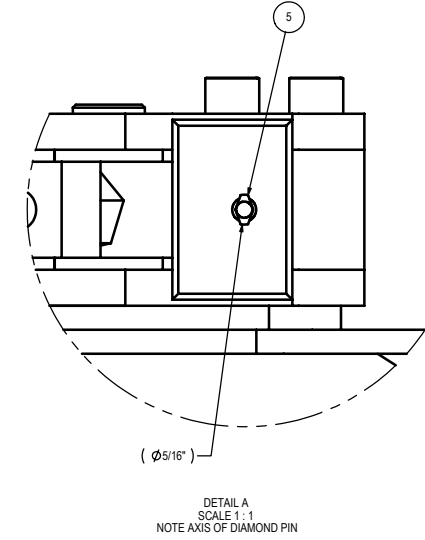
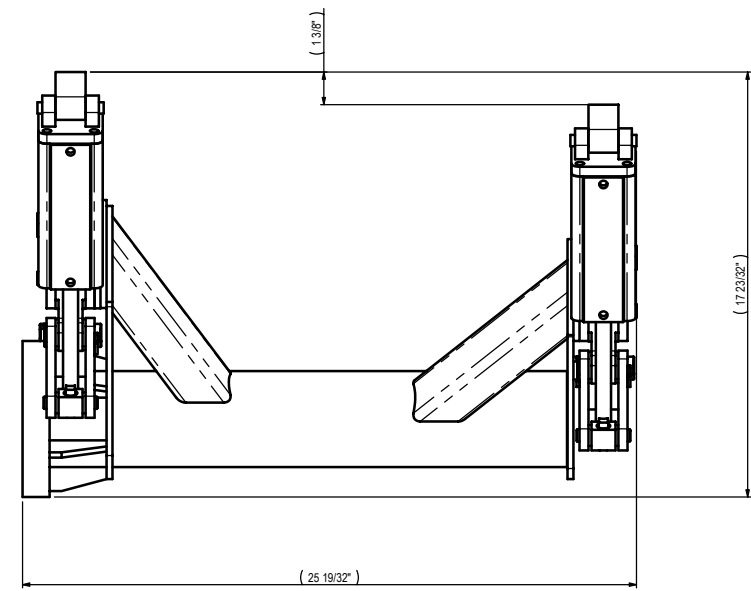
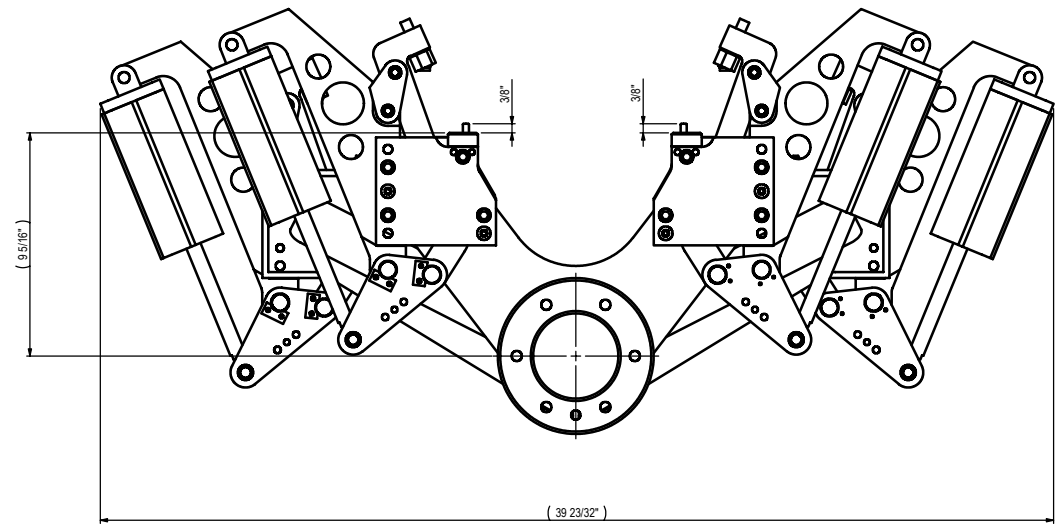
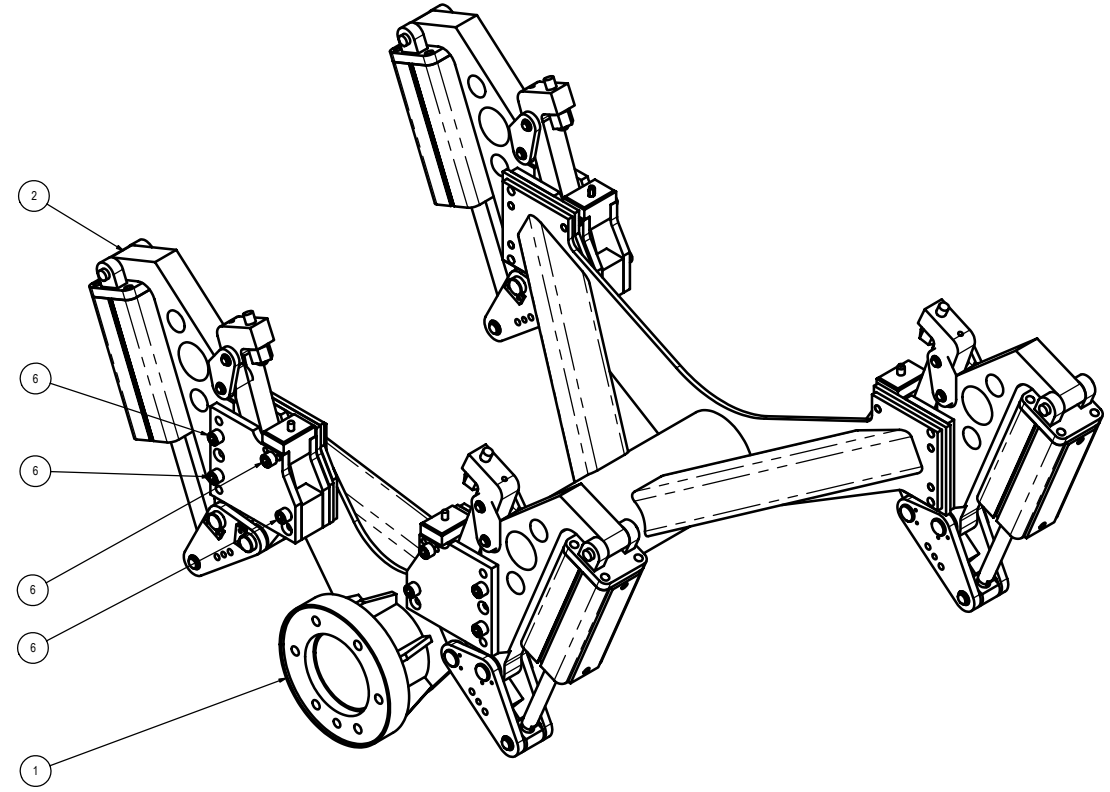
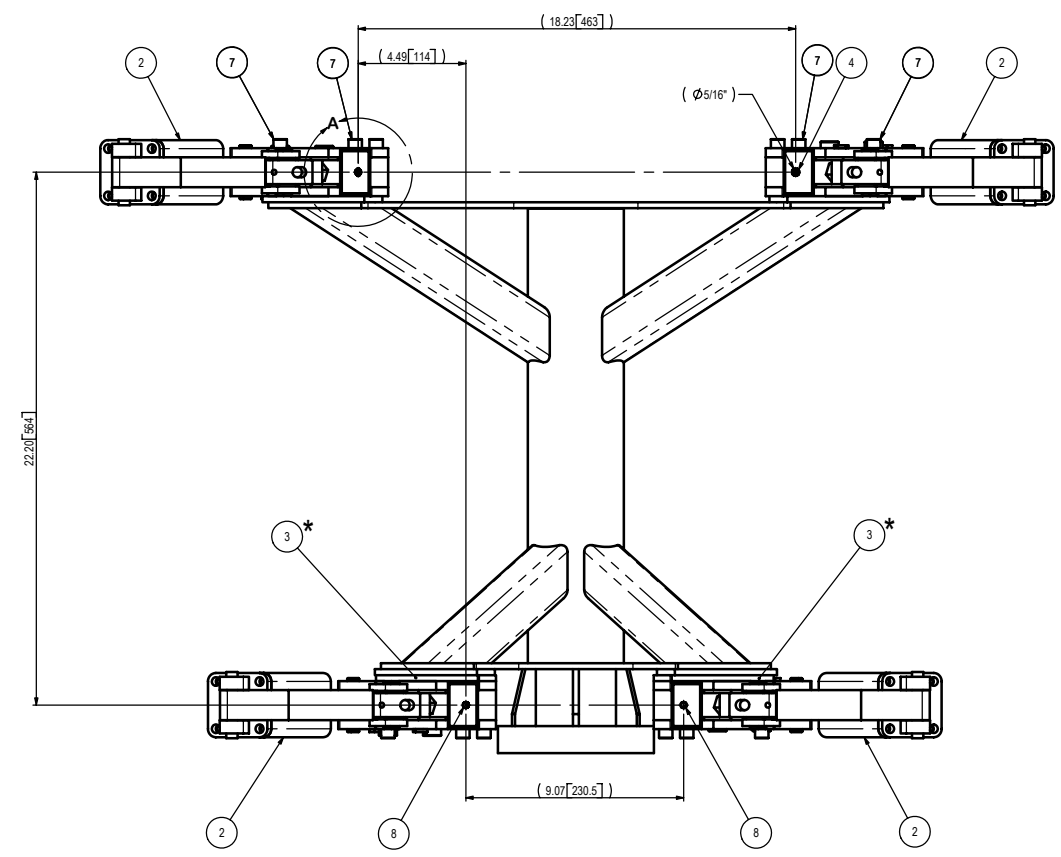


ITEM	QTY	PART NO / CATALOGUE NO	DESCRIPTION	MATERIAL / MANUFACTURER
1	1	AK0002M0010	GRIPPER FRAME	
2	4	AK0002A0002	GRIPPER CLAMP SUB-ASSEMBLY	
3	2	AK0002M0033	SHIM	8061-T6 AL FB
4	1	CL-2-RP	LOC ROUND PIN	CARR-LANE
5	1	CL-2-DPZ	LOC DIAMOND PIN	CARR-LANE
6	8	3/8-16 UNC x 2 3/4	ALLOY STL SHCS GR5	ANY
7	8	3/8-16 UNC x 2 1/2	ALLOY STL SHCS GR5	ANY
8	2	1/4 x 1 L	STL DOWEL PIN	ANY

APPLIED KINETICS STANDARD IS TO INCLUDE FASTENERS WITH BALLONS. CUSTOMER OPTION TO OMIT FASTENER BALLOONS OR FASTENERS AND FASTENER BALLOONS TO SAVE ON PROJECT HOURS



