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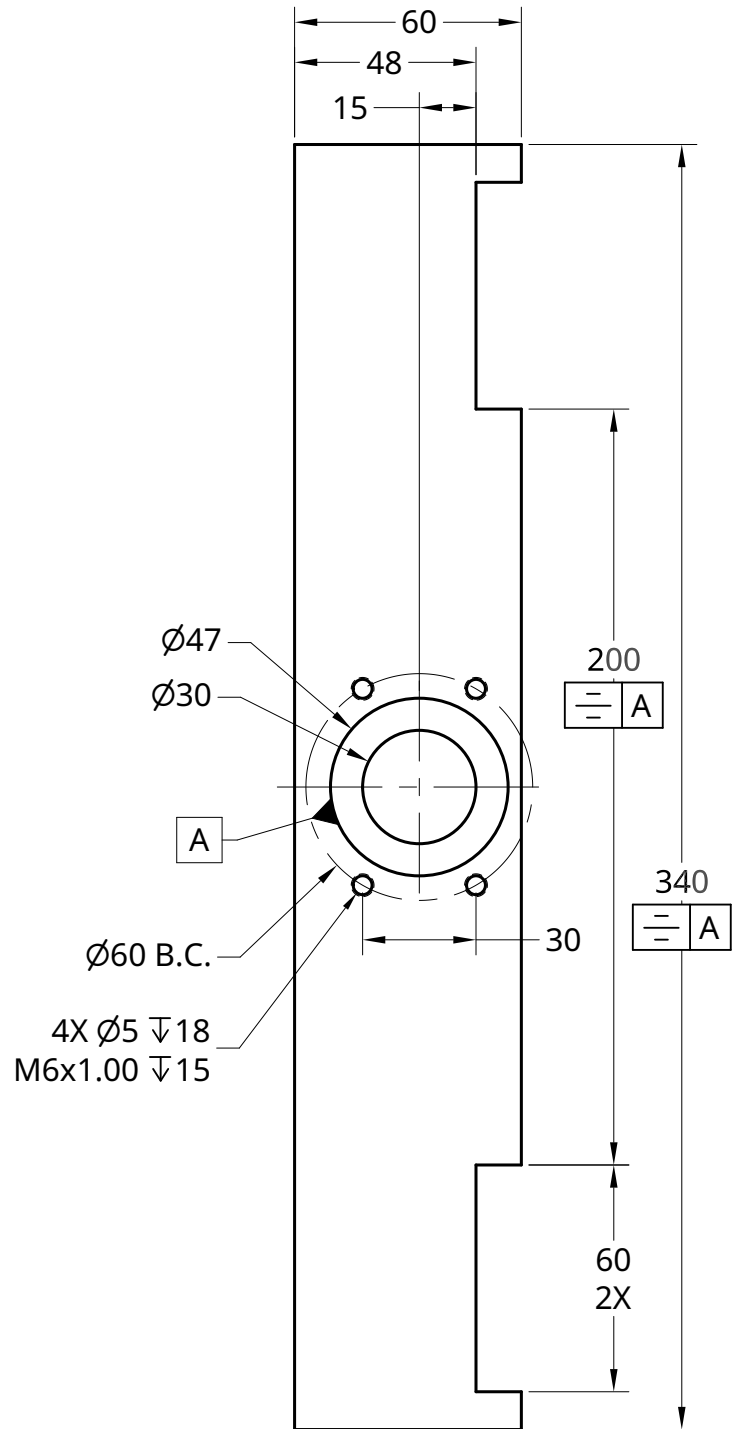
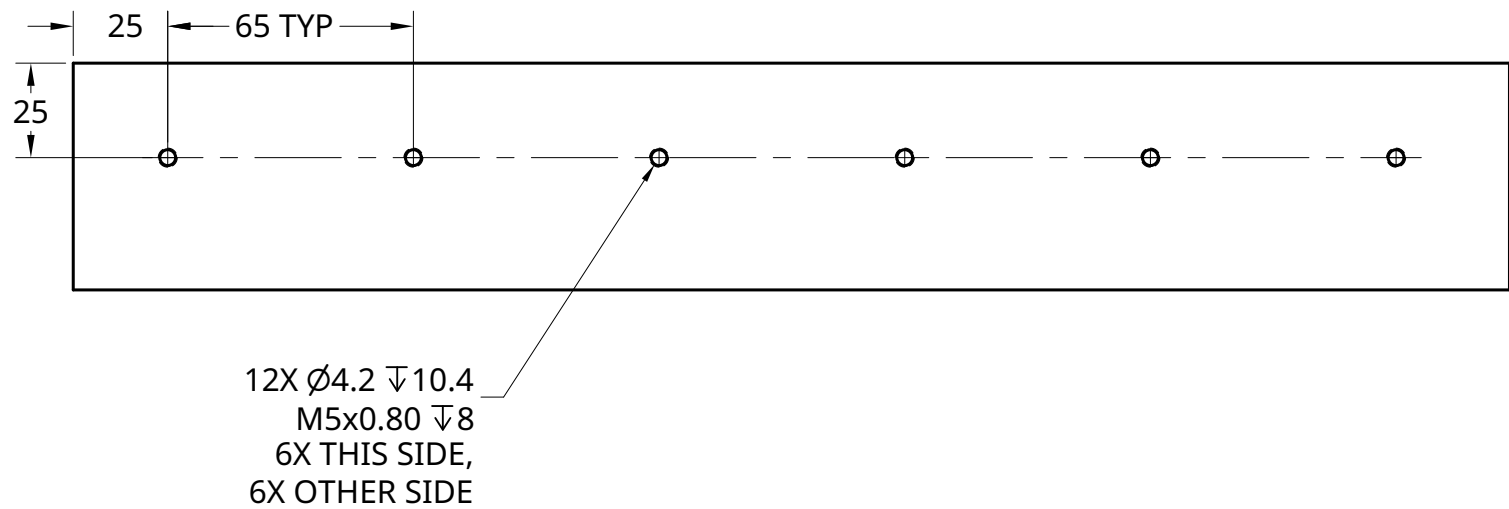
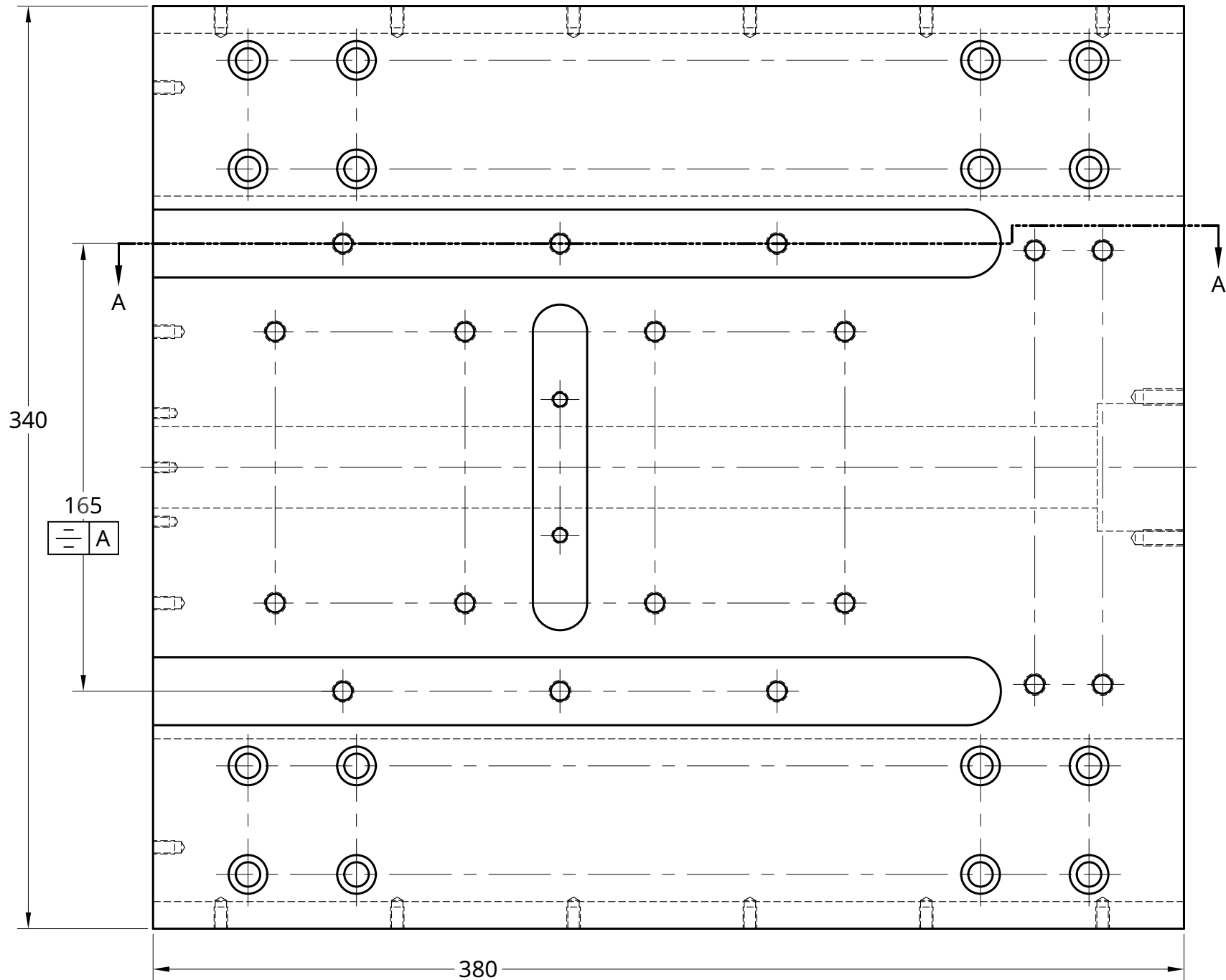
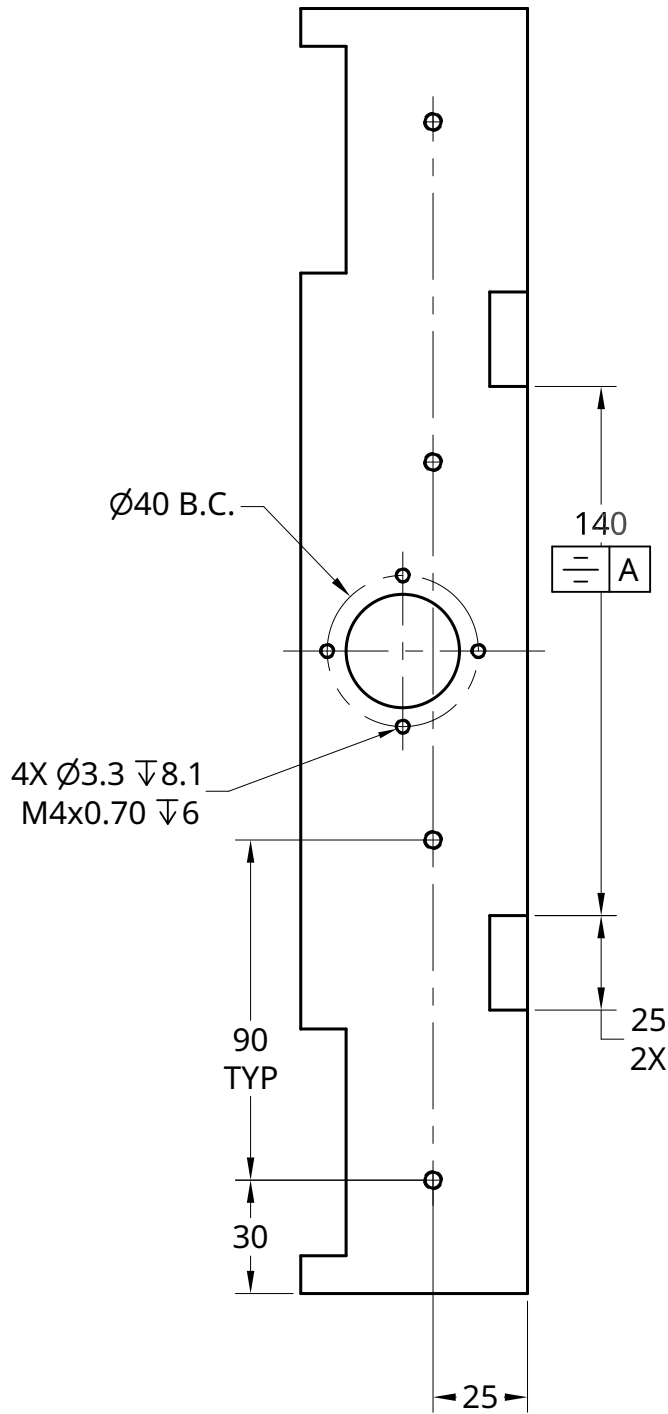
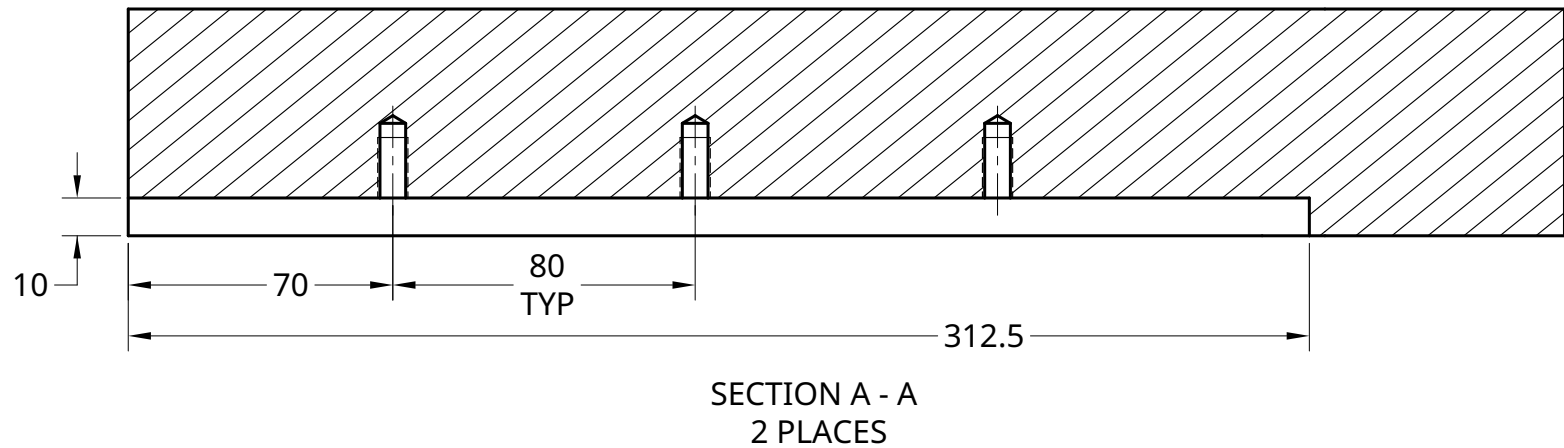
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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = ±.01 .XXX = ±.001 XXXX = ±.0001 SURFACE FINISH:	NAME		DATE	Ferris State University		
	DRAWN	BRIAN BRADY	10/16/2019			
	CHECKED			TITLE		
	APPROVED					
DO NOT SCALE DRAWING				DRILL UNIT SLIDE PLATE ASSEMBLY DETAILS SLIDE PLATE		
BREAK ALL SHARP EDGES AND REMOVE BURRS						
THIRD ANGLE PROJECTION	MATERIAL	VOLUME		SIZE	DWG. NO.	REV.
	STEEL 8620	6655558 mm³		C	BR-549-B-001	
SCALE 1:2		WEIGHT 52.246 kg	SHEET 1 of 16			

