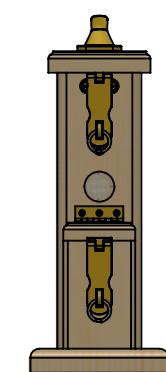
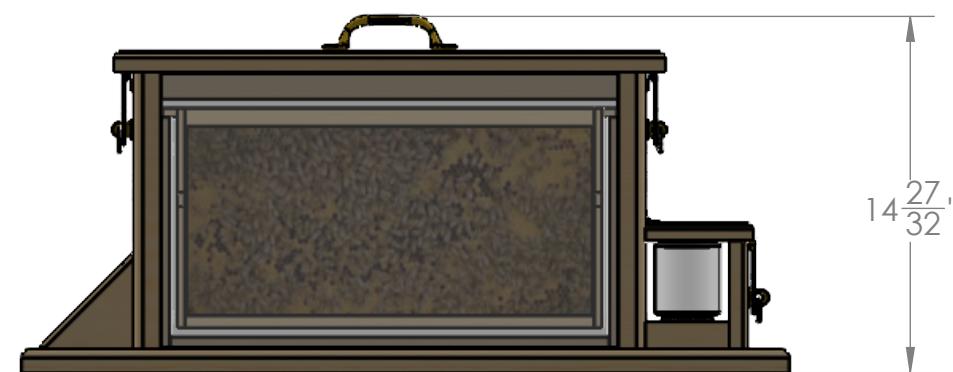
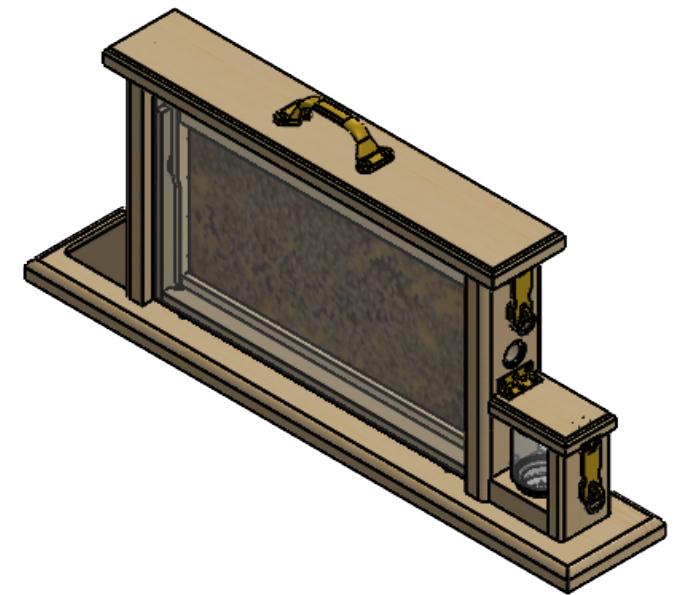
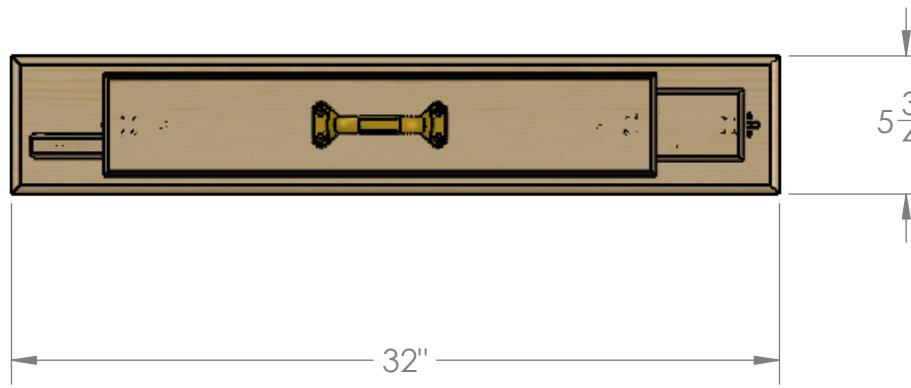


NOTES:

1. SHOWN WITH FEEDER BOTTLE, AND ONE DEEP FRAME.
2. FINISH: STAIN.
3. PREDRILL ALL HOLES.
4. GLUE AND CLAMP SQUARE.
5. POSITION, DRILL AND SCREW HASPS ON COMPLETED ASSEMBLY.
6. STAPLE #8 HARDWARE MESH OVER VENT HOLES.
7. FEEDER BOTTLE SHOULD HAVE A PLASTIC LID, AS METAL WILL RUST.
8. HOLES IN FEEDER BOTTLE LID ARE 0.04" (#60 DRILL BIT).
9. REMOVE ALL SHARP EDGES.



10050_S	-	OBSERVATION HIVE
PART NUMBER	REV	DESCRIPTION

UNLESS OTHERWISE SPECIFIED  
DO NOT SCALE DRAWING  
INTERPRET DIMENSIONS AND TOLERANCES  
PER ASME Y14.5-2018  
DIMENSIONS ARE IN INCHES

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CUSTOMER

BEE KEEPERS

PROJECT

HIVE PRODUCTS

THIRD ANGLE PROJECTION



DRAWN BY  
F. FULKERSON

DATE  
2025-01-27

CHECKED BY  
P.G. KELLY

DATE  
2025-01-27

APPROVED  
P.G. KELLY

DATE  
2025-01-27



HONEY BEE RESEARCH CENTRE  
THE UNIVERSITY OF GUELPH

## OBSERVATION HIVE

10050\_S

B

DRAWING NO

SCALE

1:8

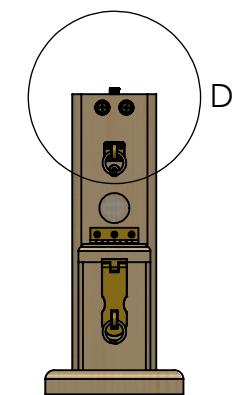
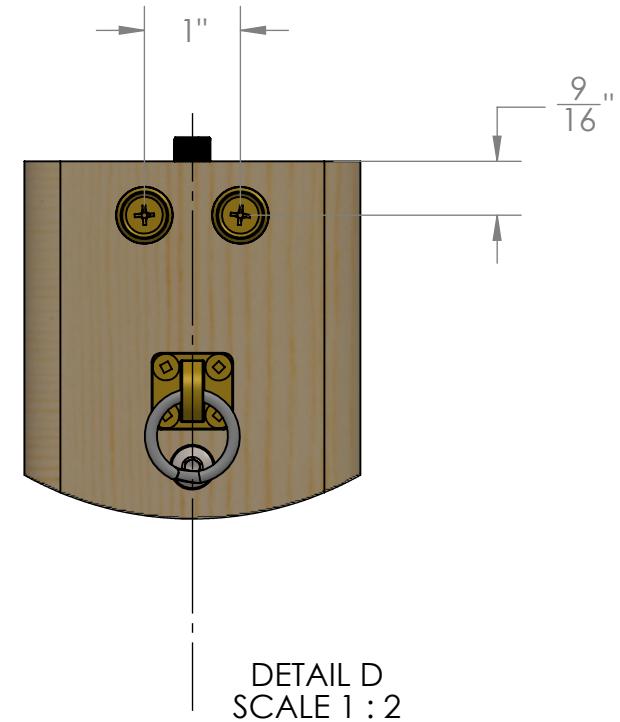
WEIGHT

13.48 lbs

SHEET 1 OF 20

NOTES:

1. SHOWN WITH FEEDER BOTTLE, ONE DEEP AND ONE MEDIUM FRAME.
2. FINISH: STAIN.
3. PREDRILL ALL HOLES.
4. GLUE AND CLAMP SQUARE.
5. POSITION, DRILL AND SCREW HASPS ON COMPLETED ASSEMBLY.
6. REMOVE ALL SHARP EDGES.



10050_S	-	OBSERVATION HIVE
PART NUMBER	REV	DESCRIPTION

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CUSTOMER  
BEE KEEPERS  
PROJECT  
HIVE PRODUCTS

THIRD ANGLE PROJECTION



DRAWN BY  
F. FULKERSON DATE  
2025-01-27  
CHECKED BY  
P.G. KELLY DATE  
2025-01-27  
APPROVED  
P.G. KELLY DATE  
2025-01-27



HONEY BEE RESEARCH CENTRE  
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## OBSERVATION HIVE

10050\_S -

B

SIZE

DRAWING NO

SCALE

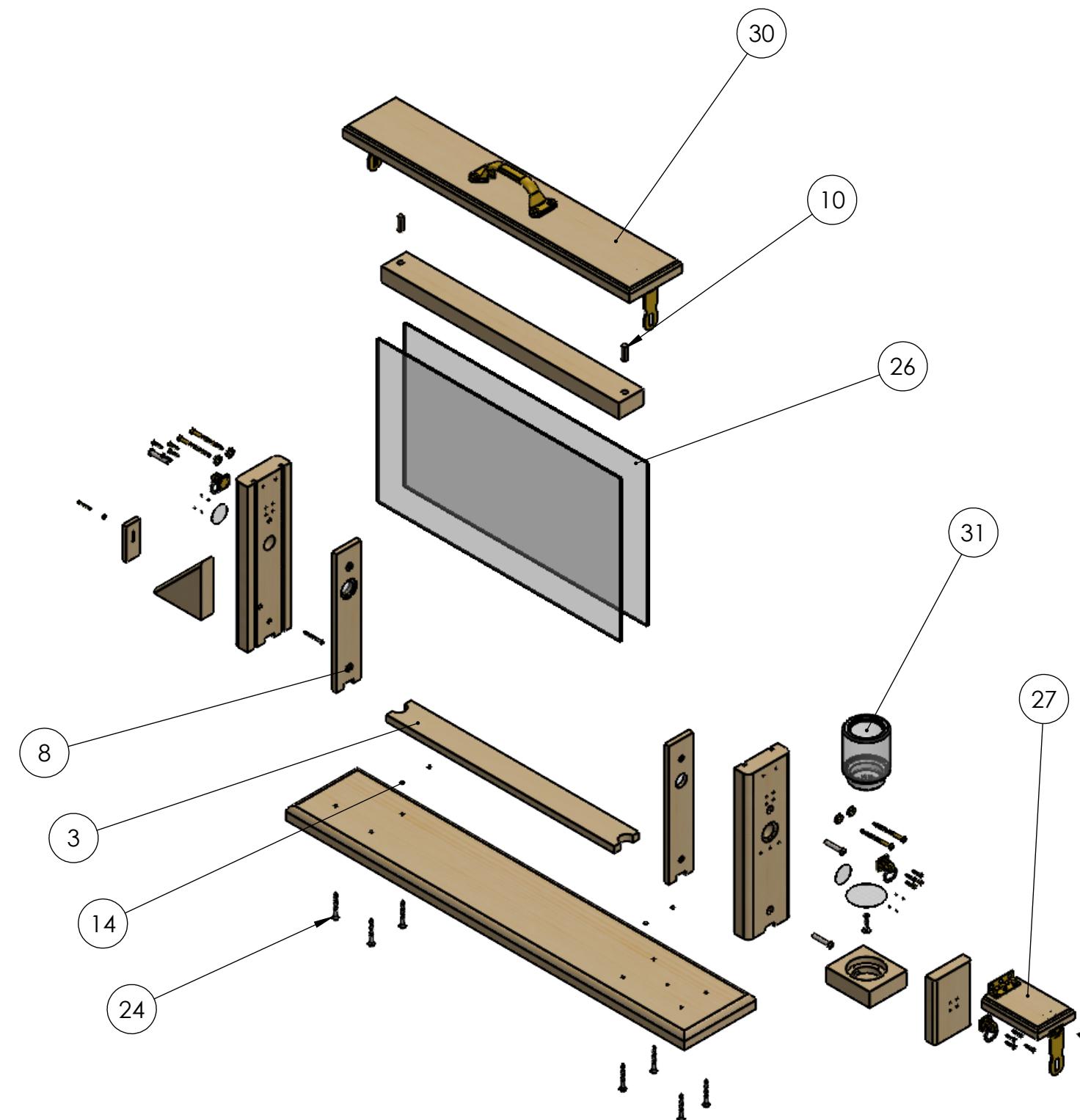
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WEIGHT

