

ITEM NO.	PART NUMBER	Material	QTY.
1	CHASSIS	ABS	1
2	DC_MOTOR		1
3	SOLAR_PANEL		1
4	SOLAR_PANEL_MOUNT	ABS	1
5	BALL_CASTER	ABS	1
6	FRONT_WHEEL	ABS	2
7	FRONT_AXLE	AISI 304	1
8	REAR_WHEEL	ABS	1
9	REAR_AXLE	AISI 304	1
10	Metric - Straight bevel pinion 1M15PT 30GT 20PA 5FW --- 15O5H19MD3N	ABS	1
11	Metric - Straight bevel gear 1M 30GT 15PT 20PA 5FW --- 30O8H13MD3N	ABS	1
12	PHT 2x6x5.2-slot-D-S	AISI 304	6
13	B18.3.6M - M1.6 x 0.35 x 2 Hex Socket Flat Pt. SS --C		1
14	AXLE_CAP	ABS Plastic	2

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		DIMENSIONS ARE IN MM TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN	NG	8/15/22	TITLE: Solar Powered Mini Car		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.					
		MATERIAL	COMMENTS:			SIZE DWG. NO. REV B Des3 C		
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 4:5 WEIGHT: SHEET 1 OF 1		

4

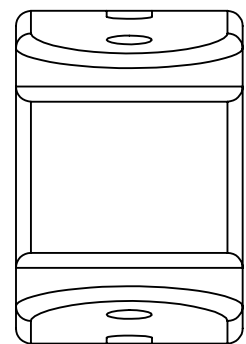
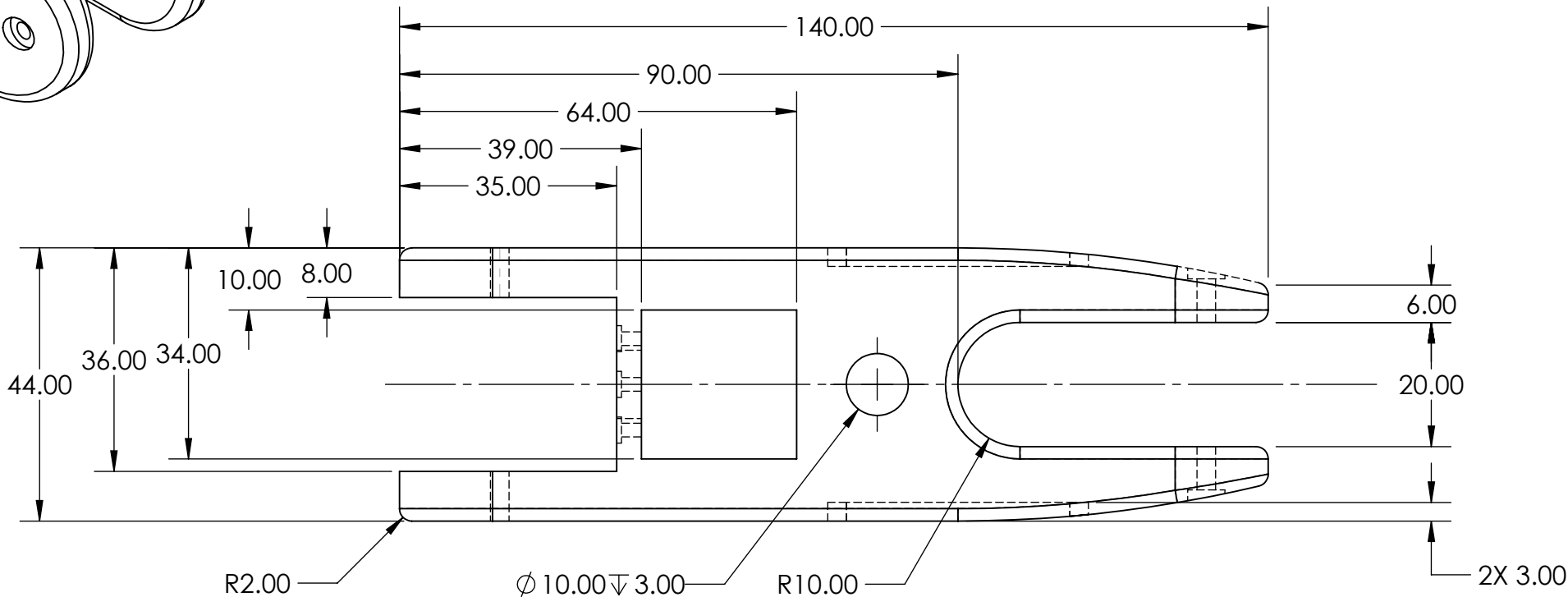
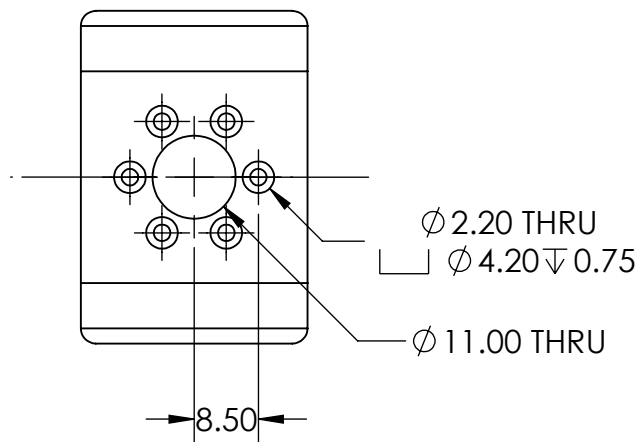
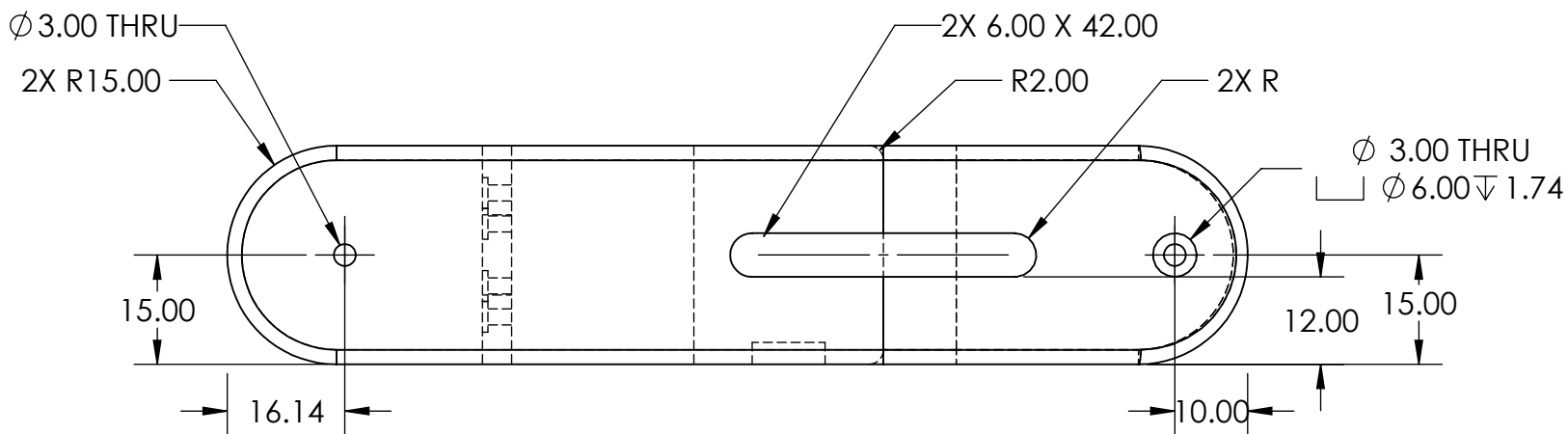
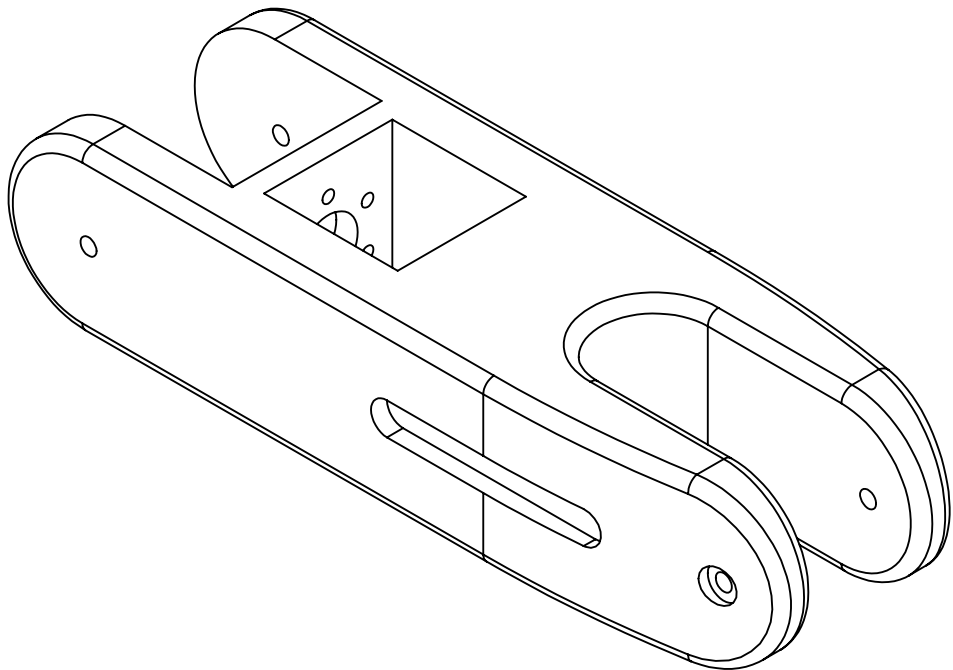
3