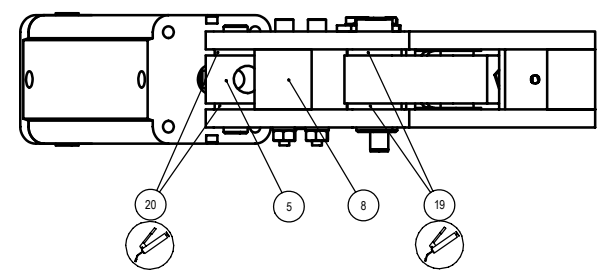
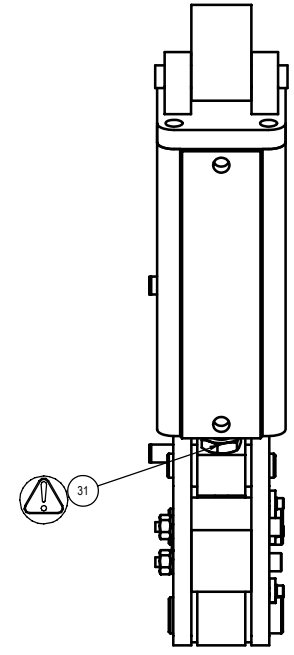
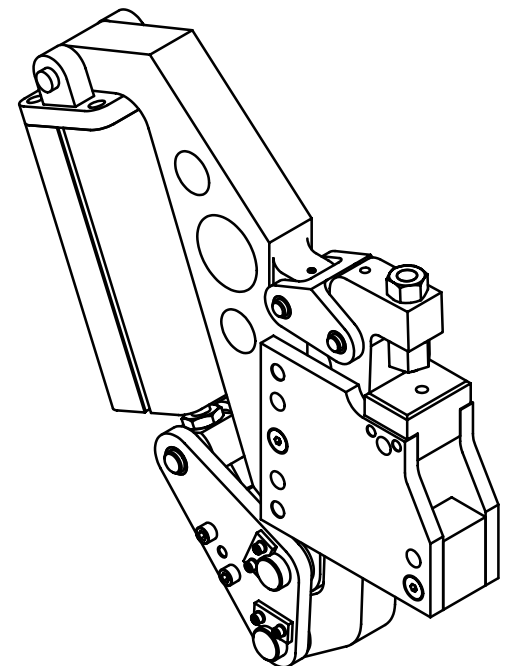
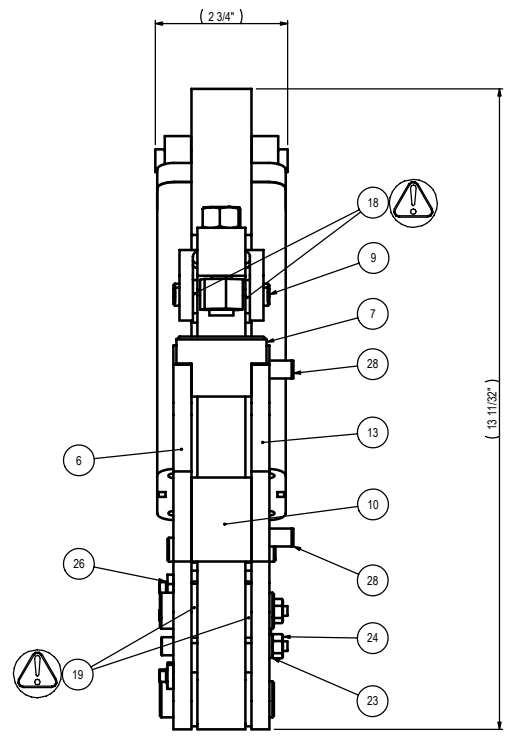
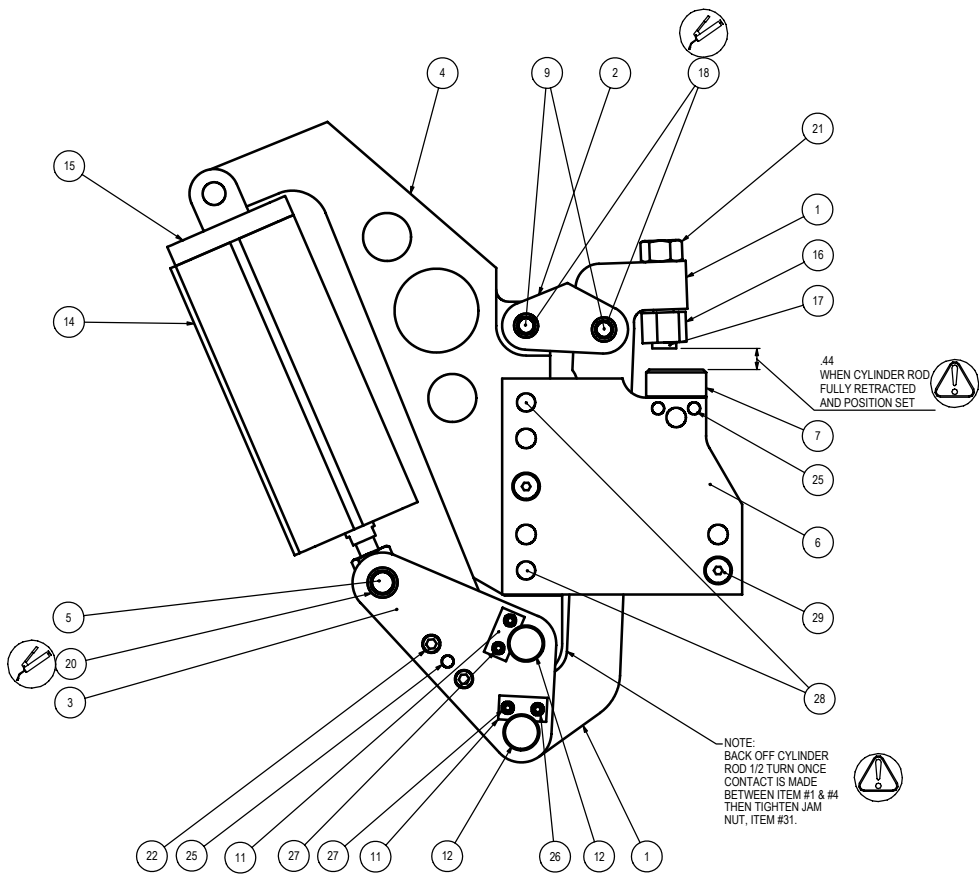
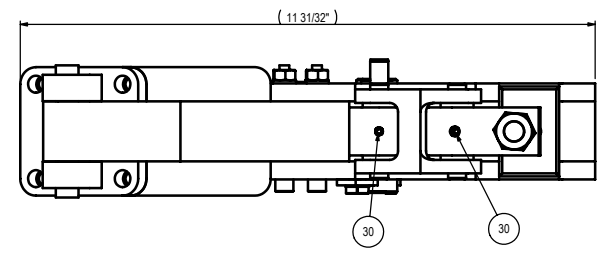
\*NOTE:  
MACHINE THICKNESS  
OF ITEM #3 TO ACHIEVE  
PROPER CLAMP ASSEMBLY  
ALIGNMENT.

ZONE	REV.	DESCRIPTION	DATE	BY
NOTES				
 THIRD ANGLE PROJECTION		<b>SolidWorks</b> ISO NOT SCALE DRAWING NO MANUAL CHANGES	METRIC REFERENCE DIMENSIONS ARE INDICATED IN SQUARE PARENTHESES (METRIC)	DIMENSIONS SHOWN IN ROUND PARENTHESES ARE FOR REFERENCE ONLY (REF.)
ENGINEER	AKNC			
DRAWN	AKNC			
DATE	2000.08.11			
DWG. SCALE	1:1			
CLIENT	AAA AUTOMATION SERVICES	CUSTOMER	A1 CASTING COMPANY	
CLIENT PROJ. NUM.	1234	PROJECT	BELL HOUSING DEGATE	
HOUSING GRIPPER				
TOTAL QTY.	SIZE	SHEET OF	APPLIED KINETICS PROJECT CODE	DRAWING NUMBER
1	D	1 OF 1	AK0002	A0001
				REV.
				A0

**Applied Kinetics**  
Professional Engineering and Design Services

APPLIED KINETICS STANDARD IS TO INCLUDE FASTENERS WITH BALLONS. CUSTOMER OPTION TO OMIT FASTENER BALOONS OR FASTENERS AND FASTENER BALOONS TO SAVE ON PROJECT HOURS

ITEM	QTY.	PART NO. / CAT NO.	DESCRIPTION	MATERIAL / MANUFACTURER
1	1	AK0002M0020	CLAMP ARM	AISI C1018 CRS FB
2	1	AK0002M0021	CLAMP ARM LINK	6061-T6 AL FB
3	2	AK0002M0022	CYLINDER LINK ARM	AISI C1018 CRS FB
4	1	AK0002M0023	SPINE	6016-T6 AL FB
5	1	AK0002M0024	CYLINDER TRUNION	AISI C1018 CRS RND
6	1	AK0002M0025	MOUNTING PLATE TYPE 1	6016-T6 AL FB
7	1	AK0002M0026	JAW	AISI A2 TOOL STEEL
8	1	AK0002M0027	CYLINDER LINK SPACER	6061-T6 AL FB
9	2	AK0002M0028	PIVOT PIN	STD DOWEL PIN
10	1	AK0002M0029	MOUNTING PLATE SPACER	6016-T6 AL FB
11	2	AK0002M0030	KEY	AISI C1018 CRS FB
12	2	AK0002M0031	PIVOT PIN	AISI A2 TS DRILL ROD
13	1	AK0002M0032	MOUNTING PLATE TYPE 2	6016-T6 AL FB
14	1	157 206 ADVU-50-120-A-P-A	SHORT-STROKE CYLINDER	FESTO
15	1	SUA-50	CLEVIS MOUNT	FESTO
16	1	CL-815-GSB	GRIPPER SWIVEL BODY	CARR-LANE
17	1	CL-8-RGF	SWIVEL CONTACT GRIPPER	CARR-LANE
18	4	3/8x12x3/8	FLANGED BRONZE BUSHING	ANY
19	4	3/4x7/8x12	FLANGED BRONZE BUSHING	ANY
20	2	1/2x5/8x12	FLANGED BRONZE BUSHING	ANY
21	1	1/2-13 UNC	ALLOY STL NUT GR 5	ANY
22	2	1/4-20 UNC x 2 3/8	ALLOY STL SHCS GR5	ANY
23	2	1/4	STL LOCKWASHER	ANY
24	2	1/4-20 UNC	ALLOY STL NUT GR 5	ANY
25	3	1/4 x 2 L	STL DOWEL PIN	ANY
26	4	#6	STL LOCKWASHER	ANY
27	4	#6-32 UNC x 1/2	ALLOY STL SHCS GR5	ANY
28	2	3/8 x 2 1/2 L	STL DOWEL PIN	ANY
29	4	1/4-20 UNC x 3/4	ALLOY STL FHCS GR5	ANY
30	2	#10-32 UNF x 3/8	ALLOY STL SET SCR - CUP PT	ANY
31	1	M12x1.75	MET ALLOY STL HEX JAM NUT CL8.8	SUPPLIED WITH FESTO CYL.

