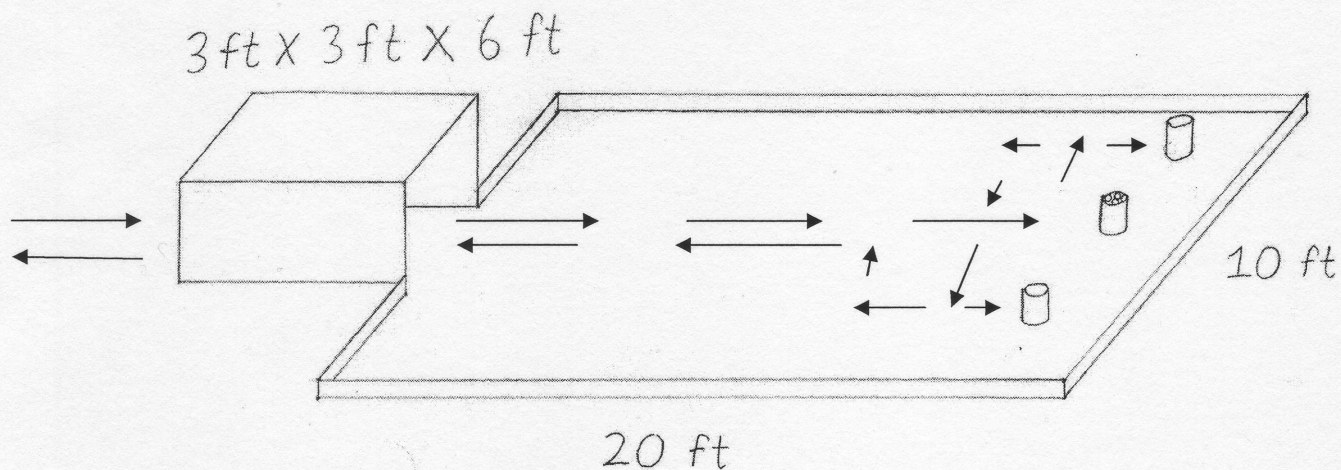


Selection of Design Concept

MOBILE PLATFORM			Design 1			Design 2			Design 3			Design 4		
Objective	Weighting Factor	Parameter	Mag.	Score	Value	Mag.	Score	Value	Mag.	Score	Value	Mag.	Score	Value
Controllability	0.35	experience	great	10	3.5	great	10	3.5	great	10	3.5	great	10	3.5
Modularity	0.25	experience	good	6	1.5	good	6	1.5	good	6	1.5	good	6	1.5
Weight	0.2	lbs.	20.52	6	1.2	16.42	8	1.6	16.98	7	1.4	15.76	10	2
Time to Make (Initial)	0.1	hours	7.25	6	0.6	7	7	0.7	8	5	0.5	6.75	9	0.9
Cost	0.1	\$	20.25	5	0.5	9.25	10	1	9.25	10	1	19.94	5	0.5
Overall value						7.3				8.3				7.9
														8.4

BALL SORTER / RELEASE MECHANISM			Design 1			Design 2			Design 3			Design 4		
Objective	Weighting Factor	Parameter	Mag.	Score	Value	Mag.	Score	Value	Mag.	Score	Value	Mag.	Score	Value
Reliability	0.25	experience	great	10	2.5	good	6	1.5	good	6	1.5	great	10	2.5
Manufacturability	0.25	experience	good	6	1.5	good	6	1.5	fair	4	1	great	10	2.5
Simplicity of Operation	0.15	experience	good	6	0.9	good	6	0.9	good	6	0.9	great	10	1.5
Weight	0.15	lbs.	8	7	1.05	3.9	9	1.35	6	8	1.2	7.5	7	1.05
Time to Make	0.1	hours	4	4	0.4	3	6	0.6	4	4	0.4	4	4	0.4
Cost	0.1	\$	0	10	1	14.29	3	0.3	15.82	1	0.1	0	10	1
Overall value						7.95				6.15				5.1
														8.95

BUCKET MANIPULATOR			Design 1			Design 2			Design 3			Design 4		
Objective	Weighting Factor	Parameter	Mag.	Score	Value	Mag.	Score	Value	Mag.	Score	Value	Mag.	Score	Value
Reliability	0.25	experience	poor	2	0.5	fair	4	1	good	6	1.5	good	6	1.5
Controllability	0.25	experience	poor	2	0.5	great	10	2.5	great	10	2.5	great	10	2.5
Speed	0.2	$\frac{ft.}{s}$	n/a	0	0	0.3	9	1.8	0.261	8	1.6	0.239	8	1.6
Simplicity of Operation	0.15	experience	fair	4	0.6	good	6	0.9	good	6	0.9	good	6	0.9
Time to Make	0.075	hours	2	7	0.525	1.5	9	0.675	1.6	8	0.6	1.6	8	0.6
Cost	0.075	\$	14.63	2	0.15	0	10	0.75	3.66	6	0.45	0.77	9	0.675
Overall value			2.275			7.625			7.55			7.775		

