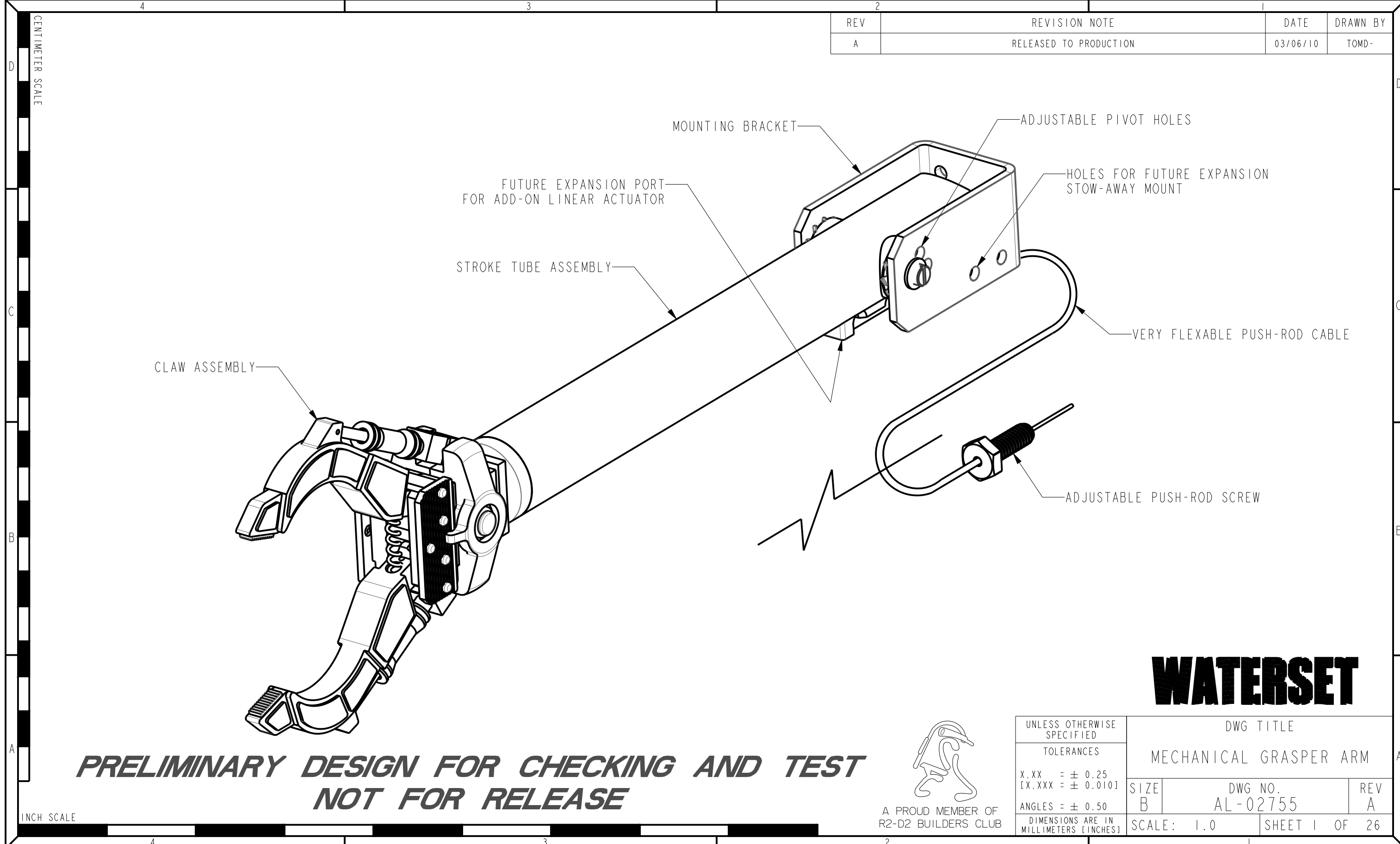


REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASED TO PRODUCTION	03/06/10	TOMD-

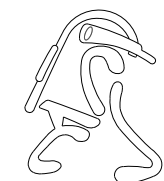


CENTIMETER SCALE

INCH SCALE

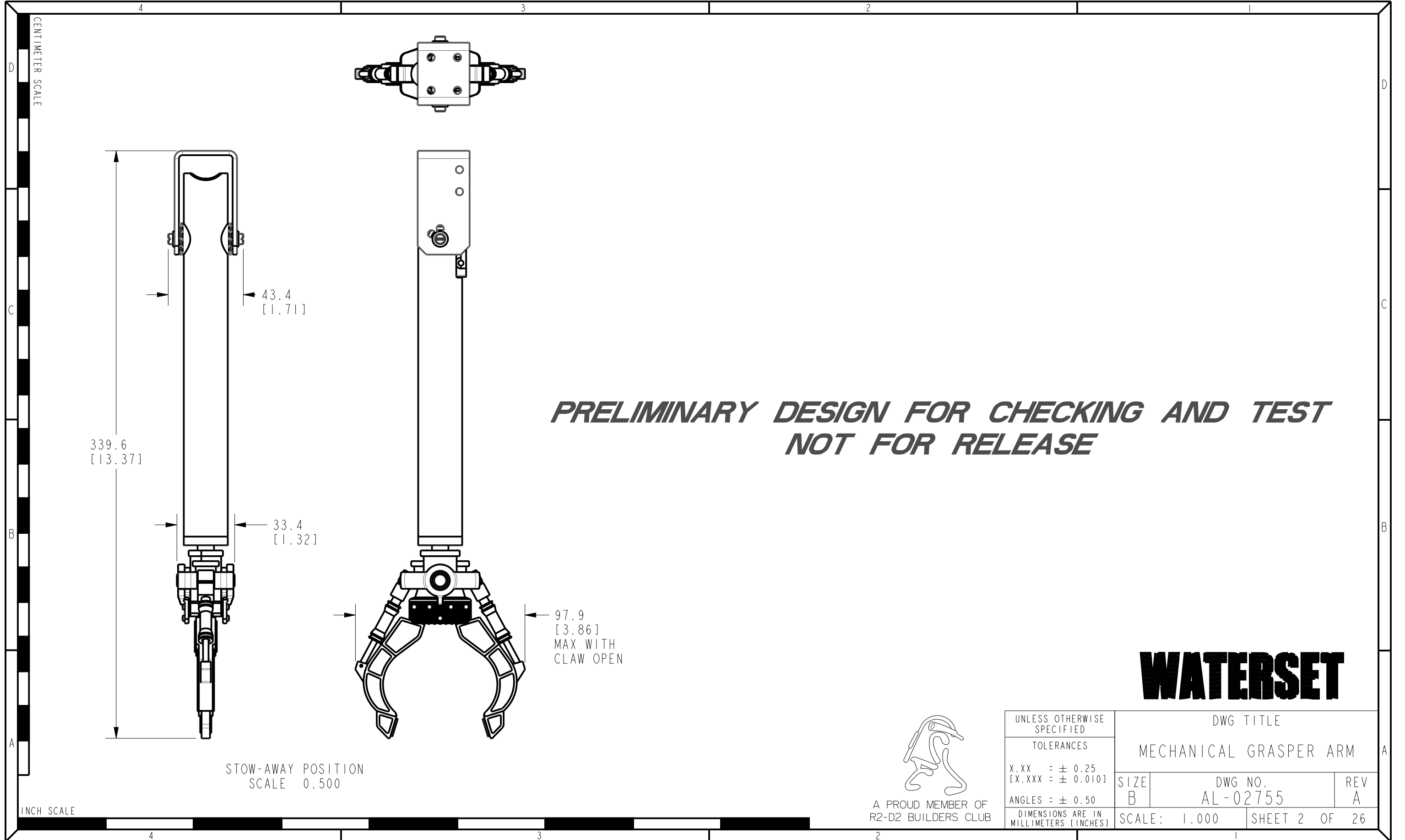
**PRELIMINARY DESIGN FOR CHECKING AND TEST  
NOT FOR RELEASE**

**WATERSET**



A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		MECHANICAL GRASPER ARM	
X.XX = ± 0.25	SIZE B	DWG NO.	REV
[X.XXX = ± 0.010]		AL-02755	A
ANGLES = ± 0.50	SCALE: 1.0	SHEET 1 OF 26	
DIMENSIONS ARE IN MILLIMETERS [INCHES]			



REV	REVISION NOTE	DATE	DRAWN BY
01	NEW DESIGN OF MACHINING	02/21/10	TOMD-

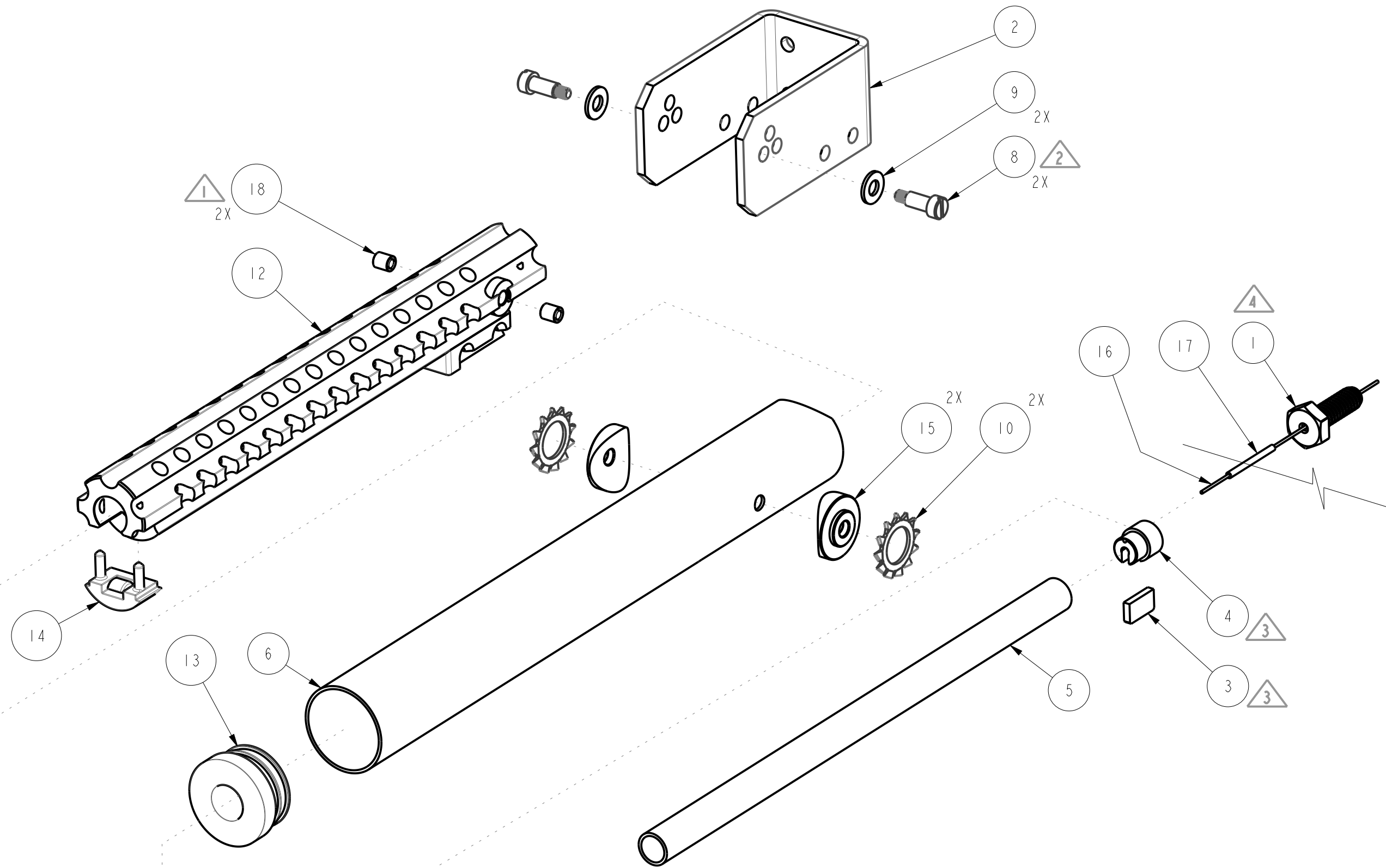
CENTIMETER SCALE

D

C

B

A



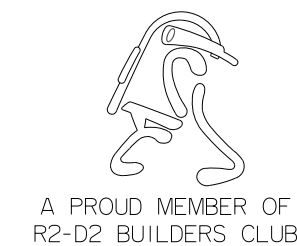
NOTES:

1. USE A SOLDERING IRON TO HEAT THERMAL INSERTS INTO PLACE FLUSH. DO NOT OVER HEAT OR DEFORM PLASTIC. REMOVE ANY FLASHING AS A RESULT.
2. APPLY A SMALL AMOUNT OF LOCTITE 222 TO THREADS, REMOVE EXCESSIVE.
3. USE WATERSET FIXTURE XXXXX TO ADHERE PARTS TOGETHER USING JB WELD. WELDS SHALL NOT INTERFERE WITH FUNCTIONALITY OF THREADS NOR ANTI-TWIST DESIGN.
4. ACCOMPANYING HARDWARE PROVIDED SEPARATELY IN A ZIP-LOCK BAGGIE.

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL
18	2	HD-NTM000-01	THERMAL INSERT, M3.5	YARDLEY PN 3005B5-6BR
17	1	N/A	PUSH ROD, OUTER SLEEVE	W T A
16	1	N/A	PUSH ROD, INNER	W T A
15	2	PL-02755-15	PIVOT, STROKE TUBE, MGA	PLASTIC, ABS, 3D PRINTING
14	1	PL-02755-14	HARD STOP, STRUCTURAL, MGA	PLASTIC, ABS, 3D PRINTING
13	1	PL-02755-11	END CAP, STROKE, MGA	PLASTIC, ABS, 3D PRINTING
12	1	PL-02755-13	BASE, STRUCTURAL, MGA	PLASTIC, ABS, 3D PRINTING
11	1	N/A	JB WELD	N/A
10	2	HD-WAM00-02	LOCK WASHER, EXTERNAL TOOTH, M10	MMC # 95060A400 OR EQUIV.
9	2	HD-WAM00-01	FLAT WASHER, M4	MMC # 93475A230 OR EQUIV.
8	2	HD-SCM00-01	SHOULDER SCREW, M3.5 THRD, 4MM DIA, 8MM SHOULDER LENGTH	MMC # 90270A654 OR EQUIV.
7	1	N/A	LOCTITE 222, MEDIUM STRENGTH THREAD LOCK	MCMaster CARR # 1810A27 OR EQUIV.
6	1	AL-02755-12	TUBE, OUTER, MGA	ALUMINUM TUBE, 1.00"OD X 0.930"ID X 0.035" WALL THK
5	1	AL-02755-10	TUBE, STROKE, MGA	ALUMINUM TUBE, 0.375"OD X 0.305"ID X 0.035"THK WALL
4	1	AL-02755-16	STOPPER, PUSH-ROD, MGA	ALUMINUM 6061-T6
3	1	AL-02755-15	RUTTER, ANTI-TWIST, MGA	ALUMINUM 6061-T6
2	1	AL-02755-14	BRACKET, MOUNTING, MGA	ALUMINUM
1	1	AL-02755-17	MODIFIED SCREW, 1/4-20, PUSH-ROD, ADJUSTABLE, MGA	8-18 SS, MAKE FROM Mcm # 92240A540 OR EQUIV.

**PRELIMINARY DESIGN FOR CHECKING AND TEST  
NOT FOR RELEASE**

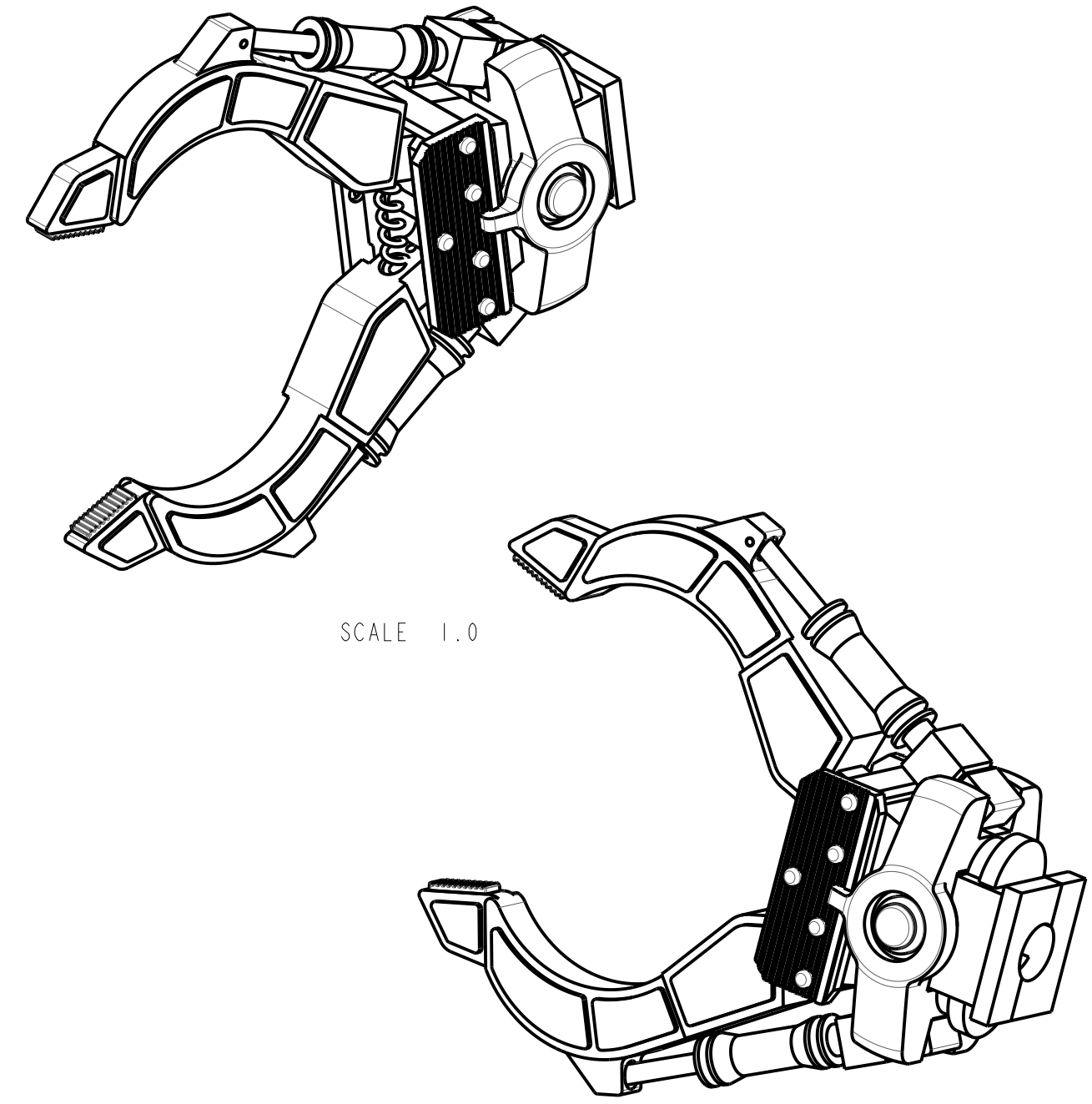
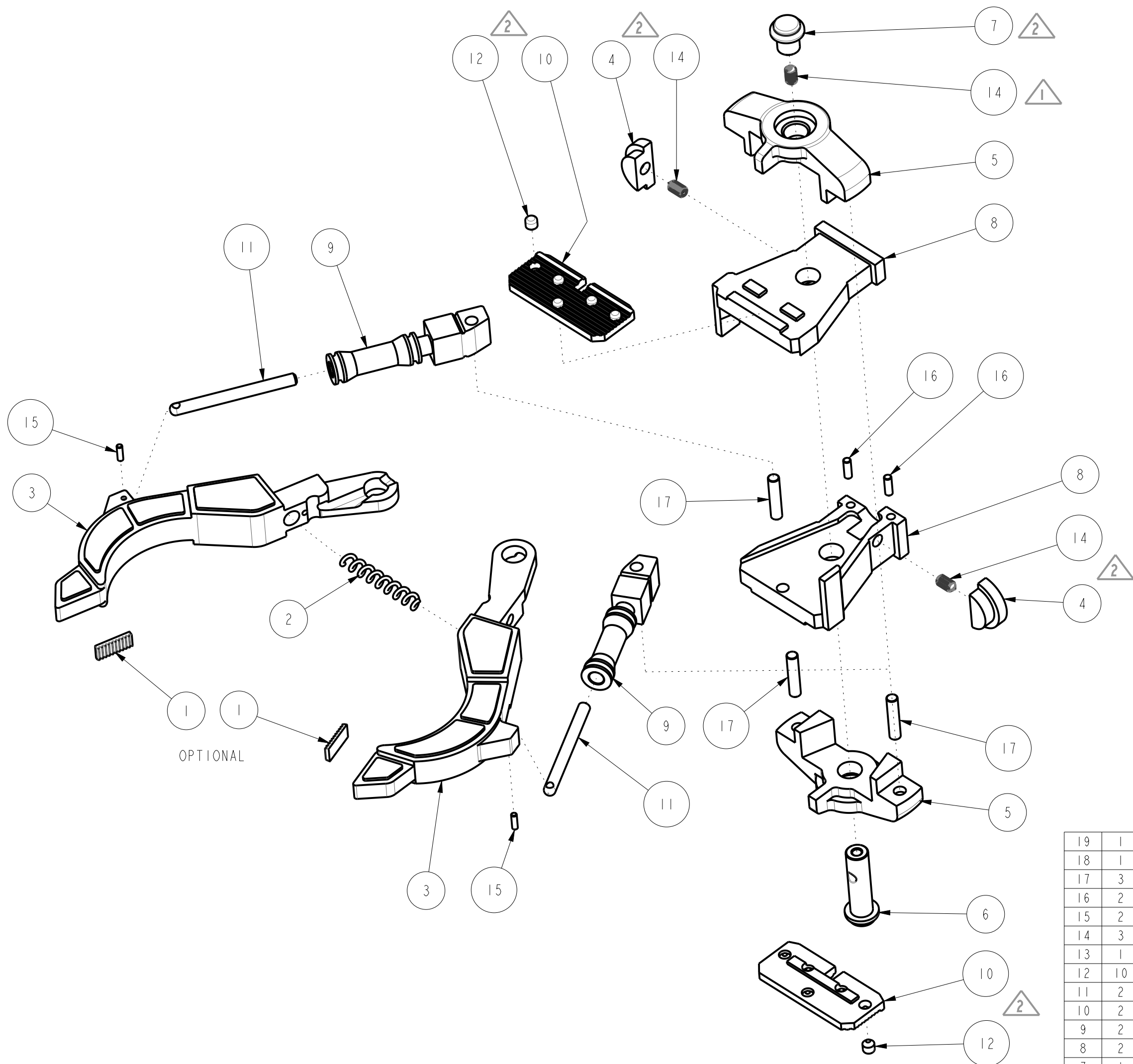
INCH SCALE



A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

UNLESS OTHERWISE SPECIFIED TOLERANCES		DWG TITLE	
X.XX	= ± 0.25	ASSEMBLY, STROKE TUBE, MGA	
[X.XXX]	= ± 0.010	SIZE	DWG NO.
ANGLES	= ± 0.50	C	AL-02755-S2
DIMENSIONS ARE IN MILLIMETERS [INCHES]		DO NOT SCALE	SHEET 3 OF 26
		REV	01

CENTIMETER SCALE



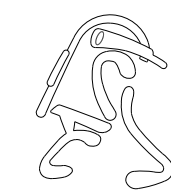
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL
19	1	WTA	THREAD, 100% POLYESTER	W T A
18	1	N/A	JB WELD	N/A
17	3	HD-DPM00-01	DOWEL PIN, M3 X 14MM L	McMASTER CARR # 91585A063 OR EQUIV.
16	2	HD-DPM00-02	DOWEL PIN, M2 X 6MM L	McMASTER CARR # 91585A015 OR EQUIV.
15	2	HD-DPM00-03	DOWEL PIN, M1.5 X 5MM L	McMASTER CARR # 91585A006 OR EQUIV.
14	3	HD-SRM00-02	SET SCREW, CONE POINT, M3 X 6MM LENGTH	McMASTER CARR # 91217A065 OR EQUIV.
13	1	N/A	LOCTITE 222, MEDIUM STRENGTH THREAD LOCK	McMASTER CARR # 1810A27 OR EQUIV.
12	10	AL-02755-07-B	SIDE DETAIL, RAISED BUMP, MGA	ALUMINUM 6061-T6, MMC # 1681T21 OR EQUIV.
11	2	AL-02755-06	INNER STRUT DETAIL, MGA	ALUMINUM 6061-T6, MMC # 1681T21 OR EQUIV.
10	2	AL-02755-07-A	SIDE DETAIL, MGA	ALUMINUM 6061-T6
9	2	AL-02755-05	OUTER STRUT DETAIL, MGA	ALUMINUM 6061-T6
8	2	AL-02755-01	HOUSING, MGA	ALUMINUM 6061-T6
7	1	AL-02755-09	HINGE PIN, SHORT, MGA	ALUMINUM 6061-T6
6	1	AL-02755-08	HINGE PIN, LONG, MGA	ALUMINUM 6061-T6
5	2	AL-02755-03	HINGE BASE, MGA	ALUMINUM 6061-T6
4	2	AL-02755-04	HALF DOOR KNOB DETAIL, MGA	ALUMINUM 6061-T6
3	2	AL-02755-02	CLAW DETAIL, MGA	ALUMINUM 6061-T6
2	1	PL-02755-61	SPRING, MGA	3D PRINTED
1	2	PL-02755-60	PAD, CLAW, MGA, OPTIONAL	3D PRINTED

**PRELIMINARY DESIGN FOR CHECKING AND TEST  
NOT FOR RELEASE**

- NOTES:  
 1. APPLY A SMALL AMOUNT OF LOCTITE 222 TO THREADS, REMOVE EXCESSIVE.  
 2. ADHERE PARTS TOGETHER USING JB WELD. WELDS SHALL NOT INTERFERE WITH FUNCTIONALITY OR COSMETICS OF DESIGN.