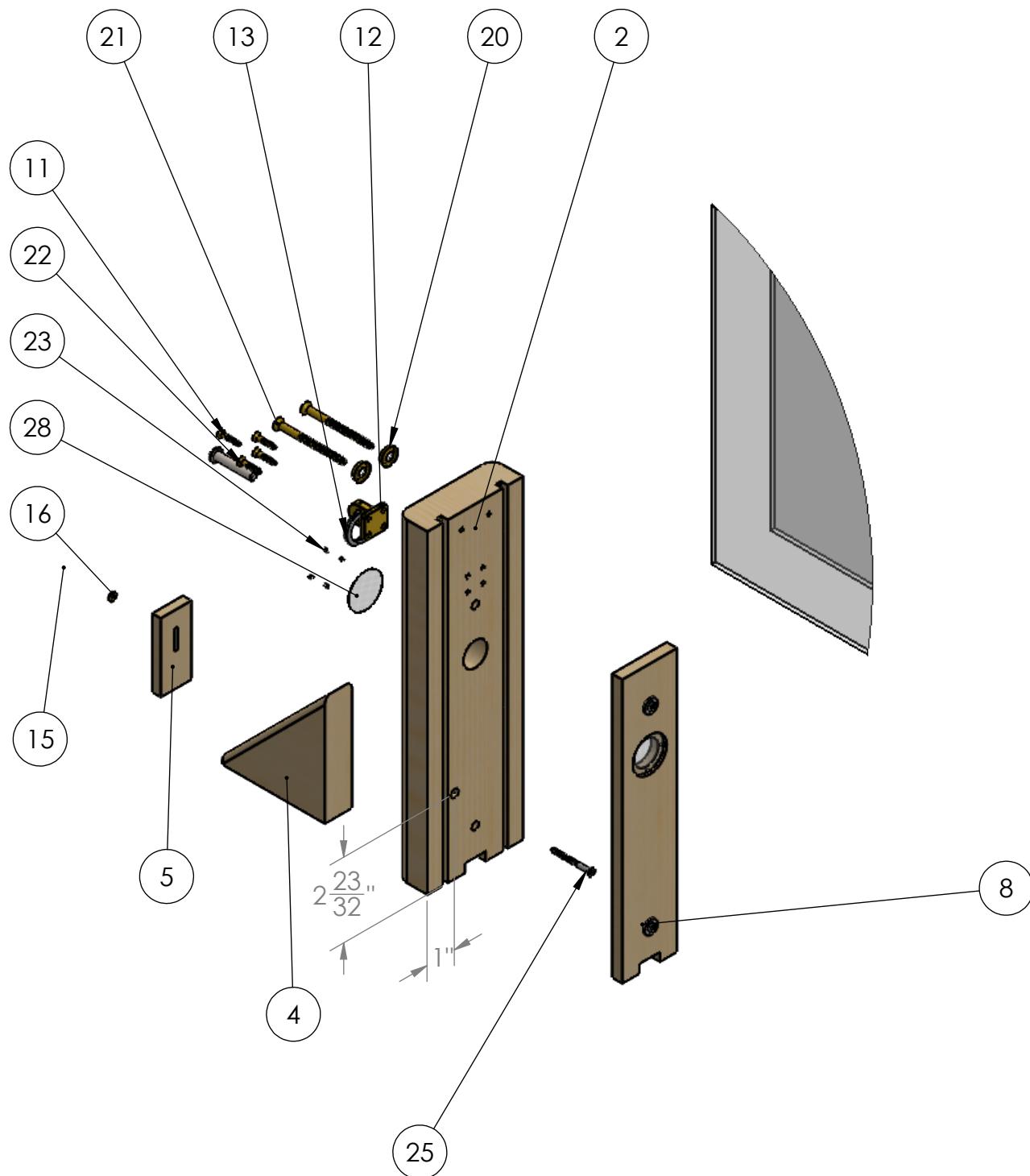
13.48 lbs

SHEET 2 OF 20

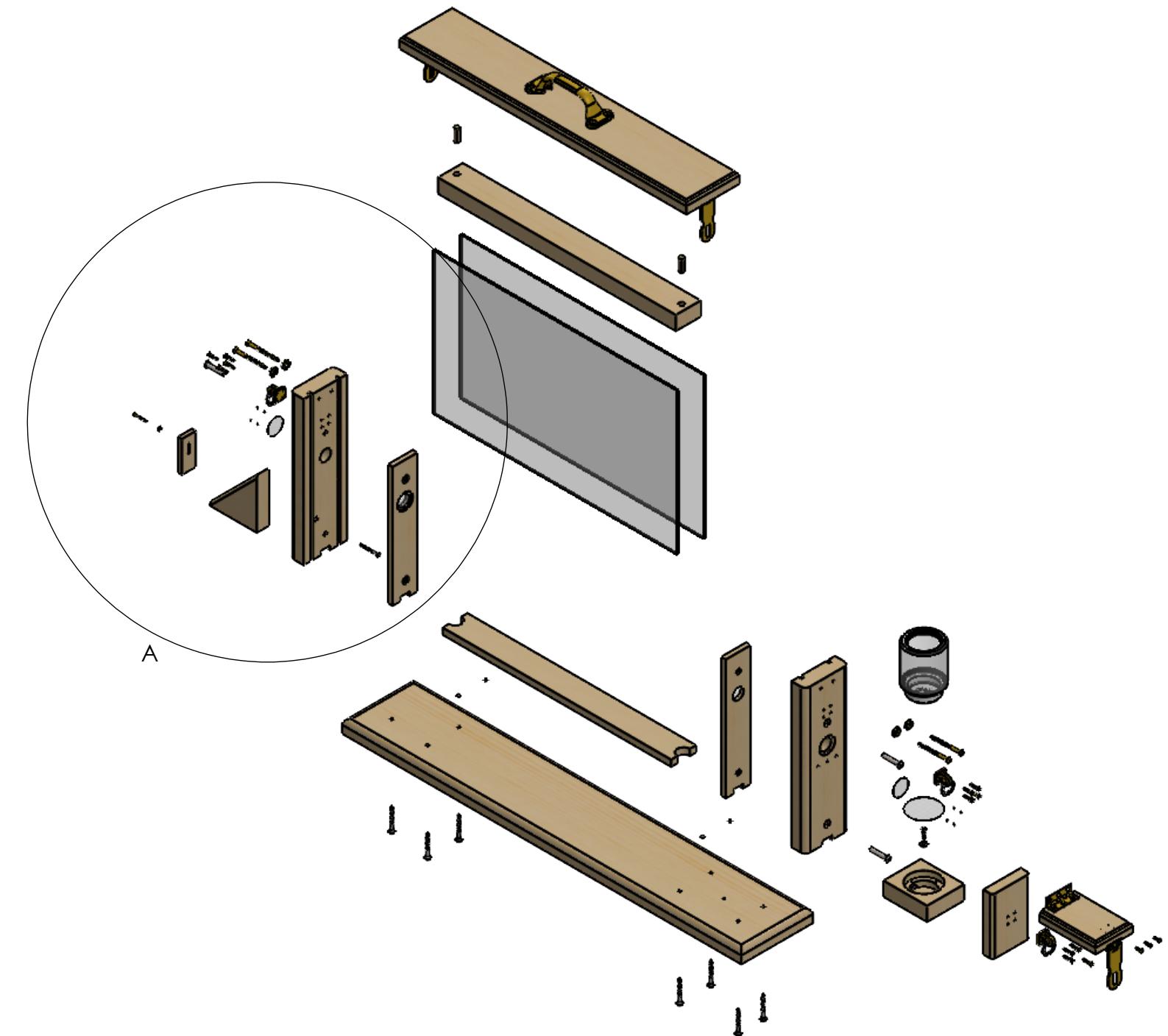
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2220_S	BASE	1
2	2221_S	SIDE	2
3	2228_S	INNER BASE	1
4	2223_S	GUSSET	1
5	2227_S	FEEDER HOLE COVER	1
6	2224_S	FEEDER BASE	1
7	2225_S	FEEDER SIDE	1
8	10055_S	LOWER FRAME REST	2
9	2231_S	INNER TOP	1
10	97195A109	3/8" Wood Dowel Pins	2
11	95188A310	Brass Square-Drive Flat-Head Screws for Wood	12
12	3851N11H_S	3851N11_Padlockable Hasp	3
13	90177A228	Zinc-Plated Steel Split Rings	3
14	95495K463	Adhesive-Back Bumpers	4
15	98685A560	Brass Phillips Decorative Rounded Head Screws	1
16	92916A320	Brass Washer	1
17	Regular FW 0.164	WASHER FOR #8 SCREW	1
18	91070A254	Rounded Head Screws for Plywood and OSB	1
19	92114A128	Brass Phillips Flat Head Screws for Wood	3
20	92921A011	Brass Countersunk Washer	4
21	92114A255	Brass Phillips Flat Head Screws for Wood	4
22	SBHSCREW 0.25-20x1.375-HX-N	1/4-20 X 1-3/8 SBHCS	4
23	97900A210	STAPLE	12
24	90396A140	Flanged Rounded Head Screws for Wood	7
25	90610A157	Square-Drive Flat Head Screws for Wood	1
26	2232_S	TEMPERED GLASS PANEL 19 X 18-1/2 X 3/16	2
27	10052_S	FEEDER LID	1
28	2236_S	VENT SCREEN - #8 MESH HARDWARE CLOTH	2
29	2237_S	FEEDER SCREEN - #8 MESH HARDWARE CLOTH	1
30	10051_S	OBSERVATION HIVE TOP	1
31	10053_S	SYRUP BOTTLE	1



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		CUSTOMER BEE KEEPERS PROJECT HIVE PRODUCTS	
THIRD ANGLE PROJECTION		DRAWN BY F. FULKERSON DATE 2025-01-27	DRAWING NO B
		CHECKED BY P.G. KELLY DATE 2025-01-27	SCALE 1:8
		APPROVED P.G. KELLY DATE 2025-01-27	WEIGHT 13.48 lbs
		HONEY BEE RESEARCH CENTRE THE UNIVERSITY OF GUELPH	
OBSERVATION HIVE			
10050 S -			



DETAIL A  
SCALE 1 : 4



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THIRD ANGLE PROJECTION



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PROJECT  
HIVE PRODUCTS

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F. FULKERSON  
DATE  
2025-01-27

CHECKED BY  
P.G. KELLY  
DATE  
2025-01-27

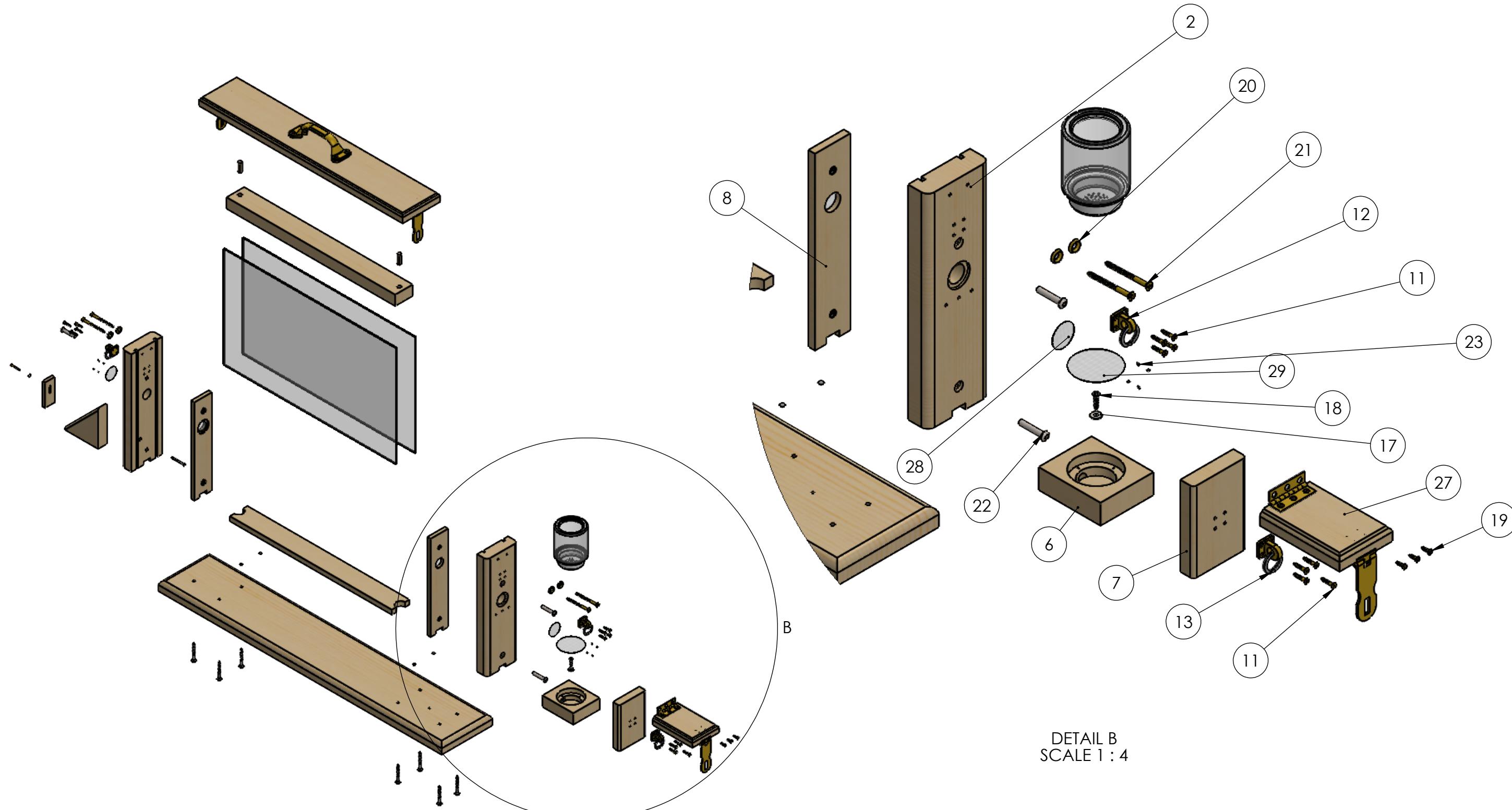
APPROVED  
P.G. KELLY  
DATE  
2025-01-27



