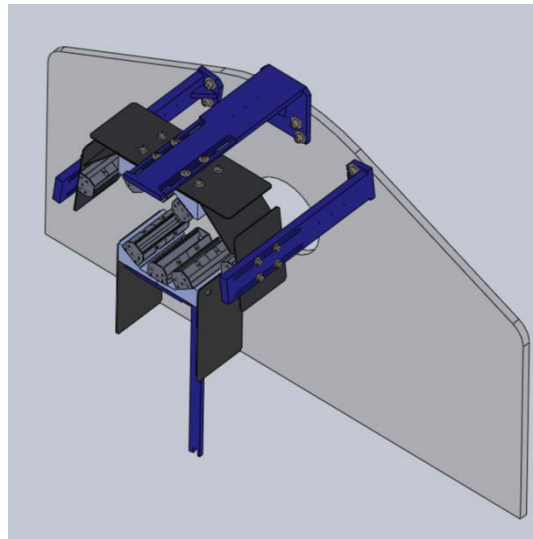


INSTALLATION INSTRUCTIONS

MODEL LT4-8-10 UPGRADE KIT

202025 Rev. B

2016-12-22



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INTRODUCTION

Prior to installation, review figures 1 and 2, table 1 and drawing 202006 (located at the back of this document) to familiarize yourself with the components of the LT4-8-10 Upgrade Kit. The LT4-8-10 Upgrade Kit has two variations: a six lamp and eight lamp. The drawings in this document illustrate the eight lamp variant. Installation of the six lamp variant is identical with the exception of mounting the TL102AL lamps (item 6) in the center position of light block mount (item 1) and their associated wiring. These installation variations are noted in the instructions as they arise.

Many of the figures in this document are part of drawing 202006 and may be more readable in the drawing itself. There are two types of lamps: TL102A (item 5) and TL102AL (item 6). The TL102AL has a Fresnel lens and the LEDs appear blurred when looking into it. The TL102A does not have a Fresnel lens and the LEDs are clearly visible. The model numbers are also marked on the part.

When installing screws and bolts, use thread locking compound in accordance with best practices for your machine. In this document TL102A/L refers to both TL102A and TL102AL lamps.

INSTALLATION INSTRUCTIONS:

1. Remove the original halogen lamps and illumination system, if present.
2. Drill and tap six M10 holes using item 26 as a guide as shown in figure 3 and described below:
 - a. Bolt thru item 26 using (2) existing holes in main frame as shown.
 - b. Use a hole location transfer punch to transfer hole positions. (Ref McMaster-Carr P/N 3374A33)
 - c. After transferring (4) holes, flip item 26 as shown to transfer remaining (2) hole locations. Remove tool.
 - d. Drill and tap (6) M10 x 1.5 holes at marked locations
3. Populate (2) item 1, light blocks, with TL102A/Ls as shown in figure 4.
 - a. For a 6 lamp configuration each block receives 2 TL102A lights. The center slot is unused.
 - b. For an 8 lamp configuration each block receives 2 TL102A lights. The center slot receives a TL102AL light.
4. Install the lower light bracket (item 4) to machine using existing method and hardware.
5. Install brackets items 2 and 3, with hardware 16, 17, 18 as shown in figure 5.
6. The TL102A/L lamps use energy efficient LEDs. However, they do dissipate heat and require good thermal conduction from the lamp body to the heatsinks and bracket components for maximum operating life. In order to insure optimal conduction, heat sink compound (not supplied) is required between the mating surfaces of the TL102A/L lamps, the heat sinks, and brackets. Heat sink compound should be spread thinly and used sparingly to only fill any minute gaps between the surfaces. Slide the mating surfaces slightly back and forth to expel any excess.
7. Install lower light block as shown in figure 6.
8. Install upper light block as shown in figure 7.
9. Install (2) side lights as shown in figure 8.
10. After installation insure there is sufficient clearance between all fixed and moving parts. Adjust as necessary to correct. The shapes of the heat sinks may be altered as necessary to achieve this end. However, they should remain flat where they contact other parts of the lighting system to insure adequate heat transfer.

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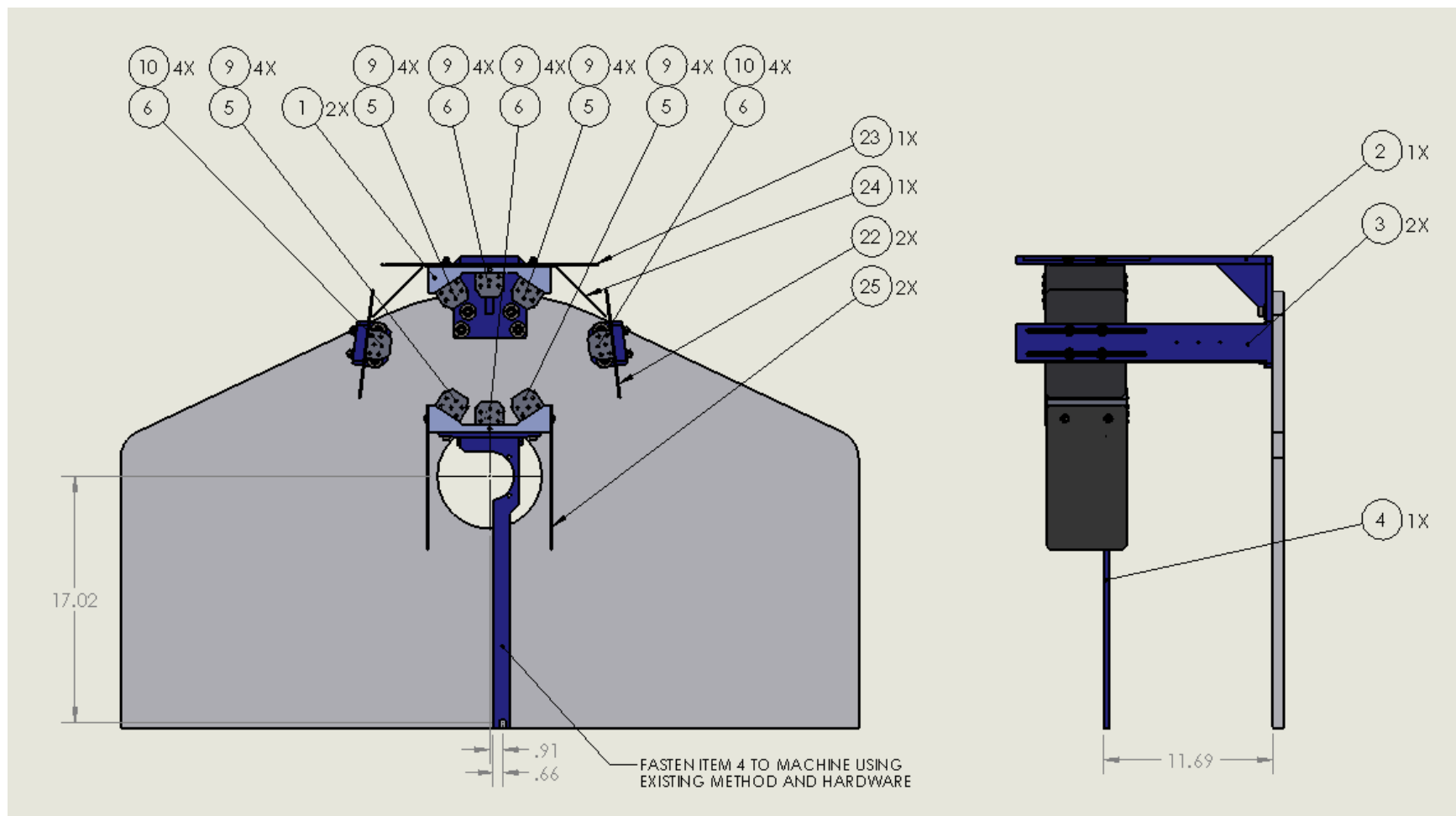


