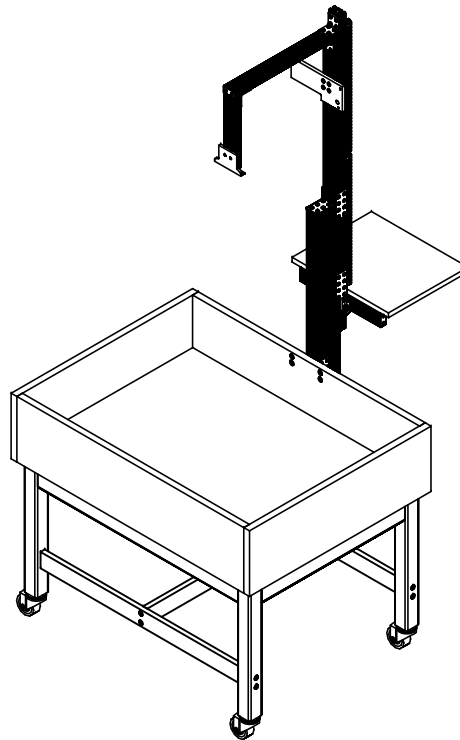


# AUGMENTED REALITY SANDBOX

ARS-4030

## ASSEMBLY INSTRUCTIONS



**NOTE:**

1. MODEL VIEWS MAY NOT REPRESENT EXACT MODEL PURCHASED

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UNLESS OTHERWISE SPECIFIED  
DIMENSION ARE IN INCHES  
  
CABINET SQUARENESS ± .0625  
FRACTIONAL VALUES ± 1/32"  
- ALL VALUES ± OVERALL -



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TITLE:  
AUGMENTED REALITY SANDBOX  
ASSEMBLY INSTRUCTIONS

REV.	DESCRIPTION	DATE	NAME	ECN NO.
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## PALLET CONTENTS

ITEMS INCLUDED	PART #	PART DESCRIPTION	QTY
SANDBOX ASSEMBLY	N/A	SANDBOX ASSEMBLY (FACTORY ASSEMBLED)	1
APRON ASSEMBLY	N/A	APRON ASSEMBLY (FACTORY ASSEMBLED)	1
ALUMINUM EXTRUSION ASSEMBLY 1	N/A	ALUMINUM EXTRUSION ASSEMBLY 1 (FACTORY ASSEMBLED)	1
ALUMINUM EXTRUSION ASSEMBLY 2	N/A	ALUMINUM EXTRUSION ASSEMBLY 2 (FACTORY ASSEMBLED)	1
STRETCHER	N/A	STRETCHER - 0.75"THK X 2.50"W X 26.88"L	1
BRACE	N/A	BRACE - 0.75"THK X 2.50"W X 35.38"L	2
LAPTOP SHELF W/ HARDWARE ATTACHED	N/A	LAPTOP SHELF - 0.75"THK X 14.00"W X 17.00"L	1
*LEGS* - SEE NOTE 1	500100	LEG,OAK 2.25X2.25X28.25	4
*WASHERS* - SEE NOTE 1	100039	WASHER,SPLIT LOCK 5/16	4
*HEX NUTS* - SEE NOTE 1	100044	NUT,HEX 5/16-18 STEEL ZINC	4
*CASTERS* - SEE NOTE 1	247870	CASTER,3IN,SWIVEL,3/8 DIA STEM	4
*CONFIRMATS - STRETCHER*	228564	SCREW,7MMX50MM,CONN,ALLENHEAD, BLACK	4
*CONFIRMATS - BRACE*	227578	SCREW,7MMX90MM,CONN,ALLENHEAD, BLACK	8
LAPTOP	252560	ORYX PRO (ORXP1) LAPTOP	1
CAMERA/SENSOR BAR	252554	XBOX 360 KINECT SENSOR BAR	1
PROJECTOR	252555	BENQ 9H.JE177.13A MX631ST PROJECTOR	1
HARDWARE BOX	N/A	MISC ITEMS - SEE NEXT PAGE FOR CONTENTS	1
T-SLOT COVER	252812	10 SERIES T-SLOT COVER, BLACK	1.34 LF

**NOTE:**

- LEGS, WASHERS, HEX NUTS & CASTERS ARE BOXED TOGETHER.

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.XX = ± .020  
.XXX = ± .010  
ANGLES: ± 1°0'  
CABINET SQUARENESS ± .0625

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AUGMENTED REALITY SANDBOX  
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ARS 4030	NTS	2 OF 8	REV A

# HARDWARE BOX PACKING LIST

ITEMS INCLUDED	PART #	PART DESCRIPTION	QTY	PACKED
PROJECTOR MOUNTING BLOCK (SCREWS AND T-NUTS ATTACHED)	252793	PROJECTOR MOUNTING BLOCK - 0.50"THK X 3.875"W X 9.00"L	1	
MOUNTING BLOCK	N/A	MOUNTING BLOCK - 1.75"THK X 2.25"W X 7.00"L	1	
SCREWS - APRON ASSEMBLY TO SANDBOX ASSEMBLY	100641	SCREW, #8X1-3/4 QUAD RD WASH HD	14	
CONFIRMATS - MOUNTING CLEAT	252459	SCREW, 1/4-20X60MM, CONN, ALLENHEAD, BLACK	4	
CONFIRMATS - SANDBOX	252460	SCREW, 1/4-20X20MM, CON, ALLENHEAD, BLK	4	
JOINT CONNECTING NUT - MOUNTING CLEAT & SANDBOX	234337-JCN	JOINT CONNECTING NUT, 1/4-20X17MM	8	
CABLE ADAPTER	252557	HDE POWER SUPPLY AC CABLE ADAPTER FOR XBOX KINECT MOTION SENSOR	1	
CAMERA MOUNT (SCREWS AND T-NUTS ATTACHED)	252556	KINECT SENSOR TV MOUNT CLIP	1	
HDMI CABLE	252579	CABLE, HDMI, 6 FEET	1	
L BRACKET - 8 HOLE	252561	10 SERIES 8 HOLE - INSIDE CORNER BRACKET	4	
T-NUT - DOUBLE	252569	1/4-20 DOUBLE SLIDE-IN ECONOMY T-NUT	16	
SCREWS - (FOR L-BRACKETS & T-NUTS)	252566	1/4-20 X 0.500" BUTTON HEAD SOCKET CAP SCREW (BHSCS)	32	

## TOOLS REQUIRED

1/2" WRENCH
1/2" SOCKET AND TORQUE WRENCH - OPTIONAL
4MM ALLEN WRENCH (FOR CONFIRMATS)
5MM ALLEN WRENCH (FOR JCN)
5/32" ALLEN WRENCH (FOR 1/4"-20x1/2" SCREWS)
1/8" ALLEN WRENCH (FOR #10-32x3/8" SCREWS)
PHILLIPS SCREWDRIVER

**NOTE:**

1.

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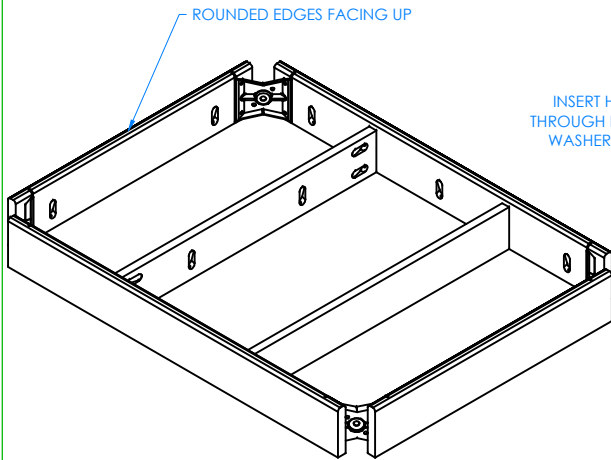


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ANGLES: ± 1°  
CABINET SQUARENESS ± .0625

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AUGMENTED REALITY SANDBOX  
HARDWARE BOX PACKING LIST & TOOLS REQUIRED