2

1

B

B



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A

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ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL
ABS Plastic

FINISH
POLISHED

DO NOT SCALE DRAWING

NAME

NG

DATE

8/15/22

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

MAE94 - UCLA

TITLE:

CHASSIS

SIZE

B

DWG. NO.

01

REV

C

SCALE: 1:1

WEIGHT:

SHEET 1 OF 1

4

3

2

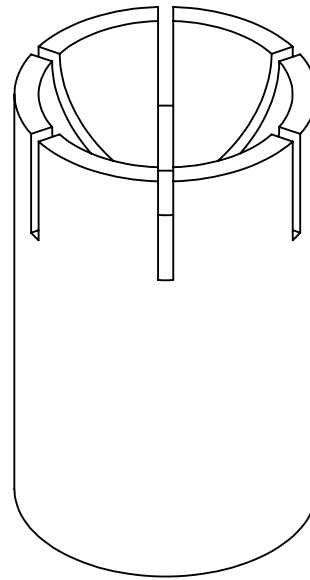
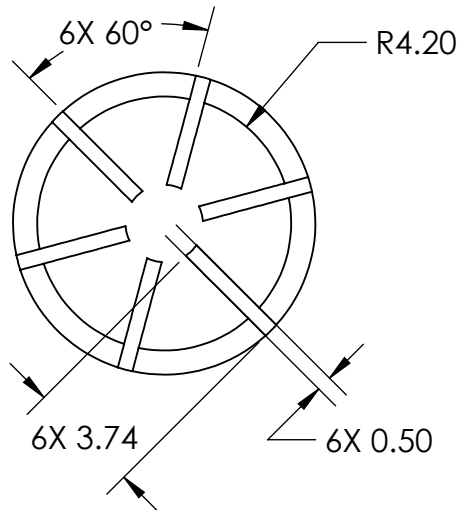
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1

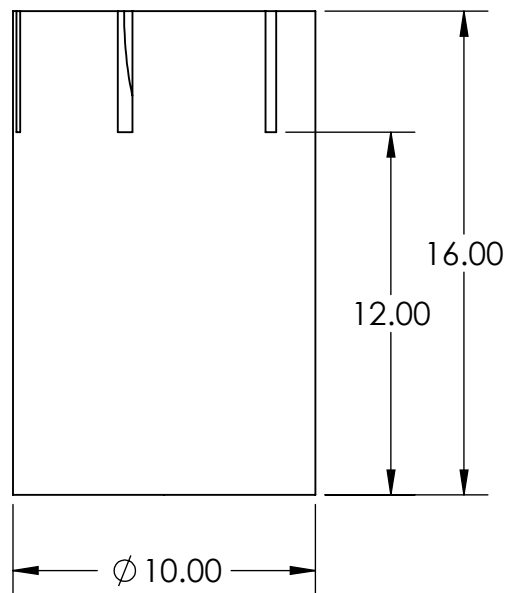
B

B



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		MATERIAL ABS	
		FINISH POLISHED	
NEXT ASSY	USED ON		
APPLICATION		DO NOT SCALE DRAWING	