Figure 1 – General System Location and Identification – See Table 1

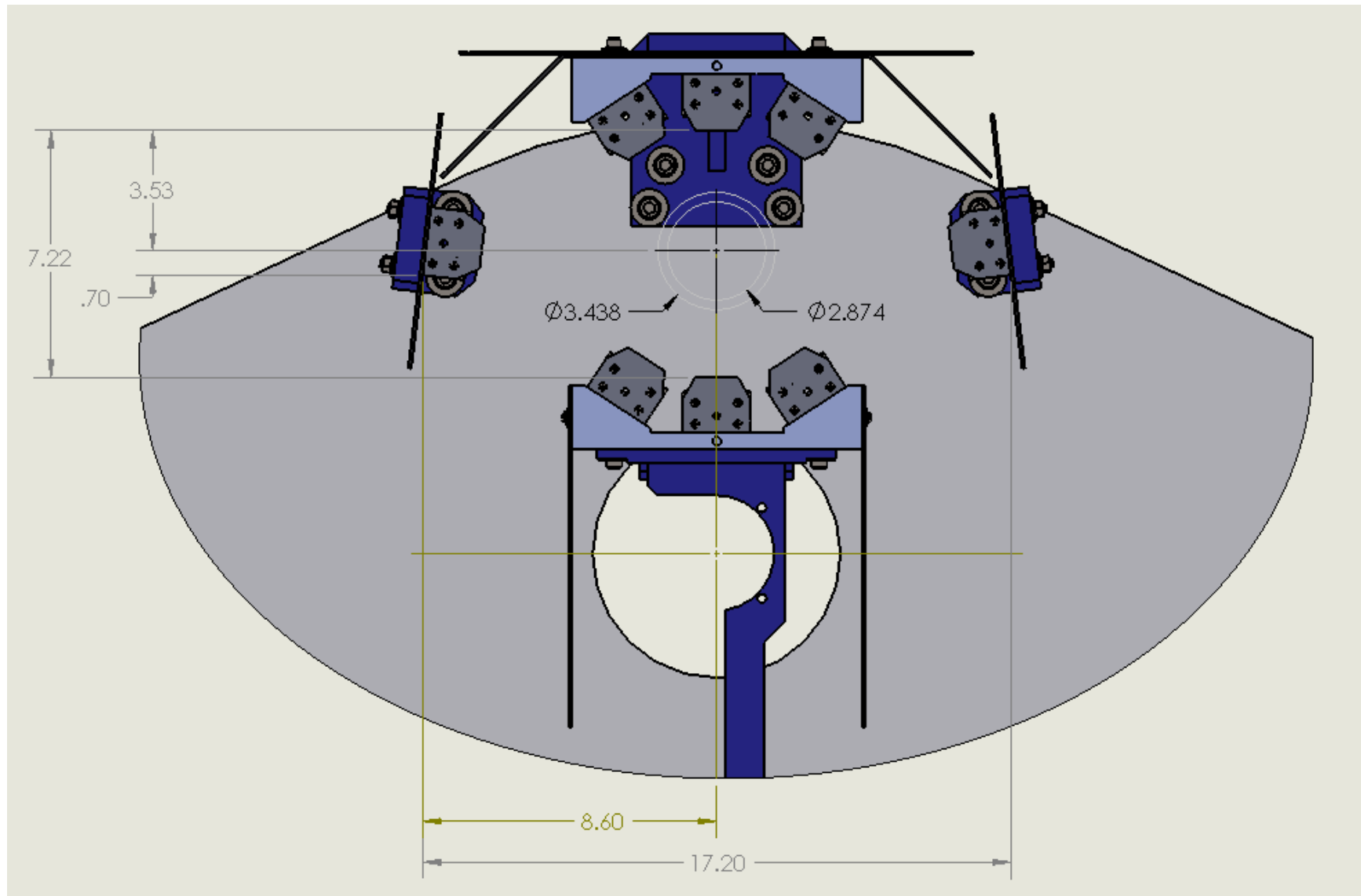


Figure 2 – Light and Bracket locations

ITEM	QTY with 6 lamps	QTY with 8 lamps	PART #	DESCRIPTION
1	2	2	202007	BLOCK, LIGHT MOUNT
2	1	1	202008	BRACKET, UPPER LIGHT
3	2	2	202009	BRACKET, SIDE LIGHT
4	1	1	202010	BRACKET, LOWER LIGHT
5	4	4	201183C	TL102A TEST LIGHT
6	2	4	201855A	TL102AL TEST LIGHT
7	12	12	201922	WASHER, LOCK .250
8	4	4	201923-0.750	SHCS .250-20 X 0.75
9	16	24	201923-1.375	SHCS .250-20 X 2.25
10	8	8	201923-2.250	SHCS .250-20 X 2.25
11	12	12	201925	WASHER, FLAT .250
12	8	8	101356	NUT, HEX .250-20
13	4	4	202003-0.250	SHSS .313 X .25
14	4	4	202003-0.375	SHSS .313 X .375
15	8	8	202004	WASHER, FLAT .313
16	8	8	202012-35.0	SHCS M10 X 1.5 X 35
17	8	8	202013	WASHER, FLAT M10
18	8	8	202014	WASHER, LOCK M10
19	4	4	101333-.7500	BHD, #10 X 0.75
20	4	4	101370-10	WASHER, #10
21	4	4	101377-10	WASHER, INT LOCK #10
22	2	2	202018A	TL102A FLAT HEATSINK
23	1	1	202019A	TL102A TRIPLE FLAT HEATSINK
24	1	1	202020A	TL102A TRIPLE BENT HEATSINK
25	2	2	202021A	TL102A TRIPLE EDGE HEATSINK
26	1	1	202011	PLATE, HOLE TRANSFER

Table 1

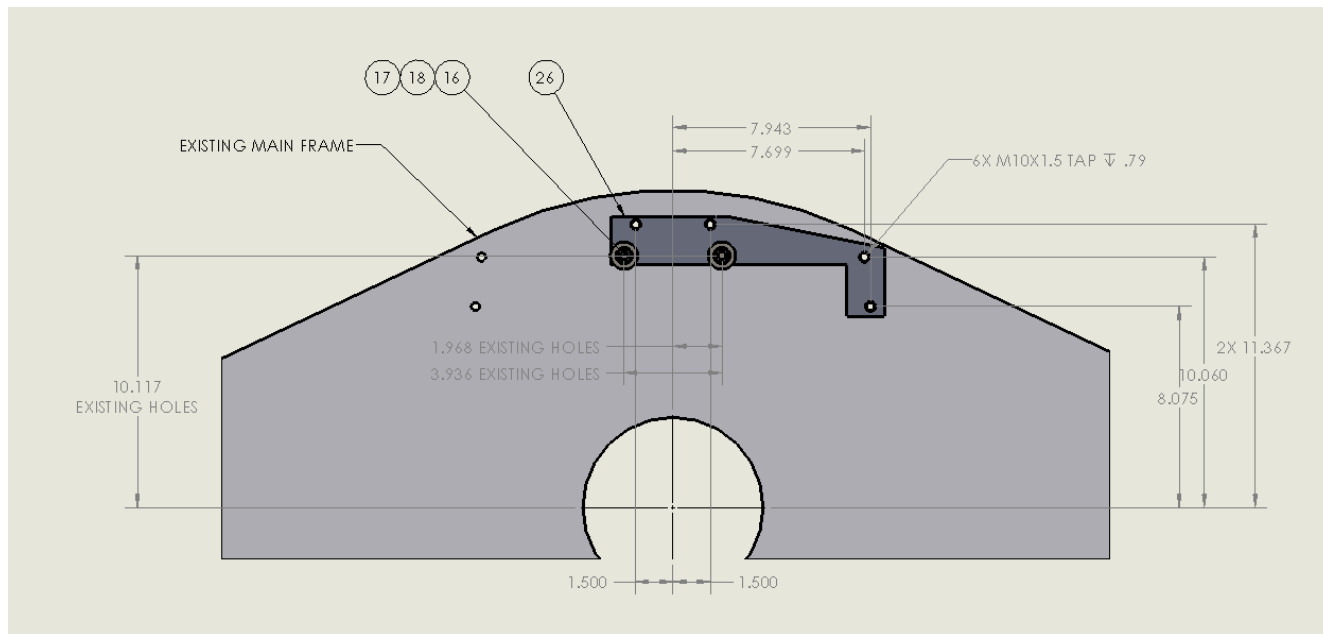
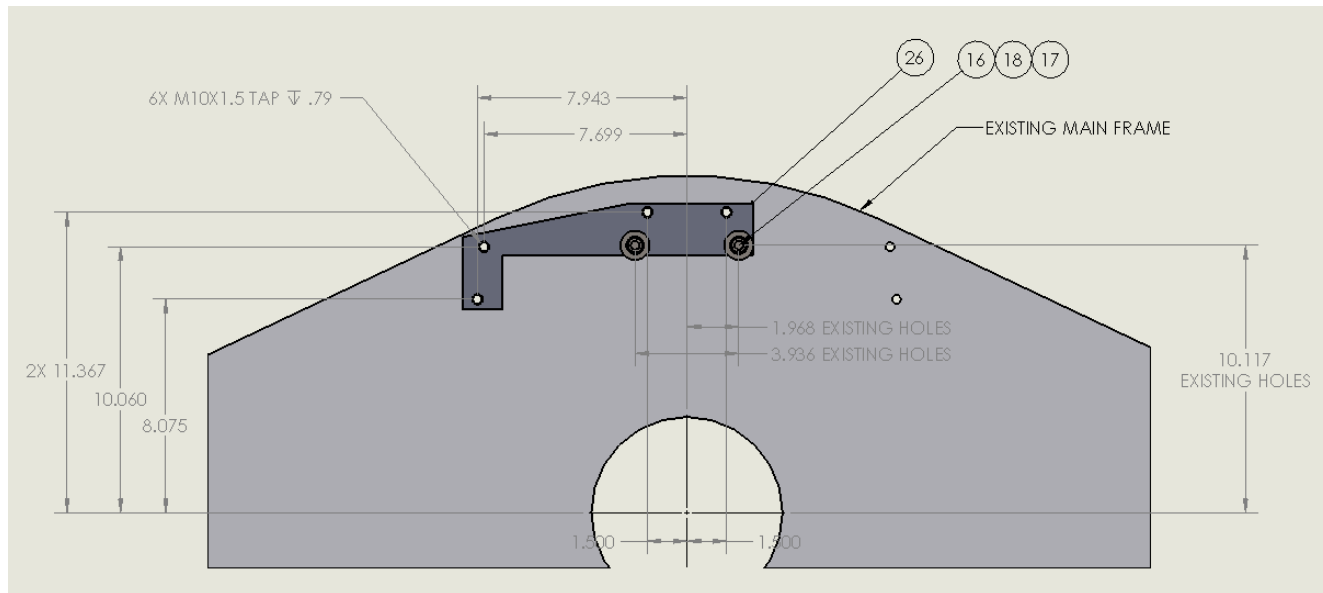


Figure 3 – Locating and Tapping bracket mounting holes

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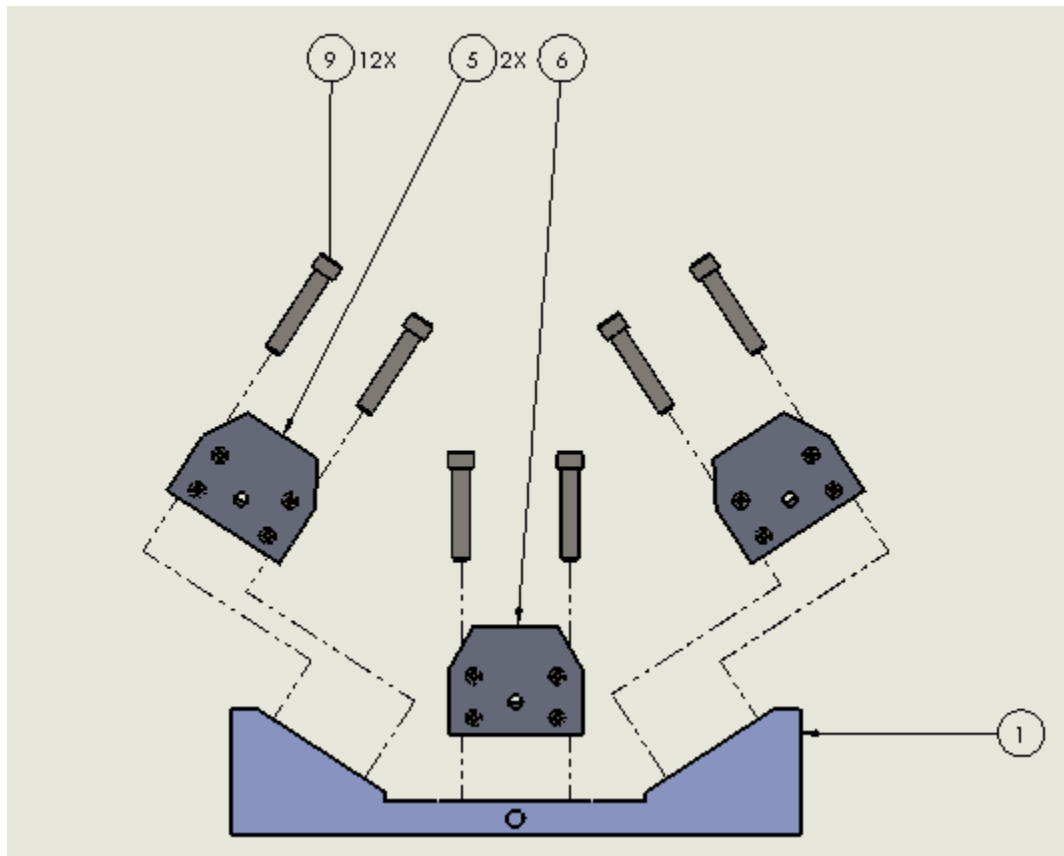


Figure 4 – Assembly of TL102A/L lights on 202007 light block. The center position is unused in the 6 lamp system.