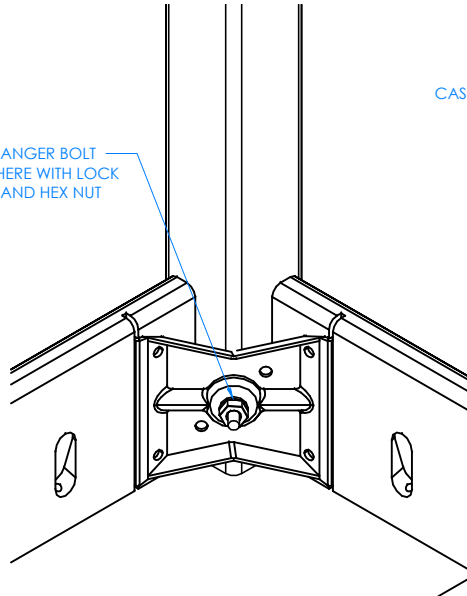
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REV.	DESCRIPTION	DATE	NAME	ECN NO.					



STEP 1:

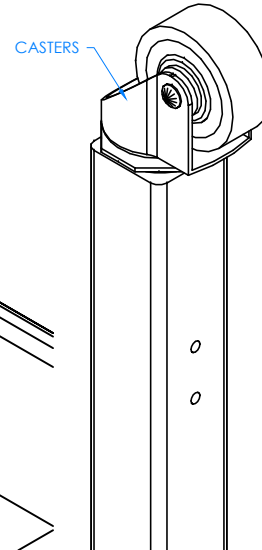
LAY APRON ASSEMBLY ON FLOOR WITH ROUNDED EDGES FACING UP.

INSERT HANGER BOLT THROUGH HERE WITH LOCK WASHER AND HEX NUT



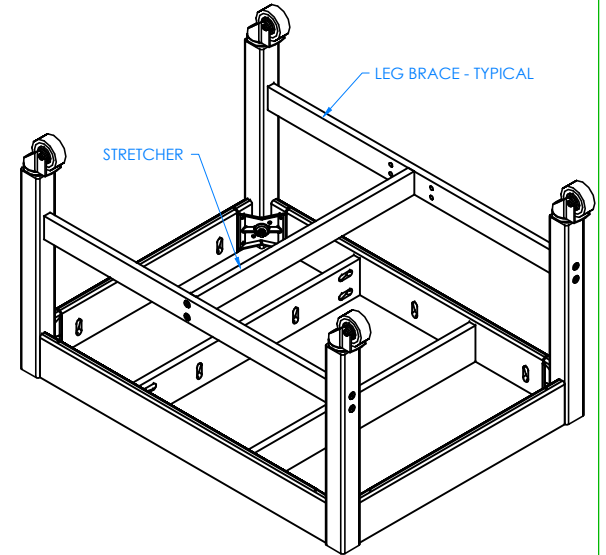
STEP 2:

INSERT HANGER BOLT ON ONE OF THE LEGS THROUGH THE CORNER BRACKET, MAKING SURE THAT THE THRU HOLES RUN PARALLEL TO THE LONG APRONS (SEE STEP 3 FOR CLOSE UP) AND INSERT LOCK WASHER AND HEX NUT. USING A 1/2" WRENCH OR 1/2" SOCKET AND TORQUE WRENCH, SCREW ON THE NUT BUT DO NOT TIGHTEN ALL THE WAY. REPEAT FOR OTHER LEGS.



STEP 3:

ATTACH CASTERS TO BOTTOM OF LEGS.



STEP 4:

USING A 4MM ALLEN WRENCH, INSERT THE CONFIRMATS INTO ONE LEG AND SCREW INTO BRACE. REPEAT ON OTHER LEGS. MAKE SURE BRACES ARE STRAIGHT AND ALL CONFIRMATS ARE TIGHT. ATTACH STRETCHER TO CENTER OF BRACES USING THE CONFIRMATS PROVIDED. GO BACK TO STEP 2 AND TIGHTEN UP THE HANGER BOLTS FOR EACH LEG USING A 1/2" WRENCH OR 1/2" SOCKET AND TORQUE WRENCH, TO A MINIMUM OF 12FT LBS BUT NOT TO EXCEED 17FT LBS.

NOTE:

1.