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THE UNIVERSITY OF GUELPH

## OBSERVATION HIVE

SIZE DRAWING NO  
**B** 1:8 10050 S -  
SCALE 1:8 WEIGHT 13.48 lbs SHEET 4 OF 20



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CUSTOMER  
BEE KEEPERS

PROJECT  
HIVE PRODUCTS

THIRD ANGLE PROJECTION



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F. FULKERSON

DATE  
2025-01-27

CHECKED BY  
P.G. KELLY

DATE  
2025-01-27

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P.G. KELLY

DATE  
2025-01-27



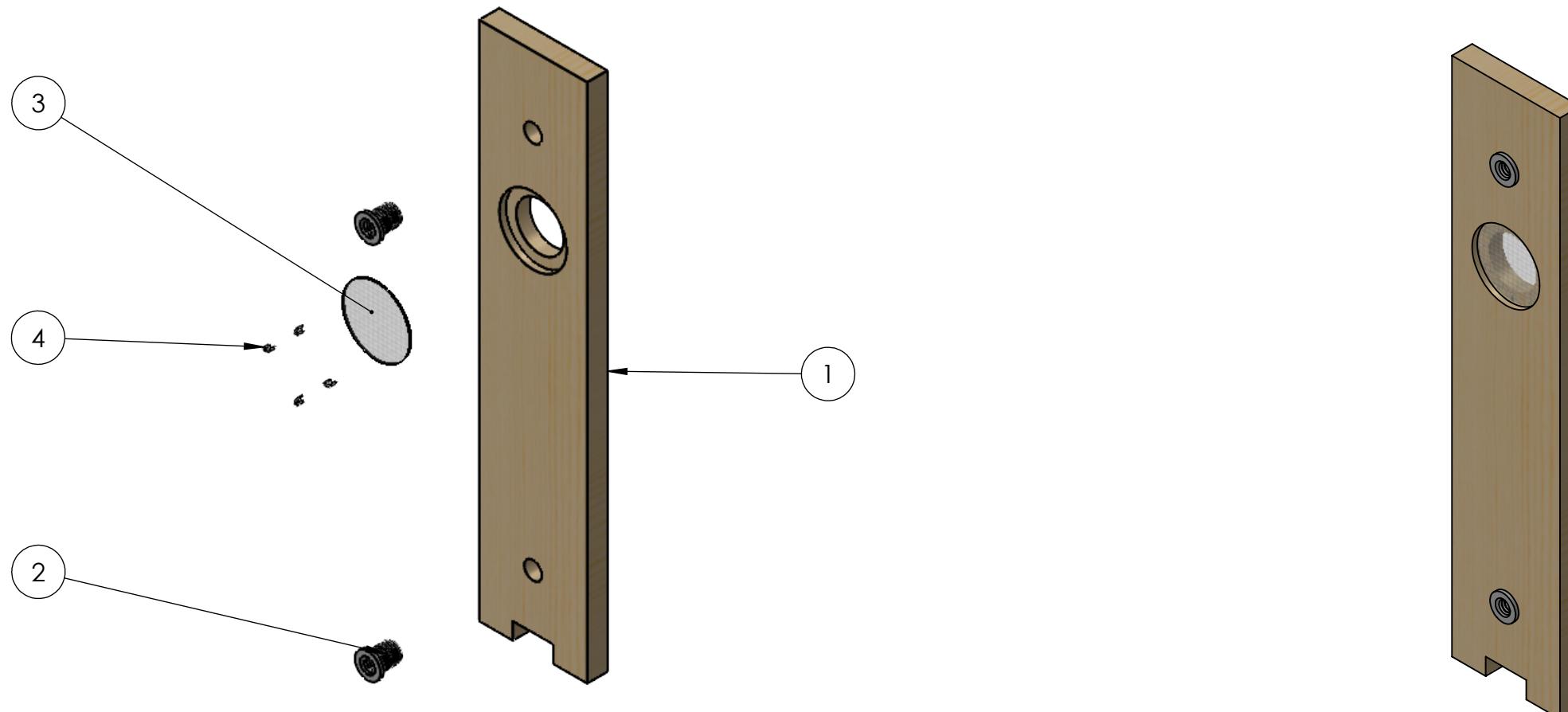
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THE UNIVERSITY OF GUELPH

## OBSERVATION HIVE

SIZE DRAWING NO  
**B** 10050 S -  
SCALE 1:8 WEIGHT 13.48 lbs SHEET 5 OF 20

NOTES:  
 1. PRESS THREADED INSERTS INTO 21/64 HOLES.  
 2. STAPLE #8 HARDWARE MESH OVER VENT HOLE.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2229_S	INNER LOWER SIDE	1
2	94738A310	Zinc-Plated Steel Knurled Inserts for Hardwood	2
3	2236_S	VENT SCREEN - #8 MESH HARDWARE CLOTH	1
4	97900A210	STAPLE	4



10055_S	-	LOWER FRAME REST
PART NUMBER	REV	DESCRIPTION

UNLESS OTHERWISE SPECIFIED  
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CUSTOMER  
 BEE KEEPERS  
 PROJECT  
 HIVE PRODUCTS

THIRD ANGLE PROJECTION



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 2025-01-27  
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 P.G. KELLY  
 DATE  
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 2025-01-27

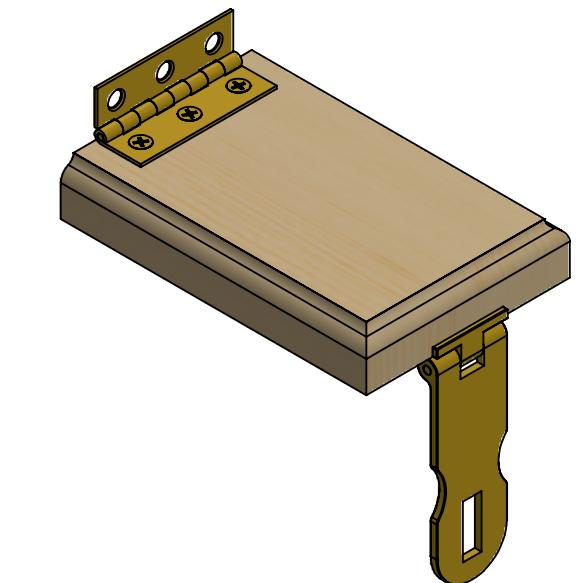
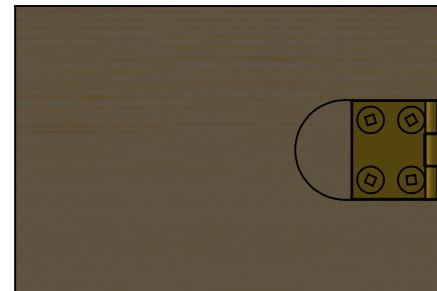
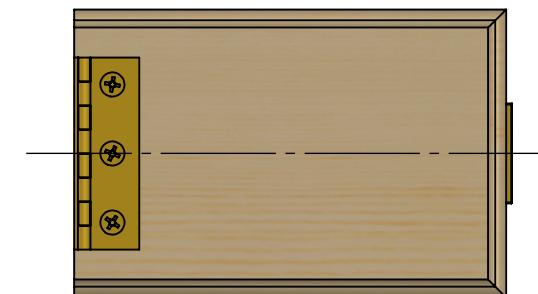
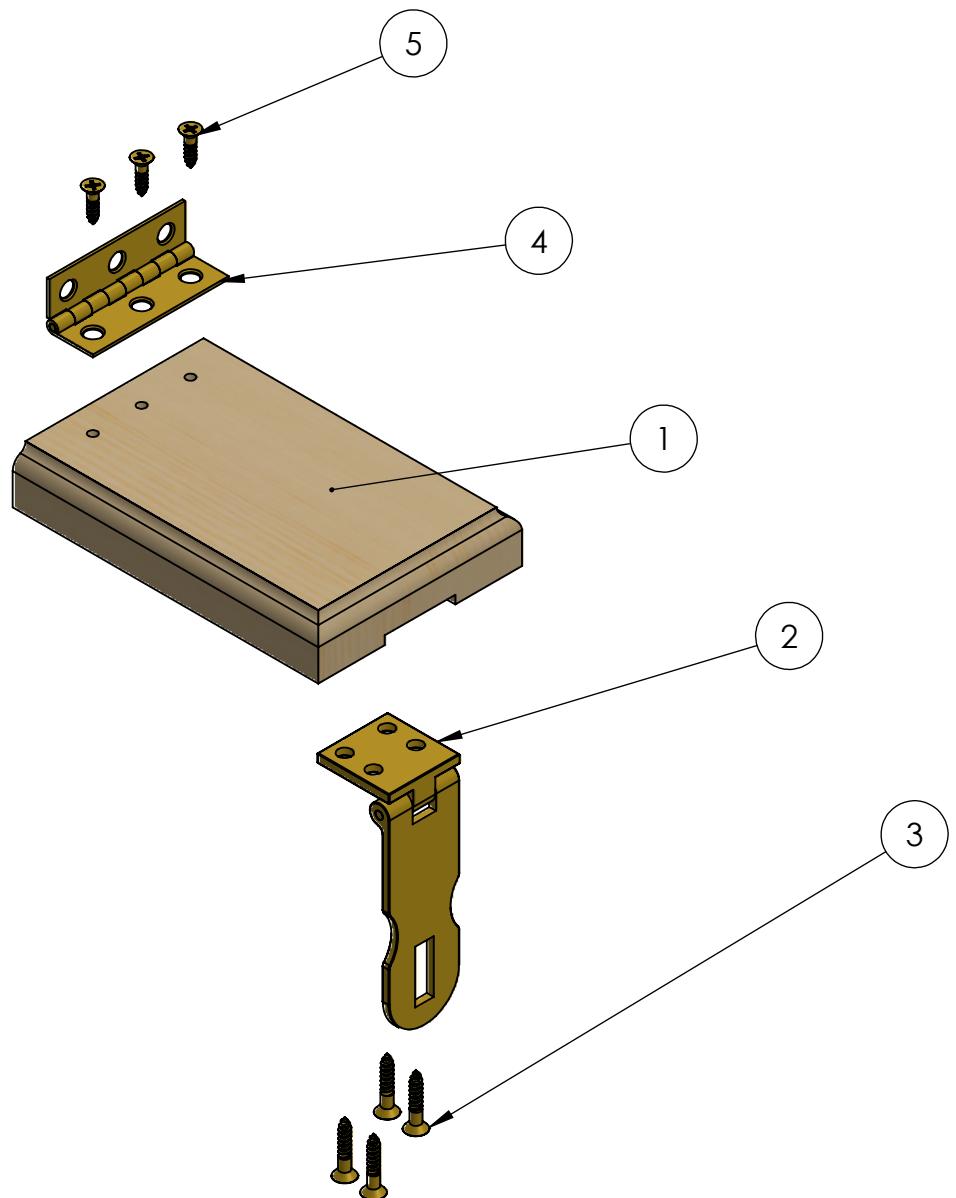


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## LOWER FRAME REST

10050\_S -  
 REVISION  
 B  
 DRAWING NO  
 1:2  
 WEIGHT 0.10 lbs  
 SHEET 6 OF 20

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2226_S	FEEDER TOP	1
2	3851N11_S	PADLOCKABLE HASP	1
3	95188A310	Brass Square-Drive Flat-Head Screws for Wood	4
4	1603A24_S	2" SURFACE MOUNT HINGE	1
5	92114A128	Brass Phillips Flat Head Screws for Wood	3



10052_S	-	FEEDER LID
PART NUMBER	REV	DESCRIPTION

UNLESS OTHERWISE SPECIFIED  
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DIMENSIONS ARE IN INCHES

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PROJECT  
HIVE PRODUCTS

THIRD ANGLE PROJECTION



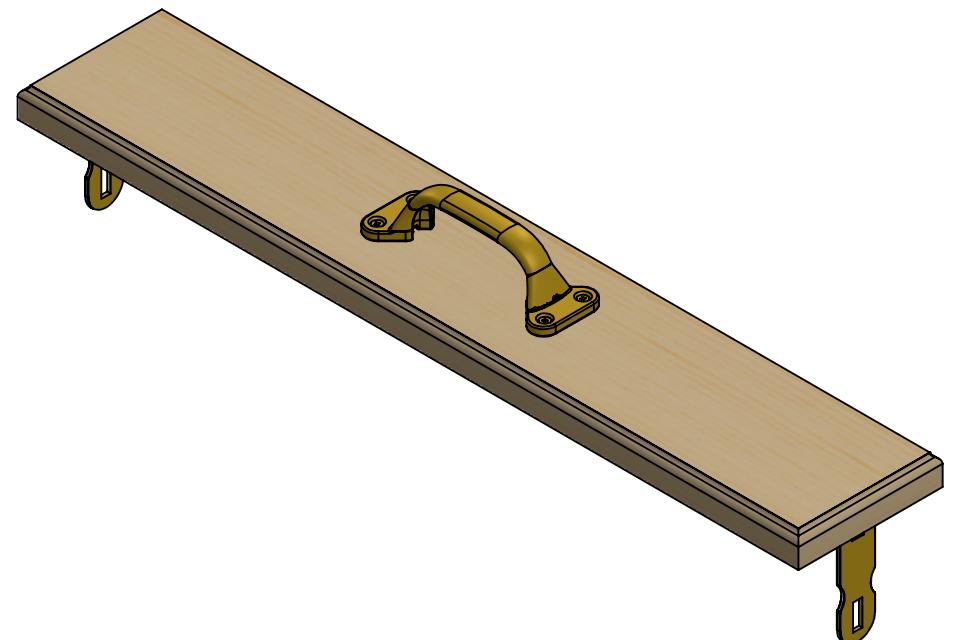
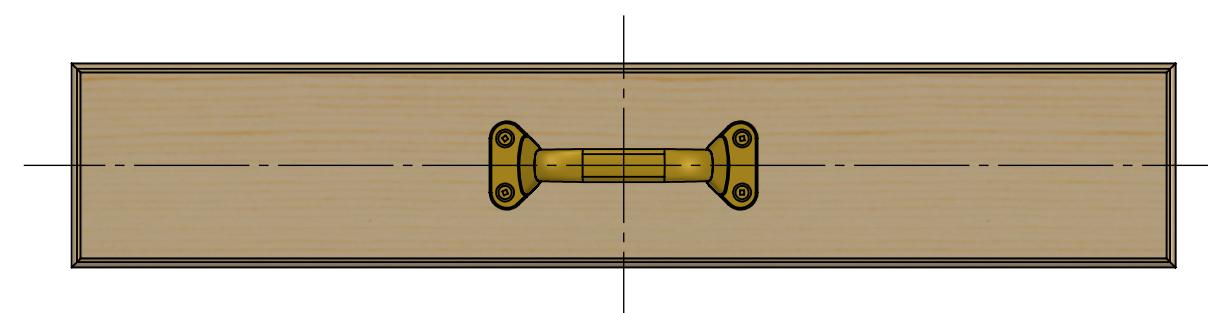
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F. FULKERSON  
DATE  
2025-01-27  
  
