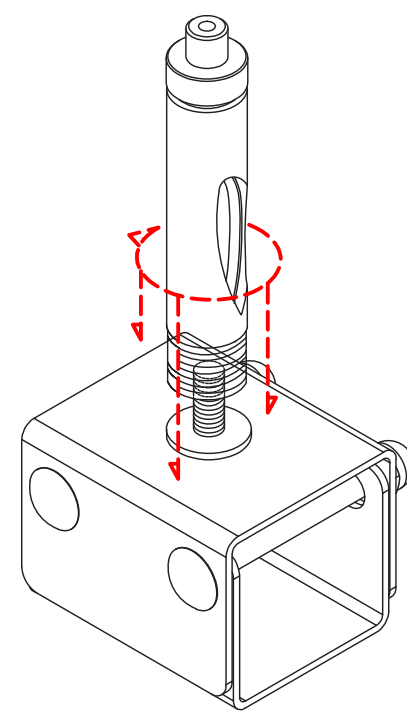
STEP 1

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).

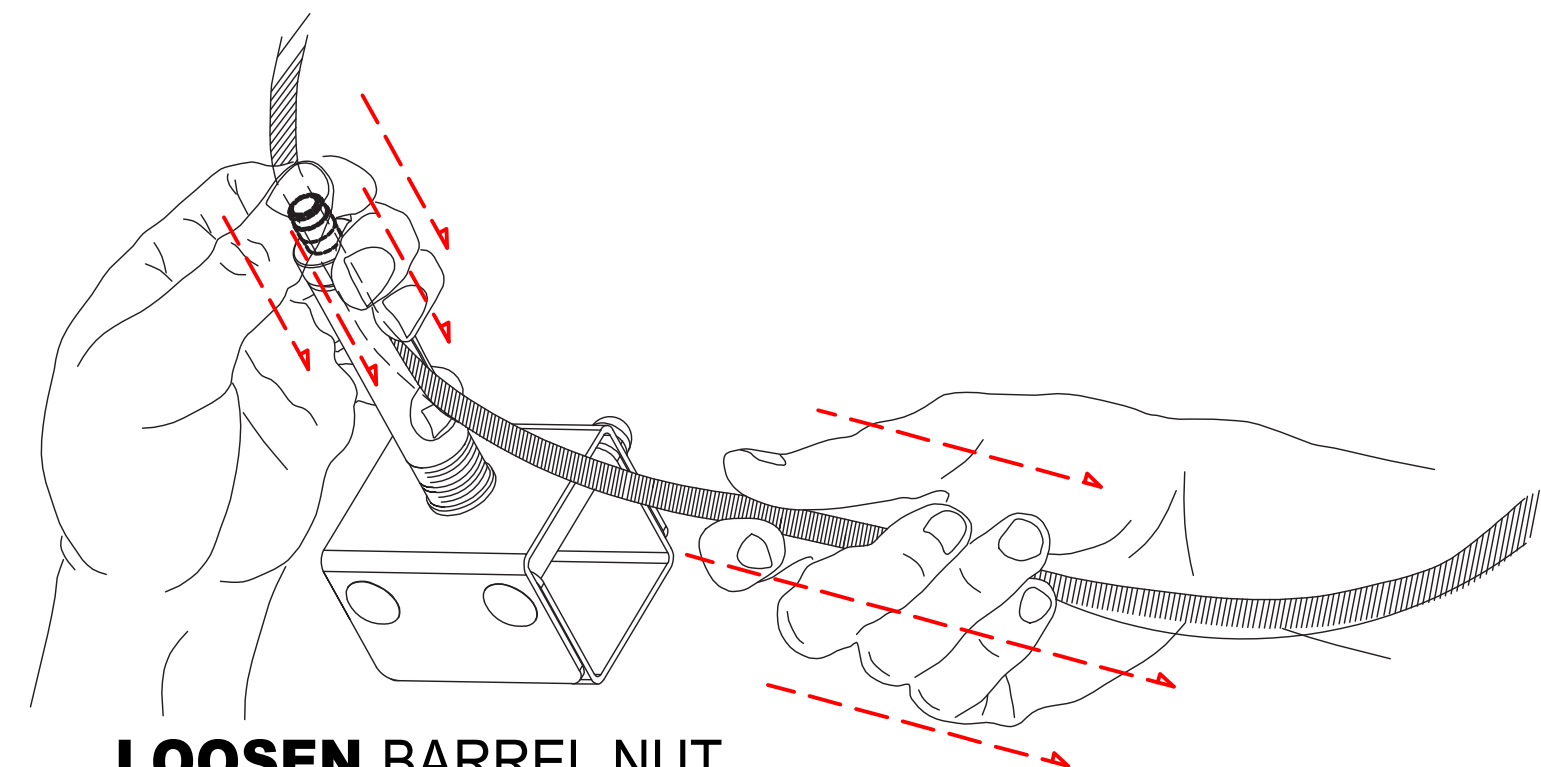
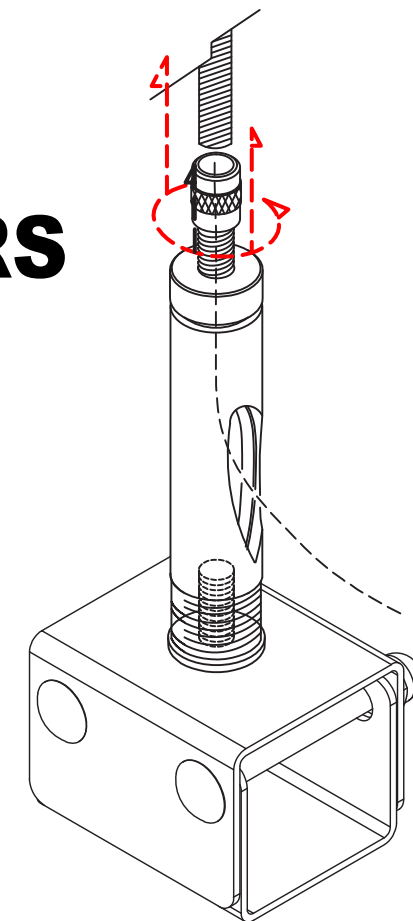


2 ASSEMBLE HANGERS (HM-S)

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

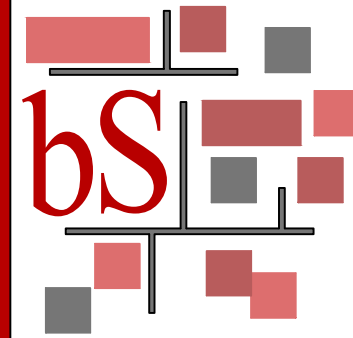
Turn the first knob

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
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DATE
10/28/2024

ISSUED FOR
BID / REVIEW

TYPICAL
busSTRUT Installation Instructions

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

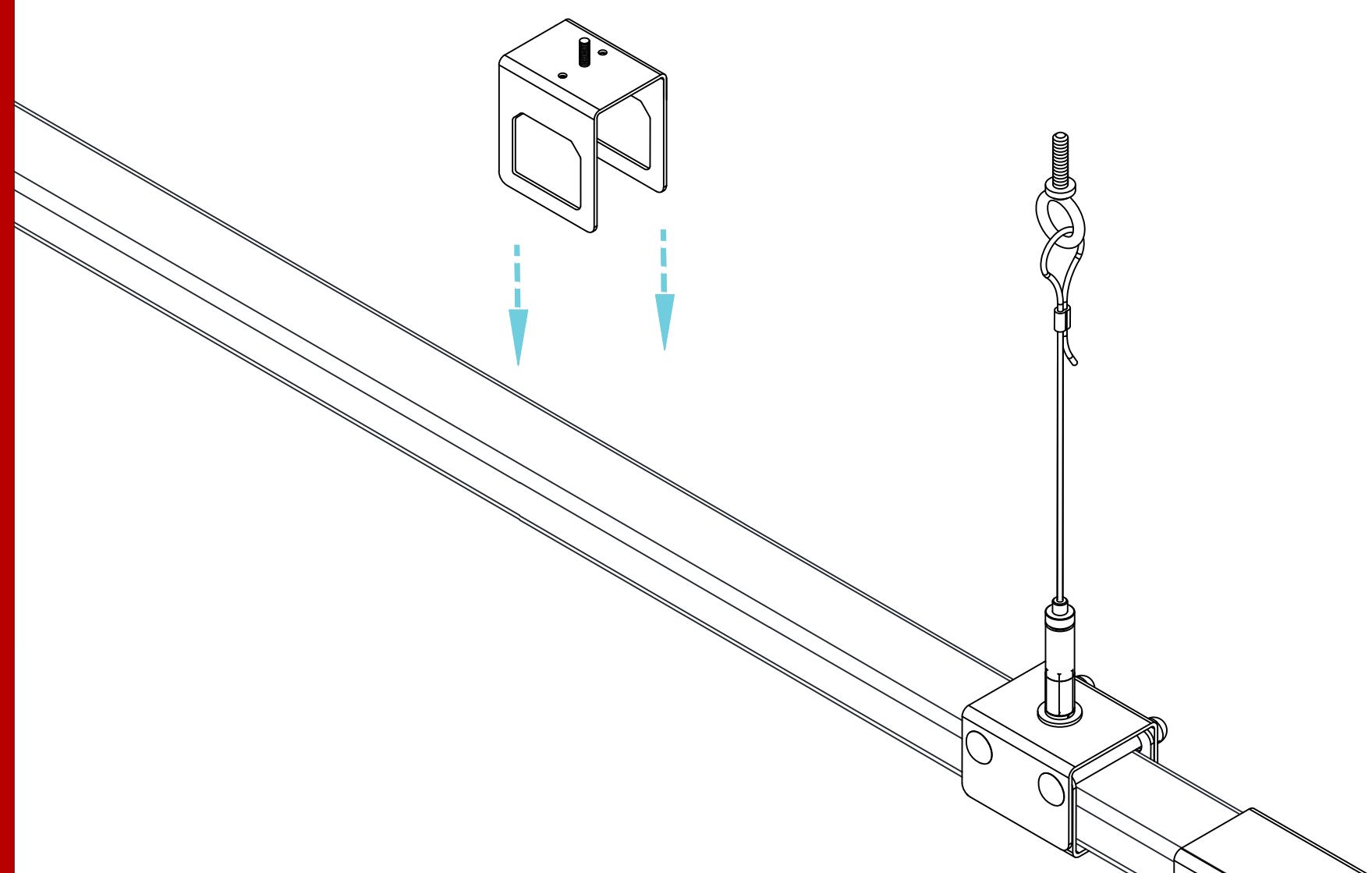
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1			