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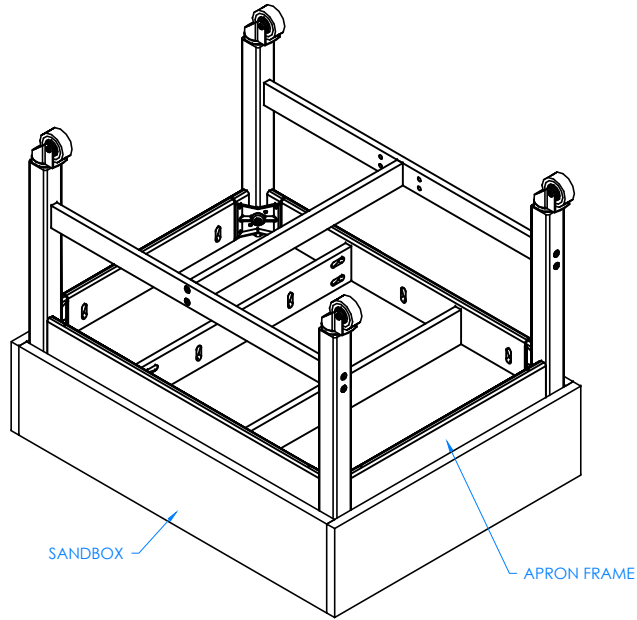
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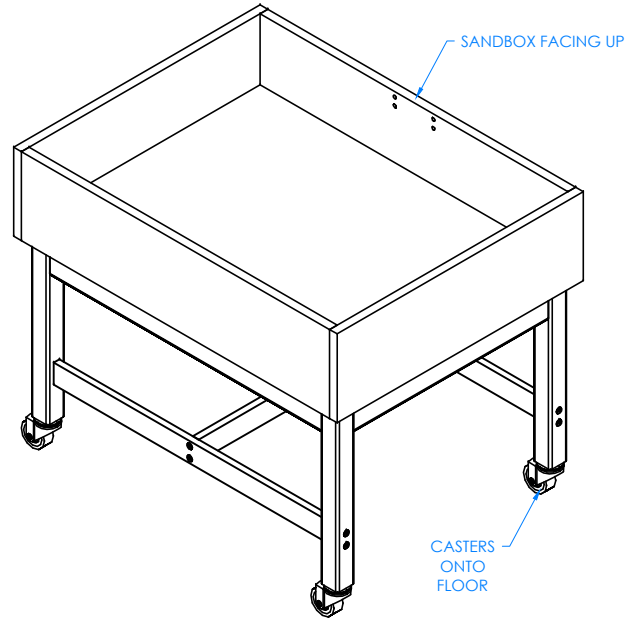
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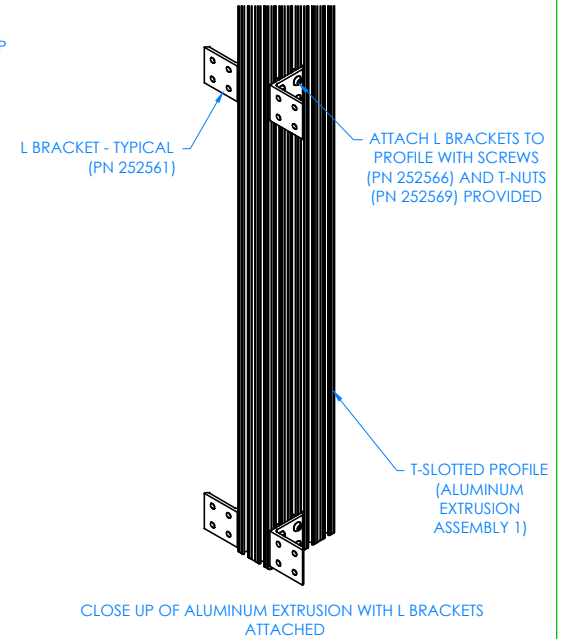
STEP 5:

SET APRON FRAME ON TOP OF SANDBOX AND ATTACH TO SANDBOX WITH THE 14 - #8X1-3/4 QUARD WASH HD SCREWS PROVIDED. MAKE SURE THAT THE 4 HOLES IN THE BRACE ARE ON THE SAME SIDE AS THE 4 HOLES IN THE SANDBOX (SEE PHOTO IN STEP 6)



STEP 6:

WITH HELP FROM ANOTHER PERSON, FLIP UNIT OVER SO IT IS ON THE CASTERS.