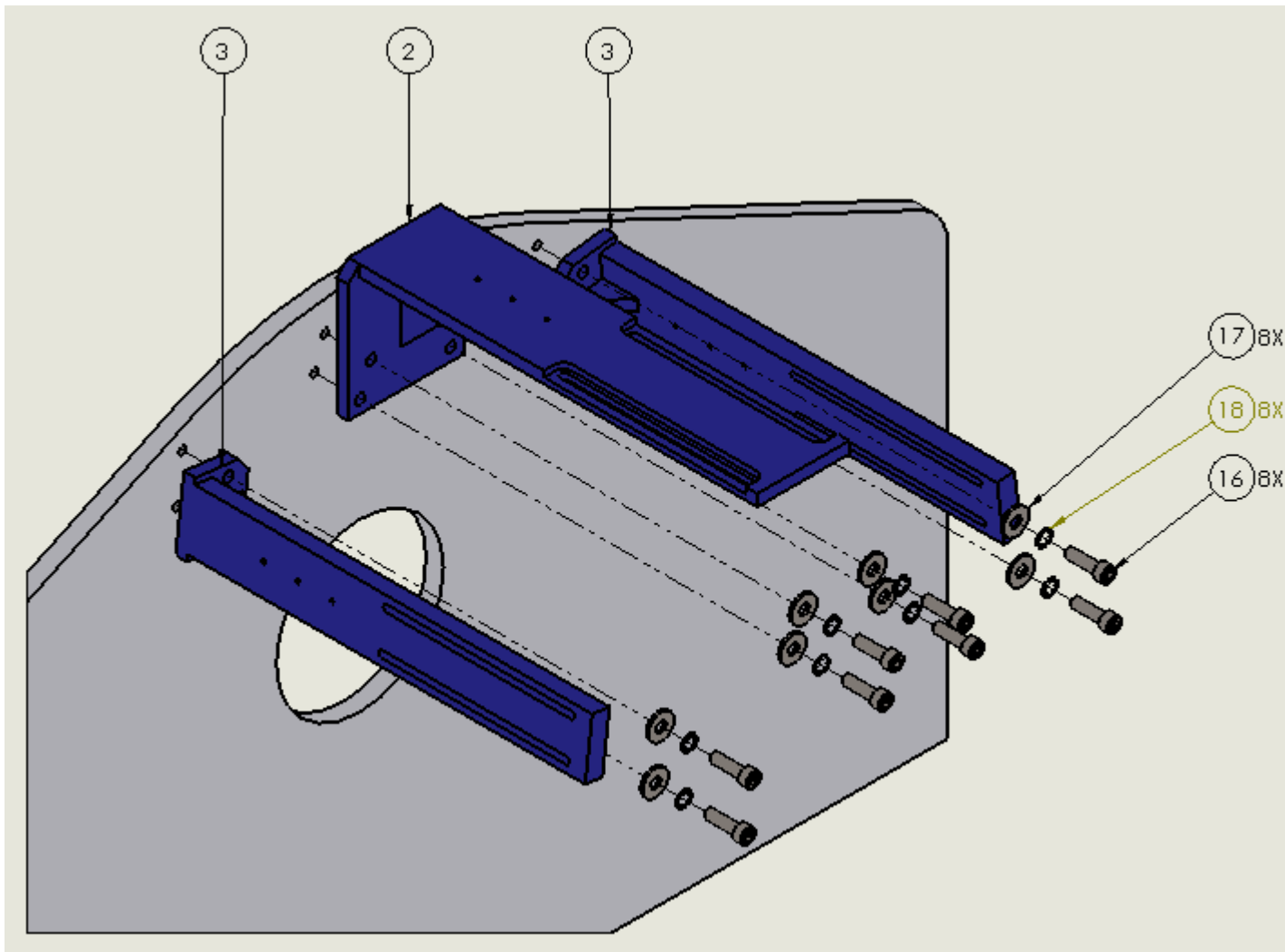


Figure 5 – Bracket Mounting

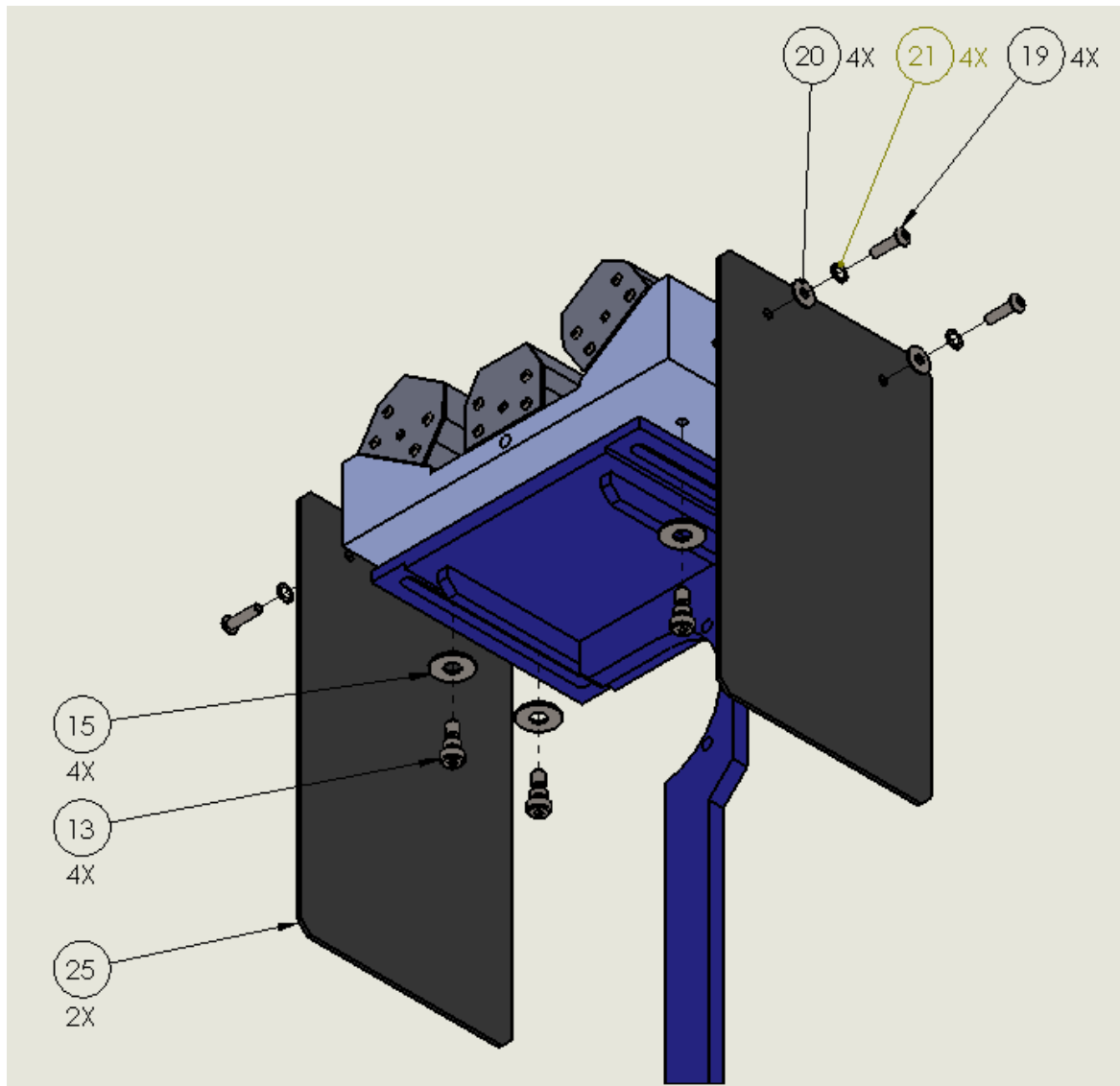


Figure 6 – Assembly of 202007 block onto lower bracket with heat sinks

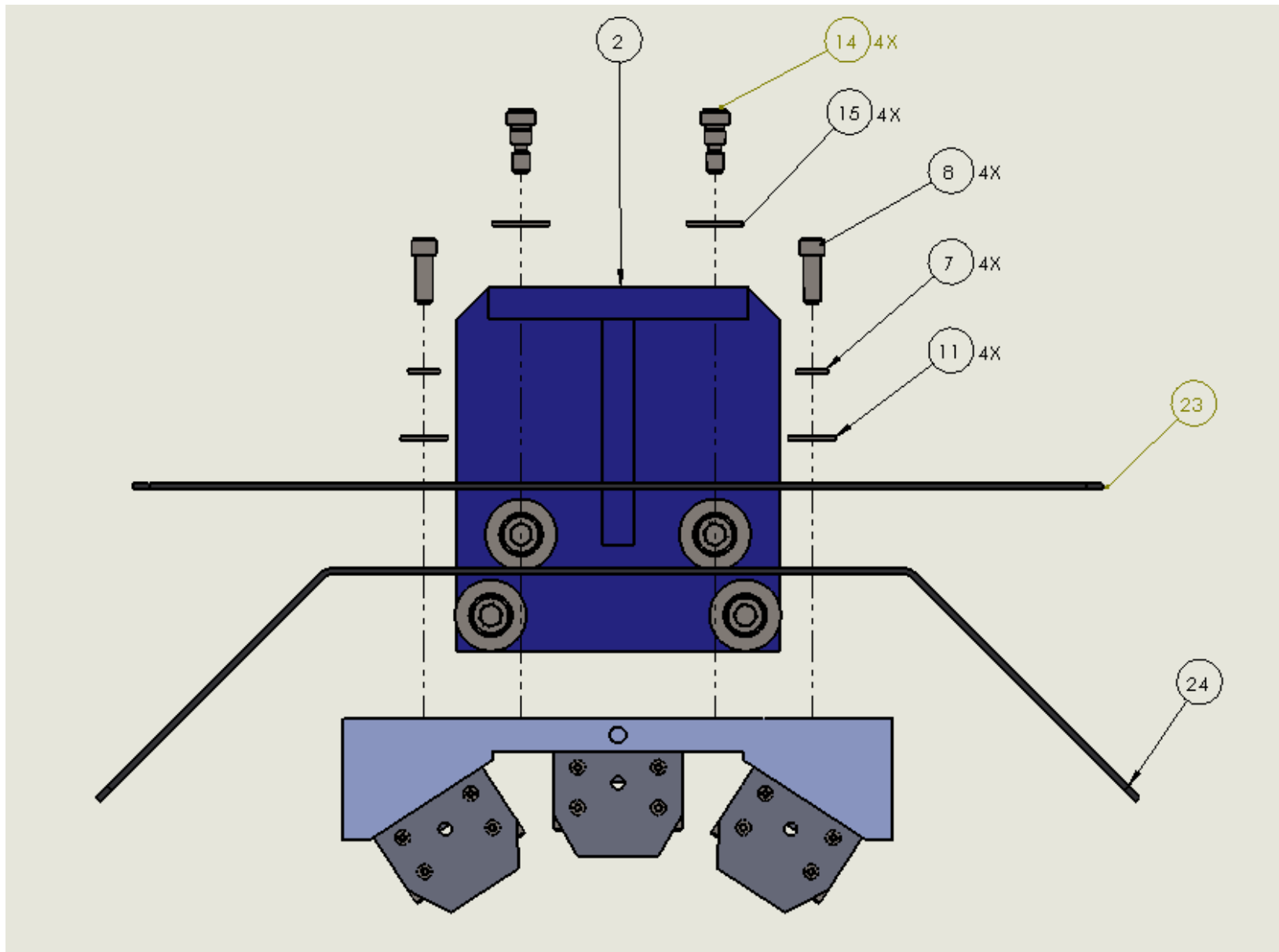


Figure 7 – Assembly of 202007 block onto upper bracket with heat sinks

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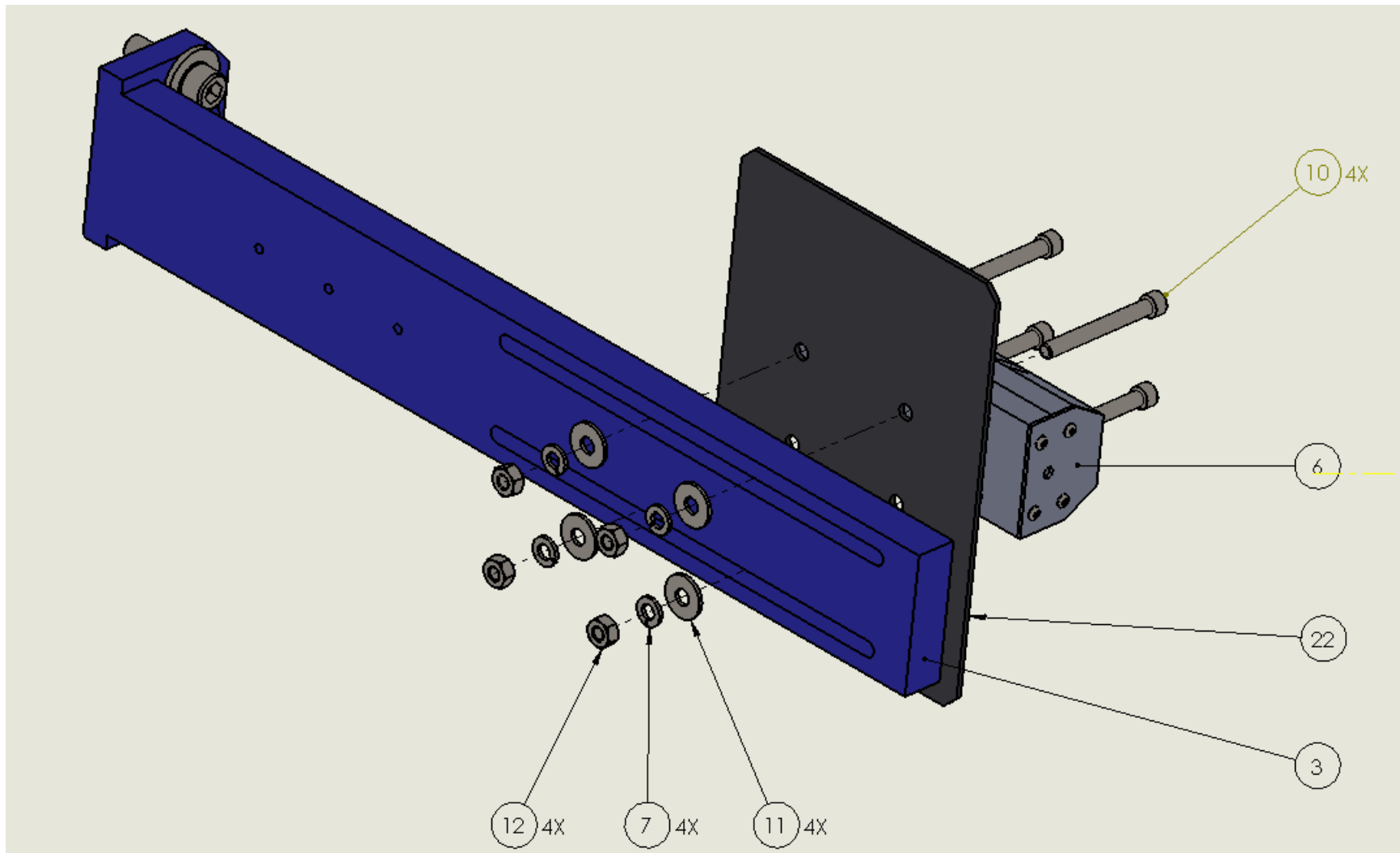


Figure 8 – Assembly of TL102AL light into side mounting bracket with heat sink

11. Install Items 27 through 35 with adequate gauge wiring to support 1.25 amps per each TL102A/L. DIN rail mounting is recommended. The dimer circuit is optional. Leave the DIM connector on the TL102A/L open with no connection if the dimmer is not installed. Wiring diagrams for the section updated with and without DIM are shown below.
- a. Install a total of 6 connectors for a 6 lamp configuration:
 - i. top: 2x TL102A