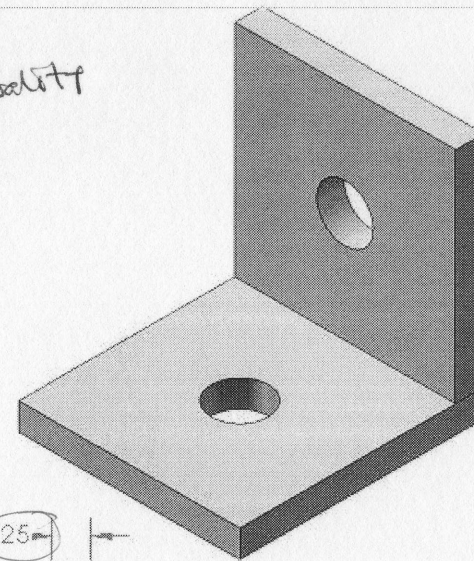


The path the robot will take is it will come straight into the arena, pick up, dump, and put back down the plastic bucket in the center, filled with five tennis balls and five golf balls, go to the left hand plastic bucket and release the tennis balls into it, go to the far right hand plastic bucket and release the golf balls into it, then exit the arena.

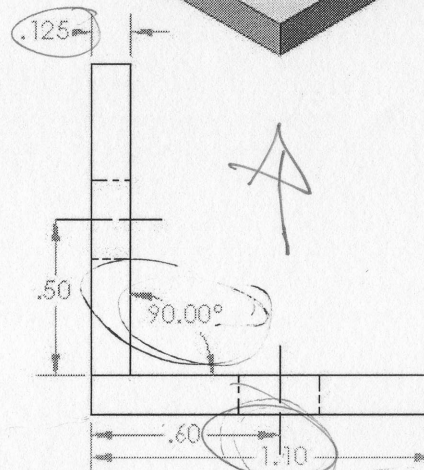
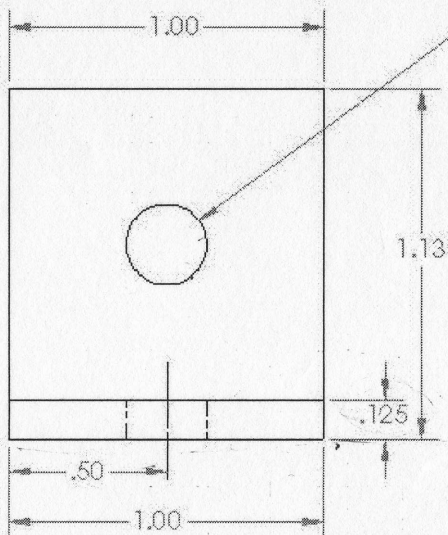
NOTES:

1. QTY: 20
2. ALL DIMS IN INCHES
3. MATL: 6105-T5 ALUMINUM
4. BREAK ALL EDGES
5. RAW SURFACES UNLESS NOTED

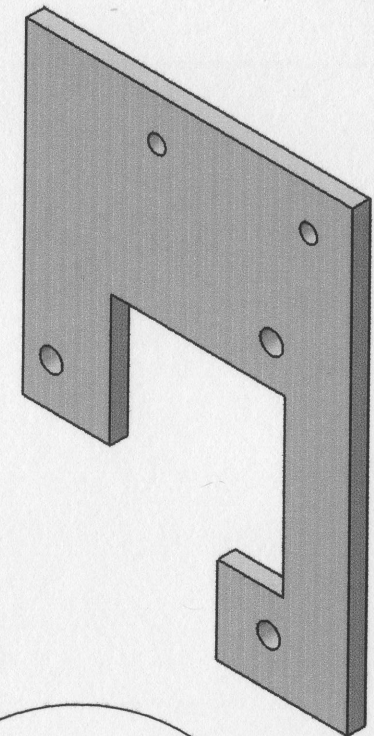
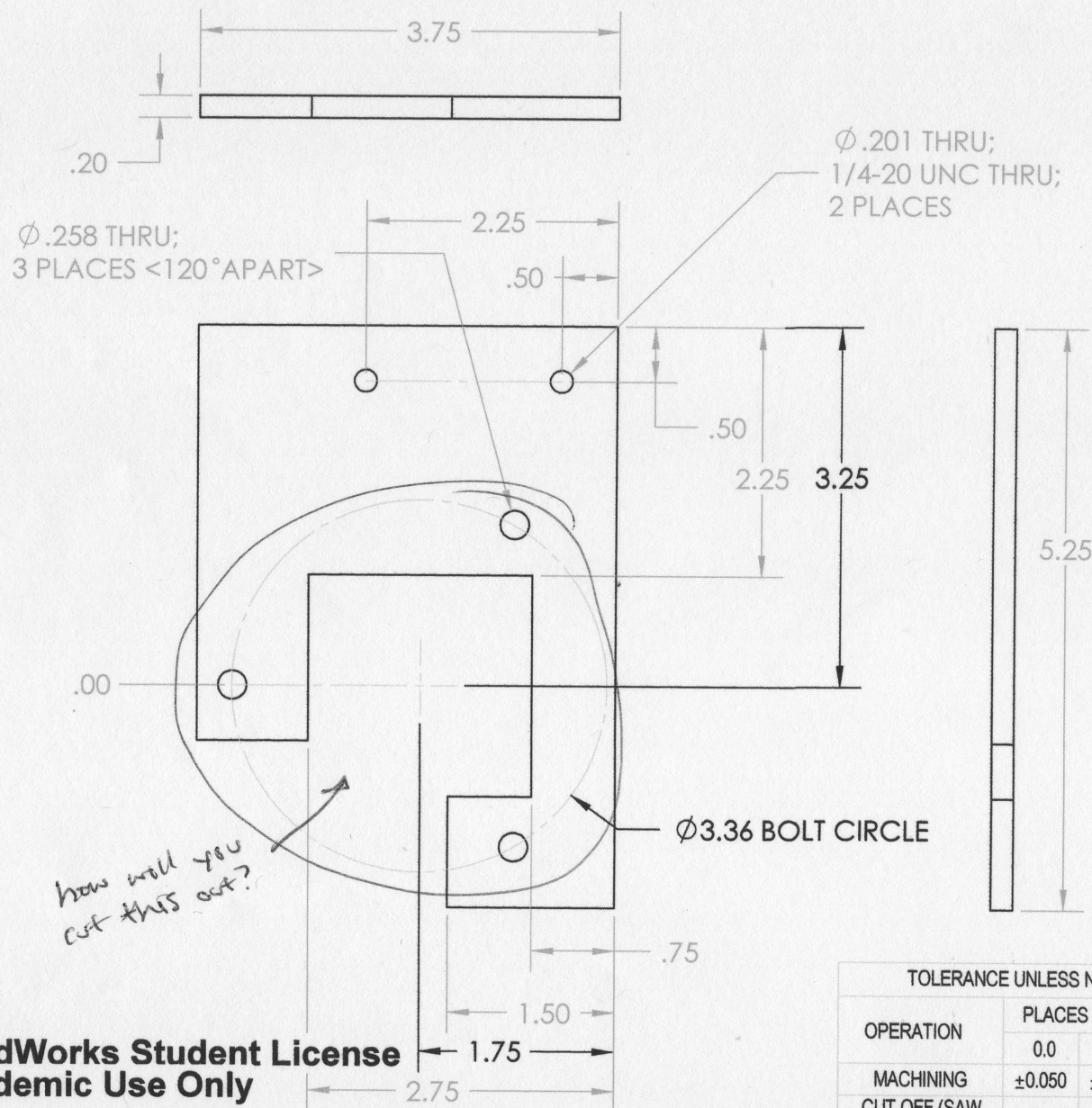
poor print quality



Ø .257 THRU:
2 PLACES ✓



TOLERANCE UNLESS NOTED				TITLE:	
OPERATION	PLACES IN DIMENSION			ANGLE BRACKET	
	0.0	0.00	0.000	DRAWN	E. BELL
MACHINING	±0.050	±0.020	±0.010	CHECKED	K. PASCIONI
CUT OFF (SAW, BURN, SHEAR)	±0.1	±0.063		SIZE	DWG. NO.
WELDING	±0.1	±0.063		A	EML2322L-002
ANGULAR DIMS	±5	±2	±0.5	SCALE: 2:1	REV B
					SHEET 1 OF 1