STEP 7:

SLIDE 2 L-BRACKETS ASSEMBLIES ONTO EACH SIDE OF THE T-SLOTTED PROFILE (ALUMINUM EXTRUSION ASSEMBLY 1) THE TOP BRACKETS CAN BE LEFT LOOSE FOR NOW. POSITION THE BOTTOM BRACKETS SO THEY ARE FLUSH WITH THE BOTTOM OF THE ALUMINUM EXTRUSION AND TIGHTEN.

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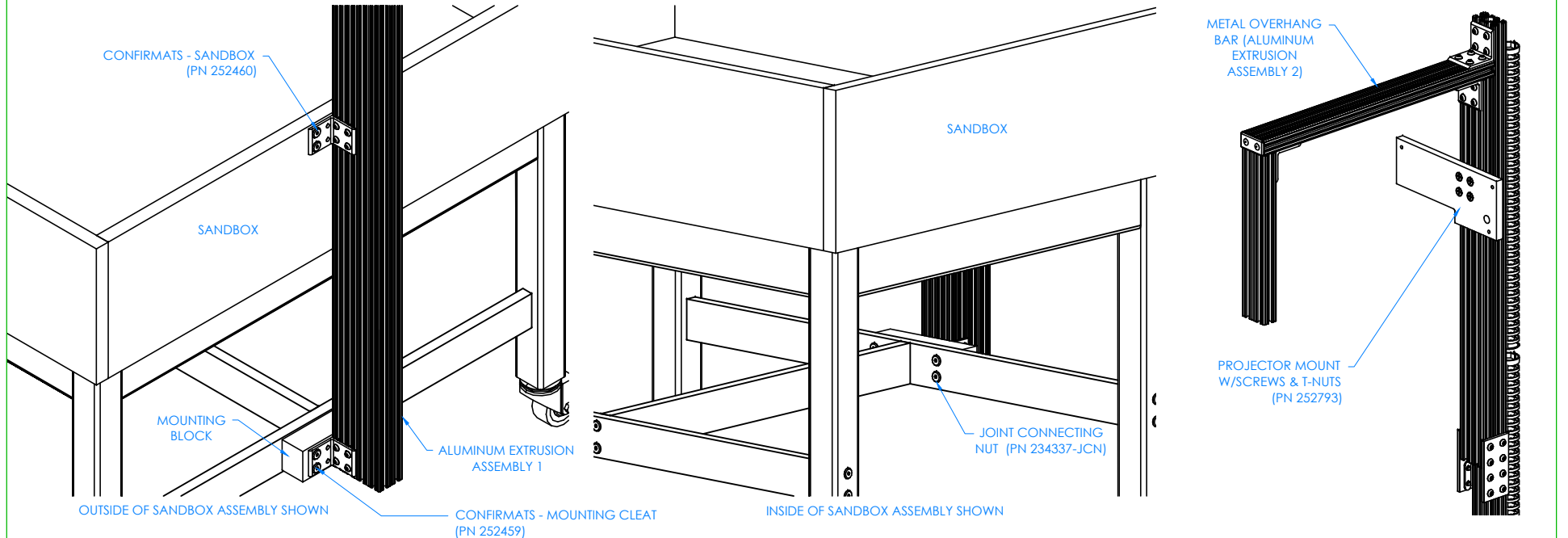
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STEP 8:

ATTACH ALUMINUM EXTRUSION ASSEMBLY 1 TO SANDBOX AND MOUNTING BLOCK BY POSITIONING L BRACKETS TO HOLES ON TOP OF SANDBOX AND TO THE HOLES ON MOUNTING BLOCK. ATTACH L BRACKETS BY INSERTING CONFIRMATS ON THE OUTSIDE OF SANDBOX AND MOUNTING BLOCK AND THE JOINT CONNECTING NUT ON THE INSIDE. TIGHTEN CONFIRMATS AND THEN TIGHTEN TOP L-BRACKET SCREWS.