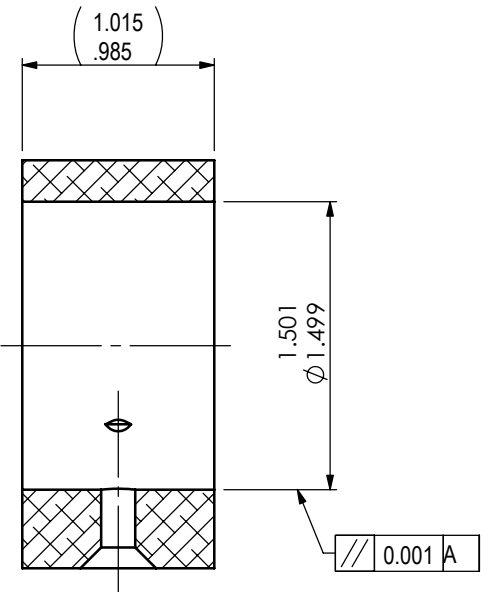
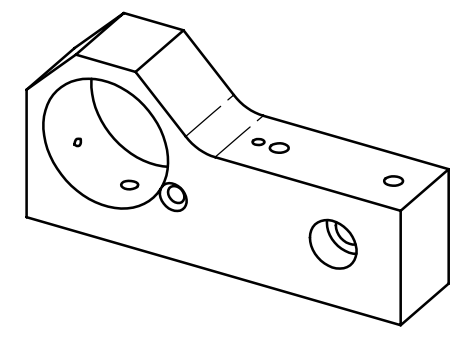
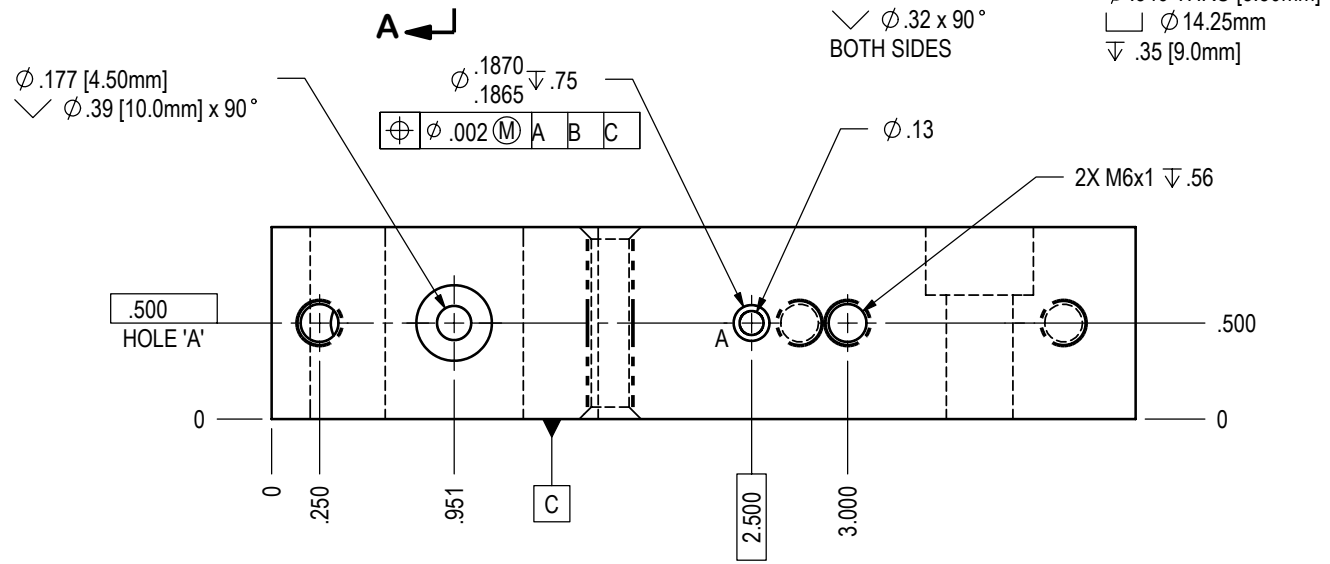
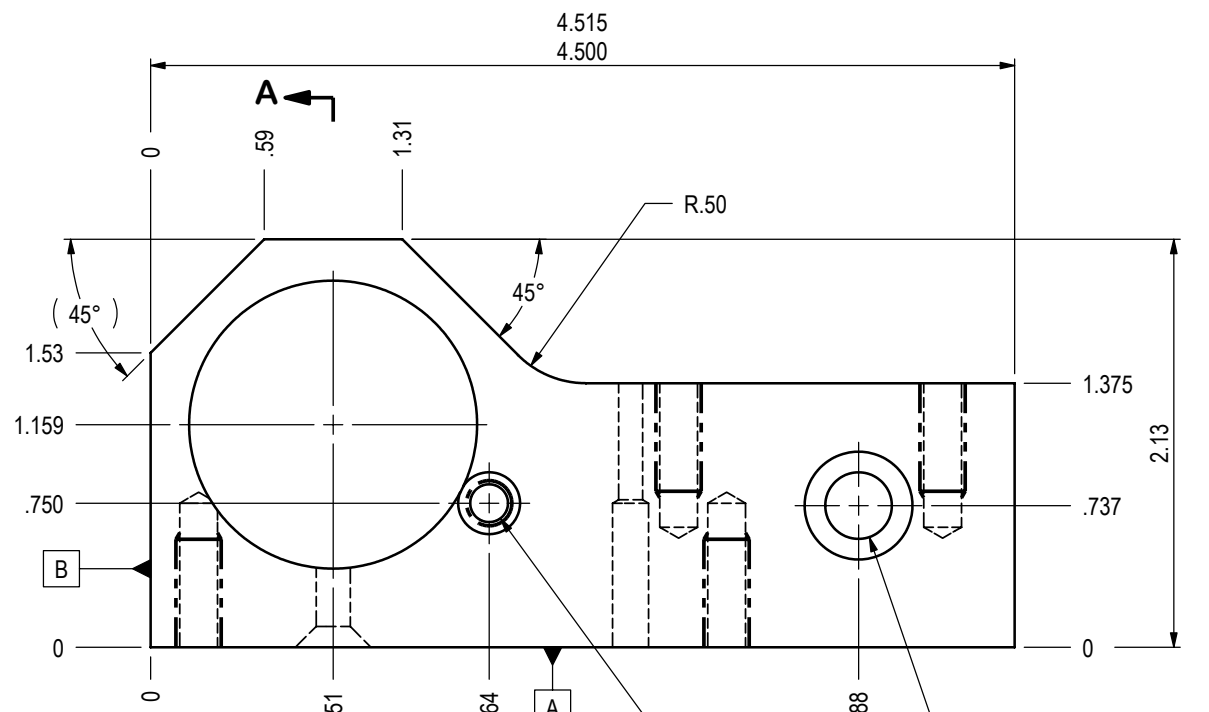
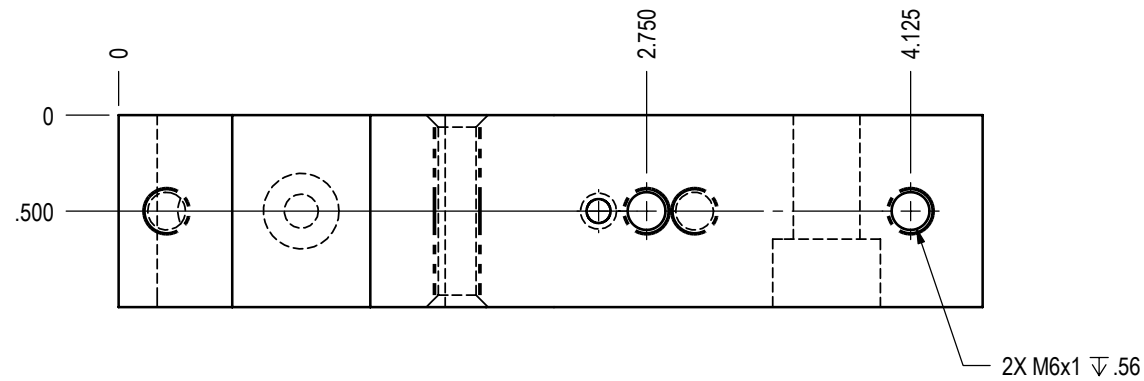


**MAINTENANCE / REBUILDING LEGEND**

- FOLLOW SPECIFIC ASSEMBLY PROCEDURE
- LUBRICATION POINT, GREASE REQUIRED
- LUBRICATION POINT, OIL REQUIRED
- SPECIAL ADHESIVES OR SEALANTS SHOULD BE USED
- FASTENER(S) REQUIRING SPECIAL ATTENTION TO APPLIED TORQUE
- PART WHICH REQUIRES PERIODIC REPLACEMENT
- PERIODIC TENSIONING REQUIRED
- OIL LEVEL RECOMMENDED OIL LEVEL

NOTE: QTY. 2 AS SHOWN  
QTY. 2 MIRROR IMAGE TO SHOWN

ZONE	REV.	DESCRIPTION	DATE	BY
NOTES				
THIRD ANGLE PROJECTION		<b>SolidWorks</b> ISO METRIC DRAWING NO MANUAL CHANGES	METRIC REFERENCE DIMENSIONS ARE INDICATED IN SQUARE PARENTHESES (METRIC)	DIMENSIONS SHOWN IN ROUND PARENTHESES ARE FOR REFERENCE ONLY (REF.)
ENGINEER	AKNC			
DRAWN	AKNC			
DATE	2000.08.11			
DWG. SCALE	1:2			
CLIENT	AAA AUTOMATION SERVICES	CUSTOMER	A1 CASTING COMPANY	
CLIENT PROJ. NUM.	1234	PROJECT	BELL HOUSING DEGATE	
GRIPPER CLAMP SUB-ASSEMBLY HOUSING GRIPPER				
TOTAL QTY.	4	SIZE	D	SHEET OF 1
APPLIED KINETICS PROJECT CODE	AK0002	DRAWING NUMBER	A0002	REV. A0



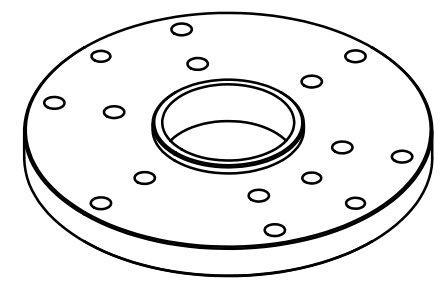
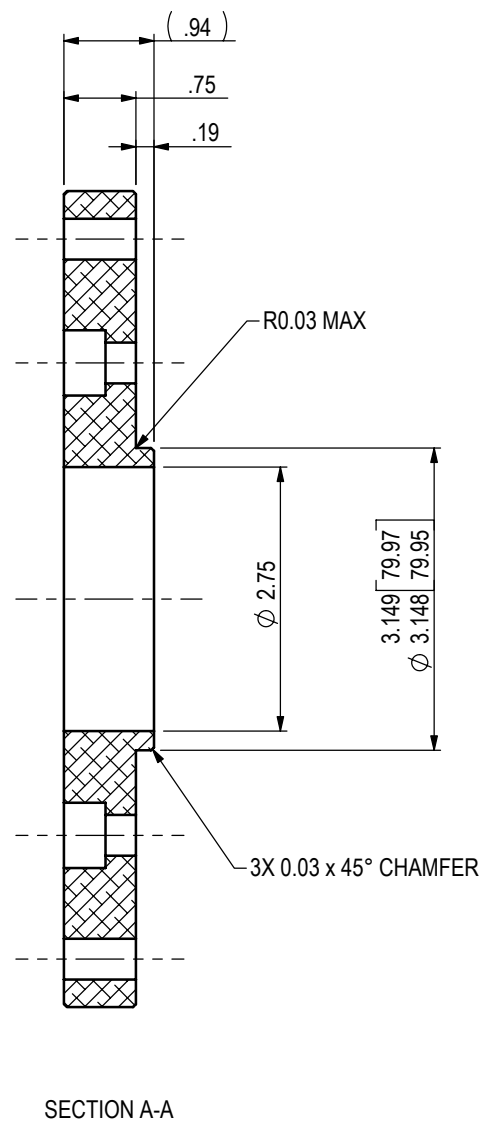
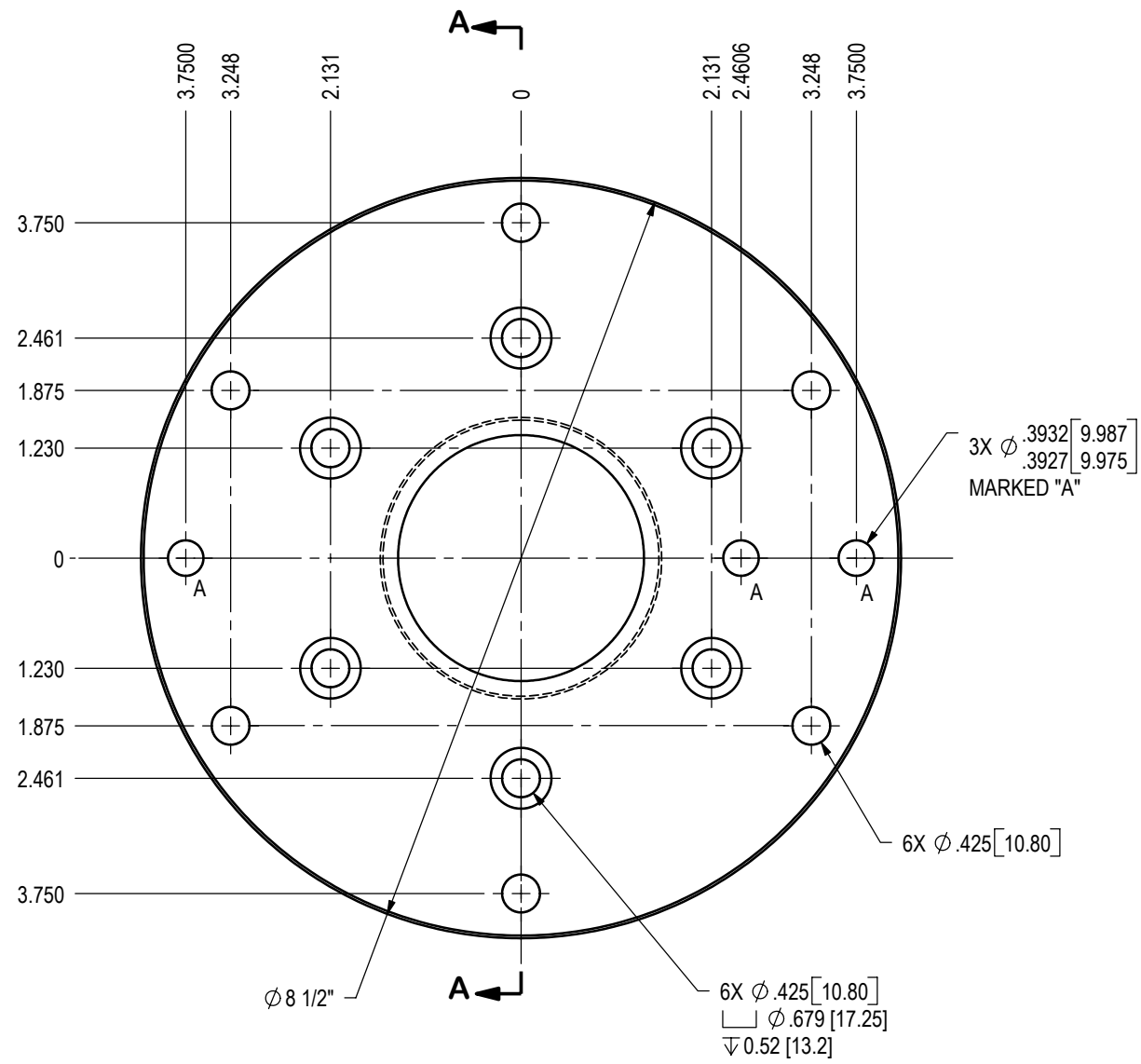
SECTION A-A


**GENERAL STANDARDS:**  
 - Use ASME Y14.5M-1994 drafting standards unless otherwise specified.  
 - Reference dimensions in parentheses.  
 - Use hidden lines and tangent lines in isometric views where their use will add clarity to the view only.  
 - 'THRU' is assumed.  
 - Raw material sizes should be dimensioned as the required tolerance (must be greater than or equal to the raw material tolerance) in parentheses.

