

4

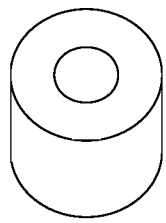
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2

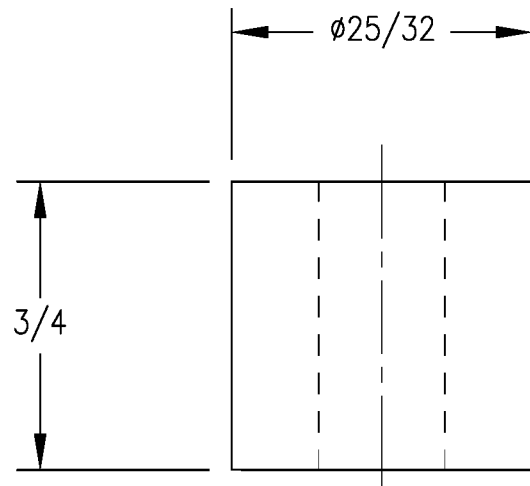
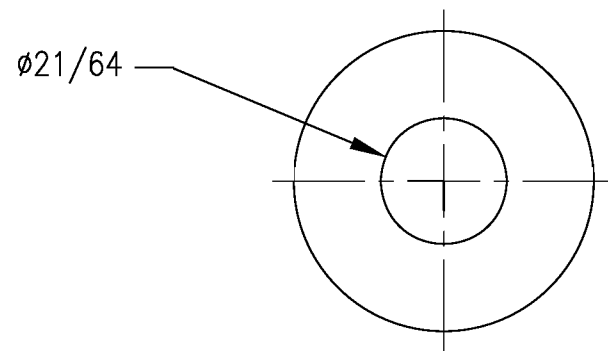
1

D

D



SCALE 1.000



C

C

B

B

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A

4


3

2

1

REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION	12/29/05	DW

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE inches			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. ELASTOMER			
TOLERANCES ARE: *			RUBBER BUMPER
DECIMALS: .X ±0.1 .XX ±0.01 .XXX ±0.005 FRACTIONS ±1/64 * unless otherwise noted			
ANGLES: ±0.5° MACHINED: 63/			
SCALE 2.000			
APPROVALS		DATE	
DRAWN			
CHECKED			
ENGINEER			
SIZE	SHEET	DRAWING NUMBER	REV.
B	1 OF 1	9000202	B

4

3

2

1

D

D

C

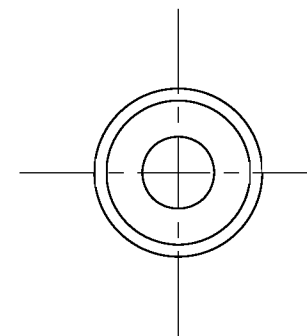
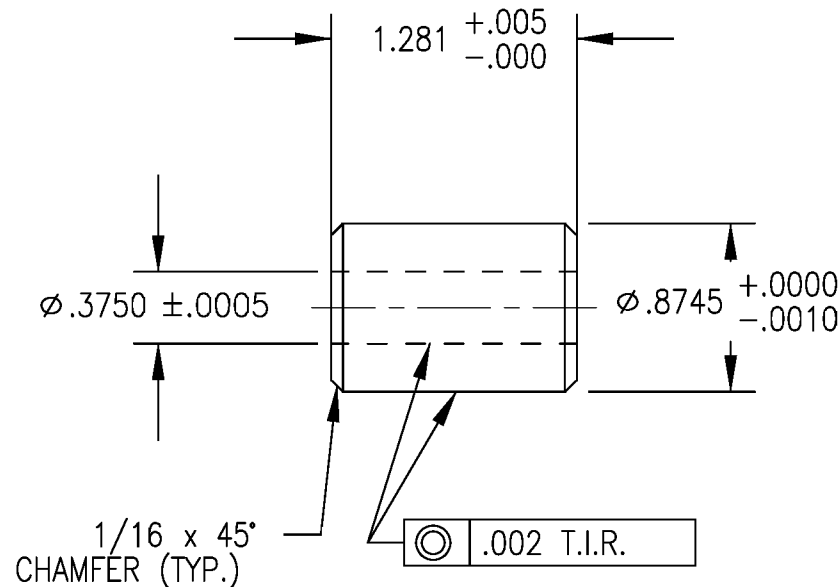
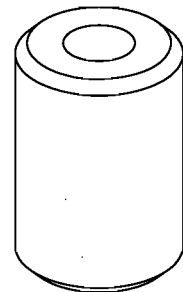
C

B

B

A

A




REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION NOTE #1	12/29/05	DW

NOTE:



- MAT'L REF.: CAST BEARING BRONZE SAE-660-UNS-C93200
- BREAK SHARP EDGES.

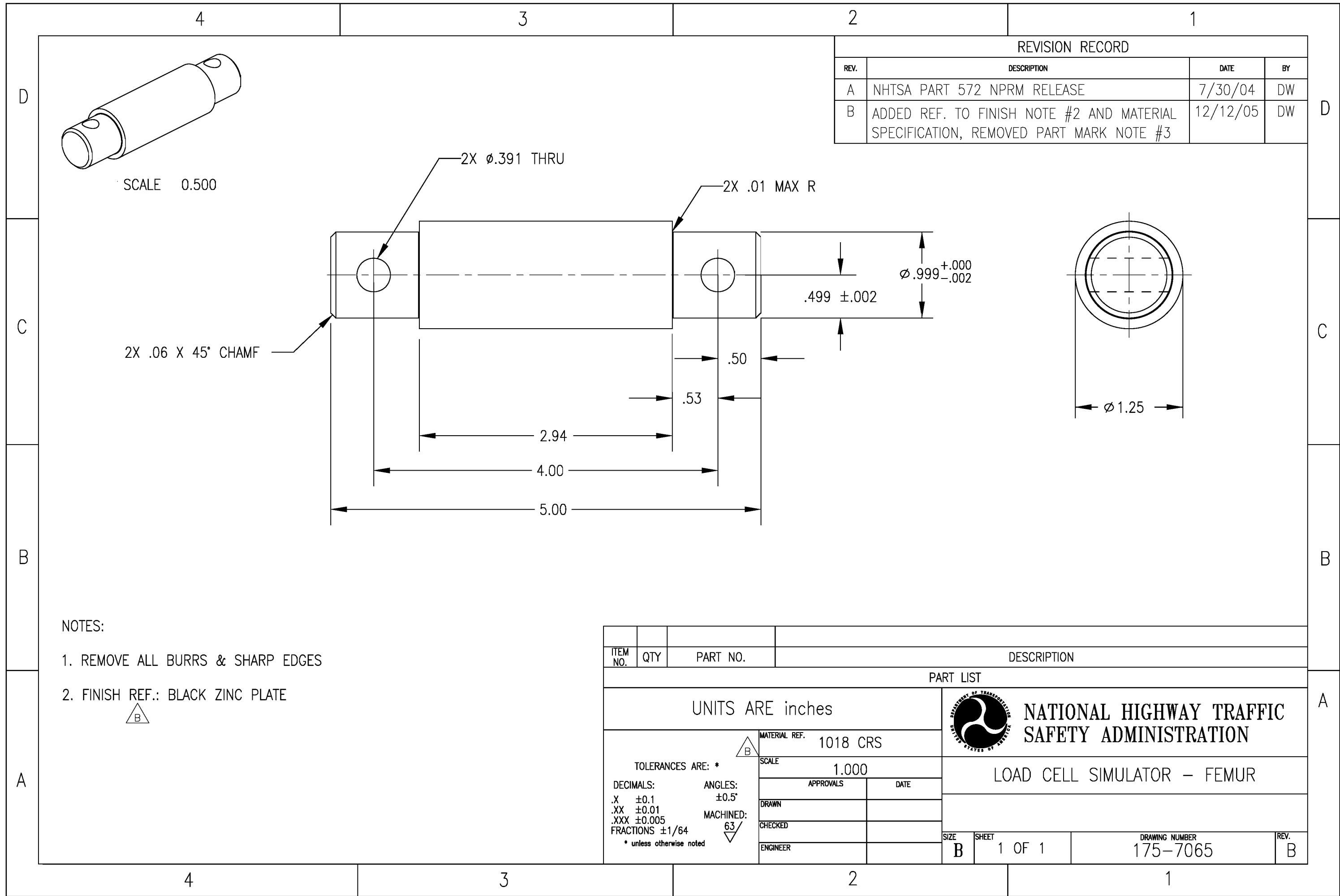
ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE inches			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL SEE NOTE 1			
SCALE 1.000			BUSHING
APPROVALS		DATE	
DRAWN			
CHECKED			
ENGINEER			
TOLERANCES ARE: *			
DECIMALS: .X ±0.1		ANGLES: ±0.5°	
.XX ±0.01		MACHINED: 63/	
.XXX ±0.005		FRACTIONS ±1/64	
* unless otherwise noted			
SIZE	SHEET	DRAWING NUMBER	REV.
B	1 OF 1	175-7060	B