 - ii. bottom: 2x TL102A
 - iii. sides: 2x TL102AL.
 - b. Install a total of 8 connectors for an 8 lamp configuration:
 - i. top: 2x TL102A, 1x TL102AL
 - ii. bottom: 2x TL102A, 1x TL102AL
 - iii. sides: 2x TL102AL.
12. Prime Controls recommends disabling power to the LT102A/Ls when the tester is idle.

ITEM	QTY	PART #	DESCRIPTION	Mfr	Mfr P/N
			Circuit Breaker Assembly		
27	1	201947	Circuit Breaker, 1P 4A D Curve	Altech	1DU4R
28	1	201889	Auxiliary Contact Switch	Altech	H1COR
			Relay assembly		
29	1	201943	Relay, 120V Coil 16A(DC) DPDT	Magnacraft	788XBXM4L-120A
30	1	201944	Relay Socket	Magnacraft	70-788EL11-1
31	1	201945	Relay Clip	Magnacraft	16-1351
32	1	201946	Relay Protection Diode	Magnacraft	70-BSMD-250
33	1	201897	Alternate Relay, 24V coil 16A(DC) DPDT	Magnacraft	788XBXM4L-24D
34	1	201901	Pot, LED Lamp Dimmer	Eaton	M22-R10K
35	1	201948	Power Supply, 90-264VAC, 24VDC 20A	TDK Lambda	DPP480-24-1

Table 2

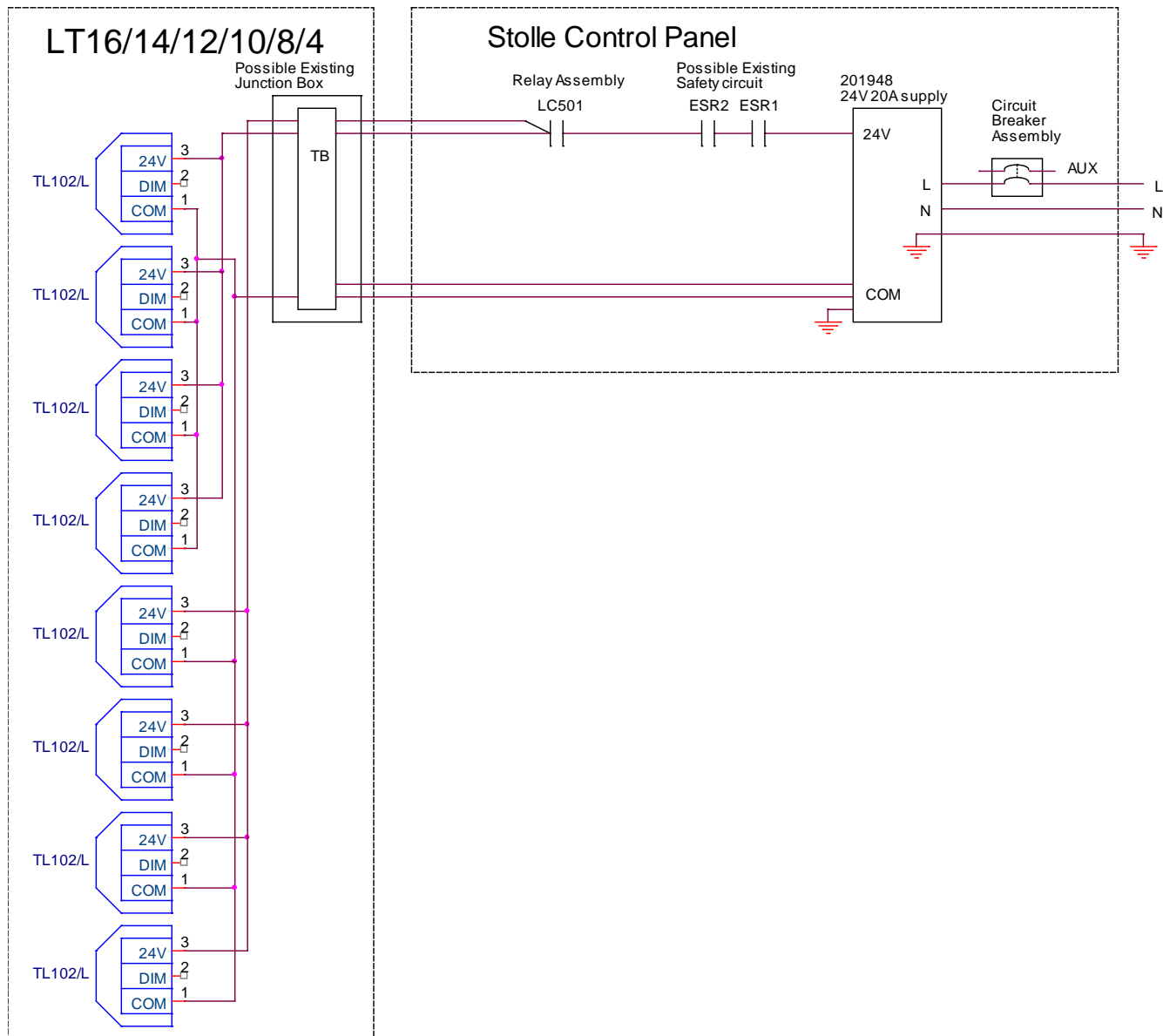


Figure 9 – Lamp Wiring with no dimmer

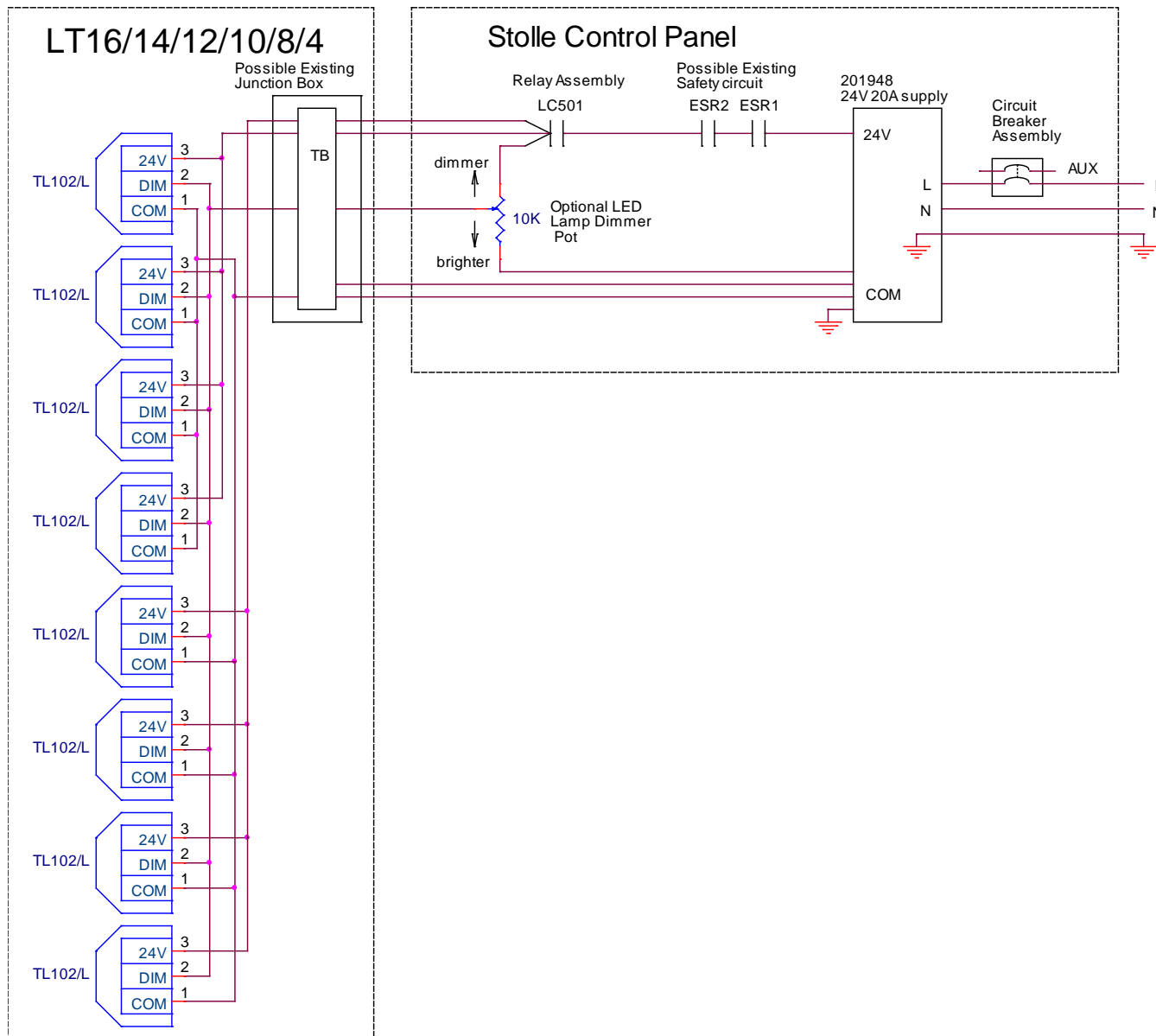


Figure 10 – Lamp wiring with dimmer

13. It is critical to adjust the slide mounts so the TL102As and the TL102ALs are axially centered with the can. That will make the TL102As and the TL102ALs all the same distance from the plate.
14. It is also critical that the TL102As and the TL102ALs are in position and centered with the can in its top most position as shown in figure 2.
15. Anchor all cables and check that there are no mechanical interference issues with parts before jogging or running the system. Bend the free portions of any heat sinks as necessary to insure adequate operating clearances. If bending is necessary, make certain that the heat sink remains flat in areas of contact with the brackets or TL102A/L lamps.
16. Modify the shroud as needed to allow function of interlocks and proper fit.
17. Power up the TL102A/Ls and verify all are functional with their indicator lights on and all LEDs lit. The indicator light will not illuminate if there is no power, or if there is an internal fault with the lamp.
18. Verify proper operation of the system and adjust as necessary
 - a. Number the pockets starting with 1 on the wheel of the machine near the LT20s; in the same order and correlation as the display on the user interface. Check a can at each pocket for correct fit.
 - b. Calibrated leakers may be run or jogged through the system by watching the error log at the user interface. Verify the hole drilled in the can is flattened to the curve of the can so that there are no shadows cast on the calibrated orifice. Please also verify that the orifice is clear and free of debris.

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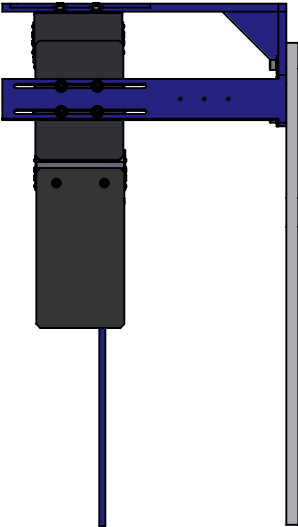
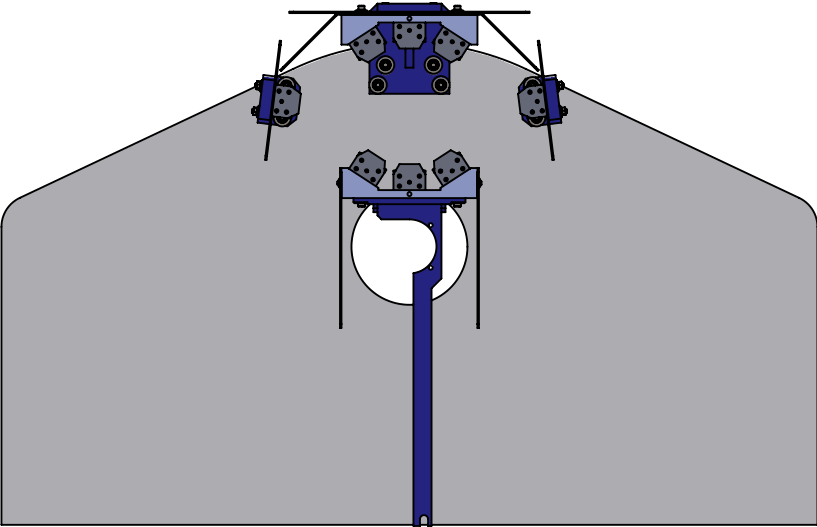
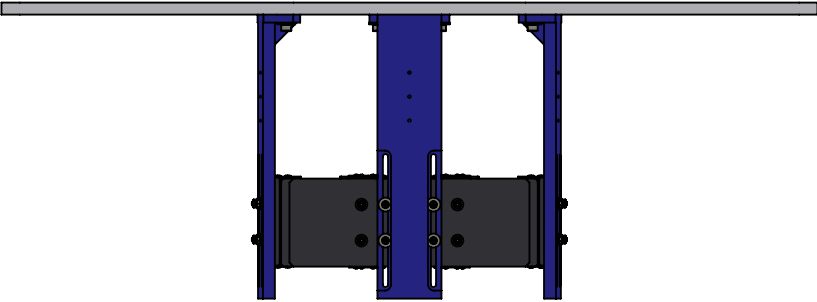
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ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	2	202007	Block, Light Mount
2	1	202008A	BRACKET, UPPER LIGHT
3	2	202009A	BRACKET, SIDE LIGHT
4	1	202010A	BRACKET, LOWER LIGHT
5	4	201183C	TL102A
6	4	201855A	TL102AL
7	12	201922	WASHER, LOCK 0.250
8	4	201923-0.750	SHCS, 0.250-20 x 0.750
9	24	201923-1.375	SHCS, 0.250-20 x 1.38
10	8	201923-2.250	SHCS, 0.250-20 x 2.25
11	12	201925	WASHER, FLAT 0.250
12	8	101356	NUT, HEX 0.250-20
13	4	202003-0.250	SHSS, 0.313 x 0.250
14	4	202003-0.375	SHSS, 0.313 x 0.375
15	8	202004	WASHER, FLAT 0.313
16	8	202012-35.0	SHCS M10 x 1.5 x 35
17	8	202013	WASHER, FLAT M10
18	8	202014	WASHER, LOCK M10
19	4	101333-.7500	BHD, #10 x 0.75
20	4	101370-10	WASHER, #10
21	4	101377-10	WASHER, INT LOCK #10
22	2	202018A	TL102A Flat Heatsink
23	1	202019A	TL102A Triple Flat Heatsink
24	1	202020A	TL102A Triple Bent Heatsink
25	2	202021A	TL102A Triple Edge Heatsink
26	2	202011A	PLATE, HOLE TRANSFER

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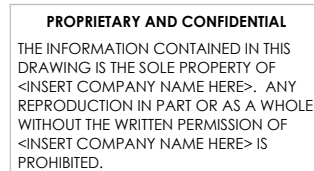
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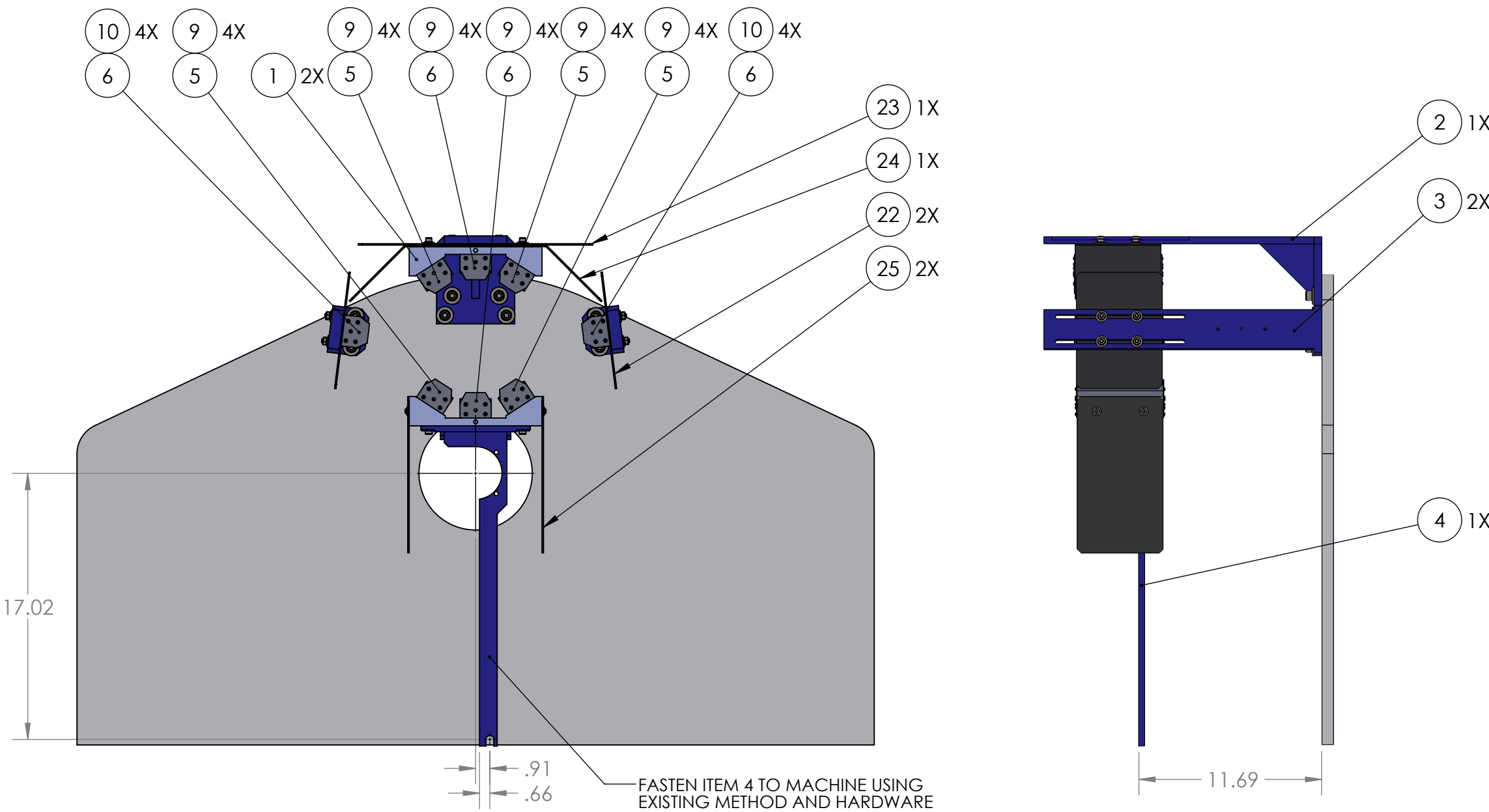
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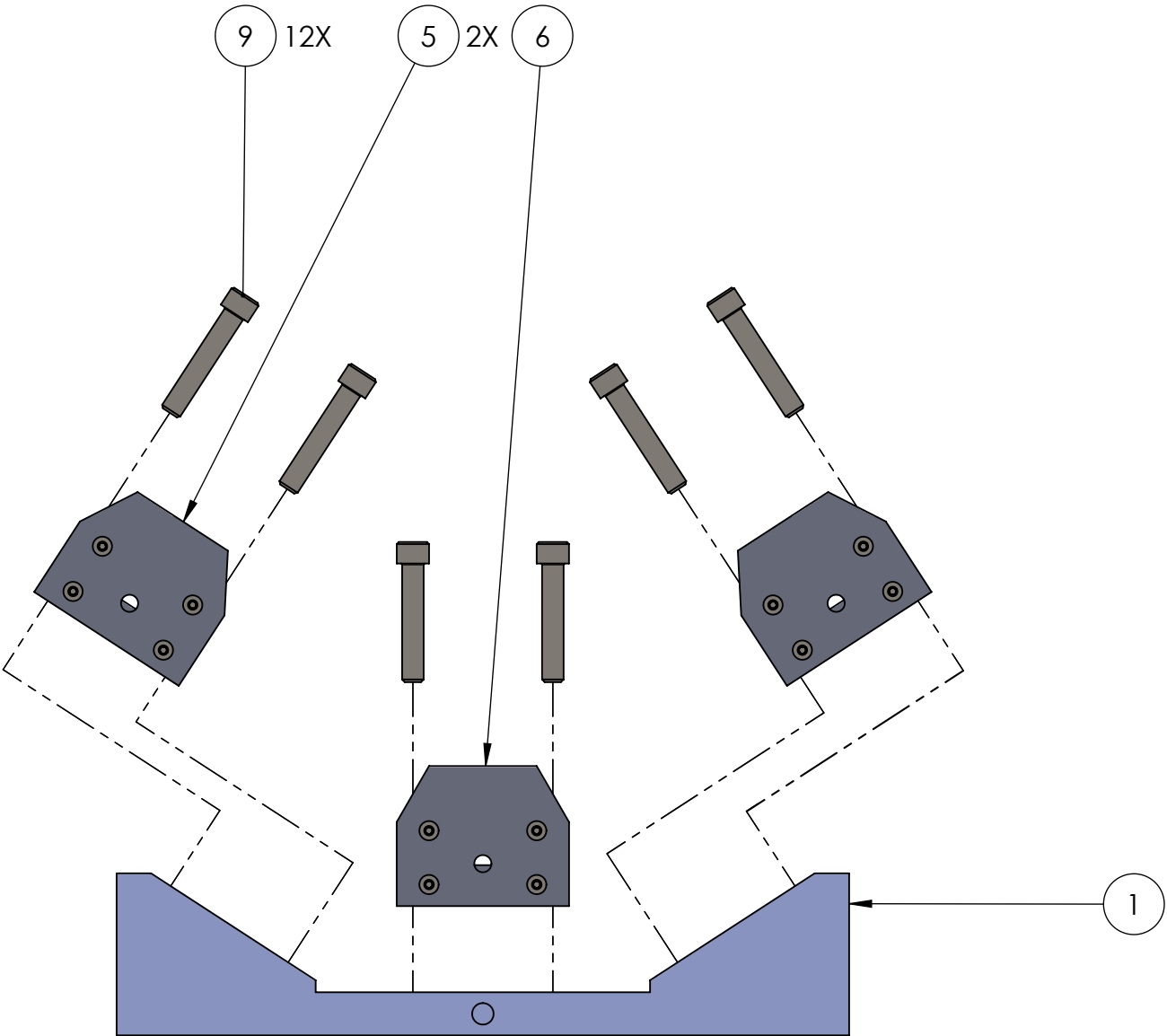
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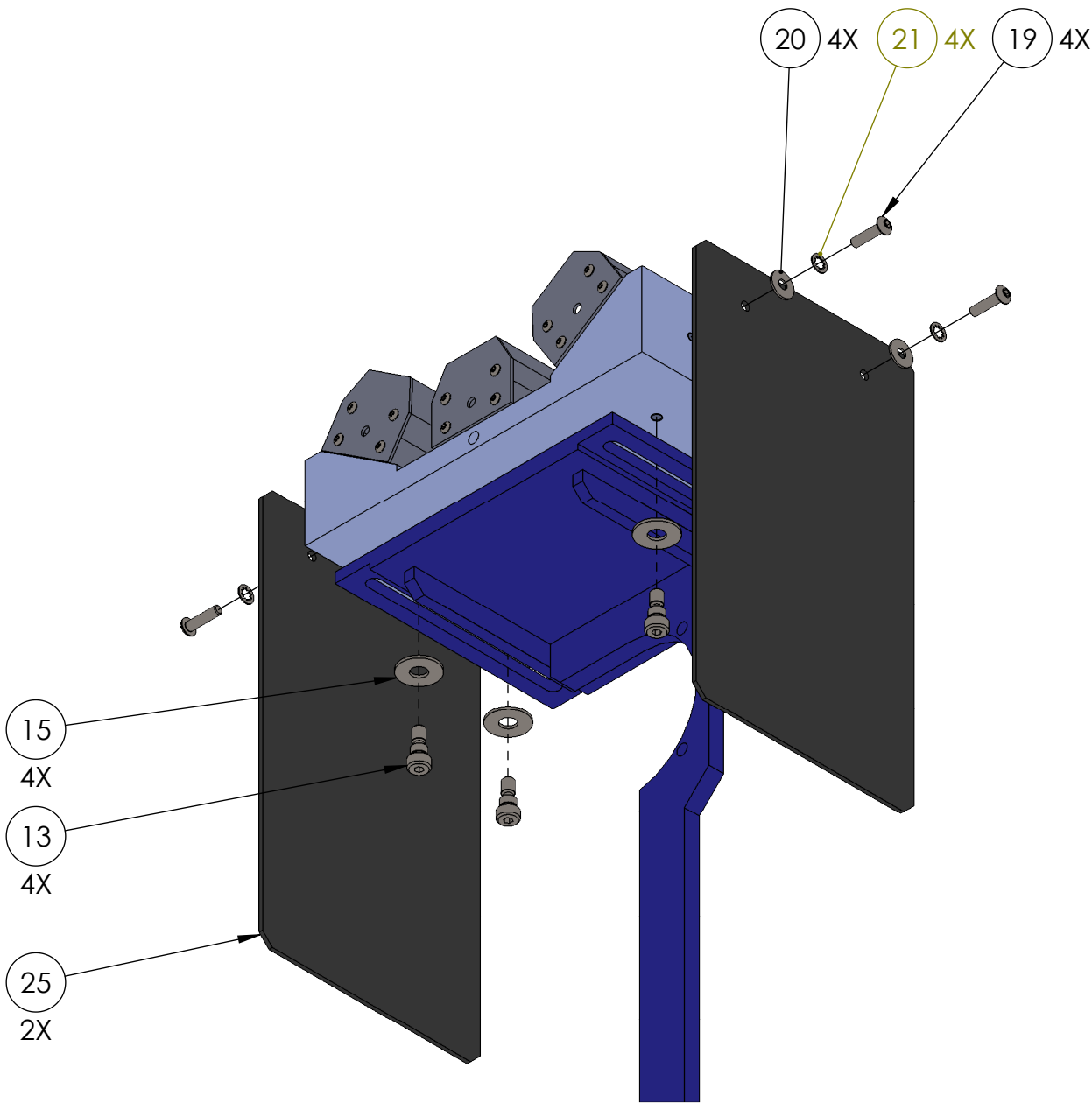
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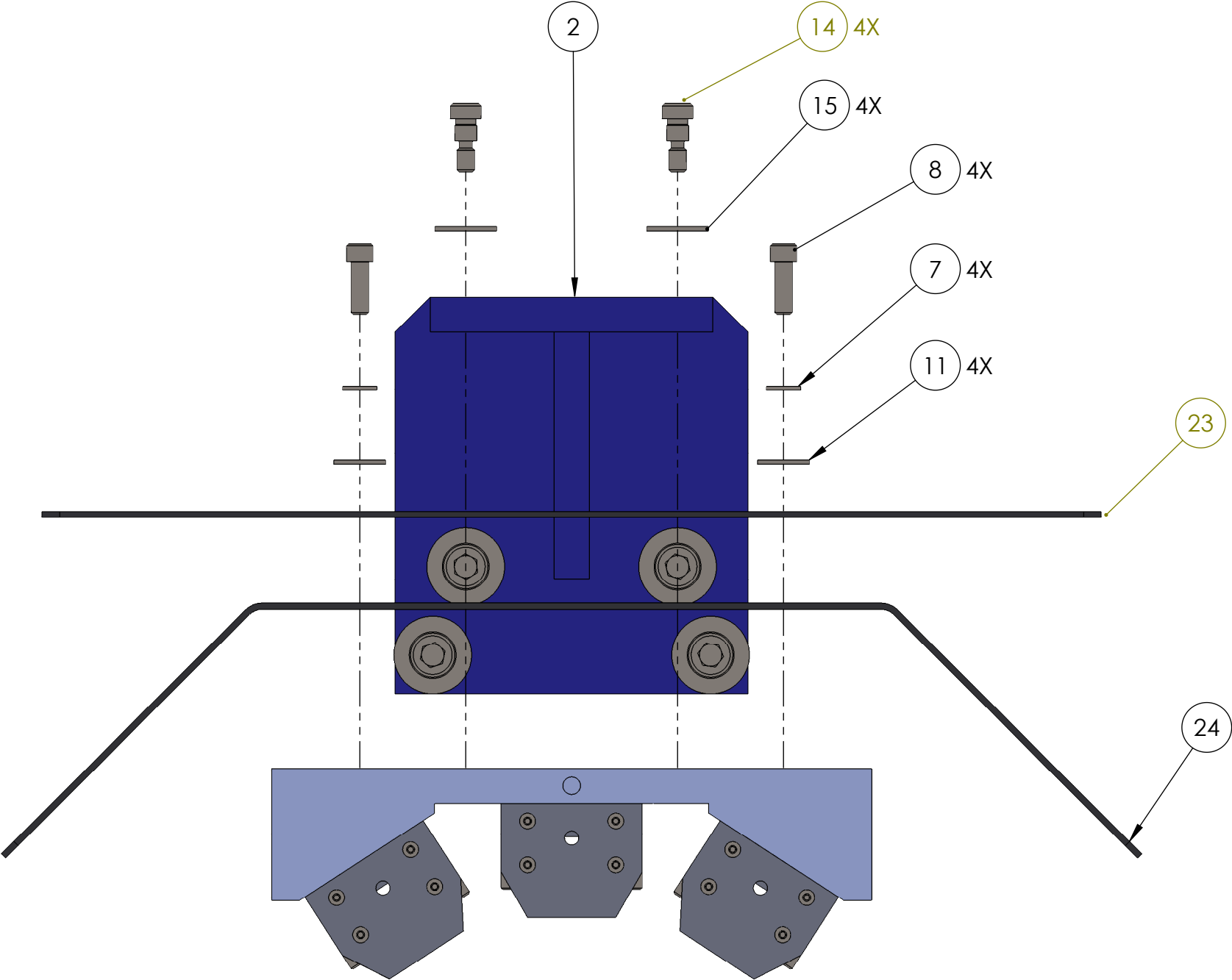
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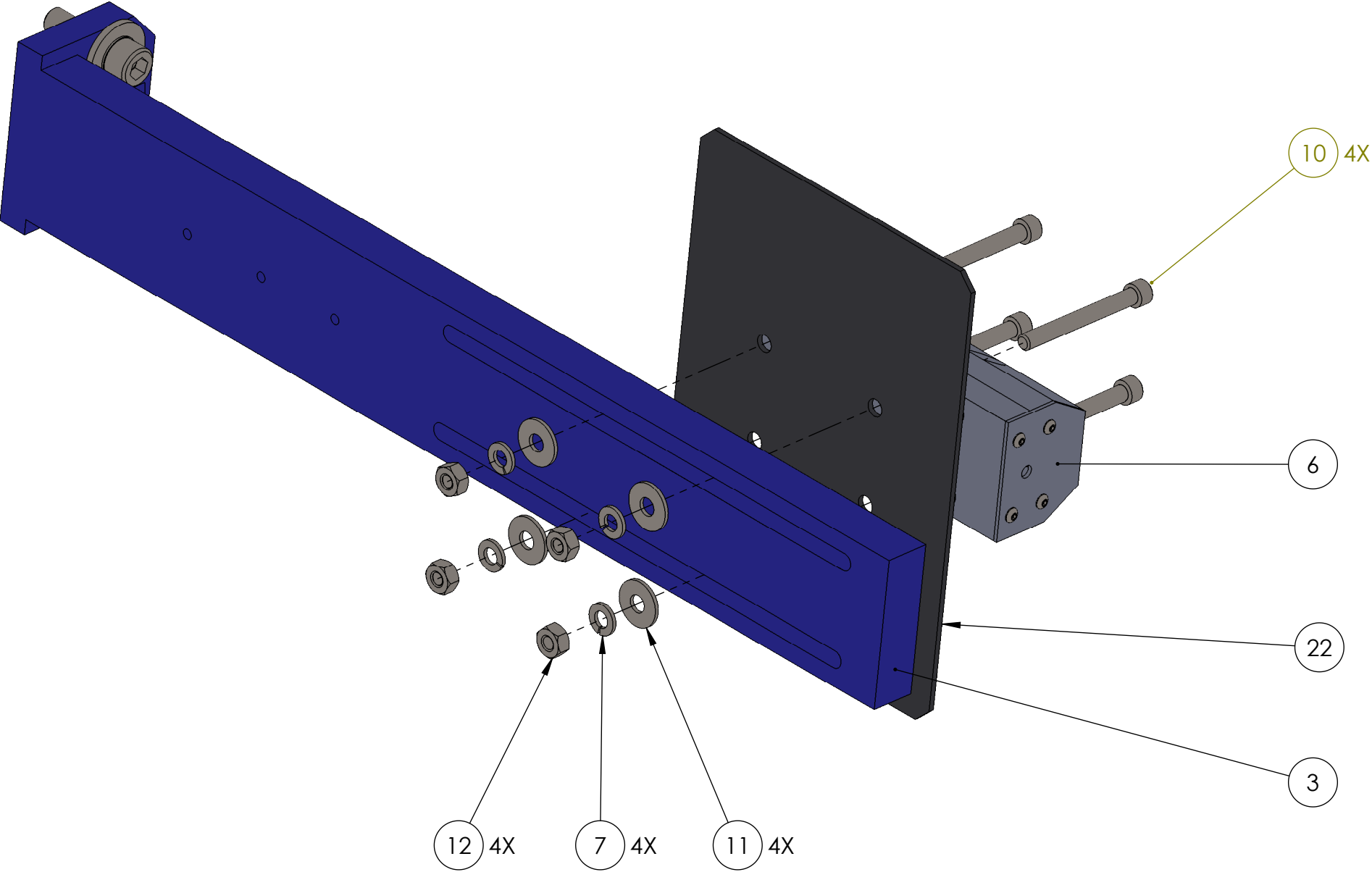