	NAME	DATE
DRAWN	NG	8/15/22
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

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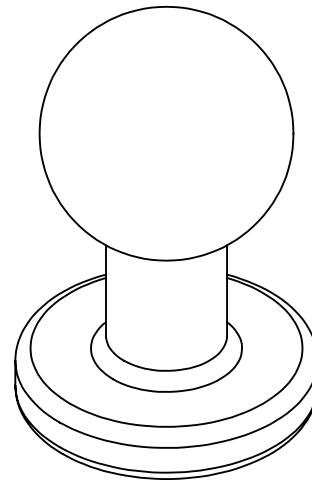
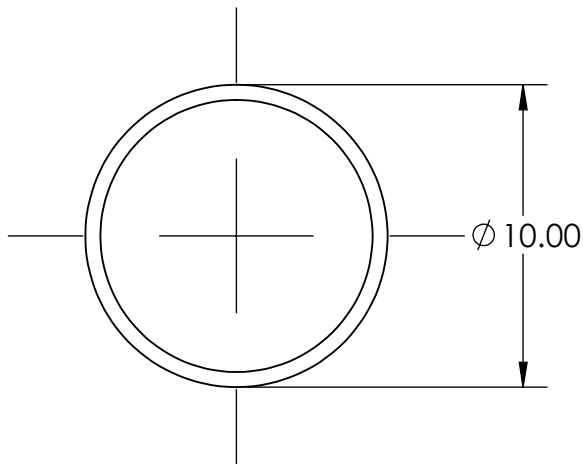
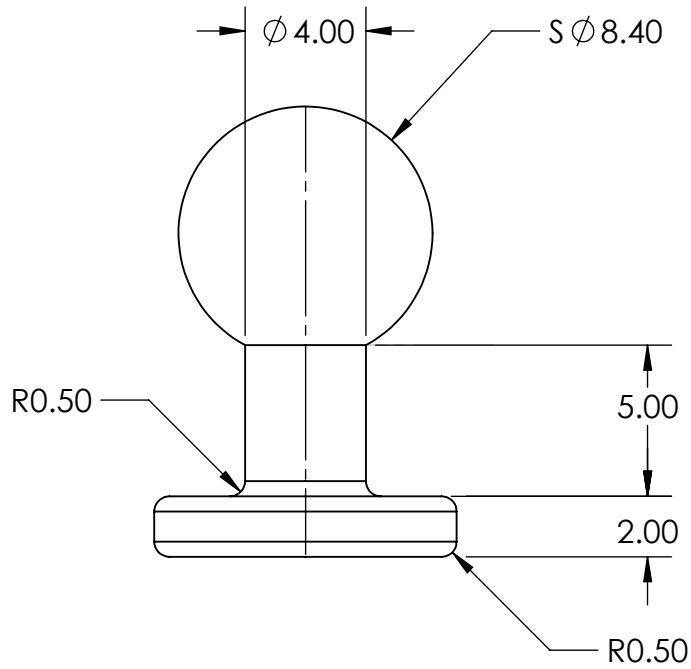
SOLAR_PANEL_MOUNT

SIZE A	DWG. NO. 04	REV. B
SCALE:4:1	WEIGHT:	SHEET 1 OF 1

1

2

1



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		MATERIAL ABS	
		FINISH POLISHED	
NEXT ASSY	USED ON		
APPLICATION		DO NOT SCALE DRAWING	

