BROKEN OUT SECTION: TOP VIEW

CROP VIEW: FRONT ASSEMBLY

ITEM NO.	DESCRIPTION	MATERIAL	PART NO.	QTY.
1	Chassis	Cardboard	RR031-16	2
2	PopsicleStick	Wood	RR031-18	2
3	Arduino Uno		PURCHASED PART	1
4	MiniBreadboard		PURCHASED PART	1
5	L298N Motor Driver arduino		PURCHASED PART	1
6	DC Motor		PURCHASED PART	1
7	Lego Gear		PURCHASED PART	1
8	Differential Gear		PURCHASED PART	1
9	Position Servo		PURCHASED PART	1
10	LegoAxel		PURCHASED PART	1
11	LegoWheel		PURCHASED PART	2
12	CUSTOMPOPSICLESTICK1	Wood	RR031-11	4
13	CUSTOMPOPSICLESTICK2	Wood	RR031-12	1
14	CUSTOMPOPSICLESTICK3	Wood	RR031-13	2
15	FrontAssembly		RR031-03	1
16	PopsicleStickSupportsAssembly	Wood	RR031-04	4
17	TopChassis	Cardboard	RR031-17	1
18	BatteryPack		PURCHASED PART	1
19	ScrewEye		PURCHASED PART	2
20	Reflectance Array Mount Assembly		RR031-05	1

TITLE:
ROBOT ASSEMBLY

	NAME	DATE
DRAWN	MJM	10/30/20
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

SIZE **B** | DWG. NO. **RR031-01** | REV

SCALE: 1:4 | WEIGHT: | SHEET 1 OF 1

ROBOT EXPLODED VIEW

SIZE **C** | DWG. NO. **RR031-02**

Drawing 1: FRONT ASSEMBLY (RR031-03)

ITEM NO.	DESCRIPTION	MATERIAL	PART NUMBER	QTY.
1	CUSTOMPOPSICLESTICK4	Wood	RR031-14	2
2	Front Axel Holder	Wood	RR031-15	2
3	BottleCap		PURCHASED PART	1
4	ServoAttatchment		PURCHASED PART	1
5	LegoFrontAxel		PURCHASED PART	1
6	LegoWheel		PURCHASED PART	2

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL
ANGULAR: MACH BEND
TWO PLACE DECIMAL
THREE PLACE DECIMAL

INTERPRET GEOMETRIC TOLERANCING PER:
MATERIAL
FINISH
DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	MJM	10/23/20
CHECKED	CMG	10/23/20
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

TITLE:
FRONT ASSEMBLY

SIZE **B** DWG. NO. **RR031-03** REV

SCALE: 1:4 WEIGHT: SHEET 1 OF 1

Drawing 2: POPSICLE STICK SUPPORT ASSEMBLY (RR031-04)

ITEM NO.	DESCRIPTION	MATERIAL	PART NUMBER	QTY.
1	CustomPopsicleStickSupport	WOOD	RR031-19	3

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL
ANGULAR: MACH BEND
TWO PLACE DECIMAL
THREE PLACE DECIMAL

INTERPRET GEOMETRIC TOLERANCING PER:
MATERIAL
FINISH
DO NOT SCALE DRAWING
APPLICATION

	NAME	DATE
DRAWN	CMS	10/23/20
CHECKED	MJM	10/24/20
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

TITLE:
POPSICLE STICK SUPPORT ASSEMBLY

SIZE **A** DWG. NO. **RR031-04** REV

SCALE: 1:1 WEIGHT: SHEET 1 OF 1

Sheet 1 — Reflectance Array Mount Assembly

ITEM NO.	DESCRIPTION	PART NUMBER	MATERIAL	QTY.
1	Bottom Cardboard	RR031-20	CARDBOARD	1
2	Popsicle Stick Array Assembly	RR031-21	WOOD	2
3	15_16 Cardboard Side	RR031-22	CARDBOARD	1
4	1inch Cardboard Side	RR031-23	CARDBOARD	1