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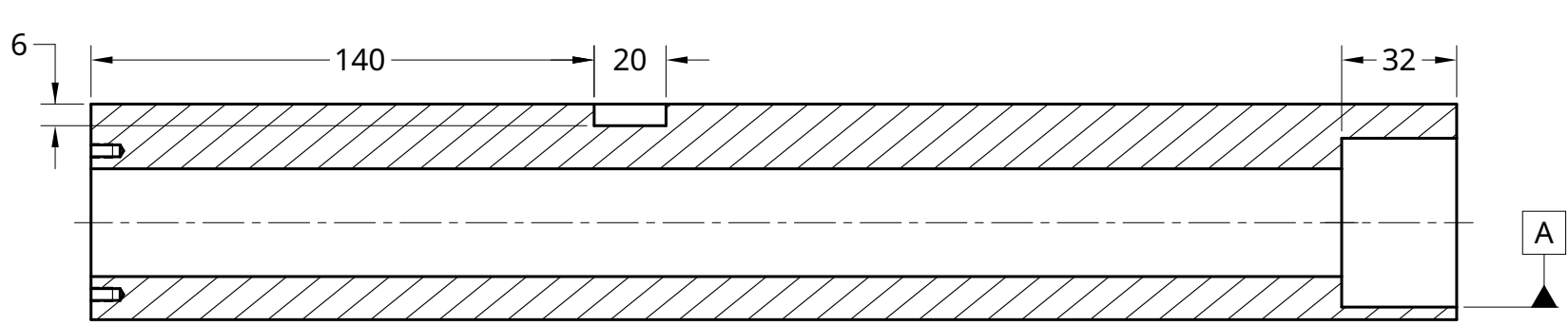
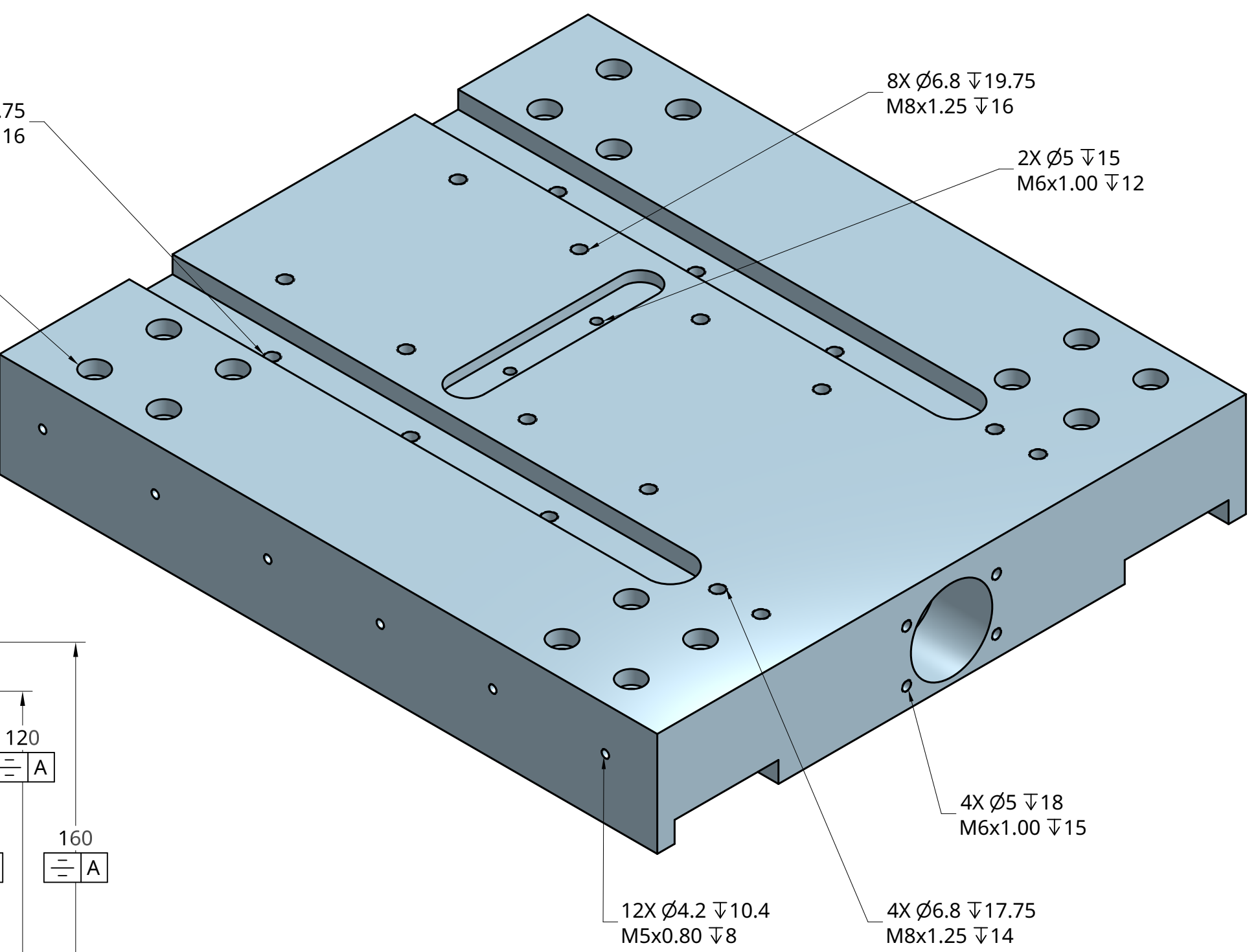
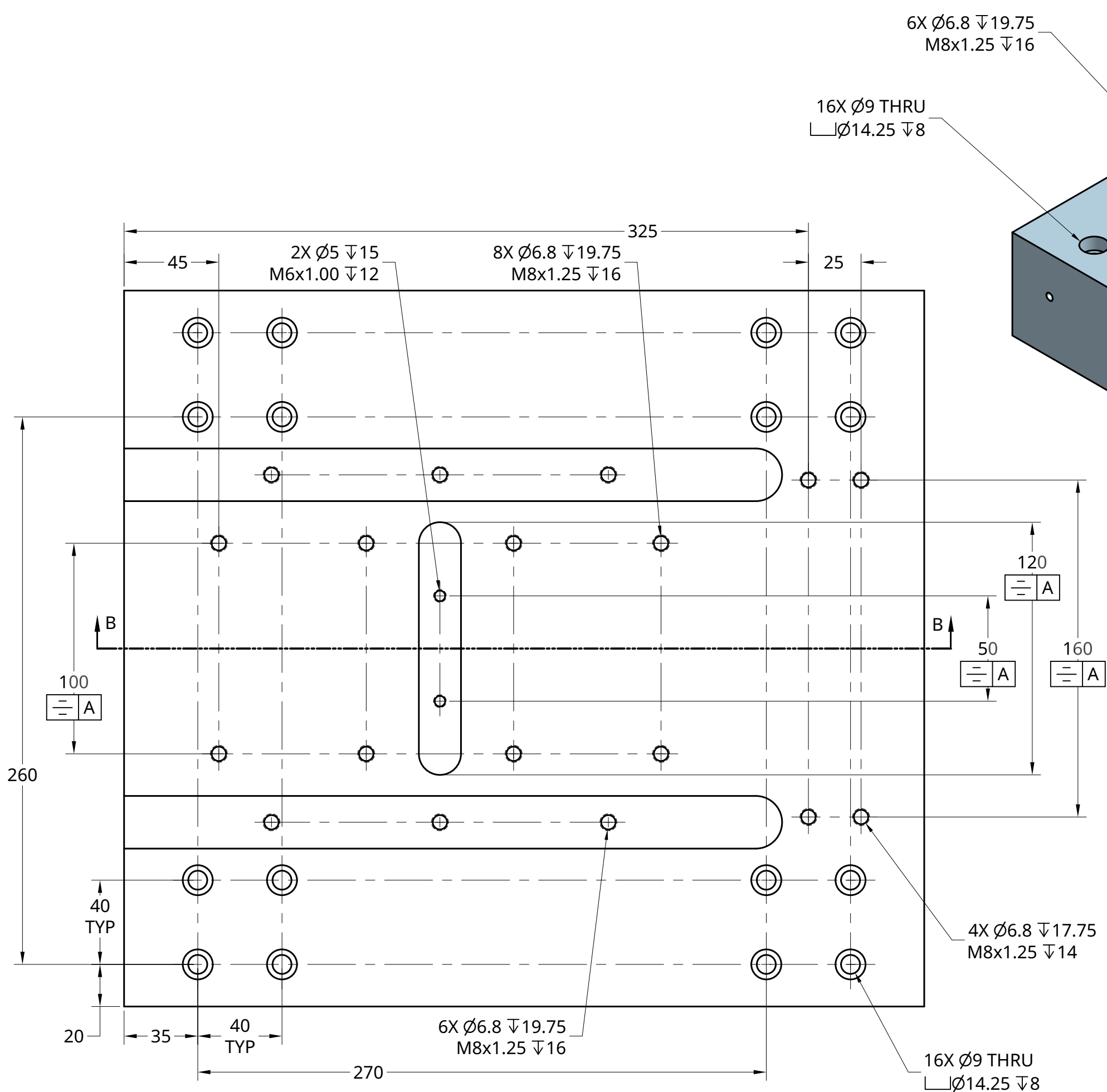
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SECTION B - B