	NAME	DATE
DRAWN	NG	8/15/22
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

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BALL CASTER

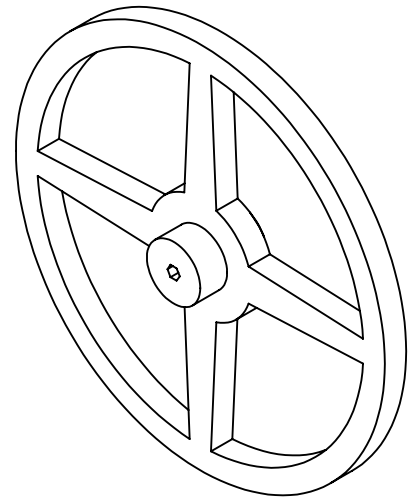
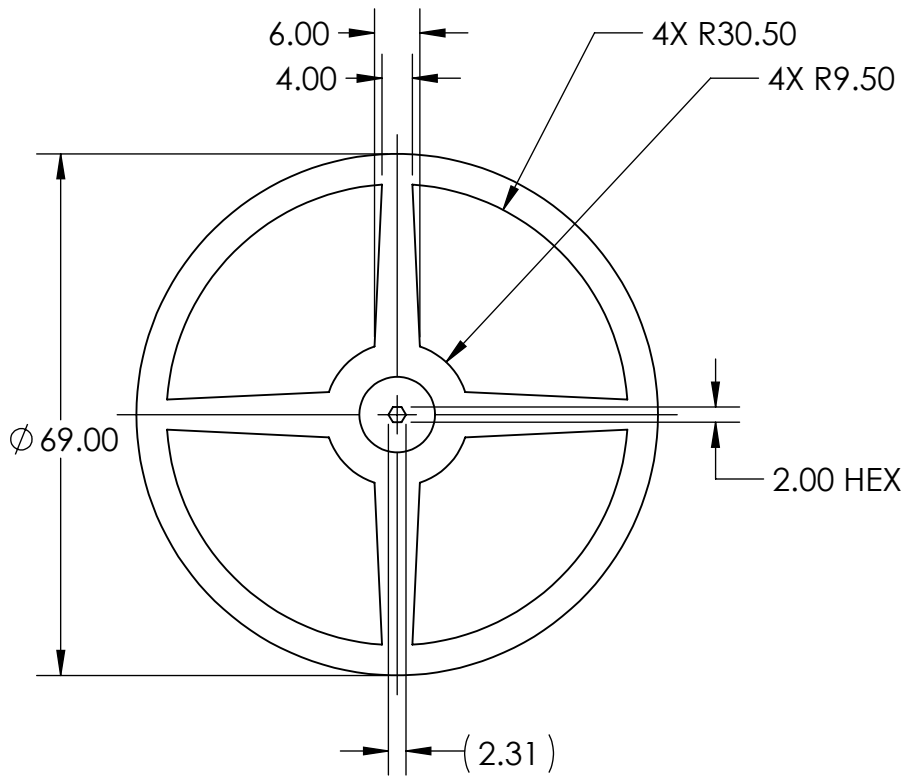
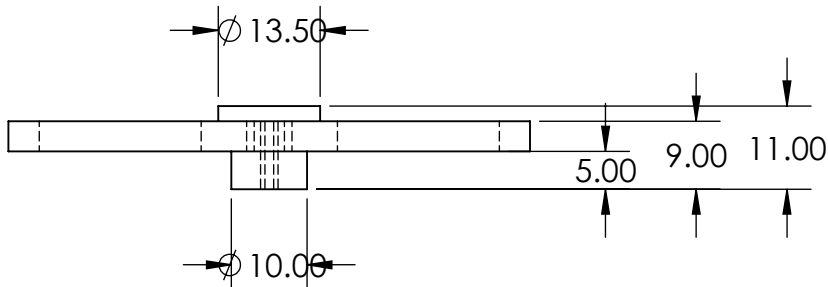
SIZE A	DWG. NO. 05	REV. B
SCALE:4:1	WEIGHT:	SHEET 1 OF 1