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

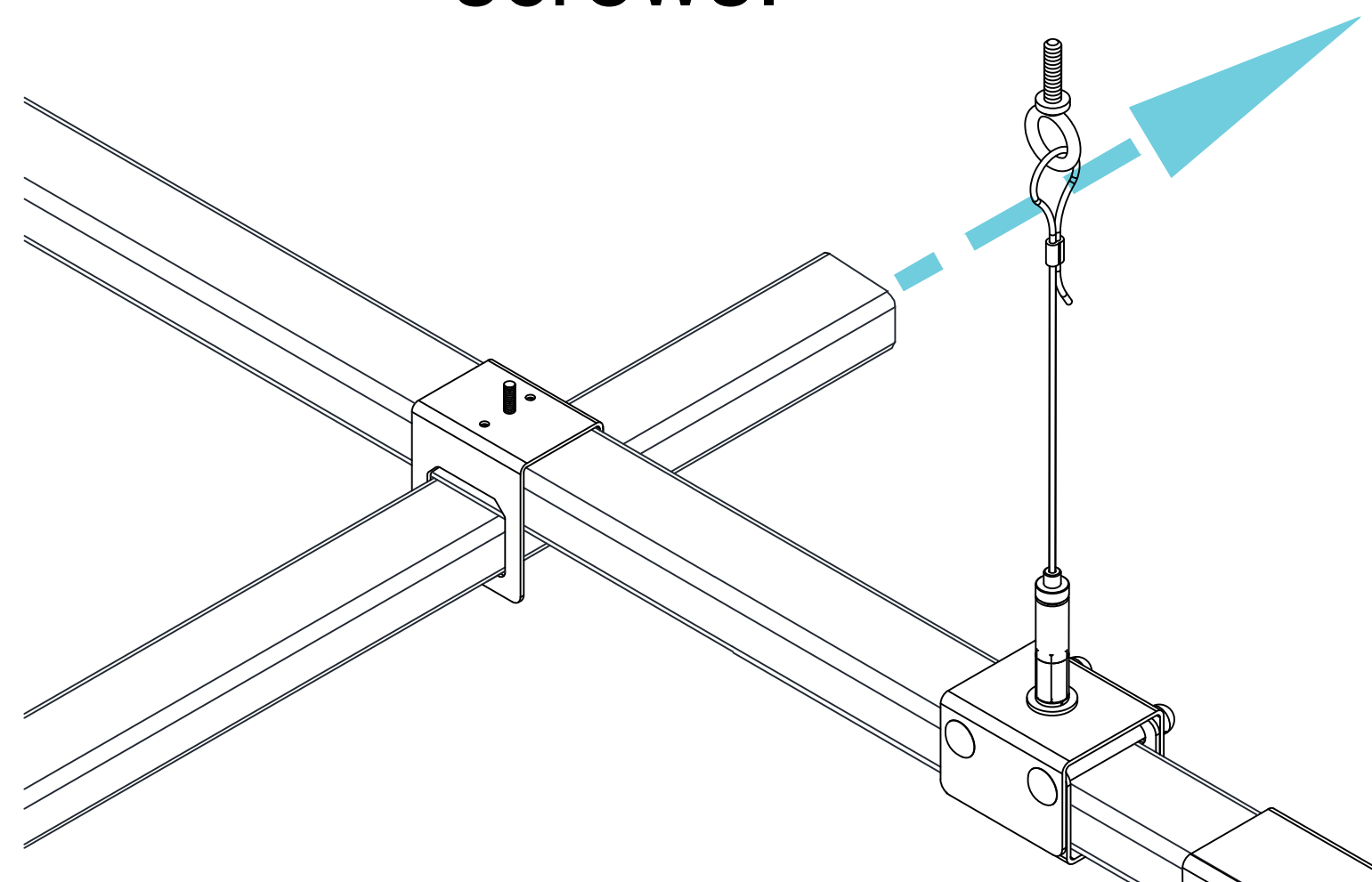
STEP 3

INSTALLING CROSSOVERS DROPPING ON

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



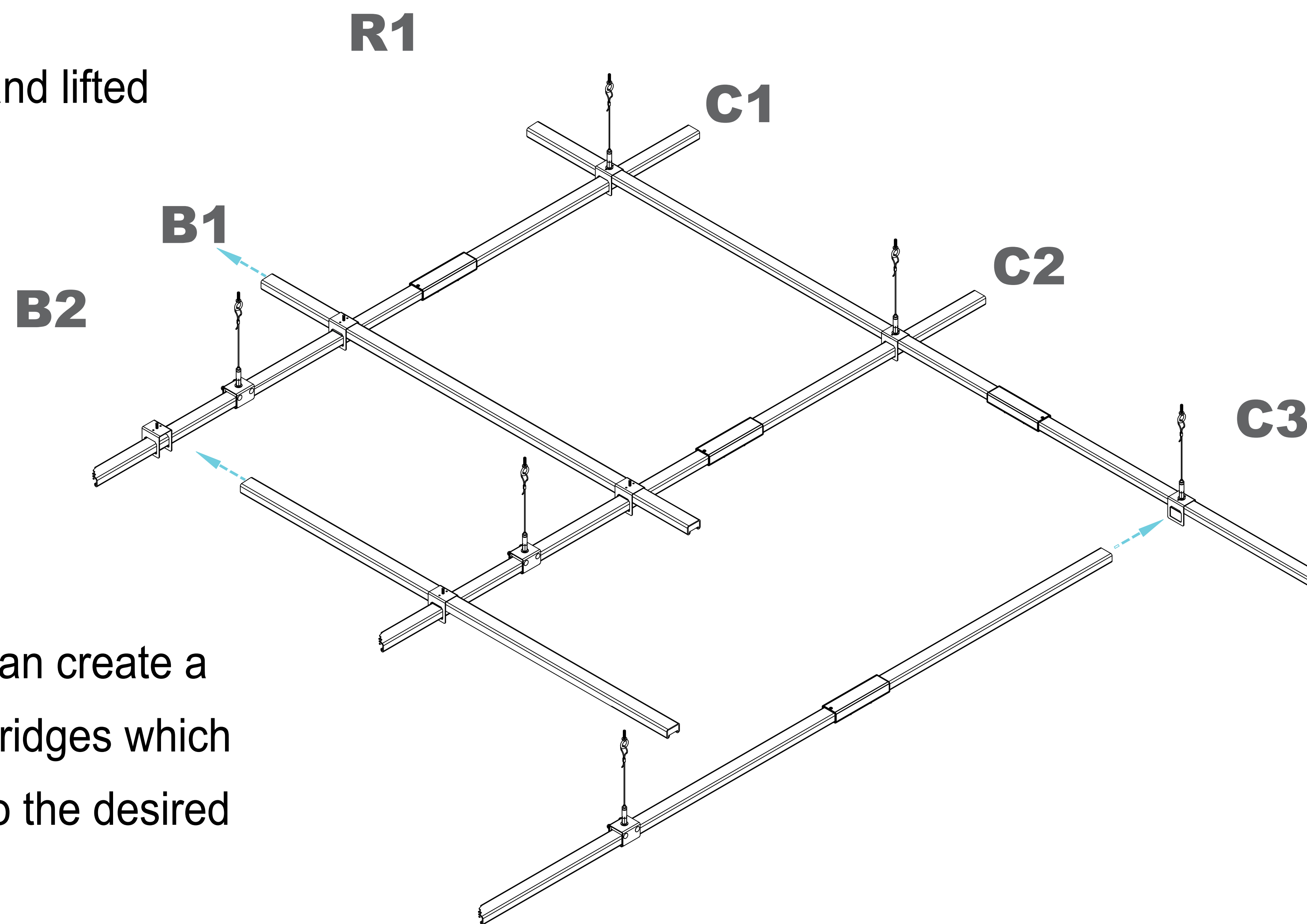
Slide perpendicular runs of busSTRUT through the crossover and tighten the set screws.



SLIDING ON

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

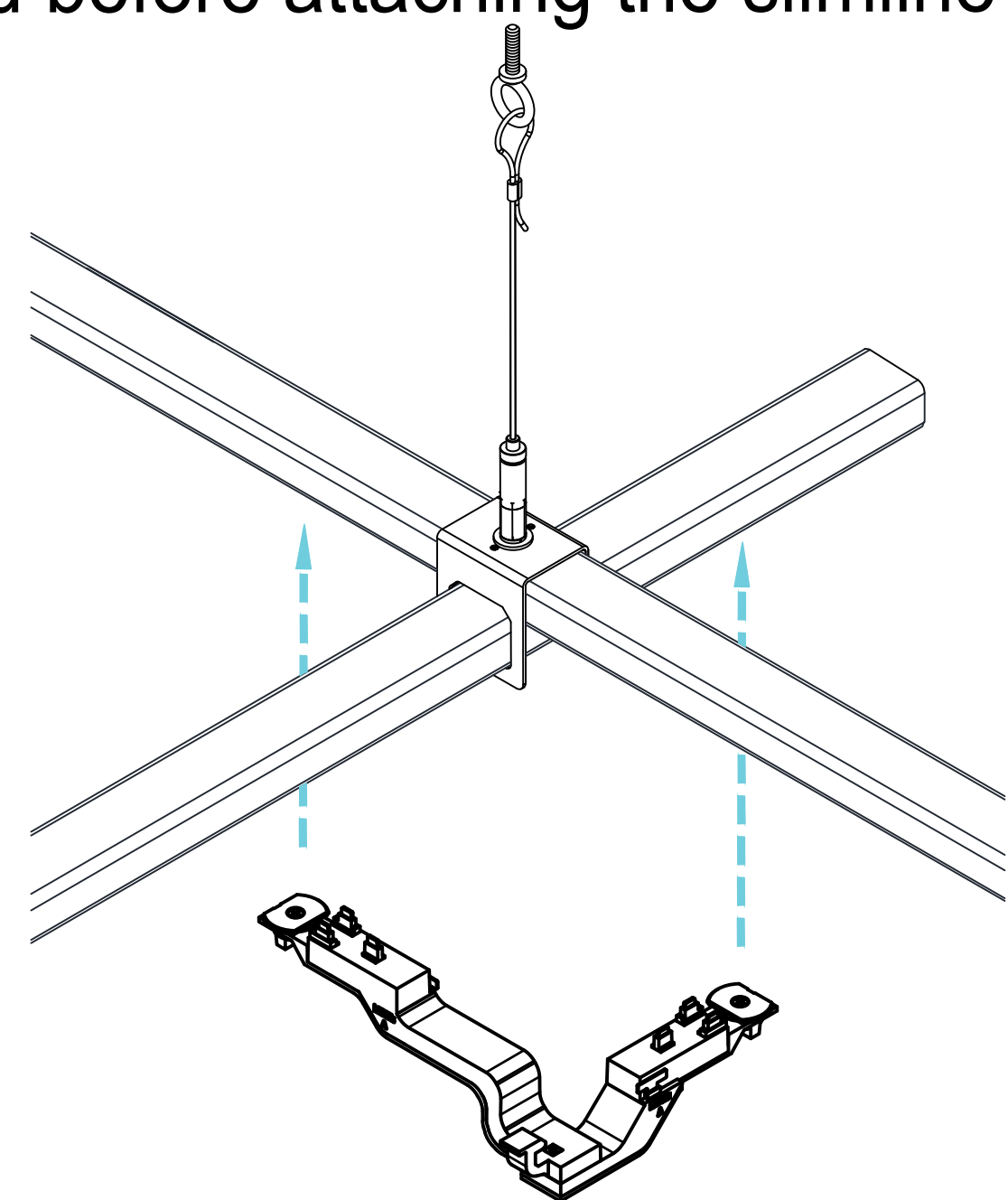
Perpendicular runs can create a full grid or be short bridges which are easily moved into the desired position.