4

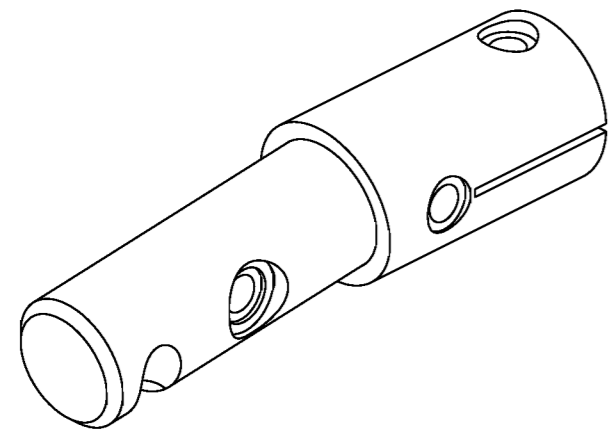
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2

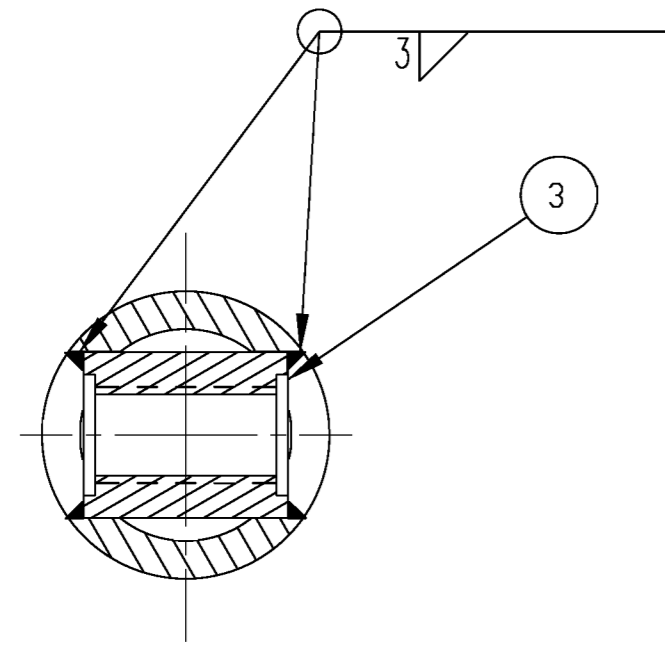
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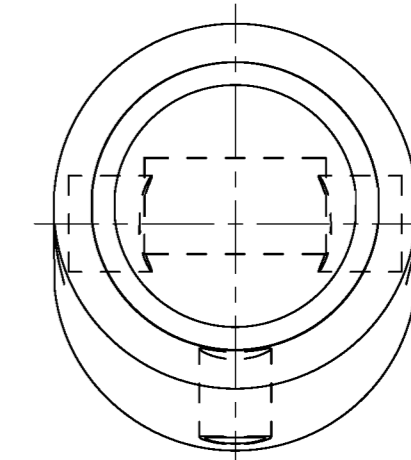
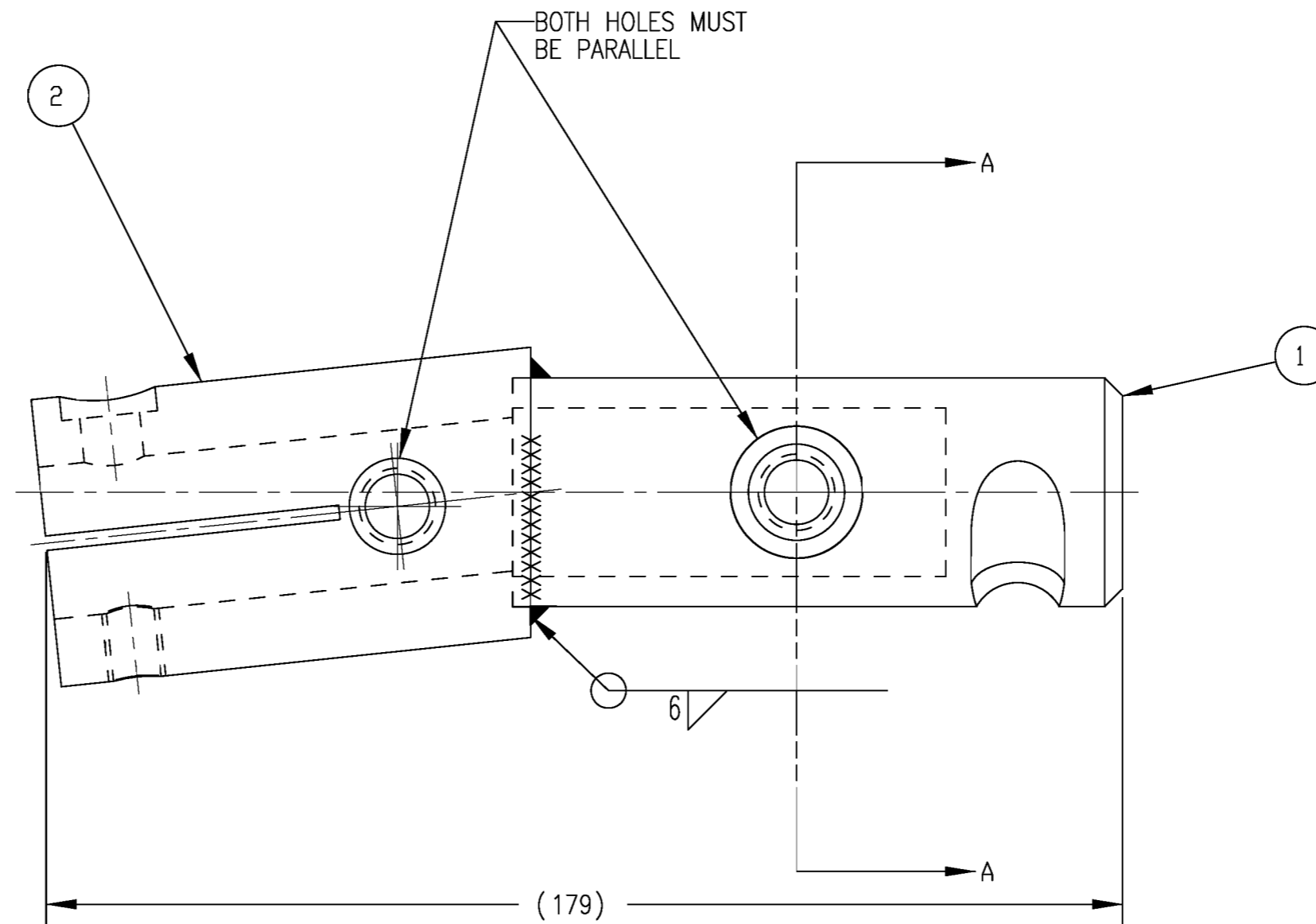
REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	REMOVED PART MARK NOTE #1, ADDED REF. TO FINISH NOTE #1	12/12/05	DW