STEP 9:

SLIDE PROJECTOR MOUNTING BLOCK ONTO METAL OVERHANG BAR (ALUMINUM EXTRUSION ASSEMBLY 2) FROM THE BOTTOM. ATTACH WITH HARDWARE PROVIDED. DO NOT TIGHTEN ALL THE WAY.

NOTE:

- 1.

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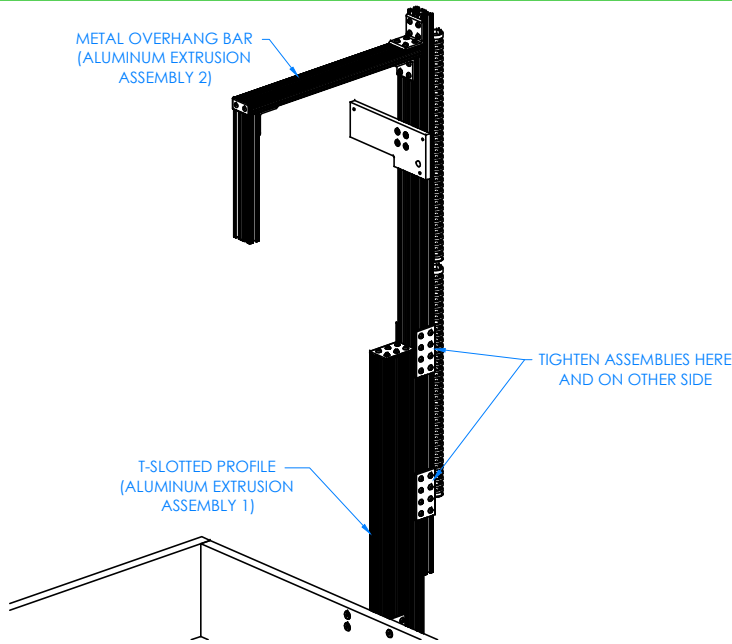
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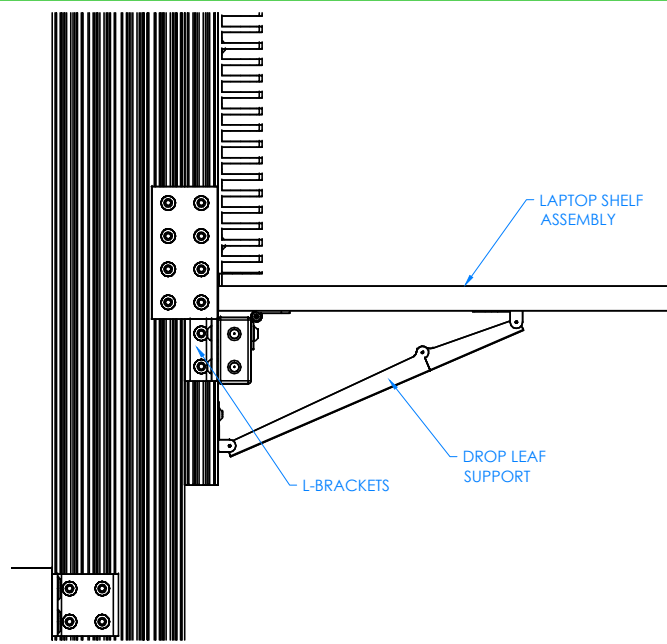


STEP 10:

ASSEMBLE T-NUTS (PN 252569) AND SCREWS (PN 252566) TO THE 8-HOLE PLATES. SLIDE METAL OVERHANG BAR (ALUMINUM EXTRUSION ASSEMBLY 2) INTO T-SLOTTED PROFILE (ALUMINUM EXTRUSION ASSEMBLY 1). TIGHTEN THE TWO ASSEMBLIES TOGETHER. MAKE SURE ALL SCREWS ARE TIGHT BEFORE MOVING ON. GO BACK TO STEP 9 AND TIGHTEN PROJECTOR MOUNTING BLOCK ONTO ALUMINUM EXTRUSION ASSEMBLY 2. MAKE SURE BOTTOM OF MOUNT SITS ABOUT 15" FROM TOP OF ALUMINUM EXTRUSION ASSEMBLY 1. FINAL DIMENSION WILL BE ADJUSTED ONCE CAMERA AND PROJECTOR ARE MOUNTED IN STEP 13.