**TITLE BLOCK STANDARDS:**  
 - Material designation should be ANSI standard. Cut length should be in parentheses, and should be the same precision as the dimensioned part length (mmc), unless fractional. Fractional part lengths can be indicated as fractional without parentheses.  
 - Title Line 1 should be the grandparent assembly name.  
 - Title Line 2 should be the parent assembly name.  
 - Title Line 3 should be the part name, followed by 'DETAIL'.

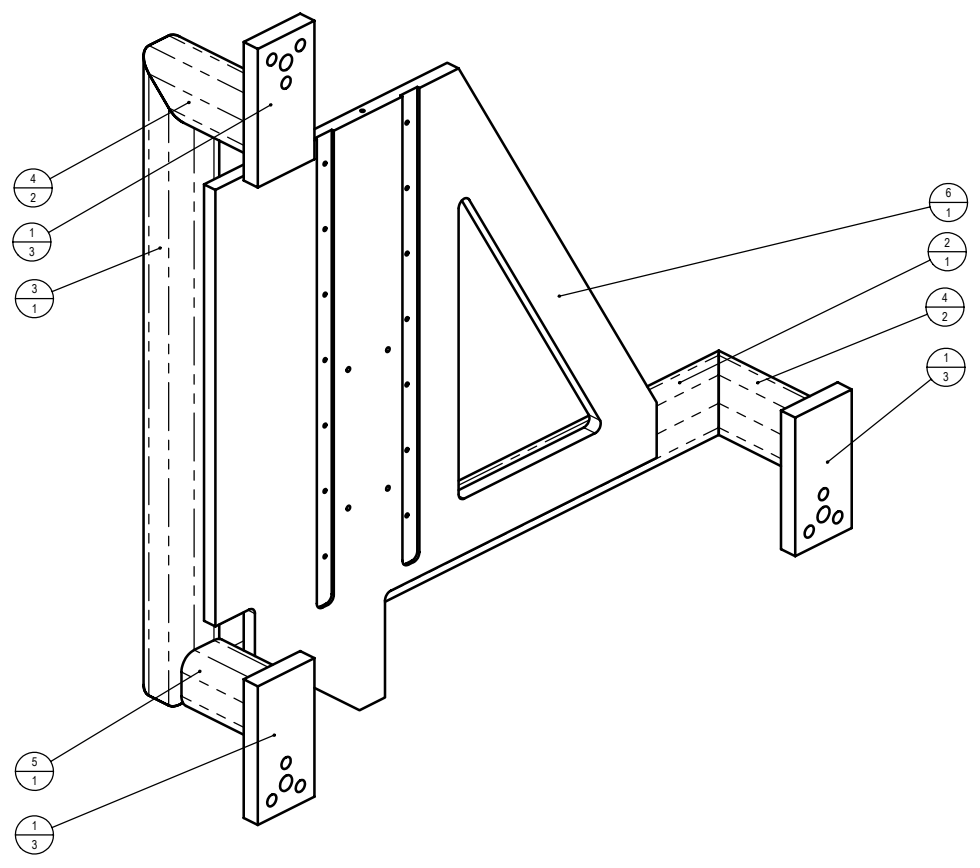
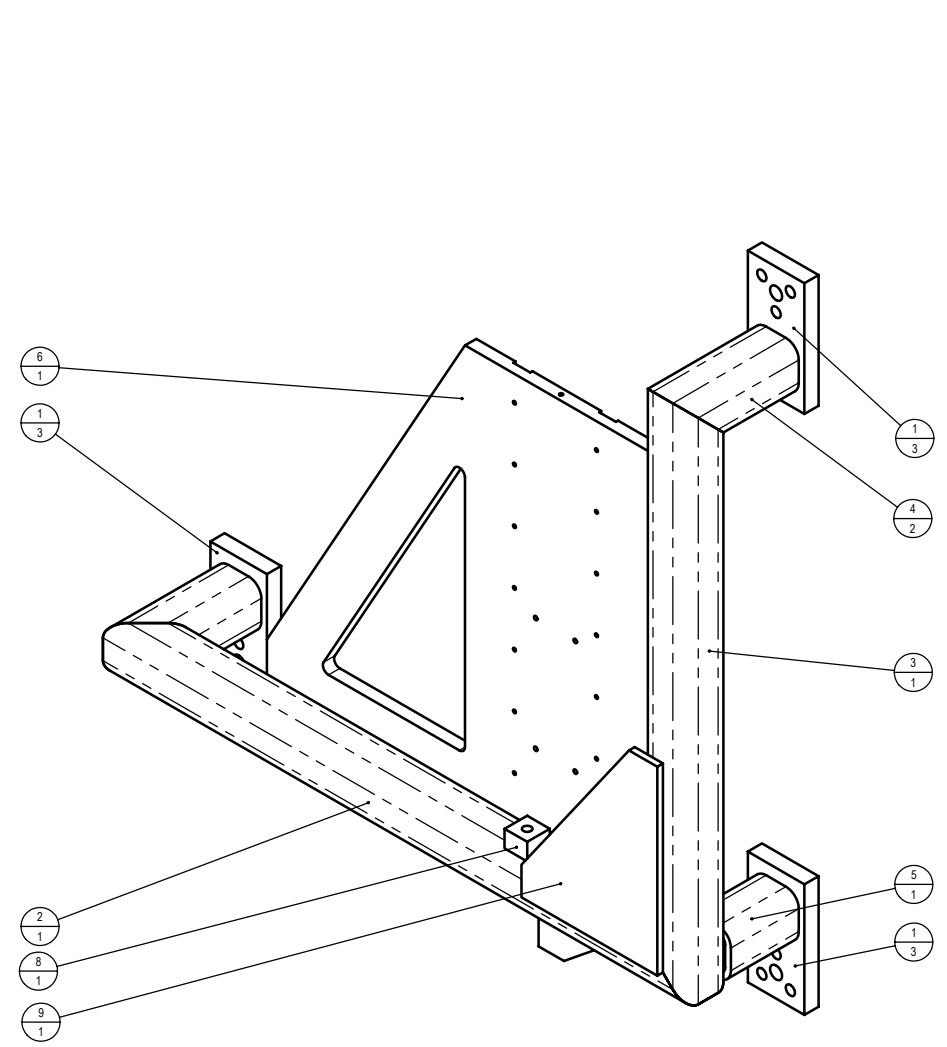
**SolidWorks SPECIFIC STANDARDS:**  
 - Put centre lines only on circular features that appear as object lines  
 - Do not put centre lines on circular features that appear as hidden lines.  
 - Use ASME symbols for depth (∇) Counterbore/Spotface (□) and Countersink (∇).

ZONE	REV.	DESCRIPTION	DATE	BY
SYMBOLS FOR GEOMETRIC TOLERANCE				
□ STRAIGHT	/ CIRC. RUNOUT	⊕ TRUE POSITION	⊖ MMC	∠ ANGLE
▭ FLAT	/ TOTAL RUNOUT	⊙ CONCENTRIC	⊖ LMC	∅ DIA.
○ ROUND	⊥ PERPENDICULAR	⊖ PROFILE OF SURFACE	⊖ RFS	⊖ RAD.
⊖ CYLINDER	// PARALLEL	⊖ PROFILE OF LINE	⊖ TOL. ZONE	△ DATUM
MATERIAL		6061-T6 AL FB 1 x 2-1/2 x (4.515 LG)		
POST PROCESSES		ANODIZE BLACK		
DIMENSIONAL TOLERANCES, UNLESS OTHERWISE SPECIFIED				
ALL IMPERIAL THREADS UN CLASS 2A & 2B	ALL METRIC THREADS ISO CLASS 6H/6g	DIMENSIONS (INCHES)	TOLERANCE	
MACHINED SHARP FILLET RADII 1/32 MAX		FRACTIONAL (X/X)	±1/16	
BREAK CORNERS 0.02X45°		2 PLACE DEC. (X.XX)	±0.01	
REMOVE BURRS		3 PLACE DEC. (X.XXX)	±0.005	
		4 PLACE DEC. (X.XXXX)	±0.0005	
		0 PLACE DEC. ANGLE (X°)	±1°	
		1 PLACE DEC. ANGLE (X.X°)	±0.5°	
		STD. TWIST DRILL	∅±0.005	
SURFACE 125		WELD ALL AROUND WELD SIZE EQUALS THICKNESS OF THINNEST PIECE		
THIRD ANGLE PROJECTION		SolidWorks		
		DO NOT SCALE DRAWING		
		NO MANUAL CHANGES		
ENGINEER AKSP		METRIC REFERENCE DIMENSIONS ARE INDICATED IN SQUARE PARENTHESIS [METRIC]		
DRAWN AKMA		DIMENSIONS SHOWN IN ROUND PARENTHESIS ARE FOR REFERENCE ONLY (REF.)		
DATE 1999.04.26		 <b>Applied Kinetics</b> <i>Professional Engineering and Design Services</i>		
DWG. SCALE 1:1				
CLIENT NORTH AMERICAN AUTOMATION		CUSTOMER MAGNA (ST. THOMAS)		
CLIENT PROJ. NUM. 1234567-12		PROJECT HOUSING MACHINING CENTRE		
MAIN JOURNAL BLOCK GUIDE ASSEMBLY FIXTURE ASSEMBLY				
TOTAL QTY.	APPLIED KINETICS PROJECT CODE	DRAWING NUMBER	SIZE	REV.
0	ABC0001	M0001	B	0