INCH SCALE

**WATERSET**



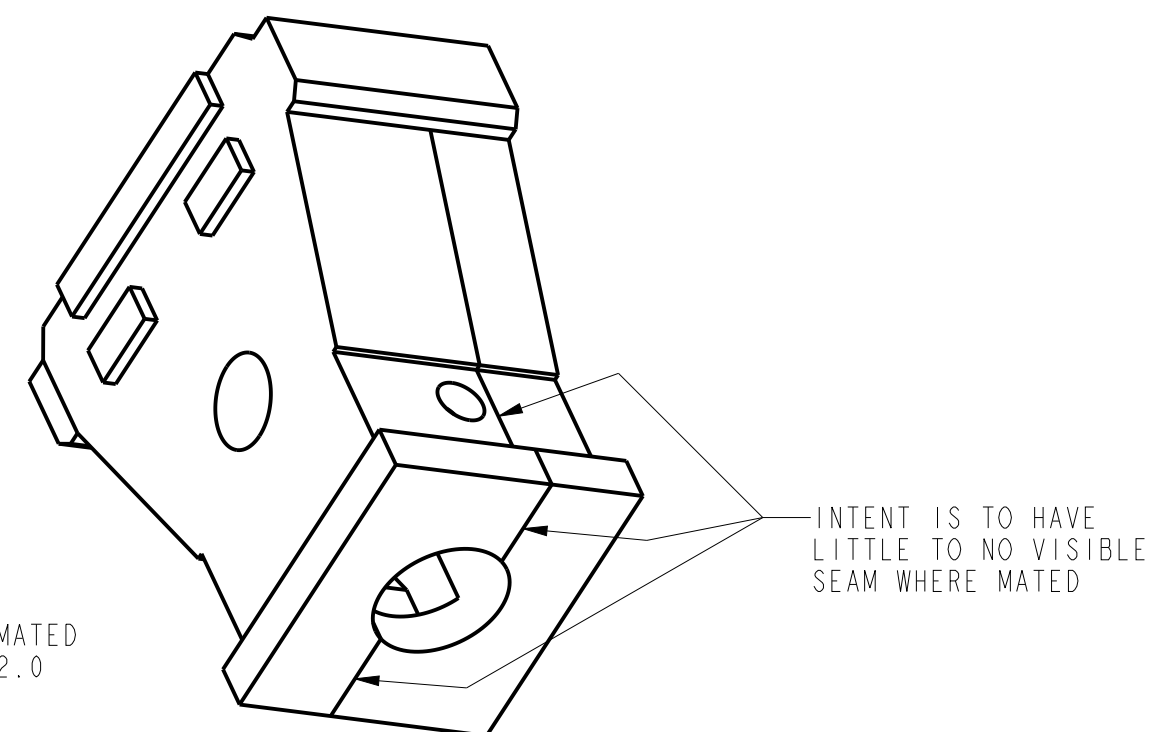
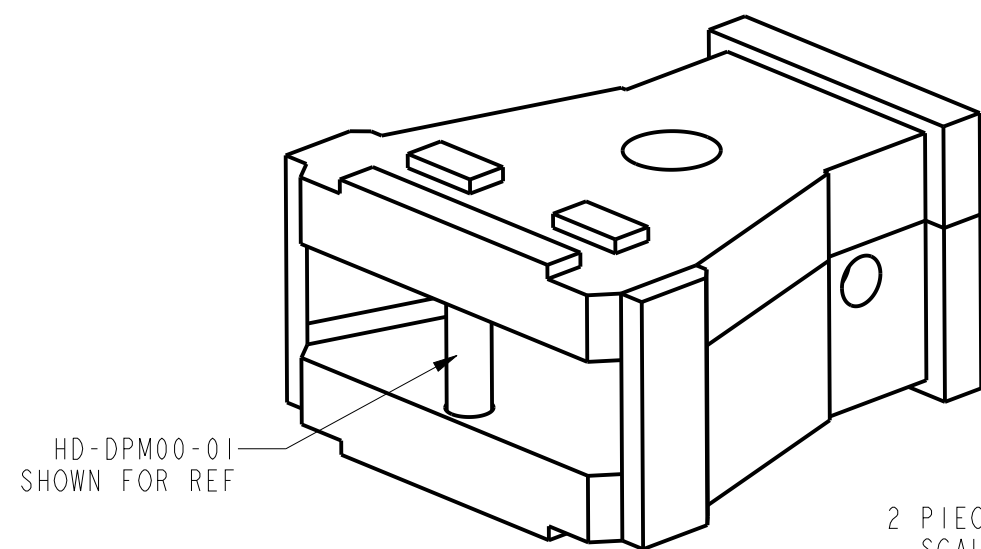
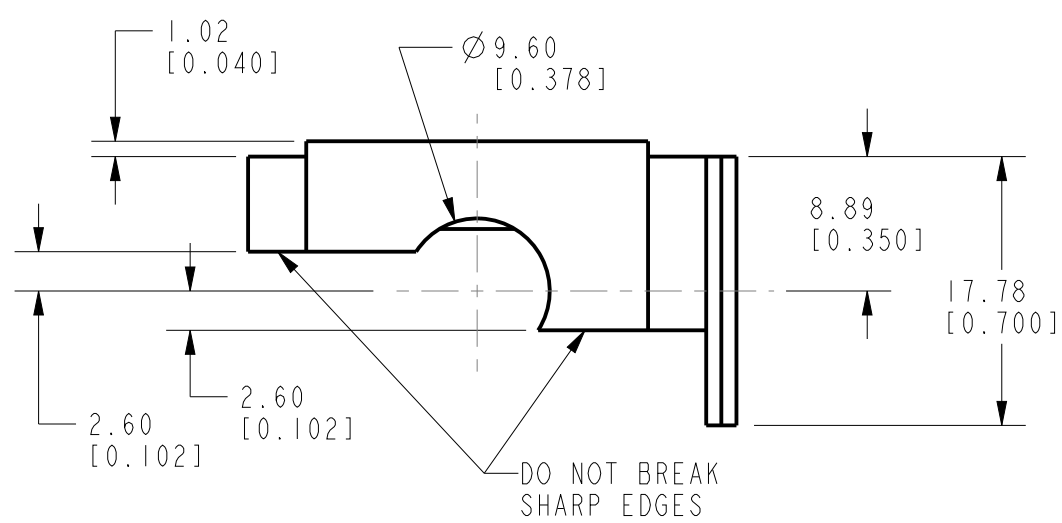
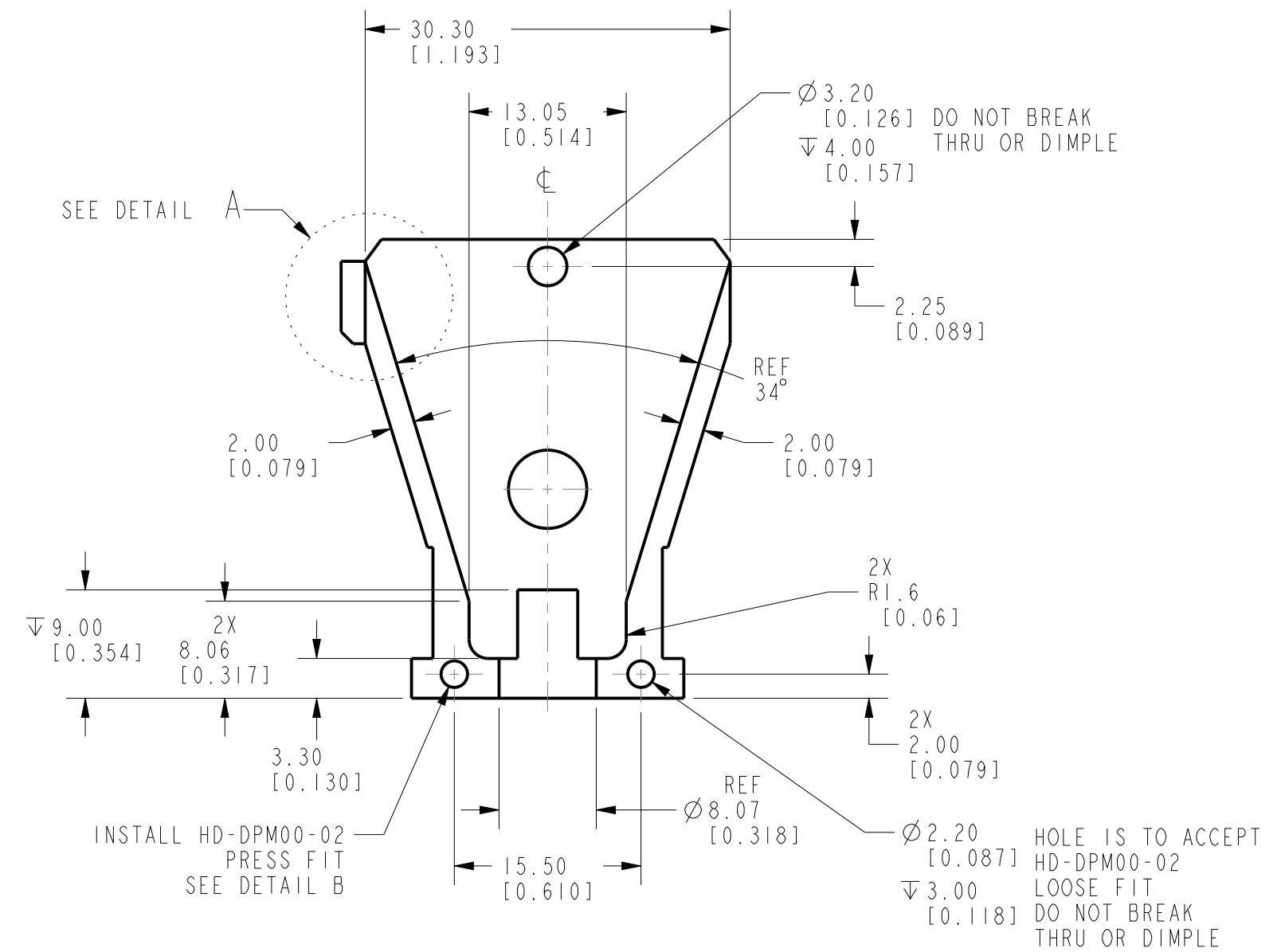
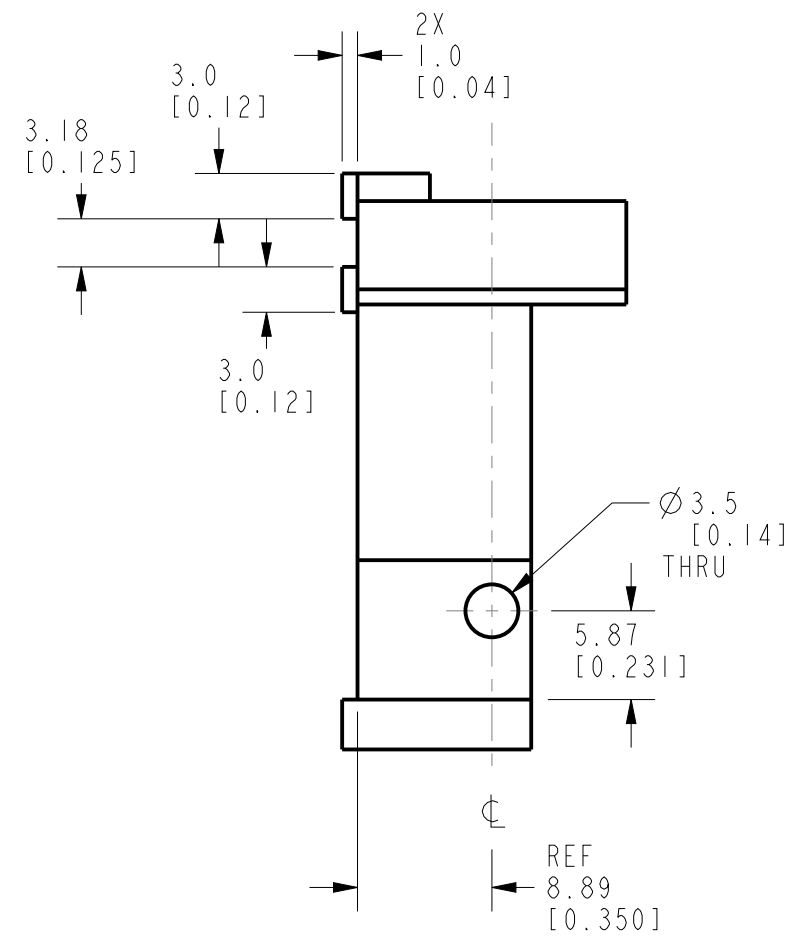
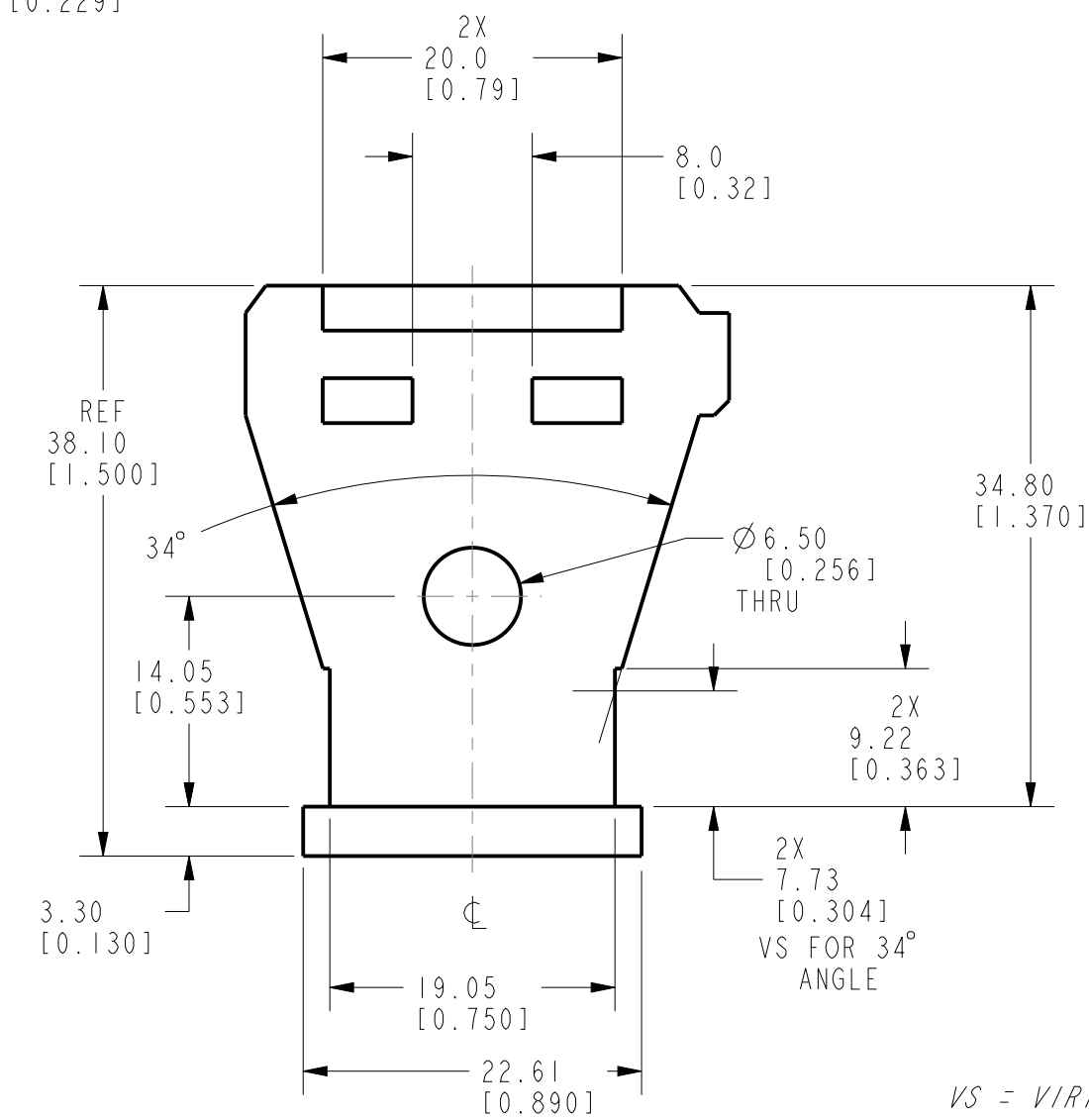
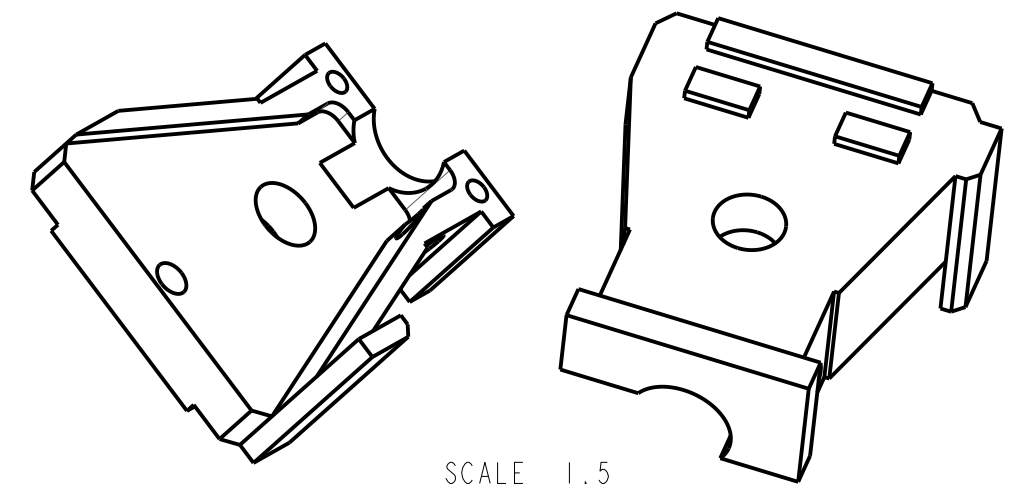
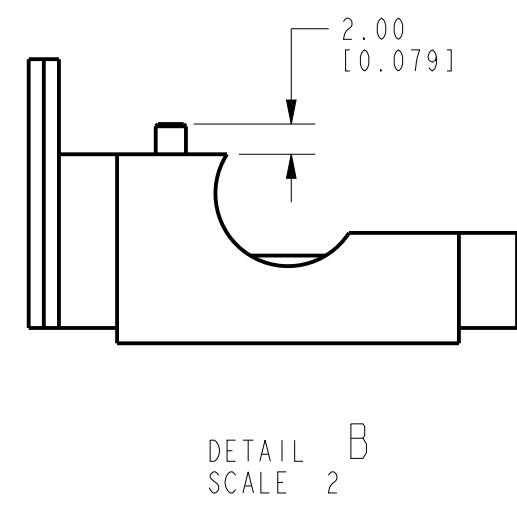
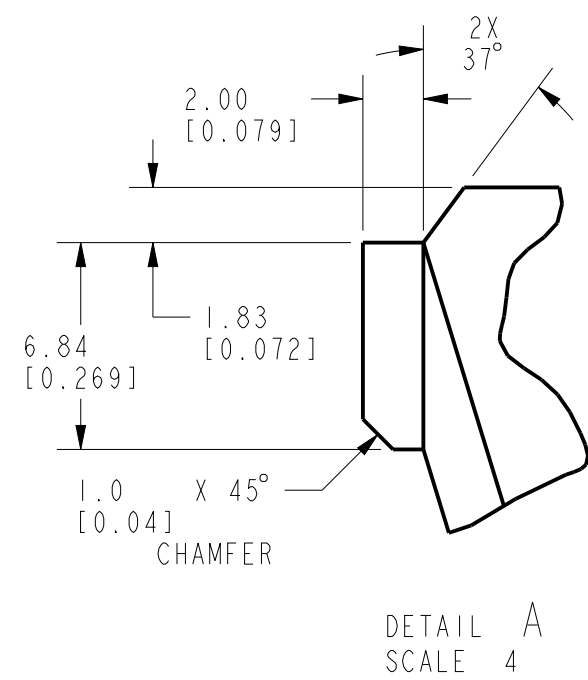
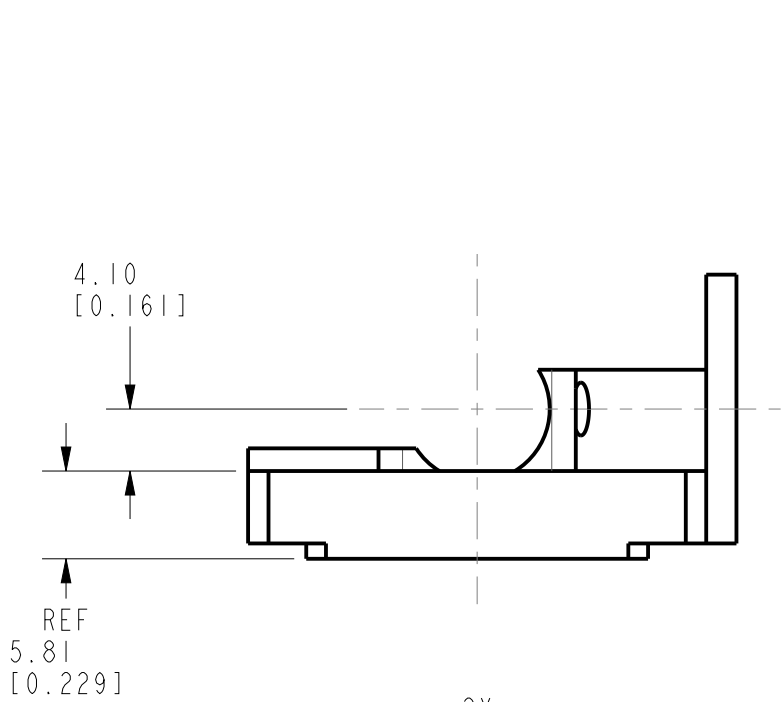
A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		CLAW ASSEMBLY, MGA	
X.XX = ± 0.25	SIZE	DWG NO.	REV
[X.XXX = ± 0.010]		AL-02755-S1	01
ANGLES = ± 0.50	SCALE: 1.0	SHEET 4 OF 26	
DIMENSIONS ARE IN MILLIMETERS [INCHES]			



REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASE TO PRODUCTION	03/05/10	TOMD-

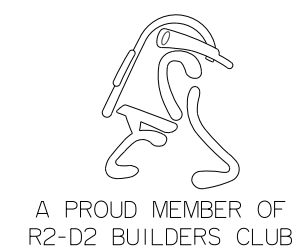
CENTIMETER SCALE



NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 6061-T6
2. 2 PIECES ARE REQUIRED PER ASSEMBLY.
3. REMOVE BURRS AND SHARP EDGES; 0.3mm MAX RADIUS/CHAMFER-VISUAL CERTIFICATION PERMITTED UNLESS OTHERWISE NOTED. NO VISIBLE TOOL MARKS.
4. PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
5. FINISH:
  - A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
6. FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