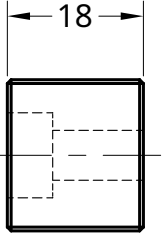
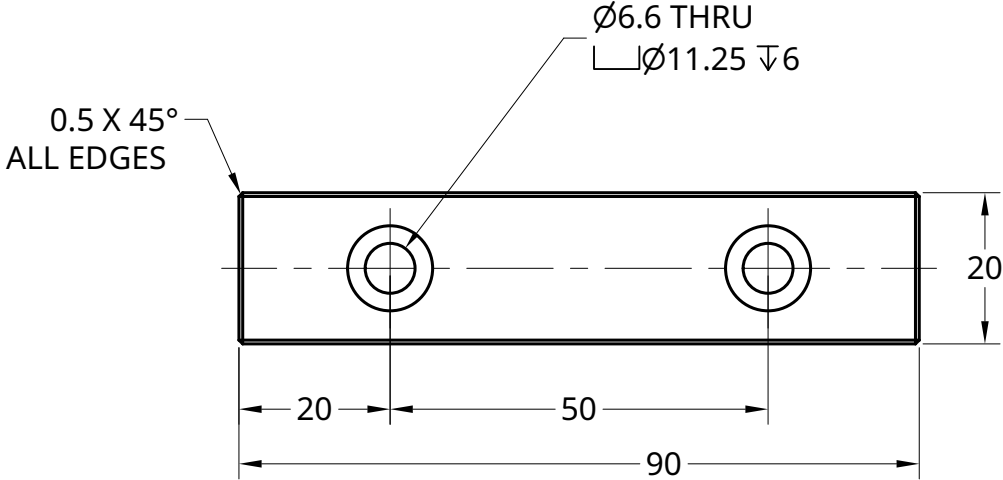
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = ±.01 .XXX = ±.001 XXXX = ±.0001 SURFACE FINISH $\sqrt{\text{ }}$	NAME		DATE	Ferris State University		
	DRAWN	BRIAN BRADY	10/16/2019			
	CHECKED			TITLE		
	APPROVED					
DO NOT SCALE DRAWING				SLIDE PLATE ASSEMBLY DETAILS SLIDE PLATE		
BREAK ALL SHARP EDGES AND REMOVE BURRS						
THIRD ANGLE PROJECTION	MATERIAL	VOLUME		SIZE	DWG NO.	REV.
	STEEL 8620	665558 mm ³		C	BR-549-B-001	
	SCALE	1:2	WEIGHT	52.246 kg	SHEET	2 of 16

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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = ±.0- .XXX = ±.00- .XXXX = ±.000- ANGULAR = ± ° FRACTIONAL = ± SURFACE FINISH ✓		NAME		DATE		Ferris State University			
DO NOT SCALE DRAWING		DRAWN BRIAN BRADY		10/16/2019		TITLE DRILL UNIT SLIDE PLATE ASSEMBLY DETAILS 20 X 18 X 90 KEY			
BREAK ALL SHARP EDGES AND REMOVE BURRS		CHECKED							
THIRD ANGLE PROJECTION		APPROVED							
MATERIAL STEEL 4130		VOLUME 30323 mm³		SIZE A		DWG NO. BR-549-B-002		REV.	
SCALE 1:1		WEIGHT 0.238 kg		SHEET 3 of 16					

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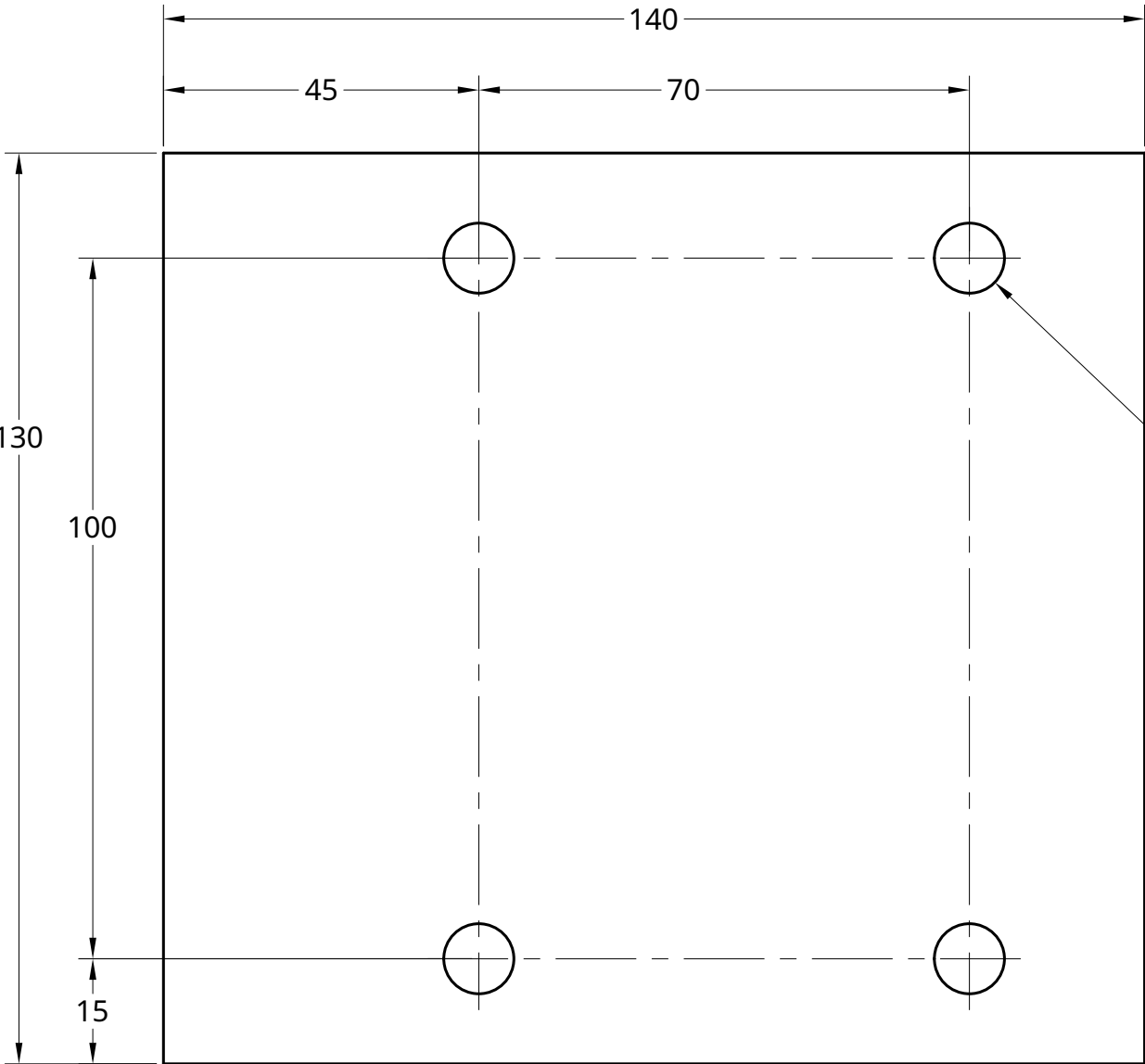
1