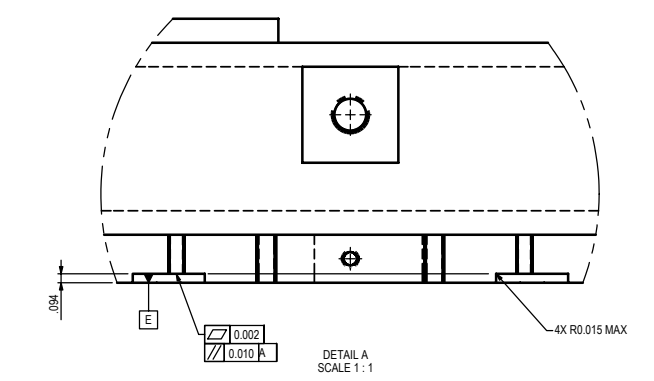
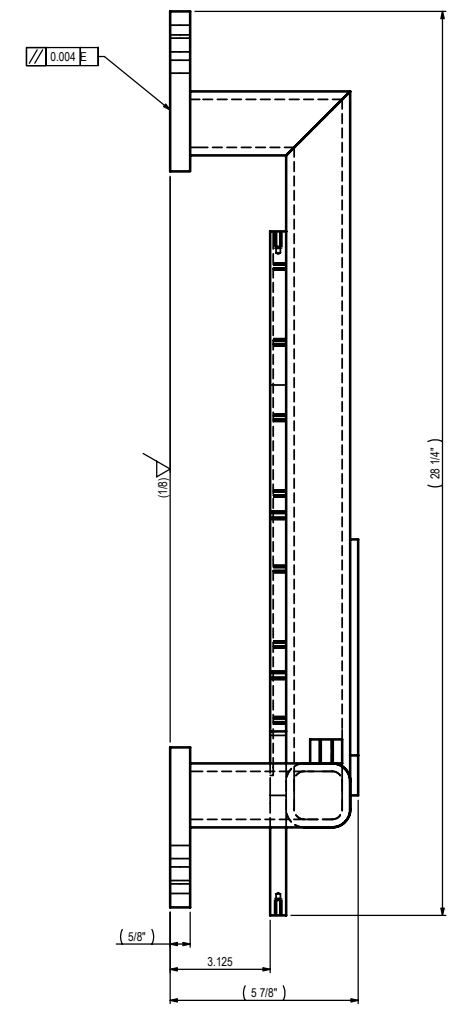
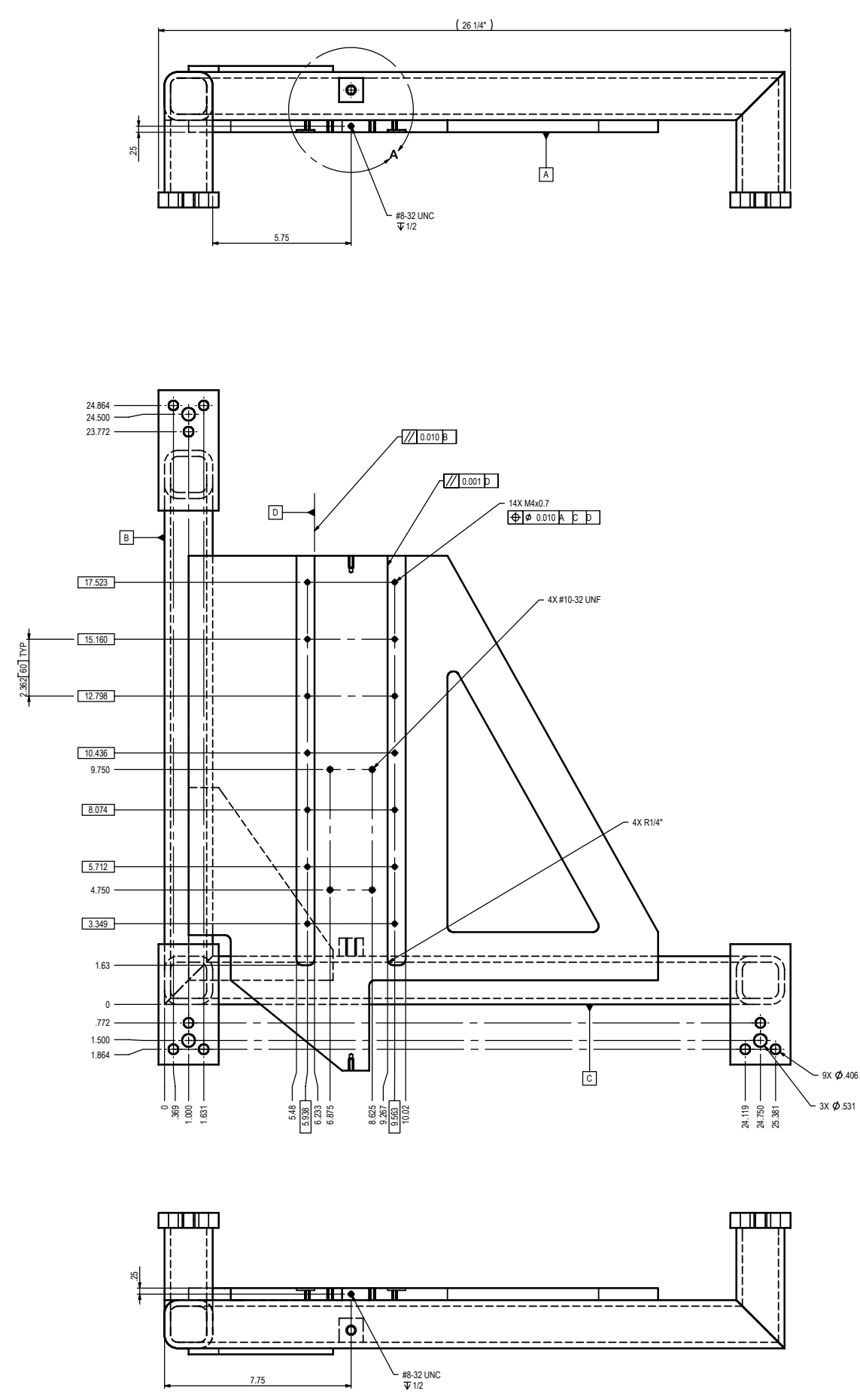


ZONE	REV.	DESCRIPTION	DATE	BY					
SYMBOLS FOR GEOMETRIC TOLERANCE									
—	STRAIGHTNESS	/	CIRC. RUNOUT	⊕	POSITION	≡	SYMMETRY	Ⓟ	TOL. ZONE
▭	FLATNESS	∕∕	TOTAL RUNOUT	⊖	CONCENTRICITY	∠	ANGULARITY	Ⓞ	DIA.
⊙	ROUNDNESS	⊥	PERPENDICULARITY	Ⓢ	PROFILE OF A SURFACE	Ⓜ	MMC	Ⓡ	RAD.
⊘	CYLINDRICITY	∕∕	PARALLELISM	— —	PROFILE OF A LINE	Ⓛ	LMC	△	DATUM
MATERIAL		6061-T6 AL PLATE 1 THK x $\phi 8 \frac{1}{2}$							
POST PROCESSES		ANODIZE BLACK							
NOTES									
DIMENSIONAL TOLERANCES, UNLESS OTHERWISE SPECIFIED									
ALL IMPERIAL THREADS UN CLASS 2A & 2B		ALL METRIC THREADS ISO CLASS 6H/6g		DIMENSIONS (INCHES)	TOLERANCE				
MACHINED SHARP FILLET RADII 1/32 MAX		BREAK CORNERS 0.02X45°		FRACTIONAL (X/X)	±1/16				
REMOVE BURRS		SURFACE 125		2 PLACE DEC. (X.XX)	±0.01				
		WELD ALL AROUND WELD SIZE EQUALS THICKNESS OF THINNEST PIECE		3 PLACE DEC. (X.XXX)	±0.005				
				4 PLACE DEC. (X.XXXX)	±0.0005				
				0 PLACE DEC. ANGLE (X°)	±1°				
				1 PLACE DEC. ANGLE (X.X°)	±0.5°				
				STD. TWIST DRILL	$\phi \pm 0.005$				
THIRD ANGLE PROJECTION		SolidWorks		METRIC REFERENCE DIMENSIONS ARE INDICATED IN SQUARE PARENTHESIS [METRIC]					
		DO NOT SCALE DRAWING		DIMENSIONS SHOWN IN ROUND PARENTHESIS ARE FOR REFERENCE ONLY (REF.)					
		NO MANUAL CHANGES							
ENGINEER	AKNC		 <b>Applied Kinetics</b> <i>Professional Engineering and Design Services</i>						
DRAWN	AKNC								
DATE	2000.07.28								
DWG. SCALE	1:2								
CLIENT	ABC PACKAGING COMPANY		CUSTOMER	XYZ WIDGET COMPANY					
CLIENT PROJ. NUM.	1234		PROJECT	ROBOTIC PALLETIZING SYSTEM					
ROBOT FLANGE ADAPTER PALLETIZING GRIPPER									
TOTAL QTY.	SIZE	SHEET OF	APPLIED KINETICS PROJECT CODE	DRAWING NUMBER	REV.				
1	B	1 OF 1	AK0001	M0002	A0				

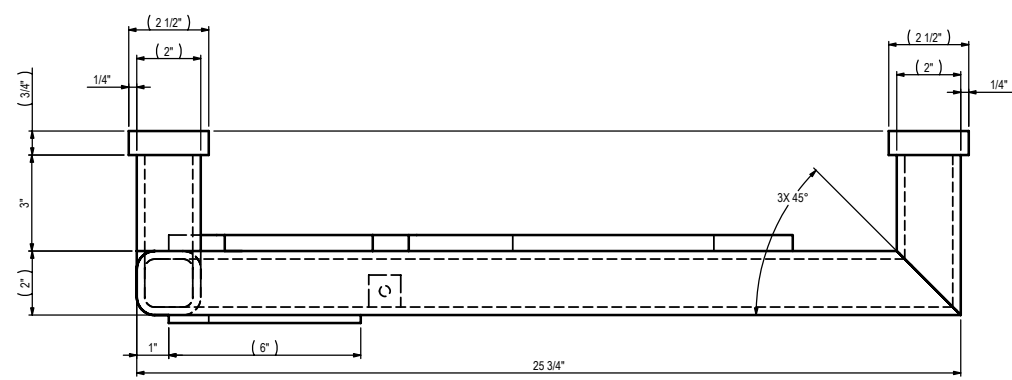
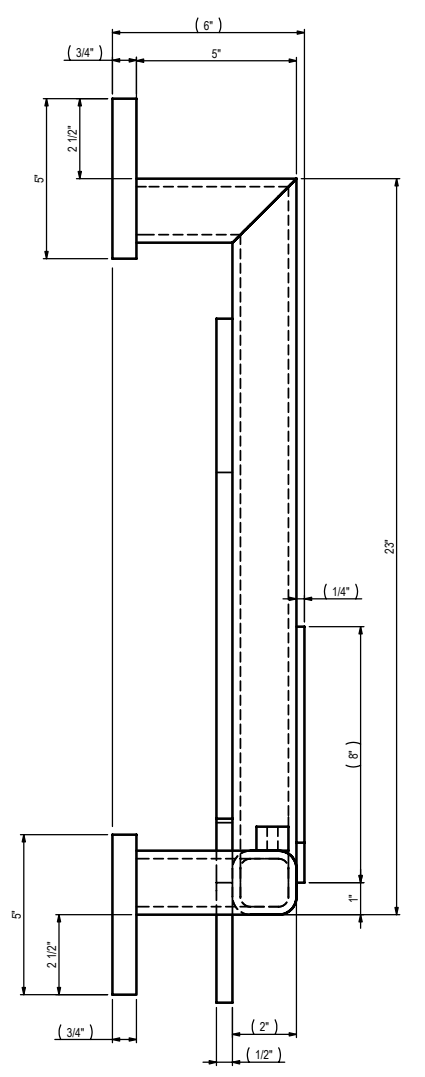
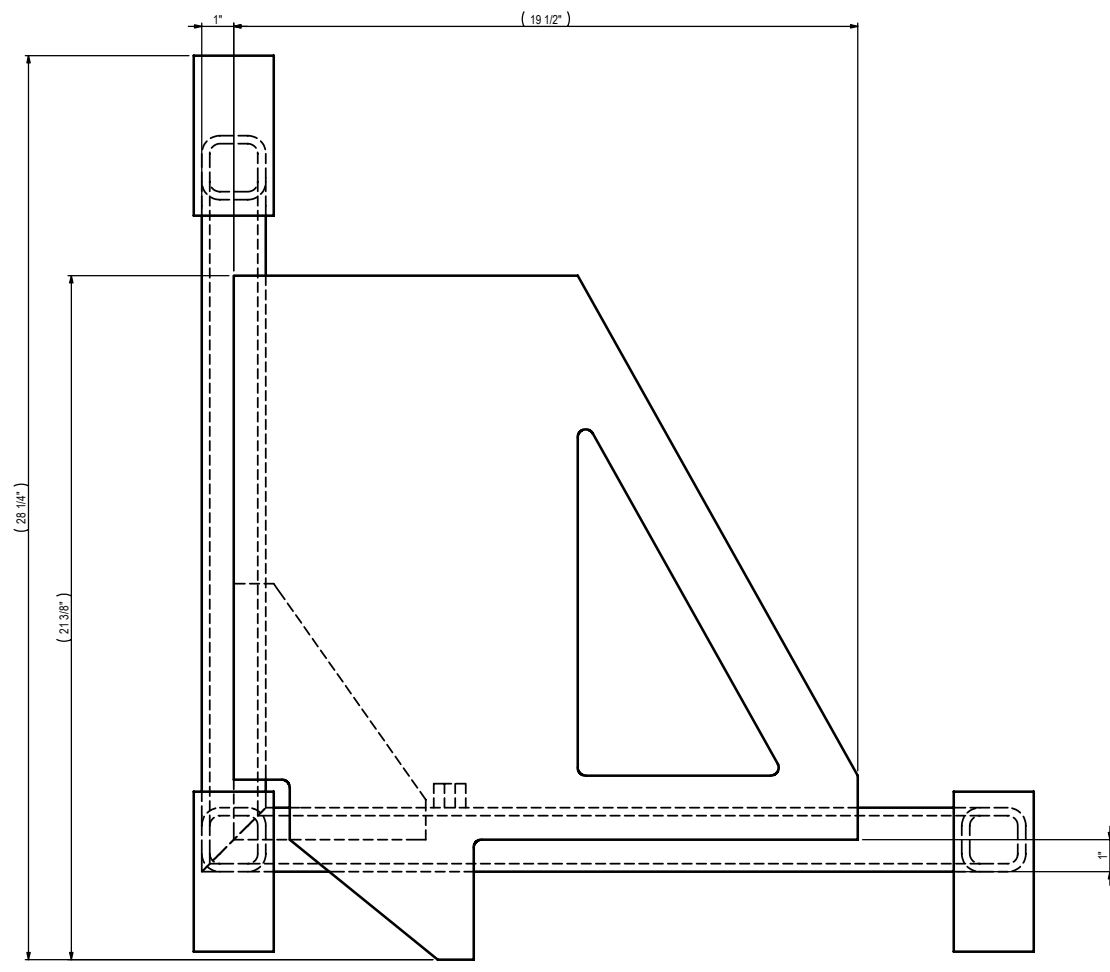
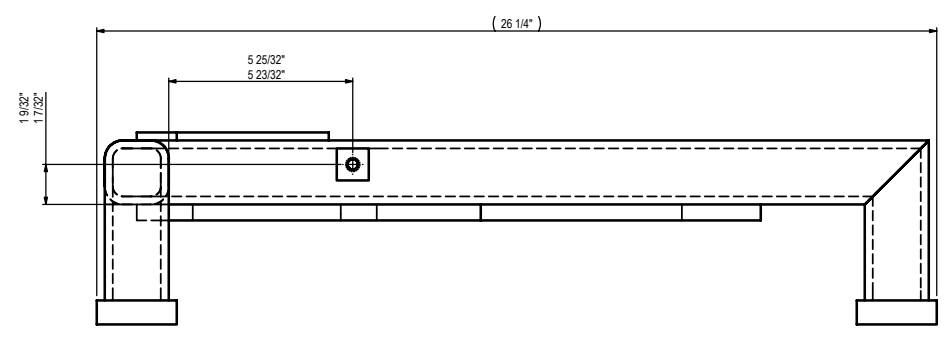
ITEM	QTY.	PART NO. / CAT NO.	DESCRIPTION	MATERIAL / MANUFACTURER
1	3	AK0001M0003A		6061-T6 AL FB 3/4 x 2 1/2 x 5 LG
2	1	AK0001M0003B		6061-T6 STRL AL TUBE SQ 2 x 2 x 1/4 x 25 3/4 LG
3	1	AK0001M0003C		6061-T6 STRL AL TUBE SQ 2 x 2 x 1/4 x 5 LG
4	2	AK0001M0003D		6061-T6 STRL AL TUBE SQ 2 x 2 x 1/4 x 5 LG
5	1	AK0001M0003E		6061-T6 STRL AL TUBE SQ 2 x 2 x 1/4 x 3 LG
6	1	AK0001M0003F		6061-T6 AL PL 1/2 x 19 1/2 x 21 3/8 LG
8	1	AK0001M0003H		6061-T6 AL FB 3/4 x 1 x 1 LG
9	1	AK0001M0003G		6061-T6 AL FB 1/4 x 6 x 8 LG