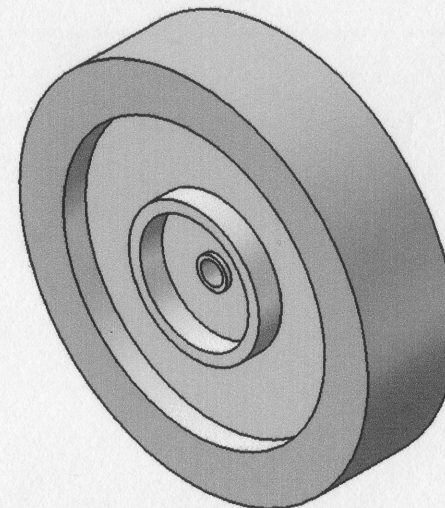
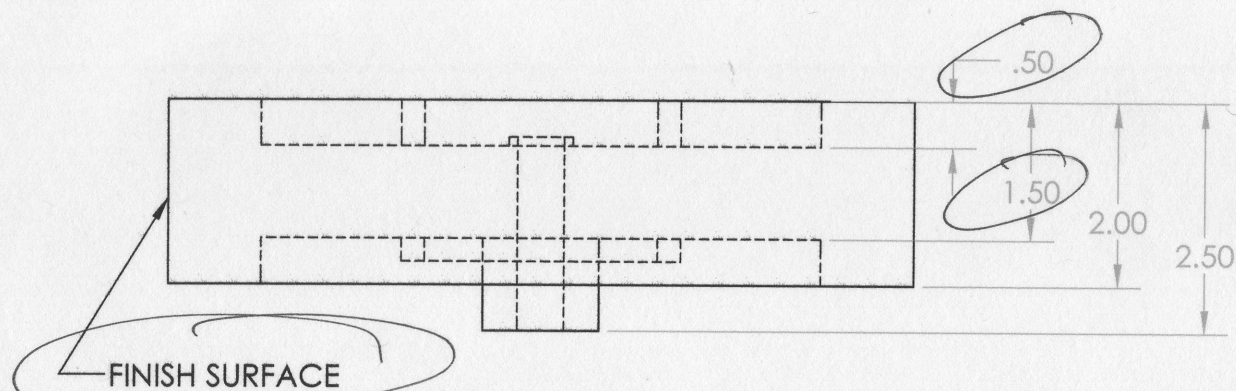


NOTES:

1. QTY: 2
2. ALL DIMS IN INCHES
3. MATL: ALUMINUM
4. BREAK ALL EDGES
5. FINISH ALL SURFACES

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TOLERANCE UNLESS NOTED				TITLE:		
OPERATION	PLACES IN DIMENSION			MOTOR MOUNT		
	0.0	0.00	0.000	DRAWN	KYLE PASCIONI	
MACHINING	±0.050	±0.020	±0.005	CHECKED	E. BELL	
CUT OFF (SAW, BURN, SHEAR)	±0.1	±0.060		SIZE	DWG. NO.	REV
WELDING	±0.1	±0.060		A	EML2322L-017	C
ANGULAR DIMS	±5	±2	±0.5	SCALE: 2:3	SHEET 1 OF 1	



Ø 8.00

Ø .50

Ø 6.00

Ø 3.00

Ø 2.50

Ø .69

Ø 1.25

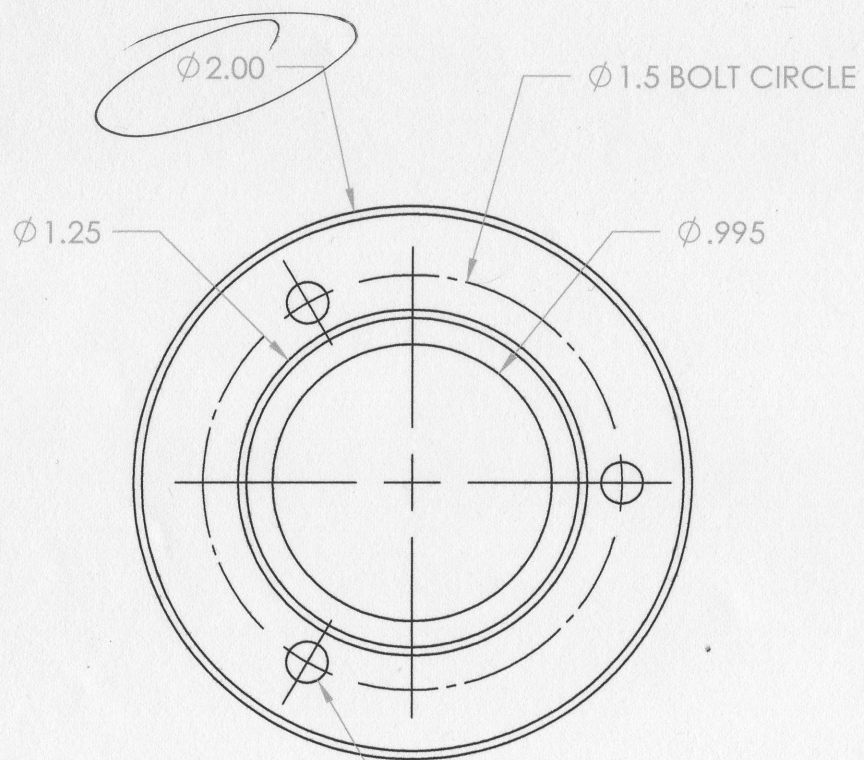
NOTES:

1. QTY: 2
2. ALL DIMS IN INCHES
3. MATL: PLASTIC
4. BREAK ALL EDGES

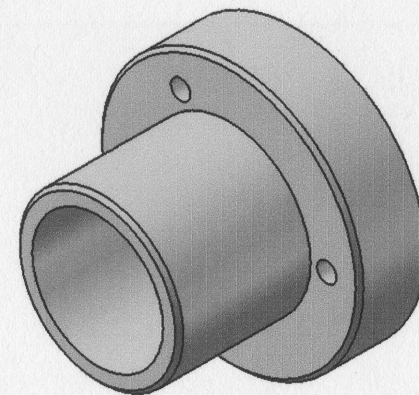
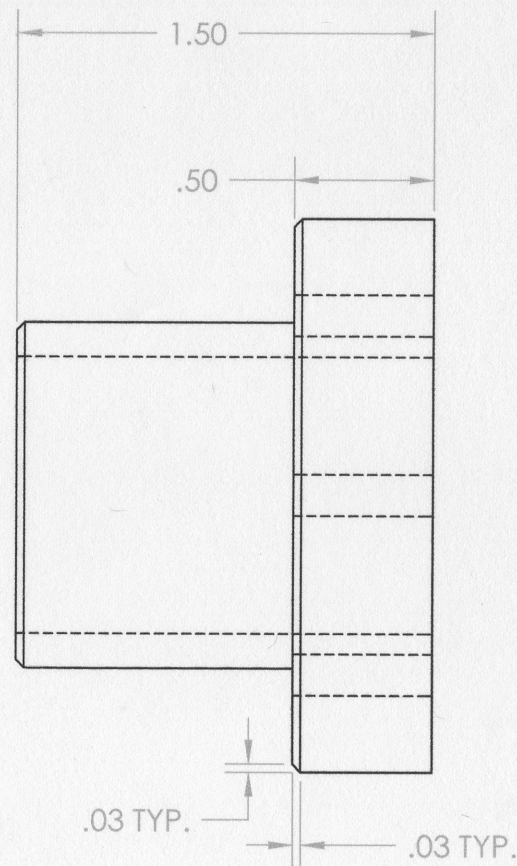
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Mounting holes?

TOLERANCE UNLESS NOTED				TITLE:	
OPERATION	PLACES IN DIMENSION			WHEEL	
	0.0	0.00	0.000	DRAWN	K. PASCIONI
MACHINING	±0.050	±0.020	±0.005	CHECKED	E. BELL
CUT OFF (SAW, BURN, SHEAR)	±0.1	±0.060		SIZE	DWG. NO.
WELDING	±0.1	±0.060		A	EML2322L-018
ANGULAR DIMS	±5	±2	±0.5	SCALE: 1:2	REV A
				SHEET 1 OF 1	



$\phi .149$ THRU;
10-24 UNC THRU;
3 PLACES <120° APART>



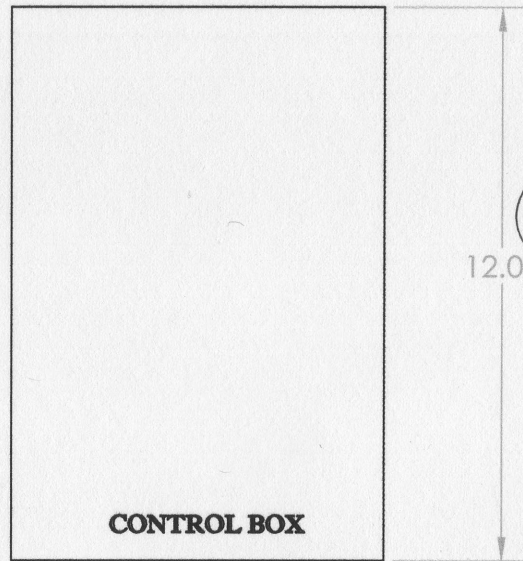
NOTES:

1. QTY: 2
2. ALL DIMS IN INCHES
3. MATL: ALUMINUM
4. ~~BREAK ALL EDGES~~
5. ~~FINISH ALL SURFACES~~

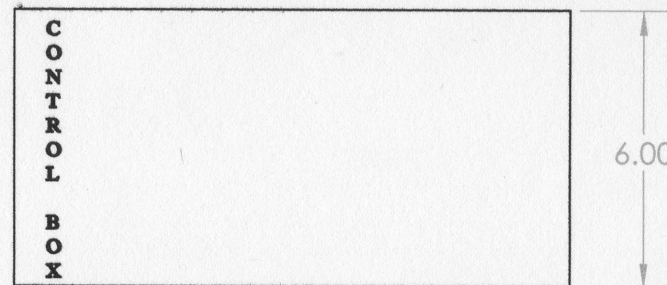
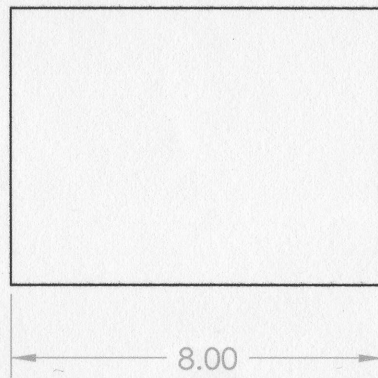
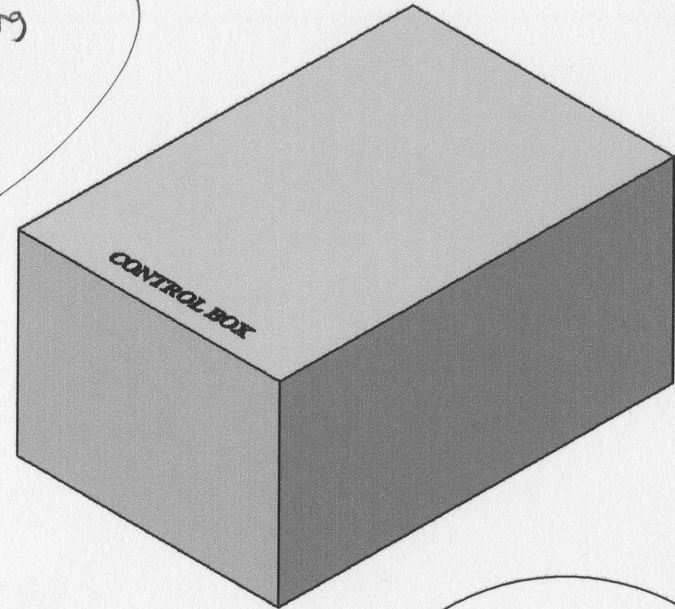
why?

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TOLERANCE UNLESS NOTED				TITLE:		
OPERATION	PLACES IN DIMENSION			WHEEL HUB		
	0.0	0.00	0.000	DRAWN	K. PASCIONI	
MACHINING	± 0.050	± 0.020	± 0.005	CHECKED	E. BELL	
CUT OFF (SAW, BURN, SHEAR)	± 0.1	± 0.060		SIZE	DWG. NO.	
WELDING	± 0.1	± 0.060		A	EML2322L-019	
ANGULAR DIMS	± 5	± 2	± 0.5	SCALE: 3:2	SHEET 1 OF 1	
						REV A