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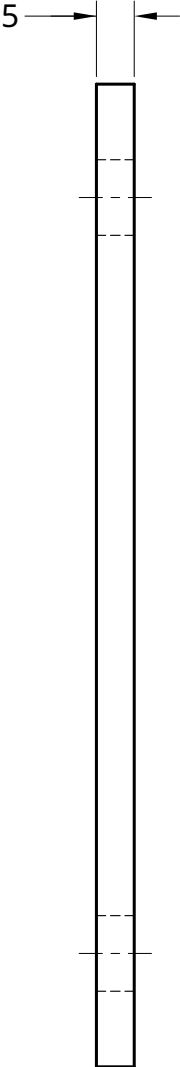
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
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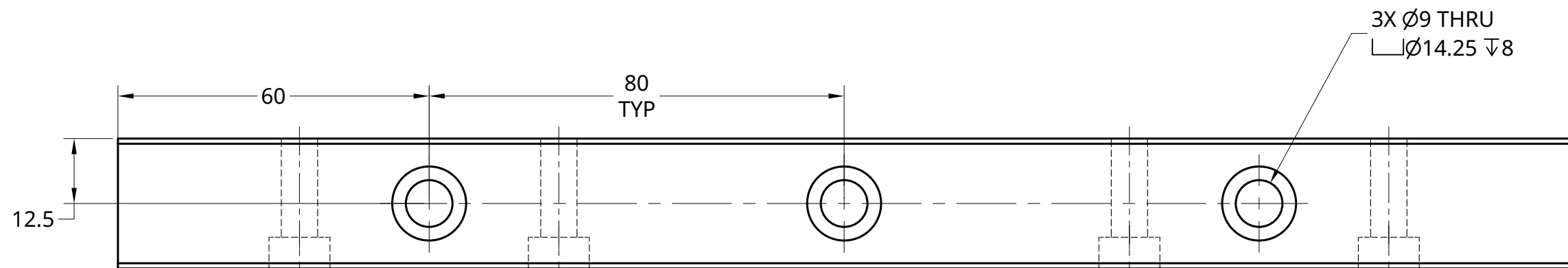
4X
Ø10 THRU



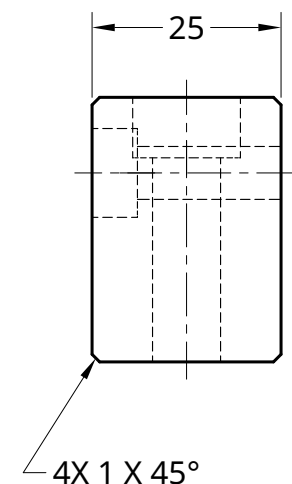
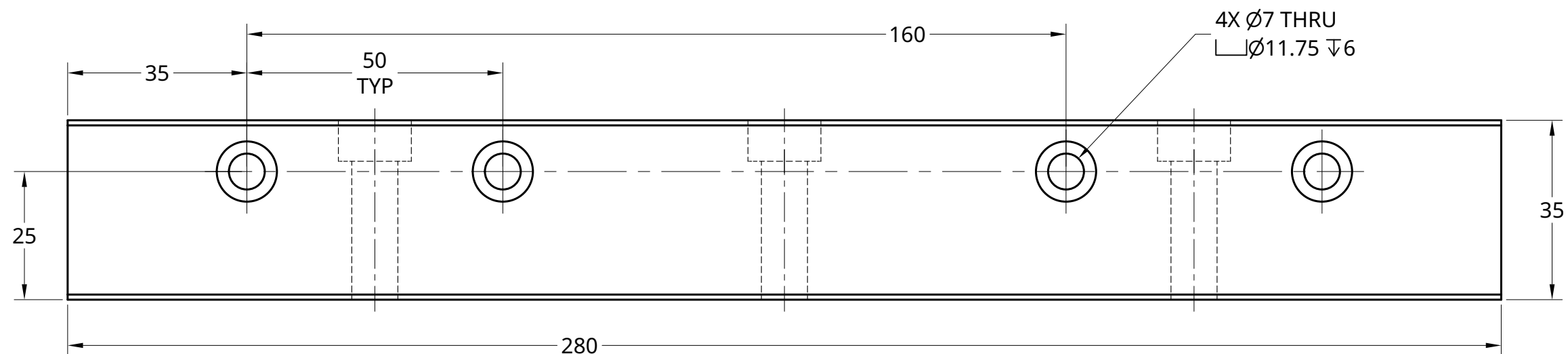
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	DRAWN	BRIAN BRADY	10/16/2019	TITLE DRILL UNIT SLIDE PLATE ASSEMBLY DETAILS HOUSING FITTING SPACER		
	CHECKED					
	APPROVED					
				SIZE B	DWG NO. BR-549-B-003	REV.
	MATERIAL STEEL 1020	VOLUME 89249 mm³		SCALE 1:1	WEIGHT 0.704 kg	SHEET 4 of 16

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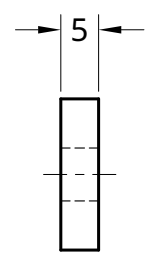
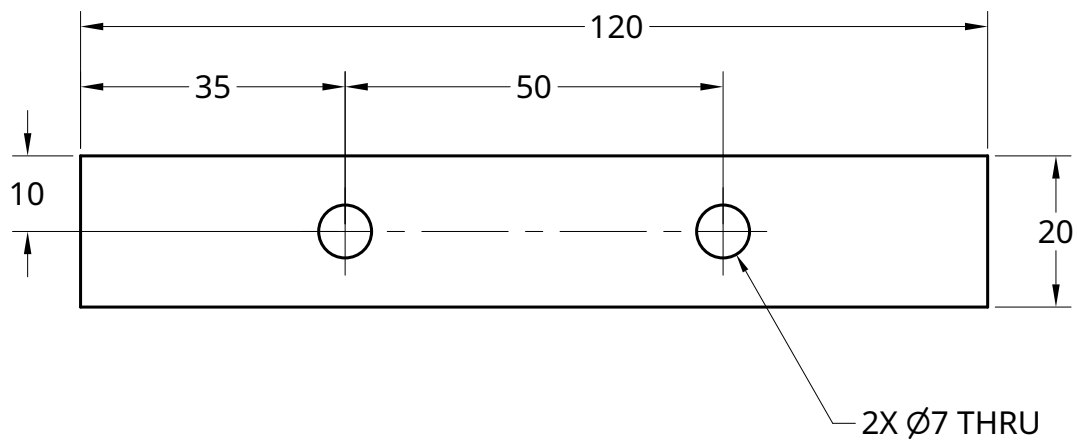
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES		NAME		DATE		Ferris State University							
.XX = ±.0- .XXX = ±.00- .XXXX = ±.000- ANGULAR = ±° FRACTIONAL = ±		DRAWN		BRIAN BRADY								10/16/2019	
SURFACE FINISH 		CHECKED											
		APPROVED											
DO NOT SCALE DRAWING										TITLE DRILL UNIT SLIDE PLATE ASSEMBLY DETAILS PUSH-PULL BLOCK			
BREAK ALL SHARP EDGES AND REMOVE BURRS													
THIRD ANGLE PROJECTION		MATERIAL		VOLUME		SIZE		DWG NO.				REV.	
		STEEL 1020		229932 mm³		B		BR-549-B-004					
						SCALE 1:1		WEIGHT 1.810 kg		SHEET 5 of 16			



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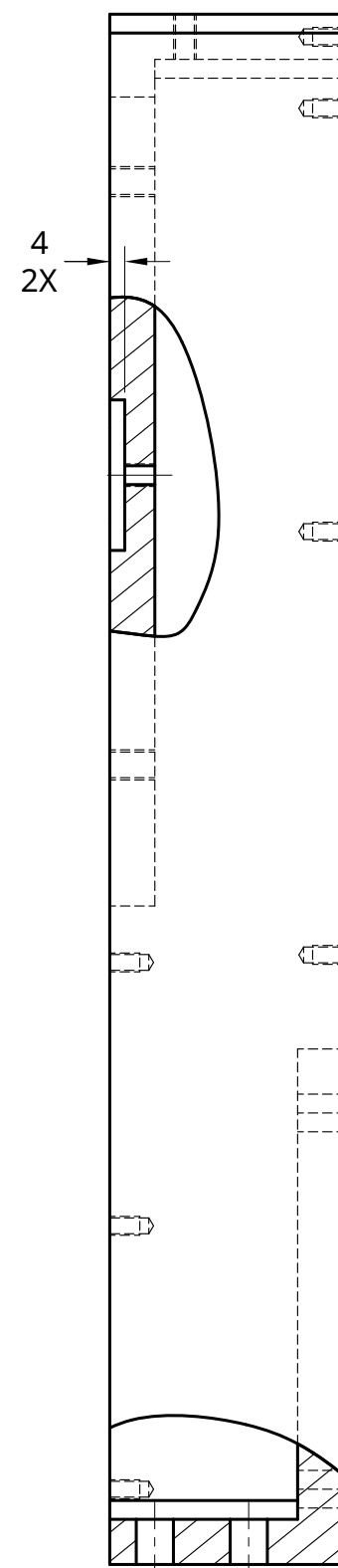
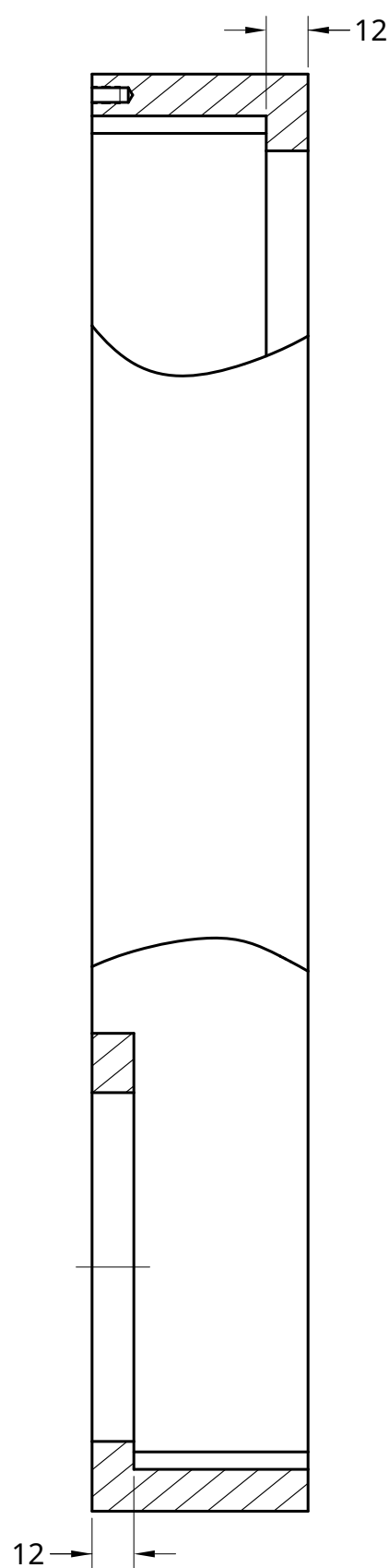
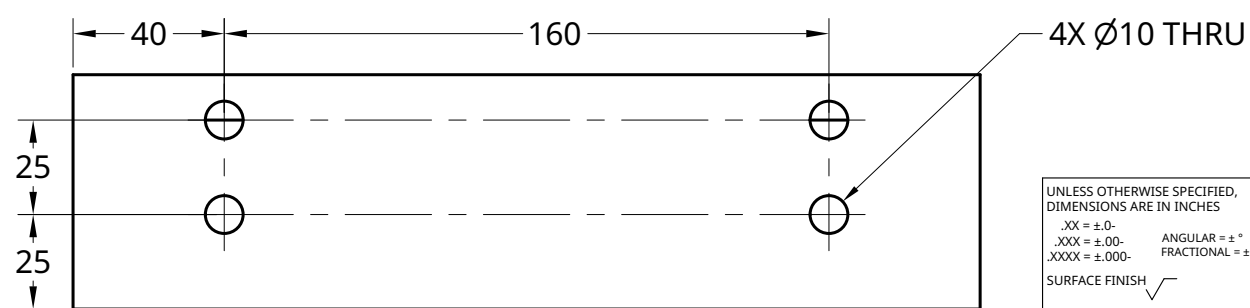
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = ±.0- .XXX = ±.00- .XXXX = ±.000- SURFACE FINISH  DO NOT SCALE DRAWING BREAK ALL SHARP EDGES AND REMOVE BURRS THIRD ANGLE PROJECTION 		NAME	DATE	Ferris State University		
	DRAWN	BRIAN BRADY	10/16/2019			
	CHECKED			TITLE DRILL UNIT SLIDE PLATE ASSEMBLY DETAILS PUSH-PULL FITTING SPACER		
	APPROVED					
				SIZE A	DWG NO. BR-549-B-005	REV.
	MATERIAL STEEL 1020	VOLUME 11615 mm ³		SCALE 1:1	WEIGHT 0.091 kg	SHEET 6 of 16


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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES		NAME		DATE		<h1>Ferris State University</h1> <h2>DRILL UNIT</h2> <h3>SLIDE PLATE ASSEMBLY DETAILS</h3> <h3>SPINDLE MOTOR MOUNTING FRAME</h3>			
$.XX = \pm 0.$ $.XXX = \pm 0.001$ $.XXXX = \pm 0.0001$		DRAWN BRIAN BRADY		10/16/2019					
$ANGULAR = \pm$ $FRACTIONAL = \pm$		CHECKED							
SURFACE FINISH $\sqrt{\quad}$		APPROVED							
DO NOT SCALE DRAWING						<div> <div>SIZE</div> <div>C</div> </div> <div> <div>DWG NO.</div> <div>BR-549-B-006</div> </div> <div>REV.</div>			
BREAK ALL SHARP EDGES AND REMOVE BURRS									
THIRD ANGLE PROJECTION		MATERIAL		VOLUME					
		STEEL 1020		1370293 mm ³					
						<div> <div>SCALE</div> <div>1:2</div> </div> <div> <div>WEIGHT</div> <div>10.784 kg</div> </div> <div> <div>SHEET</div> <div>7 of 16</div> </div>			

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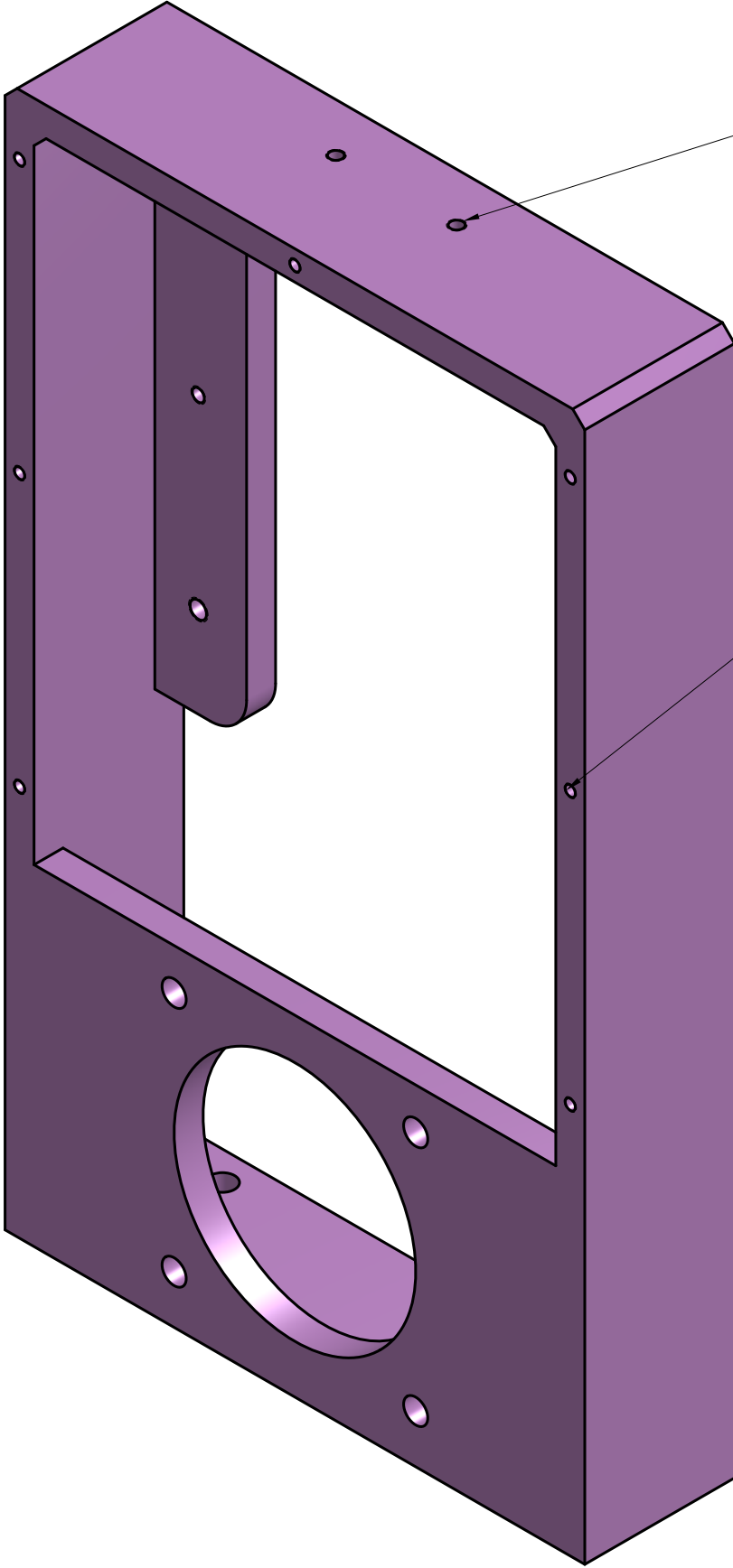
C

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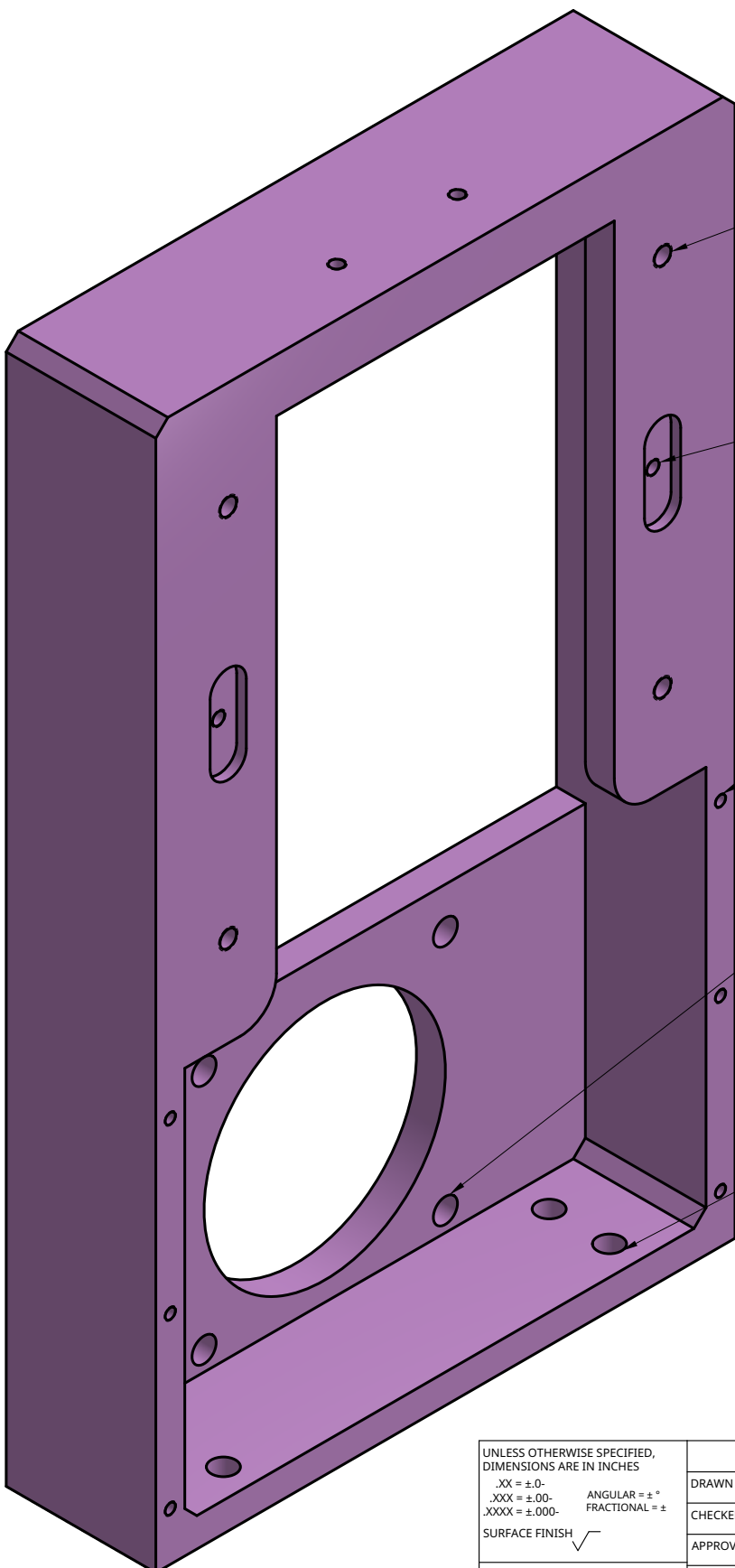
A

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2X Ø5 THRU
M6x1.00 THRU

7X Ø4.2 ±10.4
M5x0.80 ±8



4X Ø6.8 THRU
M8x1.25 THRU

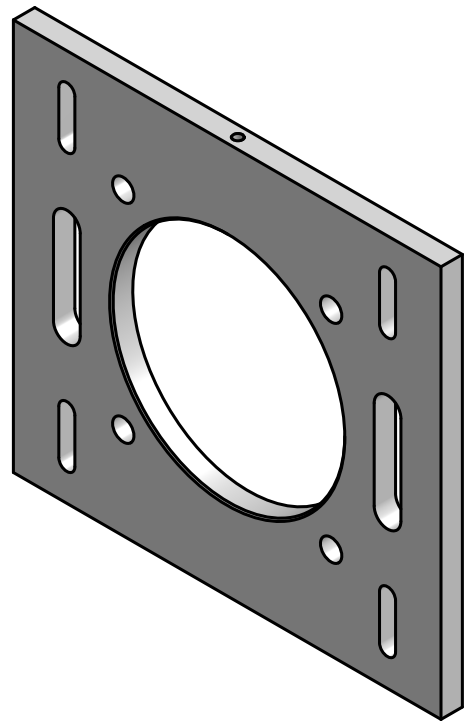
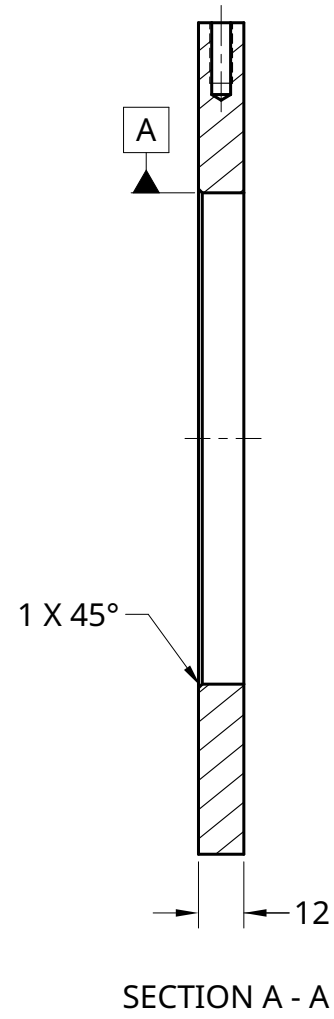
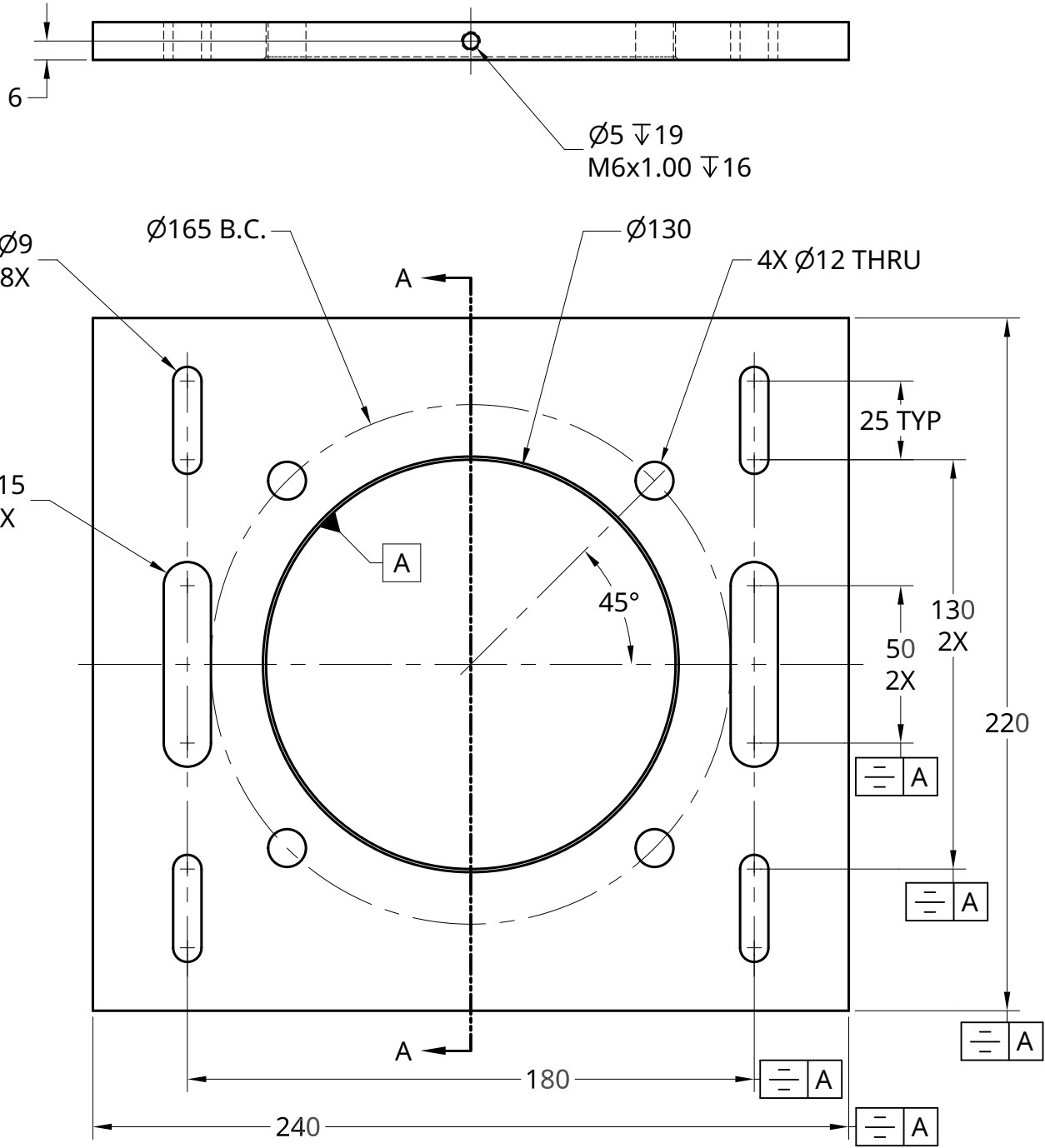
2X Ø5 THRU
M6x1.00 THRU

6X Ø4.2 ±10.4
M5x0.80 ±8

4X Ø10 THRU

4X Ø10 THRU

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = ±.0- .XXX = ±.00- .XXXX = ±.000- SURFACE FINISH ✓ DO NOT SCALE DRAWING BREAK ALL SHARP EDGES AND REMOVE BURRS THIRD ANGLE PROJECTION		NAME	DATE	Ferris State University		
		DRAWN	BRIAN BRADY	10/16/2019	TITLE	
		CHECKED			DRILL UNIT	
		APPROVED			SLIDE PLATE ASSEMBLY DETAILS	
					SPINDLE MOTOR MOUNTING FRAME	
		MATERIAL	VOLUME	SIZE	DWG NO.	REV.
		STEEL 1020	1370293 mm³	B	BR-549-B-006	
		SCALE	1:2	WEIGHT	10.784 kg	SHEET 8 of 16



UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = ±.0- .XXX = ±.00- .XXXX = ±.000- SURFACE FINISH ✓ DO NOT SCALE DRAWING BREAK ALL SHARP EDGES AND REMOVE BURRS THIRD ANGLE PROJECTION	NAME		DATE	Ferris State University		
	DRAWN	BRIAN BRADY	10/16/2019	TITLE		
	CHECKED			DRILL UNIT		
	APPROVED			SLIDE PLATE ASSEMBLY DETAILS		
				MOTOR MOUNTING PLATE		
MATERIAL		VOLUME		SIZE	DWG NO.	REV.
STEEL 8620		432210 mm³		B	BR-549-B-007	
SCALE		WEIGHT		SHEET		
1:2		3.393 kg		9 of 16		

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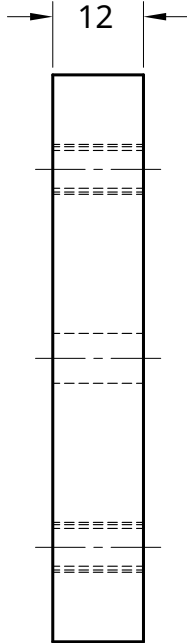
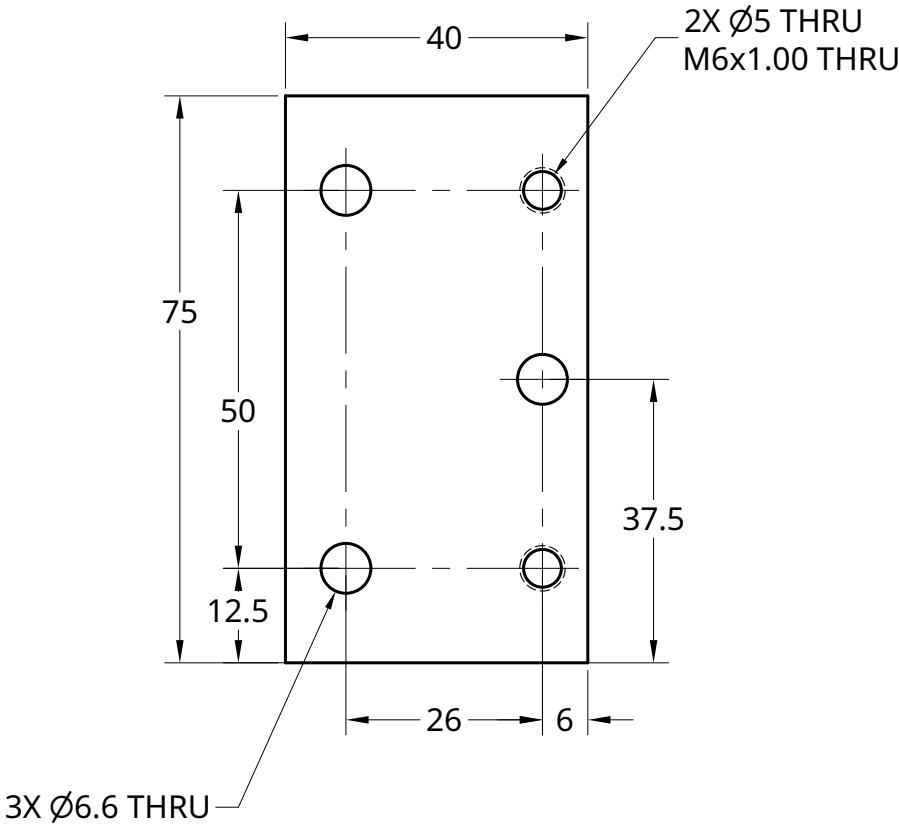
C

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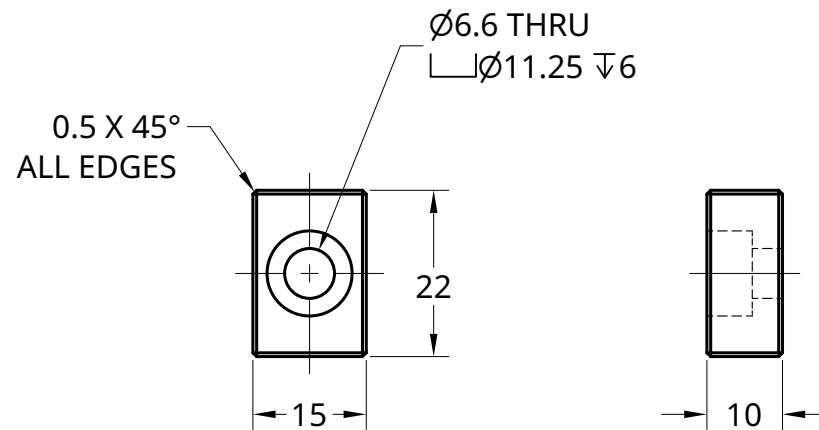
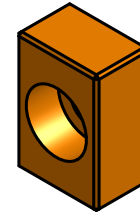
A



UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = ±.0- .XXX = ±.00- .XXXX = ±.000- SURFACE FINISH ✓ DO NOT SCALE DRAWING BREAK ALL SHARP EDGES AND REMOVE BURRS THIRD ANGLE PROJECTION 		NAME	DATE	Ferris State University		
	DRAWN	BRIAN BRADY	10/16/2019	TITLE DRILL UNIT SLIDE PLATE ASSEMBLY DETAILS MOTOR ADJUSTER BLOCK		
	CHECKED					
	APPROVED					
				SIZE B	DWG NO. BR-549-B-008	REV.
	MATERIAL STEEL 1020	VOLUME 34297 mm³		SCALE 1:1	WEIGHT 0.270 kg	SHEET 10 of 16


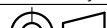
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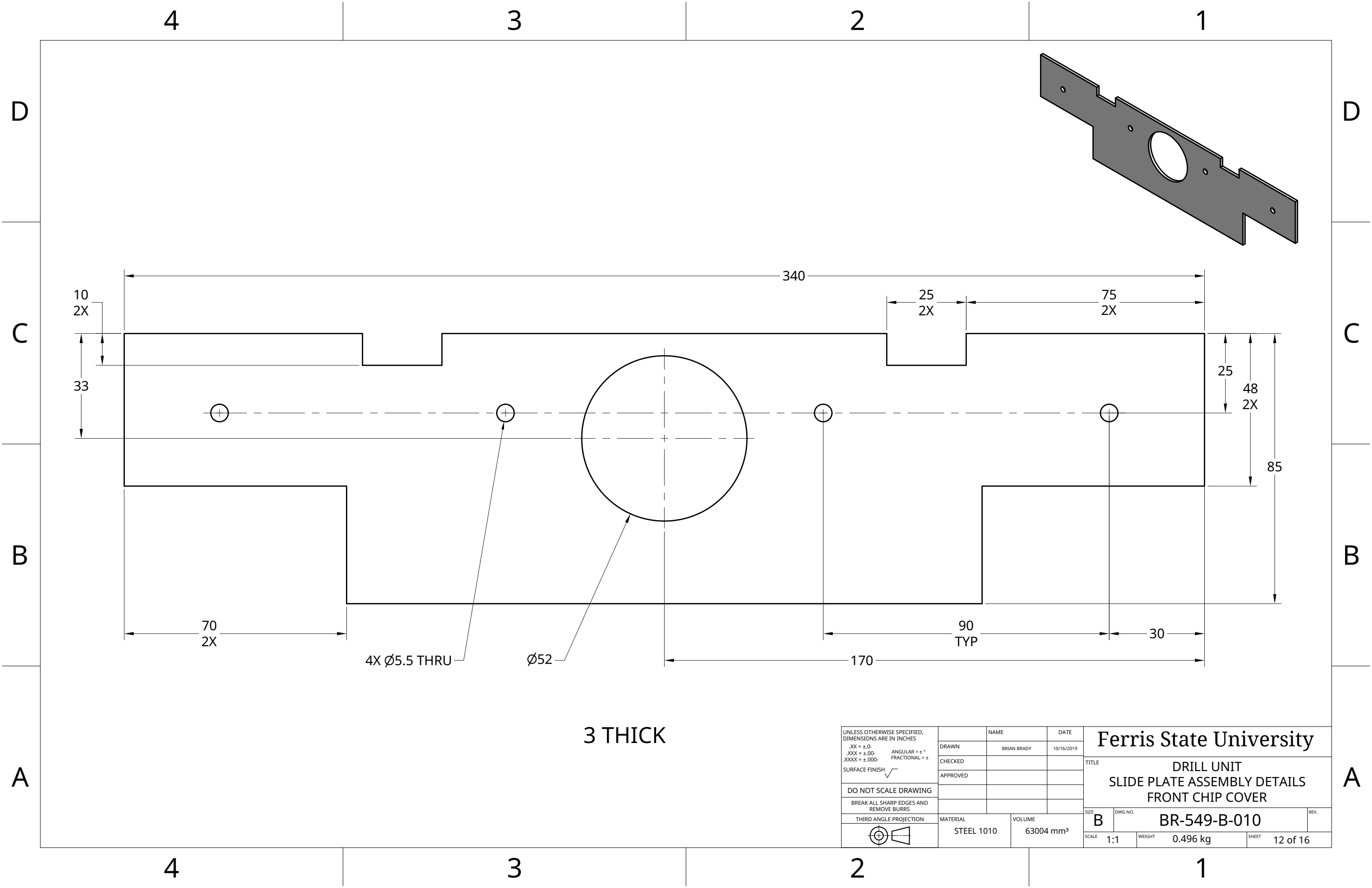
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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = ±.0- .XXX = ±.00- .XXXX = ±.000- ANGULAR = ± ° FRACTIONAL = ± SURFACE FINISH 	NAME		DATE		<div>Ferris State University</div> <div>DRILL UNIT</div> <div>SLIDE PLATE ASSEMBLY DETAILS</div> <div>MEDIUM SLIDE KEY</div>					
	DRAWN		BRIAN BRADY						10/16/2019	
	CHECKED									
	APPROVED									
DO NOT SCALE DRAWING										
BREAK ALL SHARP EDGES AND REMOVE BURRS										
THIRD ANGLE PROJECTION	MATERIAL		VOLUME		SIZE	DWG NO.	REV.			
	STEEL 4130		2544 mm ³		A	BR-549-B-009				
					SCALE	1:1	WEIGHT	0.020 kg		
					SHEET	11 of 16				

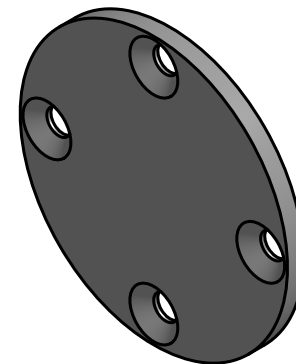
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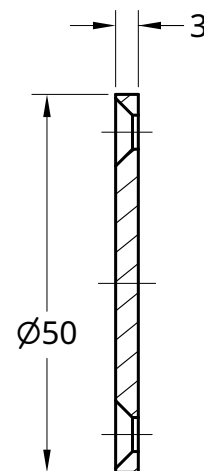
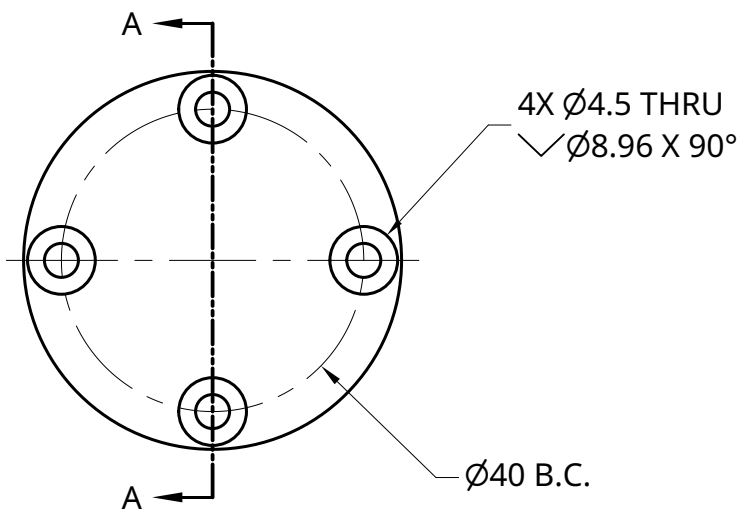
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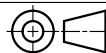
SECTION A - A

UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES
.XX = ±.0-
.XXX = ±.00-
.XXXX = ±.000-
ANGULAR = ± °
FRACTIONAL = ±
SURFACE FINISH

DO NOT SCALE DRAWING

BREAK ALL SHARP EDGES AND
REMOVE BURRS

THIRD ANGLE PROJECTION



NAME

DATE

DRAWN

BRIAN BRADY

10/16/2019

CHECKED

APPROVED

Ferris State University

TITLE

DRILL UNIT
SLIDE PLATE ASSEMBLY DETAILS
BALL SCREW HOLE COVER

SIZE

A

DWG NO.

BR-549-B-011

REV.

SCALE 1:1

WEIGHT

0.043 kg

SHEET

13 of 16

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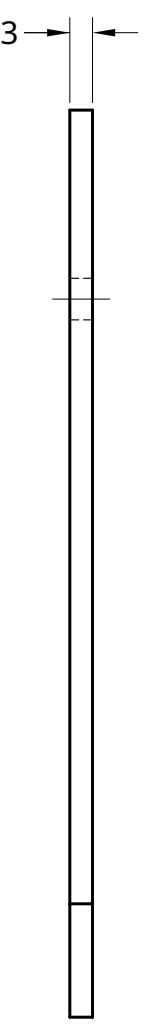
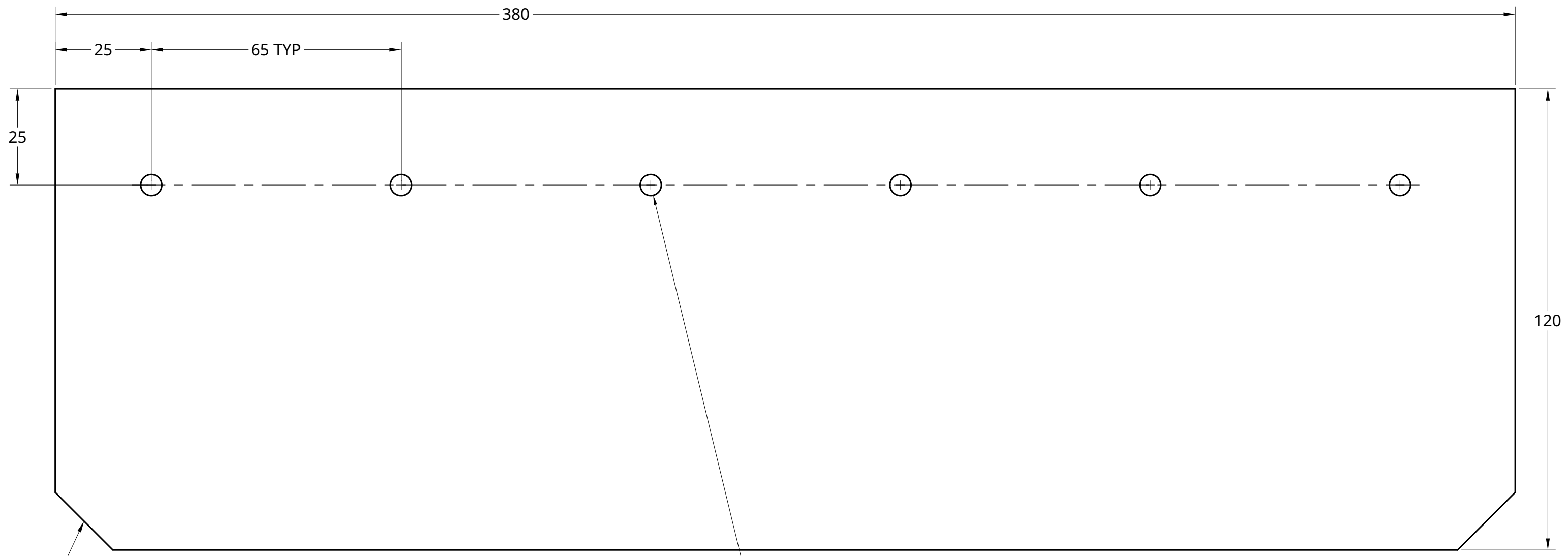
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
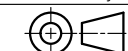
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2X 15 X 45°

