

# VEX TEAM 3547:VIRUS IQ FLIP UP RISER PLANS

## FLIP UP FIELD (~\$950)

Roll-around base will fit through a standard door when flipped up.

\*In addition to the kit of parts from 80/20, this requires three 4'x8' sheets of corrugated plastic, 1/2" wide double-sided tape, and 1/2" wide foam mounting tape.

\*Easy to build using ordinary hand tools. Documentation (pictures/video) of the actual build is available: email mmohn@monroeccc.edu

\*Official 18" height for VEX-IQ events.

**DO NOT ALLOW STUDENTS TO CLIMB ONTO THIS FIELD RISER!  
TWO ADULTS ARE REQUIRED TO SAFELY RAISE/LOWER THE FIELD, AND TO MOVE THE FIELD!**

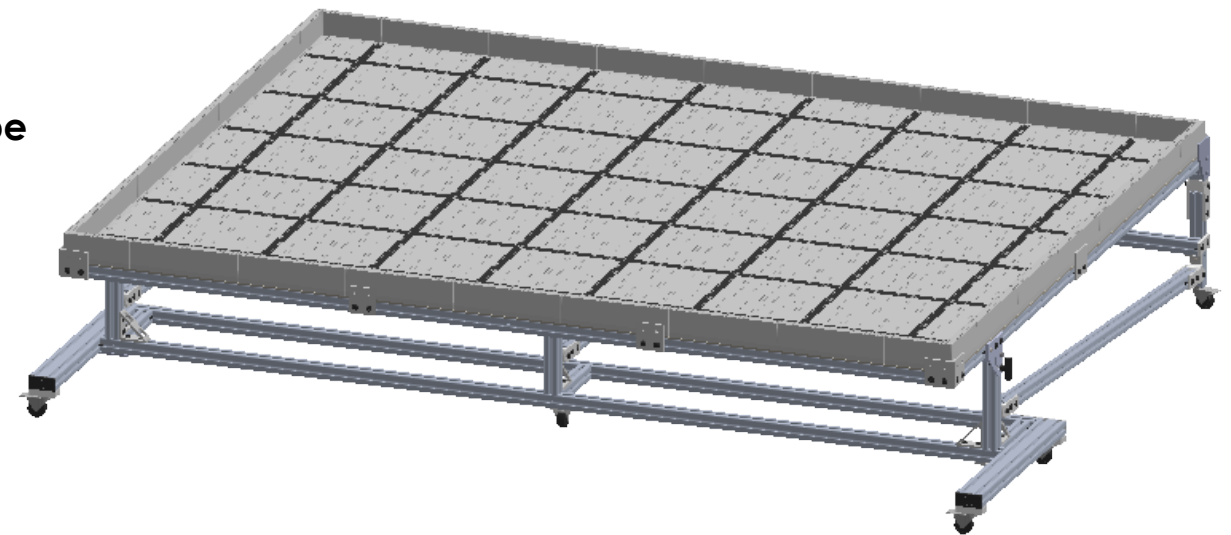
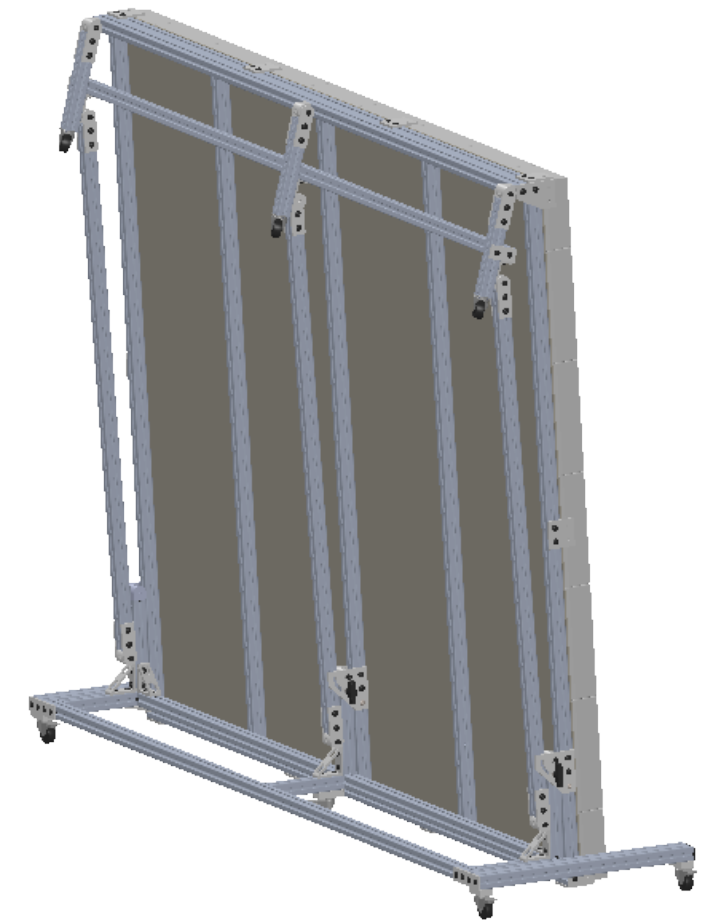
### Disclaimer:

Build and use this field riser at your own risk and liability: VEX Team 3547 VIRUS, Monroe County Community College, Technology First Inc, or Technology Education Resources LLC is not responsible for misuse of a field riser built according to these plans.

These plans are provided by to the VEX community "free of charge" and are not for sale; however if you find them useful, a donation of some IQ hardware to our VEX team would be appreciated, perhaps a couple working smart motors or similar, would be appreciated.