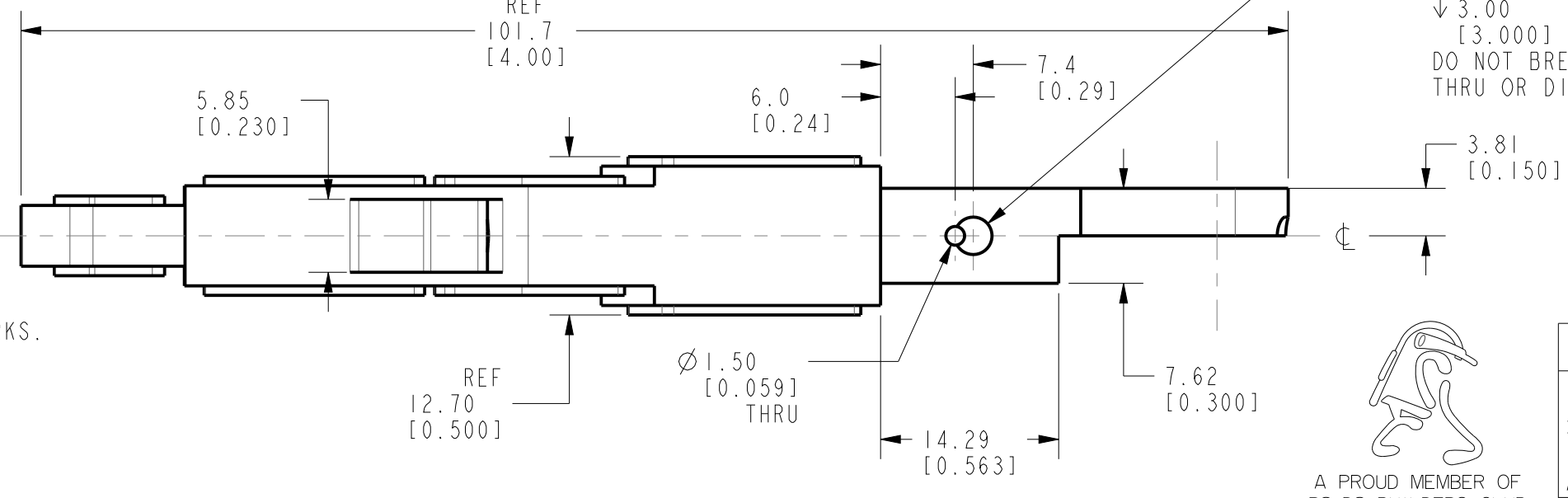
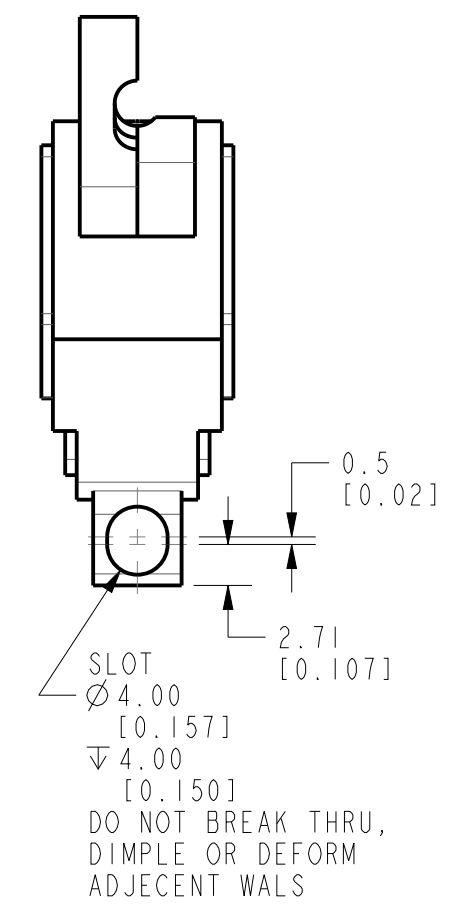
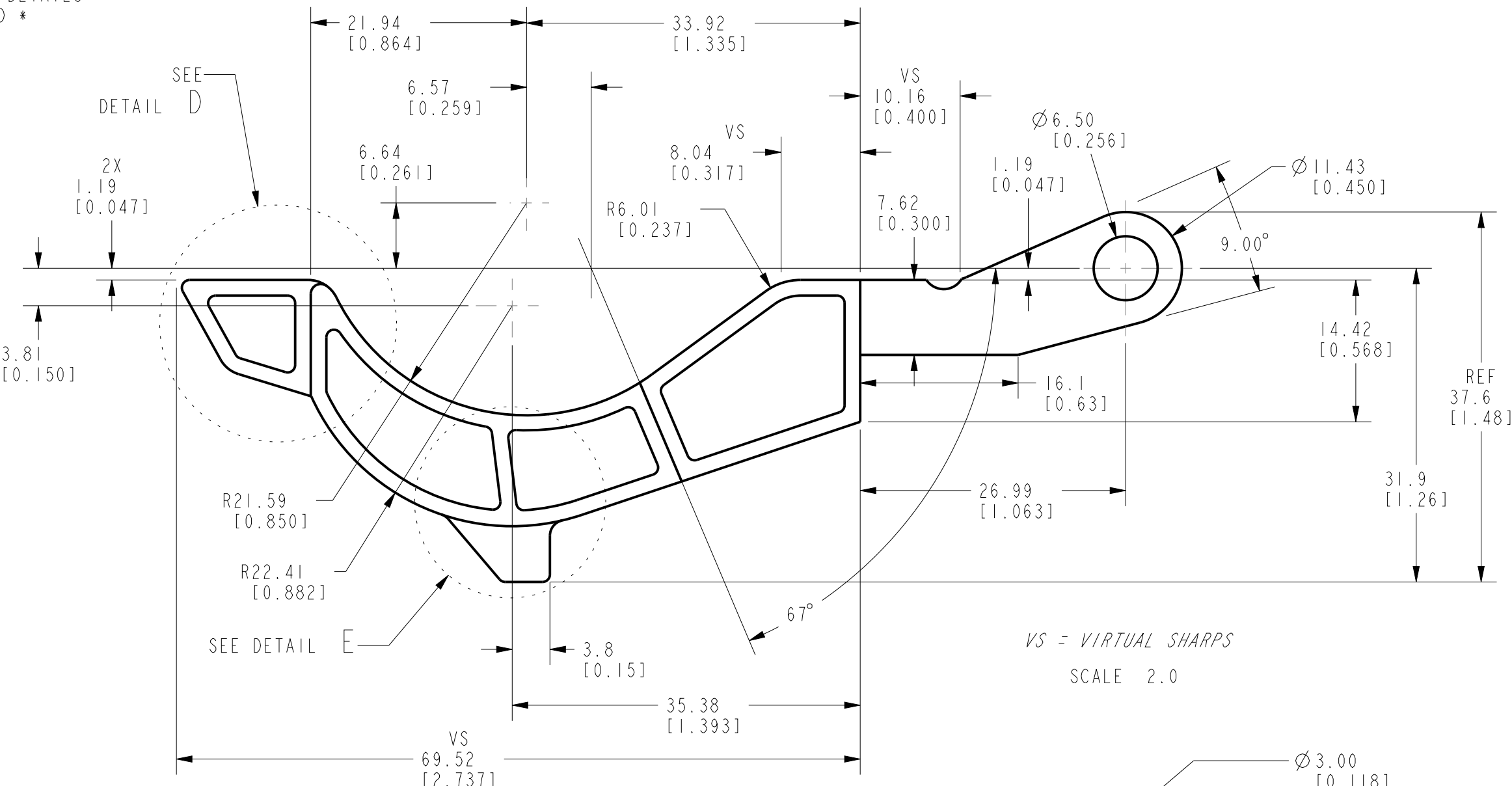
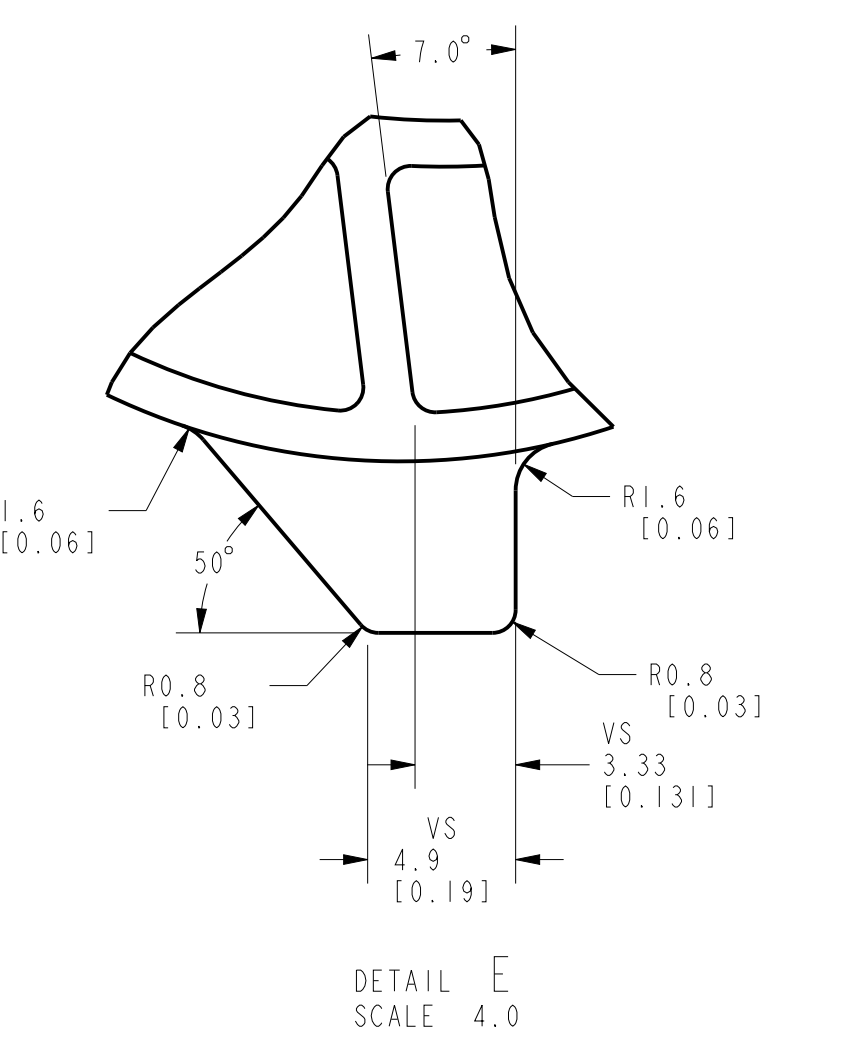
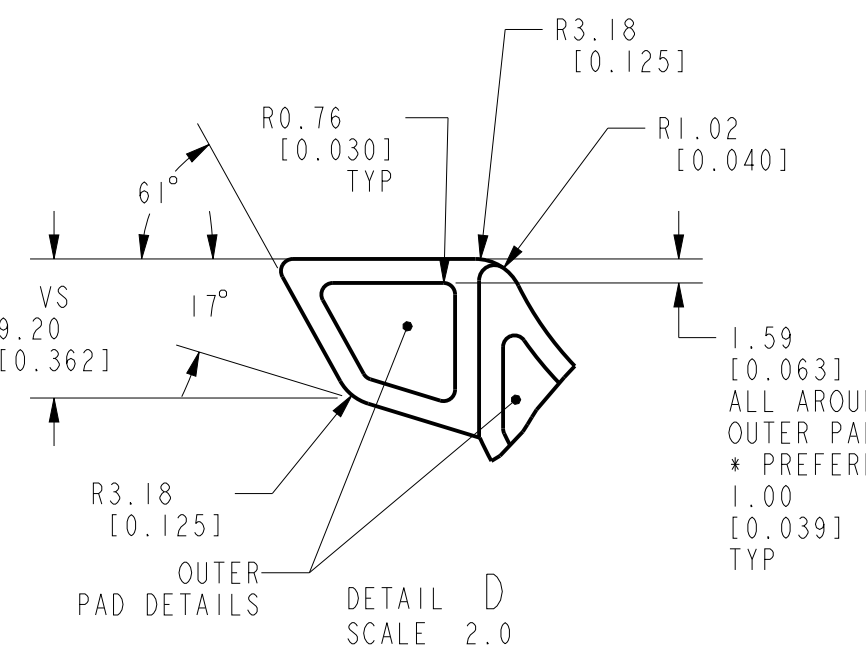
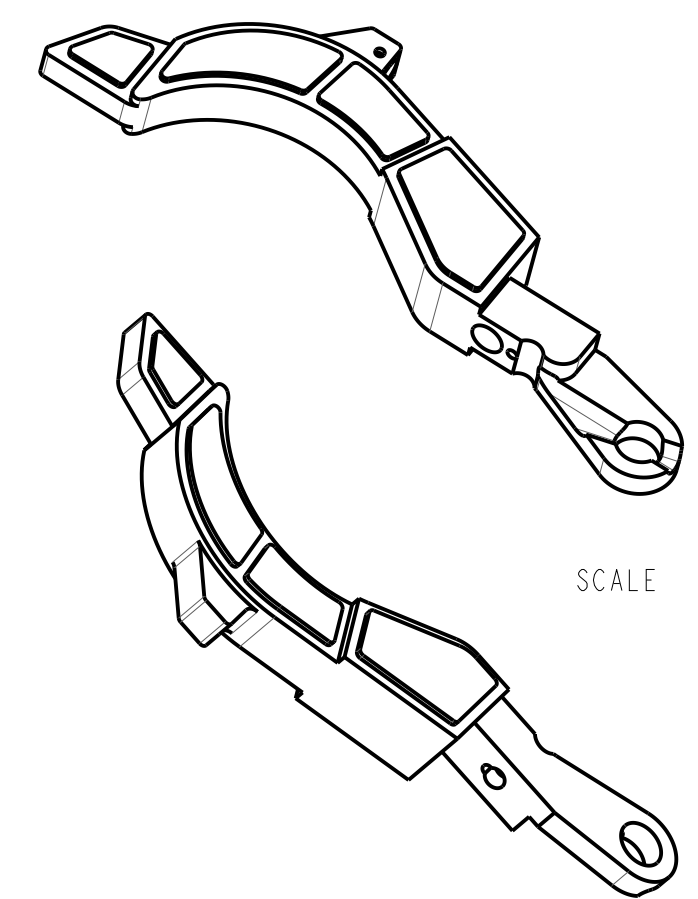
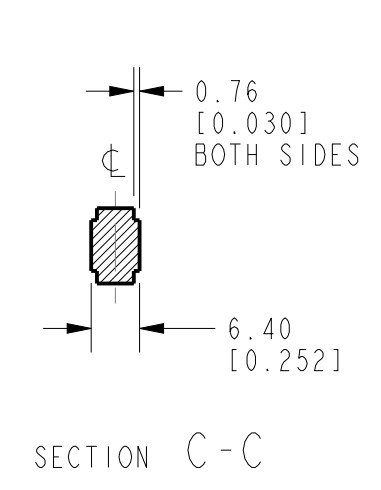
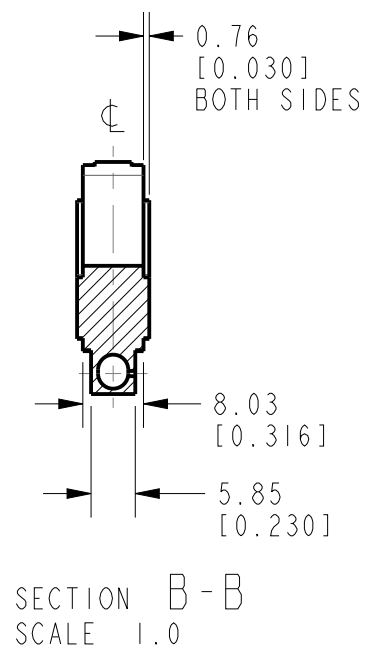
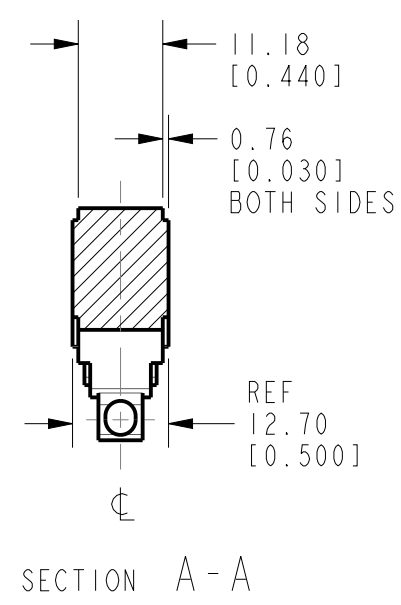
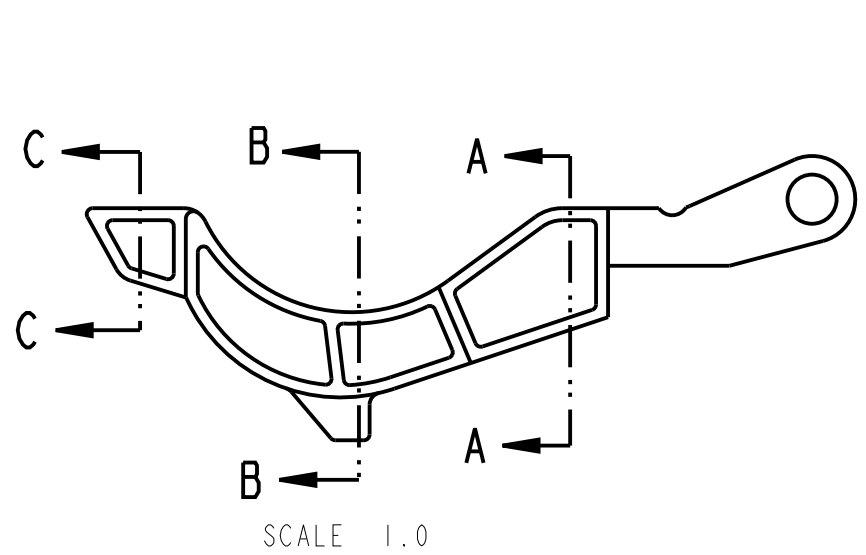
INCH SCALE



UNLESS OTHERWISE SPECIFIED TOLERANCES		DWG TITLE	
X.XX	= ± 0.25	HOUSING, MGA	
[X.XXX]	= ± 0.010	SIZE	DWG NO.
ANGLES	= ± 0.50	C	AL-02755-01
DIMENSIONS ARE IN MILLIMETERS [INCHES]		SCALE:	SHEET 5 OF 26
		2.0	A

**WATERSET**

REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASE TO PRODUCTION	03/07/10	TOMD-



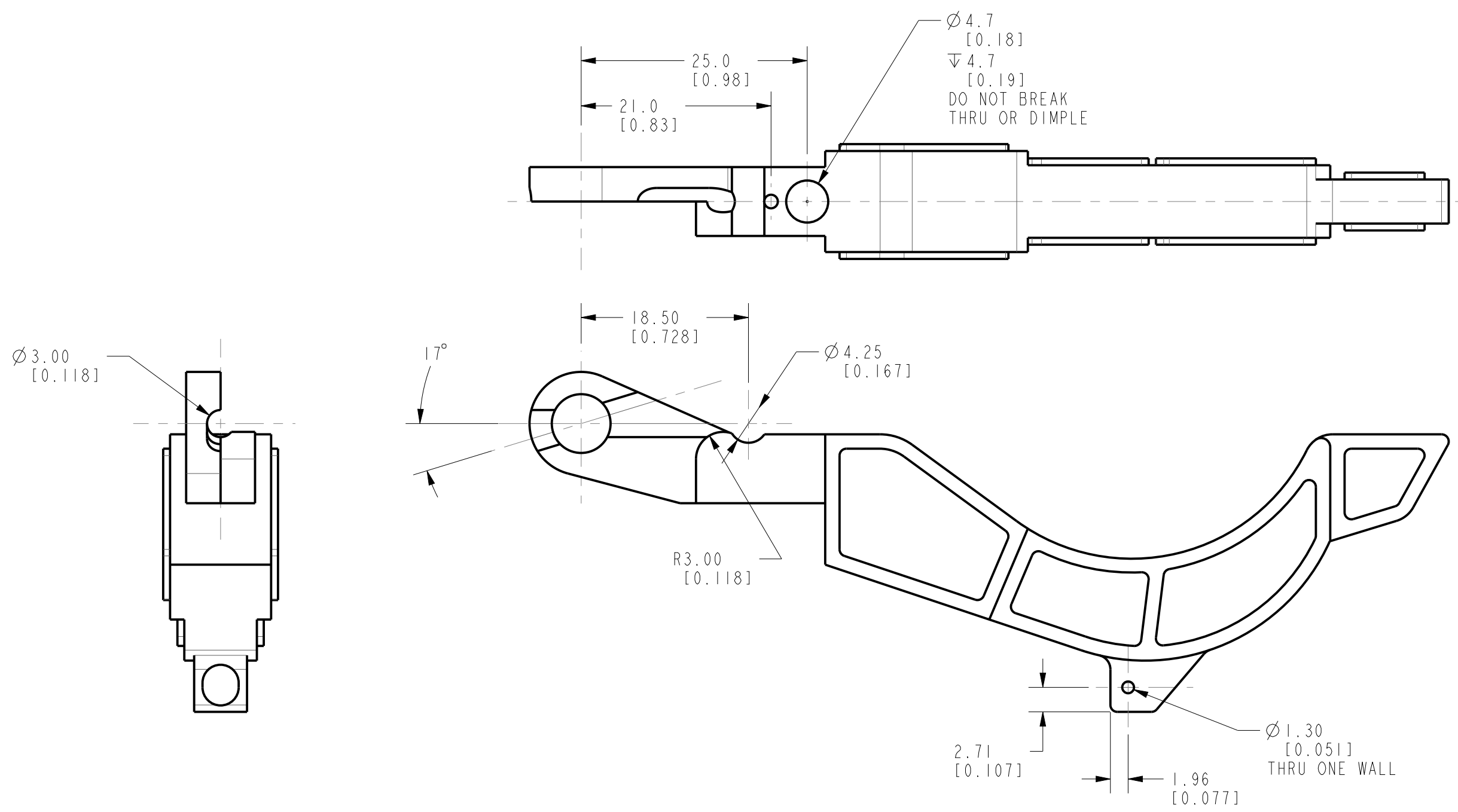
NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 6061-T6
2. 2 PIECES ARE REQUIRED PER ASSEMBLY.
3. REMOVE BURRS AND SHARP EDGES, 0.3mm MAX RADIUS/CHAMFER-VISUAL CERTIFICATION PERMITTED UNLESS OTHERWISE NOTED. NO VISIBLE TOOL MARKS.
4. PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
5. FINISH:  
A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
6. FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

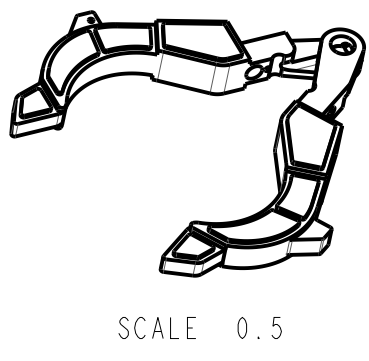
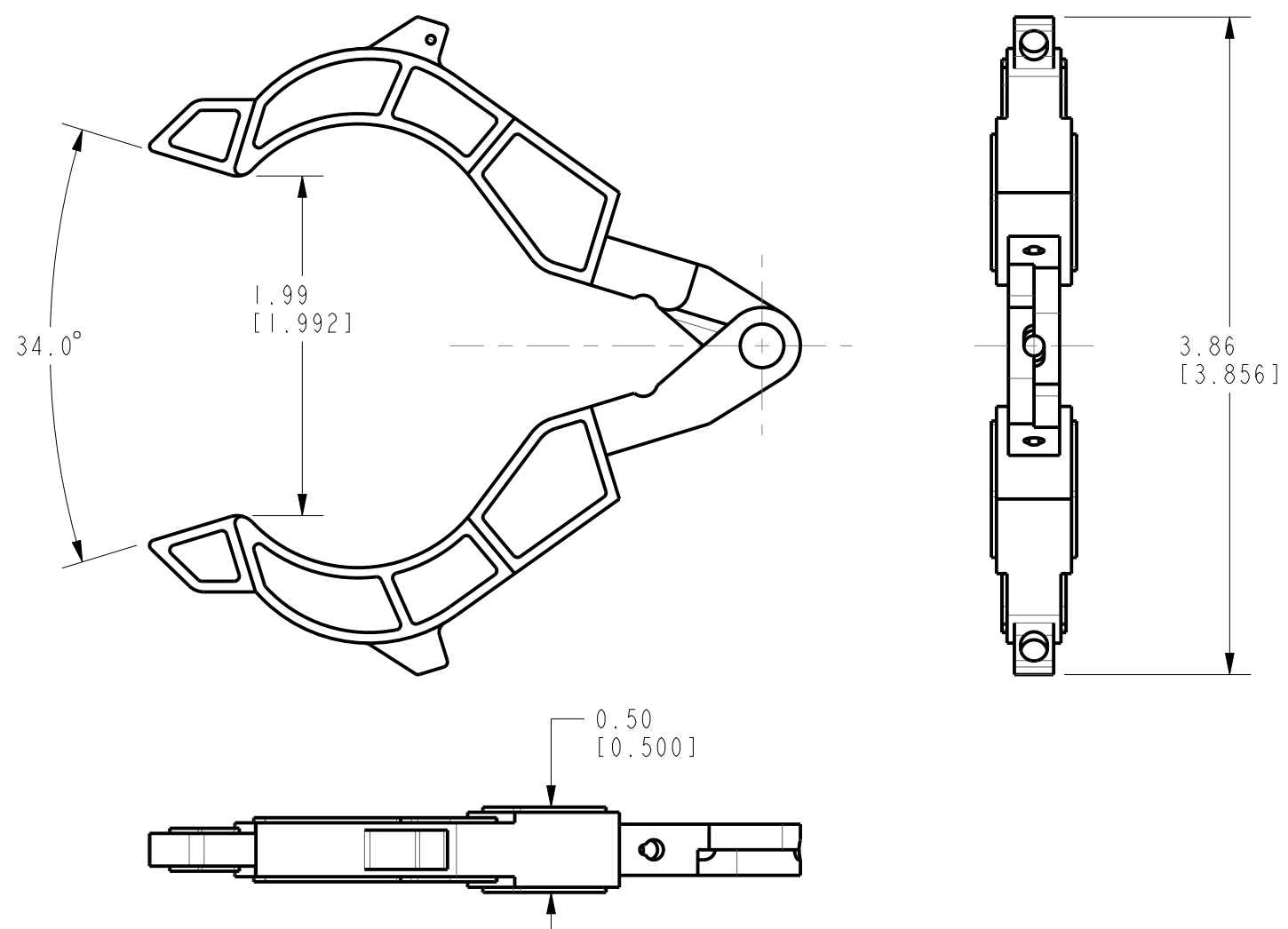