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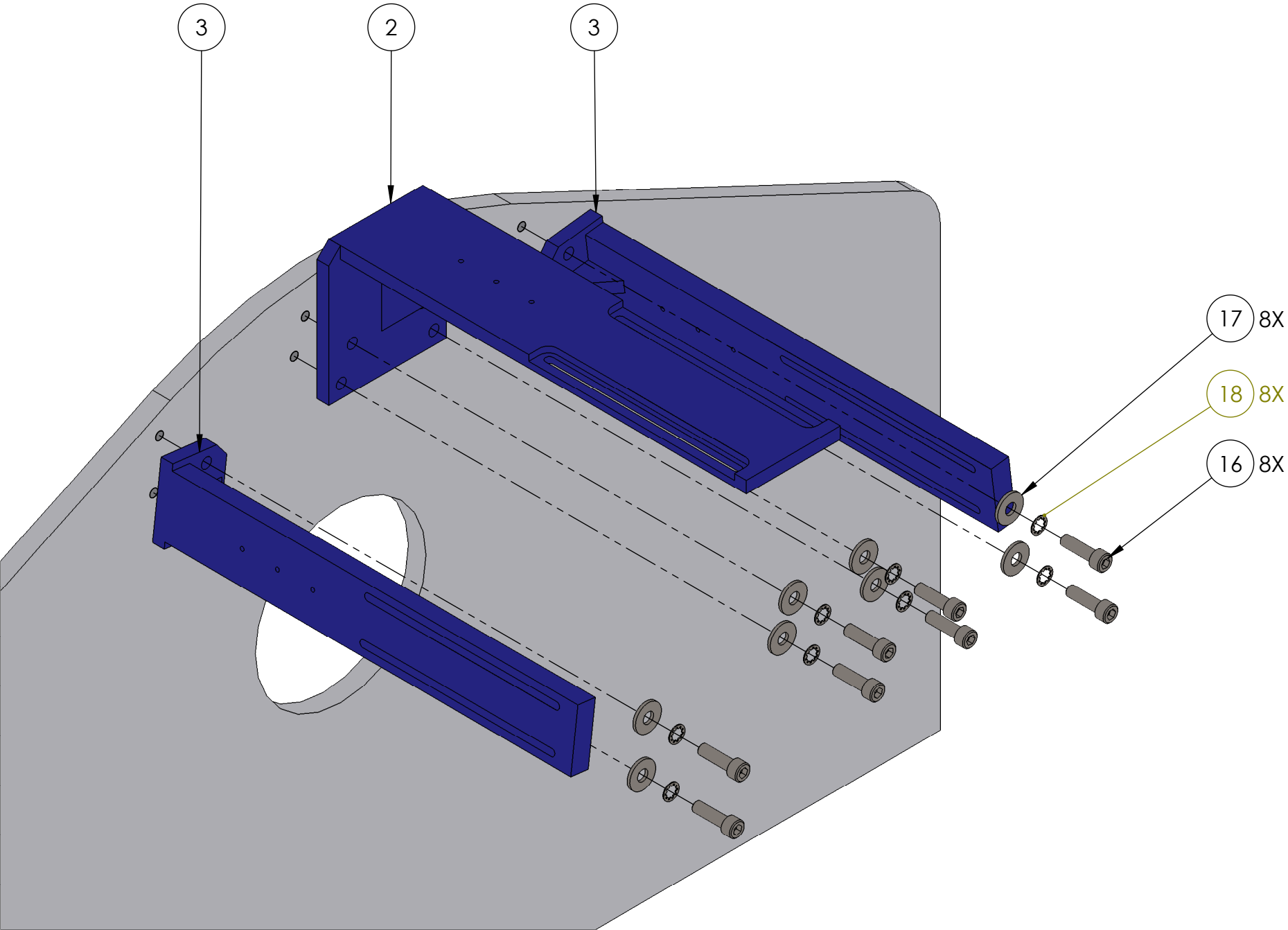
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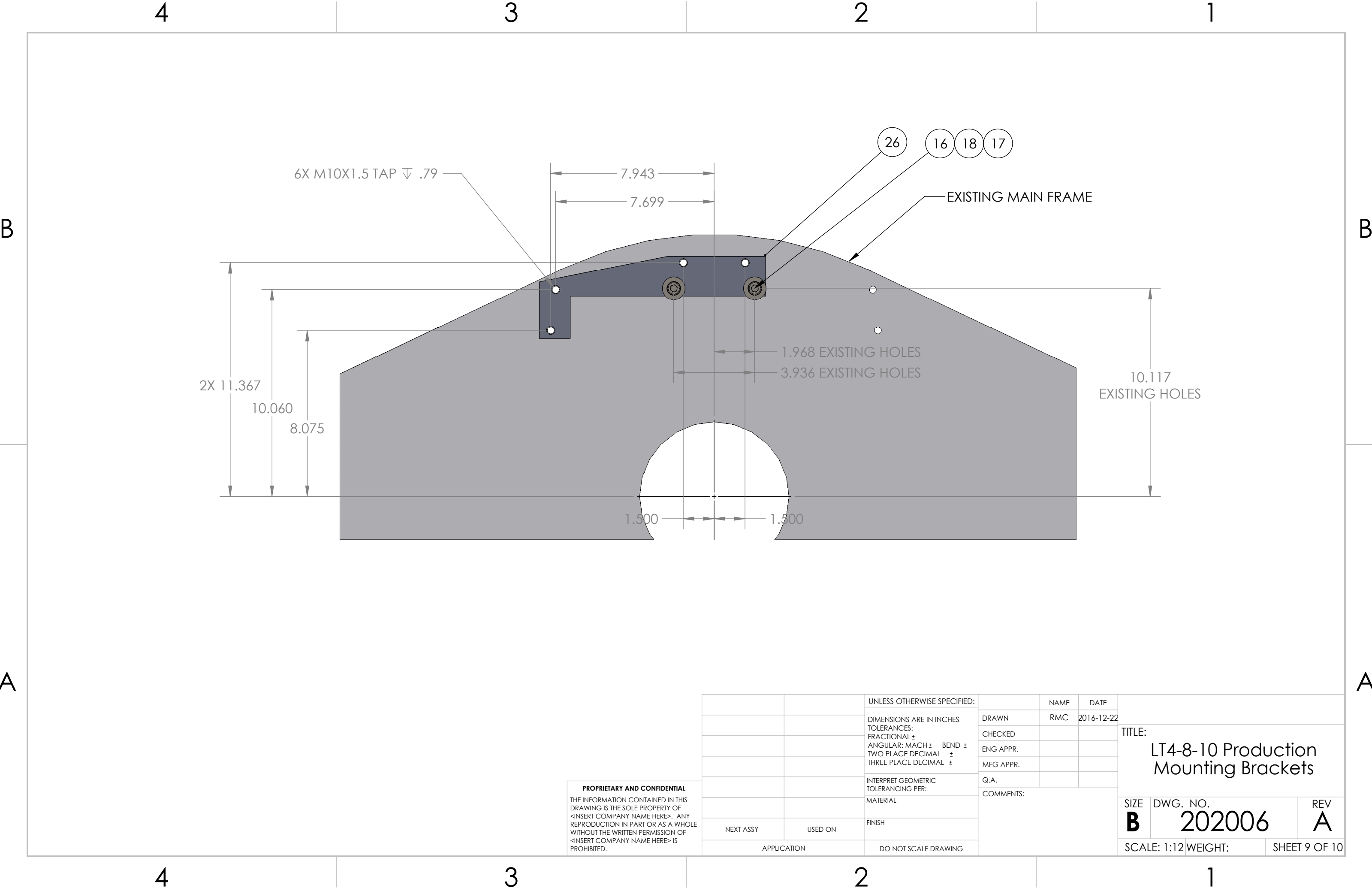
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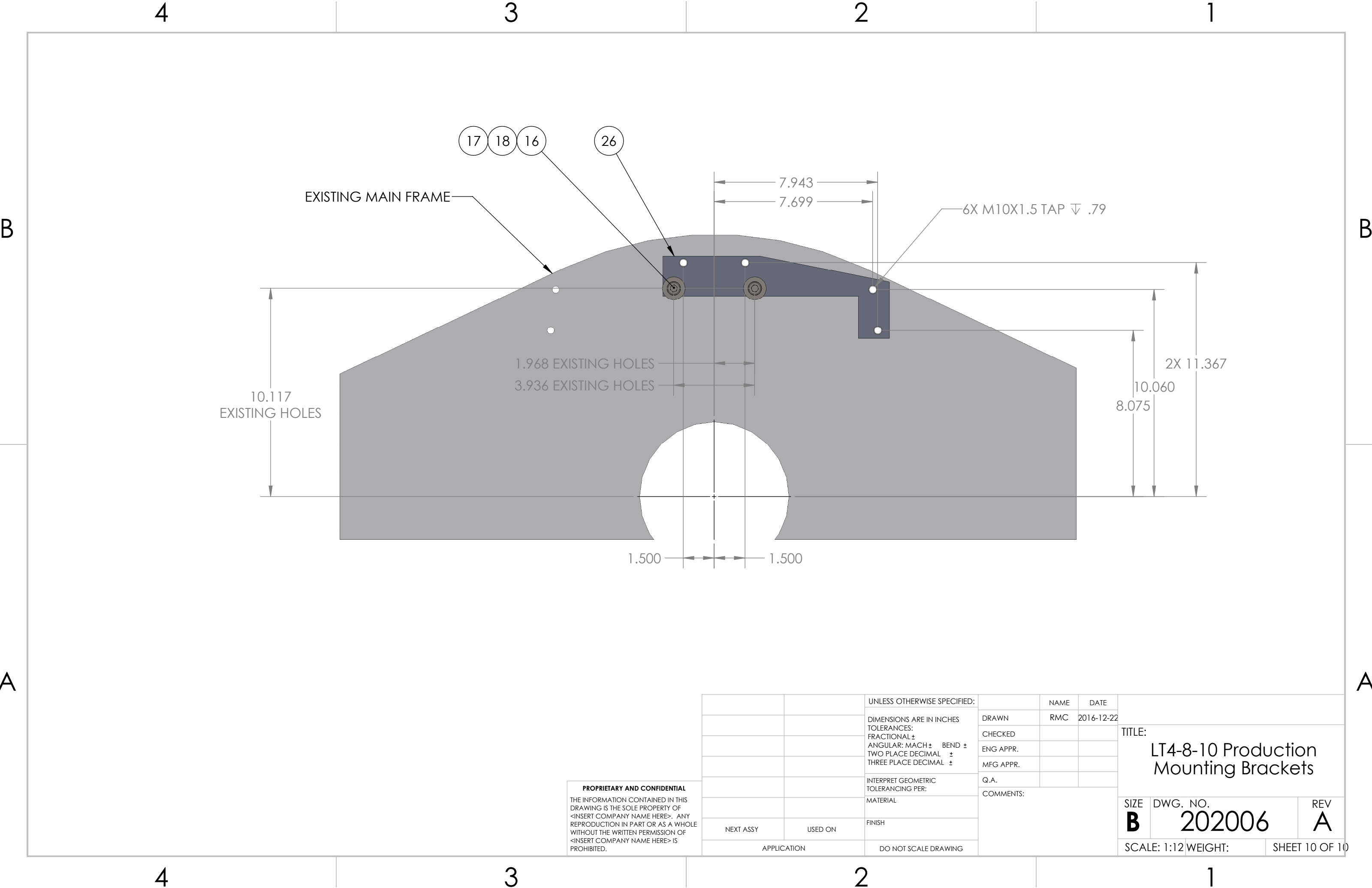
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NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING						
			SCALE: 1:12					
			WEIGHT:					
			SHEET 9 OF 10					



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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	TITLE: LT4-8-10 Production Mounting Brackets		
		DIMENSIONS ARE IN INCHES	DRAWN	RMC	2016-12-22			
		TOLERANCES: FRACTIONAL ±	CHECKED					
		ANGULAR: MACH ± BEND ±	ENG APPR.					
		TWO PLACE DECIMAL ±	MFG APPR.					
		THREE PLACE DECIMAL ±				SIZE DWG. NO. REV B 202006 A		
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.					
		MATERIAL	COMMENTS:					
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:12 WEIGHT: SHEET 10 OF 10		