Sheet1

UNLESS OTHERWISE SPECIFIED:

DRAWN — JPI — 10/22/10
CHECKED — NJM — 10/22/10

TITLE: REFLECTANCE ARRAY MOUNT ASSEMBLY

SIZE: A   DWG. NO.: RR031-05   REV

SCALE: 1:1   WEIGHT: SHEET 1 OF 1

Sheet — Custom Popsicle Stick 1

3.88
.63
R.31
.06

UNLESS OTHERWISE SPECIFIED:

DRAWN — NJM — 10/20/10

MATERIAL: WOOD

TITLE: CUSTOM POPSICLE STICK 1

SIZE: A   DWG. NO.: RR031-11   REV

SCALE: 1:1   WEIGHT: SHEET 1 OF 1

CustomPopsicleStick1

Drawing 1:

2

1

B   B

3.63

.63

.06

A   A

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE		
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN	MJM	10/25/20	TITLE:	
			CHECKED				
			ENG APPR.			CUSTOM POPSICLE	
			MFG APPR.			STICK 2	
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.				
			COMMENTS:				
HEAT ASSY	USED ON	MATERIAL WOOD				SIZE DWG. NO. A RR031-12	REV
APPLICATION		FINISH					
		DO NOT SCALE DRAWING				SCALE: 1:1 WEIGHT:	SHEET 1 OF 1

2   1

Drawing 2:

2

1

B   B

2.44

.63

.06

A   A

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE		
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN	MJM	10/25/20	TITLE:	
			CHECKED				
			ENG APPR.			CUSTOM POPSICLE	
			MFG APPR.			STICK 3	
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.				
			COMMENTS:				
NEXT ASSY	USED ON	MATERIAL WOOD				SIZE DWG. NO. A RR031-13	REV
APPLICATION		FINISH					
		DO NOT SCALE DRAWING				SCALE: 1:1 WEIGHT:	SHEET 1 OF 1

2   1

Sheet 1 — CUSTOM POPSICLE STICK 4

2.50

.63

.09

CustomPopsicleStick4

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL
ANGULAR: MACH   BEND
TWO PLACE DECIMAL
THREE PLACE DECIMAL

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL
WOOD

FINISH

	NAME	DATE
DRAWN	PAJM	10/22/08
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

NEXT ASSY   USED ON
APPLICATION

DO NOT SCALE DRAWING

TITLE:
CUSTOM POPSICLE STICK 4

SIZE **A**   DWG. NO. **RR031-14**   REV

SCALE: 1:1   WEIGHT: SHEET 1 OF 1

Sheet 2 — FRONT AXEL HOLDER

.13

.63

.25

.31

.63

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL
ANGULAR: MACH   BEND
TWO PLACE DECIMAL
THREE PLACE DECIMAL

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

FINISH

	NAME	DATE
DRAWN	PAJM	10/22/08
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

NEXT ASSY   USED ON
APPLICATION

DO NOT SCALE DRAWING

TITLE:
FRONT AXEL HOLDER

SIZE **A**   DWG. NO. **RR031-15**   REV

SCALE: 2:1   WEIGHT: SHEET 1 OF 1

Drawing 1 — CHASSIS

2 | 1

7.00
6.50
5.50
4.00
1.75

2.31
1.50
2.69
3.50
5.00

.75
1.25

THICKNESS: .05

UNLESS OTHERWISE SPECIFIED:		NAME	DATE		
DIMENSIONS ARE IN INCHES	DRAWN	MJM	10/24/20	TITLE:	
TOLERANCES:	CHECKED				
FRACTIONAL±					
ANGULAR: MACH± BEND ±	ENG APPR.				CHASSIS
TWO PLACE DECIMAL ±	MFG APPR.				
THREE PLACE DECIMAL ±					
INTERPRET GEOMETRIC	Q.A.				
TOLERANCING PER:	COMMENTS:				
MATERIAL CARDBOARD				SIZE DWG. NO.	REV
FINISH				A RR031-16	
NEXT ASSY	USED ON			SCALE: 1:2 WEIGHT:	SHEET 1 OF 1
APPLICATION		DO NOT SCALE DRAWING			