### Contact :

mmohn@monroeccc.edu  
VEX Team 3547: VIRUS  
Monroe County Community College  
1555 S. Raisinville Rd.  
Monroe, MI 48161



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TITLE:			<b>VEX TEAM 3547:VIRUS IQ FOLD-UP RISER PLANS</b>		
SIZE	DWG. NO.				REV
<b>B</b>					
DO NOT SCALE DRAWING			SCALE: 1:20	SHEET 1 OF 10	

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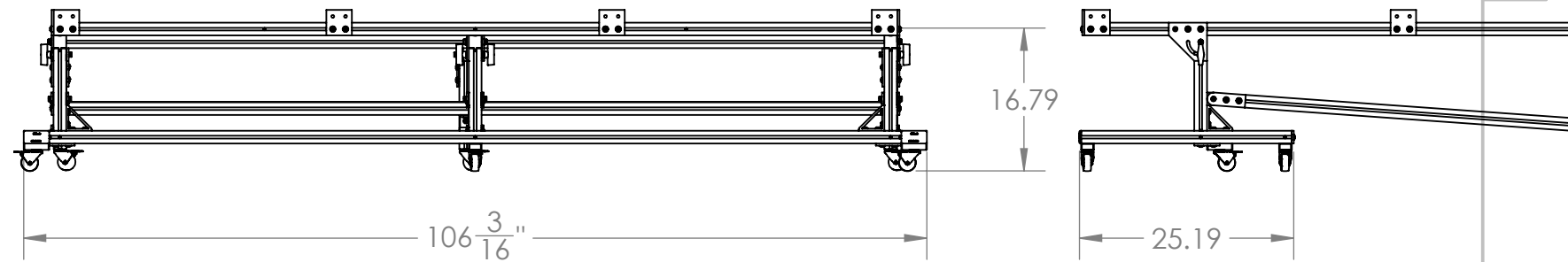
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# VEX TEAM 3547:VIRUS IQ FLIP UP RISER PLANS

## General notes:

- From the Rise Above Game Manual: <T14> Elevated Fields. At many events, the playing Field will be placed on the ground. Some events may choose to elevate their Fields. At the 2021 VEX Robotics World Championship, the Fields will be 18" high.
- This IQ field risers is approximately 20" tall with the field.
- For less-expensive non-flip up riser option (which disassemble for storage), additional plans are available, contace mmohn@monroeccc.edu
- Although the IQ Field size is stated as 6' x 8', the actual dimensions of the outside field perimeter are 75-3/16" x 99-3/16"
  - These sizes make it problematic to find support boards which fit the field easily. Standard sheet goods are 48" x 96".
  - To save weight, these plans use corrugated plastic sheet material in 4x8 sheets. Three sheets are required to create a solid field surface with all the "splices" between sheet landing on structural members. For a stronger field base, an additional layer, crosswise to the first layer, may be added. Because the plastic is not as strong as wood boards, students must not climb onto the field riser.



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TITLE: <b>FIELD RISER GENERAL NOTES</b>		
SIZE <b>B</b>	DWG. NO.	REV
DO NOT SCALE DRAWING	SCALE: 1:20	SHEET 2 OF 10

# VEX TEAM 3547:VIRUS IQ FLIP UP RISER PLANS

## Order for 80/20 parts:

Copy and paste this order, just as written (especially the descriptions), and you'll get all the parts machined and ready to assemble. You could do all the machining yourself and save \$105.75, but it's not really worth it in the end. If you want to do that, leave off the machining descriptions except "cut to length." Email mmohn@monroeccc.edu for the original .xls version of this order!

80/20 has always given our robotics team (and other teams) a 40% discount. They are big supporters of First Robotics, who uses this stuff more. Contact our supplier and tell them that Mike Mohn from Monroe Environmental gave you all the details about the 40% discount for robotics teams.

Mike Carrell, Application Engineer  
Eckhart USA  
1800 Fruit St.  
Algonac, MI 48001  
Phone: 810-794-8160 [mcarrell@eckhartusa.com](mailto:mcarrell@eckhartusa.com)

Shipping will be added on. 80/20 ships from Columbia City, Indiana, and they sell through various local dealers, who then place the order for you. You could certainly find your local dealer and ask them about the discount 80/20 gives to Robotics teams.

You'll also need three sheets of corrugated plastic:

<https://www.homedepot.com/p/Coroplast-48-in-x-96-in-x-0-157-in-White-Corrugated-Plastic-Sheet-CP4896S/205351385>

Also a roll of 1/2" double sided tape (to attached the plastic to the aluminum, and a 1/2" foam mounting tape to attach the IQ field to the retainer plates.