SCALE 0.500



SECTION A-A



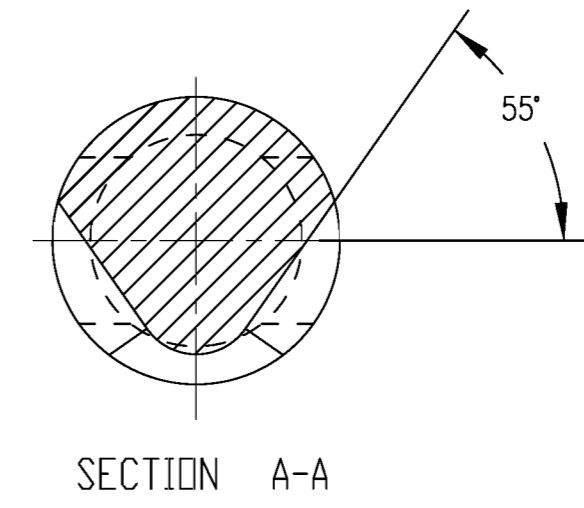
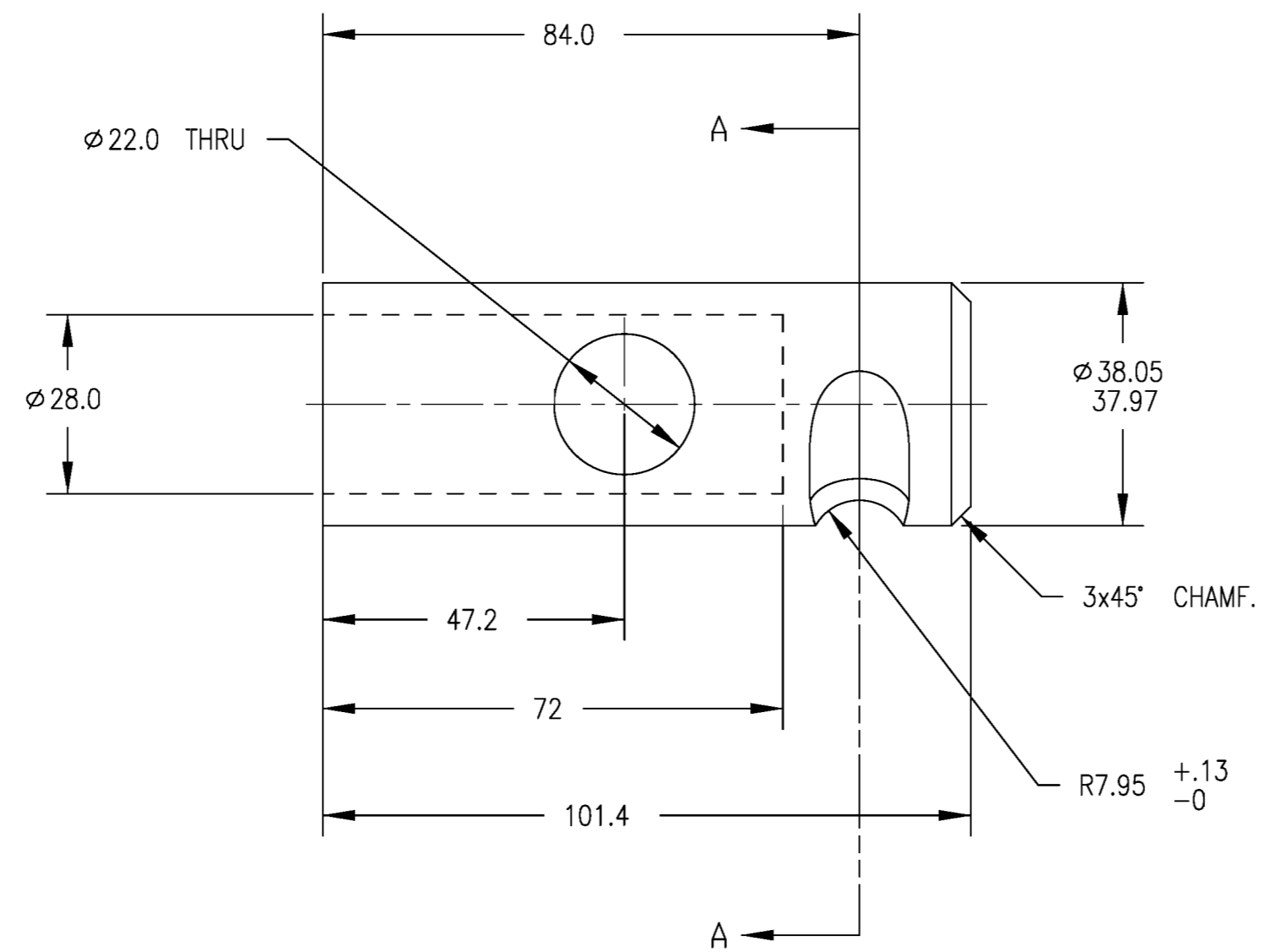
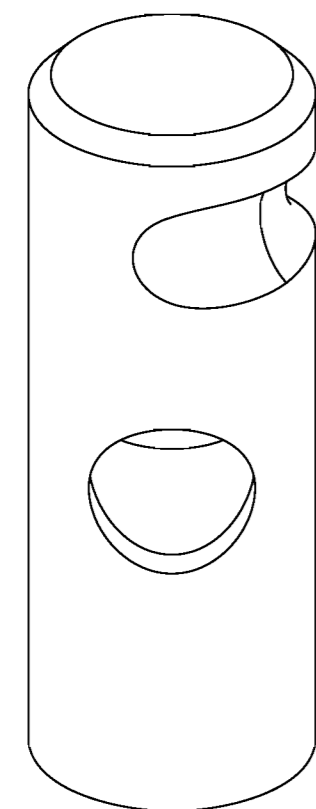
NOTES:

1. FINISH REF.: CHEMI-BLACK




3	1	175-7073	BUSH UPPER LEG
2	1	175-7072	CLAMP UPPER LEG
1	1	175-7071	LEG ROT. PIVOT, UPPER
ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			<b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
SCALE 1.000			
TOLERANCES ARE: *		APPROVALS	
DECIMALS:	ANGLES:	DATE	
X ±0.5	±0.5°	DRAWN	
.X ±0.1	MACHINED:	CHECKED	
.XX ±0.05	6.3	ENGINEER	
* unless otherwise noted			SIZE A2 SHEET 1 OF 1 DRAWING NUMBER 175-7070 REV. B