Drawing 2 — ROOF CHASSIS

.05

5.00

4.00

UNLESS OTHERWISE SPECIFIED:		NAME	DATE		
DIMENSIONS ARE IN INCHES	DRAWN	MJM	10/24/20	TITLE:	
TOLERANCES:	CHECKED				
FRACTIONAL±					
ANGULAR: MACH± BEND ±	ENG APPR.				ROOF CHASSIS
TWO PLACE DECIMAL ±	MFG APPR.				
THREE PLACE DECIMAL ±					
INTERPRET GEOMETRIC	Q.A.				
TOLERANCING PER:	COMMENTS:				
MATERIAL CARDBOARD				SIZE DWG. NO.	REV
FINISH				A RR031-17	
NEXT ASSY	USED ON			SCALE: 1:2 WEIGHT:	SHEET 1 OF 1
APPLICATION		DO NOT SCALE DRAWING			

Drawing View3

R.31

3.75

.06

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE			
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL± ANGULAR: MACH± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN		10/25/20	TITLE:		
			CHECKED	MJM	10/25/20			
			ENG APPR.			**POPSICLE STICK**		
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.					
			COMMENTS:					
		MATERIAL WOOD				SIZE **A**	DWG. NO. RR031-18	REV
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

R.19

3.88

.08

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE			
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL± ANGULAR: MACH± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN	JRT	10/22/20	TITLE:		
			CHECKED	CMS	10/25/20			
			ENG APPR.			**CUSTOM POPSICLE STICK SUPPORT**		
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.					
			COMMENTS:					
		MATERIAL WOOD				SIZE **A**	DWG. NO. RR031-19	REV
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

Sheet 1 — BOTTOM CARDBOARD (RR031-20)

Dimensions visible on drawing:
- .13
- .75
- .13
- .63
- 2.63
- 3.25

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL
CARDBOARD

FINISH

	NAME	DATE
DRAWN	CMS	10/22/20
CHECKED	MJM	10/23/20
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

TITLE:
BOTTOM CARDBOARD

SIZE **A** | DWG. NO. RR031-20 | REV

SCALE: 1:1 WEIGHT: SHEET 1 OF 1

NEXT ASSY | USED ON
APPLICATION DO NOT SCALE DRAWING

Sheet 2 — CUT POPSICLE STICK (RR031-21)

Dimensions visible on drawing:
- .13
- 3.25
- .38

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL
WOOD

FINISH

	NAME	DATE
DRAWN	JRT	10/23/20
CHECKED	MJM	10/23/20
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

TITLE:
CUT POPSICLE STICK

SIZE **A** | DWG. NO. RR031-21 | REV

SCALE: 1:1 WEIGHT: SHEET 1 OF 1

NEXT ASSY | USED ON
APPLICATION DO NOT SCALE DRAWING

Drawing 1:

.06

3.25

.94

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL±
ANGULAR: MACH± BEND±
TWO PLACE DECIMAL±
THREE PLACE DECIMAL±

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL
CARDBOARD

FINISH

NEXT ASSY | USED ON

APPLICATION

DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	CMS	10/22/20
CHECKED	JRT	10/22/20
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

TITLE:
15_16 CARDBOARD SIDE

SIZE **A** | DWG. NO. **RR031-22** | REV

SCALE: 1:1 | WEIGHT: | SHEET 1 OF 1

Drawing 2:

.06

3.25

1.00

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL±
ANGULAR: MACH± BEND±
TWO PLACE DECIMAL±
THREE PLACE DECIMAL±

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

FINISH

NEXT ASSY | USED ON

APPLICATION

DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	JRT	10/21/20
CHECKED	CMS	10/21/20
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

TITLE:
1-INCH CARDBOARD SIDE

SIZE **A** | DWG. NO. **RR031-23** | REV

SCALE: 1:1 | WEIGHT: | SHEET 1 OF 1

Robot Schematic: