

VEX TEAM 3547:VIRUS

WOODEN VRC FIELD RISER PLANS

Sturdy riser platforms build from common materials available at a lumber yard or home center
*Common tools required: power miter saw, circular saw with plywood blade, portable drill with 3/8 & 1" wood bit, drill/driver with appropriate driver bits, tape measure, square, wrench.
*Official 24" height for VRC events.

12x12 Platform (~\$310): full size platform for semi-permanent installation.

6x6 platforms, four pieces (~\$380): portable version of the field riser. Buy some dollies and big C-clamps from Harbor Freight (2 per section) to move these pieces around on their ends. They are big and heavy, but will just fit through a standard doorway.

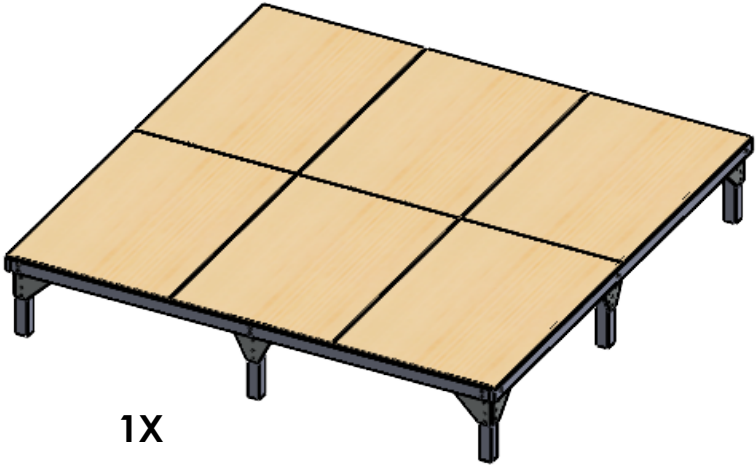
4x4 platforms, nine pieces (~\$560): more portable version of the 6x6, a bit lighter, but more pieces to move.
Alternate build, made like the Aluminum 80/20 Version, (~\$410) but a pain to assemble.

All designs: replace all the 2x4's with 2x6's for a super sturdy platform. Replace the "rim" 2x4's for an improved sturdy platform. Build as shown for a perfectly adequate platform. Screw the plywood panels in place for the most sturdy build, leave them loose for the most portable build.

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 V5 hardware to our VEX team would be great, perhaps a couple working smart motors or similar value stuff.

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

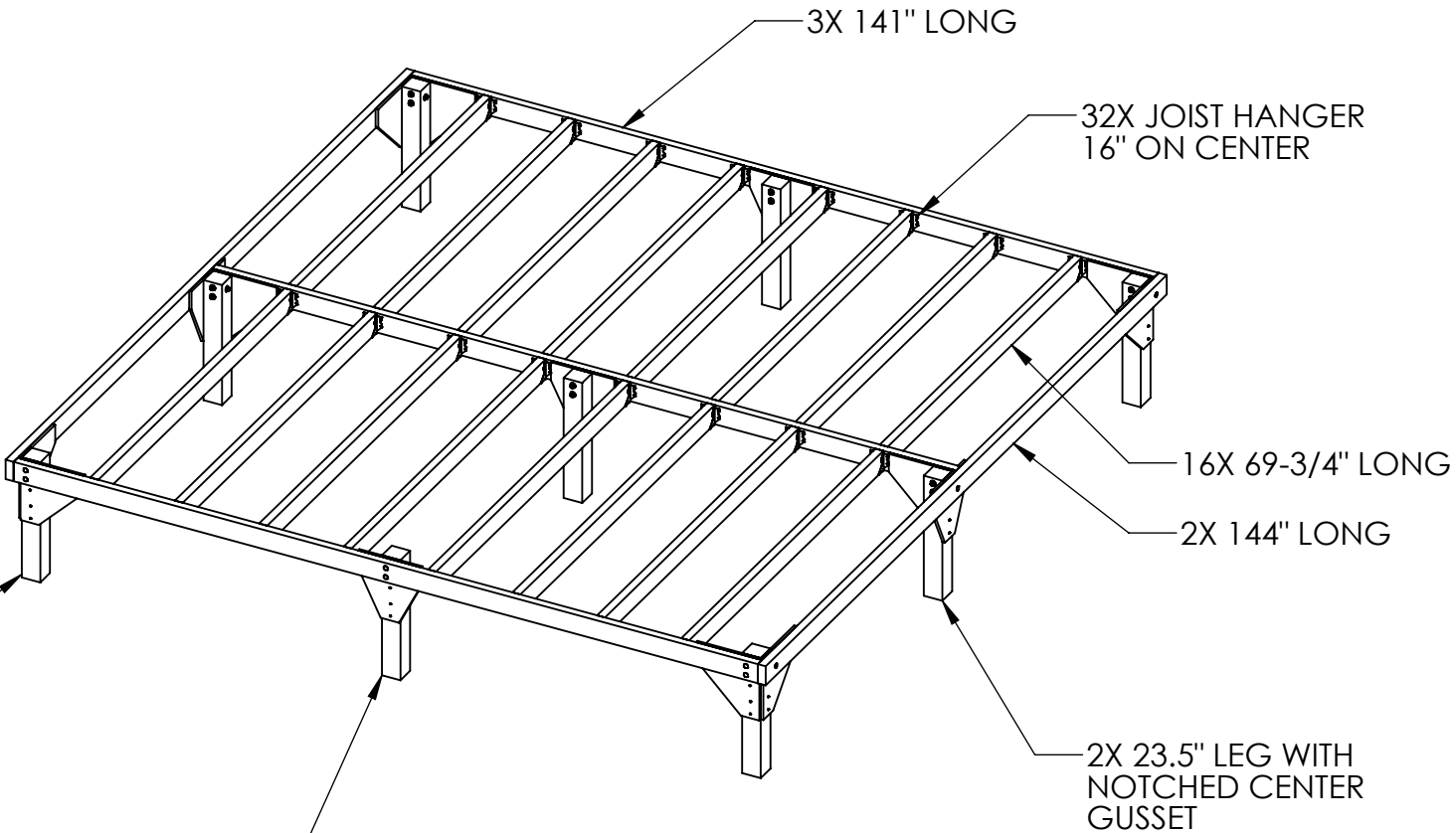
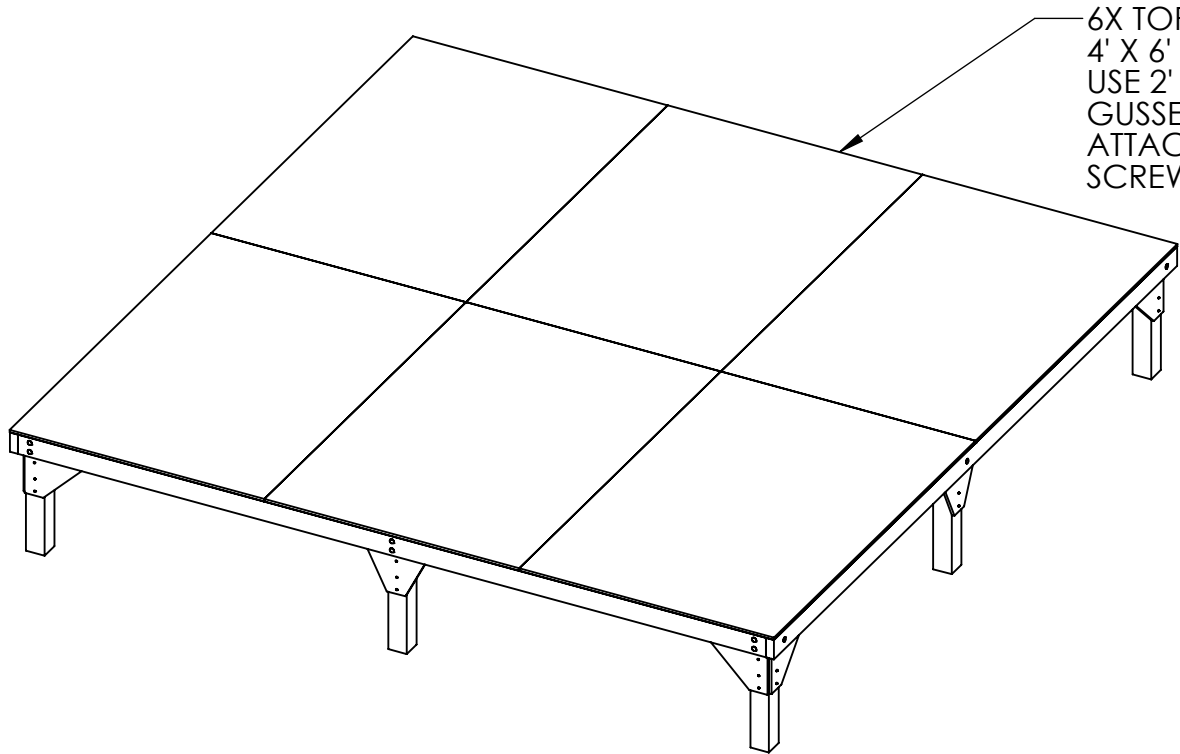


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TITLE: **VEX TEAM 3547:VIRUS**
IQ FOLD-UP RISER PLANS

SIZE B	DWG. NO.	REV
DO NOT SCALE DRAWING		SCALE: 1:50
		SHEET 1 OF 11

VEX TEAM 3547:VIRUS
WOODEN FIELD RISER PLANS
12X12 STATIONARY VERSION



4X 23.5" LEG WITH
CORNER GUSSETS

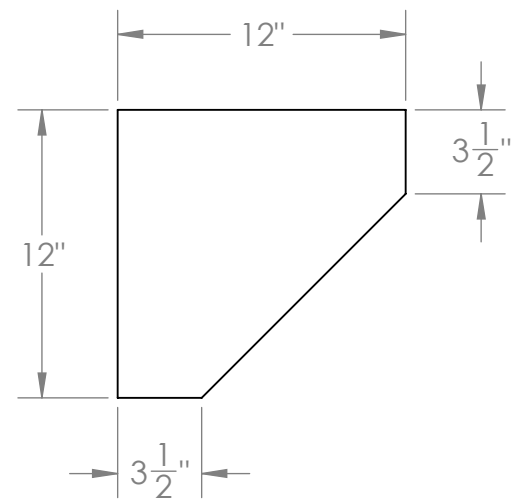
3X 23.5" LEG WITH
CENTER GUSSETS

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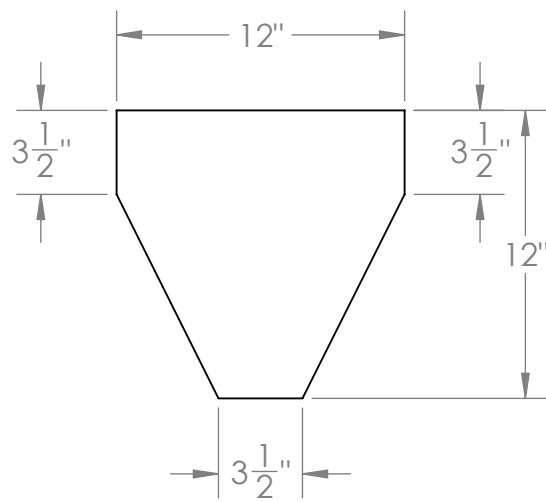
TITLE: FIELD RISER GENERAL NOTES		
SIZE B	DWG. NO.	REV
DO NOT SCALE DRAWING		SCALE: 1:32
SHEET 2 OF 11		

VEX TEAM 3547:VIRUS
WOODEN FIELD RISER PLANS
12X12 STATIONARY VERSION

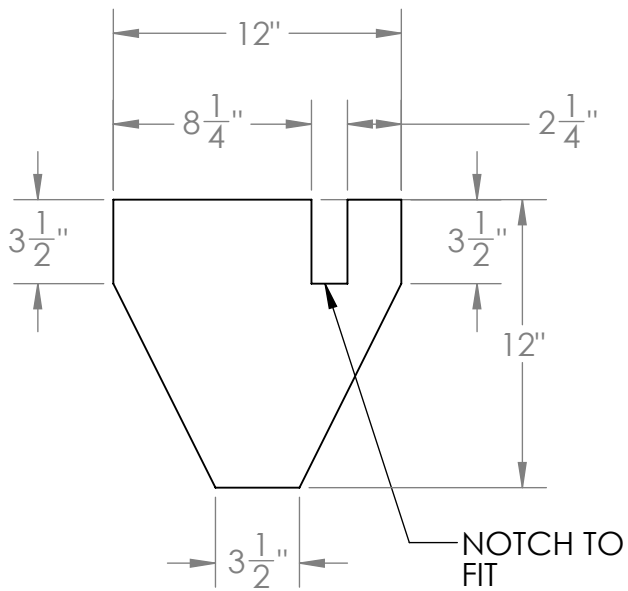
STEP 1, CUT ALL PARTS TO LENGTH (SEE CUT LIST NEXT PAGE)
STEP 2, CUT ALL GUSSETS TO SIZE:



10 REQUIRED

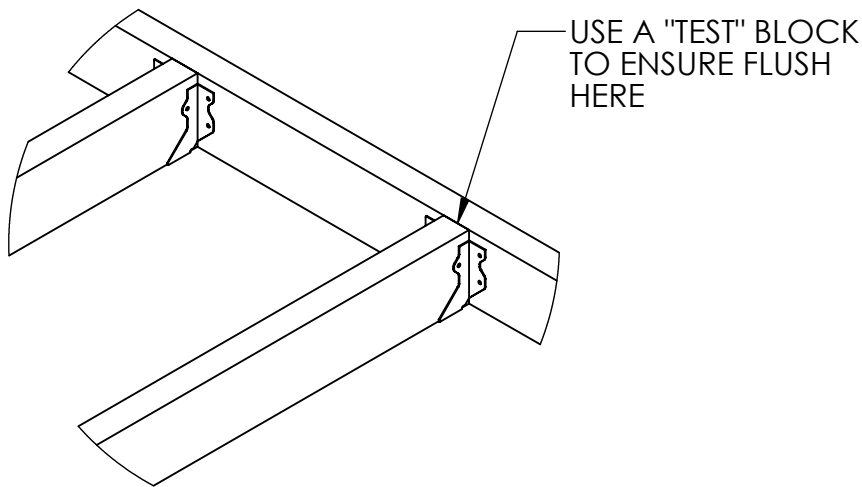


3 REQUIRED



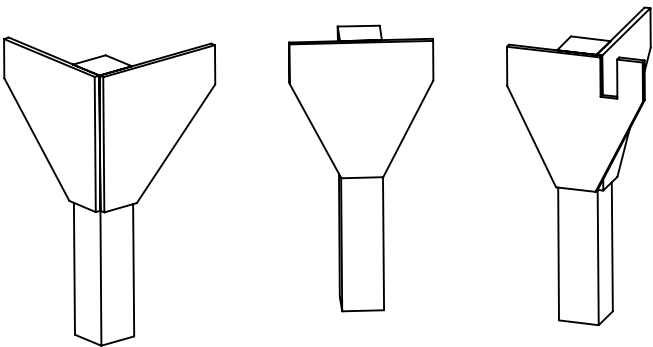
2 REQUIRED

STEP 4, ATTACH THE JOIST HANGERS TO 141" BEAMS
16" ON CENTER. THE OUTER BRACKETS ARE CENTERED 14-1/2" FROM THE
ENDS OF THE 141" PIECE. USE JOIST HANGER SCREWS.



STEP 5, BUILD THE PLATFORM FRAMING. USE
JOIST HANGER SCREWS TO ATTACH JOISTS. USE
2X #8X3" SCREWS AT EACH OUTER CORNER.

STEP 3, BUILD THE LEG ASSEMBLIES



CORNER LEG
4 REQD.

CENTER LEG
3 REQD.

CENTER LEG
2 REQD.
(1 LEFT HAND, 1 RIGHT HAND)

ASSEMBLE LEGS WITH GLUE AND 3X #8X2" SCREWS PER GUSSET

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TITLE:

12X12 FIELD RISER ASSEMBLY

SIZE

B

DWG. NO.

REV

DO NOT SCALE DRAWING

SCALE: 1:32

SHEET 3 OF 11

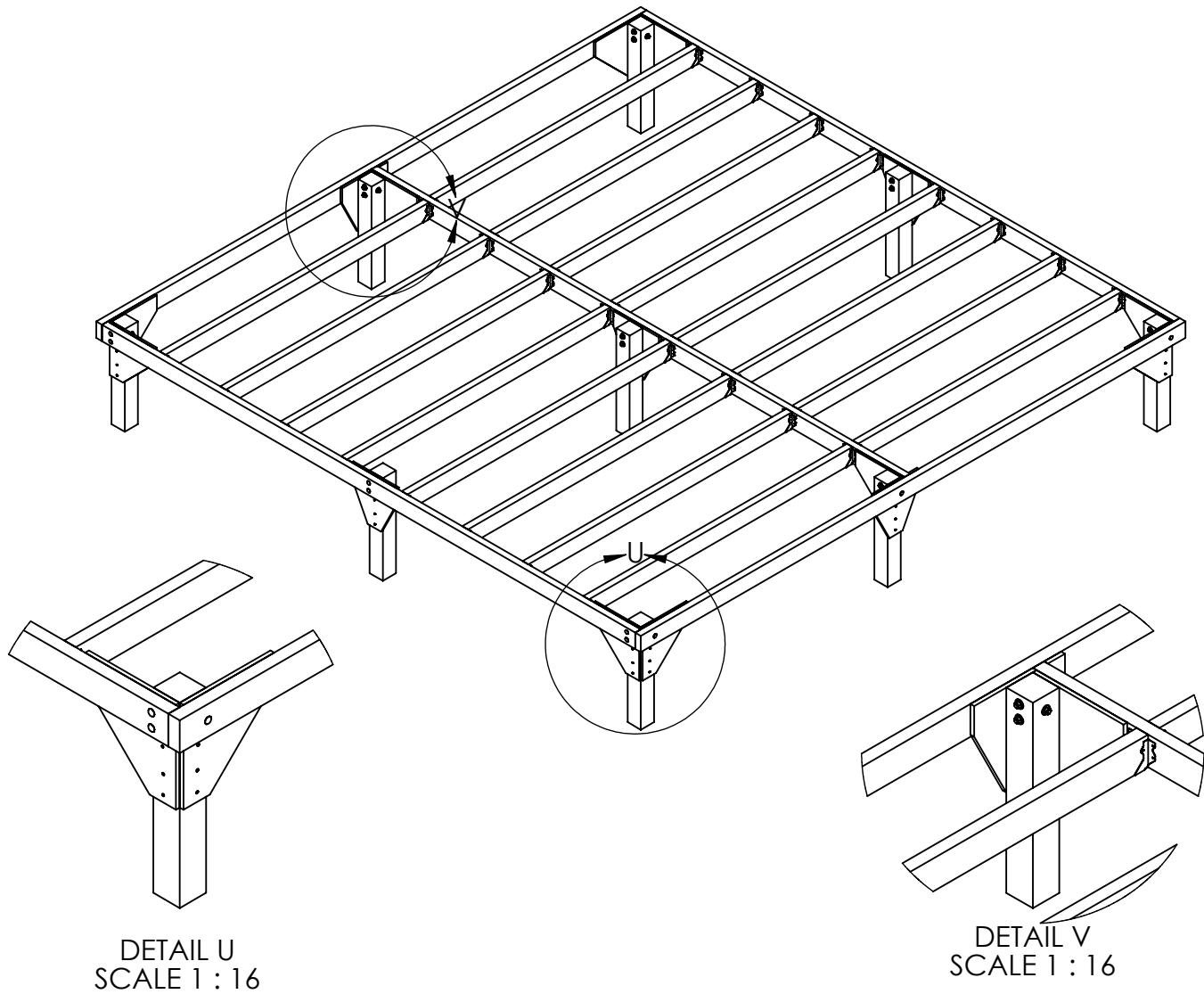
VEX TEAM 3547:VIRUS
WOODEN FIELD RISER PLANS
12X12 STATIONARY VERSION

STEP 6, ELEVATE THE PLATFORM AND INSTALL THE LEG ASSEMBLIES. ATTACH THE GUSSETS TO THE INSIDE FRAME WITH 3X #8X2 SCREWS PER GUSSET.

STEP 7, DRILL 3/8" THROUGH FOR THE CARRIAGE BOLTS, TWO HOLES ON ONE SIDE OF THE CORNER, ONE HOLE ON THE OTHER. INSTALL CARRIAGE BOLT FROM THE OUTSIDE, WASHER AND NUT ON THE INSIDE. SEE LEG DETAILS

ITEM	QUANTITY	DESCRIPTION	PARTS	APPROX. COST (LOWE's 7/21/20)
TOP BOARDS	6	1/2" OSB 4X8 SHEET	CUT EACH SHEET TO 4' X 6' AND USE SCRAPS FOR GUSSETS	\$12 EACH, \$72 TOTAL
LEGS	3	4X4X8'	CUT 9 LEGS, 23-1/2" LONG EACH	\$12 EACH, \$36 TOTAL
FRAME	13	2X4X12'	2 AT 144", CUT 3 AT 141" LONG, CUT 16 AT 69-3/4" LONG	\$7 EACH, \$91 TOTAL
JOIST HANGERS	32	2X4 JOIST HANGERS	SIMPSON STRING-TIE OR EQUIV.	\$.80 EACH, \$25.60 TOTAL
JOIST HANGER SCREWS	2	BX OF 100	#8 X 1.25 SIMPSON STRONG-TIE SCREW	\$11 BOX, \$22 TOTAL
GUSSET SCREWS	1	BX	#8 X 2" FH SCREWS	\$6 BOX
CORNER SCREWS	1	BX	#8 X 3" FH SCREWS	\$7 BOX
CARRIAGE BOLT	24	EACH	3/8 X 6" LONG CARRIAGE BOLT	\$1.18 EACH, \$28.32 TOTAL
WASHER	24	EACH	3/8 FLAT WASHER	\$.16 EACH, \$3.84 TOTAL
NUT	24	EACH	3/8 NUT	\$.13 EACH, \$3.12 TOTAL
PLATFORM SCREWS	2	BX	#6 X 1-5/8 DRYWALLL SCREWS	\$6 BOX, \$12 TOTAL

TOTAL APPROX COST \$306.88



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TITLE:
12X12 FIELD RISER ORDER LIST

SIZE	DWG. NO.	REV
B		
DO NOT SCALE DRAWING		SCALE: 1:32 SHEET 4 OF 11

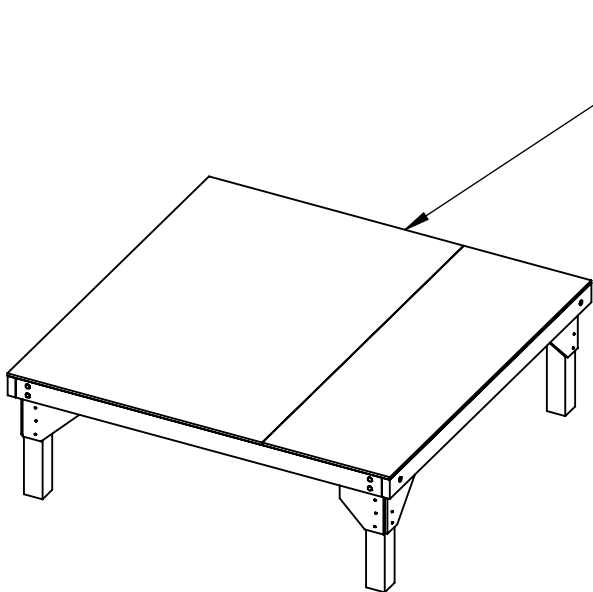
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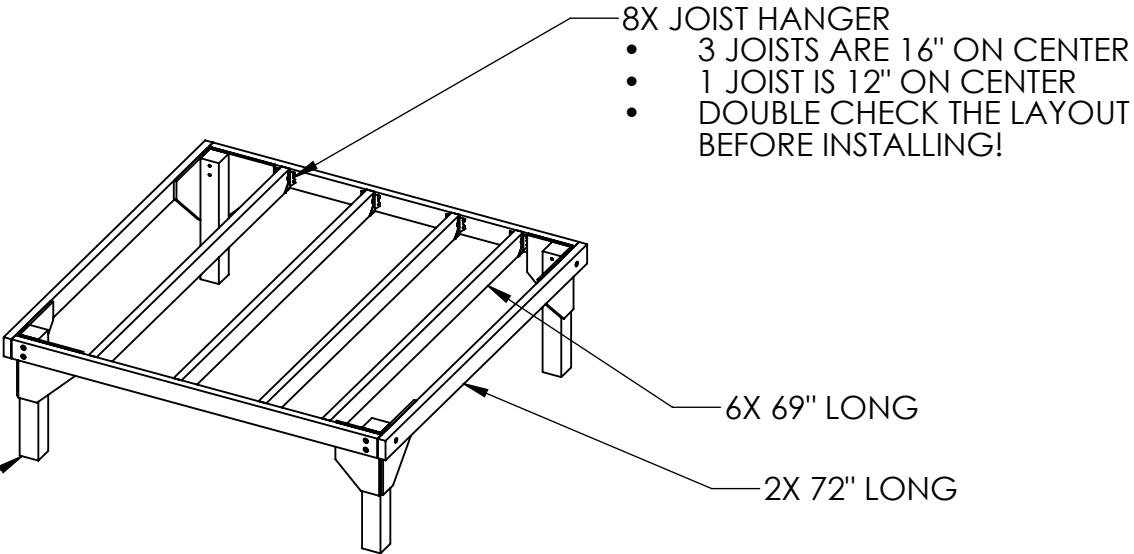
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VEX TEAM 3547:VIRUS
WOODEN FIELD RISER PLANS
6X6 PORTABLE VERSION
(BUILD 4 SECTIONS TOTAL)



TOP BOARD
ONE 4' X 6' X 1/2 THICK OSB
ONE 2' X 6' X 1/2 THICK OSB
USE SCRAPS FOR LEG GUSSETS
ATTACH WITH #6 X 1-5/8" WOOD SCREWS EVERY 8-12"

FOR MORE "PORTABLE" PLATFORM, SET UP THE FIELD WITH SIX 4' X 6' SHEETS AND
DON'T SCREW THEM DOWN, BUT WATCH THE LOCATIONS OF THE JOISTS WHEN
ASSEMBLING THE FRAME SECTIONS, SO THE BOARDS HAVE FULL SUPPORT ON THE
EDGES.



8X JOIST HANGER
• 3 JOISTS ARE 16" ON CENTER
• 1 JOIST IS 12" ON CENTER
• DOUBLE CHECK THE LAYOUT
BEFORE INSTALLING!

6X 69" LONG

2X 72" LONG

4X 23.5" LEG WITH
CORNER GUSSETS

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TITLE:
**FIELD RISER
GENERAL NOTES**

SIZE	DWG. NO.	REV
B		
DO NOT SCALE DRAWING		SCALE: 1:32
		SHEET 5 OF 11

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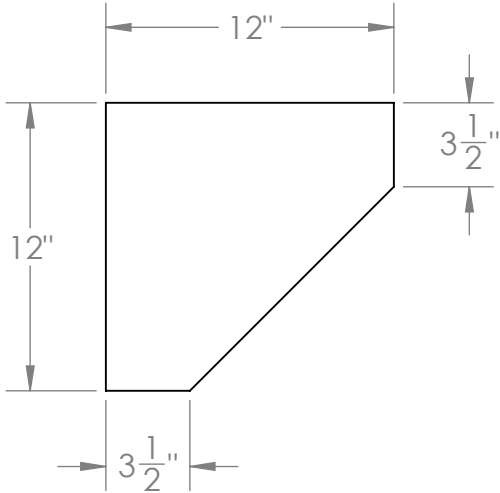
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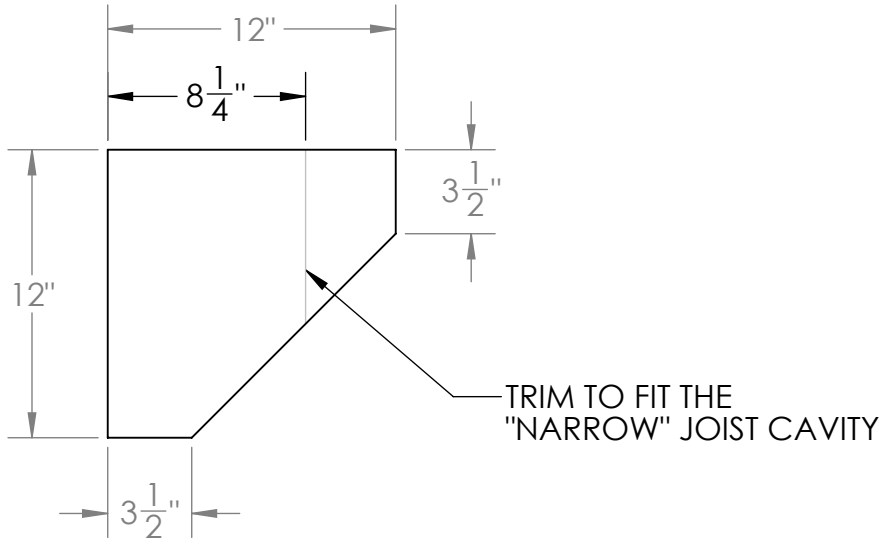
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VEX TEAM 3547:VIRUS
WOODEN FIELD RISER PLANS
6X6 PORTABLE VERSION
(BUILD 4 SECTIONS TOTAL)

STEP 1, CUT ALL PARTS TO LENGTH (SEE CUT LIST NEXT PAGE)
STEP 2, CUT ALL GUSSETS TO SIZE:

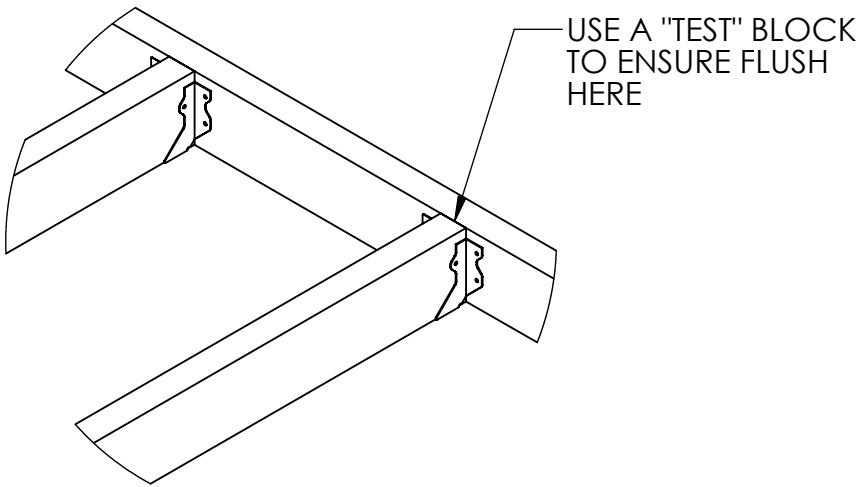


6 REQUIRED PER TABLE



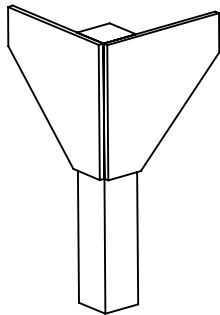
2 REQUIRED PER TABLE

STEP 4, ATTACH THE JOIST HANGERS TO 69" BEAMS
THREE ARE 16" ON CENTER, ONE IS 12" ON CENTER. THE OUTER BRACKETS ARE
CENTERED 14-1/2" FROM THE END OF THE 69" PIECE ON ONE SIDE, 10-1/2" FROM THE
END OF THE 69" PIECE ON THE OTHER. USE JOIST HANGER SCREWS.



STEP 5, BUILD THE PLATFORM FRAMING. USE
JOIST HANGER SCREWS TO ATTACH JOISTS. USE
2X #8X3" SCREWS AT EACH OUTER CORNER.

STEP 3, BUILD THE LEG ASSEMBLIES



CORNER LEG
4 REQD.

ASSEMBLE LEGS WITH GLUE AND 3X #8X2" SCREWS PER GUSSET

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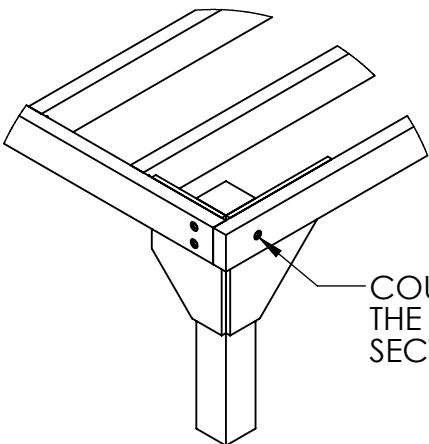
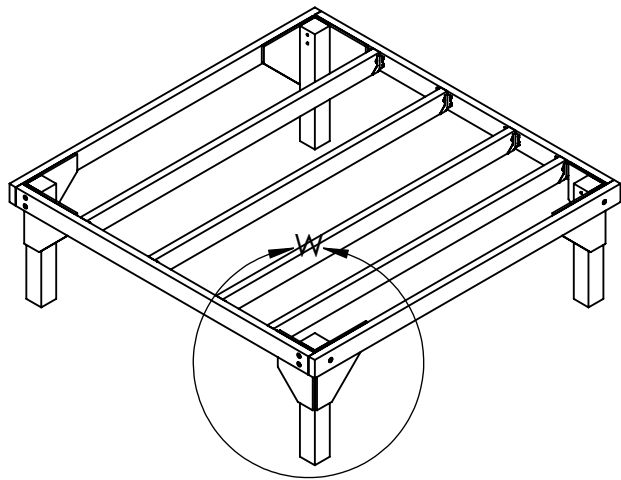
TITLE:
6X6 FIELD RISER ASSEMBLY

SIZE	DWG. NO.	REV
B		
DO NOT SCALE DRAWING		SCALE: 1:32
		SHEET 6 OF 11

VEX TEAM 3547:VIRUS
WOODEN FIELD RISER PLANS
6x6 PORTABLE VERSION
(BUILD 4 SECTIONS TOTAL)

STEP 6, ELEVATE THE PLATFORM AND INSTALL THE LEG ASSEMBLIES. ATTACH THE GUSSETS TO THE INSIDE FRAME WITH 3X #8X2 SCREWS PER GUSSET.

STEP 7, USE A 1" SPADE BIT TO DRILL A COUNTERBORE FOR THE CARRIAGE BOLT HEADS, THEN DRILL 3/8" THROUGH FOR THE CARRIAGE BOLTS, TWO HOLES ON ONE SIDE OF THE CORNER, ONE HOLE ON THE OTHER. INSTALL CARRIAGE BOLT FROM THE OUTSIDE, WASHER AND NUT ON THE INSIDE. SEE LEG DETAILS



COUNTERBORE FOR THE HEADS OF THE CARRIAGE BOLTS, SOT THE SECTIONS WILL SET FLUSH TOGETHER.