ORDER LIST FOR FLIP DOWN TABLE						Price	Ext. Price
PART	QTY.	LENGTH	DESCRIPTION/MACHINING				
1515-LS	2	8.43	7060 both ends		\$	0.45	\$ 7.59
1515-LS	1	8.43	7060 both ends, 7248 in R @ 1.5 from L end		\$	0.45	\$ 3.79
1515-LS	3	9.72	7060 both ends		\$	0.45	\$ 13.12
1515-LS	3	10.38	7060 left end, 7025 right end, 7246 in R @ 7.08 from left end		\$	0.45	\$ 14.01
1515-LS	3	56.4	7060 both ends		\$	0.45	\$ 76.14
1515-LS	5	72.19	7060 both ends, 7246 in R @ 9.19 from L end		\$	0.45	\$ 162.43
1515-LS	1	99.19	7060 both ends		\$	0.45	\$ 44.64
1515-LS	1	99.19	7060 both ends, 7050 in R @ .75, 24.8, 49.59, 74.39, and 98.45 from L end.		\$	0.45	\$ 44.64
1515-LS	1	100.19	7060 both ends, 7050 in R @ 1.27, 50.09, and 98.94 from L end		\$	0.45	\$ 45.09
1515-LS	1	100.19	7060 both ends, 7050 in R and S @ 1.27, 50.09, and 98.94 from L end		\$	0.45	\$ 45.09
1530-LS	2	24.74	7045 both ends, 7050 in T @ .75 and 10.68 from L end, 7245 between U & V @ .75 and 24 from L end		\$	0.82	\$ 40.57
1530-LS	1	99.19	7045 both ends, 7050 in U @ .75, 24.8, 49.59, 74.39, and 98.45 from L end.		\$	0.82	\$ 81.34
7010	21		CUT TO LENGTH 1515		\$	1.95	\$ 40.95
7020	3		CUT TO LENGTH 1530		\$	2.45	\$ 7.35
7025	3		3/8 TAP EXTRUSION END 1515		\$	2.40	\$ 7.20
7045	6		5/16 TAP EXTRUSION END 1530		\$	3.80	\$ 22.80
7050	23		ACCESS HOLE		\$	1.95	\$ 44.85
7060	39		5/16 TAP EXTRUSION END 1515		\$	1.95	\$ 76.05
7245	4		3/8 CLEARANCE HOLE BETWEEN T-SLOTS		\$	1.95	\$ 7.80
7246	8		5/16 CLEARANCE HOLE		\$	1.95	\$ 15.60
7248	1		3/8 CLEARANCE HOLE IN T-SLOT		\$	1.95	\$ 1.95
2045	2		1530 end cap		\$	1.60	\$ 3.20
2130	5		3/8-16 center tap base plate		\$	11.30	\$ 56.50
2299	8		3/8 THREADED CASTER		\$	5.55	\$ 44.40
3320	7		5/16-18 X 5/8 FBHSCS WITH ECON T-NUT		\$	0.60	\$ 4.20
3330	12		5/16-18 X 5/8 FBHSCS		\$	0.36	\$ 4.32
3355	30		double econ tnut with fbhscs		\$	1.50	\$ 45.00
3380	23		SINGLE END FASTENER		\$	1.60	\$ 36.80
3458	10		5/16x7/8 SHCS & econ tnut		\$	0.53	\$ 5.30
4302	3		2-HOLE INSIDE CORNER		\$	2.95	\$ 8.85
4305	2		4-hole joining strip		\$	4.95	\$ 9.90
4307	2		2-HOLE JOINING STRIP		\$	3.45	\$ 6.90
4319	1		90° Double Pivot Bracket Assy		\$	39.90	\$ 39.90
4336	5		4-hole inside corner gusset		\$	6.25	\$ 31.25
4342	1		90° LH Pivot Bracket Assy		\$	23.40	\$ 23.40
4347	1		90° RH Pivot Bracket Assy		\$	23.40	\$ 23.40
4350	4		4-hole 90° joining plate		\$	5.60	\$ 22.40
4367	12		4-hole flat joining plate		\$	4.95	\$ 59.40
4380	6		RA 0° dynamic pivot assy		\$	21.40	\$ 128.40
4383	3		RA 90° DYNAMIC PIVOT ASSY		\$	21.40	\$ 64.20
75-3830	7		1" BHSCS WITH ECON T-NUT		\$	0.58	\$ 4.06
			TOTAL:				\$1,424.76
			LESS 40%				\$ (569.91)
			TOTAL:				\$ 854.86

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TITLE: <b>FIELD RISER ORDERING INFORMATION</b>		
SIZE <b>B</b>	DWG. NO.	REV
DO NOT SCALE DRAWING		SCALE: 1:20
SHEET 3 OF 10		

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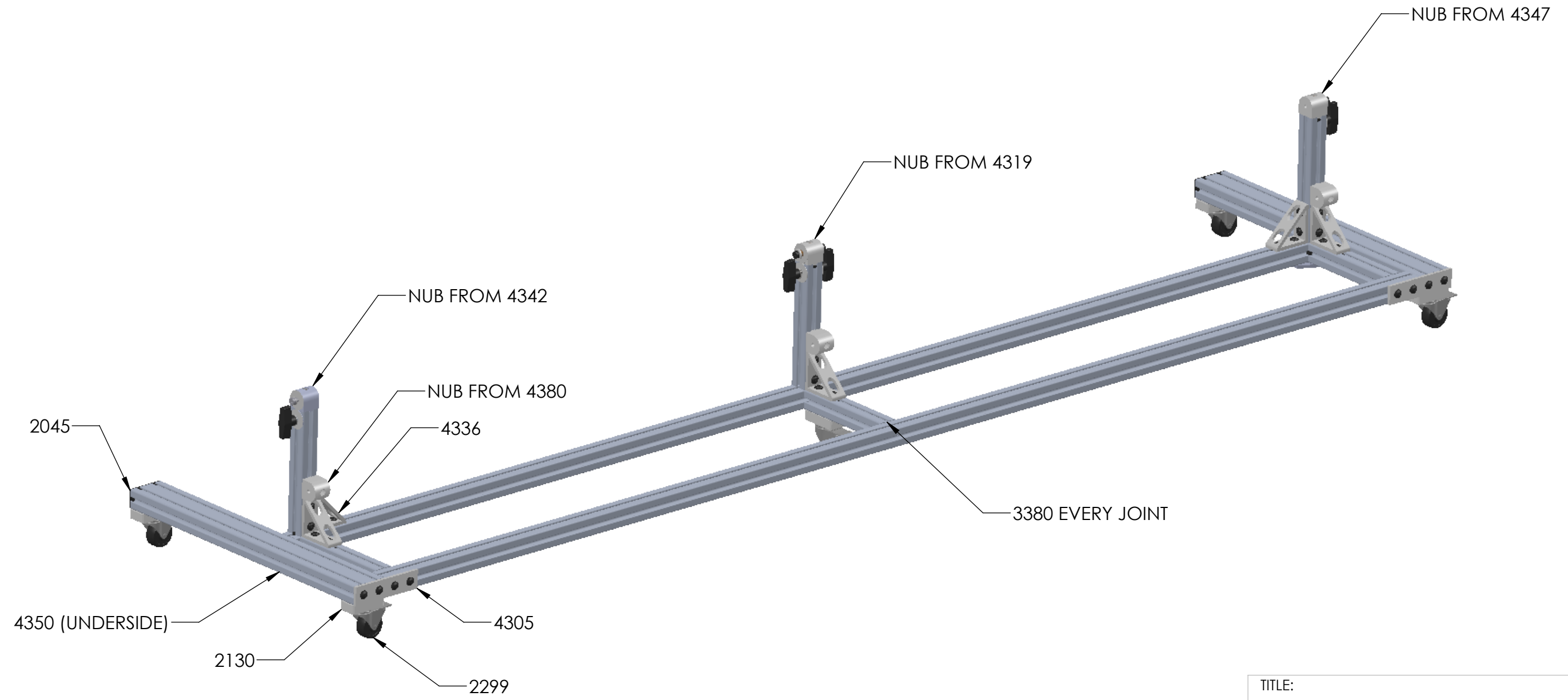
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TITLE:		
BASE FRAME		
SIZE	DWG. NO.	REV
<b>B</b>		
DO NOT SCALE DRAWING		SCALE: 1:8
		SHEET 4 OF 10