UNLESS OTHERWISE SPECIFIED TOLERANCES		DWG TITLE	
X.XX	= ± 0.25	CLAW DETAIL, MGA	
[X.XXX]	= ± 0.010	SIZE	DWG NO.
ANGLES	= ± 0.50	C	AL-02755-02
DIMENSIONS ARE IN MILLIMETERS [INCHES]		SCALE:	SHEET 6 OF 26
		2.0	REV A

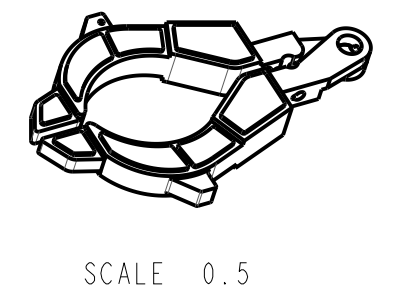
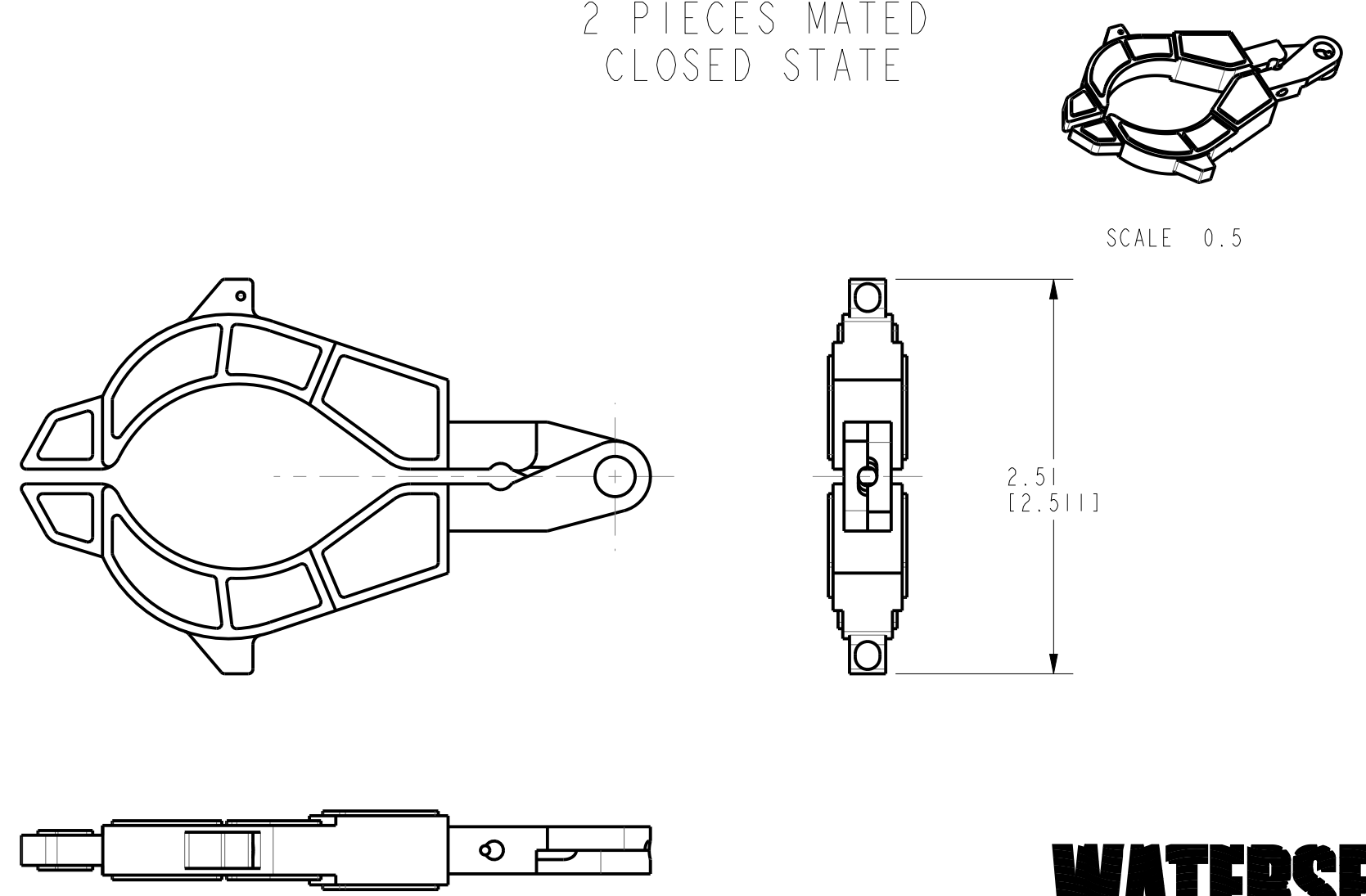
CENTIMETER SCALE



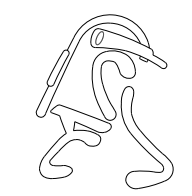
2 PIECES MATED  
OPEN STATE



2 PIECES MATED  
CLOSED STATE



**WATERSET**

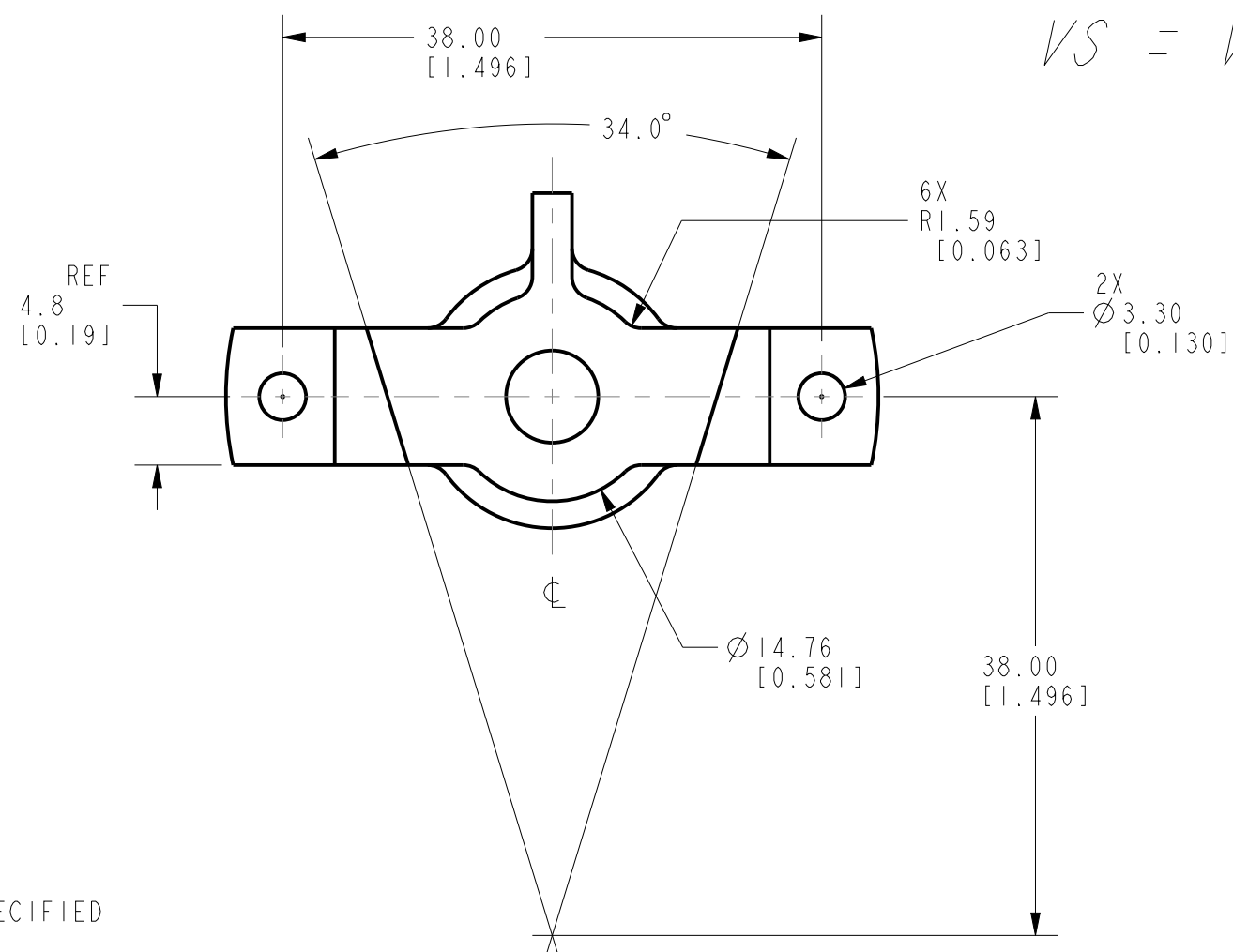
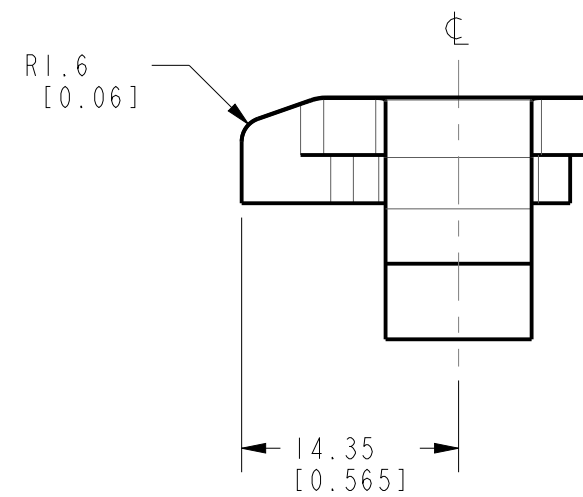
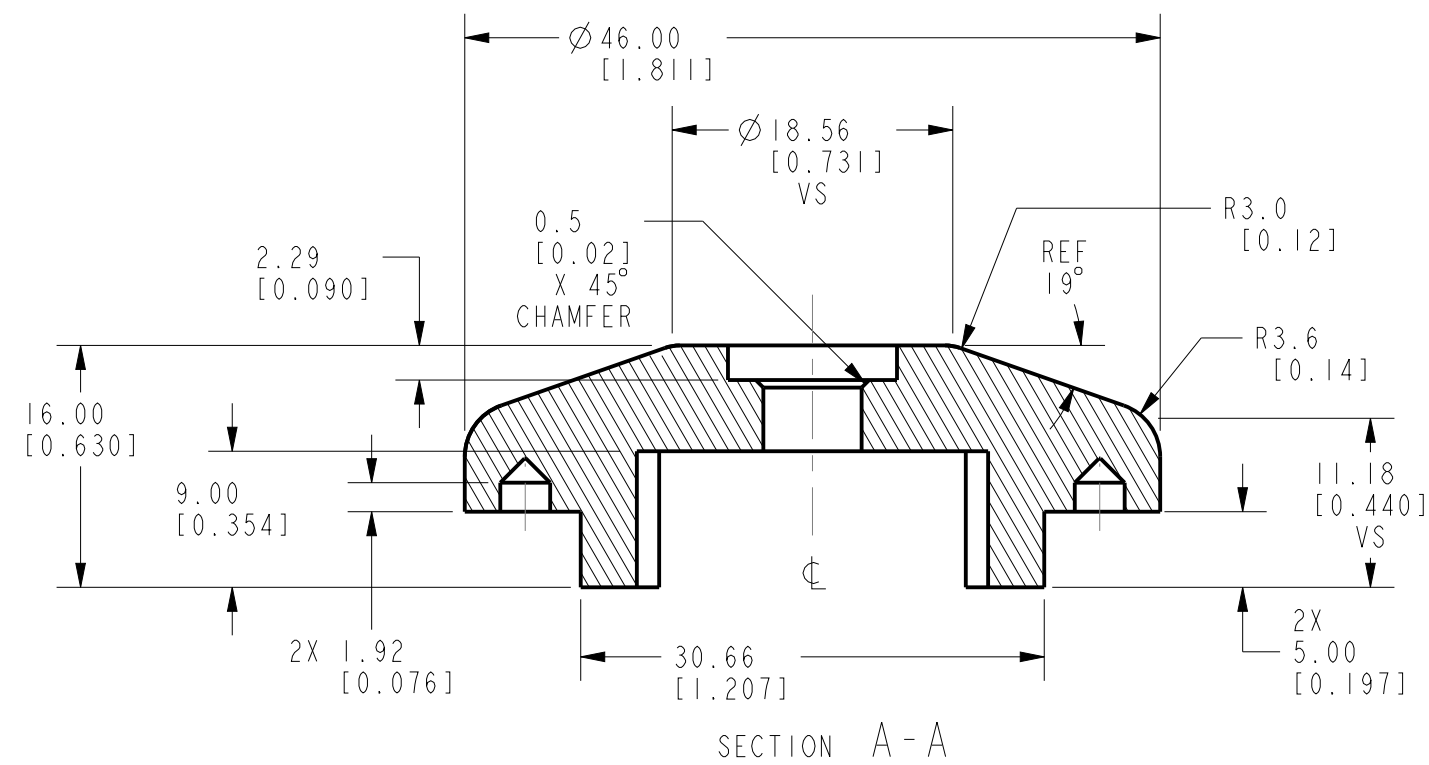
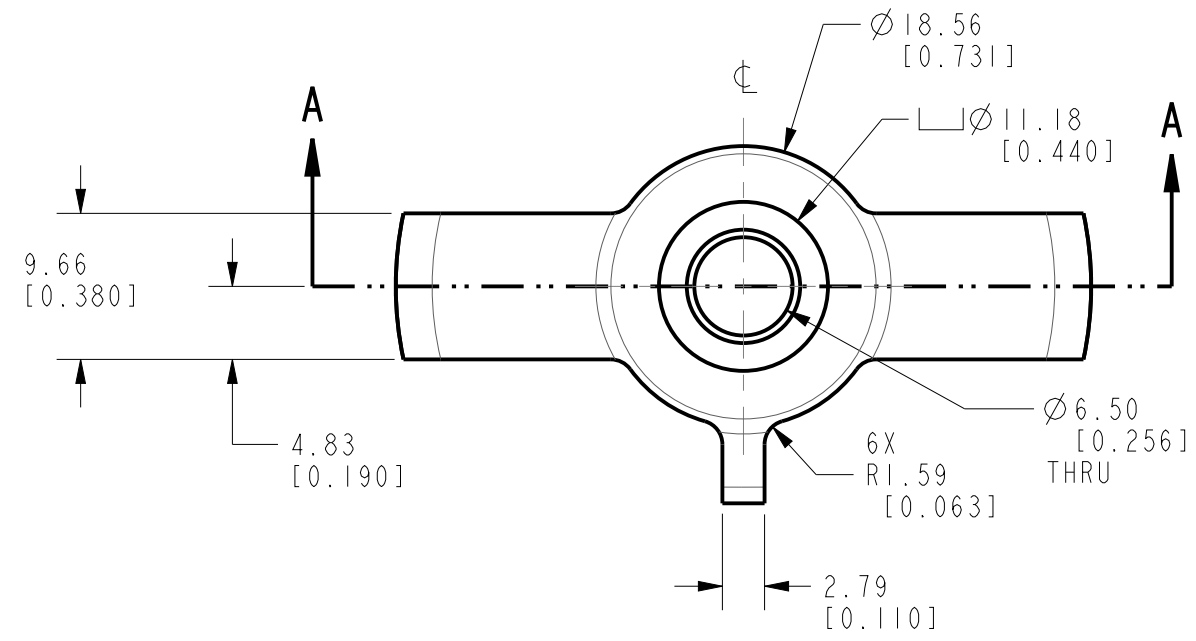


A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

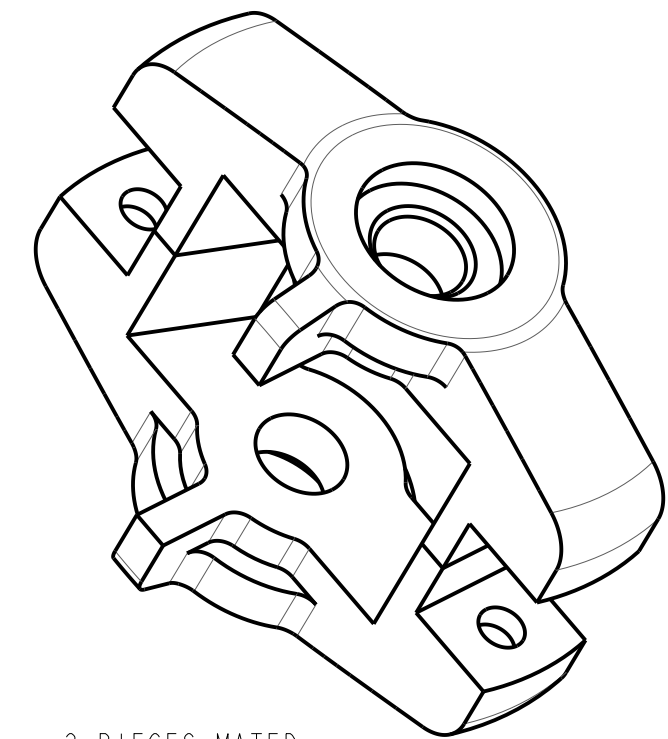
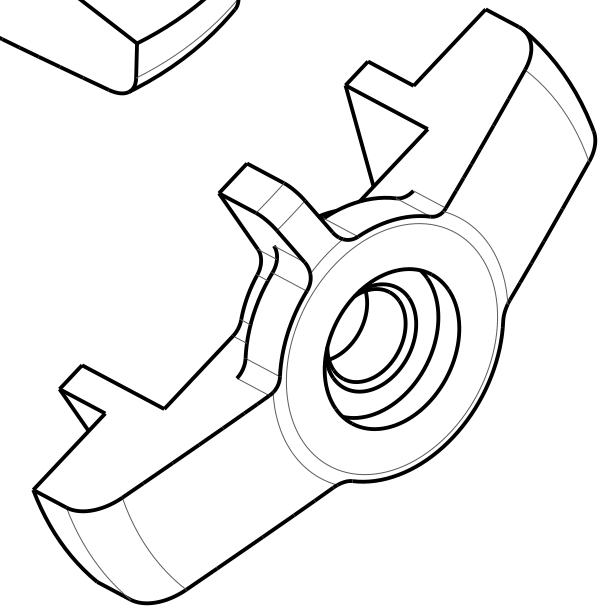
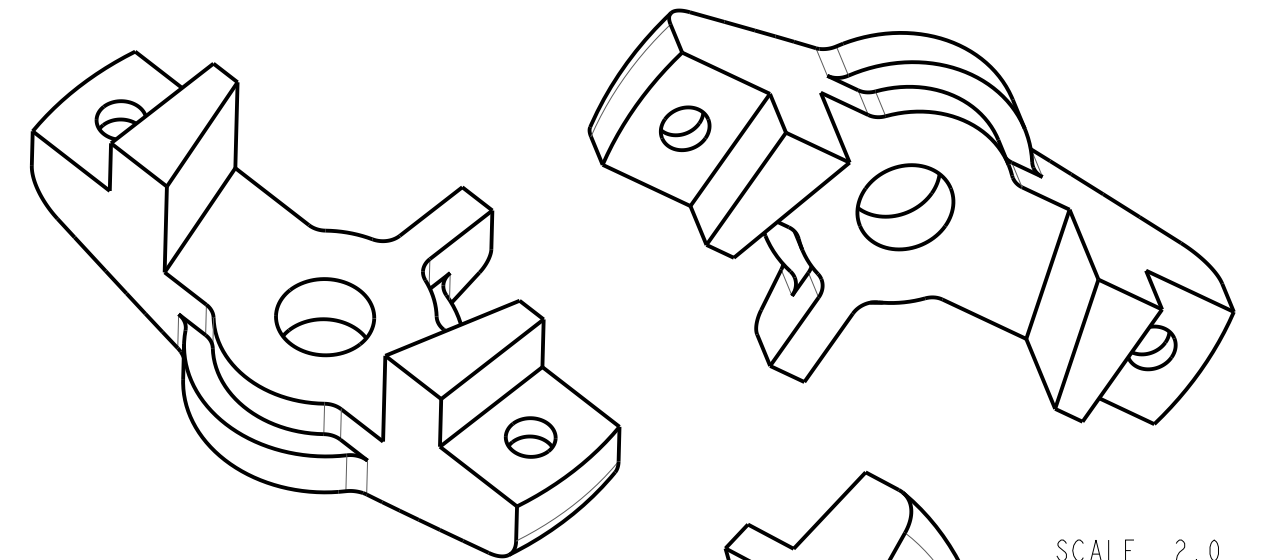
UNLESS OTHERWISE SPECIFIED TOLERANCES		DWG TITLE	
X.XX = ± 0.25		CLAW DETAIL, MGA	
[X.XXX] = ± 0.010		SIZE	DWG NO.
ANGLES = ± 0.50		C	AL-02755-02
DIMENSIONS ARE IN MILLIMETERS [INCHES]		SCALE:	REV
		2.0	A
		SHEET 7 OF 26	

INCH SCALE

REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASE TO PRODUCTION	02/26/10	TOMD-



VS = VIRTUAL SHARPS



2 PIECES MATED  
SCALE 2.0

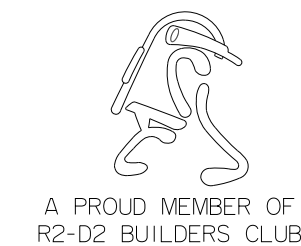
NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 6061-T6
2. 2 PIECES ARE REQUIRED PER ASSEMBLY.
3. REMOVE BURRS AND SHARP EDGES, 0.3mm MAX RADIUS/CHAMFER-VISUAL CERTIFICATION PERMITTED UNLESS OTHERWISE NOTED. NO VISIBLE TOOL MARKS.
4. PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
5. FINISH:  
A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
6. FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

INCH SCALE

**WATERSET**

UNLESS OTHERWISE SPECIFIED TOLERANCES		DWG TITLE	
X.XX	= ± 0.25	HINGE BASE, MGA	
[X.XXX]	= ± 0.010	SIZE	DWG NO.
ANGLES = ± 0.50		C	AL-02755-03
DIMENSIONS ARE IN MILLIMETERS [INCHES]		SCALE:	SHEET 8 OF 26
		2.0	
			REV A