2

1

B

B



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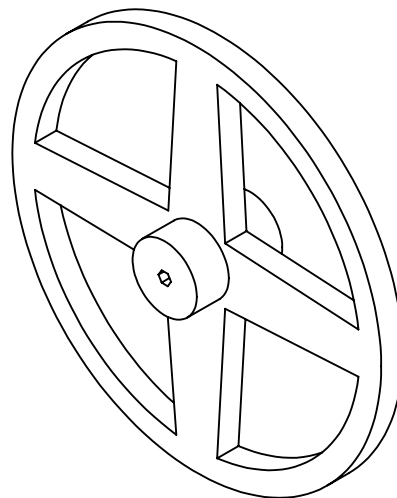
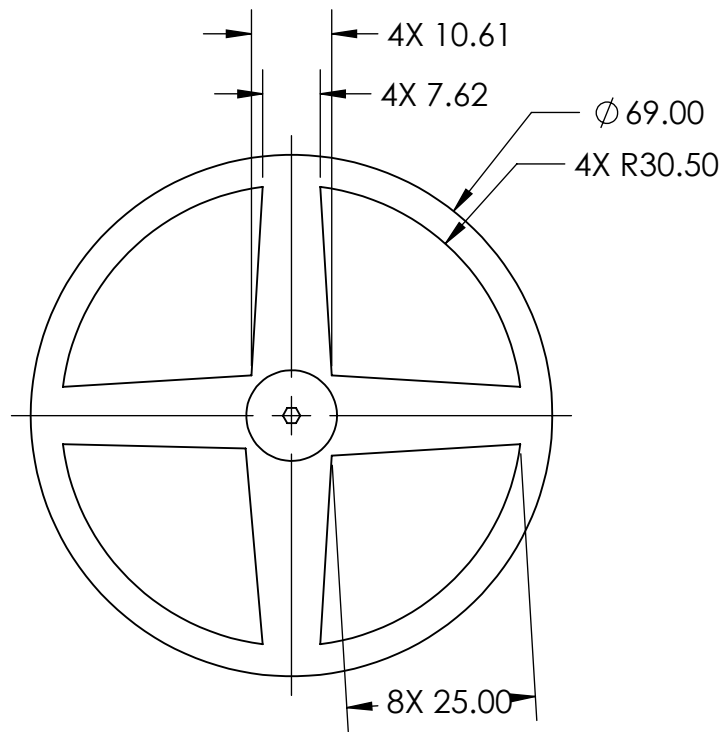
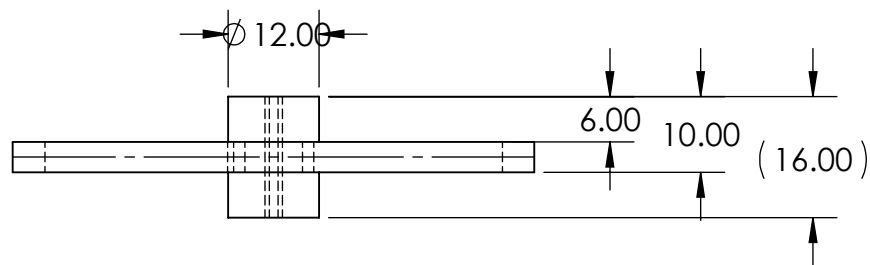
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		MATERIAL ABS	
NEXT ASSY	USED ON	FINISH SANDED	
APPLICATION		DO NOT SCALE DRAWING	