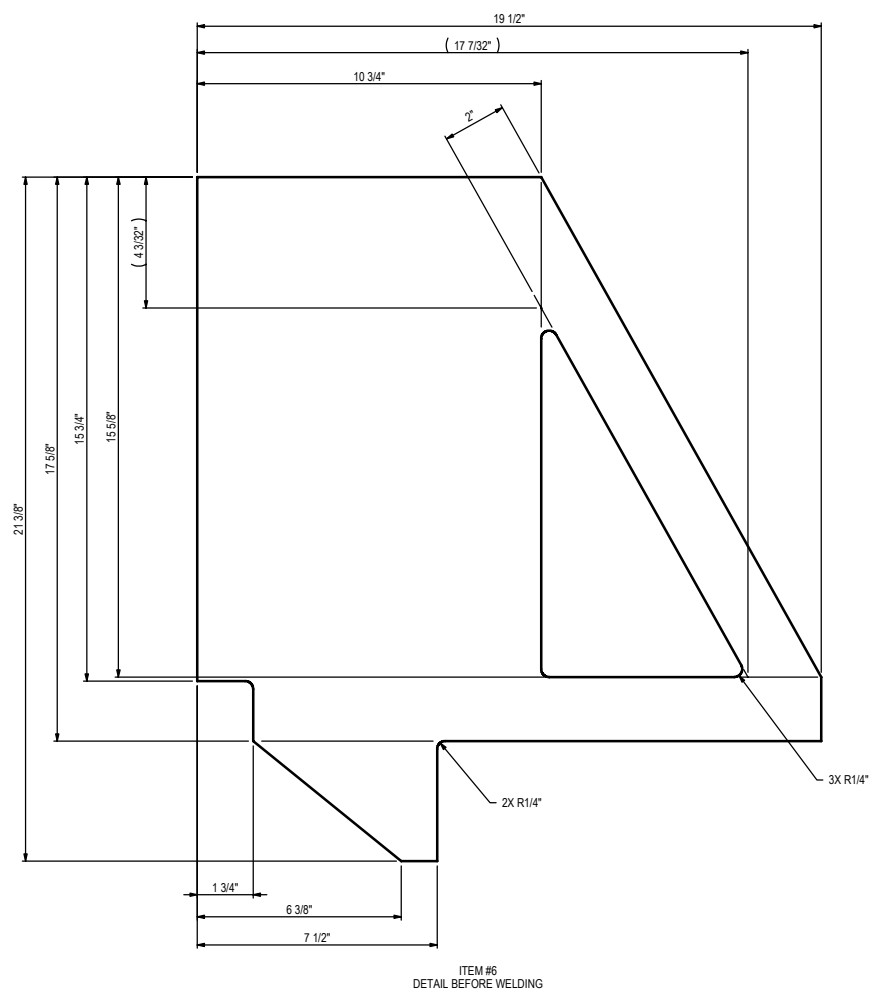
ZONE	REV.	DESCRIPTION	DATE	BY
SYMBOLS FOR GEOMETRIC TOLERANCE				
1 STRAIGHTNESS	7 CIRC. RUNOUT	3 POSITION	4 SYMMETRY	10 TOL. ZONE
2 FLATNESS	8 TOTAL RUNOUT	4 CONCENTRICITY	5 ANGULARITY	11 DIA.
3 ROUNDNESS	9 PERPENDICULARITY	5 PROFILE OF A SURFACE	6 MMC	12 RAD.
4 CYLINDRICITY	10 PARALLELISM	6 PROFILE OF A LINE	7 LMC	13 DATUM
MATERIAL				
POST PROCESSES ANODIZE BLACK				
NOTES				
DIMENSIONAL TOLERANCES, UNLESS OTHERWISE SPECIFIED				
ALL IMPERIAL THREADS UN CLASS 2A & 2B	ALL METRIC THREADS ISO CLASS 6H/6g	DIMENSIONS (INCHES)	TOLERANCE	
MACHINED SHARP FILLET RADIUS 1/32 MAX		FRACTIONAL (XXX)	±1/16	
BREAK CORNERS 0.02X45°		2 PLACE DEC. (XX)	±0.01	
REMOVE BURRS		3 PLACE DEC. (XXX)	±0.005	
		4 PLACE DEC. (XXXX)	±0.0005	
		0 PLACE DEC. ANGLE (X°)	±1°	
		1 PLACE DEC. ANGLE (X.X°)	±0.5°	
		STD. TWIST DRILL	±0.005	
SURFACE 125				
WELD ALL WELDING WELD SEE FIGS FINISHES OF FINISHES OF				
THIRD ANGLE PROJECTION		SolidWorks ISO NOT SCALE DRAWING NO MANUAL CHANGES		METRIC REFERENCE DIMENSIONS ARE INDICATED IN SQUARE PARENTHESES (METRIC)
DIMENSIONS SHOWN IN ROUND PARENTHESES ARE FOR REFERENCE ONLY (REF.)		Applied Kinetics Professional Engineering and Design Services		
ENGINEER	AKWC			
DRAWN	AKWC			
DATE	2000.08.01			
DWG. SCALE	1:3			
CLIENT	ABC PACKAGING COMPANY	CUSTOMER	XYZ WIDGET COMPANY	
CLIENT PROJ. NUM.	1234	PROJECT	ROBOTIC PALLETIZING SYSTEM	
SLIDE CARRIAGE BRACKET PALLETIZING GRIPPER				
TOTAL QTY.	1	SIZE	D	SHEET OF 4
APPLIED KINETICS PROJECT CODE	AK0001	DRAWING NUMBER	M0003	REV. A0



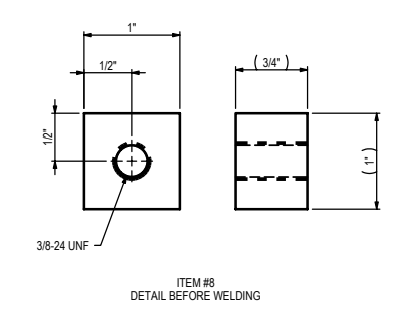
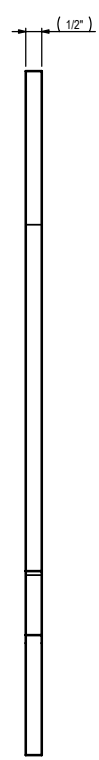
ZONE	REV.	DESCRIPTION	DATE	BY
SYMBOLS FOR GEOMETRIC TOLERANCE				
STRAIGHTNESS	CIRC. RUNOUT	POSITION	SYMMETRY	TOL. ZONE
FLATNESS	TOTAL RUNOUT	CONCENTRICITY	ANGULARITY	DIA.
ROUNDNESS	PERPENDICULARITY	PROFILE OF A SURFACE	MMAC	RAD.
CYLINDRICITY	PARALLELISM	PROFILE OF A LINE	MMC	DATUM
MATERIAL				
POST PROCESSES ANODIZE BLACK				
NOTES				
DIMENSIONAL TOLERANCES, UNLESS OTHERWISE SPECIFIED				
ALL IMPERIAL THREADS UN CLASS 2A & 2B	ALL METRIC THREADS ISO CLASS 6H/6g	DIMENSIONS (INCHES)	TOLERANCE	
MACHINED SHARP FILLET RADIUS 1/32 MAX		FRACTIONAL (X/XX)	±1/16	
BREAK CORNERS 0.02X45°		2 PLACE DEC. (X.XX)	±0.01	
REMOVE BURRS		3 PLACE DEC. (X.XXX)	±0.005	
		4 PLACE DEC. (X.XXXX)	±0.0005	
		0 PLACE DEC. ANGLE (X°)	±1°	
		1 PLACE DEC. ANGLE (X.X°)	±0.5°	
		STD. TWIST DRILL	±0.005	
SURFACE FINISH				
THIRD ANGLE PROJECTION				
SolidWorks				
DIMENSIONS ARE SHOWN IN ROUND PARENTHESES ARE FOR REFERENCE ONLY (REF.)				
ENGINEER	AKNC			
DRAWN	AKNC			
DATE	2000.08.01			
DWG. SCALE	1:3			
CLIENT	ABC PACKAGING COMPANY	CUSTOMER	XYZ WIDGET COMPANY	
CLIENT PROJ. NUM.	1234	PROJECT	ROBOTIC PALLETIZING SYSTEM	
SLIDE CARRIAGE BRACKET PALLETIZING GRIPPER				
TOTAL QTY.	1	SIZE	D	REV.
		SHEET	2	
		OF	4	
		APPLIED KINETICS PROJECT CODE	AK0001	DRAWING NUMBER
				M0003
				A0