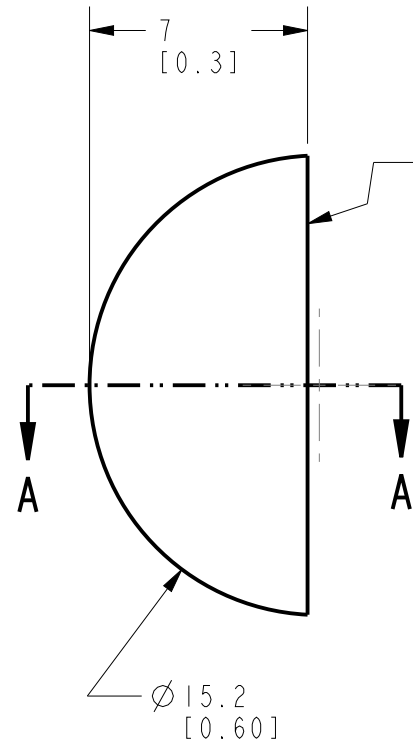


A PROUD MEMBER OF R2-D2 BUILDERS CLUB

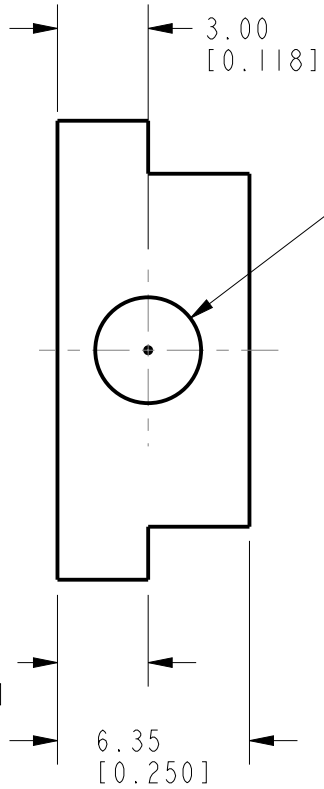
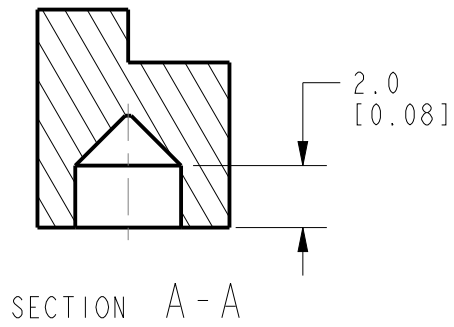
REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASE TO PRODUCTION	02/26/10	TOMD-

CENTIMETER SCALE

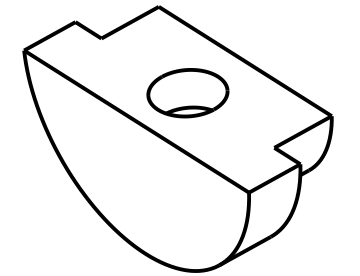
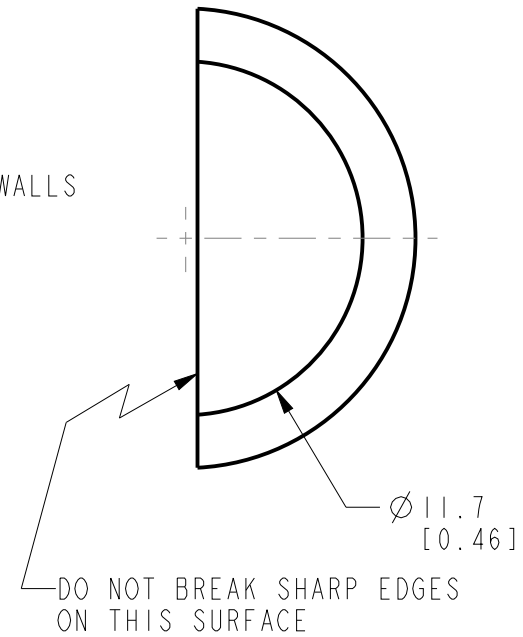
INCH SCALE



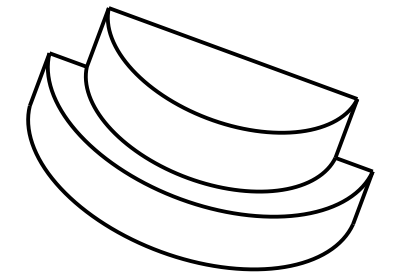
PART MAY BE SAWCUT  
IN HALF TO MAKE  
2 PIECES



DO NOT BREAK THRU  
OR DIMPLE ADJECENT WALLS

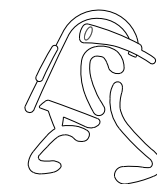


SCALE 3.0



NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 6061-T6
2. 2 PIECES ARE REQUIRED PER ASSEMBLY.
3. REMOVE BURRS AND SHARP EDGES, 0.3mm MAX RADIUS/CHAMFER-VISUAL CERTIFICATION PERMITTED UNLESS OTHERWISE NOTED. NO VISIBLE TOOL MARKS.
4. PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
5. FINISH:
  - A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
6. FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

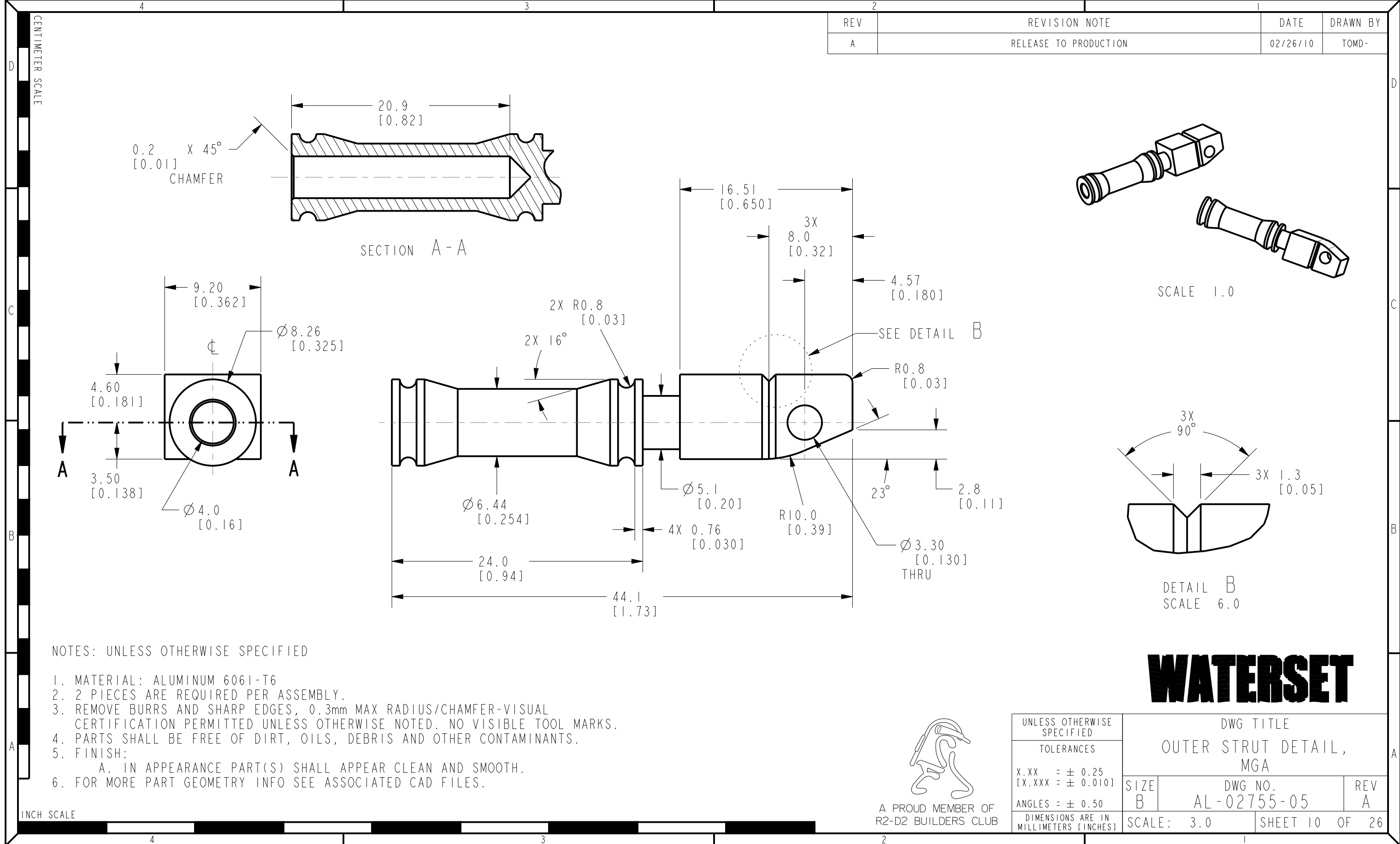


A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		HALF DOOR KNOB DETAIL, MGA	
X.XX = ± 0.25	SIZE B	DWG NO.	REV
[X.XXX = ± 0.010]		AL-02755-04	A
ANGLES = ± 0.50	SCALE: 4.0	SHEET 9 OF 26	
DIMENSIONS ARE IN MILLIMETERS [INCHES]			

# WATERSET

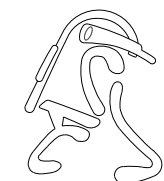
REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASE TO PRODUCTION	02/26/10	TOMD-



NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 6061-T6
2. 2 PIECES ARE REQUIRED PER ASSEMBLY.
3. REMOVE BURRS AND SHARP EDGES, 0.3mm MAX RADIUS/CHAMFER-VISUAL CERTIFICATION PERMITTED UNLESS OTHERWISE NOTED. NO VISIBLE TOOL MARKS.
4. PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
5. FINISH:  
A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
6. FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

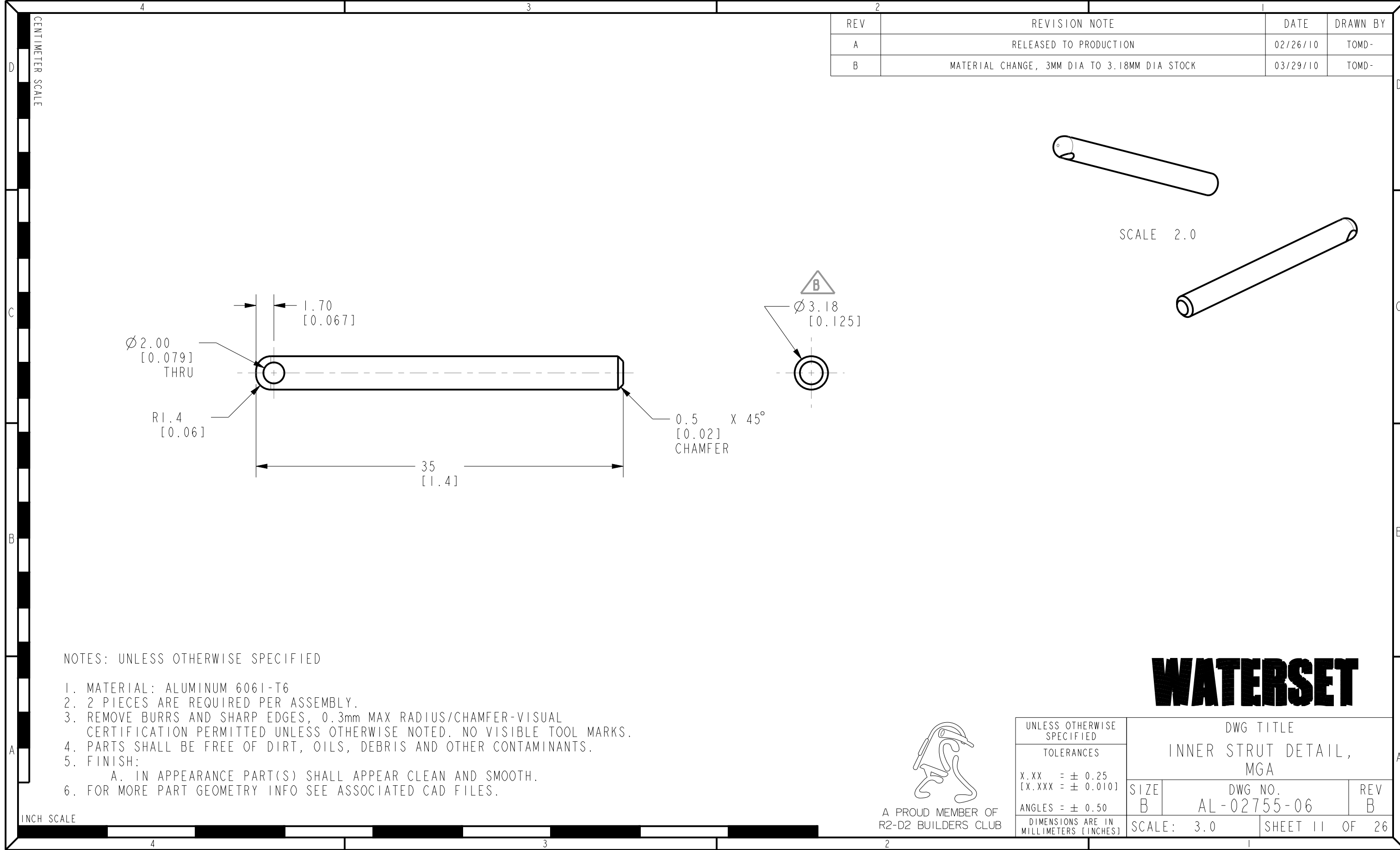
# WATERSET



A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

UNLESS OTHERWISE SPECIFIED TOLERANCES X.XX = ± 0.25 [X.XXX = ± 0.010] ANGLES = ± 0.50 DIMENSIONS ARE IN MILLIMETERS [INCHES]	DWG TITLE OUTER STRUT DETAIL, MGA		
	SIZE B	DWG NO. AL-02755-05	REV A
SCALE: 3.0		SHEET 10 OF 26	

REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASED TO PRODUCTION	02/26/10	TOMD-
B	MATERIAL CHANGE, 3MM DIA TO 3.18MM DIA STOCK	03/29/10	TOMD-



NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 6061-T6
2. 2 PIECES ARE REQUIRED PER ASSEMBLY.
3. REMOVE BURRS AND SHARP EDGES, 0.3mm MAX RADIUS/CHAMFER-VISUAL CERTIFICATION PERMITTED UNLESS OTHERWISE NOTED. NO VISIBLE TOOL MARKS.
4. PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
5. FINISH:  
A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
6. FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

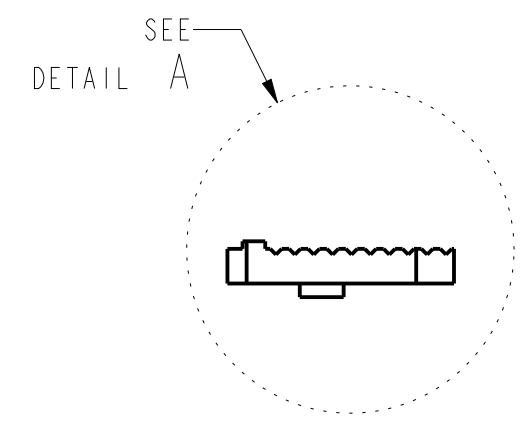
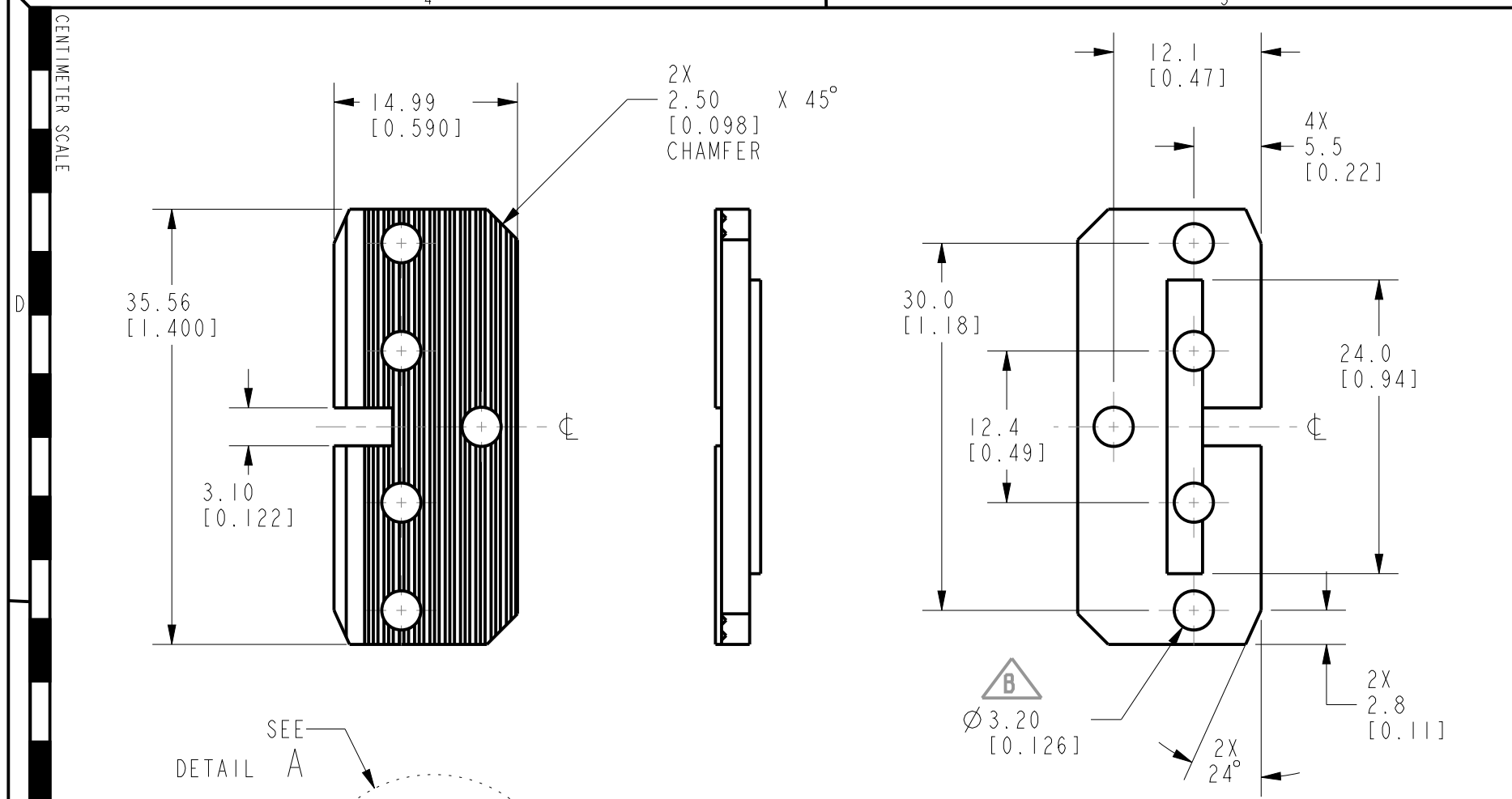
# WATERSET



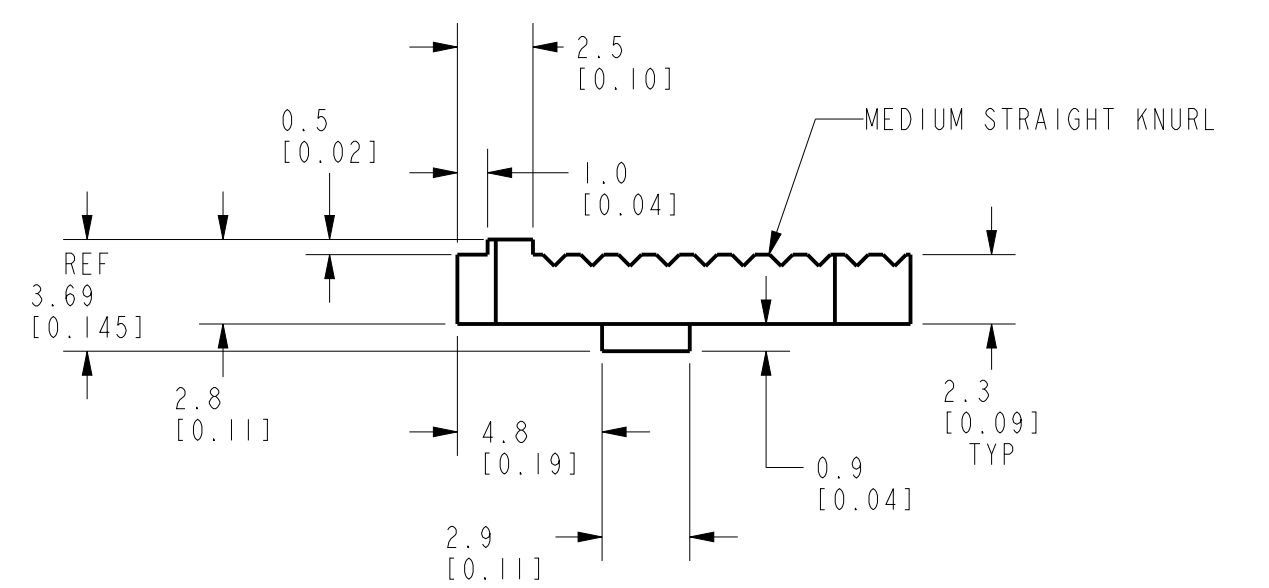
A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

UNLESS OTHERWISE SPECIFIED TOLERANCES X.XX = ± 0.25 [X.XXX = ± 0.010] ANGLES = ± 0.50 DIMENSIONS ARE IN MILLIMETERS [INCHES]	DWG TITLE INNER STRUT DETAIL, MGA		
	SIZE B	DWG NO. AL-02755-06	REV B
SCALE: 3.0		SHEET 11 OF 26	

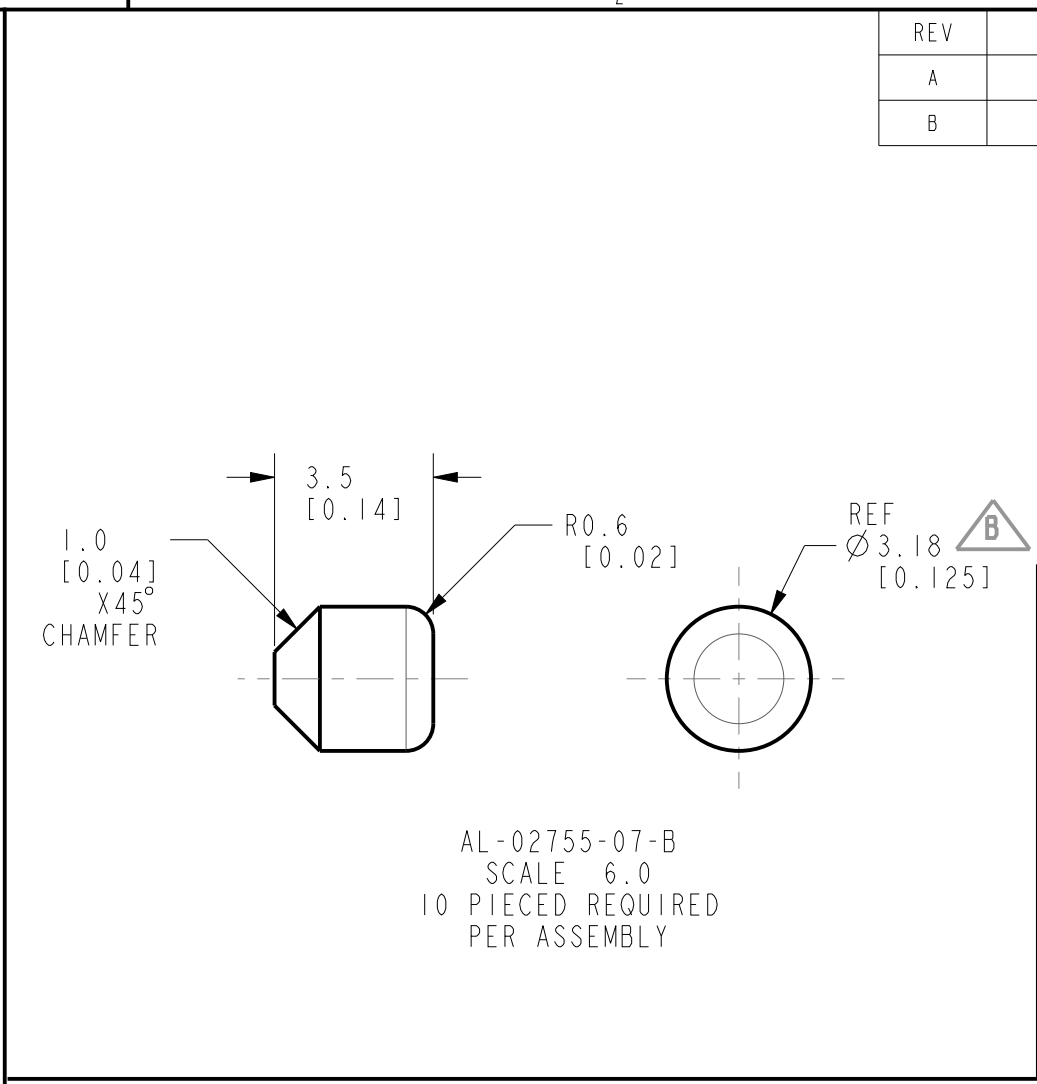
REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASE TO PRODUCTION	03/05/10	TOMD-
B	MATERIAL CHANGE, 3MM DIA TO 3.18MM DIA, HOLE CHANGE TO 3.20	03/29/10	TOMD-