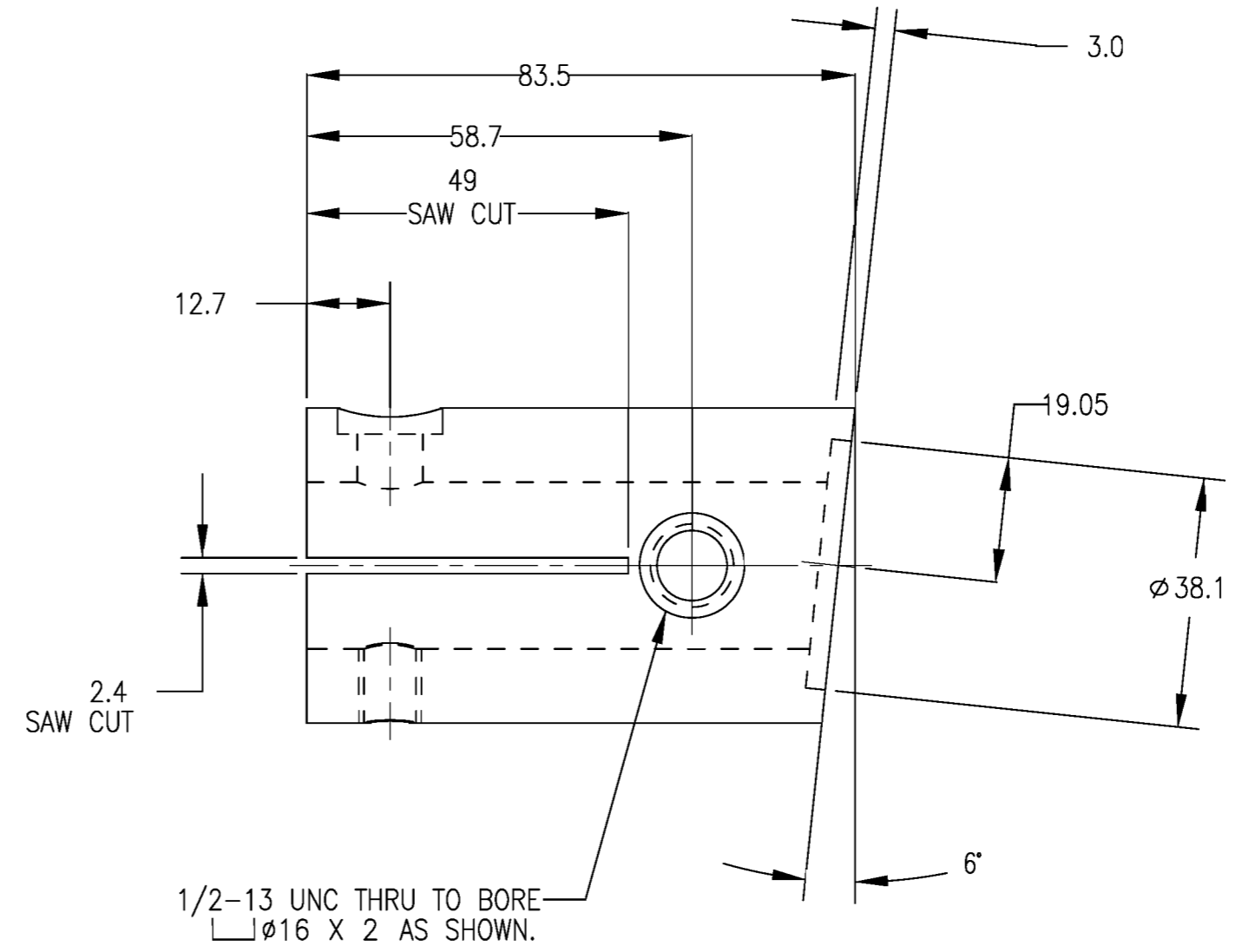
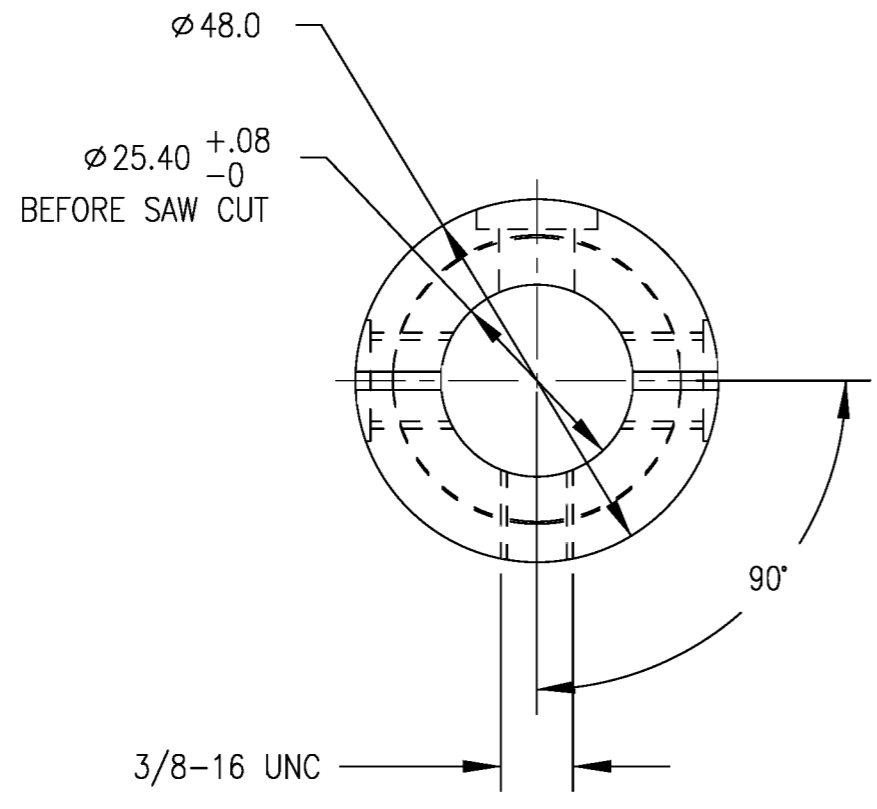
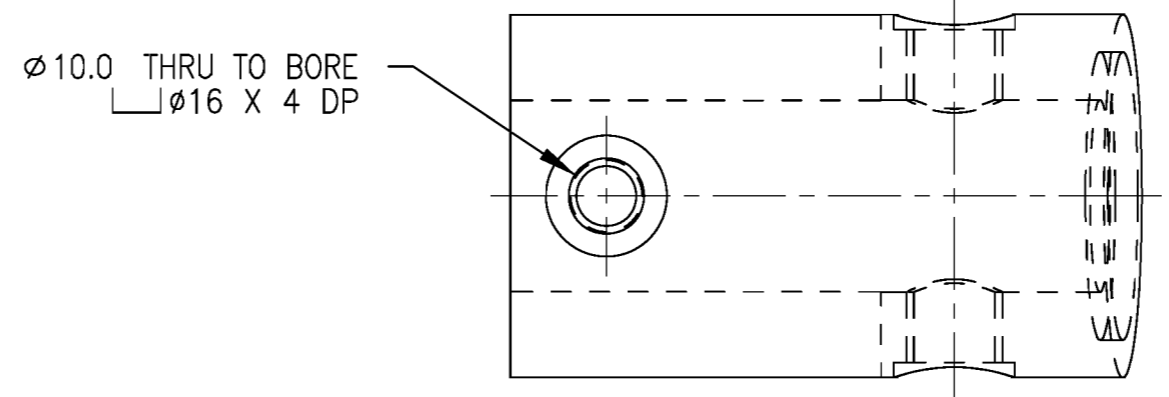
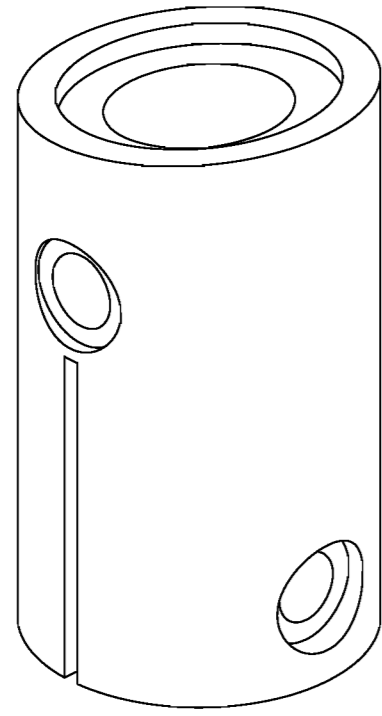
REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION	12/12/05	DW




NOTES:  
1. REMOVE ALL BURRS AND BREAK SHARP EDGES.

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b> LEG ROT. PIVOT, UPPER
MATERIAL REF: STEEL 080M40			
SCALE 1.000			APPROVALS
TOLERANCES ARE: *			DATE
DECIMALS: X ±0.5			DRAWN CHECKED ENGINEER
.X ±0.1			
.XX ±0.05			MACHINED: 6.3 * unless otherwise noted
SIZE	SHEET	DRAWING NUMBER	REV.
A2	1 OF 1	175-7071	B

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATIONS	12/12/05	DW



NOTES:  
1. REMOVE ALL BURRS AND BREAK SHARP EDGES.

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF: STEEL 080M40			
SCALE: 1.000			CLAMP UPPER LEG
TOLERANCES ARE: *		APPROVALS	DATE
DECIMALS:	ANGLES:	CHECKED	
X ±0.5	±0.5°	ENGINEER	
.X ±0.1	MACHINED:		
.XX ±0.05	6.3		
* unless otherwise noted		SIZE	SHEET
		A2	1 OF 1
DRAWING NUMBER			REV.
175-7072			B

4

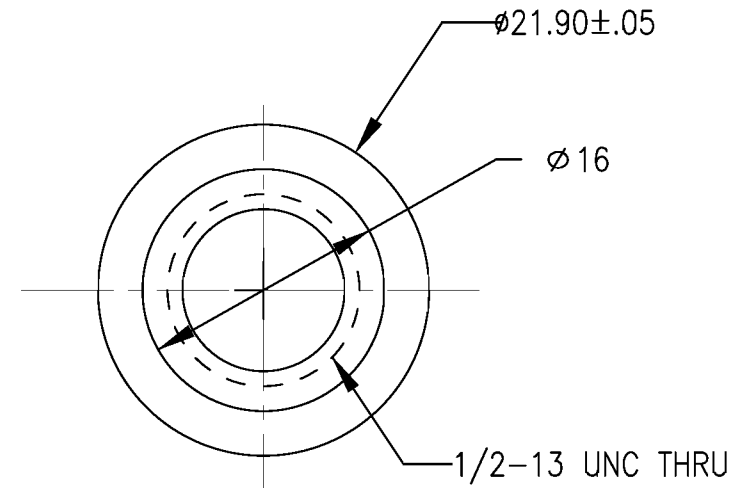
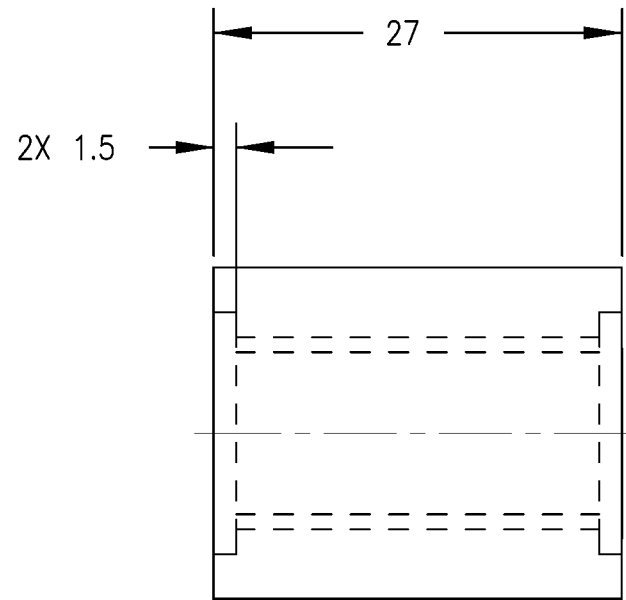
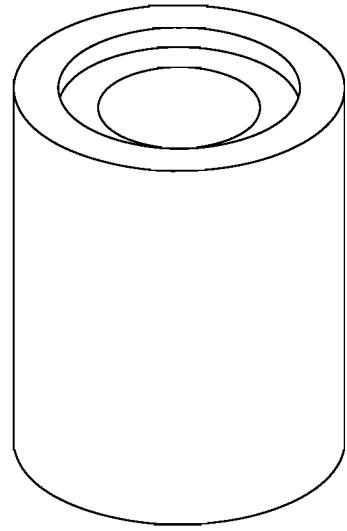
3

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1


REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION	12/12/05	DW



NOTES:

- 1. REMOVE ALL BURRS AND BREAK SHARP EDGES.