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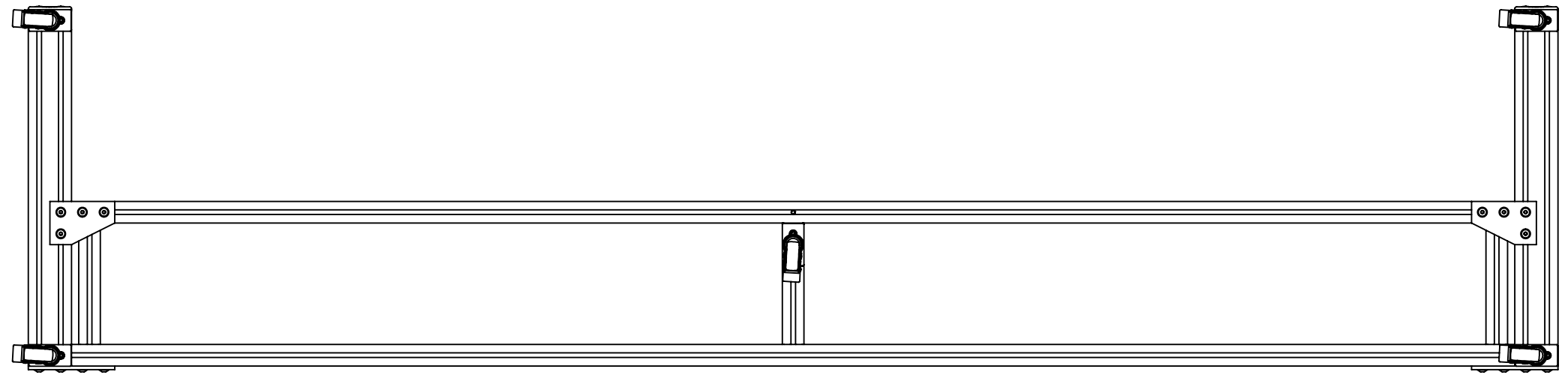
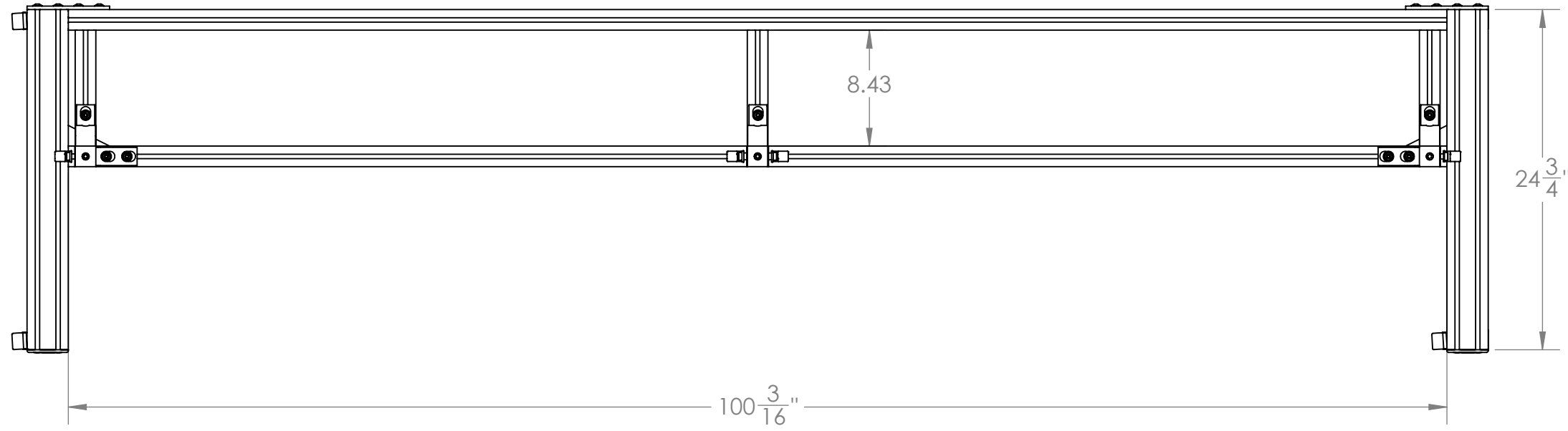
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TITLE: BASE FRAME DIAGRAM		
SIZE <b>B</b>	DWG. NO.	REV
DO NOT SCALE DRAWING	SCALE: 1:10	SHEET 5 OF 10

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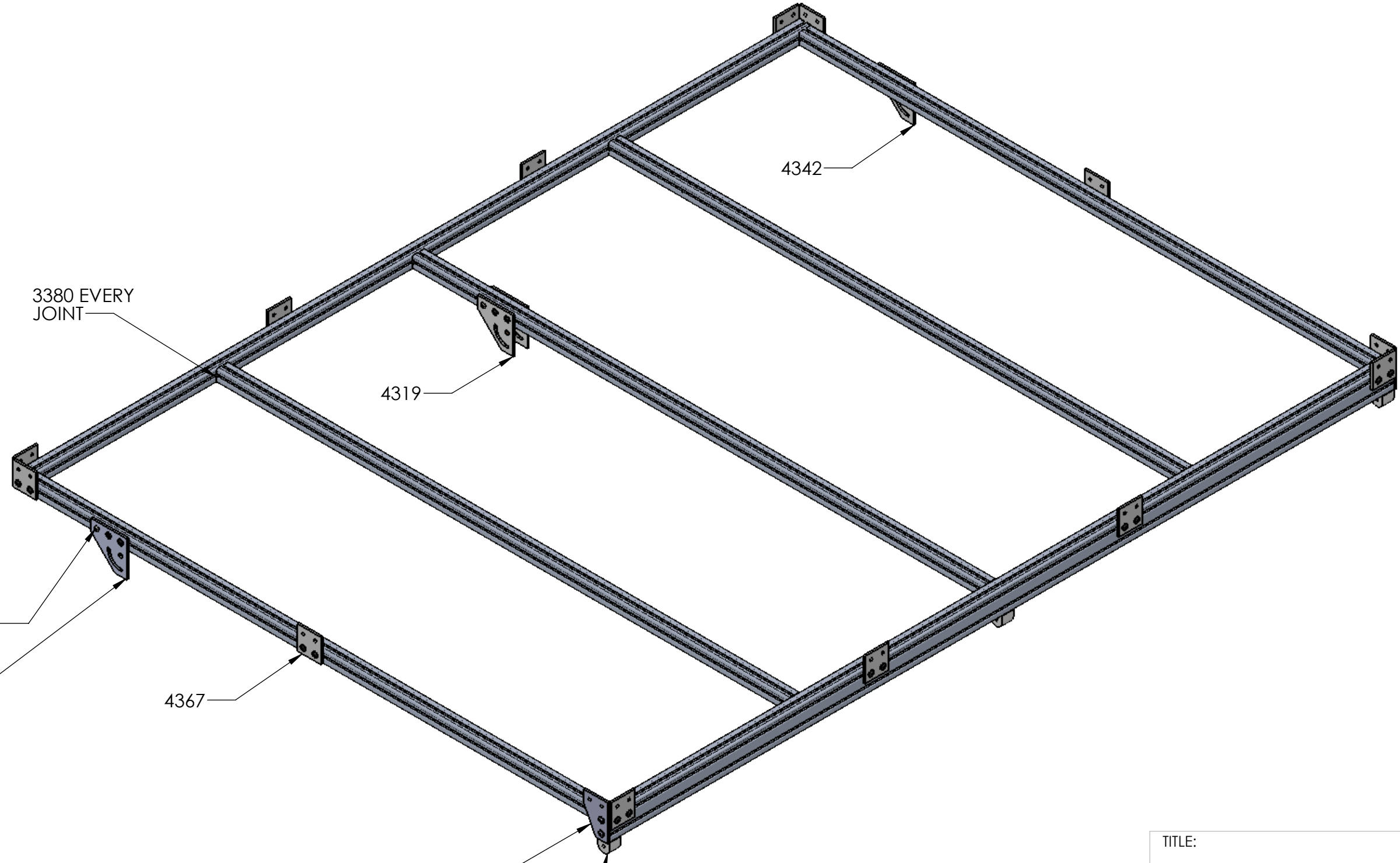
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TITLE:		
TABLE FRAME		
SIZE	DWG. NO.	REV
<b>B</b>		
DO NOT SCALE DRAWING	SCALE: 1:10	SHEET 6 OF 10

4

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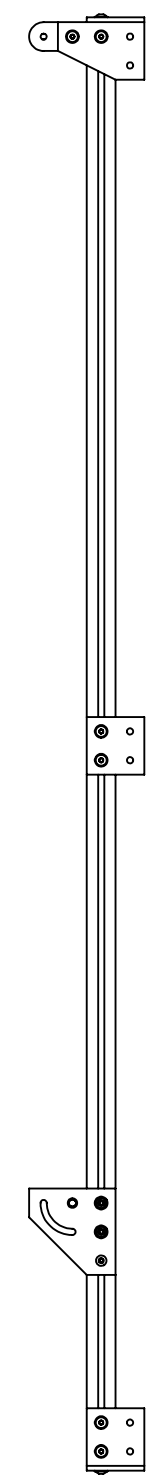
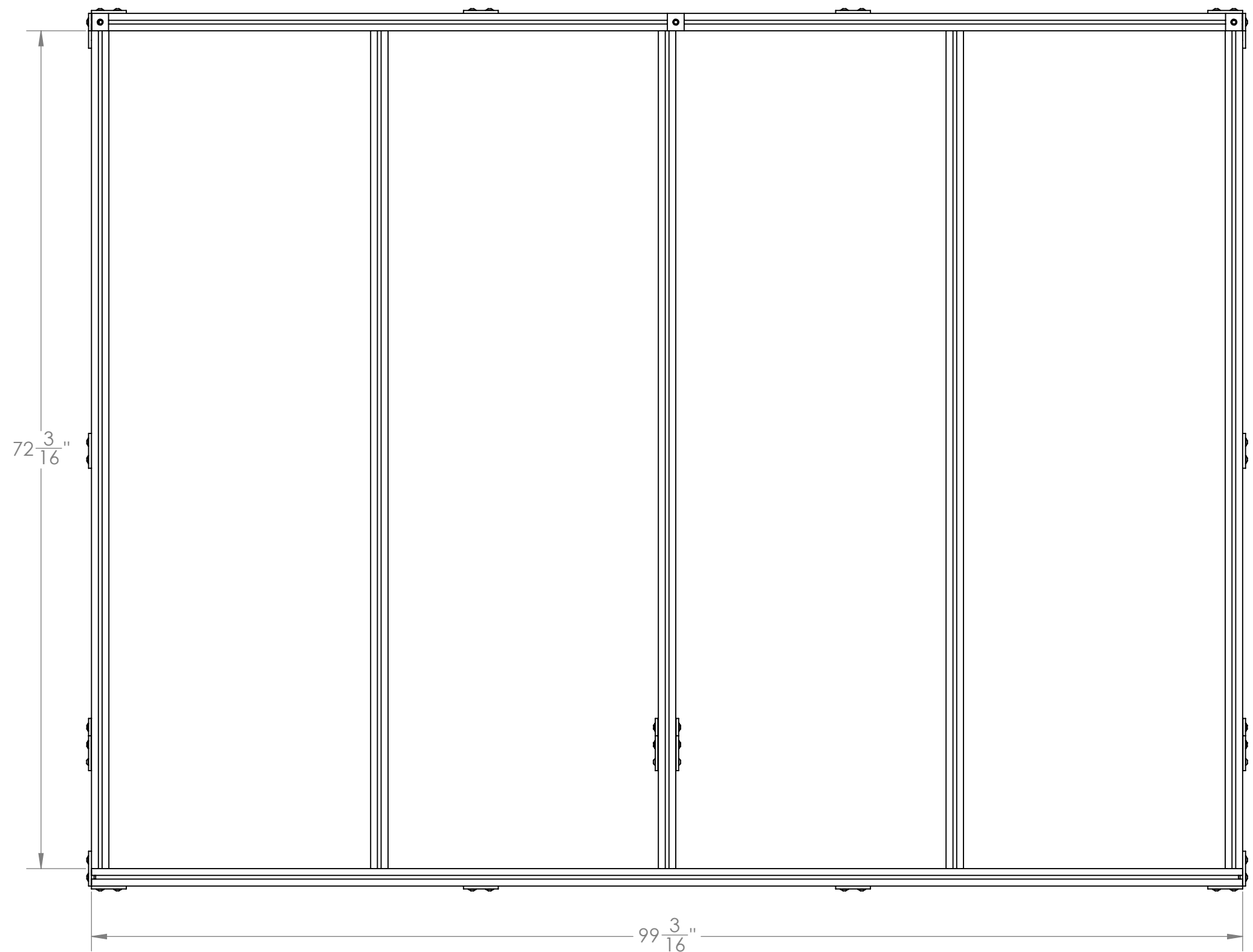
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72 <sup>3</sup>/<sub>16</sub>"