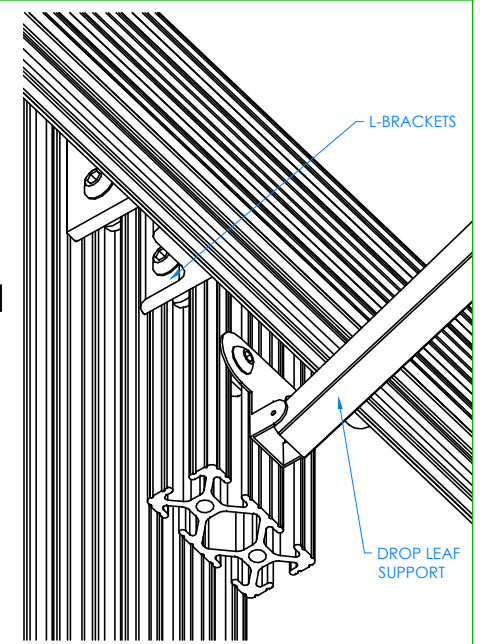
NOTE:

1. ELECTRONIC COMPONENTS NOT SHOWN.



STEP 11:

SLIDE LAPTOP SHELF L-BRACKETS UP THE SIDES OF THE T-SLOTTED PROFILE UNTIL THEY ARE TIGHT TO THE 8-HOLE FLAT PLATE, AND TIGHTEN SCREWS. SLIDE THE BOTTOM END OF THE DROP LEAF SUPPORT UP THE FACE OF THE T-SLOTTED PROFILE, GUIDING THE ATTACHED T-NUTS INTO THE GROOVES. FULLY ENGAGE THE DROP LEAF AND RAISE IT UP UNTIL THE SHELF IS SITTING PARALLEL TO THE FLOOR, TIGHTEN THE SCREWS TO SECURE IT IN PLACE.