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. STEEL 080M40			
TOLERANCES ARE: *			BUSHING UPPER LEG
DECIMALS: X ±0.5, .X ±0.1, .XX ±0.05 ANGLES: ±0.5° MACHINED: 63/			
* unless otherwise noted			SCALE 2.000 APPROVALS _____ DATE _____ DRAWN _____ CHECKED _____ ENGINEER _____
SIZE A3		SHEET 1 OF 1	
DRAWING NUMBER 175-7073			REV. B

4

3

2

1

4

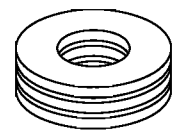
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2

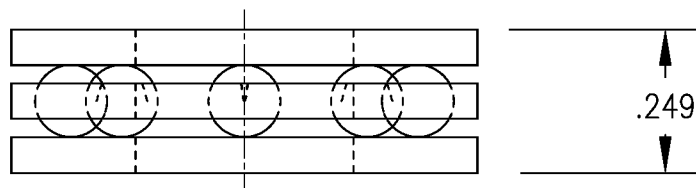
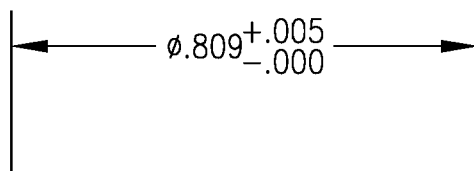
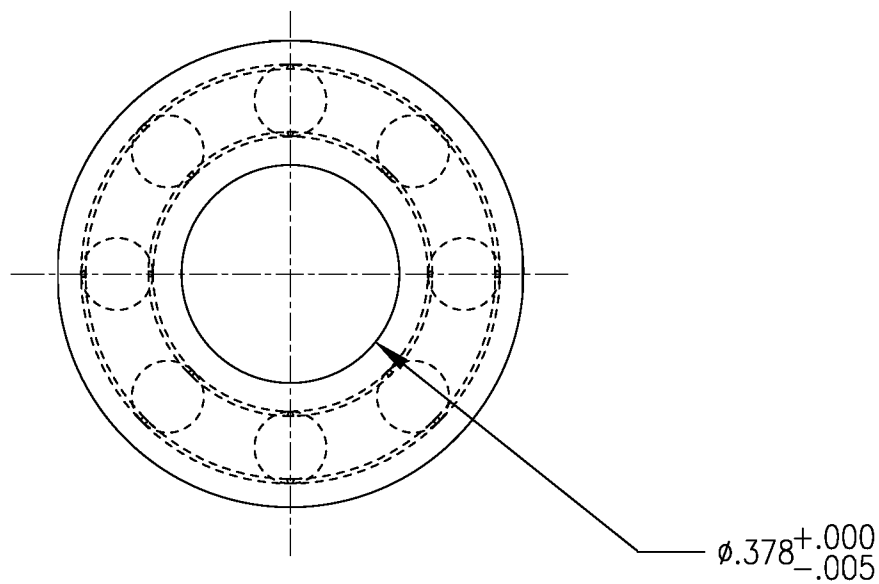
1


REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION	12/29/05	DW



SCALE 1.000



ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE inches			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. STEEL			
SCALE 3.000			THRUST BEARING #B5-5
APPROVALS		DATE	
DRAWN			
CHECKED			
ENGINEER			
SIZE B		SHEET 1 OF 1	DRAWING NUMBER 9000443
			REV. B

TOLERANCES ARE: \*

DECIMALS: .X ±0.1  
.XX ±0.01  
.XXX ±0.005  
FRACTIONS ±1/64  
\* unless otherwise noted

ANGLES: ±0.5°

MACHINED: 63/

4

3

2

1

D

C

B

A

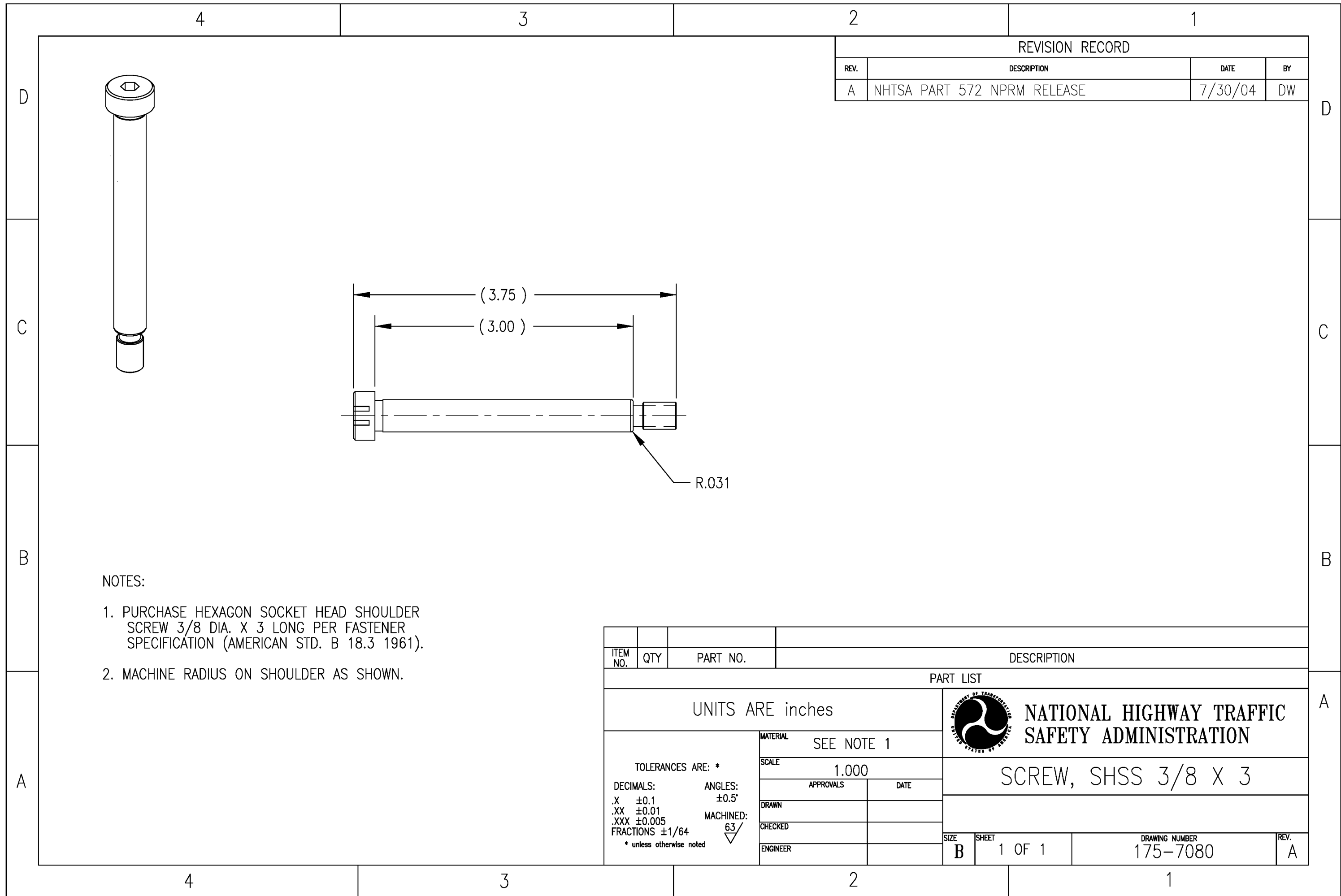
D

C

B

A






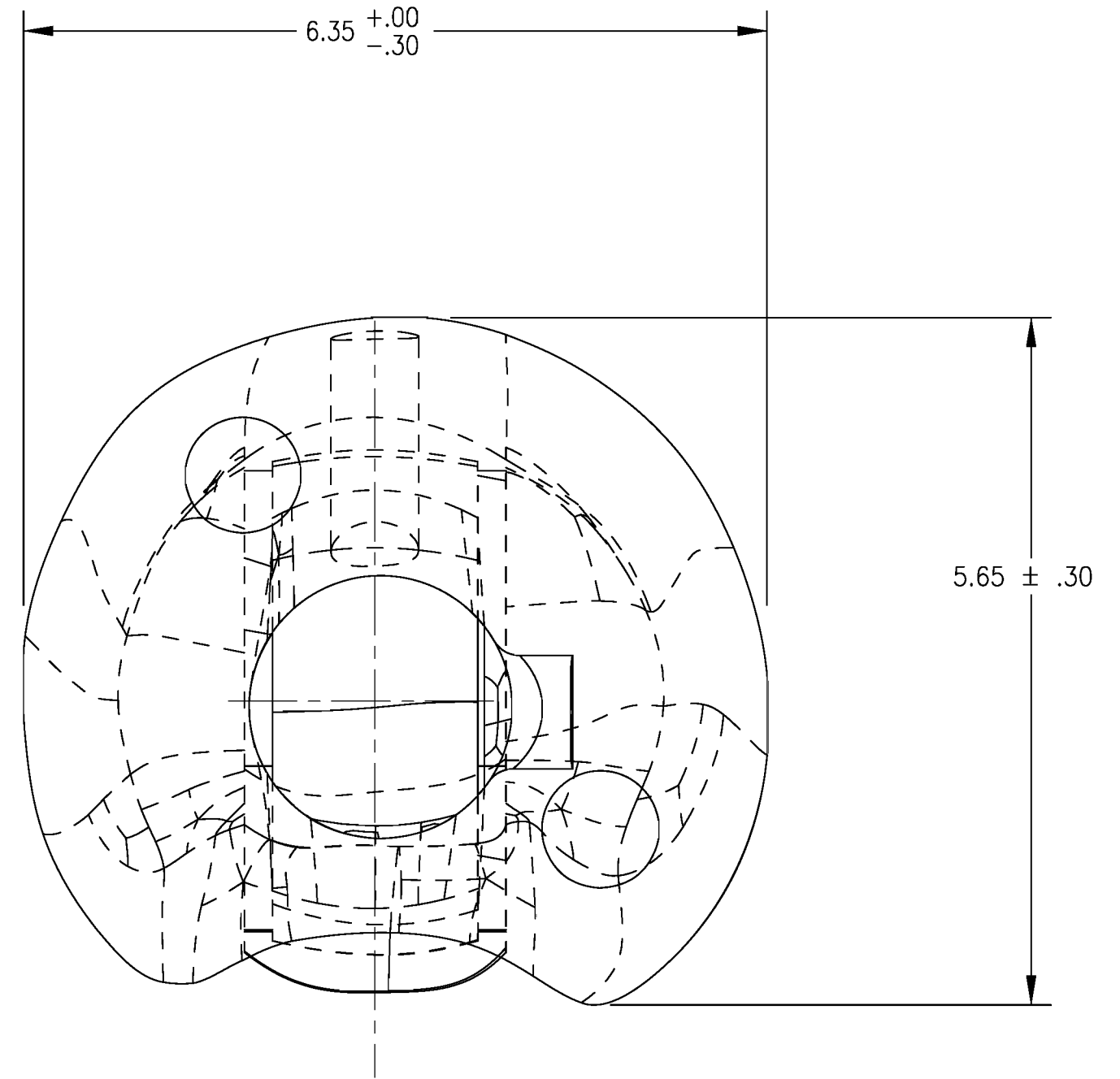
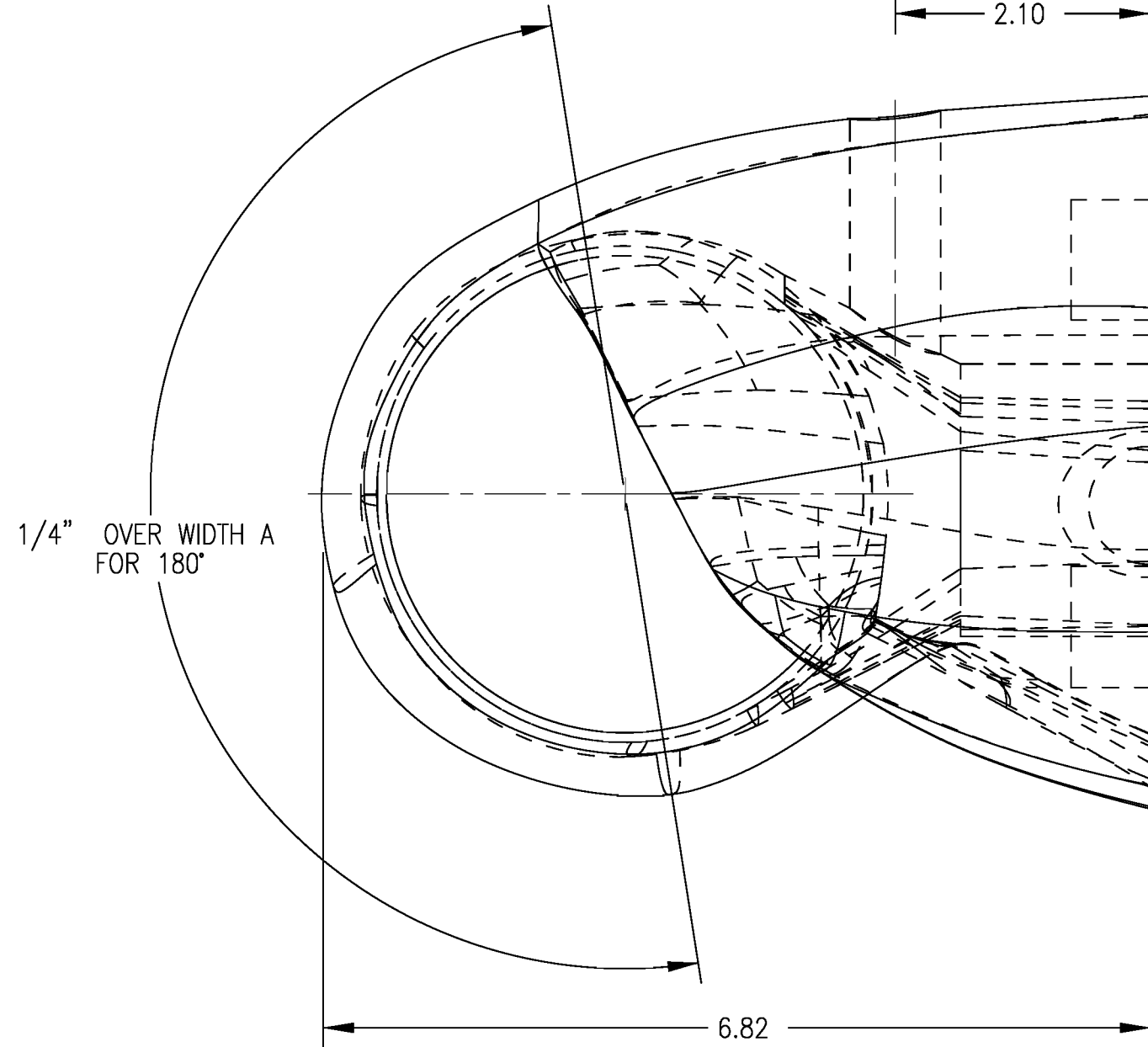
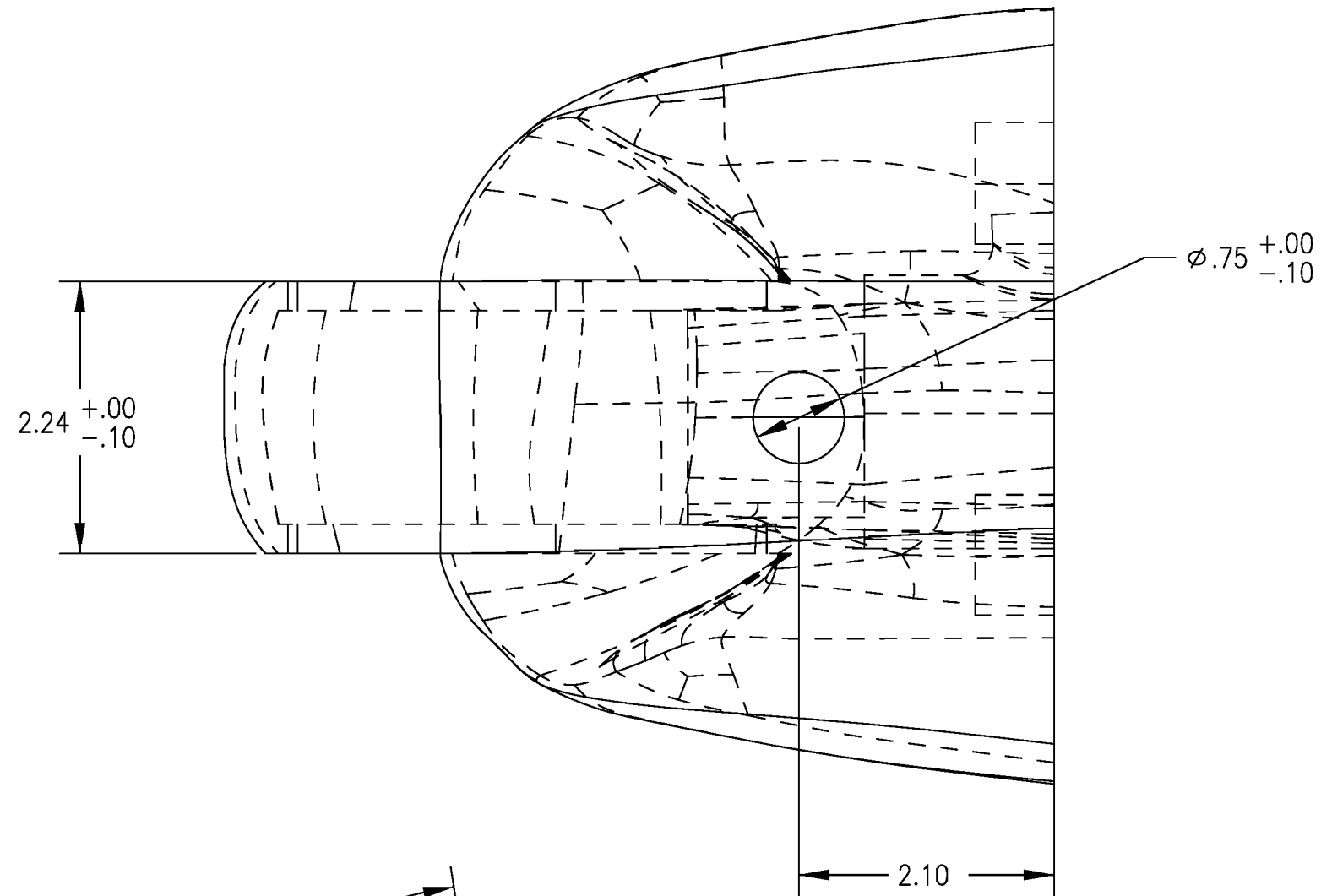
REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW

NOTES:

1. PURCHASE HEXAGON SOCKET HEAD SHOULDER SCREW 3/8 DIA. X 3 LONG PER FASTENER SPECIFICATION (AMERICAN STD. B 18.3 1961).
2. MACHINE RADIUS ON SHOULDER AS SHOWN.


ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE inches			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL SEE NOTE 1			
SCALE 1.000			SCREW, SHSS 3/8 X 3
APPROVALS		DATE	
DRAWN			
CHECKED			
ENGINEER			
TOLERANCES ARE: *		DRAWING NUMBER	
DECIMALS: .X ±0.1 .XX ±0.01 .XXX ±0.005 FRACTIONS ±1/64 * unless otherwise noted		175-7080	
ANGLES: ±0.5° MACHINED: 63/		SIZE B	REV. A
		SHEET 1 OF 1	

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DMW
B	CHANGED MATERIAL NOTE FROM "MATERIAL: PT3 VINYL AND FOAM" TO "MATERIAL REF.: PVC VINYL AND URETHANE FOAM"	12/12/05	DW

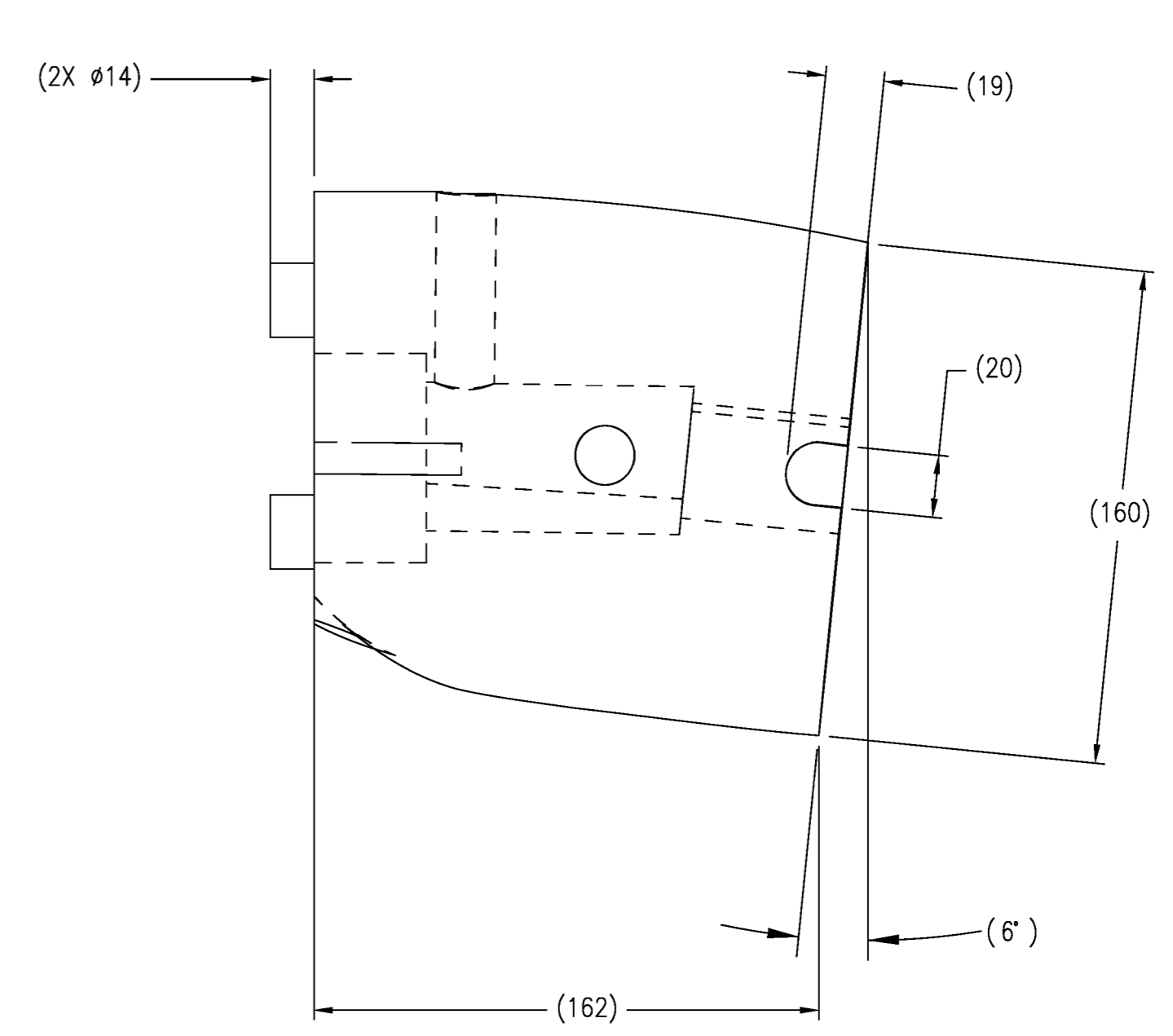
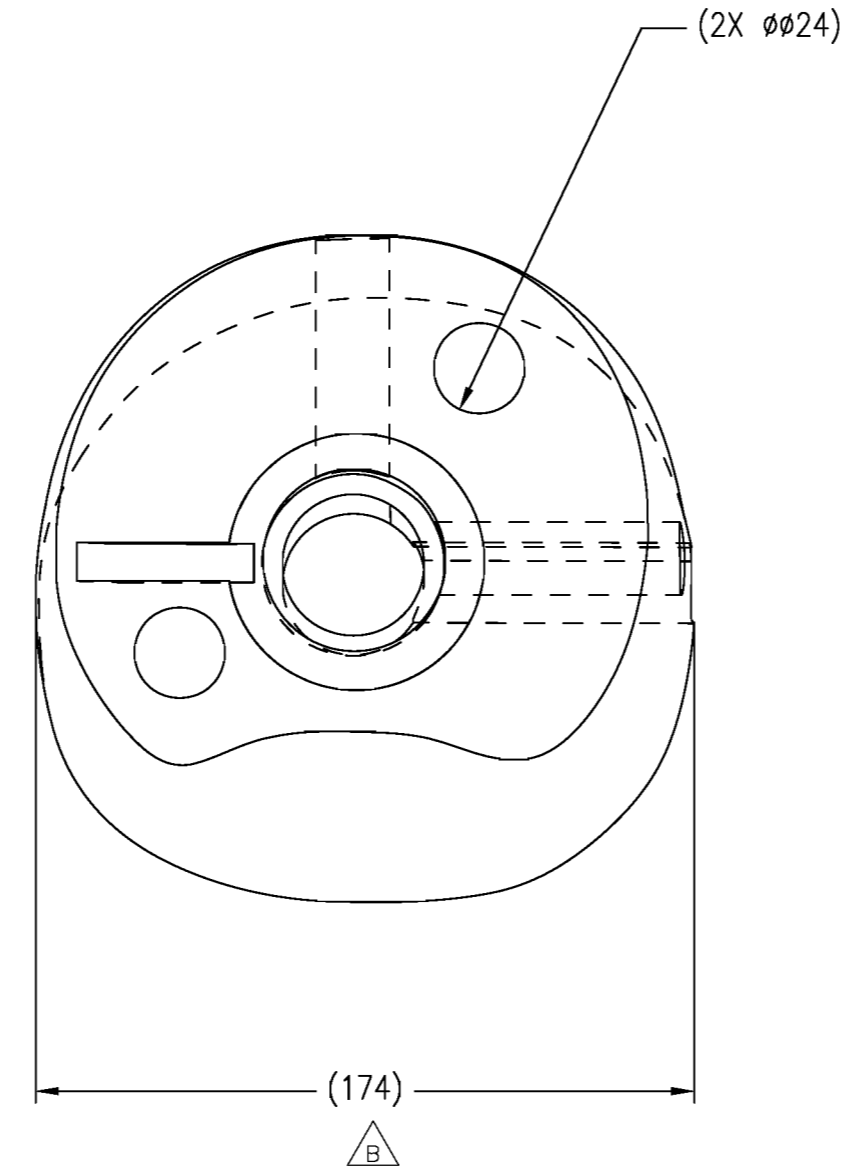
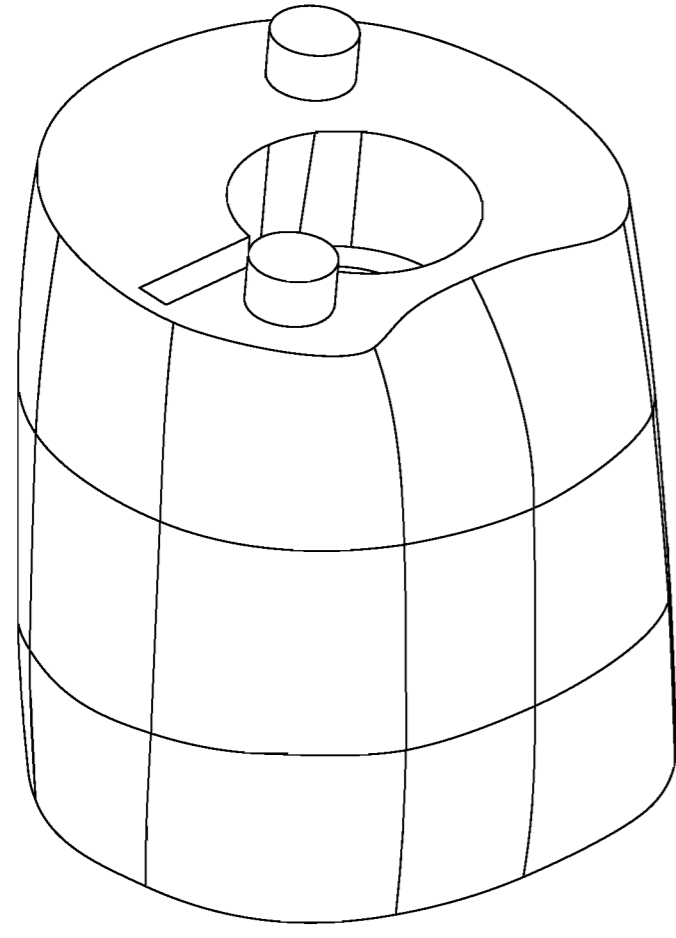