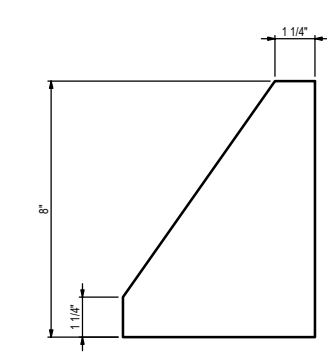
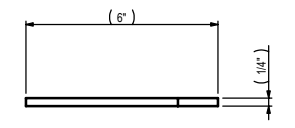
ZONE	REV.	DESCRIPTION	DATE	BY	
SYMBOLS FOR GEOMETRIC TOLERANCE					
STRAIGHTNESS	CIRC. RUNOUT	POSITION	SYMMETRY	TOL. ZONE	
FLATNESS	TOTAL RUNOUT	CONCENTRICITY	ANGULARITY	DIA.	
ROUNDNESS	PERPENDICULARITY	PROFILE OF A SURFACE	MMC	RAD.	
CYLINDRICITY	PARALLELISM	PROFILE OF A LINE	LMC	DATUM	
MATERIAL:					
POST PROCESSES: ANODIZE BLACK					
NOTES:					
DIMENSIONAL TOLERANCES, UNLESS OTHERWISE SPECIFIED					
ALL IMPERIAL THREADS UN CLASS 2A & 2B	ALL METRIC THREADS ISO CLASS 6H/6g	DIMENSIONS (INCHES)	TOLERANCE		
MACHINED SHARP FILED RADI 1/32 MAX		FRACTIONAL (XXX)	±1/16		
BREAK CORNERS 0.02X45°		2 PLACE DEC. (XX)	±0.01		
REMOVE BURRS		3 PLACE DEC. (XXX)	±0.005		
		4 PLACE DEC. (XXXX)	±0.0005		
		0 PLACE DEC. ANGLE (X°)	±1°		
		1 PLACE DEC. ANGLE (X.X°)	±0.5°		
		STD. TWIST DRILL	±0.005		
SURFACE 125	WELD ALL WELDING WELD SEE FIGURAL FINISHES OF FINISHES OF	METRIC REFERENCE DIMENSIONS ARE INDICATED IN SQUARE PARENTHESES (METRIC)	DIMENSIONS SHOWN IN ROUND PARENTHESES ARE FOR REFERENCE ONLY (REF.)		
THIRD ANGLE PROJECTION	SolidWorks ISO NOT SCALE DRAWING NO MANUAL CHANGES				
ENGINEER: AKNC					
DRAWN: AKNC					
DATE: 2000.08.01					
DWG. SCALE: 1:3					
CLIENT: ABC PACKAGING COMPANY	CUSTOMER: XYZ WIDGET COMPANY				
CLIENT PROJ. NUM.: 1234	PROJECT: ROBOTIC PALLETIZING SYSTEM				
SLIDE CARRIAGE BRACKET PALLETIZING GRIPPER					
TOTAL QTY: 1	SIZE: D	SHEET OF: 3/4	APPLIED KINETICS PROJECT CODE: AK0001	DRAWING NUMBER: M0003	REV.: A0



ITEM #6  
DETAIL BEFORE WELDING



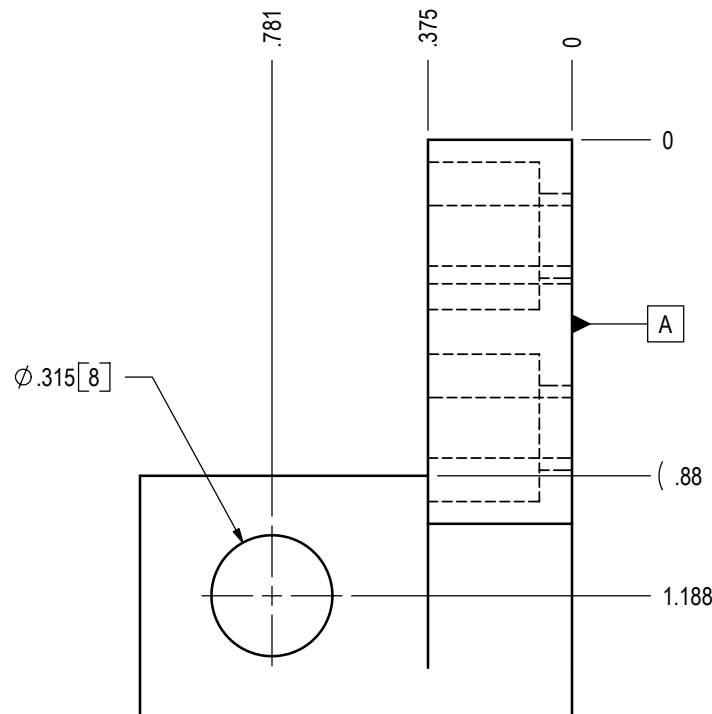
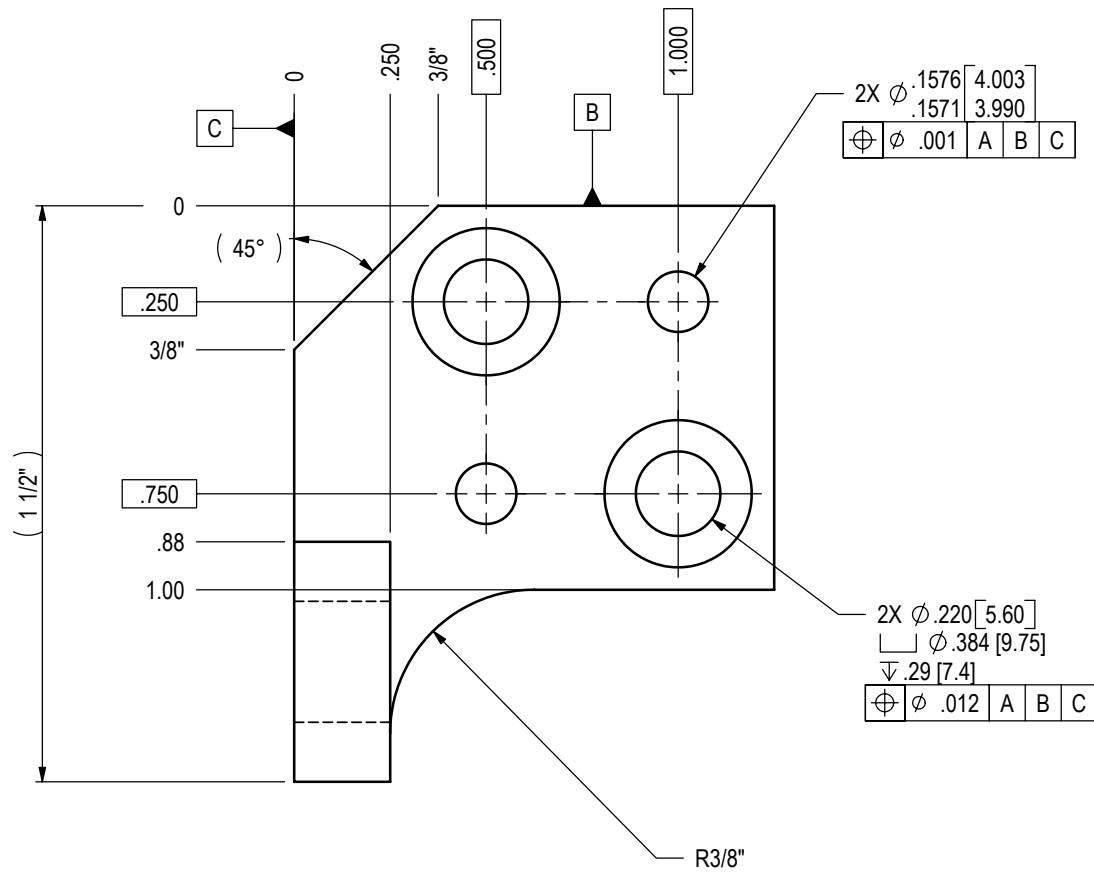
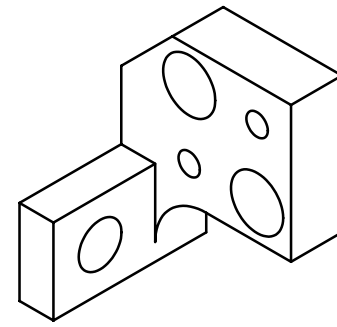
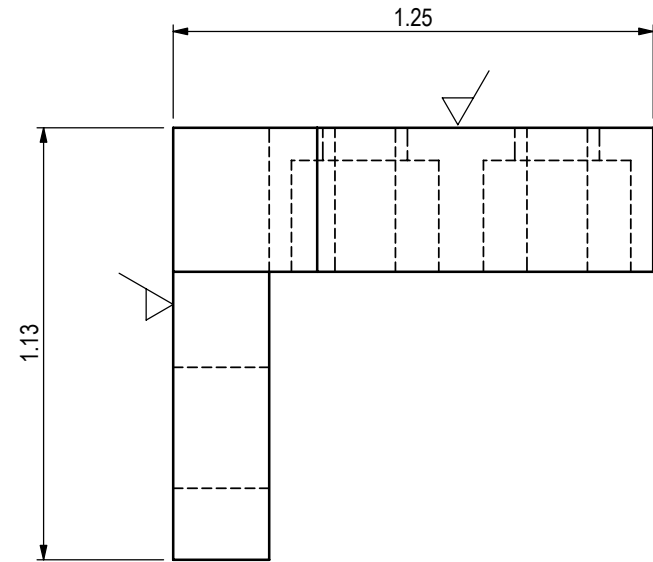
ITEM #8  
DETAIL BEFORE WELDING



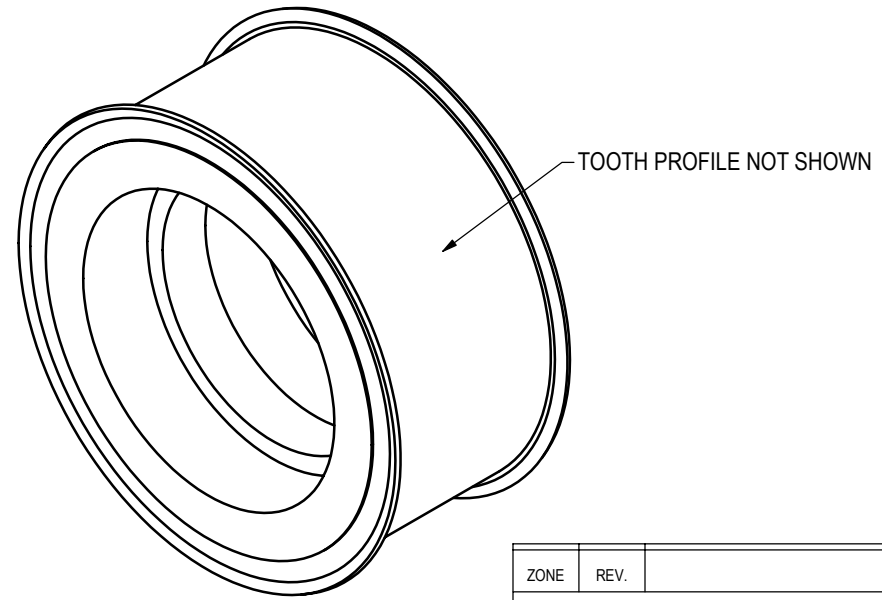
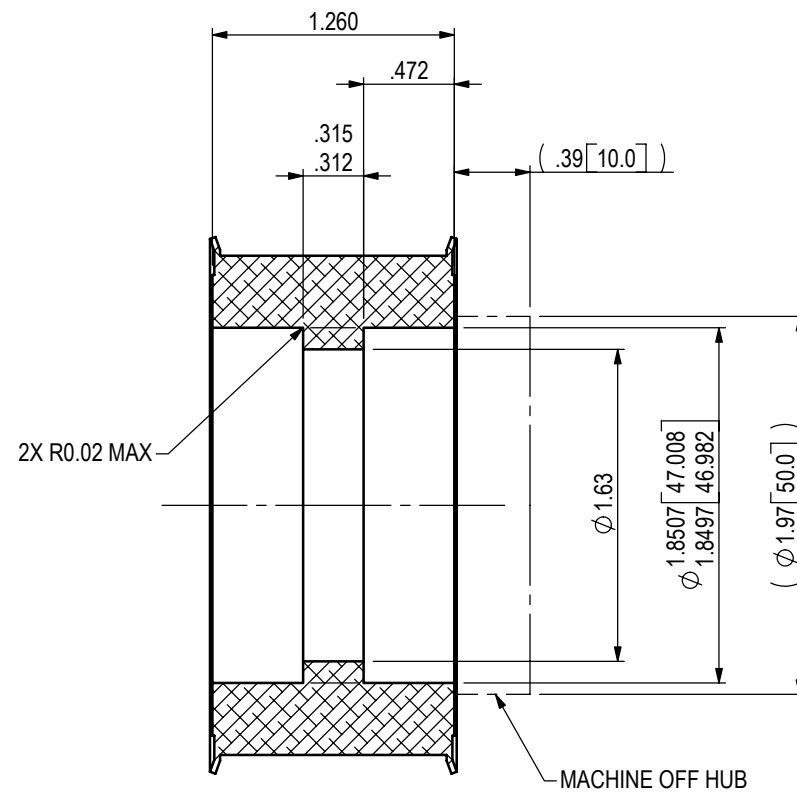
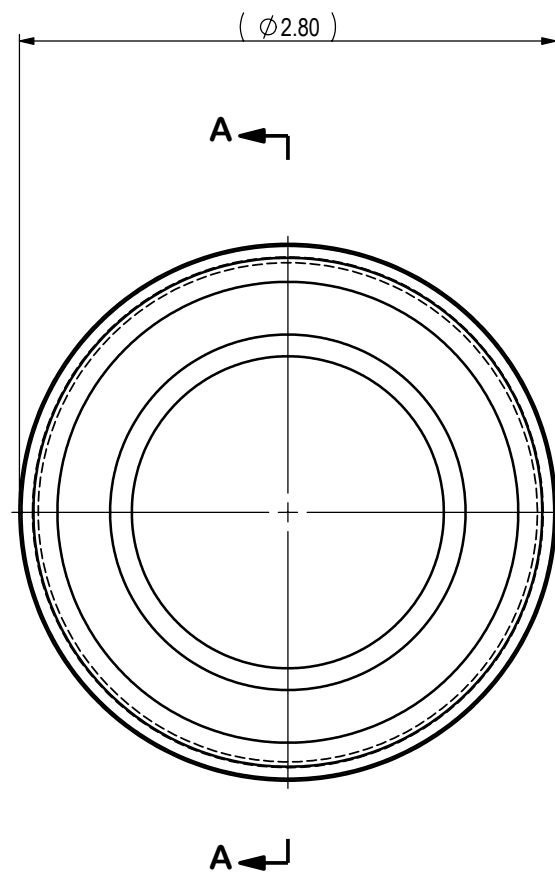
ITEM #7  
DETAIL BEFORE WELDING