DETAIL W
SCALE 1 : 16

THIS BOM SHOWS THE TOTAL FOR BUILDING ALL FOUR TABLE SECTIONS

ITEM	QUANTITY	DESCRIPTION	PARTS	APPROX. COST (LOWE's 7/21/20)
TOP BOARDS	6	1/2" OSB 4X8 SHEET	CUT EACH SHEET TO 4' X 6' AND USE SCRAPS FOR GUSSETS. CUT TWO OF THE 4'X6' PIECES IN HALF TO MAKE 4X 2'X6'	\$12 EACH, \$72 TOTAL
LEGS	4	4X4X8'	CUT 16 LEGS, 23-1/2" LONG EACH	\$12 EACH, \$48 TOTAL
FRAME	16	2X4X12'	CUT 8 AT 72" LONG, CUT 24 AT 69" LONG	\$7 EACH, \$112 TOTAL
JOIST HANGERS	32	2X4 JOIST HANGERS	SIMPSON STRING-TIE OR EQUIV.	\$.80 EACH, \$25.60 TOTAL
JOIST HANGER SCREWS	2	BX OF 100	#8 X 1.25 SIMPSON STRONG-TIE SCREW	\$11 BOX, \$22 TOTAL
GUSSET SCREWS	1	BX	#8 X 2" FH SCREWS	\$6 BOX
CORNER SCREWS	1	BX	#8 X 3" FH SCREWS	\$7 BOX
CARRIAGE BOLT	48	EACH	3/8 X 6" LONG CARRIAGE BOLT	\$1.18 EACH, \$56.64 TOTAL
WASHER	48	EACH	3/8 FLAT WASHER	\$.16 EACH, \$7.68 TOTAL
NUT	48	EACH	3/8 NUT	\$.13 EACH, \$6.24 TOTAL
PLATFORM SCREWS	2	BX	#6 X 1-5/8 DRYWALLL SCREWS	\$6 BOX, \$12 TOTAL

TOTAL APPROX COST \$375.16

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TITLE:
6X6 FIELD RISER ORDER LIST

SIZE B	DWG. NO.	REV
DO NOT SCALE DRAWING	SCALE: 1:32	SHEET 7 OF 11

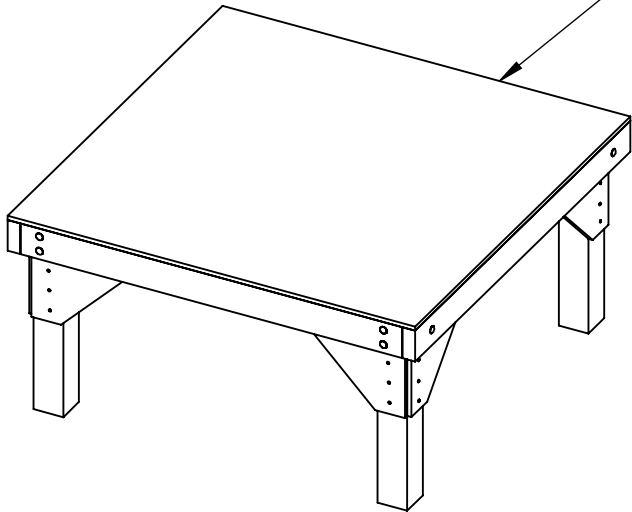
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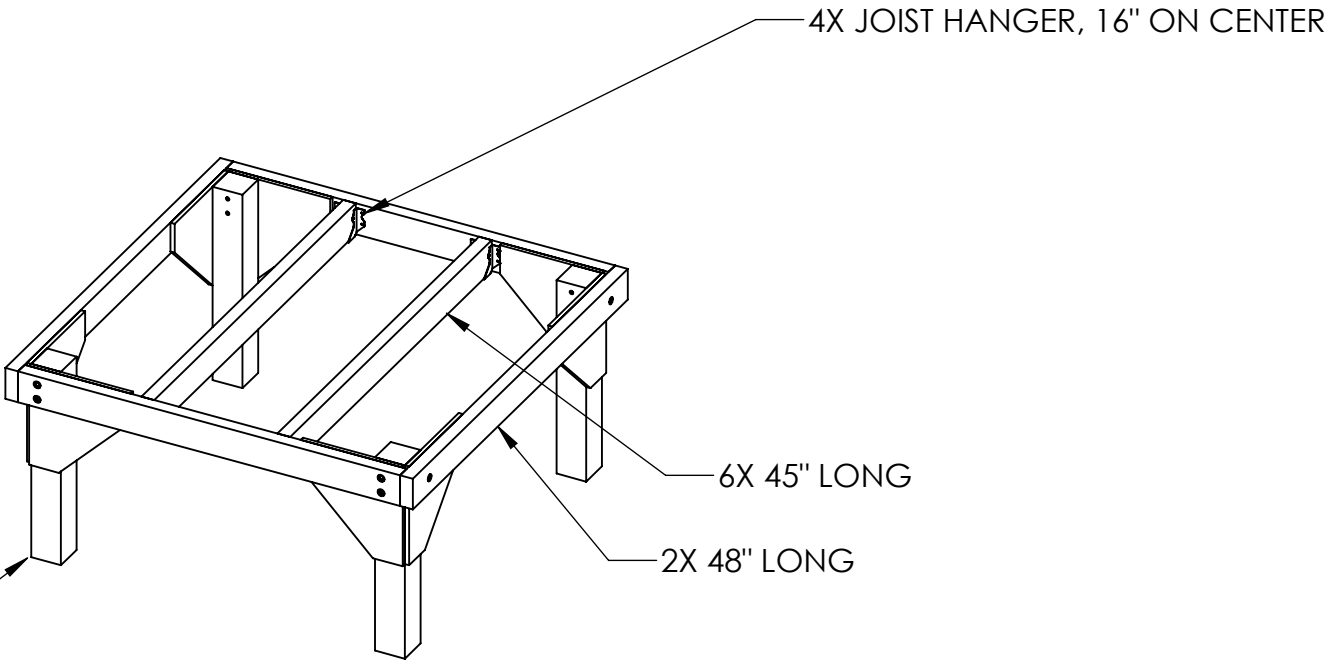
1

VEX TEAM 3547:VIRUS
WOODEN FIELD RISER PLANS
4X4 PORTABLE VERSION
(BUILD 9 SECTIONS TOTAL)



TOP BOARD
4' X 4' X 1/2" THICK OSB
ATTACH WITH #6 X 1-5/8" WOOD SCREWS EVERY 8-12"

FOR MORE "PORTABLE" PLATFORM, SET UP THE FIELD WITH FOUR 4' X 8' SHEETS AND ONE 4'X4' SHEET, AND DON'T SCREW THEM DOWN.