CHECKED BY  
P.G. KELLY  
DATE  
2025-01-27  
  
APPROVED  
P.G. KELLY  
DATE  
2025-01-27



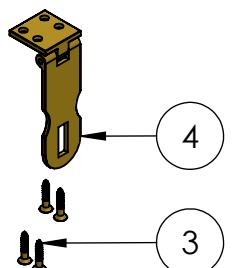
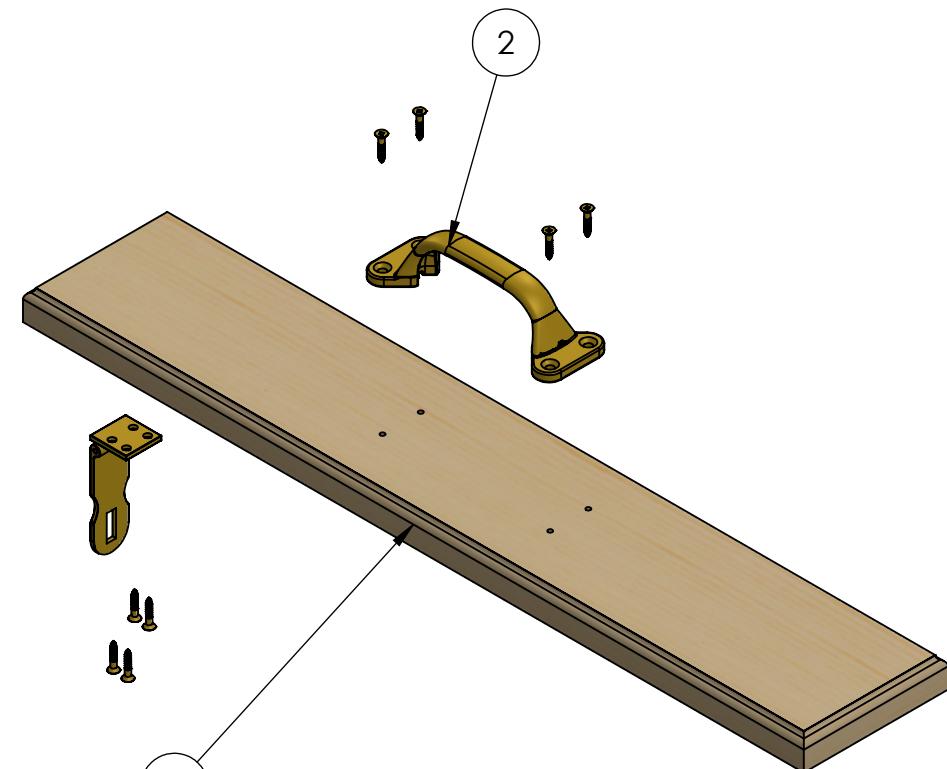
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## FEEDER LID

10050\_S -  
SIZE B DRAWING NO  
SCALE 1:2 WEIGHT 0.31 lbs SHEET 7 OF 20



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2222_S	TOP PANEL	1
2	1646A35	Unthreaded-Hole Oval Pull Handle	1
3	95188A310	Brass Square-Drive Flat-Head Screws for Wood	12
4	3851N11_S	PADLOCKABLE HASP	2



10051_S	-	OBSERVATION HIVE TOP
PART NUMBER	REV	DESCRIPTION

UNLESS OTHERWISE SPECIFIED  
DO NOT SCALE DRAWING  
INTERPRET DIMENSIONS AND TOLERANCES  
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DIMENSIONS ARE IN INCHES

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CUSTOMER  
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PROJECT  
HIVE PRODUCTS

THIRD ANGLE PROJECTION



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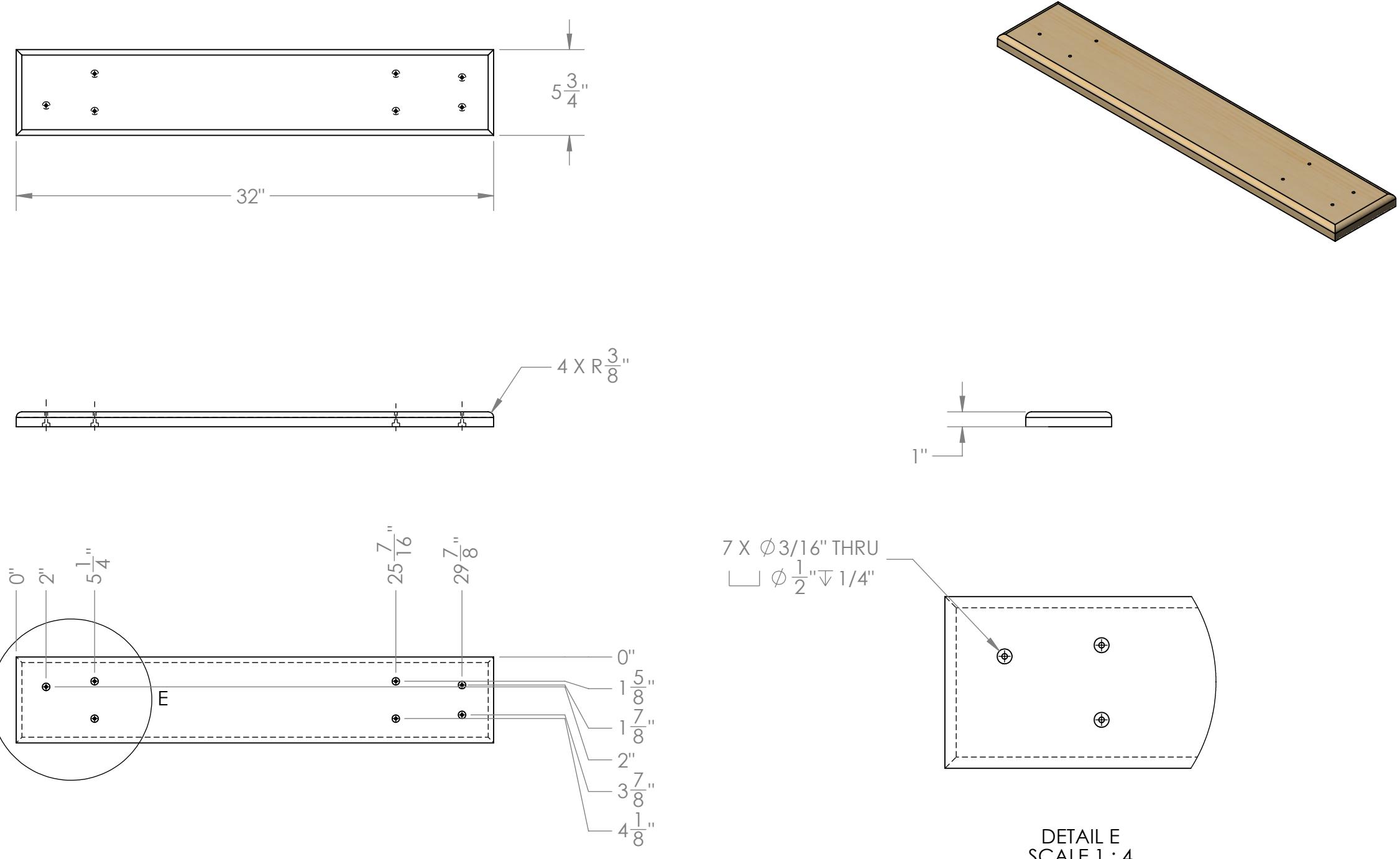
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THE UNIVERSITY OF GUELPH

**OBSERVATION HIVE TOP**

**10050 S**

SIZE DRAWING NO  
**B** 1:4 1.81 lbs SHEET 8 OF 20

NOTES:  
 1. MATERIAL: Pine.  
 2. FINISH: STAIN.  
 3. REMOVE ALL SHARP EDGES.



2220_S	-	BASE
PART NUMBER	REV	DESCRIPTION

UNLESS OTHERWISE SPECIFIED  
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THIRD ANGLE PROJECTION

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 BEE KEEPERS  
 PROJECT  
 HIVE PRODUCTS

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 2025-01-27  
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 DATE  
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 APPROVED  
 P.G. KELLY  
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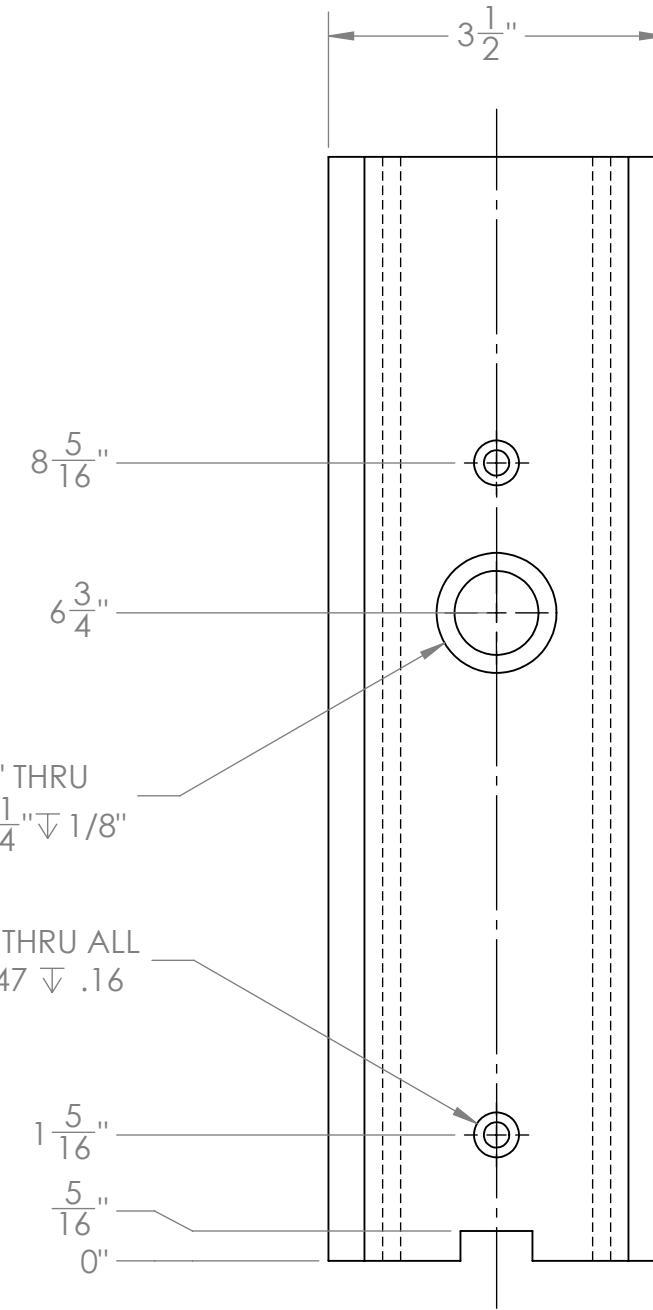
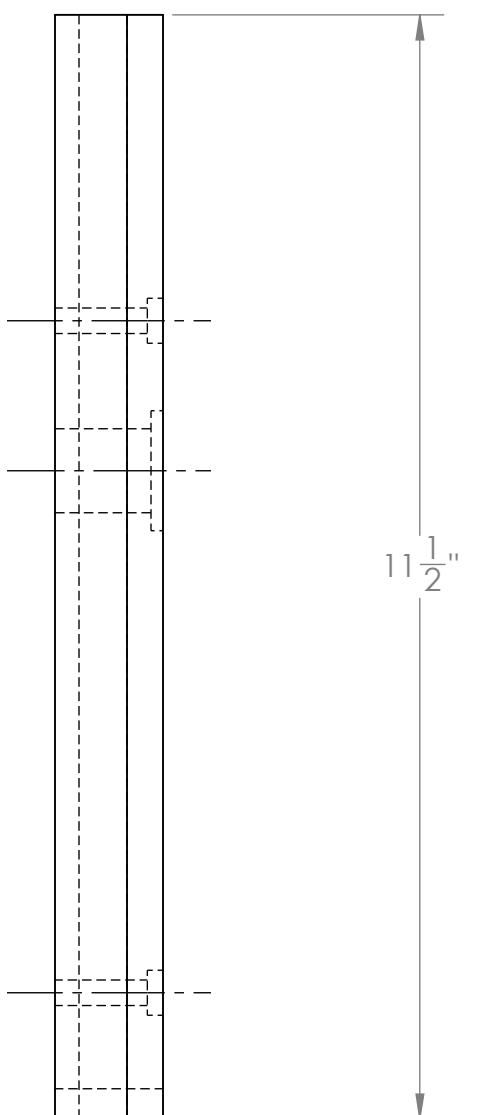
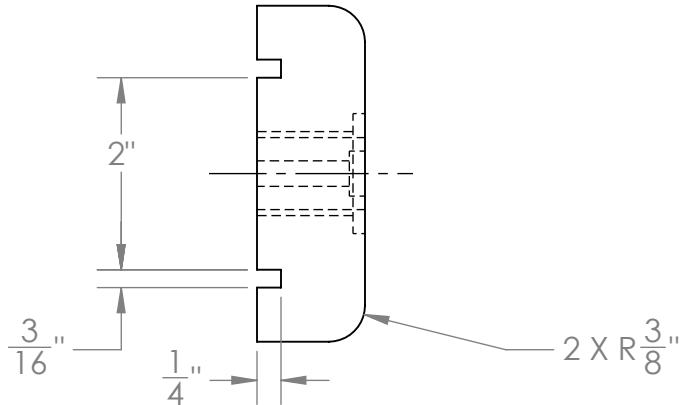
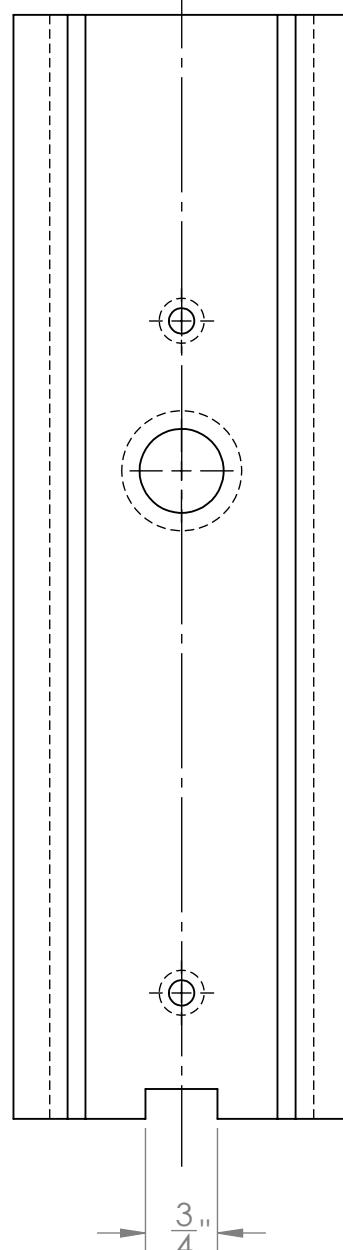