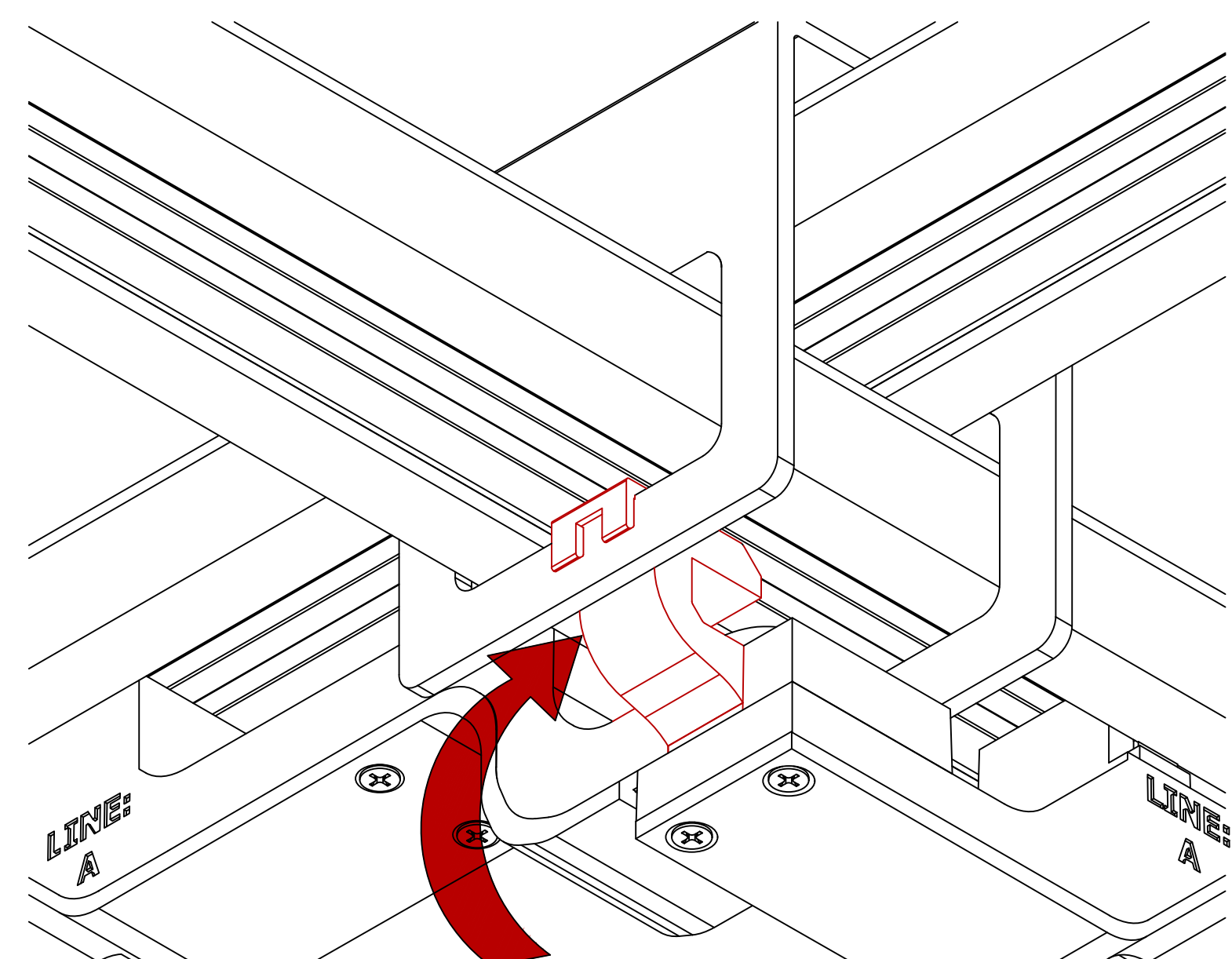
STEP 4A

SLIMLINE JUMPER

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

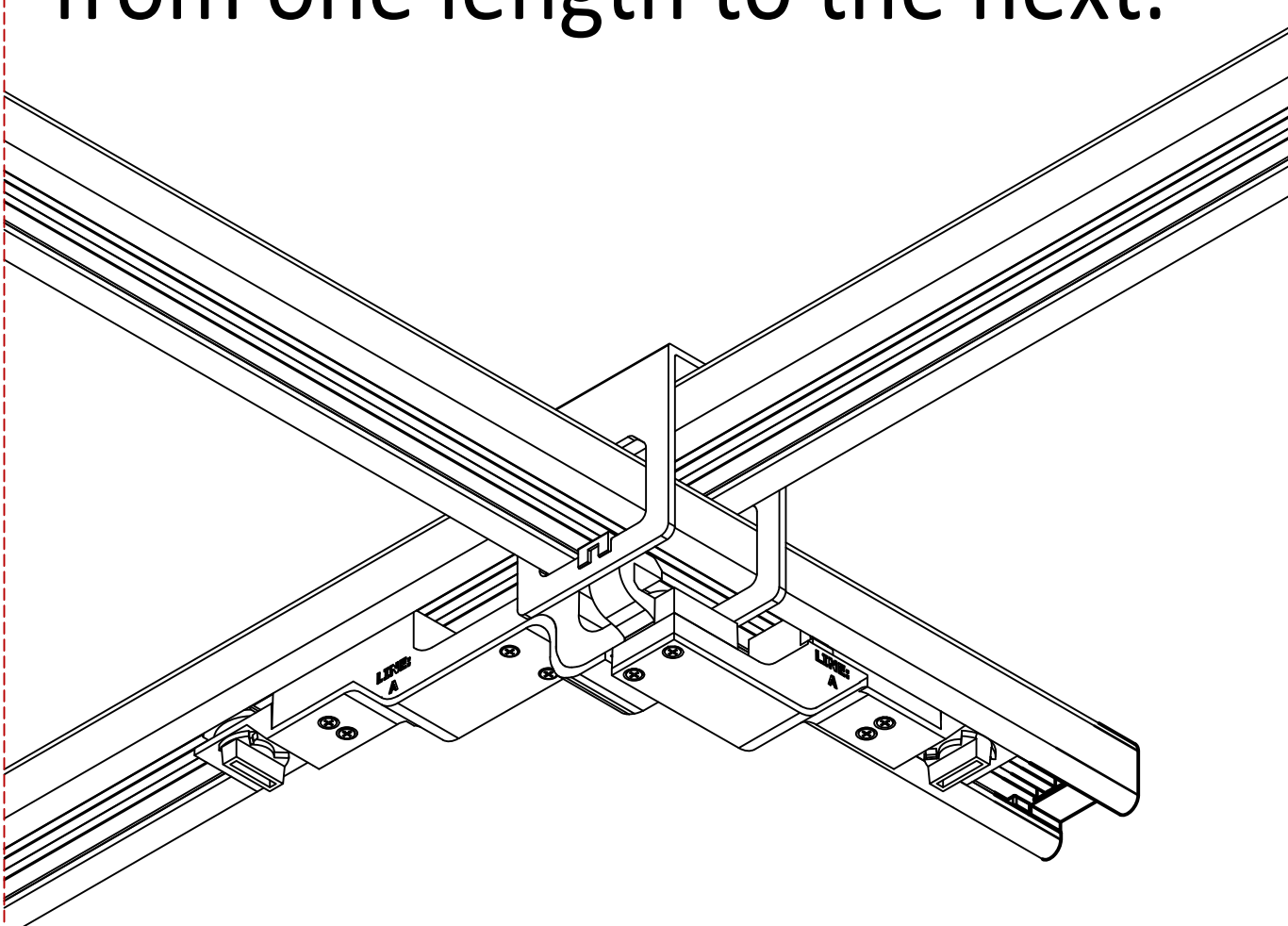


First, clip the jumper to the crossover.

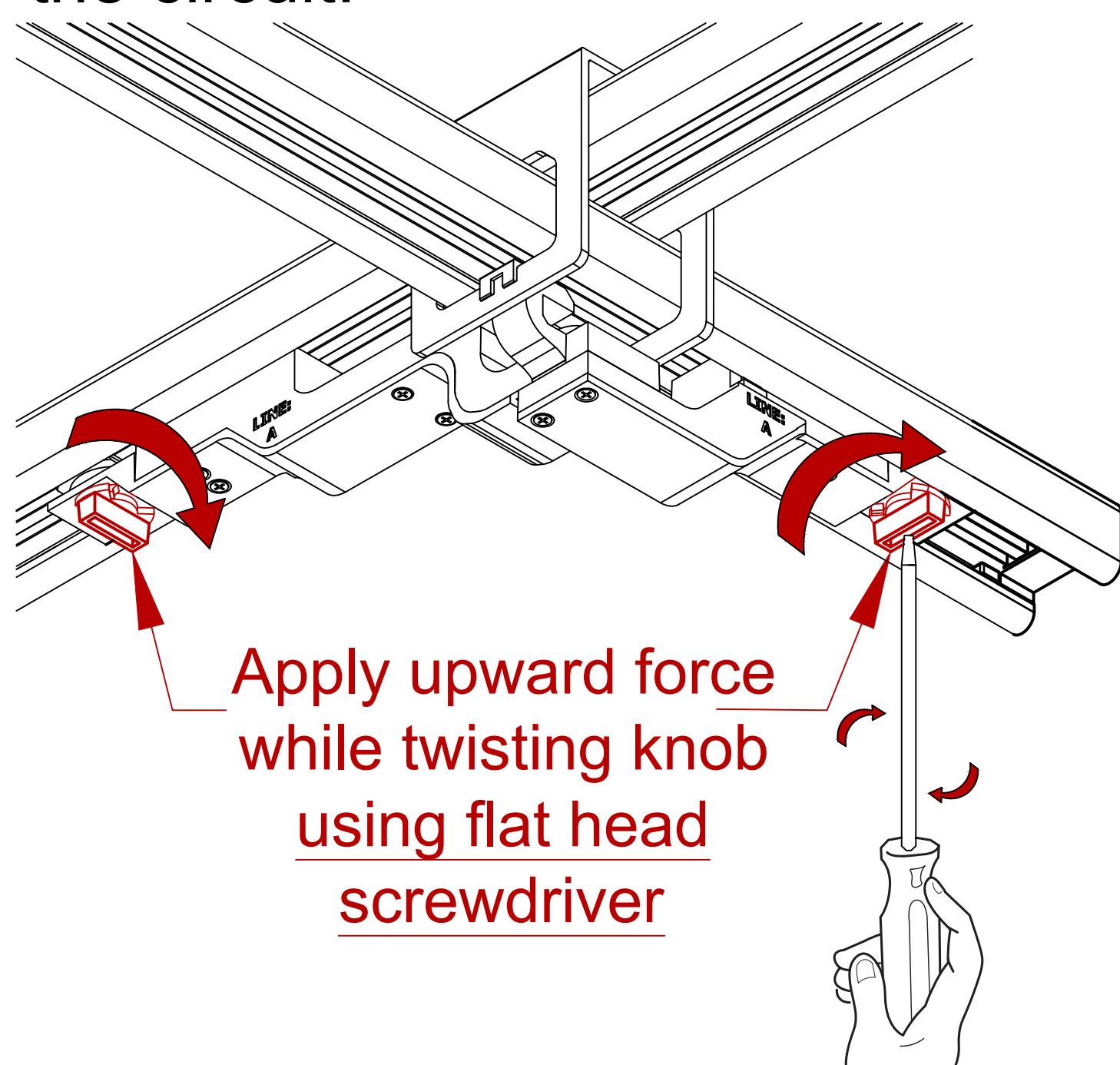


SLIMLINE JUMPER (MD2020-UNIV-IJ2-B-X)

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.