	NAME	DATE
DRAWN	NG	8/15/22
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

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FRONT_WHEEL

SIZE A	DWG. NO. 06	REV. B
SCALE:1:1	WEIGHT:	SHEET 1 OF 1



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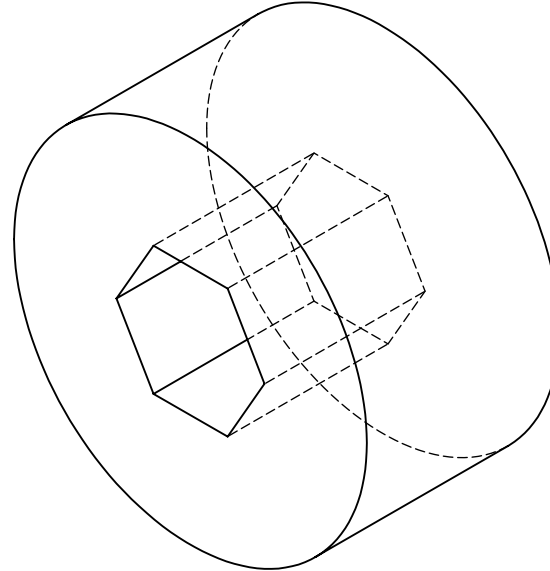
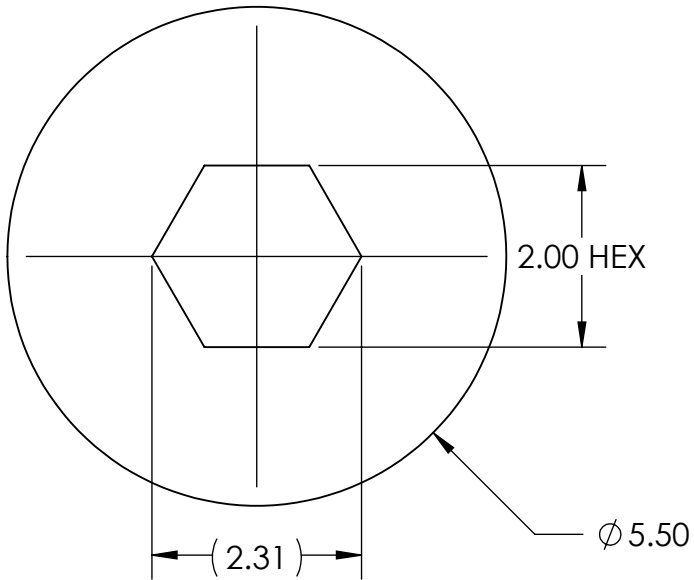
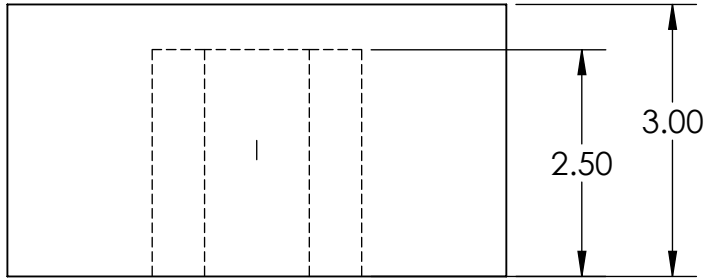
		DIMENSIONS ARE IN MM TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	
		MATERIAL ABS	
NEXT ASSY	USED ON	FINISH SANDED	
APPLICATION		DO NOT SCALE DRAWING	

	NAME	DATE
DRAWN	NG	8/15/22
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

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REAR_WHEEL

SIZE A	DWG. NO. 08	REV. B
SCALE:1:1	WEIGHT:	SHEET 1 OF 1



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		ANGULAR: MACH ± BEND ±
		TWO PLACE DECIMAL ±
		THREE PLACE DECIMAL ±
		INTERPRET GEOMETRIC
		TOLERANCING PER:
		MATERIAL
		ABS Plastic
		FINISH
		SANDED
NEXT ASSY	USED ON	
APPLICATION		DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	NG	8/15/22
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

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TITLE:		
AXLE_CAP		
SIZE	DWG. NO.	REV
A	14	A
SCALE: 12:1		WEIGHT:
		SHEET 1 OF 1

4

3

2

1

B

B

2 DC MOTOR
SHAFT = $\varnothing 2$
OD = 24
LENGTH = 13
254 RPM @0.5V
2540 RPM @ 5V
REQD = 1

3 SOLAR PANEL
~50 X 55
MAX OUTPUT ~ 5V
REQD = 1

7 AXLE
HEXAGONAL CROSS SECTION ($\varnothing 2$)
LENGTH = 65
AISI 304
REQD = 1

9 AXLE
HEXAGONAL CROSS SECTION ($\varnothing 2$)
LENGTH = 40
AISI 304
REQD = 1

10 STRAIGHT BEVEL PINION AI
MODULE = 1
TEETH = 15
PRESSURE ANGLE = 20
FACE WIDTH = 5
HUB \varnothing = 5
MOUNTING DISTANCE = 5
NOMINAL SHAFT DIAMETER = 3
REQD = 1

11 STRAIGHT BEVEL GEAR AI
MODULE = 1
TEETH = 30
PRESSURE ANGLE = 20
FACE WIDTH = 5
HUB \varnothing = 8
MOUNTING DISTANCE = 13
NOMINAL SHAFT DIAMETER = 3
REQD = 1

12 MICRO PHILLIPS SELF-TAPPING SCREW
M2 X 6 X 5.2
REQD = 6

13 B18.3.6M SOCKET SET SCREW FLAT POINT
M1.6 X 3.5 X 2
REQD = 1

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			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV B STANDARDS A		
		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

3

2

1