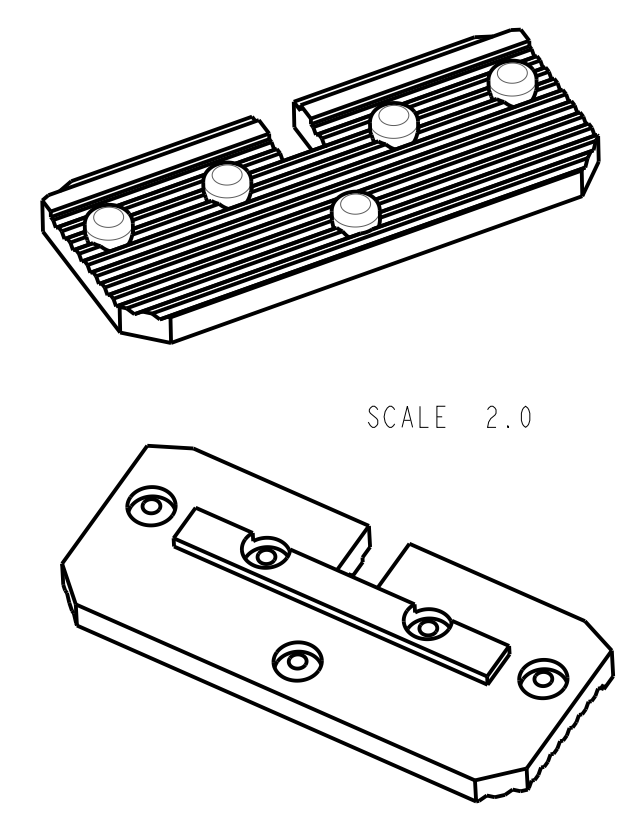
AL-02755-07-A  
SCALE 2.0  
2 PIECED REQUIRED  
PER ASSEMBLY



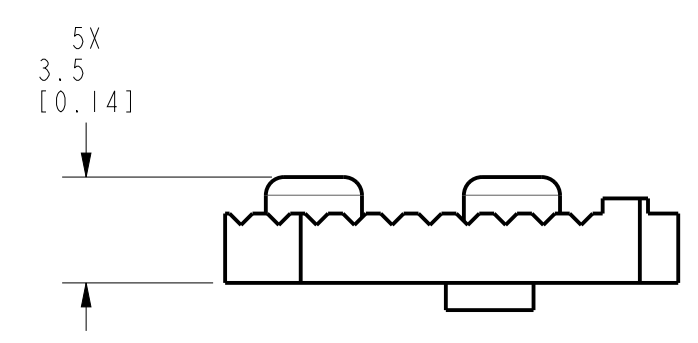
DETAIL A  
SCALE 4.0



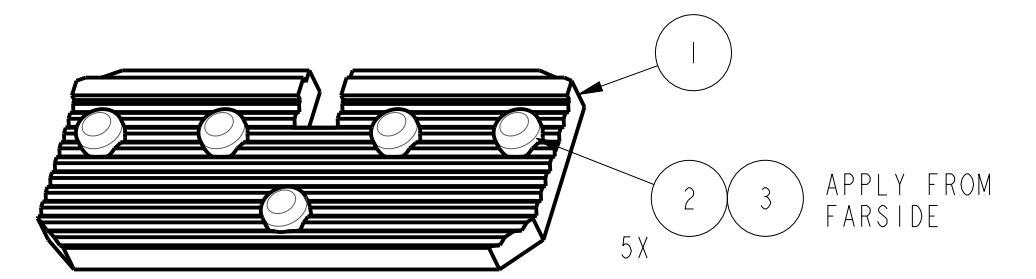
AL-02755-07-B  
SCALE 6.0  
10 PIECED REQUIRED  
PER ASSEMBLY



SCALE 2.0



SCALE 4.0



SCALE 2.0

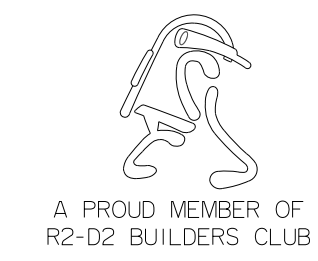
NOTES: UNLESS OTHERWISE SPECIFIED

- MATERIAL: ALUMINUM 6061-T6
- 2 MODELS ARE REQUIRED PER ASSEMBLY.
- REMOVE BURRS AND SHARP EDGES, 0.3mm MAX RADIUS/CHAMFER-VISUAL CERTIFICATION PERMITTED UNLESS OTHERWISE NOTED. NO VISIBLE TOOL MARKS.
- PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
- FINISH:  
A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
- FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL
3	1	N/A	JB WELD	N/A
2	5	AL-02755-07-B	SIDE DETAIL, RAISED BUMP, MGA	ALUMINUM 6061-T6, MMC # 1681T21 OR EQUIV.
1	1	AL-02755-07-A	SIDE DETAIL, MGA	ALUMINUM 6061-T6

**WATERSET**

UNLESS OTHERWISE SPECIFIED TOLERANCES		DWG TITLE	
X.XX	= ± 0.25	SIDE DETAIL, MGA	
[X.XXX]	= ± 0.010	SIZE	DWG NO.
ANGLES	= ± 0.50	C	AL-02755-07
DIMENSIONS ARE IN MILLIMETERS [INCHES]		SCALE:	SHEET 12 OF 26
		2.0	A

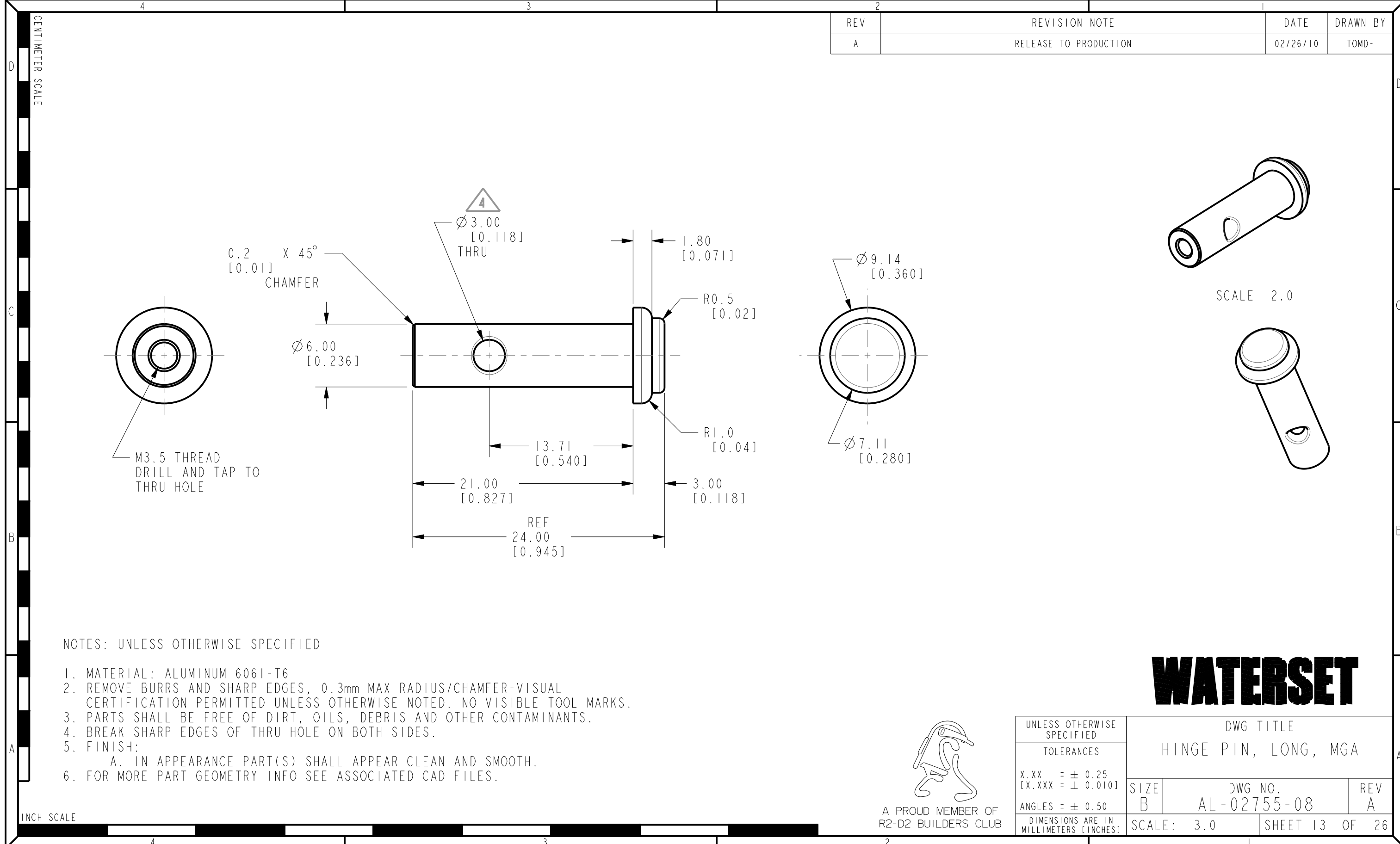


A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

INCH SCALE



REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASE TO PRODUCTION	02/26/10	TOMD-



NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 6061-T6
2. REMOVE BURRS AND SHARP EDGES, 0.3mm MAX RADIUS/CHAMFER-VISUAL CERTIFICATION PERMITTED UNLESS OTHERWISE NOTED. NO VISIBLE TOOL MARKS.
3. PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
4. BREAK SHARP EDGES OF THRU HOLE ON BOTH SIDES.
5. FINISH:
  - A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
6. FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

# WATERSET



A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

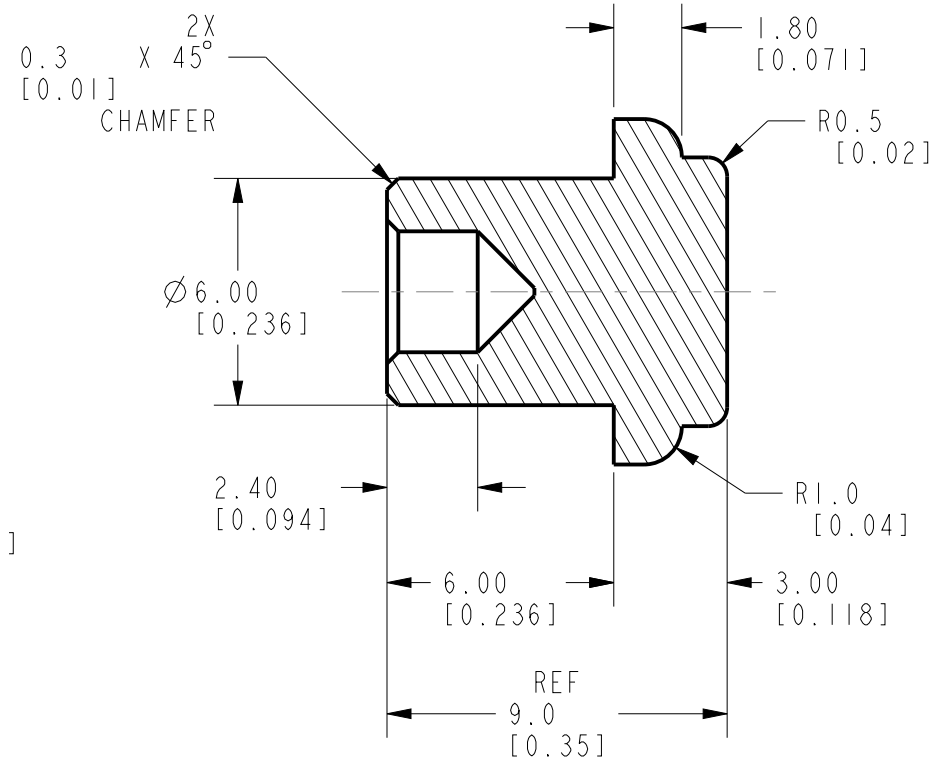
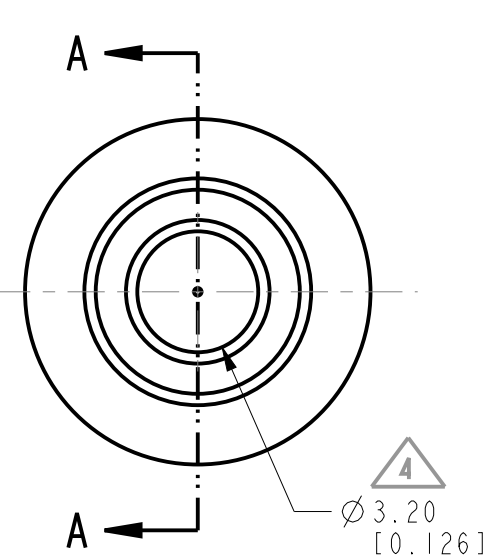
UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		HINGE PIN, LONG, MGA	
X.XX = ± 0.25		SIZE	DWG NO.
[X.XXX = ± 0.010]		B	AL-02755-08
ANGLES = ± 0.50		REV	A
DIMENSIONS ARE IN MILLIMETERS [INCHES]		SCALE:	SHEET 13 OF 26
		3.0	

INCH SCALE

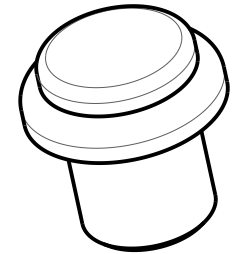
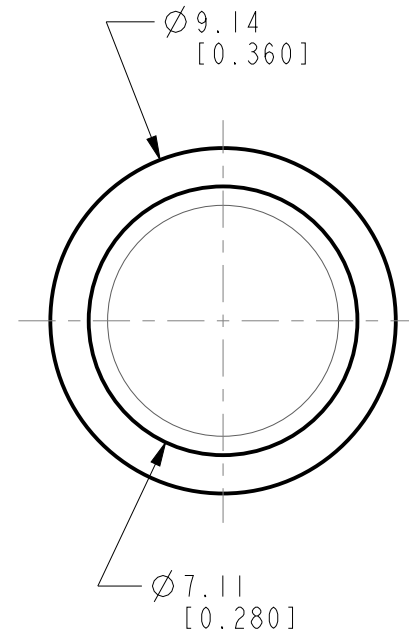
REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASE TO PRODUCTION	02/26/10	TOMD-

CENTIMETER SCALE

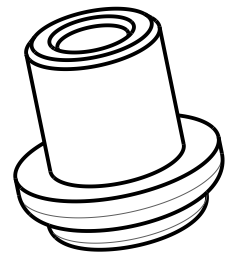
INCH SCALE



SECTION A-A



SCALE 3.0



NOTES: UNLESS OTHERWISE SPECIFIED

- MATERIAL: ALUMINUM 6061-T6
- REMOVE BURRS AND SHARP EDGES, 0.3mm MAX RADIUS/CHAMFER-VISUAL CERTIFICATION PERMITTED UNLESS OTHERWISE NOTED. NO VISIBLE TOOL MARKS.
- PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
- M3.5 SET SCREW WILL SEAT IN THIS HOLE.
- FINISH:  
A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
- FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

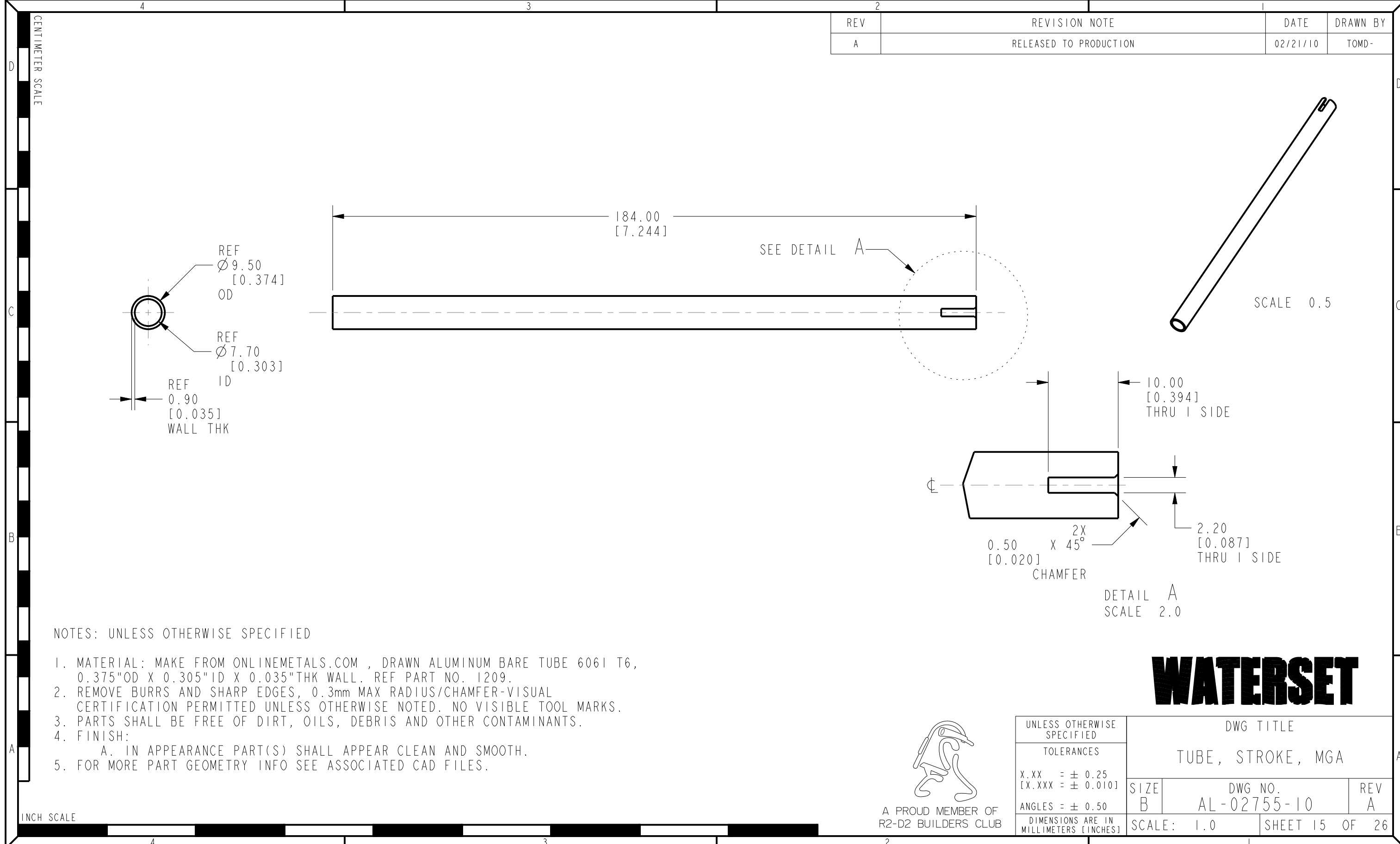
# WATERSET



A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		HINGE PIN, SHORT, MGA	
X.XX = ± 0.25		SIZE	DWG NO.
[X.XXX = ± 0.010]		B	AL-02755-09
ANGLES = ± 0.50		REV	A
DIMENSIONS ARE IN MILLIMETERS [INCHES]		SCALE:	SHEET 14 OF 26
		5.0	

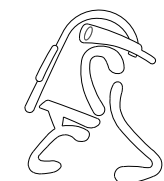
REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASED TO PRODUCTION	02/21/10	TOMD-



NOTES: UNLESS OTHERWISE SPECIFIED

- MATERIAL: MAKE FROM ONLINEMETALS.COM , DRAWN ALUMINUM BARE TUBE 6061 T6, 0.375"OD X 0.305"ID X 0.035"THK WALL. REF PART NO. 1209.
- REMOVE BURRS AND SHARP EDGES, 0.3mm MAX RADIUS/CHAMFER-VISUAL CERTIFICATION PERMITTED UNLESS OTHERWISE NOTED. NO VISIBLE TOOL MARKS.
- PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
- FINISH:
  - IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
- FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

# WATERSET

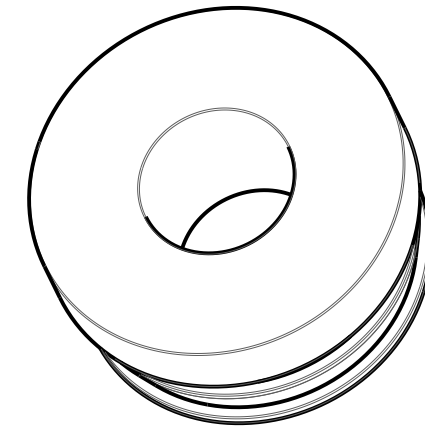
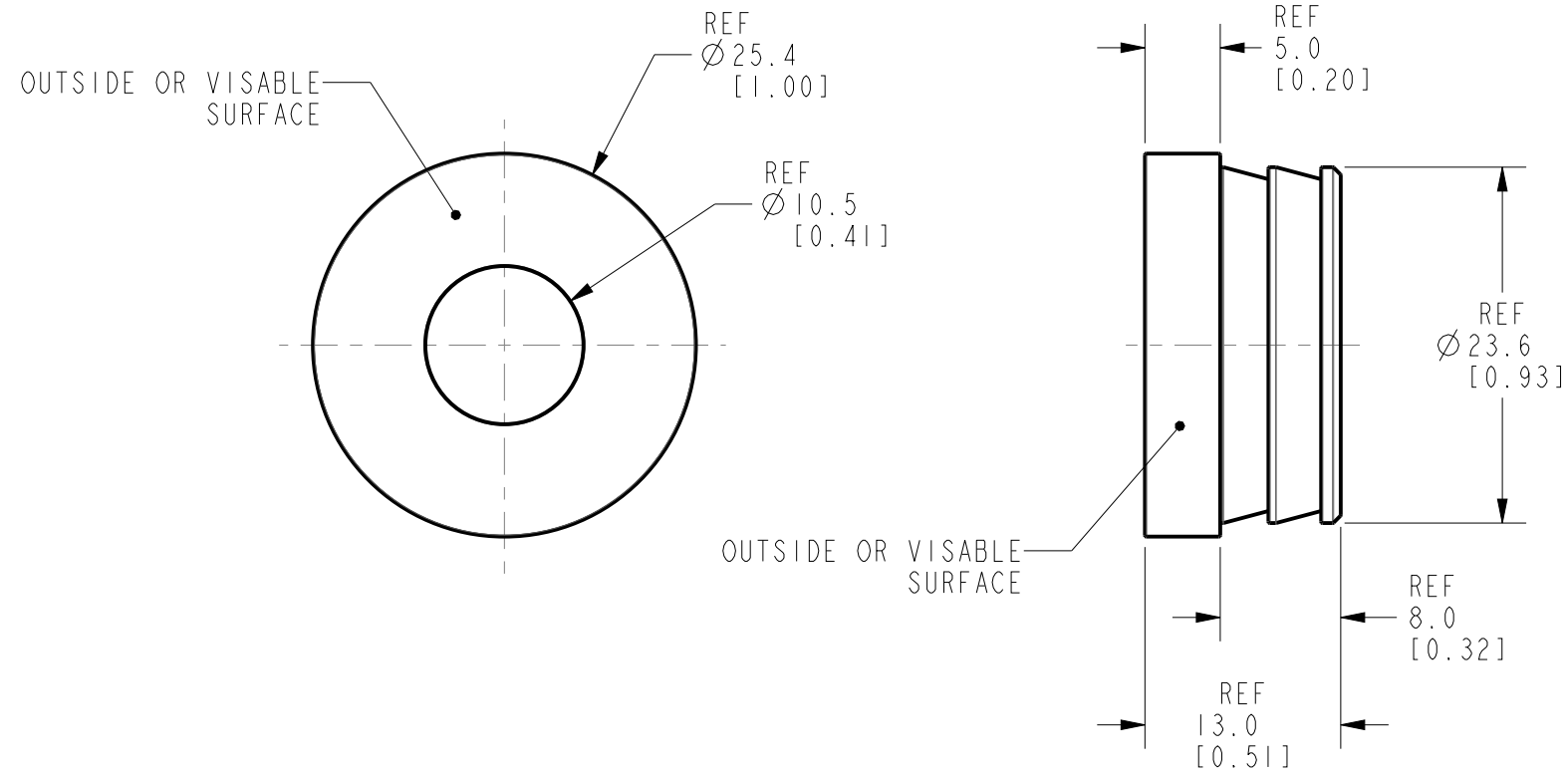