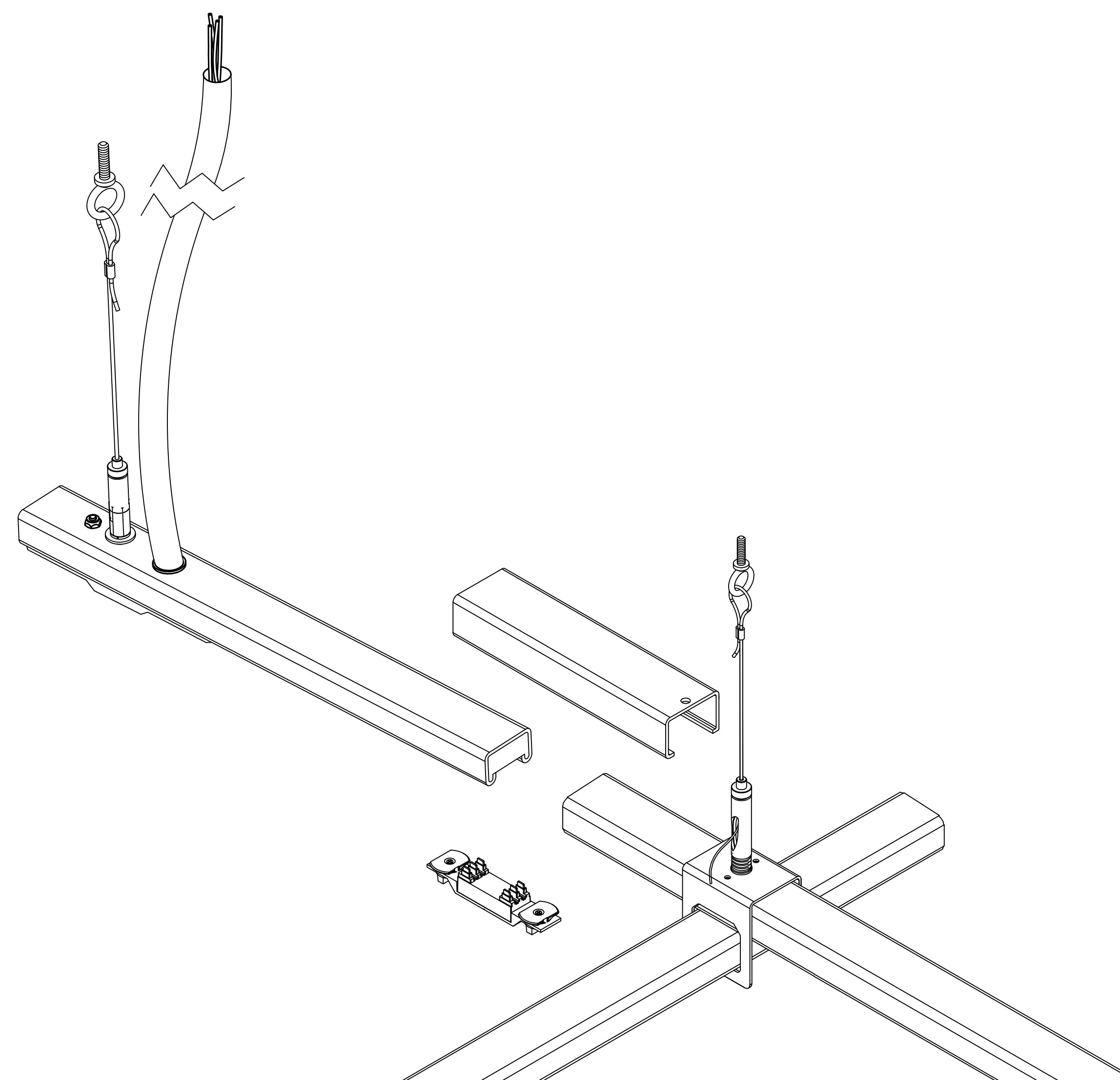


STEP 4B

STARTER FEED

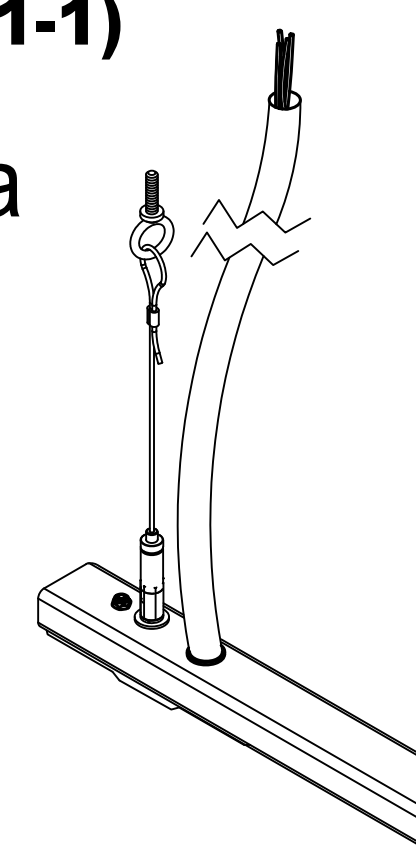
The Starter Feed comes with a 1/4-20 Stud to create an additional hang point and a 15' 12/4 SOOW Cord to connect power to the system.

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

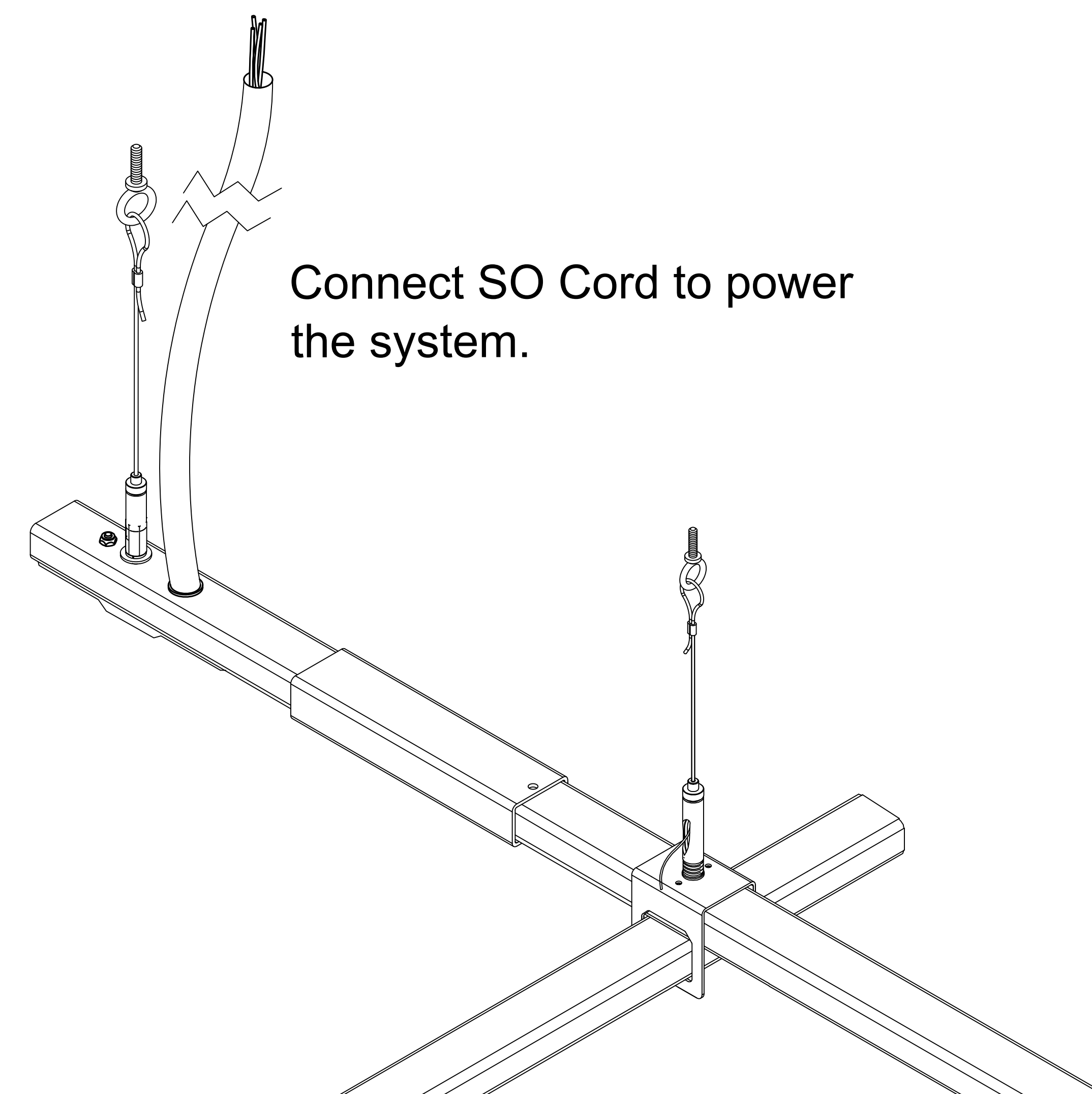


STARTER FEED (P20-3-40-UNIV-30-CM-F 1-1)

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.