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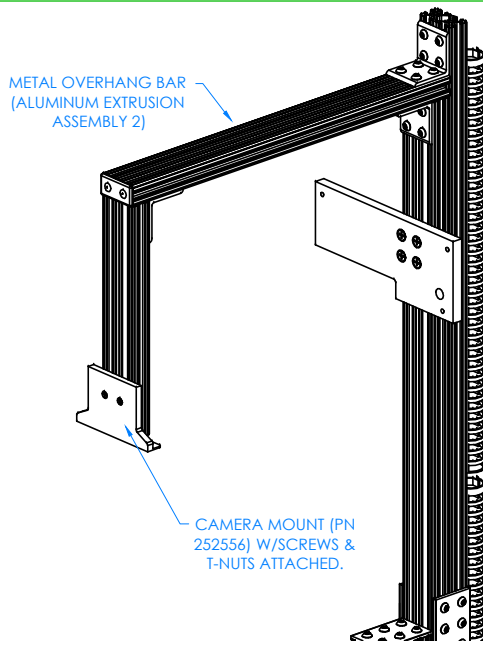
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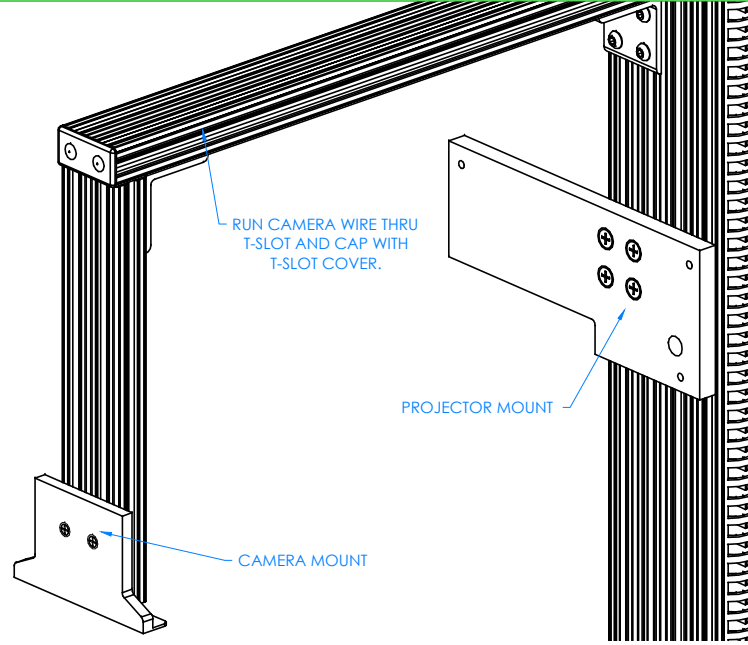
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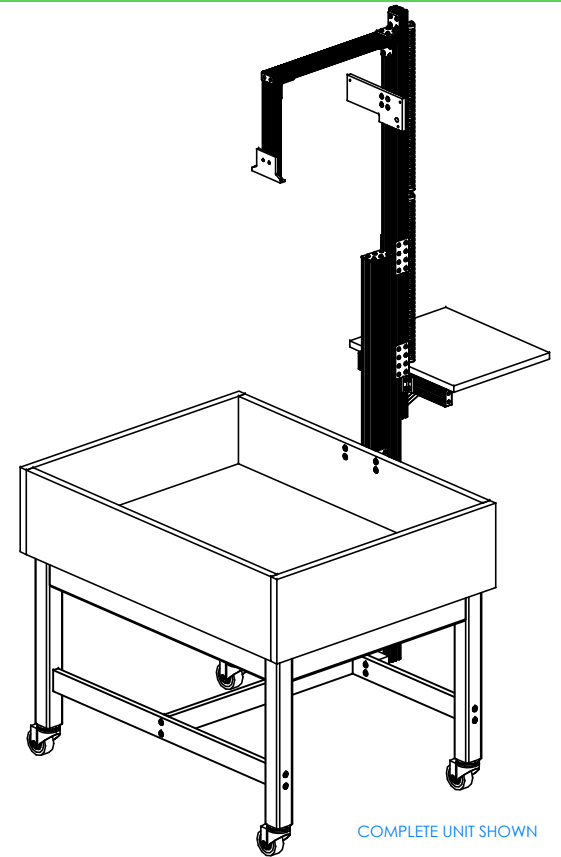
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NTS	7 OF 8	REV A



**STEP 12:**  
SLIDE THE CAMERA MOUNT UP ONTO THE ALUMINUM EXTRUSION ASSEMBLY, GUIDING THE T-NUTS INTO THE SLOTS. SLIDE IT UP UNTIL THE BOTTOM LIP OF THE MOUNT IS AGAINST THE ALUMINUM. TIGHTEN THE SCREWS.



**STEP 13:**  
LINE THE PROJECTOR UP WITH THE 3 MOUNTING HOLES IN THE BRACKET AND ATTACH USING THE 3 SCREWS (PN 252719) PROVIDED. SNUG THE SCREWS AND MAKE SURE THE PROJECTOR IS AS PARALLEL TO THE SANDBOX AS POSSIBLE AND TIGHTEN. SNAP THE KINECT 3D CAMERA ONTO THE CAMERA MOUNT. DOUBLE CHECK TO MAKE SURE THE LENS OF THE PROJECTOR IS IN LINE WITH THE KINECT CAMERA, IF NOT ADJUST THE PROJECTOR MOUNTING BLOCK UP OR DOWN AS NEEDED AND RE-MOUNT THE PROJECTOR. KINECT CABLE CAN BE RUN INSIDE THE T-SLOT ON THE SIDE OF THE ALUMINUM OR ON TOP. CAP THIS OFF WITH THE T-SLOT COVER (PN 252812) TO HOLD WIRE IN PLACE. TAP COVER INTO SLOT WITH A RUBBER Mallet.



**STEP 14:**  
YOUR AUGMENTED REALITY SANDBOX IS NOW ASSEMBLED. PROCEED TO THE SETUP AND CALIBRATION MANUAL FOR THE ELECTRONICS AND SOFTWARE WALKTHROUGH.

**NOTE:**  
1. ELECTRONIC COMPONENTS NOT SHOWN.

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