A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

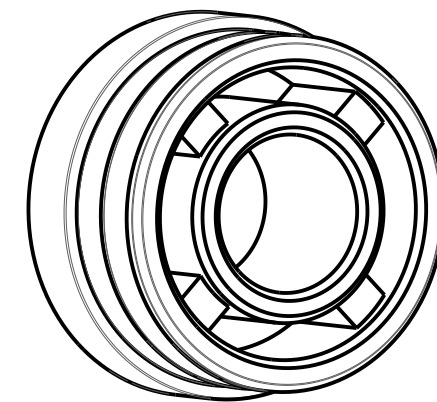
UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		TUBE, STROKE, MGA	
X.XX = ± 0.25 [X.XXX = ± 0.010]	SIZE B	DWG NO. AL-02755-10	REV A
ANGLES = ± 0.50	SCALE: 1.0	SHEET 15 OF 26	
DIMENSIONS ARE IN MILLIMETERS [INCHES]			

INCH SCALE

REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASED FOR PRODUCTION	02/21/10	TOMD-
B	INCREASED DIAMETER OF HOLE OPENING AND ADDED MASS REDUCTION	04/05/10	TOMD-



SCALE 2.0



NOTES: UNLESS OTHERWISE SPECIFIED

- MATERIAL: PART IS TO BE MADE VIA 3D PRINTING PROCESS USING WATERSET FILE NUMBER PL-02755-11.stl USING ABS PLASTIC.
- INFORMATION SHOWN ARE FOR REFERENCE.
- PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
- FINISH:
  - IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
  - OUTSIDE OR VISABLE SURFACES SHALL BE FREE OF ANY 3D PRINT LINES.
  - SPRAY PAINT IN THE FOLLOWING ORDER  
 SAND 1000 GRIT, CLEAN  
 CLEAR COAT, SAND 1000 GRIT, CLEAN  
 CLEAR COAT, SAND 1000 GRIT, CLEAN  
 FLAT BLACK
- FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

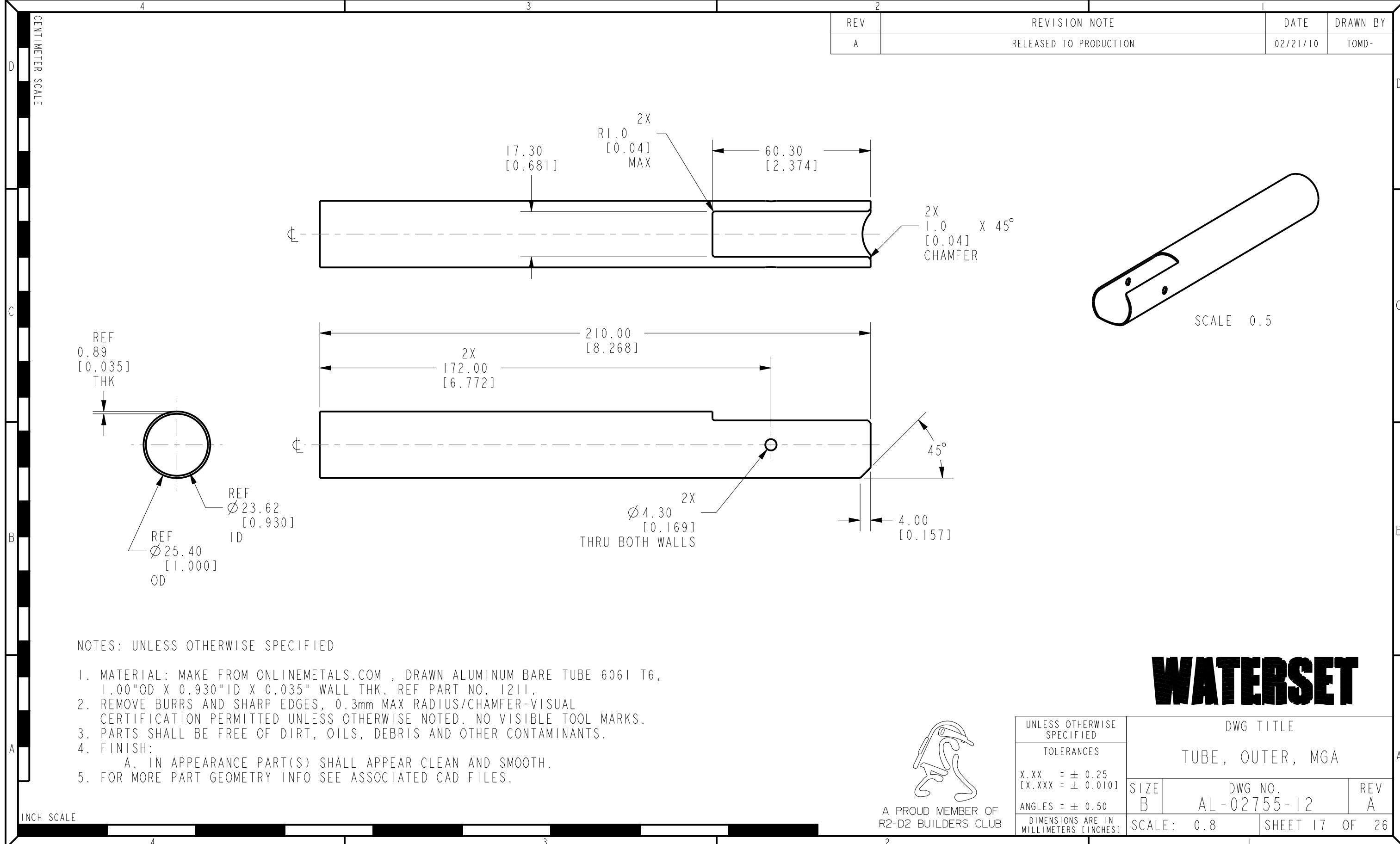
**WATERSET**



A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		END CAP, STROKE, MGA	
X.XX = ± 0.25	SIZE B	DWG NO.	REV
[X.XXX = ± 0.010]		PL-02755-11	B
ANGLES = ± 0.50	SCALE: 2.0	SHEET 16 OF 26	
DIMENSIONS ARE IN MILLIMETERS [INCHES]			

REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASED TO PRODUCTION	02/21/10	TOMD-



NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: MAKE FROM ONLINEMETALS.COM , DRAWN ALUMINUM BARE TUBE 6061 T6, 1.00"OD X 0.930"ID X 0.035" WALL THK. REF PART NO. 1211.
2. REMOVE BURRS AND SHARP EDGES, 0.3mm MAX RADIUS/CHAMFER-VISUAL CERTIFICATION PERMITTED UNLESS OTHERWISE NOTED. NO VISIBLE TOOL MARKS.
3. PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
4. FINISH:
  - A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
5. FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

# WATERSET

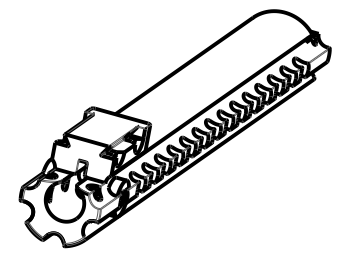
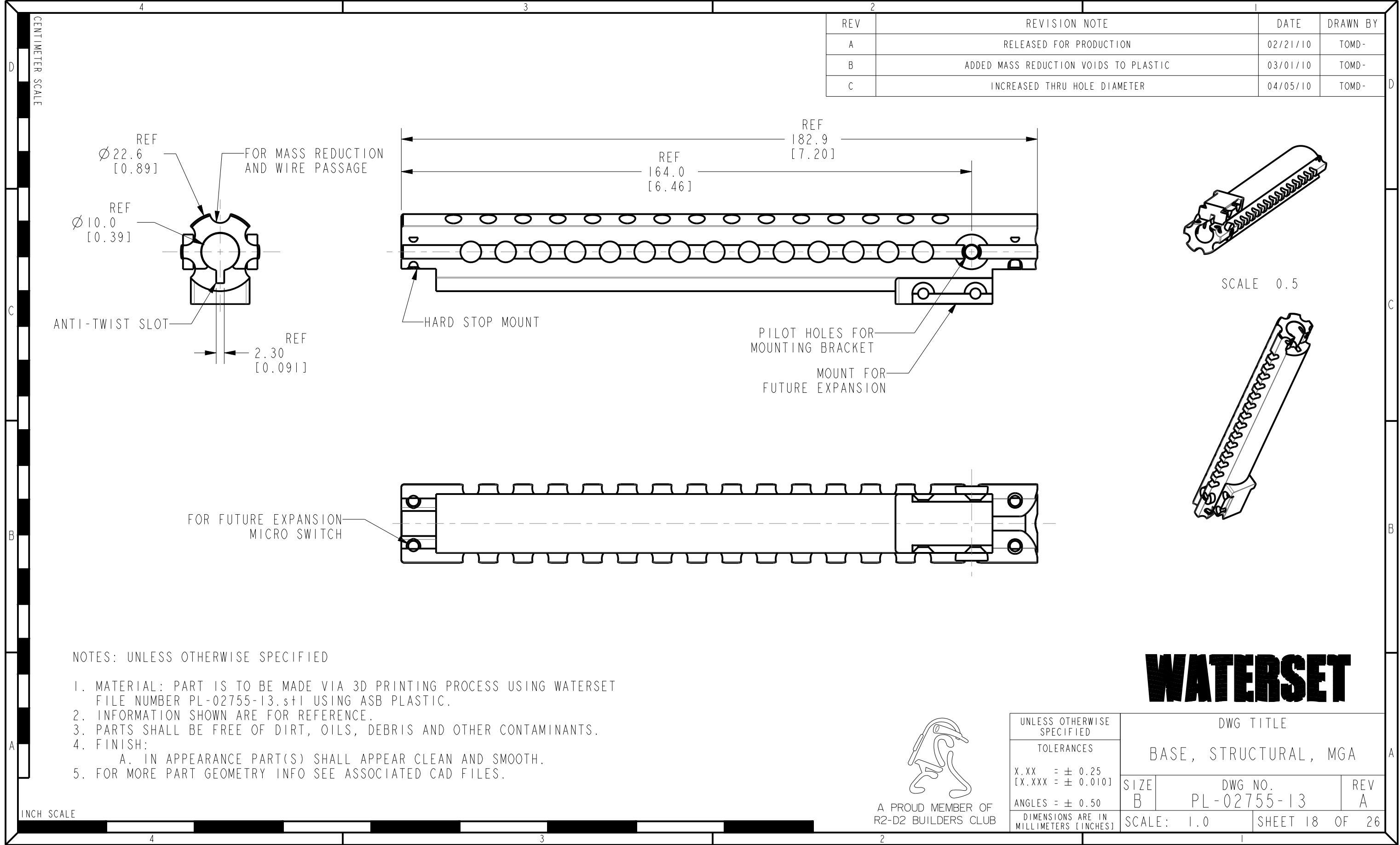


A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

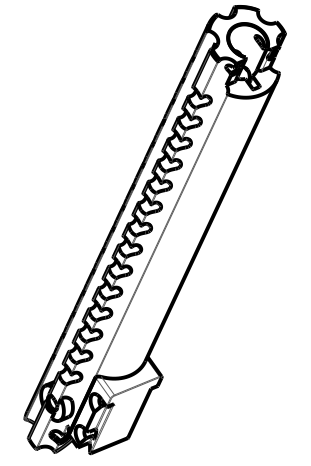
UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		TUBE, OUTER, MGA	
X.XX = ± 0.25		SIZE	DWG NO.
[X.XXX = ± 0.010]		B	AL-02755-12
ANGLES = ± 0.50		REV	A
DIMENSIONS ARE IN MILLIMETERS [INCHES]		SCALE:	SHEET 17 OF 26
		0.8	

INCH SCALE

REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASED FOR PRODUCTION	02/21/10	TOMD-
B	ADDED MASS REDUCTION VOIDS TO PLASTIC	03/01/10	TOMD-
C	INCREASED THRU HOLE DIAMETER	04/05/10	TOMD-



SCALE 0.5



NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: PART IS TO BE MADE VIA 3D PRINTING PROCESS USING WATERSET FILE NUMBER PL-02755-13.s+I USING ASB PLASTIC.
2. INFORMATION SHOWN ARE FOR REFERENCE.
3. PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
4. FINISH:
  - A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
5. FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

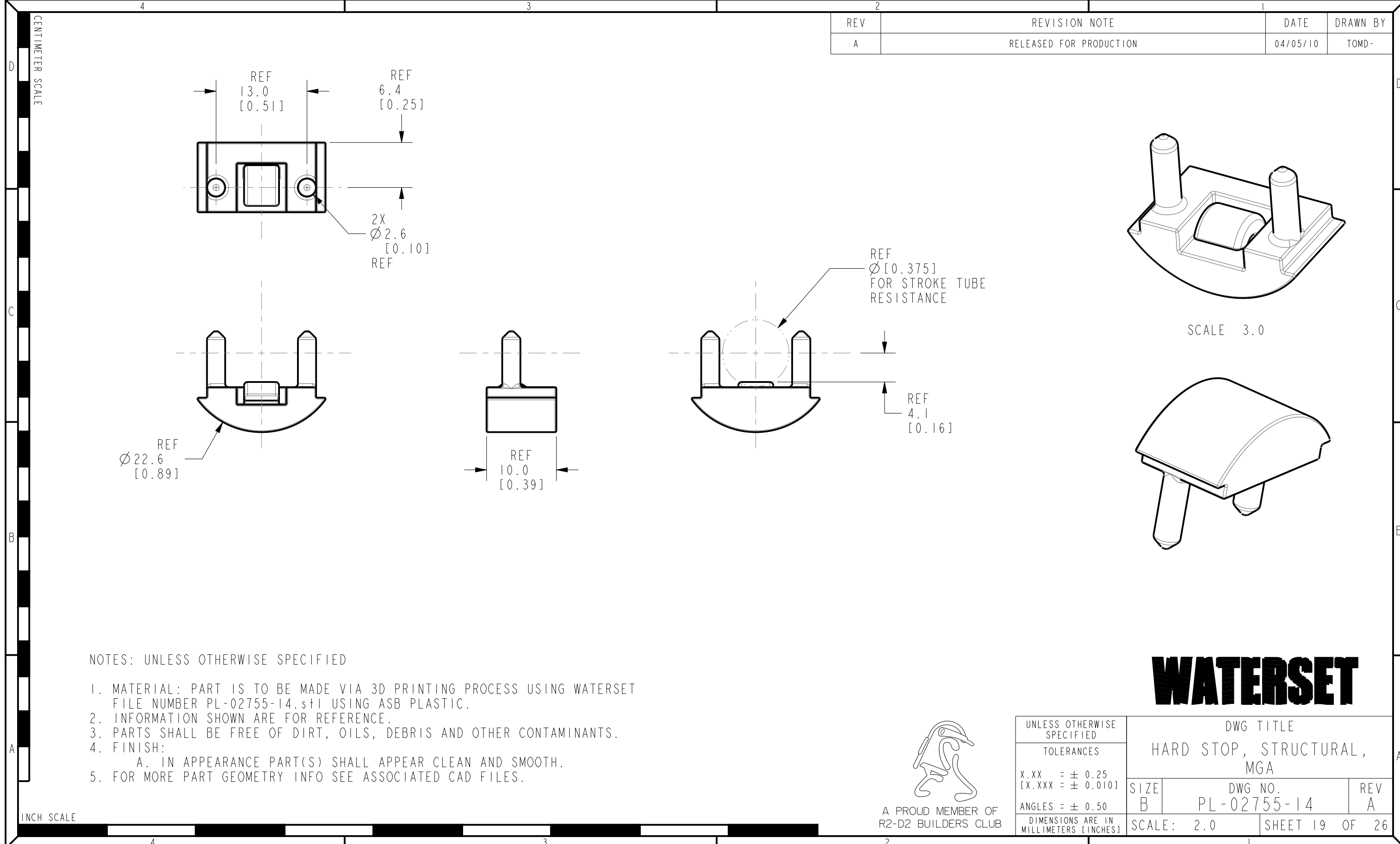
# WATERSET



A PROUD MEMBER OF R2-D2 BUILDERS CLUB

UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		BASE, STRUCTURAL, MGA	
X.XX = ± 0.25 [X.XXX = ± 0.010]	SIZE B	DWG NO. PL-02755-13	REV A
ANGLES = ± 0.50	SCALE: 1.0	SHEET 18 OF 26	
DIMENSIONS ARE IN MILLIMETERS [INCHES]			

REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASED FOR PRODUCTION	04/05/10	TOMD-



NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: PART IS TO BE MADE VIA 3D PRINTING PROCESS USING WATERSET FILE NUMBER PL-02755-14.s+I USING ASB PLASTIC.
2. INFORMATION SHOWN ARE FOR REFERENCE.
3. PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
4. FINISH:
  - A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
5. FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

**WATERSET**

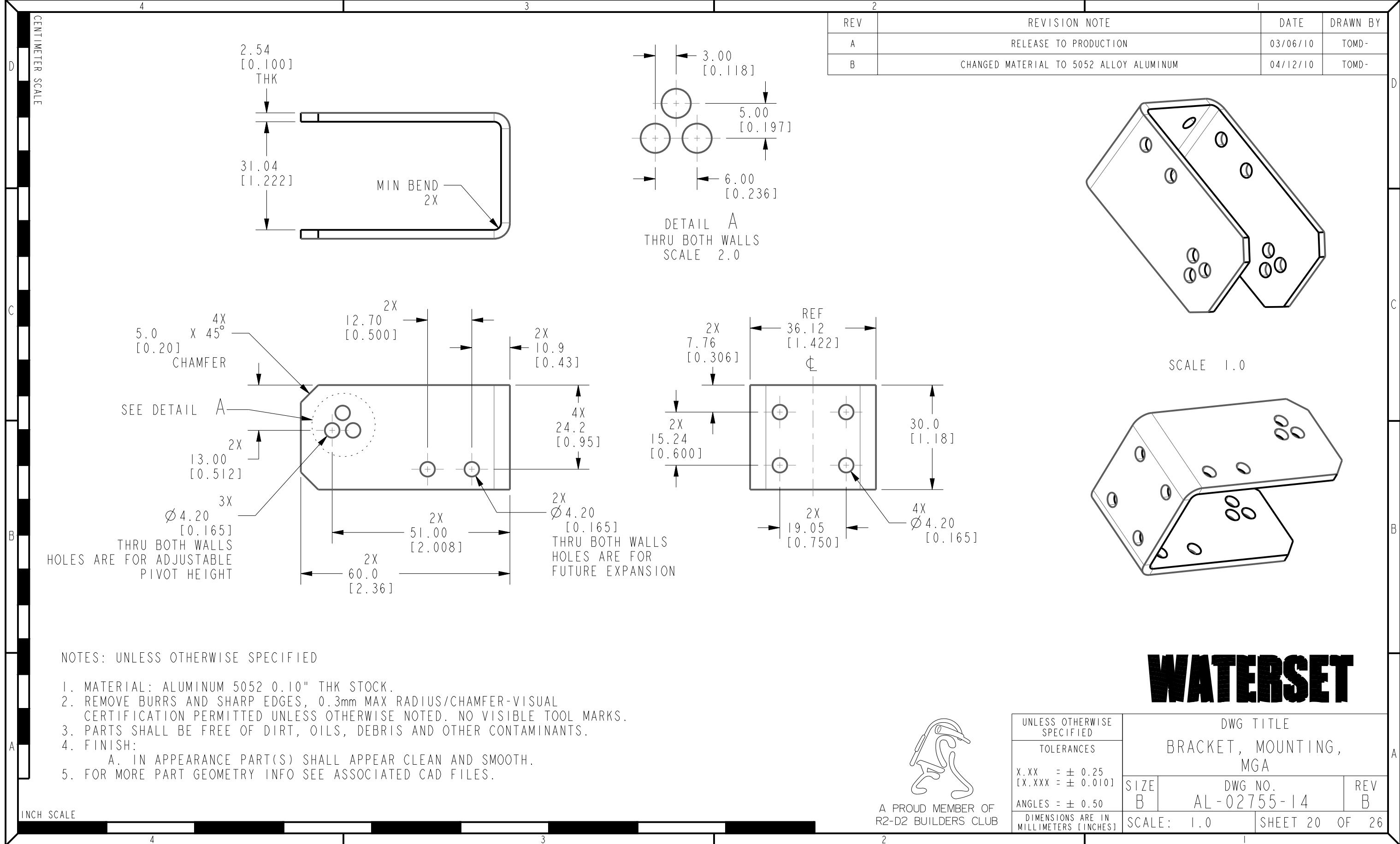


A PROUD MEMBER OF R2-D2 BUILDERS CLUB

UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		HARD STOP, STRUCTURAL, MGA	
X.XX = ± 0.25	SIZE B	DWG NO.	REV
[X.XXX = ± 0.010]		PL-02755-14	A
ANGLES = ± 0.50	SCALE: 2.0	SHEET 19 OF 26	
DIMENSIONS ARE IN MILLIMETERS [INCHES]			

INCH SCALE

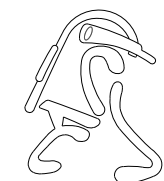
REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASE TO PRODUCTION	03/06/10	TOMD-
B	CHANGED MATERIAL TO 5052 ALLOY ALUMINUM	04/12/10	TOMD-



NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 5052 0.10" THK STOCK.
2. REMOVE BURRS AND SHARP EDGES, 0.3mm MAX RADIUS/CHAMFER-VISUAL CERTIFICATION PERMITTED UNLESS OTHERWISE NOTED. NO VISIBLE TOOL MARKS.
3. PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
4. FINISH:
  - A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
5. FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

**WATERSET**



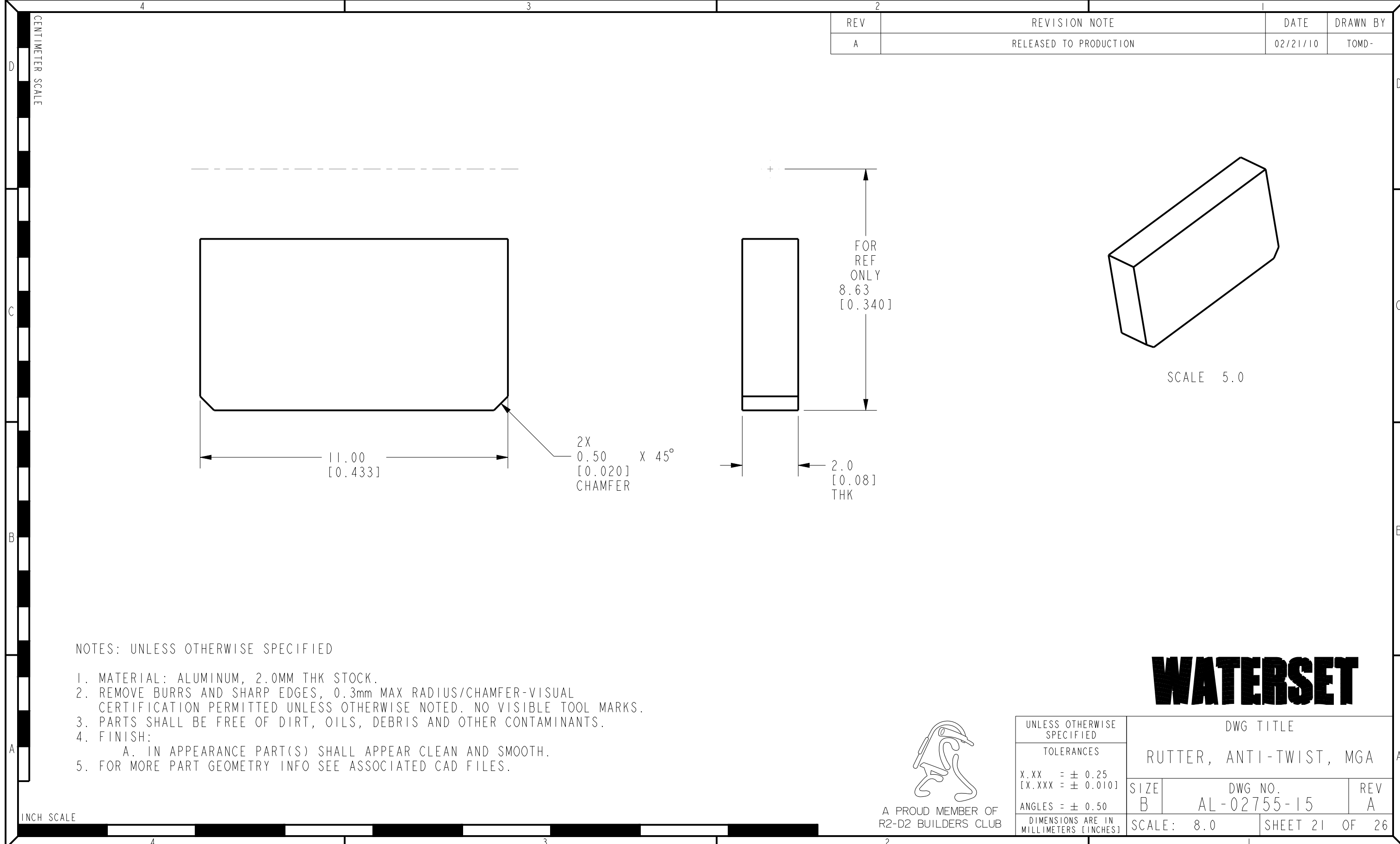
A PROUD MEMBER OF R2-D2 BUILDERS CLUB

UNLESS OTHERWISE SPECIFIED	DWG TITLE		
TOLERANCES	BRACKET, MOUNTING, MGA		
X.XX = ± 0.25 [X.XXX = ± 0.010]	SIZE	DWG NO.	REV
ANGLES = ± 0.50	B	AL-02755-14	B
DIMENSIONS ARE IN MILLIMETERS [INCHES]	SCALE:	SHEET 20 OF 26	
	1.0		