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

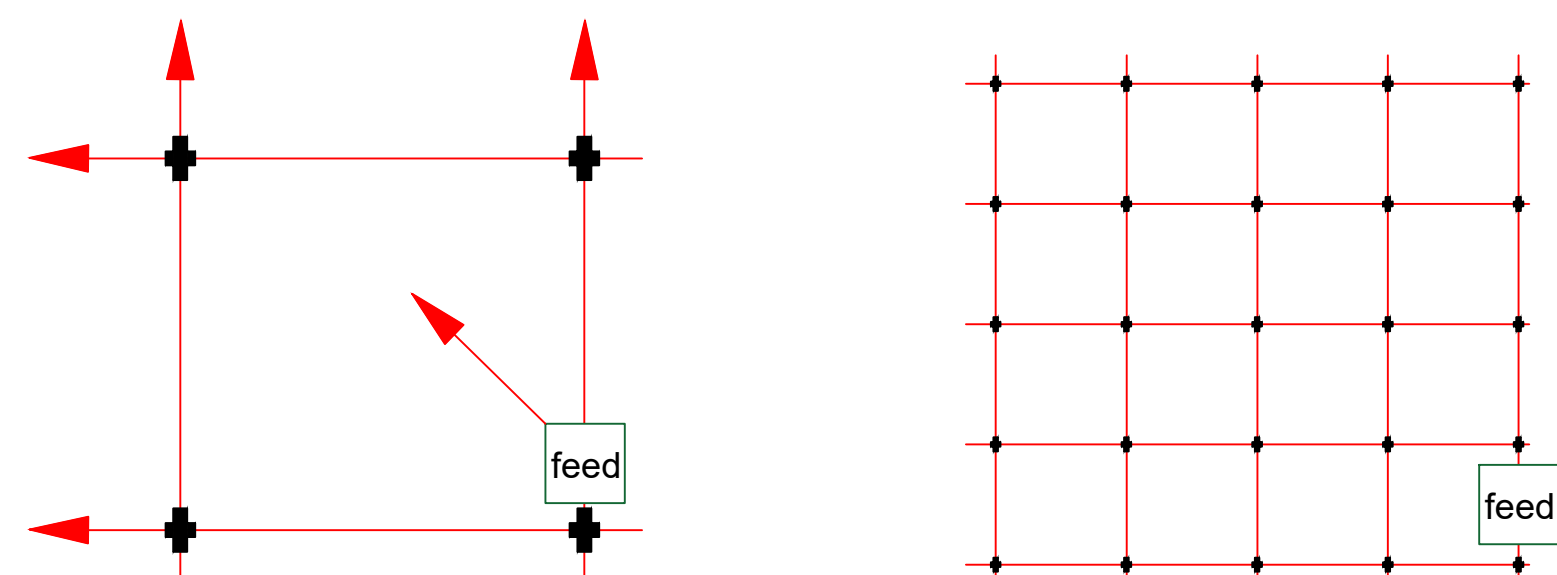
STREET LIGHTS: 12 gauge 1" x 1" x 1.58" braided cable with GLIDE® features two 16 AWG symmetrical surrounding a 16 AWG center conductor. Crossovers. Includes cable-glide and a pair of 40 Amp circuits 40 Amps Maximum with busSTRT720, alternatively two 20 Amp circuits 40 Amps Maximum with busSTRT100A. 2.5', 5', 10' 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 busSTRT. Each is an assembled two part unit. The upper piece includes a threaded stud with cable looped through 14-20" eye bolt.	JONERS: Single and Double are for use with busSTRT. Lengths are joined together mechanically with an 1" steel sleeve. Electrical Joints include both a Twist & Turn Plug-In electrical insert to bridge power. And continuous conduits through the bus itself by means of a permanently affixed corner gounding bar.	CROSSOVERS: For use with intersecting busSTRT. Each is an assembled two-part unit for building grid configurations and bridges. The upper piece includes a threaded stud for use with busSTRT cable-glide.	JUMPERS: For use with both busSTRT720 and busSTRT100A. The fused 400V Jumper Cables can be used to electrically connect busSTRT Trunks to busSTRT720 Branches and electrically connecting busSTRT720 to busSTRT100A.	LINE FEEDS: For use with powerline single-type busSTRT. Junction Box features energy code type "Intims" (breakoutless) holders and 3 Pole Fuses. Assembled up to 277/480V. Can be positioned anywhere along busSTRT to reduce the lengths of run.
STARTER FEEDS: For use with powerline single-type busSTRT. Utilized when no current limiting is required on the busSTRT. Must be positioned at the beginning of a run.					

busSTRUT Large PD						busSTRUT Bill of Materials										Finish TBD: Galvanized, White, or Black				Drawn By Checked By Date		John Loch John Loch 10/28/2024				
						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-J-B-F-X	M-J-I-F-X	M-J-I-F-NIE	H-M-S-F-ST-LFX	MKU-ST-A-F	CG-E-15-B-GL	IOM-S-F-ST-X	MDA020-UNIV-ICF-90-12-GDZ	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	BRLUCY-U-30R-30-F-(OC)			
						SINGLE	JOINER INSERT	NON-ELECTRIC JOINER INSERT	SINGLE	DÉCOR BRACKET		JUMP CORD	STARTER FEED CENTER MOUNT	POWER DROP												
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	25	25	1	2		2	5	5				4	4				1								
R2	20	25	25		2	1	2	4	4				4	4												
R3	20	25	25		2	1	2	4	4				4	4				1								
R4	20	25	25		2	1	2	4	4				4	4				1								
SUB TOTAL		100	100	1	8	3	8	17	17				16	16		3		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	GEN	ACT					
Columns																										
C1	20	25	25		2	1	2	4	4							1										
C2	20	25	25		2	1	2	4	4							1										
C3	20	25	25		2	1	2	4	4							1										
C4	20	25	25		2	1	2	4	4							1										
SUB TOTAL		100	100	8	4	8	16	16								4										
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	10	10		1		1	1	1					2		1			1							
B2	20	10	10		1		1	1	1					2		1			1							
B3	20	10	10		1		1	1	1					2		1			1							
B4	20	10	10		1		1	1	1					2		1			1							
SUB TOTAL		40	40		4		4	4	4					8		4				4						
STORE TOTAL		240.0	240.0	1	20	7	20	37	37				16	24		11		1	4							

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	hrs	0-0		
busSTRUT SYSTEM	LENGTHS	240	LF	x	2.75	0.05	= 11
	JOINERS	37	EA	x	12	0.20	= 7
	HANGERS	16	EA	x	25	0.42	= 7
	CROSSOVERS	16	EA	x	10	0.17	= 3
	ATTACHMENTS	4	EA	x	8	0.13	= 1
	JUMPMPS	11	EA	x	6	0.10	= 1
	FEEDS	1	EA	x	15	0.25	= 0
busSTRUT SUB-TOTAL					=	30	
FIXTURES	ACCENT		EA	x	8	0.13	= 0
	LINEARS		EA	x	20	0.33	= 0
	busSTRUT READY LIGHTS SUB-TOTAL					=	0
TOTAL TIME					=	30	

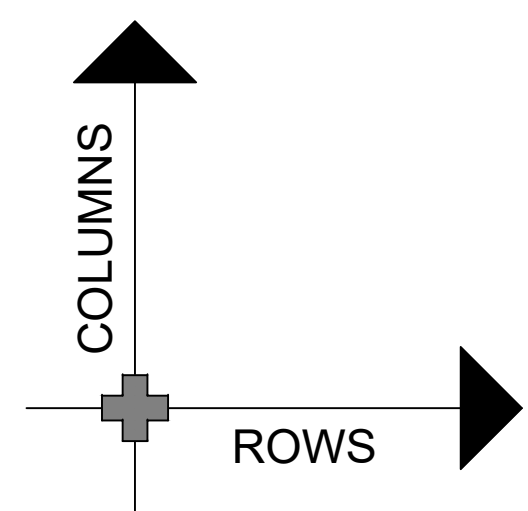
* Powered by a minimal amount of feed boxes.

 busSTRUT 20 / Single Deck

Joiner

1/1 Slimline Crossover

Slimline Jumper




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CHECKED BY:
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DRAWN BY:
JOHN LOCH

ISSUE DATE:
10/28/2024

ISSUED FOR:
BID/REVIEW

Lighting Plan & Bill of Materials

GRID LARGE - Power Drops

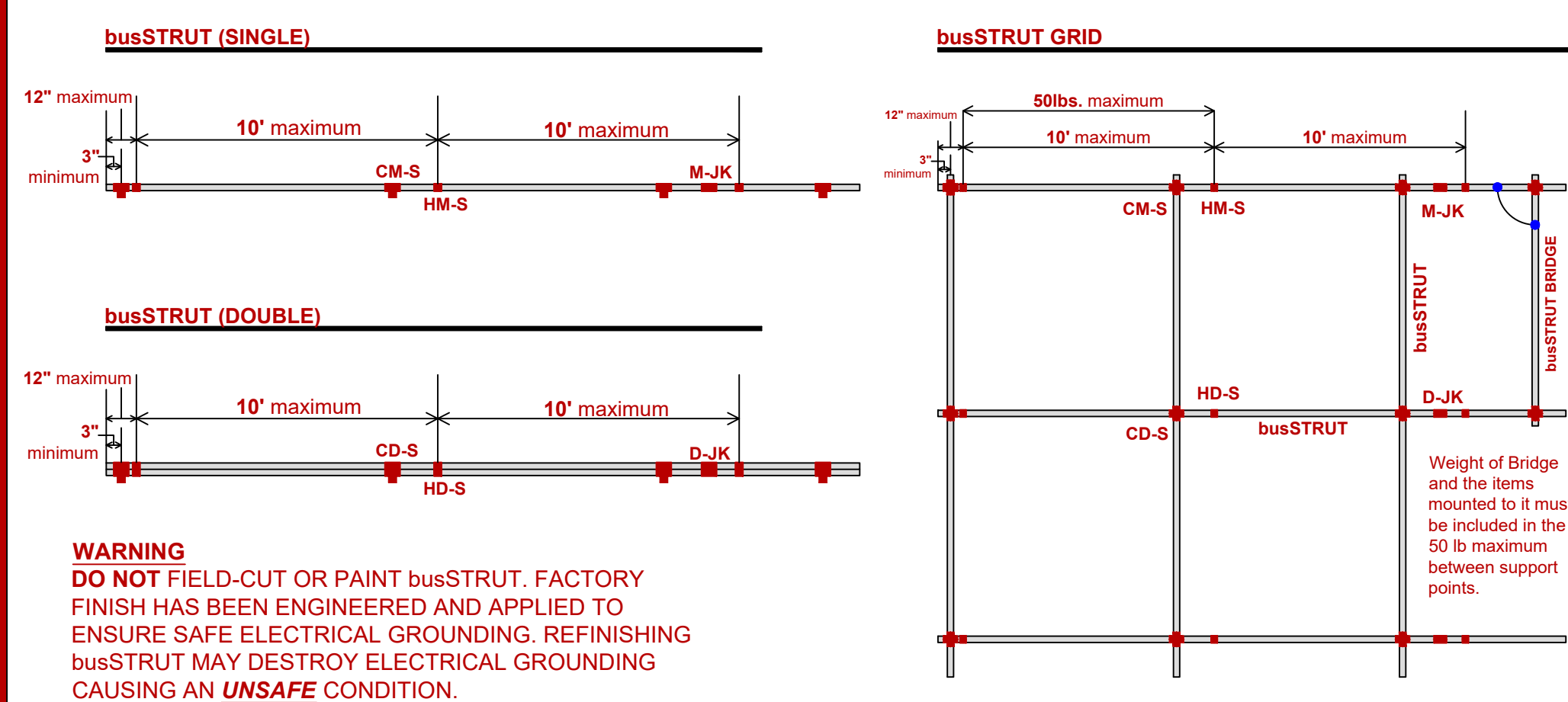
busSTRUT
SHOP DRAWING SET(ONLY)
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ENGINEERING OR ELECTRICAL
DRAWINGS

PAPER SIZE:
ARCH E (48x36)

SCALE 5/8" = 1'-0"

DRAWING NUMBER
E-b1

Mounting Rules



Do NOT remove the factory installed end caps from the busSTRUT.