6X Ø5.5 THRU

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = ±.01- .XXX = ±.001- .XXXX = ±.0001- SURFACE FINISH 	NAME		DATE	Ferris State University		
	DRAWN	BRIAN BRADY	10/16/2019			
	CHECKED			TITLE DRILL UNIT SLIDE PLATE ASSEMBLY DETAILS SIDE CHIP COVER		
	APPROVED					
DO NOT SCALE DRAWING				SIZE C		
BREAK ALL SHARP EDGES AND REMOVE BURRS						
THIRD ANGLE PROJECTION 	MATERIAL STEEL 1010	VOLUME 135697 mm³		SCALE 1:1	WEIGHT 1.068 kg	SHEET 14 of 16

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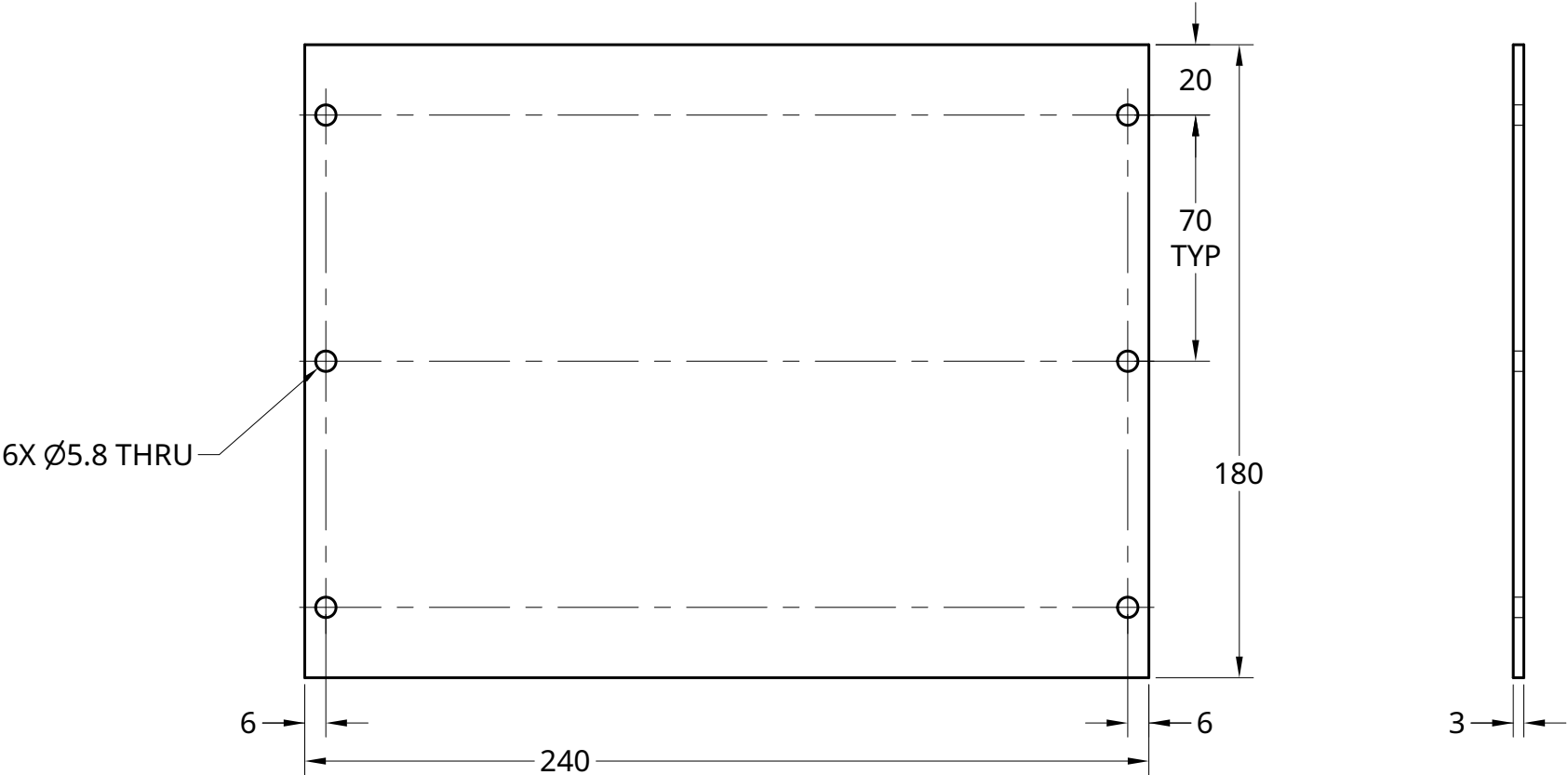
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
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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = ±.0- .XXX = ±.00- .XXXX = ±.000- SURFACE FINISH 		NAME	DATE	Ferris State University		
	DRAWN	BRIAN BRADY	10/16/2019			
	CHECKED			TITLE DRILL UNIT SLIDE PLATE ASSEMBLY DETAILS LOWER COVER PLATE - MOTOR		
	APPROVED					
DO NOT SCALE DRAWING				SIZE B		
BREAK ALL SHARP EDGES AND REMOVE BURRS						
THIRD ANGLE PROJECTION 	MATERIAL POLYCARBONATE	VOLUME 129124 mm³		SCALE 1:2	DWG NO. BR-549-B-013	REV.
				WEIGHT 0.154 kg	SHEET 15 of 16	

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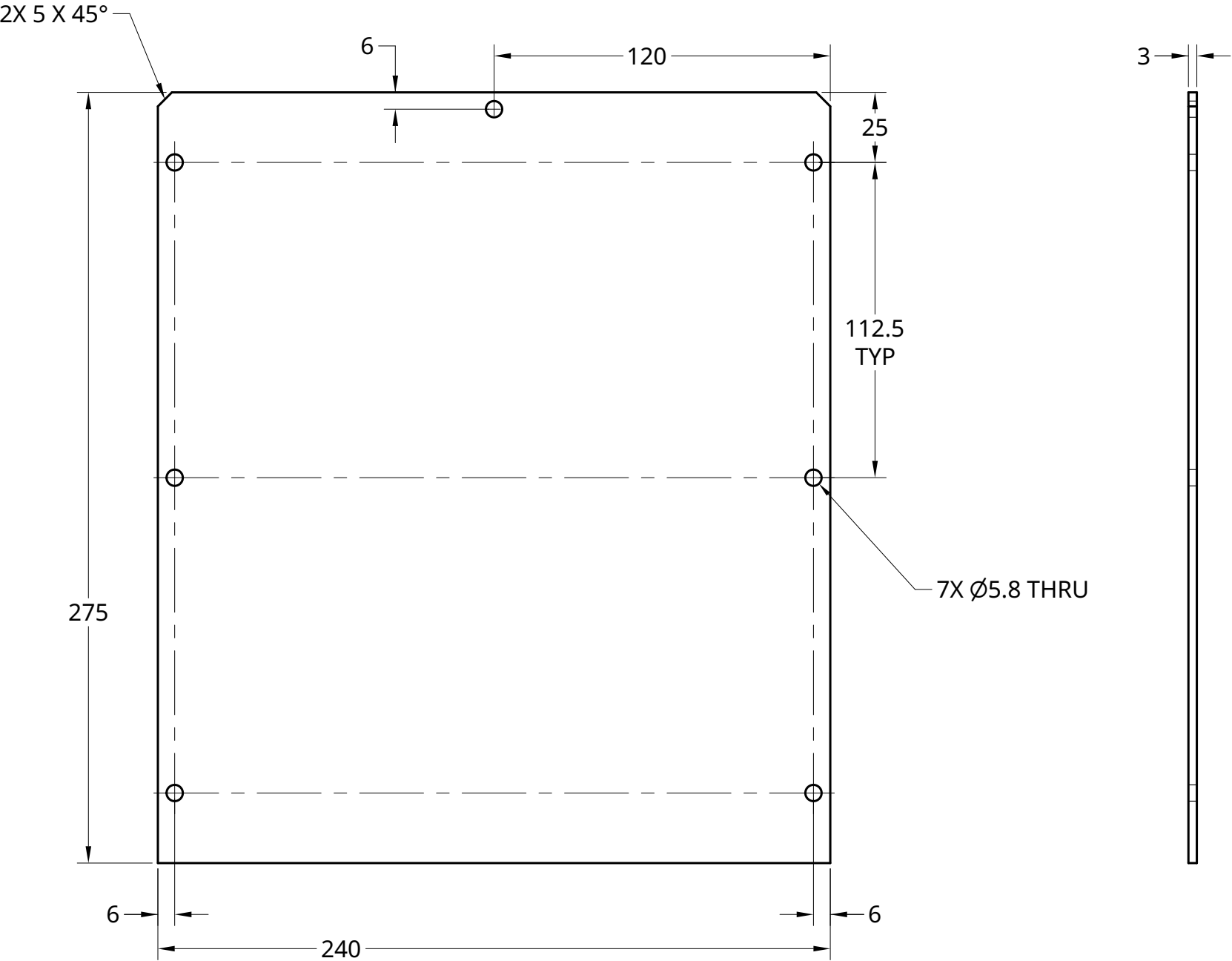
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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = ±.0- .XXX = ±.00- .XXXX = ±.000- SURFACE FINISH ✓ DO NOT SCALE DRAWING BREAK ALL SHARP EDGES AND REMOVE BURRS THIRD ANGLE PROJECTION 		NAME	DATE	Ferris State University		
	DRAWN	BRIAN BRADY	10/16/2019	TITLE DRILL UNIT SLIDE PLATE ASSEMBLY DETAILS UPPER COVER PLATE - MOTOR		
	CHECKED					
	APPROVED					
				SIZE B	DWG NO. BR-549-B-014	REV.
		MATERIAL POLYCARBONATE	VOLUME 197370 mm³	SCALE 1:2	WEIGHT 0.235 kg	SHEET 16 of 16