INCH SCALE



REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASED TO PRODUCTION	02/21/10	TOMD-



NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM, 2.0MM THK STOCK.
2. REMOVE BURRS AND SHARP EDGES, 0.3mm MAX RADIUS/CHAMFER-VISUAL CERTIFICATION PERMITTED UNLESS OTHERWISE NOTED. NO VISIBLE TOOL MARKS.
3. PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
4. FINISH:
  - A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
5. FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

# WATERSET

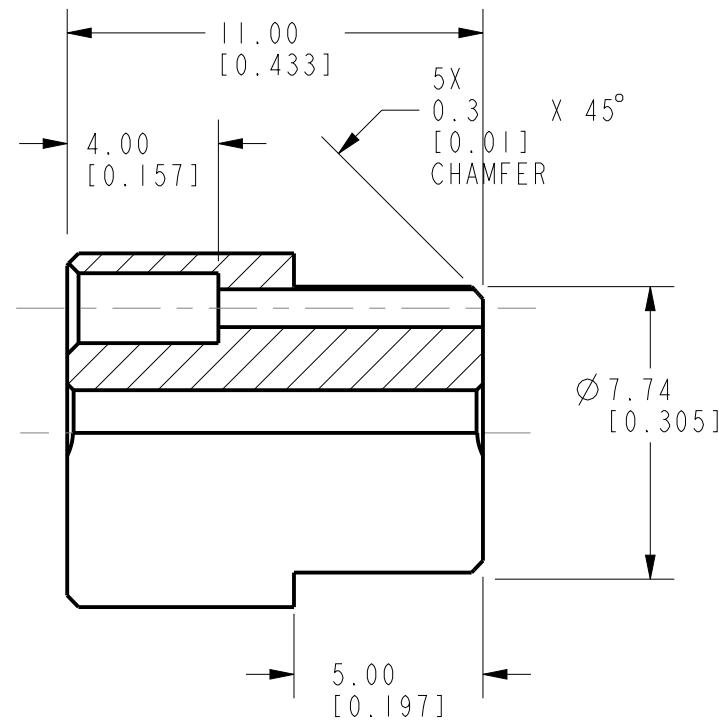
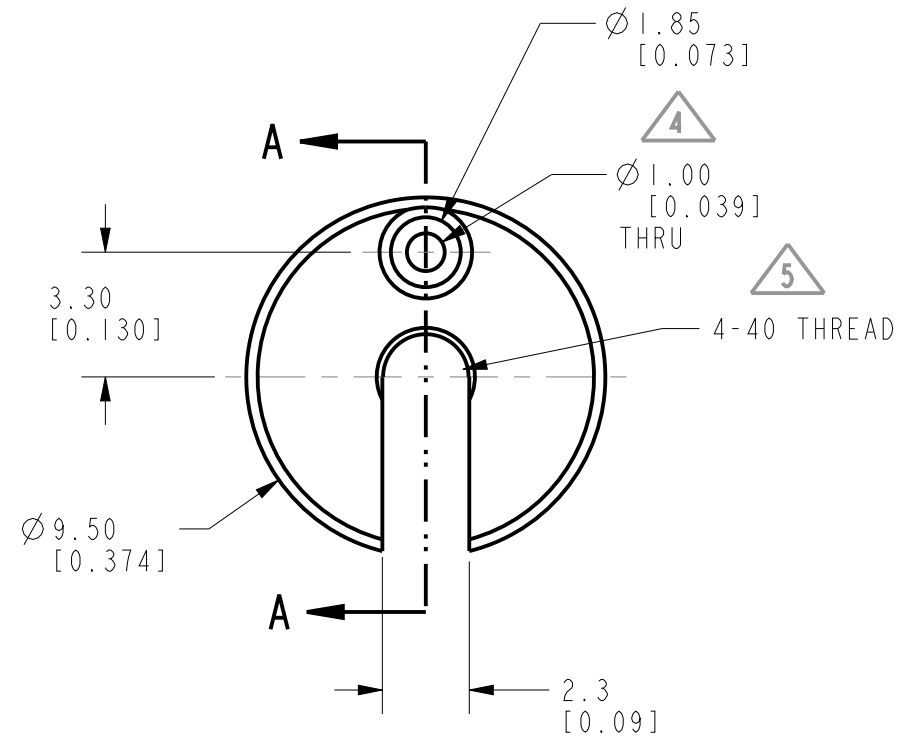


A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

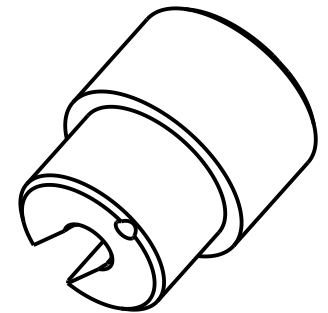
UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		RUTTER, ANTI-TWIST, MGA	
X.XX = ± 0.25 [X.XXX = ± 0.010]	SIZE	DWG NO.	REV
ANGLES = ± 0.50	B	AL-02755-15	A
DIMENSIONS ARE IN MILLIMETERS [INCHES]		SCALE: 8.0	SHEET 21 OF 26

INCH SCALE

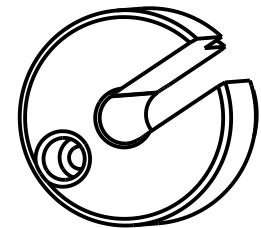
REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASE FOR PRODUCTION	02/21/10	TOMD-



SECTION A-A



SCALE 3.0



NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM.
2. REMOVE BURRS AND SHARP EDGES, 0.3mm MAX RADIUS/CHAMFER-VISUAL CERTIFICATION PERMITTED UNLESS OTHERWISE NOTED. NO VISIBLE TOOL MARKS.
3. PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
4. PUSH ROD PARTS MUST EASILY PASS THROUGH.
5. FINISHED PART MUST BE ABLE TO SPIN FREELY ON A 4-40 THREADED ROD.
6. FINISH: N/A
7. FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

# WATERSET

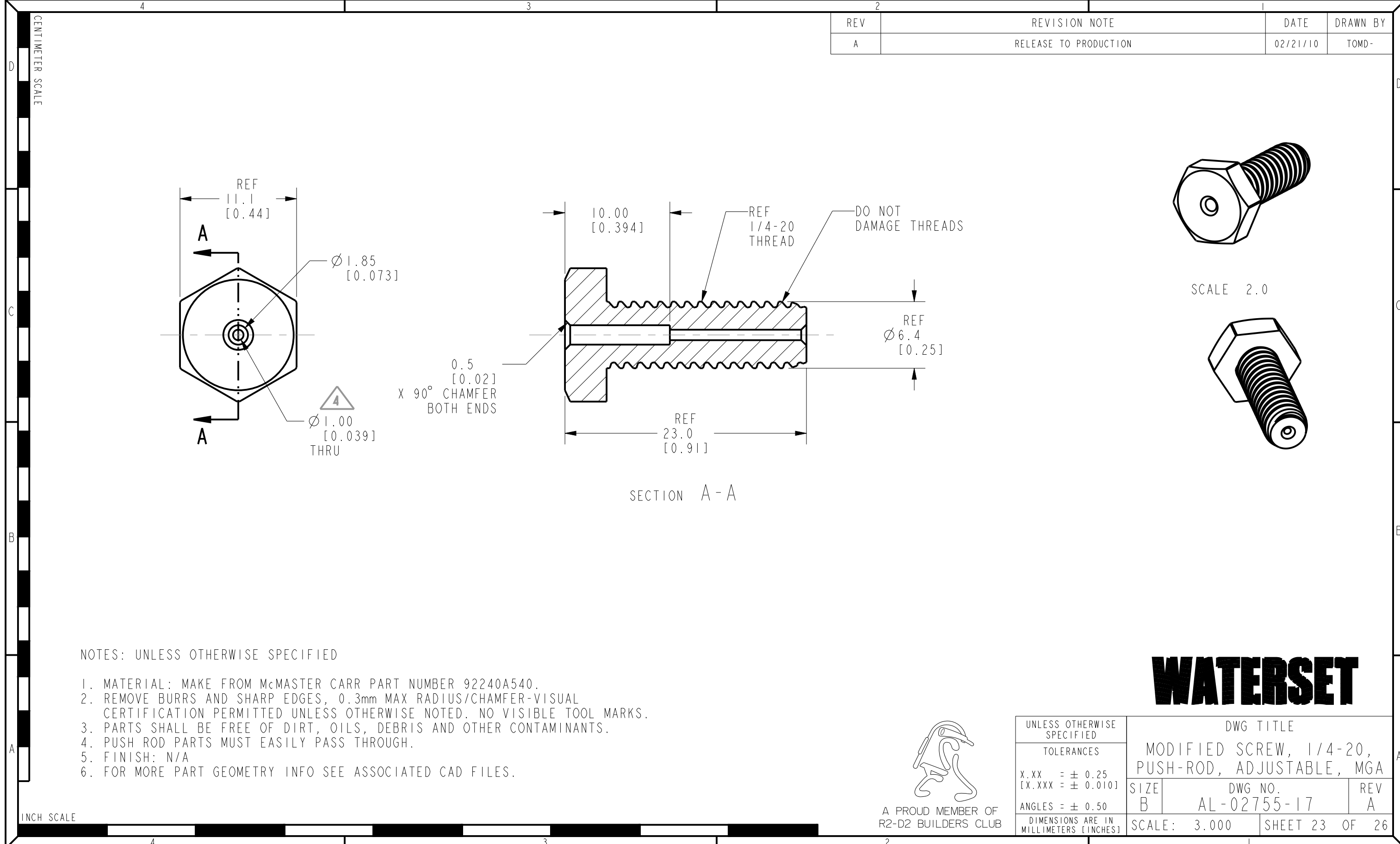


A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

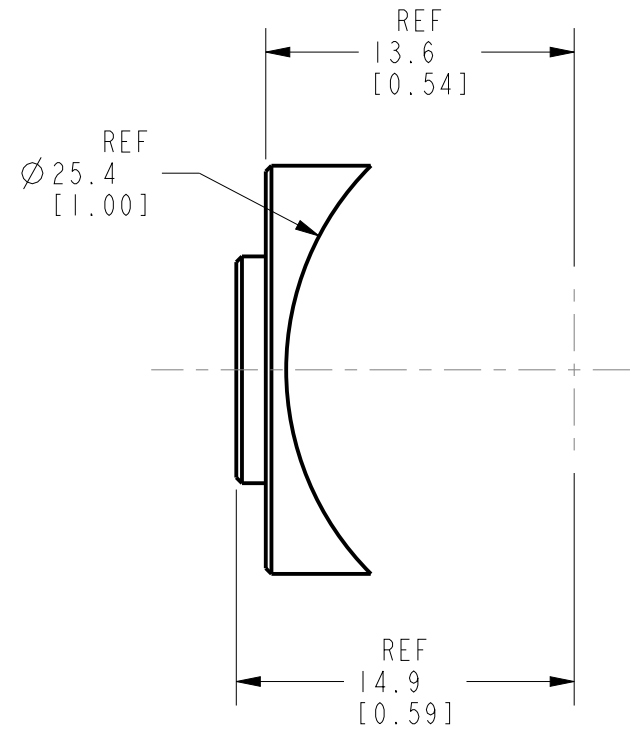
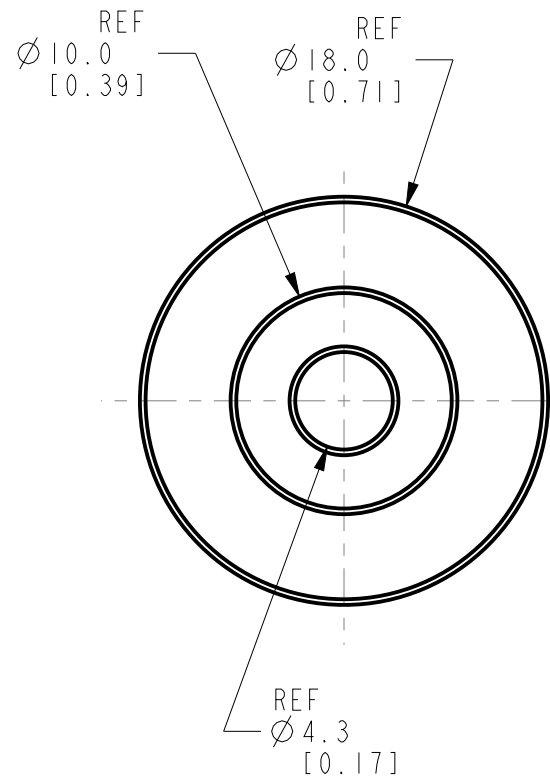
UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		STOPPER, PUSH-ROD, MGA	
X.XX = ± 0.25	SIZE B	DWG NO.	REV
[X.XXX = ± 0.010]		AL-02755-16	A
ANGLES = ± 0.50	SCALE: 5.0	SHEET 22 OF 26	
DIMENSIONS ARE IN MILLIMETERS [INCHES]			

INCH SCALE

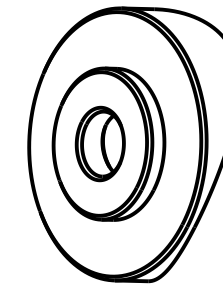
REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASE TO PRODUCTION	02/21/10	TOMD-



REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASED FOR PRODUCTION	02/21/10	TOMD-
B	DECREASED SHOULDER HEIGHT	04/05/10	TOMD-



SCALE 2.0



NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: PART IS TO BE MADE VIA 3D PRINTING PROCESS USING WATERSET FILE NUMBER PL-02755-15.stl USING ASB PLASTIC.
2. INFORMATION SHOWN ARE FOR REFERENCE.
3. PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
4. FINISH:
  - A. IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
5. FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

# WATERSET



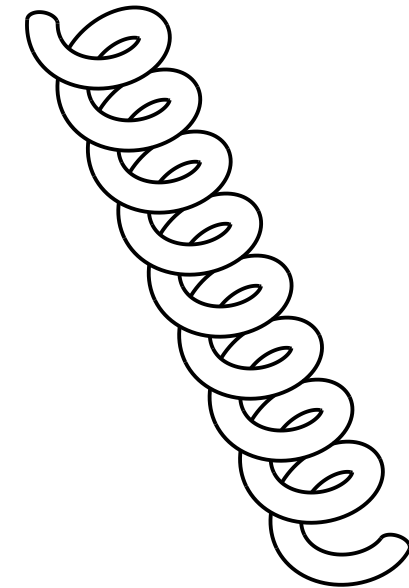
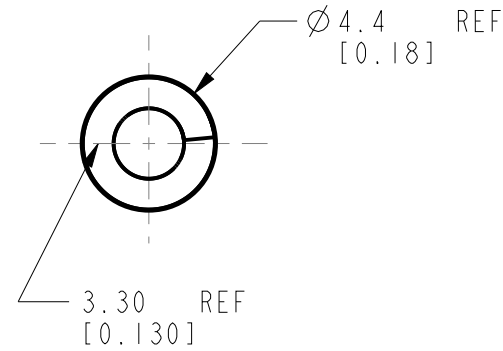
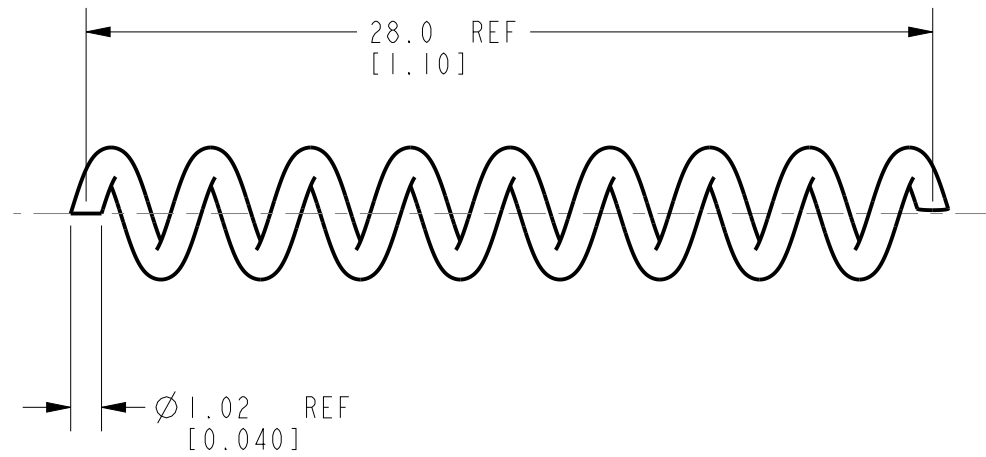
A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		PIVOT, STROKE TUBE, MGA	
X.XX = ± 0.25	SIZE B	DWG NO.	REV
[X.XXX = ± 0.010]		PL-02755-15	B
ANGLES = ± 0.50	SCALE: 3.0	SHEET 24 OF 26	
DIMENSIONS ARE IN MILLIMETERS [INCHES]			

INCH SCALE

REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASED FOR PRODUCTION	03/07/10	TOMD-
B	INCREASED PITCH AND DECREASED OUTER DIAMETER	04/05/10	TOMD-

CENTIMETER SCALE



SCALE 4.0

NOTES: UNLESS OTHERWISE SPECIFIED

- MATERIAL: PART IS TO BE MADE VIA 3D PRINTING PROCESS USING WATERSET FILE NUMBER PL-02755-61.s+1 USING ASB PLASTIC. SHAPEWAYS.COM IS PREFERED USING WHITE STRONG AND FLEXABLE MATERIAL.
- INFORMATION SHOWN ARE FOR REFERENCE.
- PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
- FINISH:
  - IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
- FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.

# WATERSET

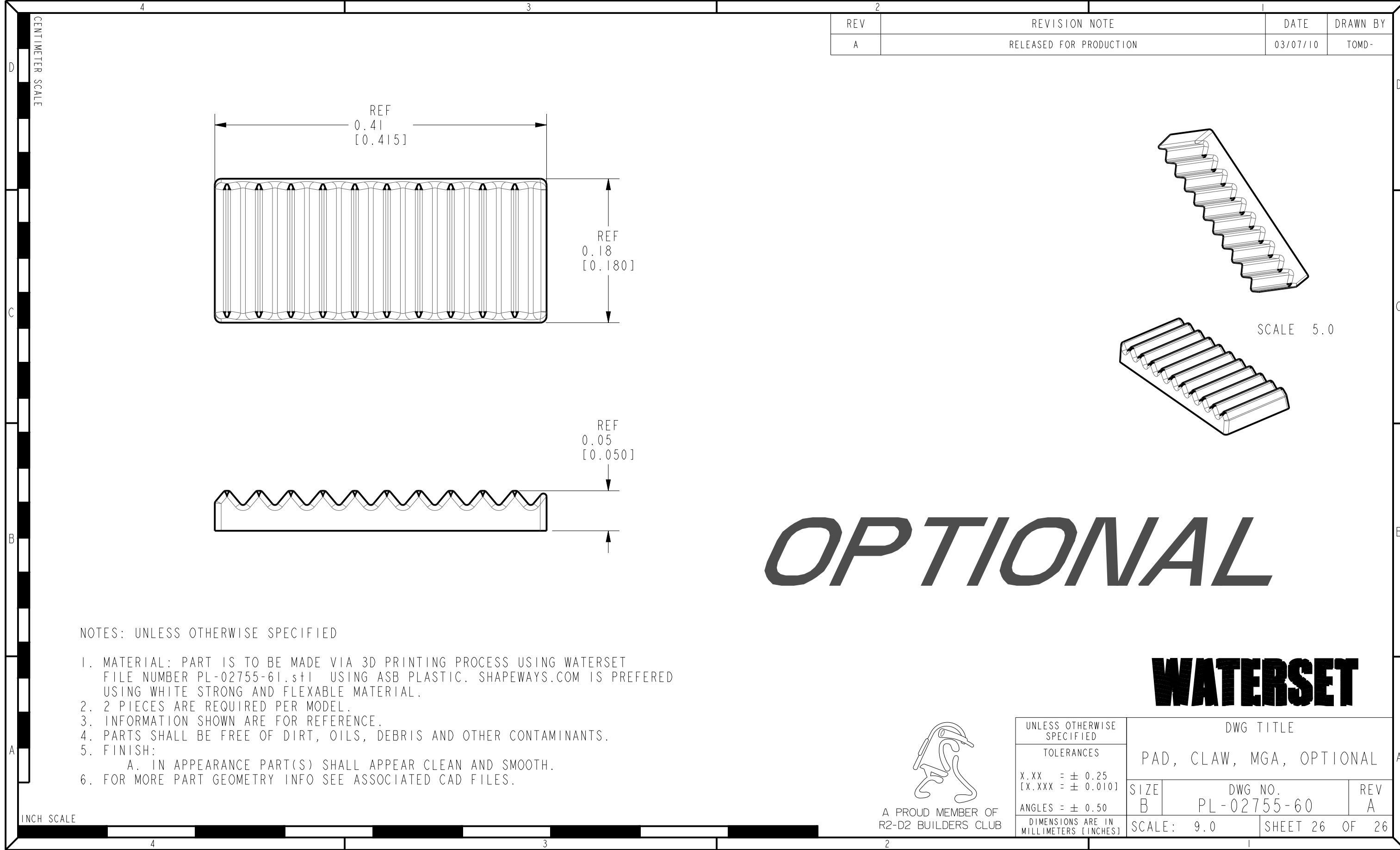


A PROUD MEMBER OF  
R2-D2 BUILDERS CLUB

UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		SPRING, MGA	
X.XX = ± 0.25 [X.XXX = ± 0.010]	SIZE B	DWG NO. PL-02755-61	REV B
ANGLES = ± 0.50	DIMENSIONS ARE IN MILLIMETERS [INCHES]	SCALE: 4.0	SHEET 25 OF 26

INCH SCALE

REV	REVISION NOTE	DATE	DRAWN BY
A	RELEASED FOR PRODUCTION	03/07/10	TOMD-



**OPTIONAL**

**WATERSET**

NOTES: UNLESS OTHERWISE SPECIFIED

- MATERIAL: PART IS TO BE MADE VIA 3D PRINTING PROCESS USING WATERSET FILE NUMBER PL-02755-61.s+1 USING ASB PLASTIC. SHAPEWAYS.COM IS PREFERED USING WHITE STRONG AND FLEXABLE MATERIAL.
- 2 PIECES ARE REQUIRED PER MODEL.
- INFORMATION SHOWN ARE FOR REFERENCE.
- PARTS SHALL BE FREE OF DIRT, OILS, DEBRIS AND OTHER CONTAMINANTS.
- FINISH:
  - IN APPEARANCE PART(S) SHALL APPEAR CLEAN AND SMOOTH.
- FOR MORE PART GEOMETRY INFO SEE ASSOCIATED CAD FILES.



A PROUD MEMBER OF R2-D2 BUILDERS CLUB

UNLESS OTHERWISE SPECIFIED		DWG TITLE	
TOLERANCES		PAD, CLAW, MGA, OPTIONAL	
X.XX = ± 0.25	DIMENSIONS ARE IN MILLIMETERS [INCHES]	SIZE	DWG NO.
[X.XXX = ± 0.010]		B	PL-02755-60
ANGLES = ± 0.50		REV	
		A	
		SCALE: 9.0	SHEET 26 OF 26

INCH SCALE