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BASE

SIZE	DRAWING NO	REVISION
B	1:8	10050 S
SCALE	WEIGHT	SHEET 9 OF 20

NOTES:  
 1. MATERIAL: Pine.  
 2. FINISH: STAIN.  
 3. REMOVE ALL SHARP EDGES.



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**SIDE**

THIRD ANGLE PROJECTION

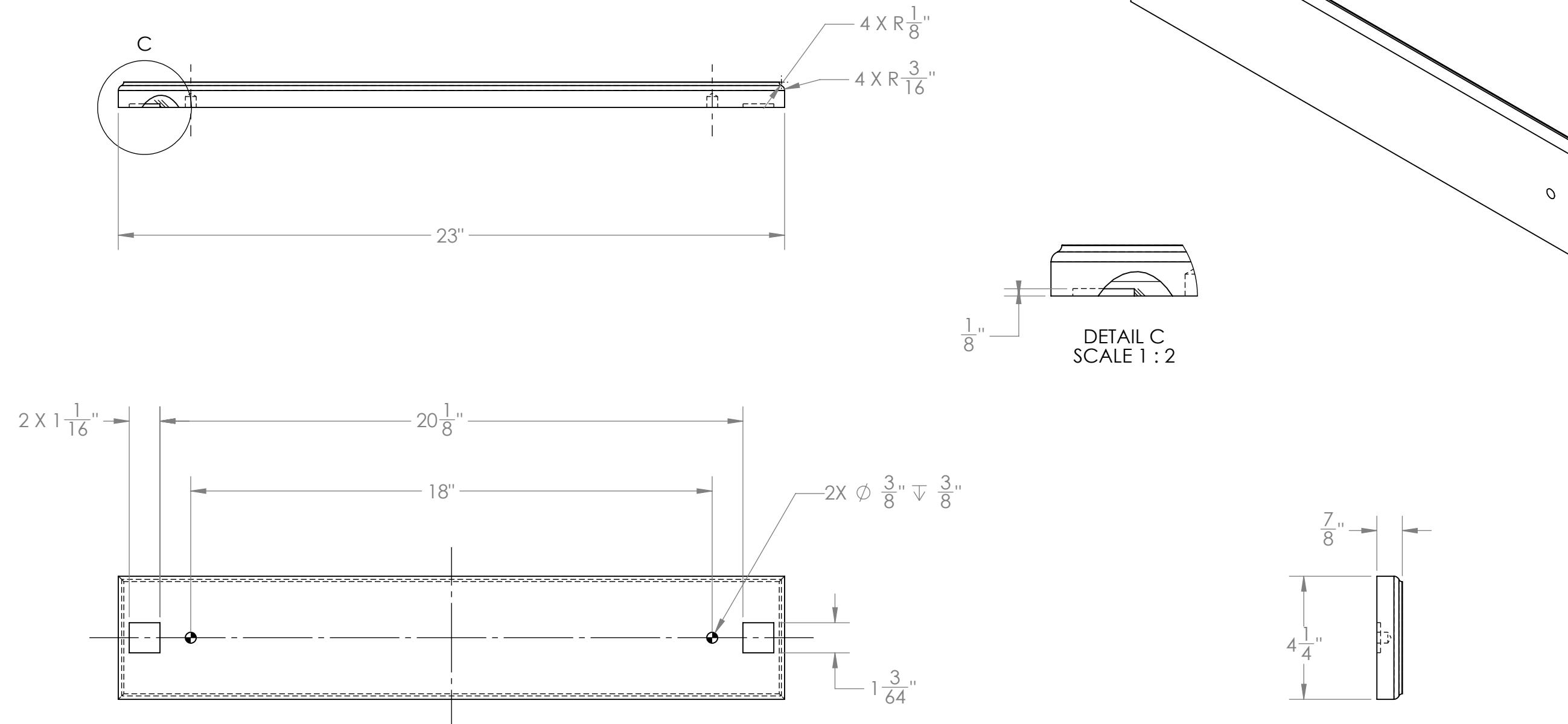


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 2025-01-27  
 CHECKED BY  
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 2025-01-27  
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 P.G. KELLY DATE  
 2025-01-27

SIZE DRAWING NO  
**B** 1:2  
 SCALE WEIGHT 0.52 lbs  
 SHEET 10 OF 20

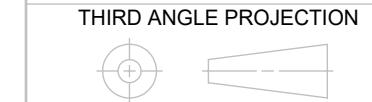
2221_S	-	SIDE
PART NUMBER	REV	DESCRIPTION

NOTES:  
 1. MATERIAL: Pine.  
 2. FINISH: STAIN.  
 3. REMOVE ALL SHARP EDGES.



2222_S	-	TOP PANEL
PART NUMBER	REV	DESCRIPTION

UNLESS OTHERWISE SPECIFIED  
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 PROJECT  
 HIVE PRODUCTS

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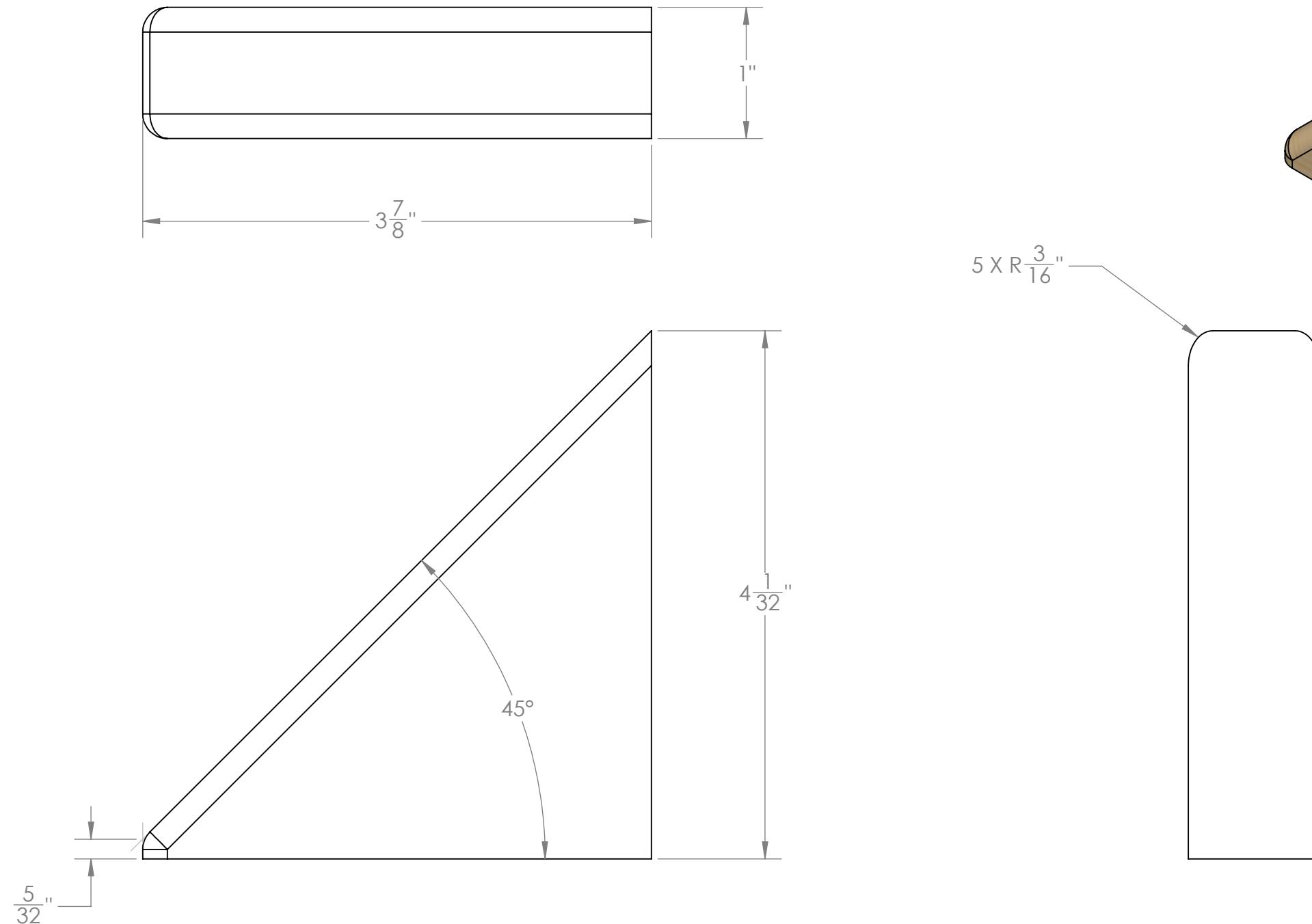


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## TOP PANEL

SIZE	DRAWING NO
<b>B</b>	10050 S
SCALE	1:4
WEIGHT	1.03 lbs
SHEET 11 OF 20	

NOTES:  
 1. MATERIAL: Pine.  
 2. FINISH: STAIN.  
 3. REMOVE ALL SHARP EDGES.



2223_S	-	GUSSET
PART NUMBER	REV	DESCRIPTION

UNLESS OTHERWISE SPECIFIED  
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THIRD ANGLE PROJECTION



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 2025-01-27  
 CHECKED BY  
 P.G. KELLY DATE  
 2025-01-27  
 APPROVED  
 P.G. KELLY DATE  
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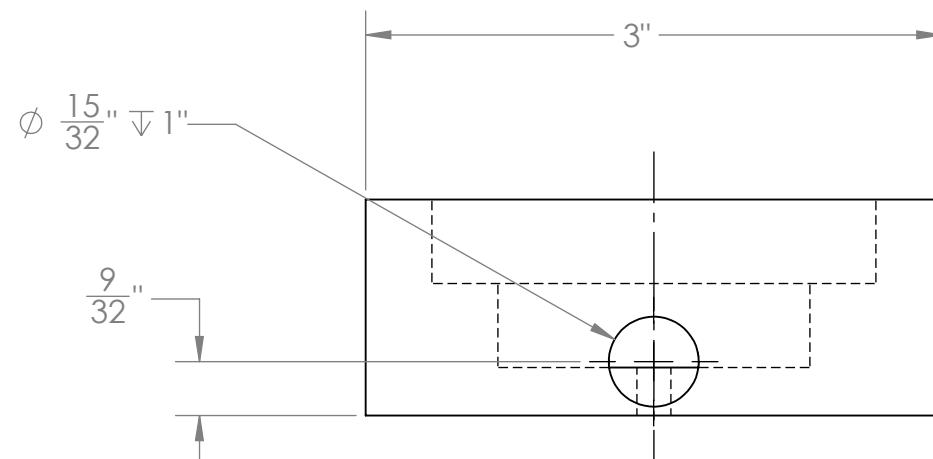
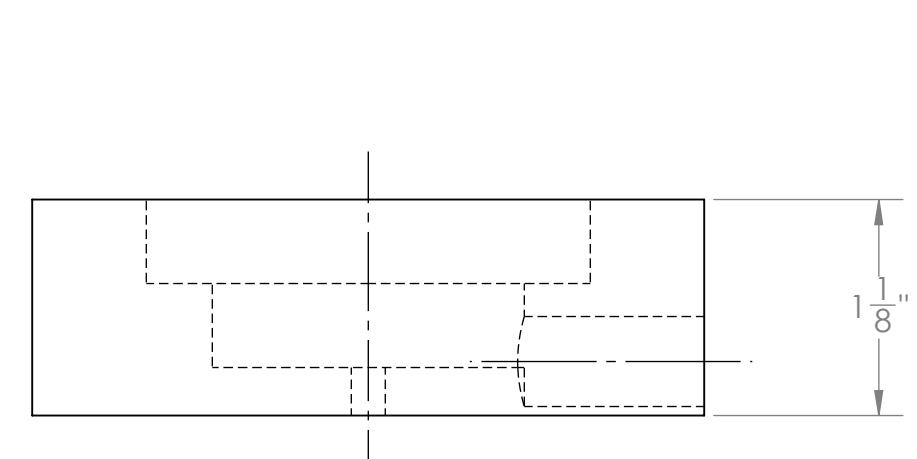
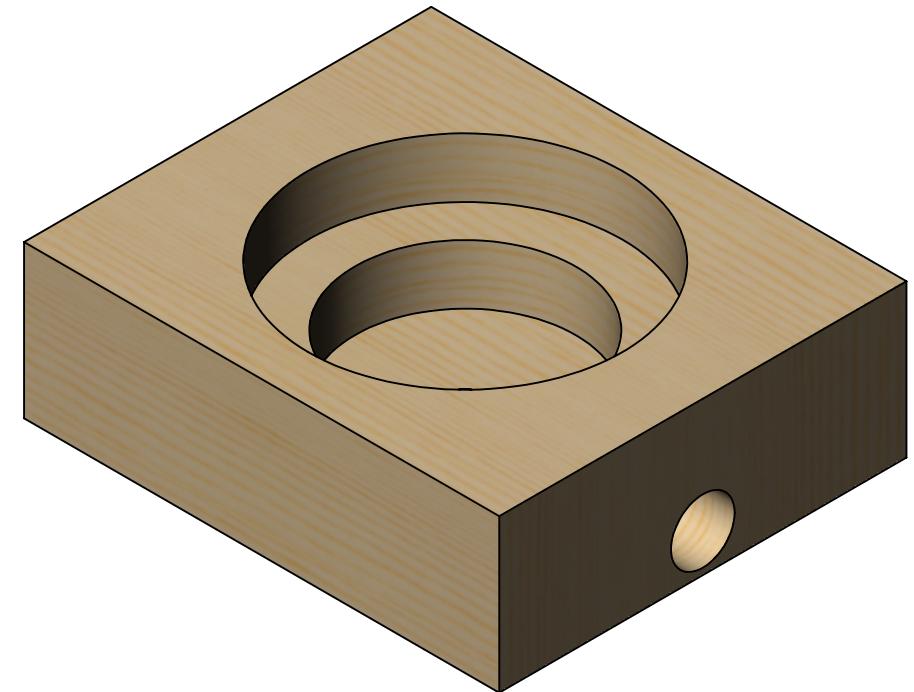
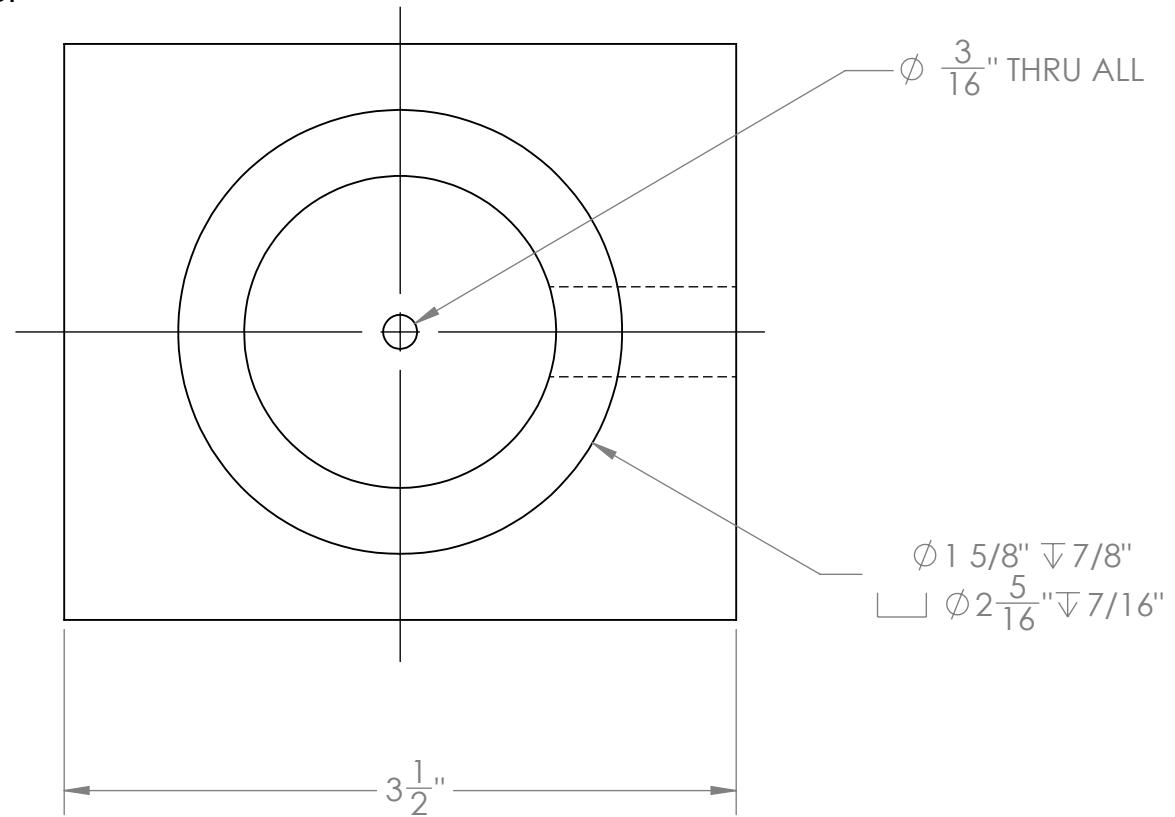


HONEY BEE RESEARCH CENTRE  
 THE UNIVERSITY OF GUELPH

**GUSSET**

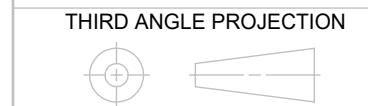
SIZE	DRAWING NO	10050 S		REVISION
<b>B</b>		1:1	0.10 lbs	-
SCALE		SHEET 12 OF 20		

NOTES:  
 1. MATERIAL: Pine.  
 2. FINISH: STAIN.  
 3. SIZES MAY NEED TO BE ALTERED TO SUIT YOUR FEEDER JAR.  
 4. REMOVE ALL SHARP EDGES.



2224_S	-	FEEDER BASE
PART NUMBER	REV	DESCRIPTION

UNLESS OTHERWISE SPECIFIED  
 DO NOT SCALE DRAWING  
 INTERPRET DIMENSIONS AND TOLERANCES  
 PER ASME Y14.5-2018  
 DIMENSIONS ARE IN INCHES



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CUSTOMER  
 BEE KEEPERS  
 PROJECT  
 HIVE PRODUCTS

DRAWN BY  
 F. FULKERSON  
 DATE  
 2025-01-27  
 CHECKED BY  
 P.G. KELLY  
 DATE  
 2025-01-27  
 APPROVED  
 P.G. KELLY  
 DATE  
 2025-01-27



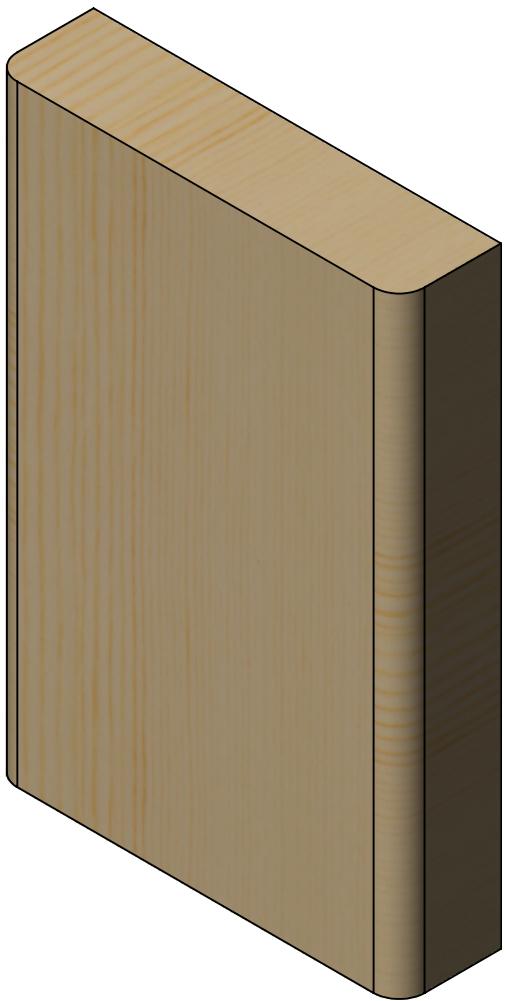
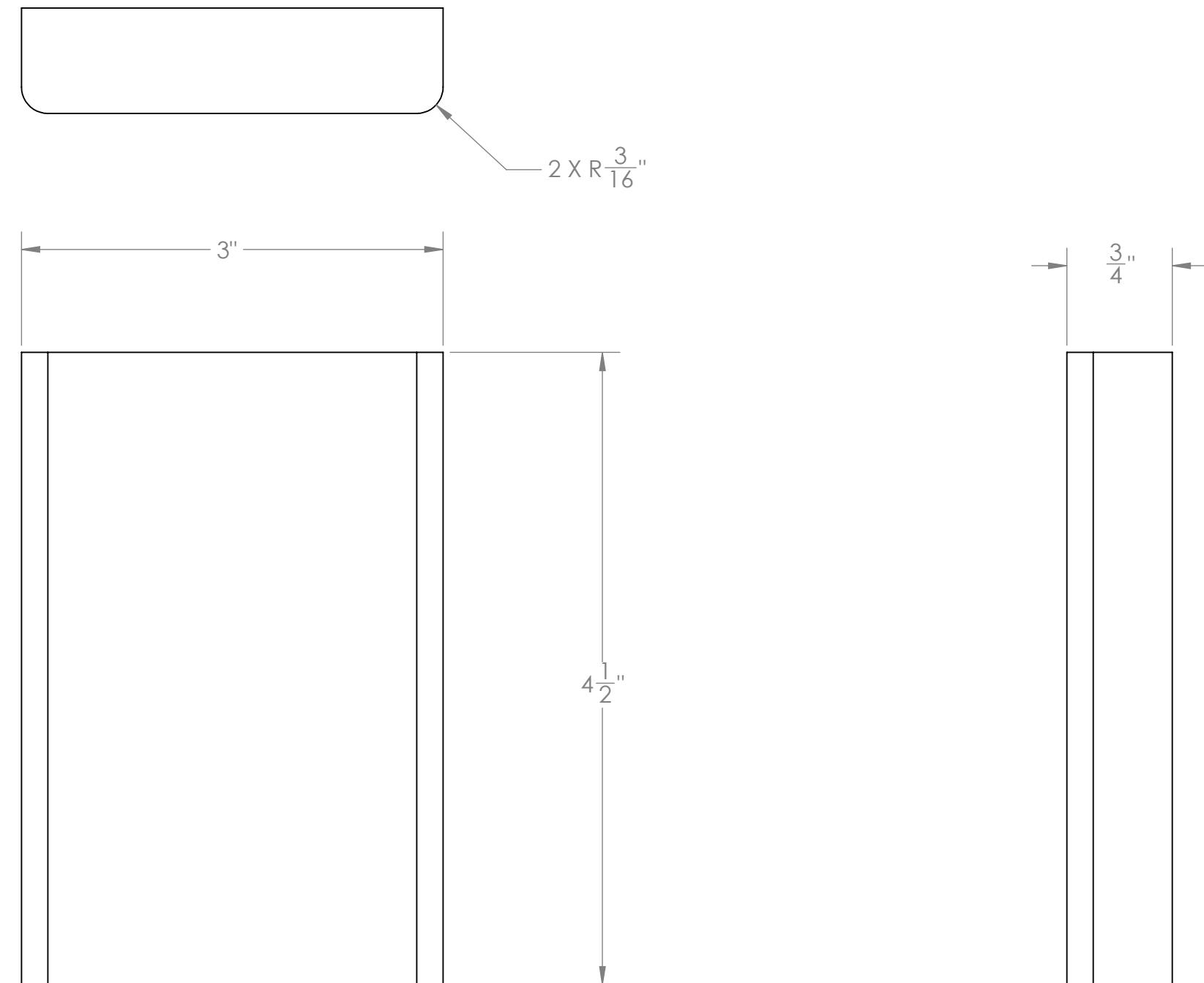
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 THE UNIVERSITY OF GUELPH

## FEEDER BASE

SIZE	DRAWING NO	10050 S		REVISION
B				-
SCALE	1:1	WEIGHT	0.11 lbs	SHEET 13 OF 20

## NOTES:

1. MATERIAL: Pine.
2. FINISH: STAIN.
3. SIZES MAY NEED TO BE ALTERED TO SUIT YOUR FEEDER JAR.
4. REMOVE ALL SHARP EDGES.



2225_S	-	FEEDER SIDE
PART NUMBER	REV	DESCRIPTION

UNLESS OTHERWISE SPECIFIED  
DO NOT SCALE DRAWING  
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PER ASME Y14.5-2018  
DIMENSIONS ARE IN INCHES

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CUSTOMER  
BEE KEEPERS

PROJECT  
HIVE PRODUCTS

THIRD ANGLE PROJECTION



DRAWN BY  
F. FULKERSON DATE  
2025-01-27  
CHECKED BY  
P.G. KELLY DATE  
2025-01-27  
APPROVED  
P.G. KELLY DATE  
2025-01-27