ZONE	REV.	DESCRIPTION	DATE	BY
SYMBOLS FOR GEOMETRIC TOLERANCE				
	7	CIRC. RUNOUT		3
	7	TOTAL RUNOUT		3
	1	PERPENDICULARITY		1
	1	PARALLELISM		1
				2
				2
				3
				3
				2
				2
				2
				2
MATERIAL				
POST PROCESSES ANODIZE BLACK				
NOTES				
DIMENSIONAL TOLERANCES, UNLESS OTHERWISE SPECIFIED				
ALL IMPERIAL THREADS UN CLASS 2A & 2B	ALL METRIC THREADS ISO CLASS 6H/6g	DIMENSIONS (INCHES)	TOLERANCE	
MACHINED SHARP FILLET RADIUS 1/32 MAX		FRACTIONAL (XXX)	±1/16	
BREAK CORNERS 0.02X45°		2 PLACE DEC. (XX)	±0.01	
REMOVE BURRS		3 PLACE DEC. (XXX)	±0.005	
		4 PLACE DEC. (XXXX)	±0.0005	
		0 PLACE DEC. ANGLE (X°)	±1°	
		1 PLACE DEC. ANGLE (X.X°)	±0.5°	
		STD. TWIST DRILL	±0.0005	
	WELD ALL AREAS WELD SEE FIGURAL FINISHES OF THINNET PRICE	METRIC REFERENCE DIMENSIONS ARE INDICATED IN SQUARE PARENTHESES (METRIC)	DIMENSIONS SHOWN IN ROUND PARENTHESES ARE FOR REFERENCE ONLY (REF.)	
	THIRD ANGLE PROJECTION	SolidWorks ISO NOT SCALE DRAWING NO MANUAL CHANGES		
ENGINEER AKVC	DATE 2000.08.01	<b>Applied Kinetics</b> Professional Engineering and Design Services		
DRAWN AKVC	DWG. SCALE 1:3	CLIENT ABC PACKAGING COMPANY	CUSTOMER XYZ WIDGET COMPANY	
		CLIENT PROJ. NUM. 1234	PROJECT ROBOTIC PALLETIZING SYSTEM	
SLIDE CARRIAGE BRACKET PALLETIZING GRIPPER				
TOTAL QTY. 1	SIZE D	SHEET OF 4	APPLIED KINETICS PROJECT CODE AK0001	DRAWING NUMBER M0003
				REV. A0





ZONE	REV.	DESCRIPTION	DATE	BY	
SYMBOLS FOR GEOMETRIC TOLERANCE					
	STRAIGHTNESS		CIRC. RUNOUT		POSITION
	FLATNESS		TOTAL RUNOUT		CONCENTRICITY
	ROUNDNESS		PERPENDICULARITY		PROFILE OF A SURFACE
	CYLINDRICITY		PARALLELISM		PROFILE OF A LINE
	SYMMETRY		ANGULARITY		TOL. ZONE
	MMC		RAD.		DATUM
	LMC				
MATERIAL		ASTM A36 HRS SQ 1 1/2 x 1 1/2 x 1 1/8 LG			
POST PROCESSES		BLACK OXIDE			
NOTES					
DIMENSIONAL TOLERANCES, UNLESS OTHERWISE SPECIFIED					
ALL IMPERIAL THREADS UN CLASS 2A & 2B		ALL METRIC THREADS ISO CLASS 6H/6g		TOLERANCE	
MACHINED SHARP FILLET RADII 1/32 MAX		DIMENSIONS (INCHES)			
BREAK CORNERS 0.02X45°		FRACTIONAL	(X/X)	±1/16	
REMOVE BURRS		2 PLACE DEC.	(X.XX)	±0.01	
		3 PLACE DEC.	(X.XXX)	±0.005	
		4 PLACE DEC.	(X.XXXX)	±0.0005	
		0 PLACE DEC. ANGLE	(X°)	±1°	
		1 PLACE DEC. ANGLE	(X.X°)	±0.5°	
		STD. TWIST DRILL		$\phi$ ±0.005	
SURFACE 125		WELD ALL AROUND WELD SIZE EQUALS THICKNESS OF THINNEST PIECE			
		SolidWorks		METRIC REFERENCE DIMENSIONS ARE INDICATED IN SQUARE PARENTHESES [METRIC]	
THIRD ANGLE PROJECTION		DO NOT SCALE DRAWING		DIMENSIONS SHOWN IN ROUND PARENTHESES ARE FOR REFERENCE ONLY (REF.)	
NO MANUAL CHANGES					
ENGINEER	AKNC	 <b>Applied Kinetics</b> Professional Engineering and Design Services			
DRAWN	AKNC				
DATE	2000.08.10				
DWG. SCALE	2:1				
CLIENT	ABC PACKAGING COMPANY	CUSTOMER	XYZ WIDGET COMPANY		
CLIENT PROJ. NUM.	1234	PROJECT	ROBOTIC PALLETIZING SYSTEM		
X-AXIS DATUM BLOCK PALLETIZING GRIPPER					
TOTAL QTY.	SIZE	SHEET	APPLIED KINETICS PROJECT CODE	DRAWING NUMBER	
1	B	OF 1	AK0001	M0005	
				REV. A0	



ZONE	REV.	DESCRIPTION	DATE	BY																																								
SYMBOLS FOR GEOMETRIC TOLERANCE																																												
<table border="0"> <tr> <td>—</td><td>STRAIGHTNESS</td> <td>/</td><td>CIRC. RUNOUT</td> <td>⊕</td><td>POSITION</td> <td>≡</td><td>SYMMETRY</td> <td>Ⓟ</td><td>TOL. ZONE</td> </tr> <tr> <td>▭</td><td>FLATNESS</td> <td>∕∕</td><td>TOTAL RUNOUT</td> <td>⊙</td><td>CONCENTRICITY</td> <td>∠</td><td>ANGULARITY</td> <td>Ⓞ</td><td>DIA.</td> </tr> <tr> <td>○</td><td>ROUNDNESS</td> <td>⊥</td><td>PERPENDICULARITY</td> <td>Ⓢ</td><td>PROFILE OF A SURFACE</td> <td>Ⓜ</td><td>MMC</td> <td>Ⓡ</td><td>RAD.</td> </tr> <tr> <td>⊘</td><td>CYLINDRICITY</td> <td>∕∕</td><td>PARALLELISM</td> <td>Ⓛ</td><td>PROFILE OF A LINE</td> <td>Ⓟ</td><td>LMC</td> <td>△</td><td>DATUM</td> </tr> </table>	—	STRAIGHTNESS	/	CIRC. RUNOUT	⊕	POSITION	≡	SYMMETRY	Ⓟ	TOL. ZONE	▭	FLATNESS	∕∕	TOTAL RUNOUT	⊙	CONCENTRICITY	∠	ANGULARITY	Ⓞ	DIA.	○	ROUNDNESS	⊥	PERPENDICULARITY	Ⓢ	PROFILE OF A SURFACE	Ⓜ	MMC	Ⓡ	RAD.	⊘	CYLINDRICITY	∕∕	PARALLELISM	Ⓛ	PROFILE OF A LINE	Ⓟ	LMC	△	DATUM				
—	STRAIGHTNESS	/	CIRC. RUNOUT	⊕	POSITION	≡	SYMMETRY	Ⓟ	TOL. ZONE																																			
▭	FLATNESS	∕∕	TOTAL RUNOUT	⊙	CONCENTRICITY	∠	ANGULARITY	Ⓞ	DIA.																																			
○	ROUNDNESS	⊥	PERPENDICULARITY	Ⓢ	PROFILE OF A SURFACE	Ⓜ	MMC	Ⓡ	RAD.																																			
⊘	CYLINDRICITY	∕∕	PARALLELISM	Ⓛ	PROFILE OF A LINE	Ⓟ	LMC	△	DATUM																																			
MATERIAL		LS 42 T3/8" /22-2 Hub 50 x 10 BRECOFLEX																																										
POST PROCESSES		NONE																																										
NOTES																																												
DIMENSIONAL TOLERANCES, UNLESS OTHERWISE SPECIFIED																																												
ALL IMPERIAL THREADS UN CLASS 2A & 2B		ALL METRIC THREADS ISO CLASS 6H/6g																																										
MACHINED SHARP FILLET RADII 1/32 MAX		DIMENSIONS (INCHES)		TOLERANCE																																								
BREAK CORNERS 0.02X45°		FRACTIONAL	(X/X)	±1/16																																								
REMOVE BURRS		2 PLACE DEC.	(X.XX)	±0.01																																								
		3 PLACE DEC.	(X.XXX)	±0.005																																								
		4 PLACE DEC.	(X.XXXX)	±0.0005																																								
		0 PLACE DEC. ANGLE	(X°)	±1°																																								
		1 PLACE DEC. ANGLE	(X.X°)	±0.5°																																								
		STD. TWIST DRILL		Ø±0.005																																								
SURFACE 125		WELD ALL AROUND WELD SIZE EQUALS THICKNESS OF THINNEST PIECE																																										
THIRD ANGLE PROJECTION		SolidWorks		METRIC REFERENCE DIMENSIONS ARE INDICATED IN SQUARE PARENTHESES [METRIC]																																								
		DO NOT SCALE DRAWING		DIMENSIONS SHOWN IN ROUND PARENTHESES ARE FOR REFERENCE ONLY (REF.)																																								
		NO MANUAL CHANGES																																										
ENGINEER	AKNC	 <b>Applied Kinetics</b> <i>Professional Engineering and Design Services</i>																																										
DRAWN	AKNC																																											
DATE	2000.08.10																																											
DWG. SCALE	1:1																																											
CLIENT	ABC PACKAGING COMPANY	CUSTOMER	XYZ WIDGET COMPANY																																									
CLIENT PROJ. NUM.	1234	PROJECT	ROBOTIC PALLETIZING SYSTEM																																									
TAKE-UP PULLEY BELT TAKE-UP ASSEMBLY PALLETIZING GRIPPER																																												
TOTAL QTY.	SIZE	SHEET OF	APPLIED KINETICS PROJECT CODE	DRAWING NUMBER																																								
1	B	1 OF 1	AK0001	M0006																																								
				REV. A0																																								