4X JOIST HANGER, 16" ON CENTER

6X 45" LONG

2X 48" LONG

4X 23.5" LEG WITH
CORNER GUSSETS

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TITLE:
**FIELD RISER
GENERAL NOTES**

SIZE	DWG. NO.	REV
B		
DO NOT SCALE DRAWING		SCALE: 1:20
		SHEET 8 OF 11

4

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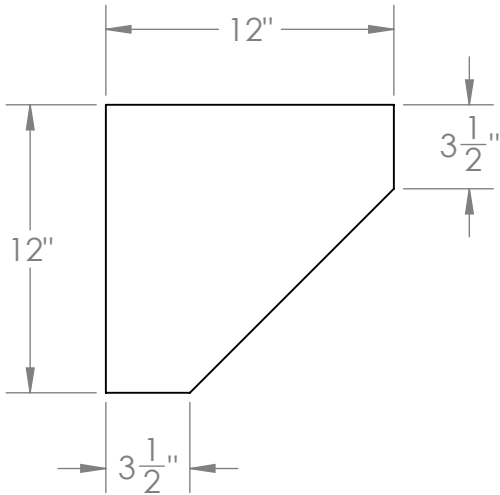
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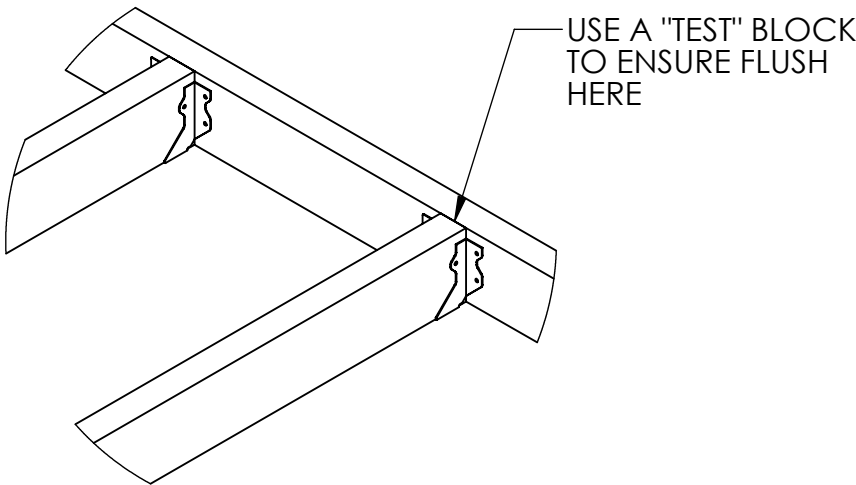
VEX TEAM 3547:VIRUS
WOODEN FIELD RISER PLANS
4X4 PORTABLE VERSION
(BUILD 9 SECTIONS TOTAL)

STEP 1, CUT ALL PARTS TO LENGTH (SEE CUT LIST NEXT PAGE)
STEP 2, CUT ALL GUSSETS TO SIZE:



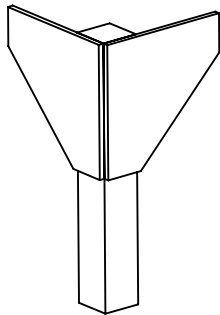
8 REQUIRED PER TABLE

STEP 4, ATTACH THE JOIST HANGERS TO 45" BEAMS, 16" ON CENTER. THE BRACKETS ARE CENTERED 14-1/2" FROM THE ENDS OF THE 45" PIECE. USE JOIST HANGER SCREWS.



STEP 5, BUILD THE PLATFORM FRAMING. USE JOIST HANGER SCREWS TO ATTACH JOISTS. USE 2X #8X3" SCREWS AT EACH OUTER CORNER.

STEP 3, BUILD THE LEG ASSEMBLIES



CORNER LEG
4 REQD.

ASSEMBLE LEGS WITH GLUE AND 3X #8X2" SCREWS PER GUSSET

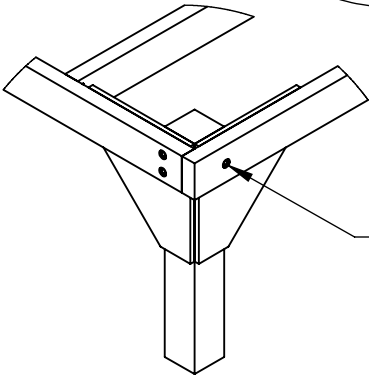
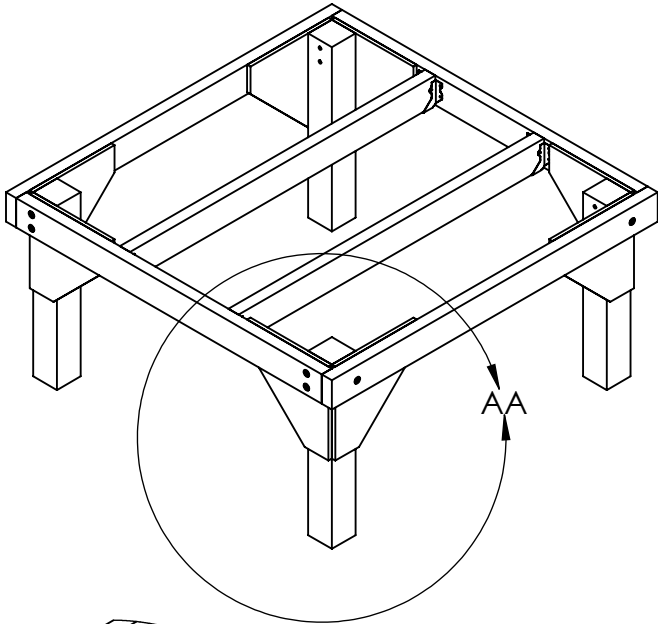
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TITLE: 4X4 FIELD RISER ASSEMBLY		
SIZE B	DWG. NO.	REV
DO NOT SCALE DRAWING		SCALE: 1:32
		SHEET 9 OF 11

VEX TEAM 3547:VIRUS
WOODEN FIELD RISER PLANS
4x4 PORTABLE VERSION
(BUILD 9 SECTIONS TOTAL)

STEP 6, ELEVATE THE PLATFORM AND INSTALL THE LEG ASSEMBLIES. ATTACH THE GUSSETS TO THE INSIDE FRAME WITH 3X #8X2 SCREWS PER GUSSET.

STEP 7, USE A 1" SPADE BIT TO DRILL A COUNTERBORE FOR THE CARRIAGE BOLT HEADS, THEN DRILL 3/8" THROUGH FOR THE CARRIAGE BOLTS, TWO HOLES ON ONE SIDE OF THE CORNER, ONE HOLE ON THE OTHER. INSTALL CARRIAGE BOLT FROM THE OUTSIDE, WASHER AND NUT ON THE INSIDE. SEE LEG DETAILS



COUNTERBORE FOR THE HEADS OF THE CARRIAGE BOLTS, SOT THE SECTIONS WILL SET FLUSH TOGETHER.

DETAIL AA
SCALE 1 : 16

THIS BOM SHOWS THE TOTAL FOR BUILDING ALL NINE TABLE SECTIONS

ITEM	QUANTITY	DESCRIPTION	PARTS	APPROX. COST (LOWE's 7/21/20)
TOP BOARDS	7	1/2" OSB 4X8 SHEET	CUT EACH SHEET TO 4' X 4' USE 9 PIECES FOR THE TOP SURFACES, REMAINDER FOR GUSSETS.	\$12 EACH, \$84 TOTAL
LEGS	9	4X4X8'	CUT 36 LEGS, 23-1/2" LONG EACH	\$12 EACH, \$108 TOTAL
FRAME	18	2X4X12'	CUT 18 AT 48" LONG, CUT 36 AT 45" LONG	\$7 EACH, \$126 TOTAL
JOIST HANGERS	36	2X4 JOIST HANGERS	SIMPSON STRING-TIE OR EQUIV.	\$.80 EACH, \$28.80 TOTAL
JOIST HANGER SCREWS	2	BX OF 100	#8 X 1.25 SIMPSON STRONG-TIE SCREW	\$11 BOX, \$22 TOTAL
GUSSET SCREWS	2	BX	#8 X 2" FH SCREWS	\$6 BOX, \$12 TOTAL
CORNER SCREWS	1	BX	#8 X 3" FH SCREWS	\$7 BOX
CARRIAGE BOLT	108	EACH	3/8 X 6" LONG CARRIAGE BOLT	\$1.18 EACH, \$127.44 TOTAL
WASHER	108	EACH	3/8 FLAT WASHER	\$.16 EACH, \$17.28 TOTAL
NUT	108	EACH	3/8 NUT	\$.13 EACH, \$14.04 TOTAL
PLATFORM SCREWS	2	BX	#6 X 1-5/8 DRYWALLL SCREWS	\$6 BOX, \$12 TOTAL

TOTAL APPROX COST \$558.56

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TITLE:
4X4 FIELD RISER ORDER LIST

SIZE B	DWG. NO.	REV
DO NOT SCALE DRAWING		SCALE: 1:20
		SHEET 10 OF 1

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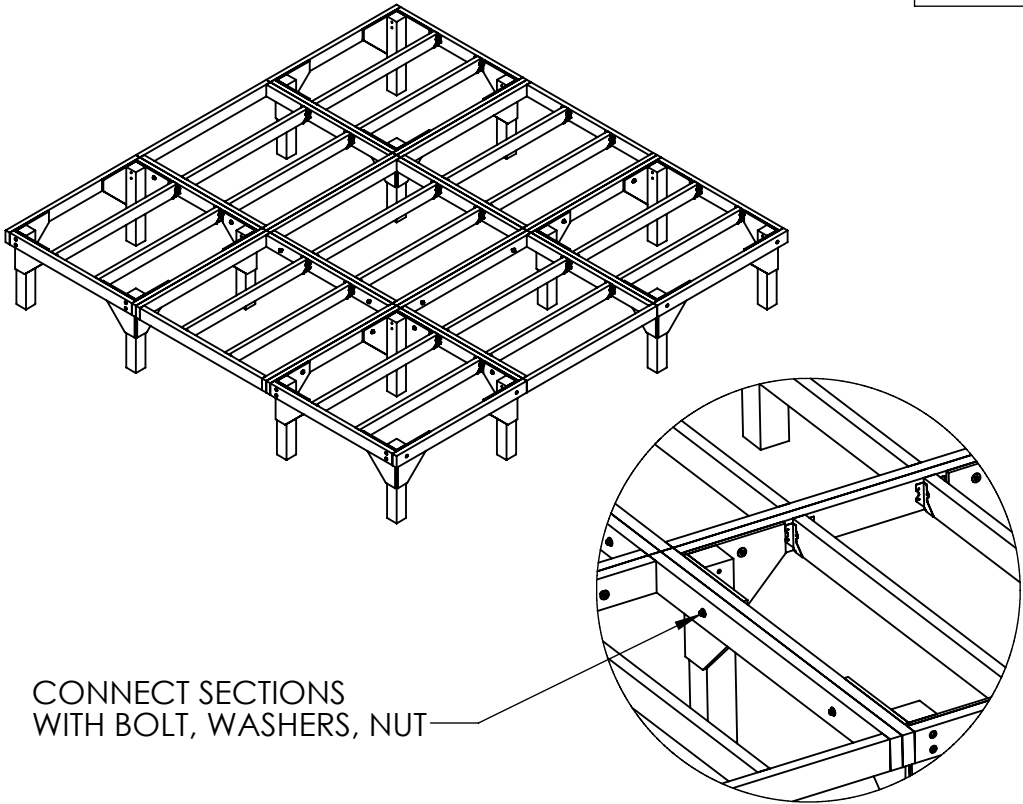
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VEX TEAM 3547:VIRUS WOODEN FIELD RISER PLANS 4x4 PORTABLE VERSION (ALTERNATE BUILD)

FOR THE "ALTERNATE BUILD" MAKE FOUR COMPLETE TABLE SECTIONS AS IN THE PREVIOUS PLANS, AND MAKE FIVE MORE SECTIONS IN THE SAME WAY BUT WITHOUT THE LEGS AND GUSSETS. DO NOT ATTACH THE TOP BOARDS, BUT RATHER USE 4 FULL SHEETS AND ONE HALF-SHEET TO TOP THE PLATFORM.

CAREFULLY ASSEMBLE THE SECTIONS USING C-CLAMPS, THEN "MATCH-MARK" THE SECTIONS (A-A) (B-B) ETC WITH SHARPIE MARKER FOR ASSEMBLY/DISASSEMBLY, AND DRILL FOR 2X 3/8 BOLTS TO CONNECT EACH SECTION.



CONNECT SECTIONS
WITH BOLT, WASHERS, NUT

THIS BOM SHOWS THE TOTAL FOR BUILDING COMPLETE "ALTERNATE BUILD"

ITEM	QUANTITY	DESCRIPTION	PARTS	APPROX. COST (LOWE's 7/21/20)
TOP BOARDS	6	1/2" OSB 4X8 SHEET	CUT ONE SHEET TO 4' X 4' USE 1 SHEET TO MAKE GUSSETS.	\$12 EACH, \$72 TOTAL
LEGS	4	4X4X8'	CUT 16 LEGS, 23-1/2" LONG EACH	\$12 EACH, \$48 TOTAL
FRAME	18	2X4X12'	CUT 18 AT 48" LONG, CUT 36 AT 45" LONG	\$7 EACH, \$126 TOTAL
JOIST HANGERS	36	2X4 JOIST HANGERS	SIMPSON STRING-TIE OR EQUIV.	\$.80 EACH, \$28.80 TOTAL
JOIST HANGER SCREWS	2	BX OF 100	#8 X 1.25 SIMPSON STRONG-TIE SCREW	\$11 BOX, \$22 TOTAL
GUSSET SCREWS	1	BX	#8 X 2" FH SCREWS	\$6 BOX
CORNER SCREWS	1	BX	#8 X 3" FH SCREWS	\$7 BOX
CARRIAGE BOLT	48	EACH	3/8 X 6" LONG CARRIAGE BOLT	\$1.18 EACH, \$56.64 TOTAL
WASHER	96	EACH	3/8 FLAT WASHER	\$.16 EACH, \$15.36 TOTAL
NUT	72	EACH	3/8 NUT	\$.13 EACH, \$9.36 TOTAL
HEX BOLT	24	EACH	3/8 X 4 LONG HEX BOLT	\$.58 EACH, \$13.92 TOTAL

TOTAL APPROX COST \$405.08

PLANS ARE PROVIDED FOR NON-COMMERCIAL USE, BUILD AND USE AT YOUR OWN RISK. NOT-FOR-SALE. PLEASE LIKE "VEX TEAM 3547:VIRUS" ON FACEBOOK

TITLE:
**4X4 FIELD RISER ORDER LIST
ALTERNATE BUILD**

SIZE B	DWG. NO.	REV
DO NOT SCALE DRAWING		SCALE: 1:50
SHEET 11 OF 11		