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)

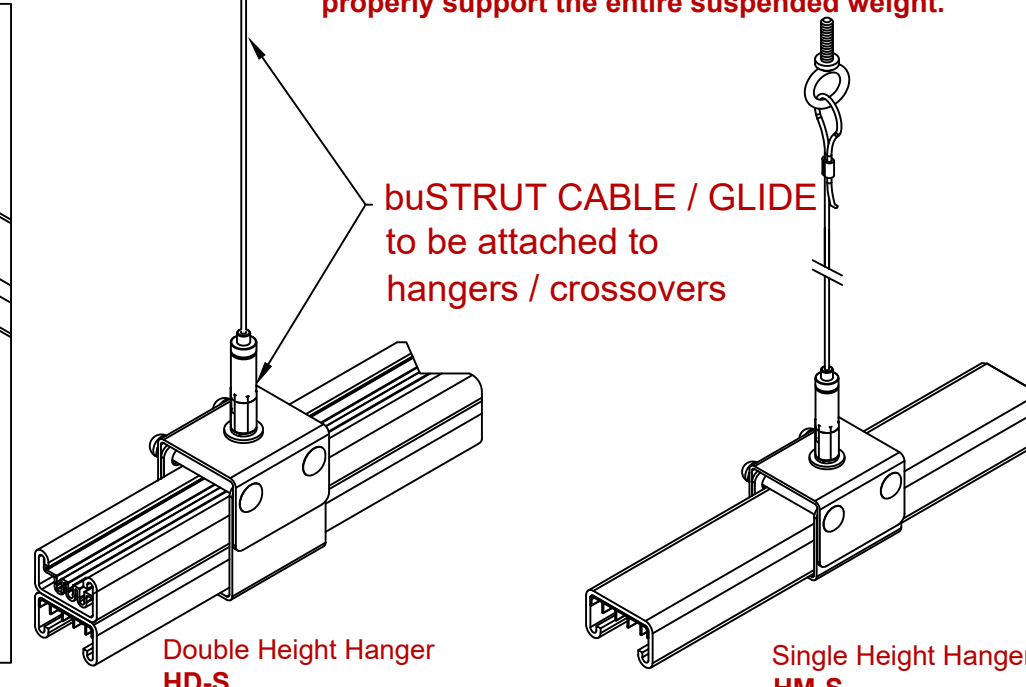
FITTERS
40 lbs

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 truck light fixtures only. Consult for maximum weight restrictions.

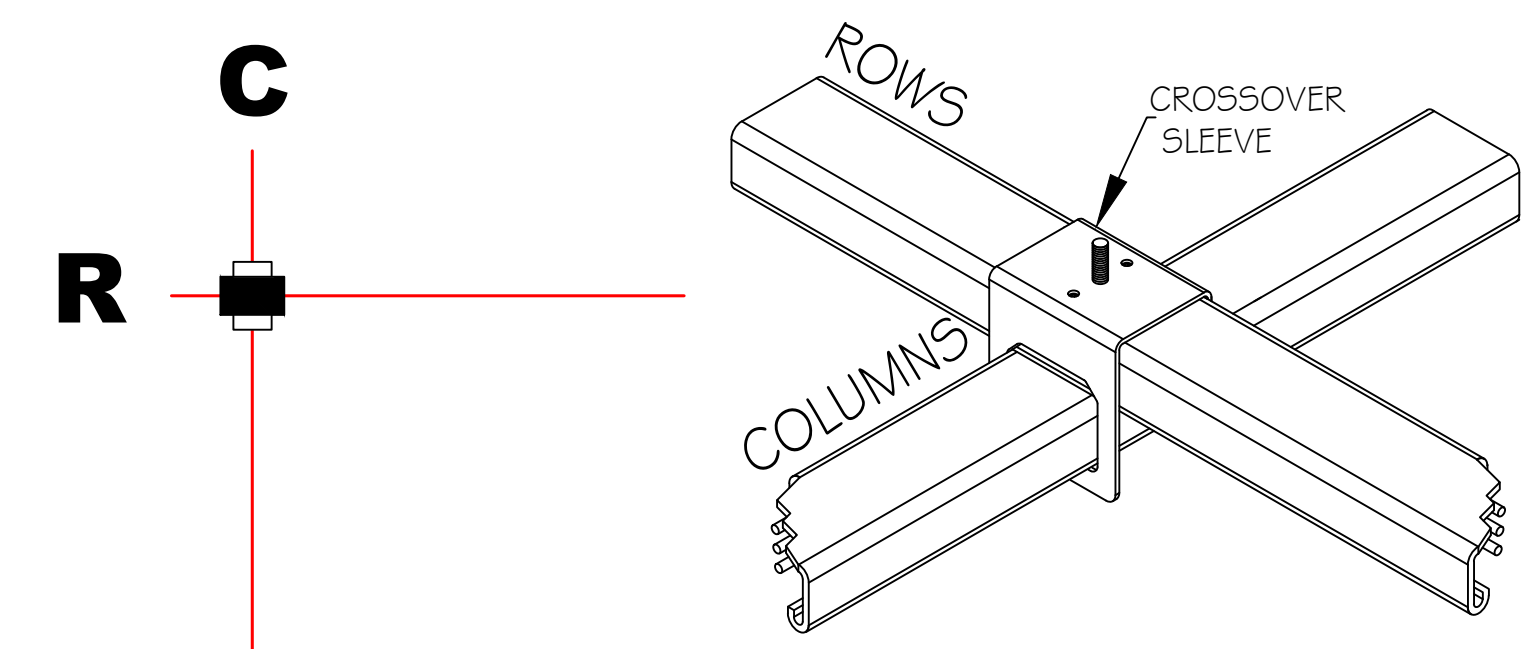
Only busSTRUT fittings and hardware may be mounted directly to busSTRUT.

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

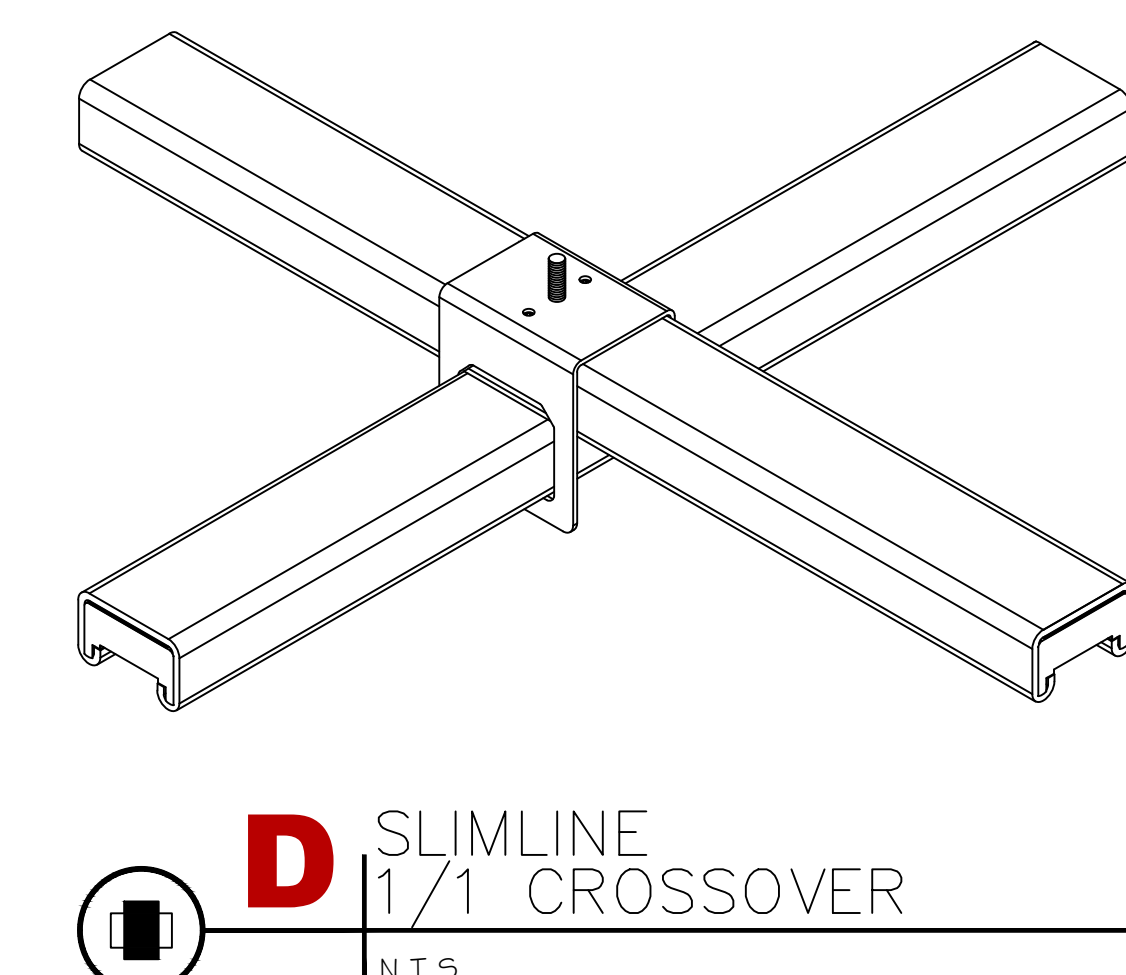
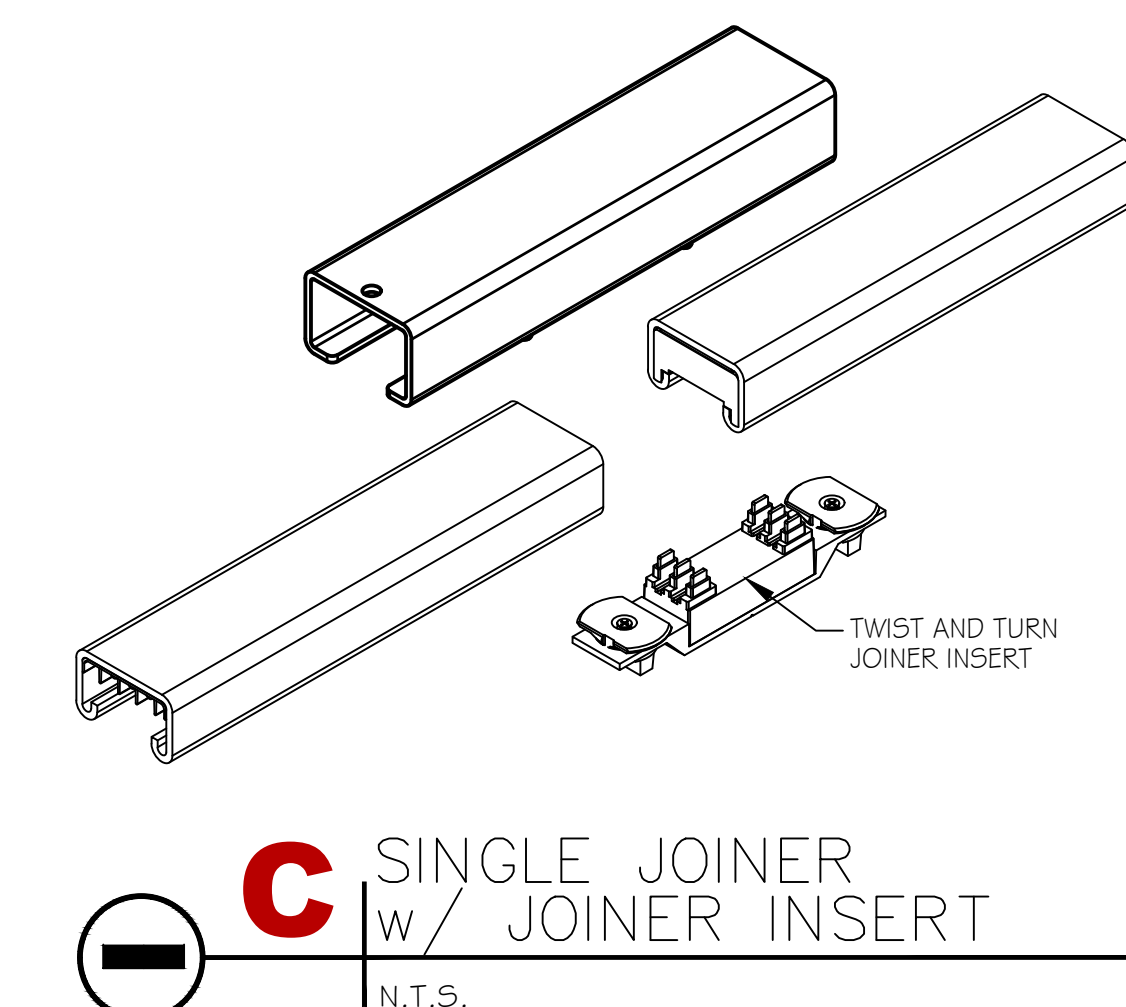
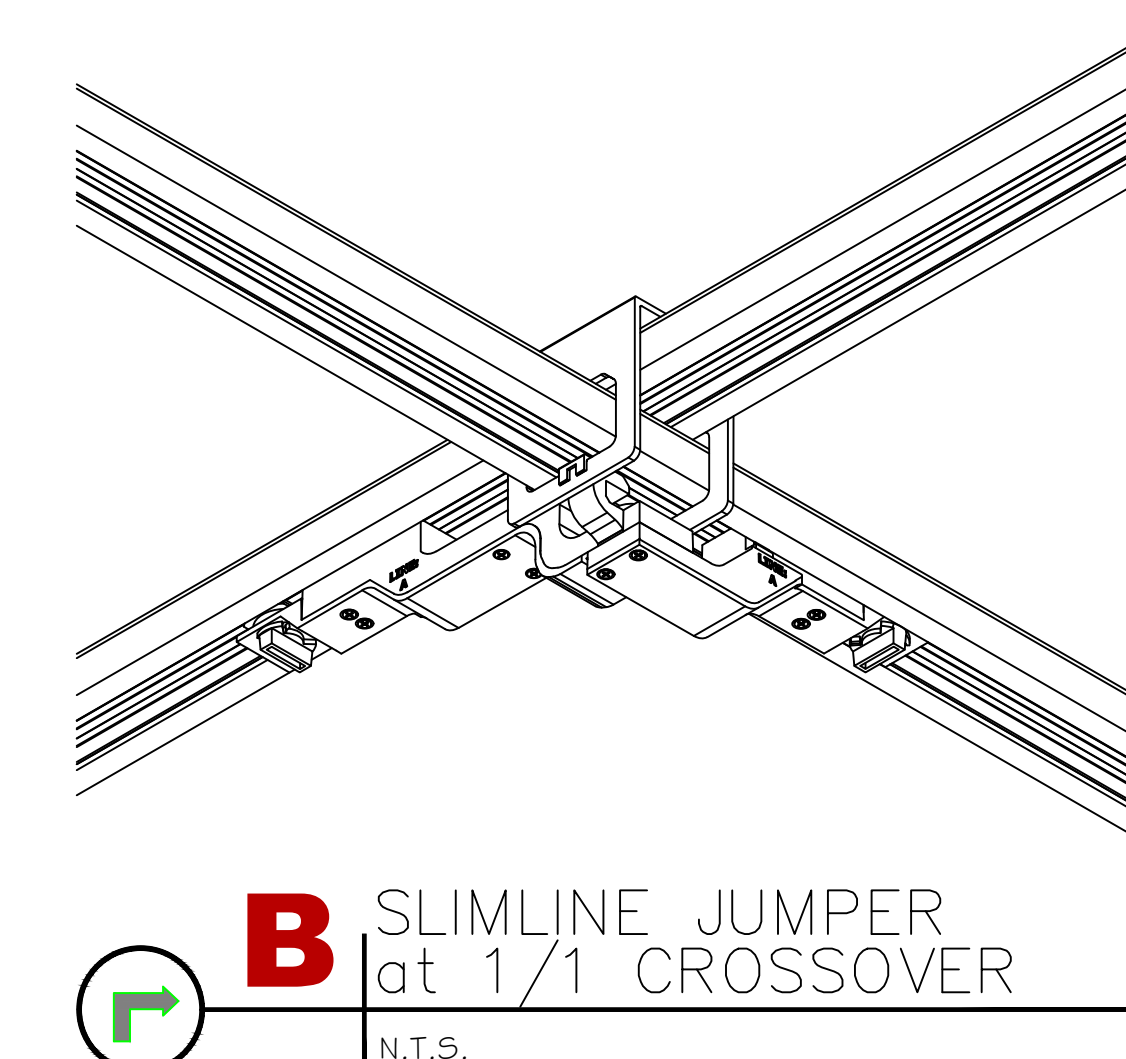
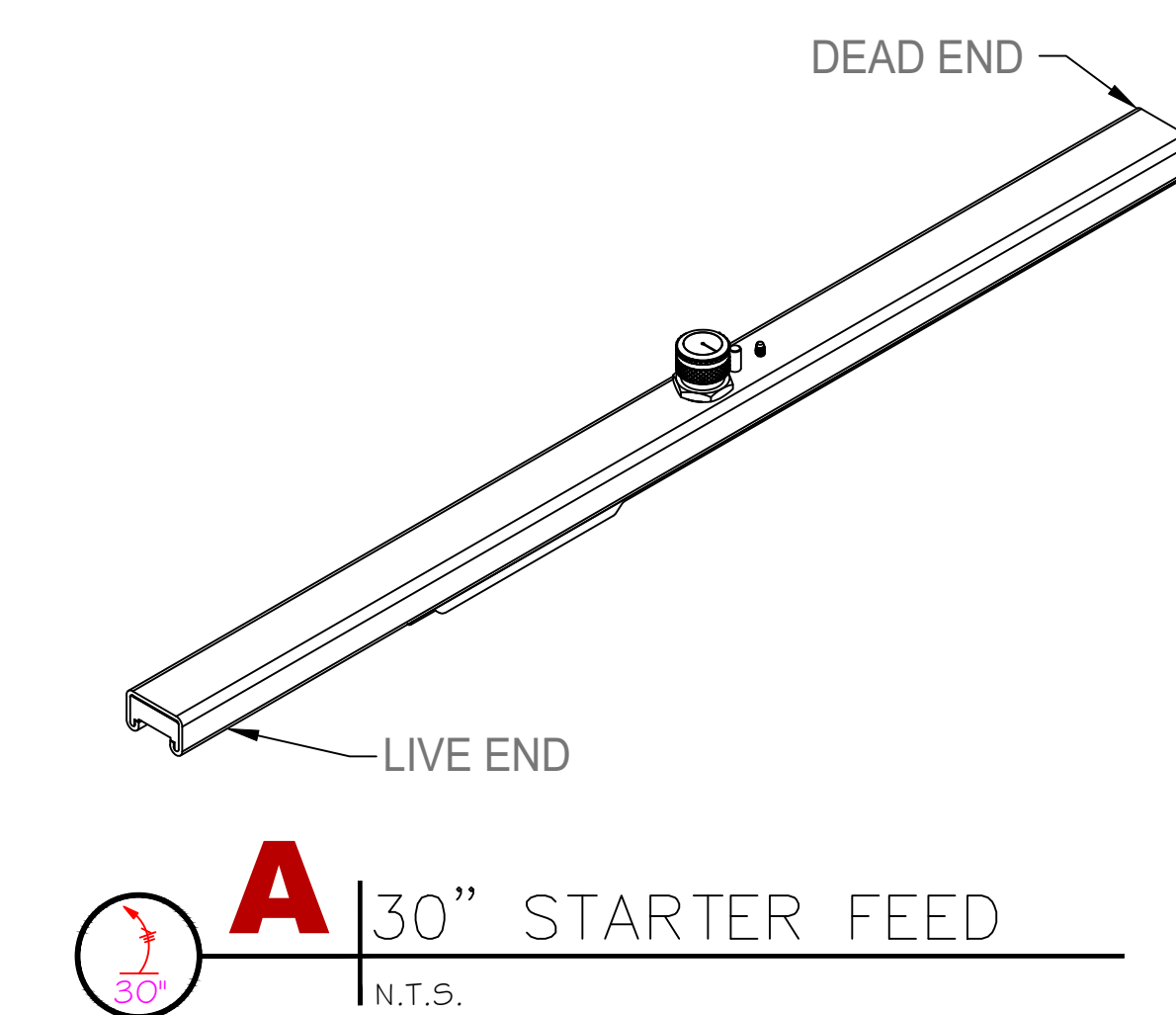


Project Specific Rules

Rows are to be mounted on top of Columns.
Crossover sleeve runs with Rows.

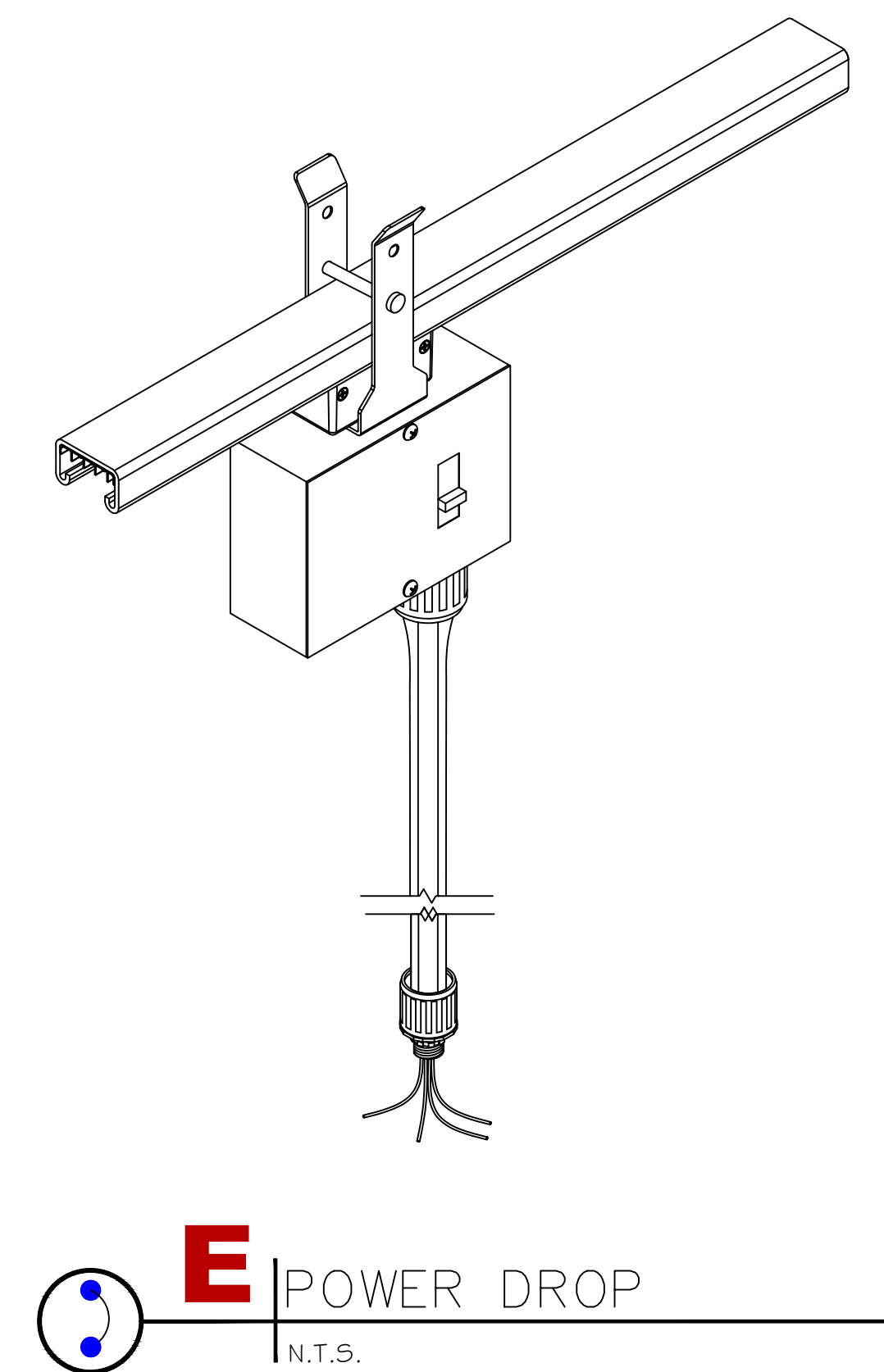


Row		Column



ISO Details

Dimensions



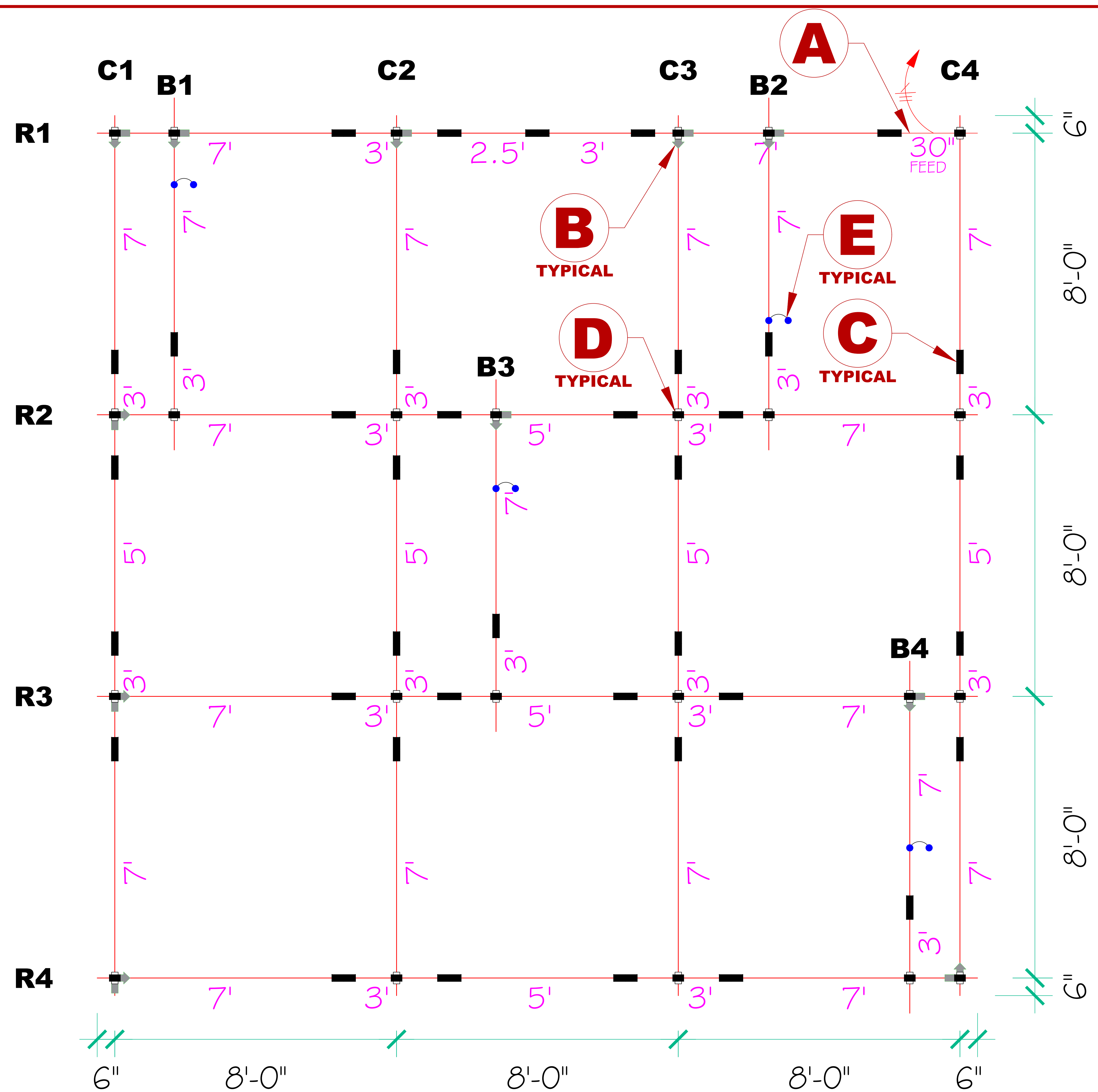
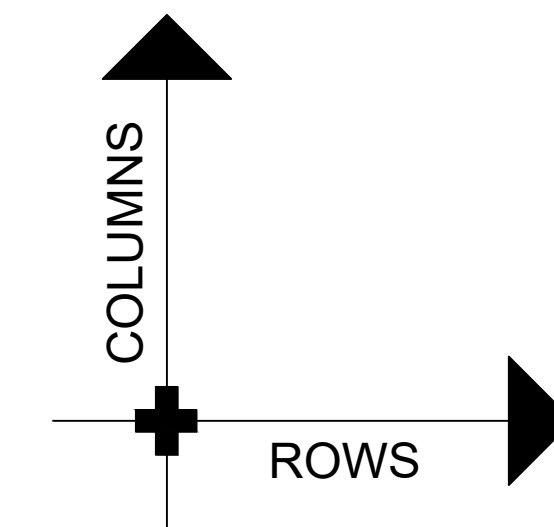
Legend

 busSTRUT 20 / Single Deck

30" Starter Feed

Joiner

1/1 Slimline Crossover

 Slimline Jumper

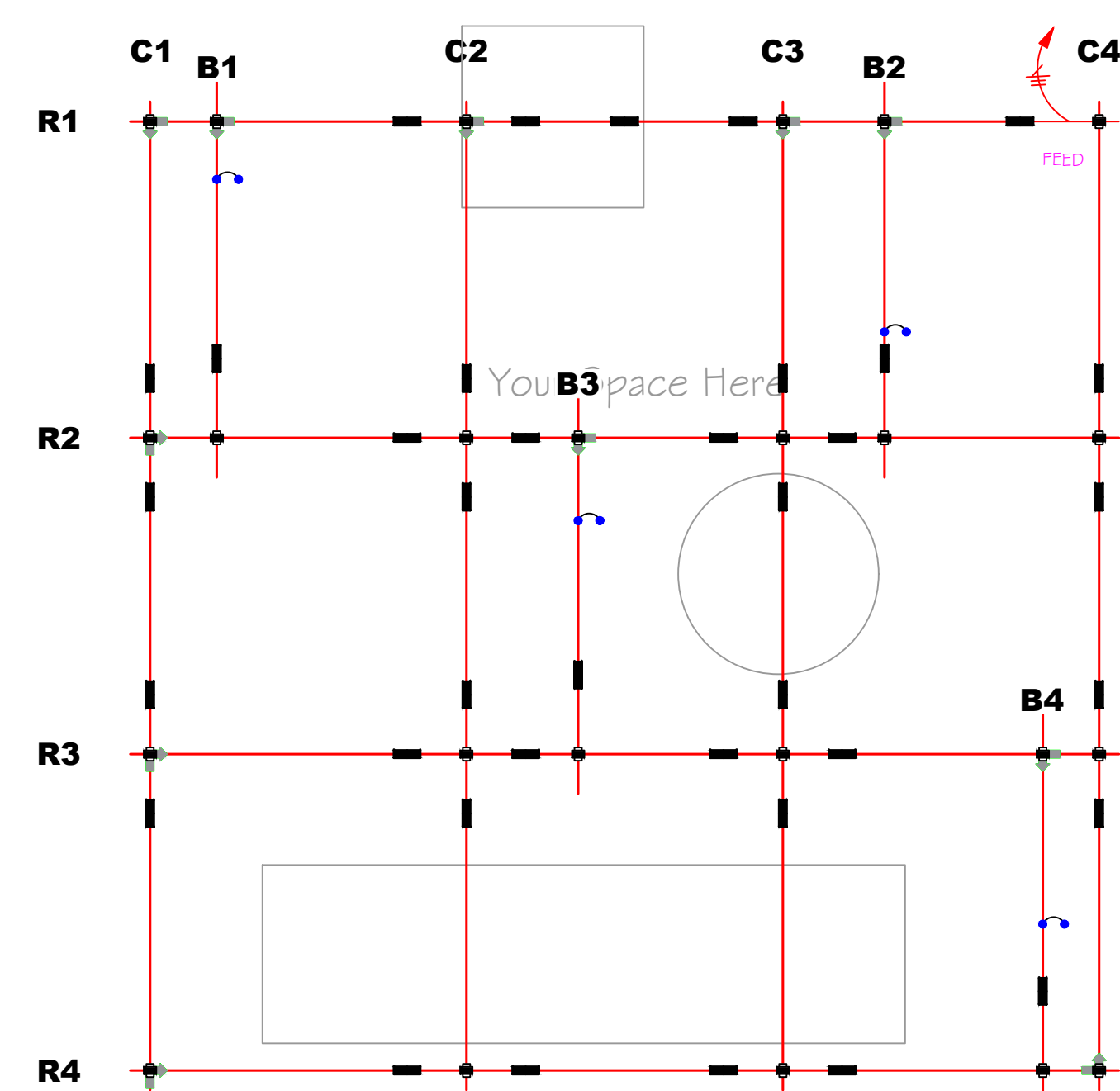
busSTRUT Lengths Used in this Project

2.5'

3

51

7



bs 
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JOHN LOCH

DRAWN BY:
JOHN LOCH

ISSUE DATE:
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ISSUED FOR:
BID/REVIEW

Assembly Plan

GRID LARGE - Power Drops

[illegible]