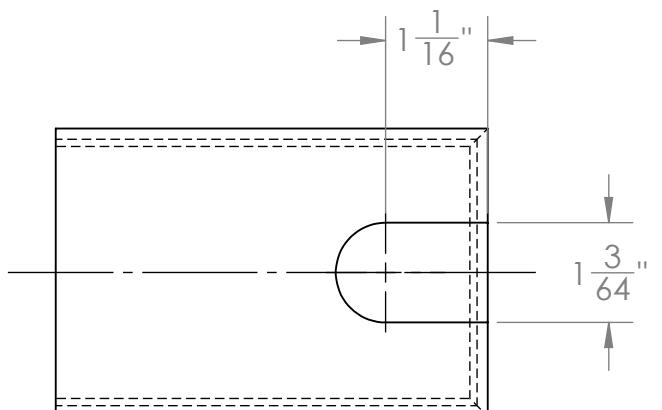
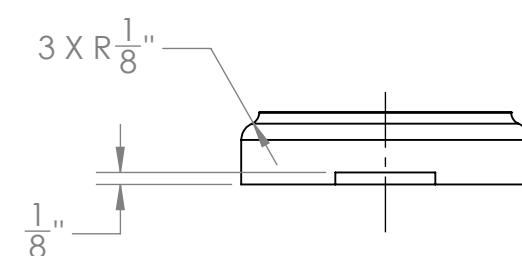
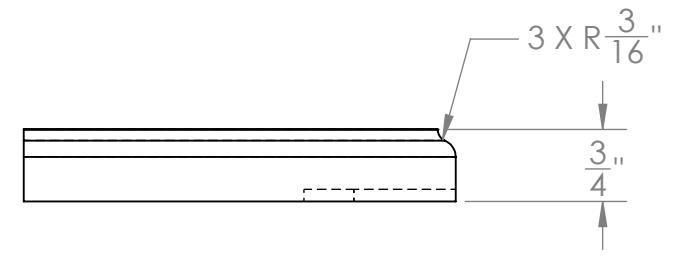
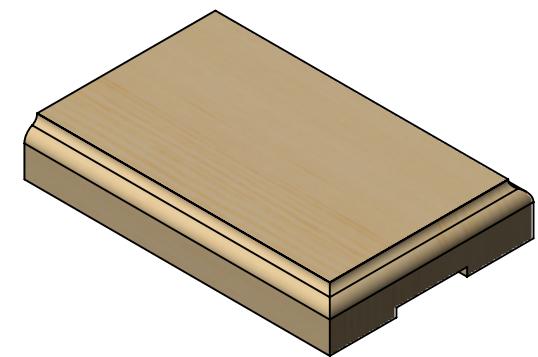
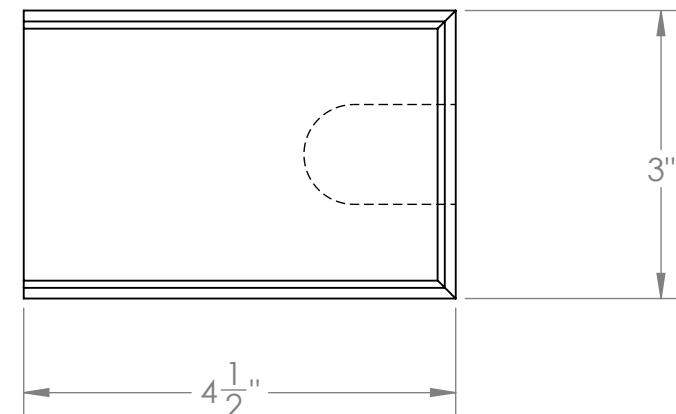
HONEY BEE RESEARCH CENTRE  
THE UNIVERSITY OF GUELPH

**FEEDER SIDE**

SIZE	DRAWING NO
<b>B</b>	10050 S
SCALE	1:1
WEIGHT	0.12 lbs
SHEET 14 OF 20	

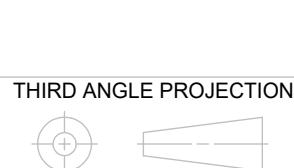
NOTES:

1. MATERIAL: Pine.
2. FINISH: STAIN.
3. SIZES MAY NEED TO BE ALTERED TO SUIT YOUR FEEDER JAR.
4. REMOVE ALL SHARP EDGES.



UNLESS OTHERWISE SPECIFIED  
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PER ASME Y14.5-2018  
DIMENSIONS ARE IN INCHES

THIRD ANGLE PROJECTION



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CUSTOMER  
BEE KEEPERS

PROJECT  
HIVE PRODUCTS

DRAWN BY  
F. FULKERSON  
DATE  
2025-01-27  
CHECKED BY  
P.G. KELLY  
DATE  
2025-01-27  
APPROVED  
P.G. KELLY  
DATE  
2025-01-27



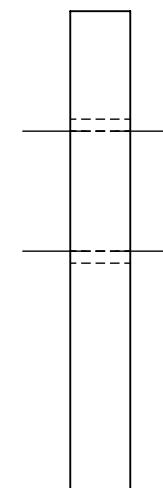
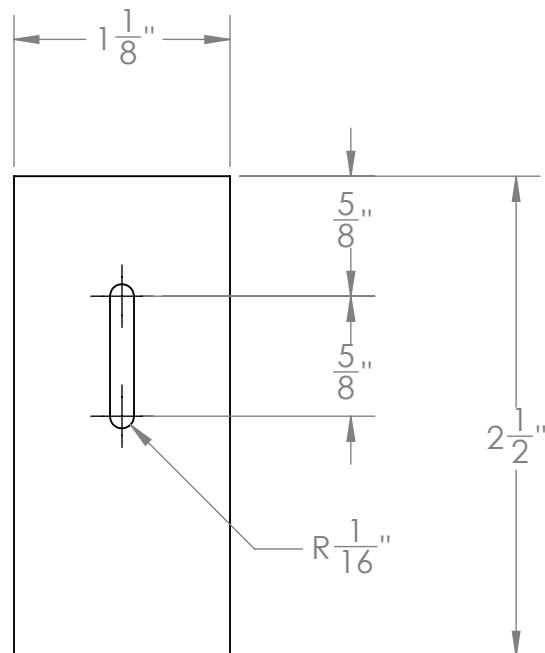
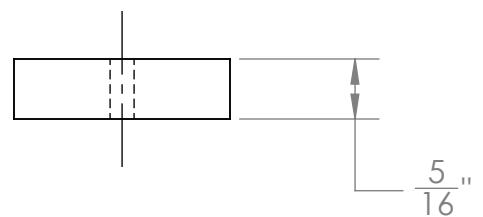
HONEY BEE RESEARCH CENTRE  
THE UNIVERSITY OF GUELPH

## FEEDER TOP

2226_S	-	FEEDER TOP
PART NUMBER	REV	DESCRIPTION

SIZE		DRAWING NO	REVISION	
B		10050	S	-
SCALE	1:2	WEIGHT	0.12 lbs	SHEET 15 OF 20

NOTES:  
 1. MATERIAL: Pine.  
 2. FINISH: STAIN.  
 3. REMOVE ALL SHARP EDGES.



2227_S	-	FEEDER HOLE COVER
PART NUMBER	REV	DESCRIPTION

UNLESS OTHERWISE SPECIFIED  
 DO NOT SCALE DRAWING  
 INTERPRET DIMENSIONS AND TOLERANCES  
 PER ASME Y14.5-2018  
 DIMENSIONS ARE IN INCHES

THIRD ANGLE PROJECTION

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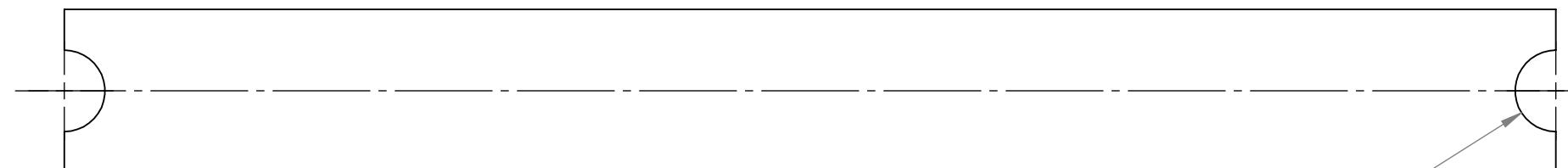
DRAWN BY  
 F. FULKERSON DATE  
 2025-01-27  
 CHECKED BY  
 P.G. KELLY DATE  
 2025-01-27  
 APPROVED  
 P.G. KELLY DATE  
 2025-01-27



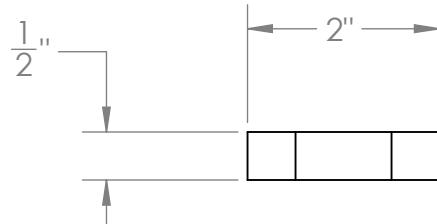
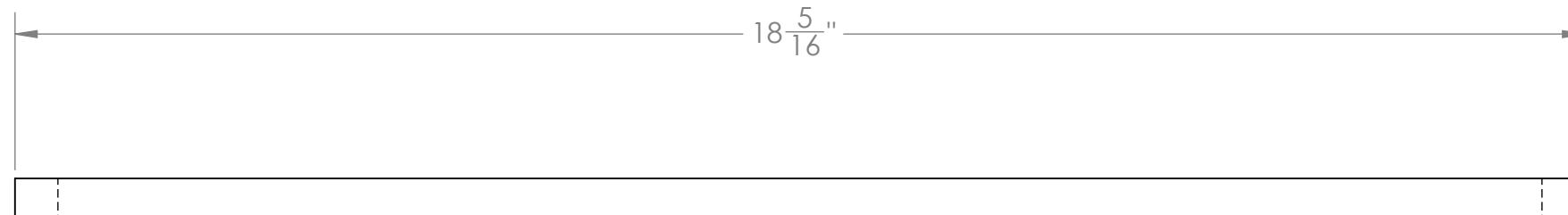
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 THE UNIVERSITY OF GUELPH

**FEEDER HOLE COVER**  
 SIZE DRAWING NO  
**B** 1:1 0.01 lbs SHEET 16 OF 20  
 REVISION  
**10050\_S** -

NOTES:  
 1. MATERIAL: Pine.  
 2. FINISH: STAIN.  
 3. REMOVE ALL SHARP EDGES.



2 X R  $\frac{1}{2}$ "



2228_S	-	INNER BASE
PART NUMBER	REV	DESCRIPTION

UNLESS OTHERWISE SPECIFIED  
 DO NOT SCALE DRAWING  
 INTERPRET DIMENSIONS AND TOLERANCES  
 PER ASME Y14.5-2018  
 DIMENSIONS ARE IN INCHES

THIRD ANGLE PROJECTION

SolidWorks MAINTAINED DATA  
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CUSTOMER  
 BEE KEEPERS  
 PROJECT  
 HIVE PRODUCTS

DRAWN BY  
 F. FULKERSON  
 DATE  
 2025-01-27  
 CHECKED BY  
 P.G. KELLY  
 DATE  
 2025-01-27  
 APPROVED  
 P.G. KELLY  
 DATE  
 2025-01-27

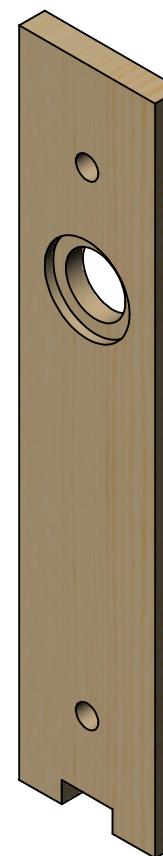
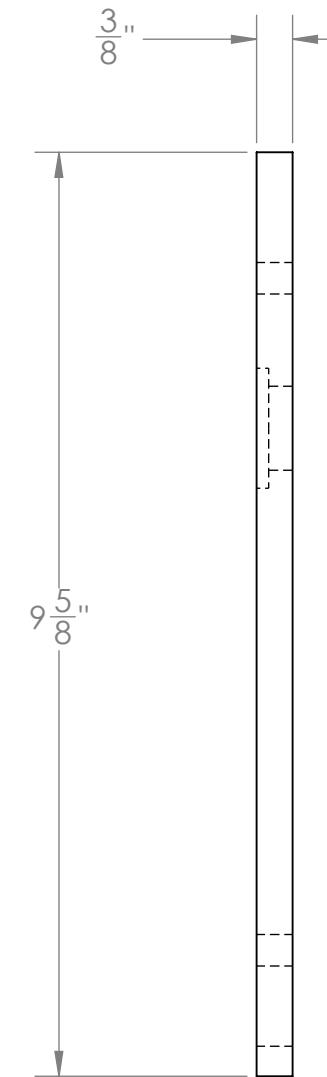
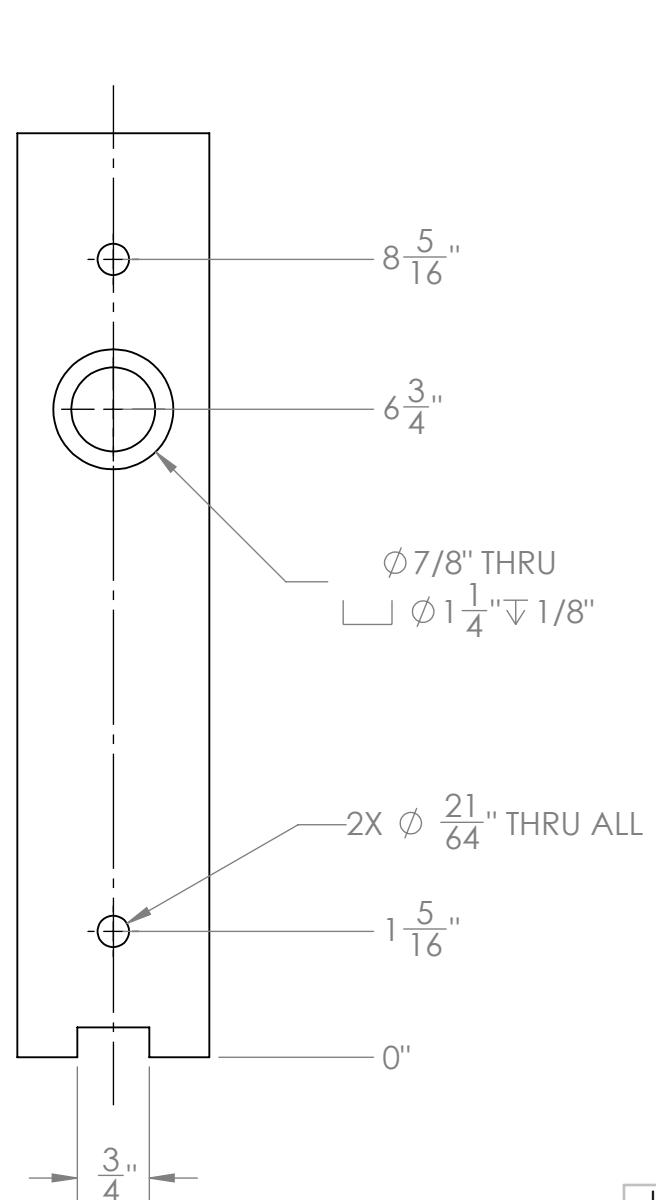
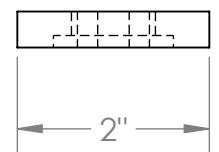


HONEY BEE RESEARCH CENTRE  
 THE UNIVERSITY OF GUELPH

## INNER BASE

SIZE DRAWING NO  
**B** 10050 S -  
 REVISION  
 1:2  
 WEIGHT 0.22 lbs  
 SHEET 17 OF 20

NOTES:  
 1. MATERIAL: Pine.  
 2. FINISH: STAIN.  
 3. REMOVE ALL SHARP EDGES.



UNLESS OTHERWISE SPECIFIED  
 DO NOT SCALE DRAWING  
 INTERPRET DIMENSIONS AND TOLERANCES  
 PER ASME Y14.5-2018  
 DIMENSIONS ARE IN INCHES

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CUSTOMER  
 BEE KEEPERS

PROJECT  
 HIVE PRODUCTS

THIRD ANGLE PROJECTION



HONEY BEE RESEARCH CENTRE  
 THE UNIVERSITY OF GUELPH

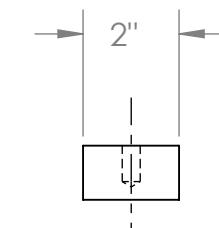
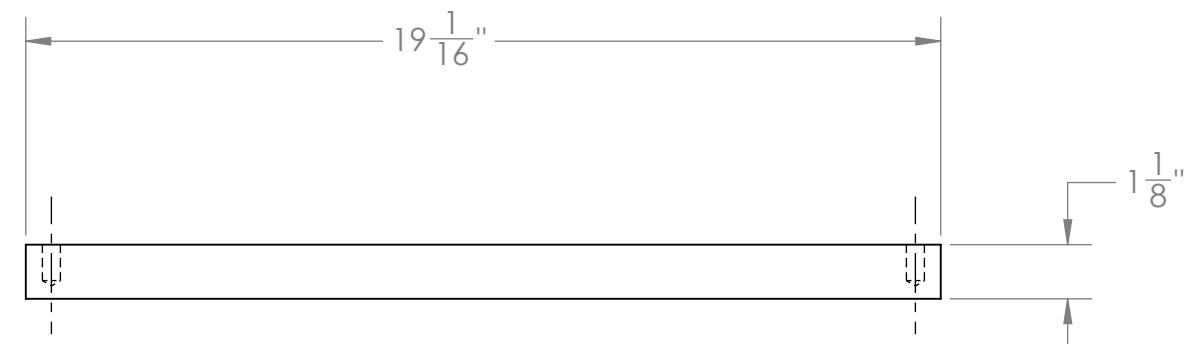
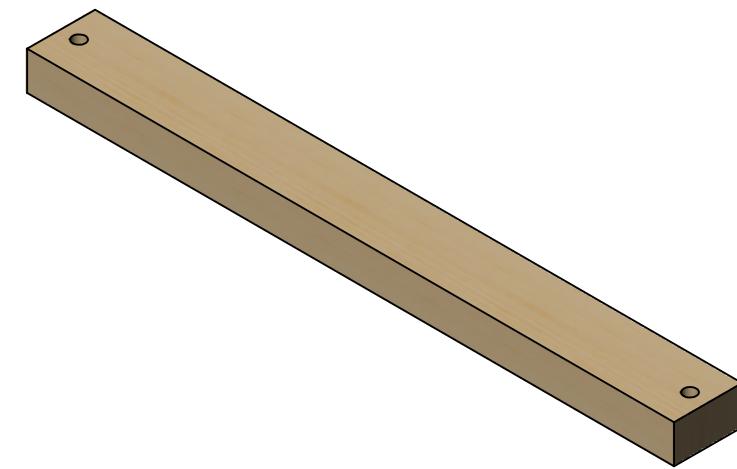
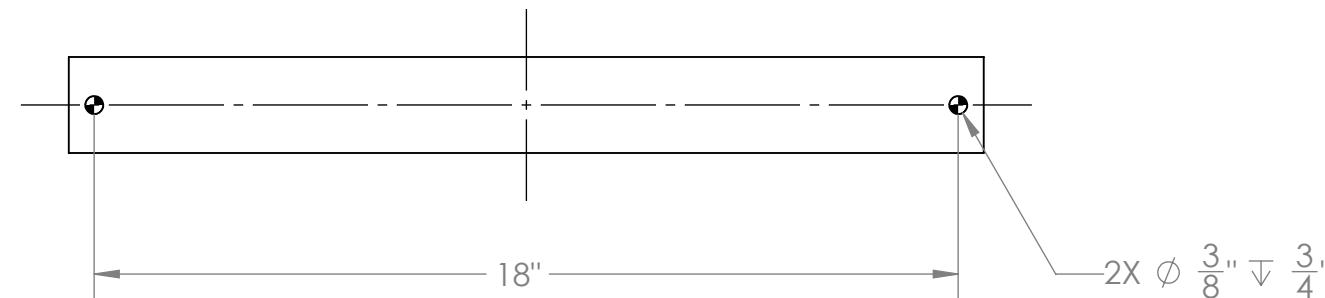
**INNER LOWER SIDE**

2229_S	-	INNER LOWER SIDE
PART NUMBER	REV	DESCRIPTION

DRAWN BY F. FULKERSON	DATE 2025-01-27
CHECKED BY P.G. KELLY	DATE 2025-01-27
APPROVED P.G. KELLY	DATE 2025-01-27

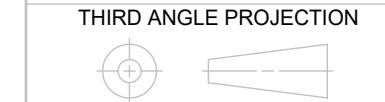
SIZE	DRAWING NO
<b>B</b>	<b>10050_S</b>
SCALE	1:2

NOTES:  
 1. MATERIAL: Pine.  
 2. FINISH: STAIN.  
 3. REMOVE ALL SHARP EDGES.



2231_S	-	INNER TOP
PART NUMBER	REV	DESCRIPTION

UNLESS OTHERWISE SPECIFIED  
 DO NOT SCALE DRAWING  
 INTERPRET DIMENSIONS AND TOLERANCES  
 PER ASME Y14.5-2018  
 DIMENSIONS ARE IN INCHES



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CUSTOMER  
 BEE KEEPERS  
 PROJECT  
 HIVE PRODUCTS

DRAWN BY  
 F. FULKERSON  
 DATE  
 2025-01-27  
 CHECKED BY  
 P.G. KELLY  
 DATE  
 2025-01-27  
 APPROVED  
 P.G. KELLY  
 DATE  
 2025-01-27

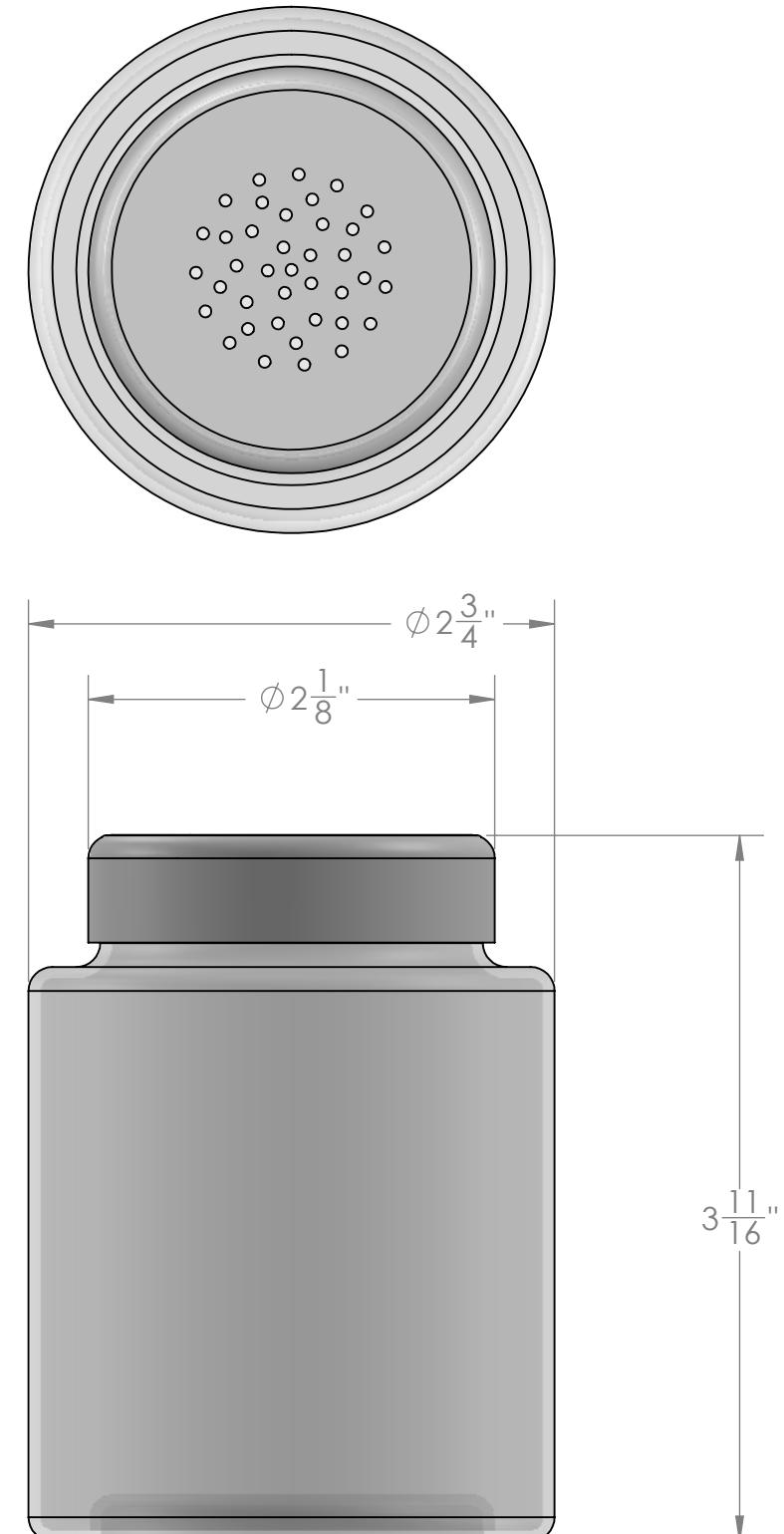


HONEY BEE RESEARCH CENTRE  
 THE UNIVERSITY OF GUELPH

**INNER TOP**

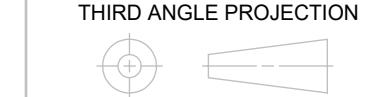
SIZE	DRAWING NO
<b>B</b>	<b>10050_S</b>
SCALE	1:4
WEIGHT	0.52 lbs
SHEET 19 OF 20	

NOTES:  
 1. MATERIAL: Plastic.  
 2. FINISH: NONE.  
 3. DRILL 0.04" (#60) HOLES IN LID.  
 4. REMOVE ALL SHARP EDGES.



10053_S	REV	SYRUP BOTTLE
PART NUMBER		DESCRIPTION

UNLESS OTHERWISE SPECIFIED  
 DO NOT SCALE DRAWING  
 INTERPRET DIMENSIONS AND TOLERANCES  
 PER ASME Y14.5-2018  
 DIMENSIONS ARE IN INCHES



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CUSTOMER  
 BEE KEEPERS  
 PROJECT  
 HIVE PRODUCTS

DRAWN BY  
 F. FULKERSON  
 DATE  
 2025-01-27  
 CHECKED BY  
 P.G. KELLY  
 DATE  
 2025-01-27  
 APPROVED  
 P.G. KELLY  
 DATE  
 2025-01-27



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 THE UNIVERSITY OF GUELPH

## SYRUP BOTTLE

SIZE	DRAWING NO
B	10050_S
SCALE	1:1
WEIGHT	0.101 lbs
SHEET 20 OF 20	