Show mounting
flange detail

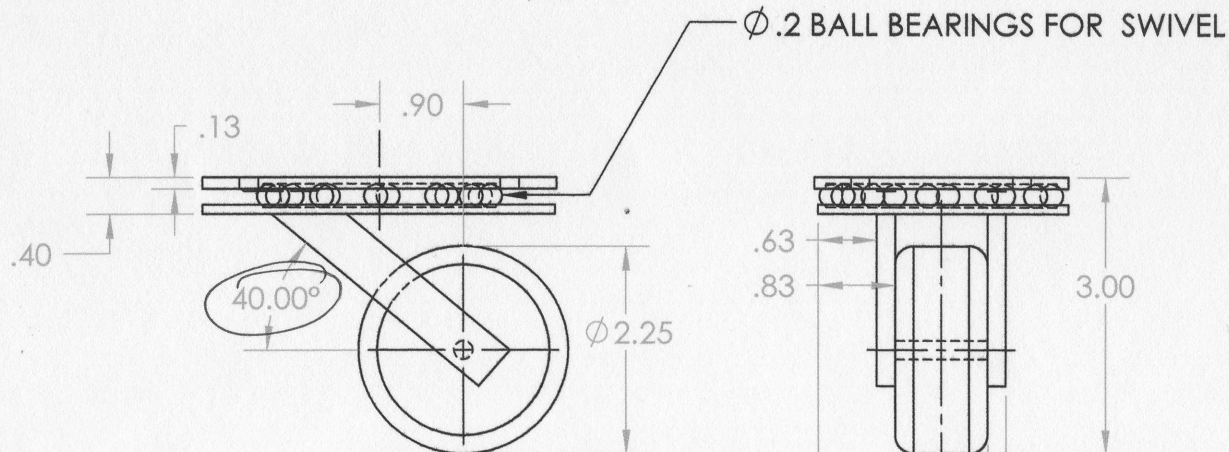
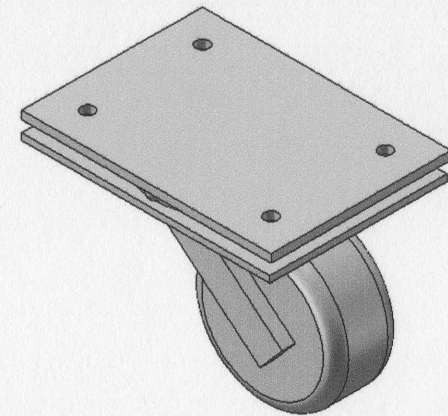
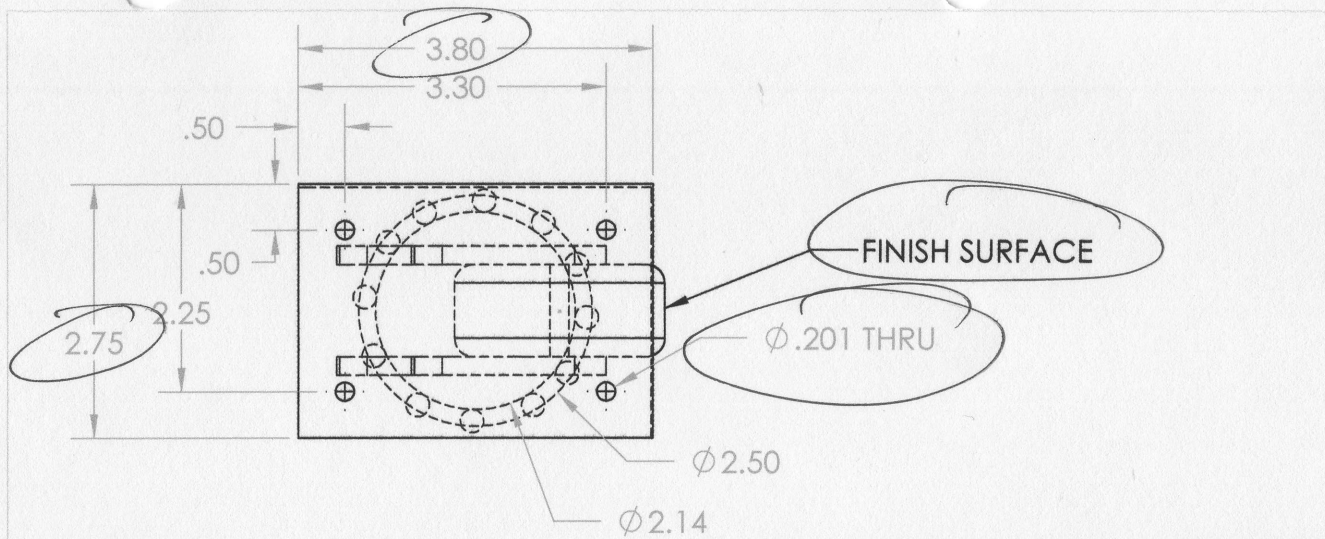


NOTES:

1. QTY: 1
2. ALL DIMS IN INCHES
3. MATL: PLASTIC WITH ELECTRICAL COMPONENTS

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TOLERANCE UNLESS NOTED				TITLE:		
OPERATION	PLACES IN DIMENSION			CONTROL BOX		
	0.0	0.00	0.000	DRAWN	K. PASCIONI	
MACHINING	±0.050	±0.020	±0.005	CHECKED	E. BELL	
CUT OFF (SAW, BURN, SHEAR)	±0.1	±0.060		SIZE	DWG. NO.	REV
WELDING	±0.1	±0.060		A	EML2322L-021	
ANGULAR DIMS	±5	±2	±0.5	SCALE: 1:4		SHEET 1 OF 1



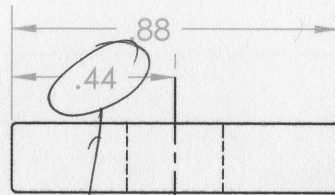
NOTES:

1. QTY: 1
2. ALL DIMS IN INCHES
3. MATL: PLASTIC
4. BREAK ALL EDGES
5. RAW SURFACES UNLESS NOTED

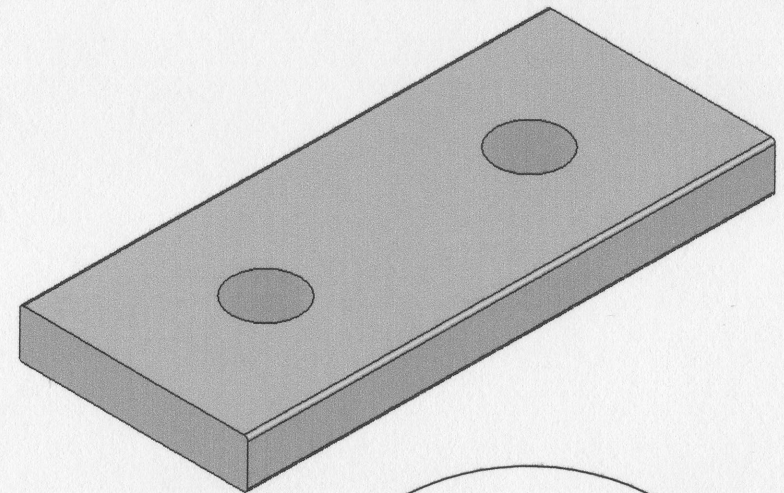
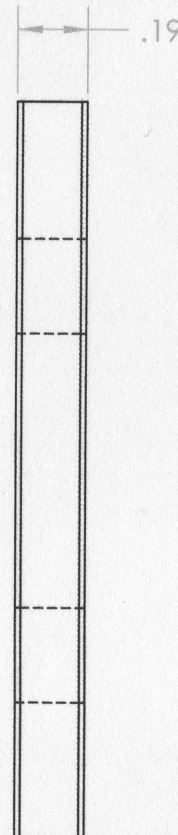
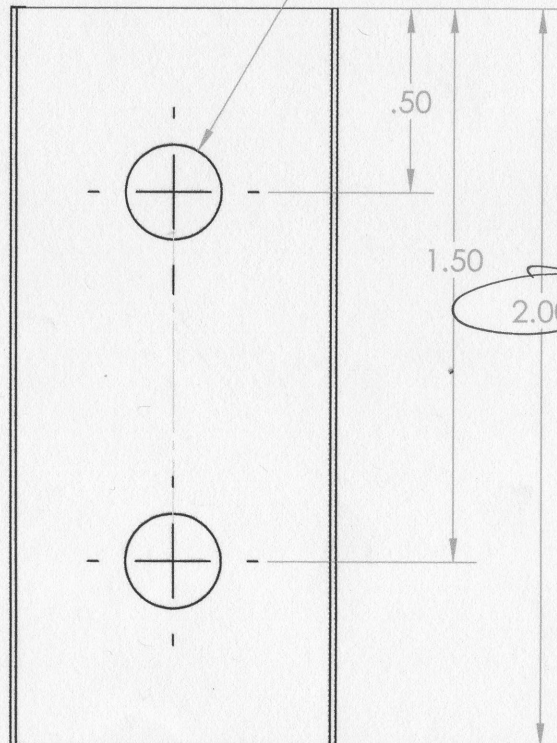
*which caster
is this?*

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TOLERANCE UNLESS NOTED				TITLE: CASTER		
OPERATION	PLACES IN DIMENSION			DRAWN	K. PASCIONI	REV
	0.0	0.00	0.000			
MACHINING	± 0.050	± 0.020	± 0.005	CHECKED	E. BELL	
CUT OFF (SAW, BURN, SHEAR)	± 0.1	± 0.060		SIZE	DWG. NO.	
WELDING	± 0.1	± 0.060		A	EML2322L-022	A
ANGULAR DIMS	± 5	± 2	± 0.5	SCALE: 1:2		SHEET 1 OF 1



Ø .257 THRU;
2 PLACES



NOTES:

1. QTY: 2
2. ALL DIMS IN INCHES
3. MATL: 6105-T5 ALUMINUM
4. BREAK ALL EDGES
5. RAW SURFACES UNLESS NOTED

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TOLERANCE UNLESS NOTED				TITLE:	
OPERATION	PLACES IN DIMENSION			JOINING STRIP	
	0.0	0.00	0.000	DRAWN	K. PASCIONI
MACHINING	±0.050	±0.020	±0.005	CHECKED	E. BELL
CUT OFF (SAW, BURN, SHEAR)	±0.1	±0.060		SIZE	DWG. NO.
WELDING	±0.1	±0.060		A	EML2322L-023
ANGULAR DIMS	±5	±2	±0.5	SCALE: 2:1	REV A
				SHEET 1 OF 1	