99 <sup>3</sup>/<sub>16</sub>"

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TITLE: TABLE FRAME DIAGRAM			
SIZE <b>B</b>	DWG. NO.	REV	
DO NOT SCALE DRAWING	SCALE: 1:10	SHEET 7 OF 10	

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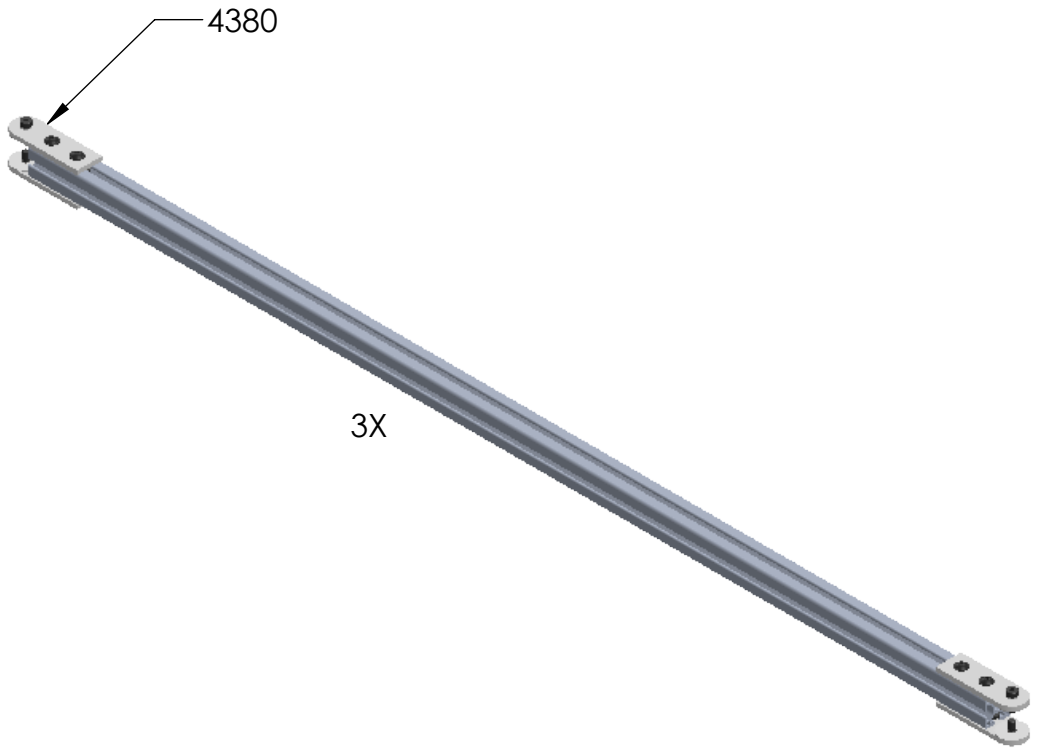
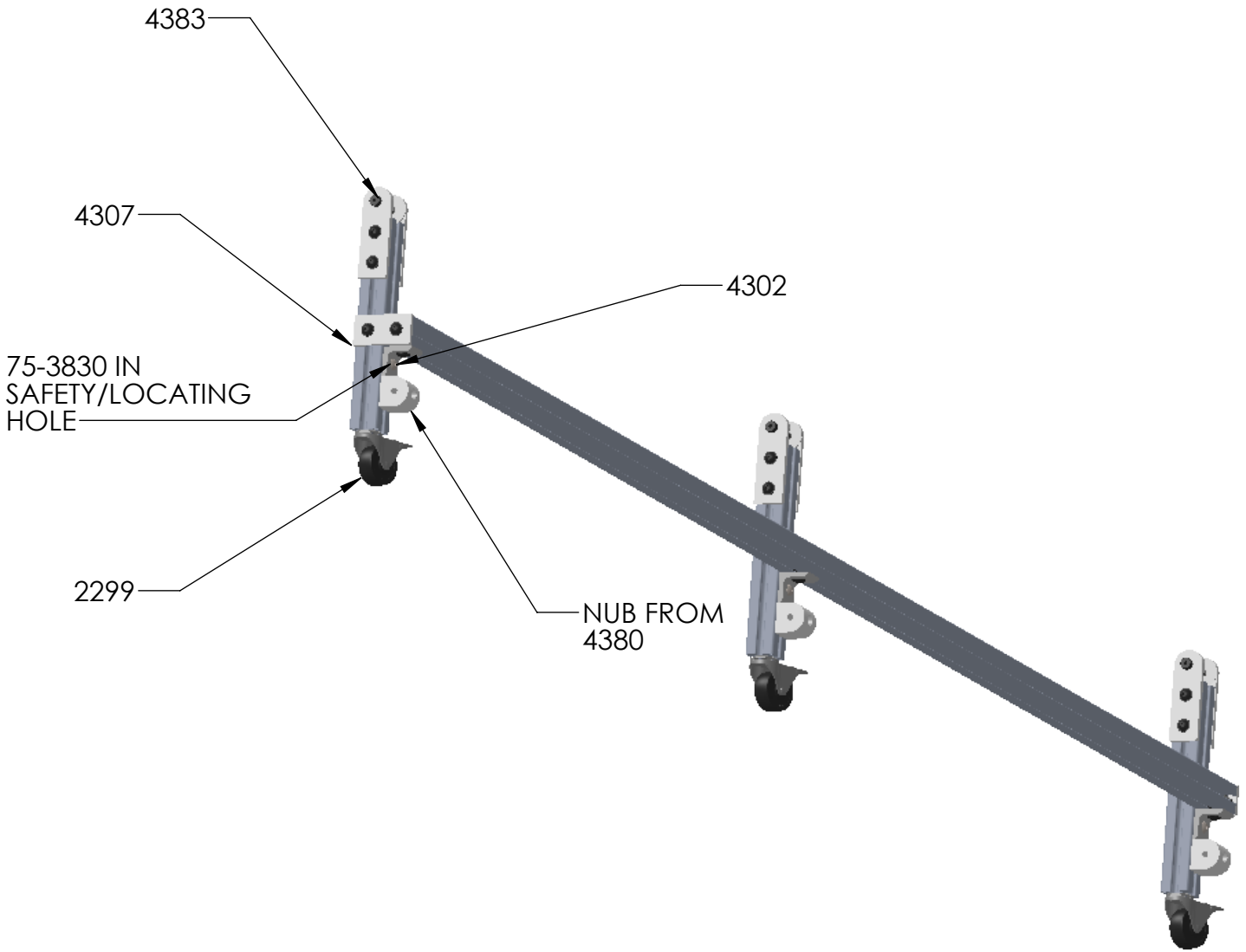
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TITLE:		
FOLDING LEG ASSEMBLY AND BEAM		
SIZE	DWG. NO.	REV
<b>B</b>		
DO NOT SCALE DRAWING	SCALE: 1:12	SHEET 8 OF 10

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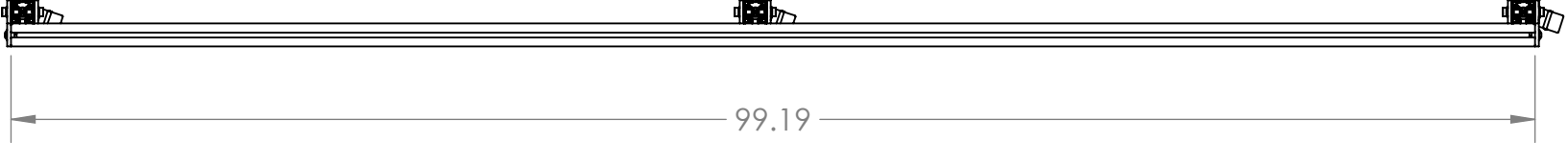
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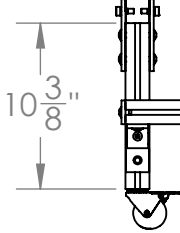
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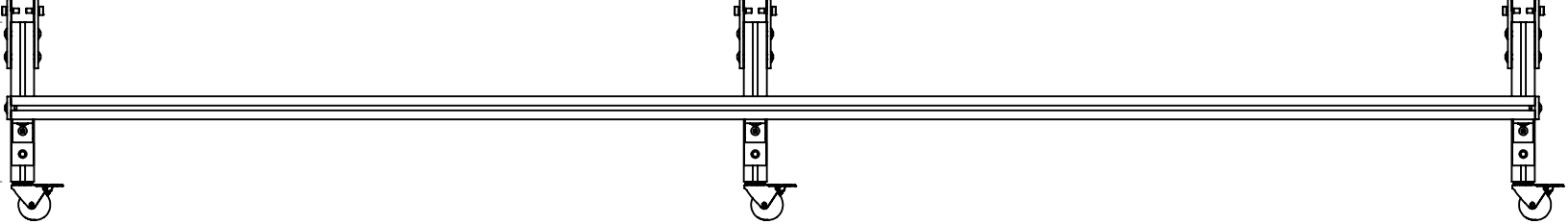
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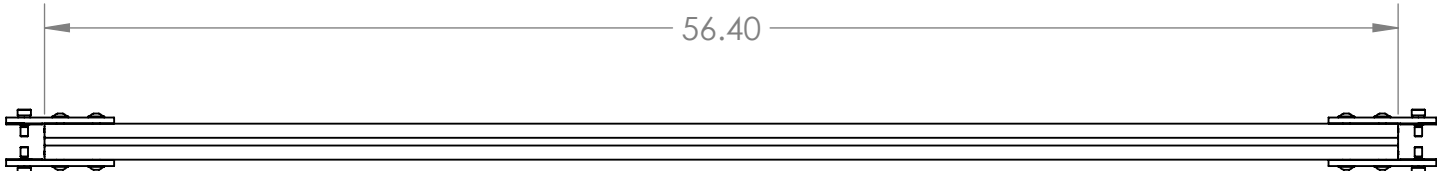


10 <sup>3</sup>/<sub>8</sub>"



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TITLE: FRONT LEG AND BEAM DIAGRAM		
SIZE <b>B</b>	DWG. NO.	REV
DO NOT SCALE DRAWING	SCALE: 1:12	SHEET 9 OF 10

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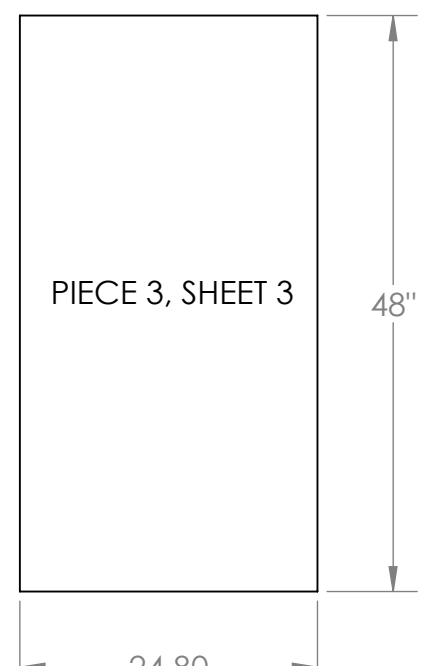
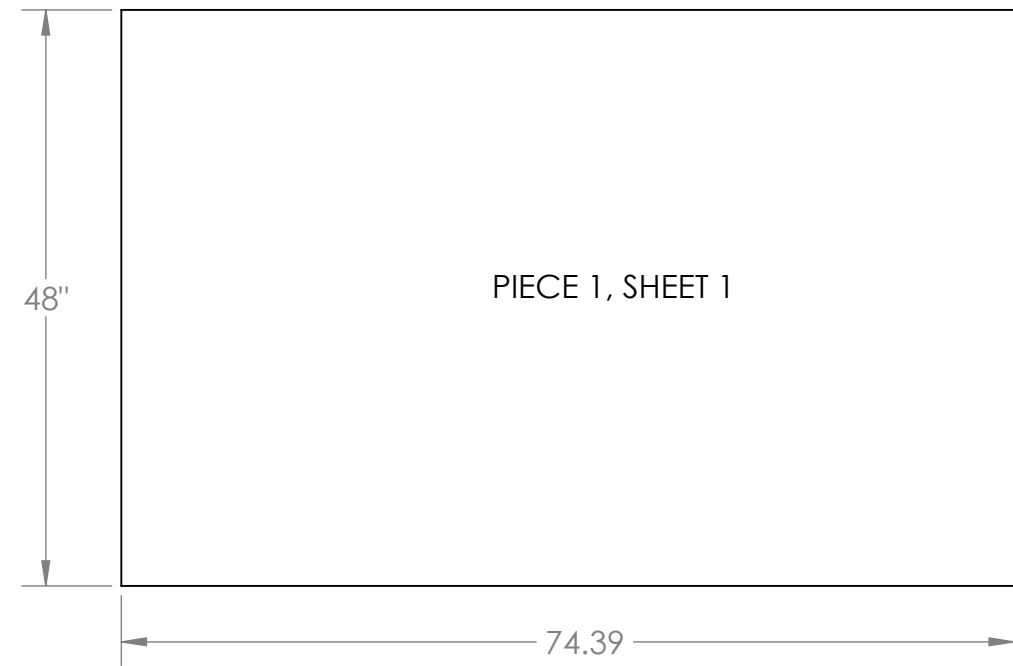
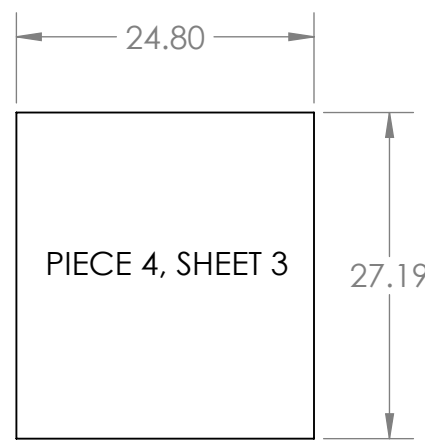
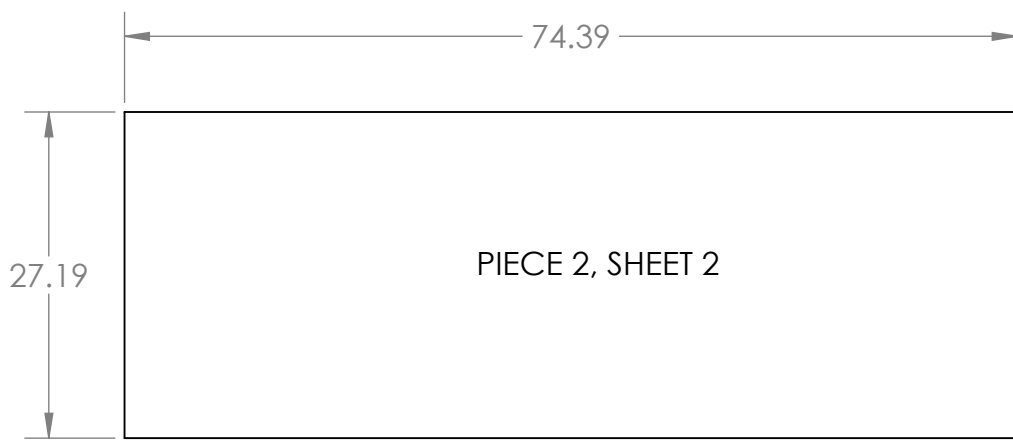
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THREE SHEETS OF  
CORREGATED PLASTIC

OPTIONAL: TAPE TOGETHER  
USING THIN PACKAGING TAPE

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<===GRAIN DIRECTION===>  
ALL PIECES

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TITLE: PLASTIC BOARD CUT SHEET		
SIZE <b>B</b>	DWG. NO.	REV
DO NOT SCALE DRAWING	SCALE: 1:16	SHEET 10 OF 10

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