NOTES:

- MOLDED WT.  $1.4 \pm .1$  LBS.
- MATERIAL REF.: PVC VINYL AND URETHANE FOAM
- TOLERANCE OF  $\pm .10$  APPLY TO ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED.

ITEM NO.	QTY	FSCM NO.	PART NO.	DESCRIPTION
PART LIST				
UNITS ARE inches				 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL SEE NOTE 2				
SCALE 0.750				KNEE FLESH, LEFT
APPROVALS		DATE		
DRAWN				
CHECKED				
ENGINEER				
TOLERANCES ARE: *		MACHINED: 63/		SIZE C SHEET 1 OF 1 DRAWING NUMBER 175-7085-1 REV. B
DECIMALS: .X ±0.1 .XX ±0.01 .XXX ±0.005 FRACTIONS ±1/64 * unless otherwise noted		ANGLES: ±0.5° MACHINED: 63/		

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED DIMENSION (174), ADDED "MATERIAL REF." TO MATERIAL NOTE #1, CHANGED TOLERANCE NOTE #2 FROM ±2 TO ±3	12/12/05	DW



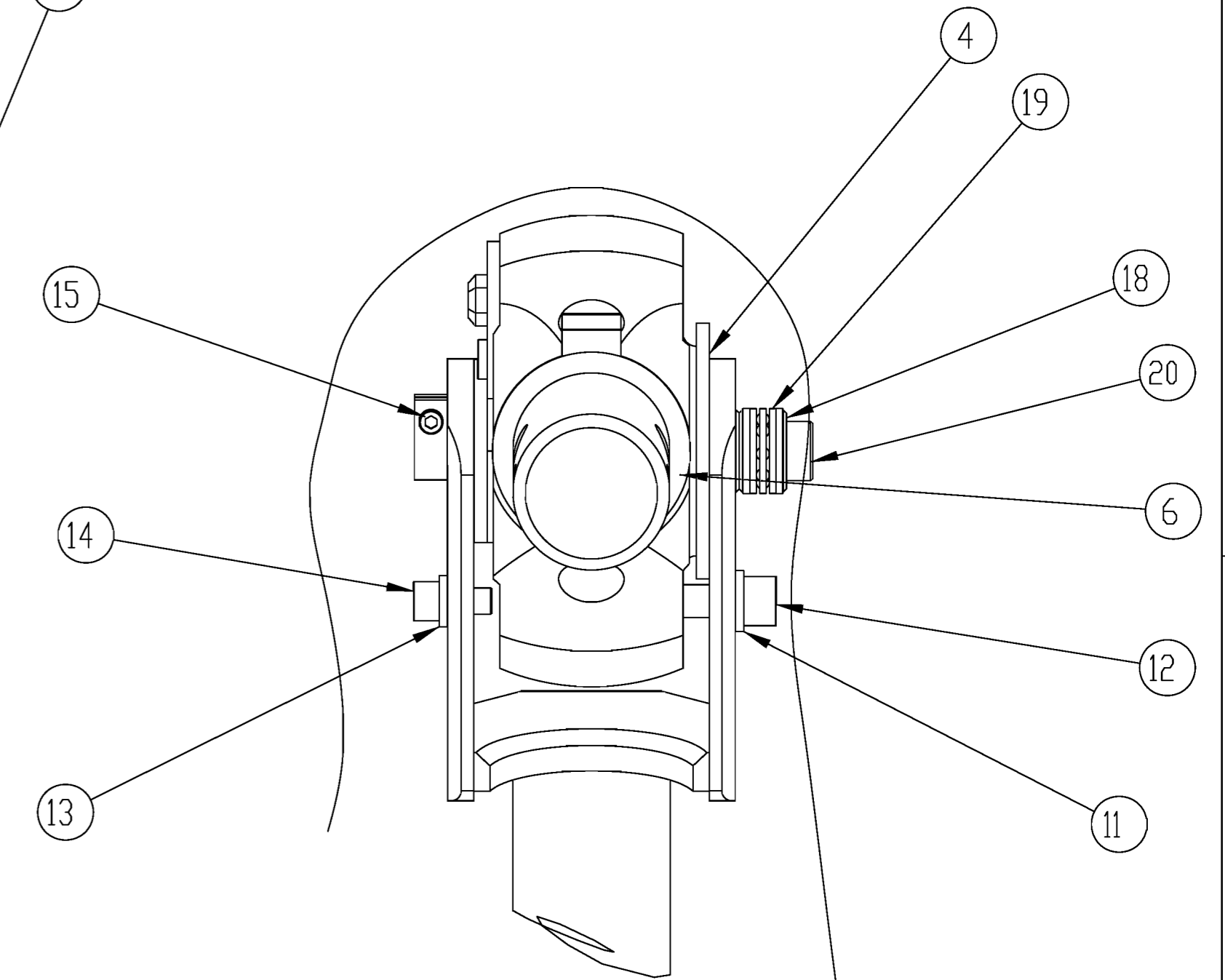
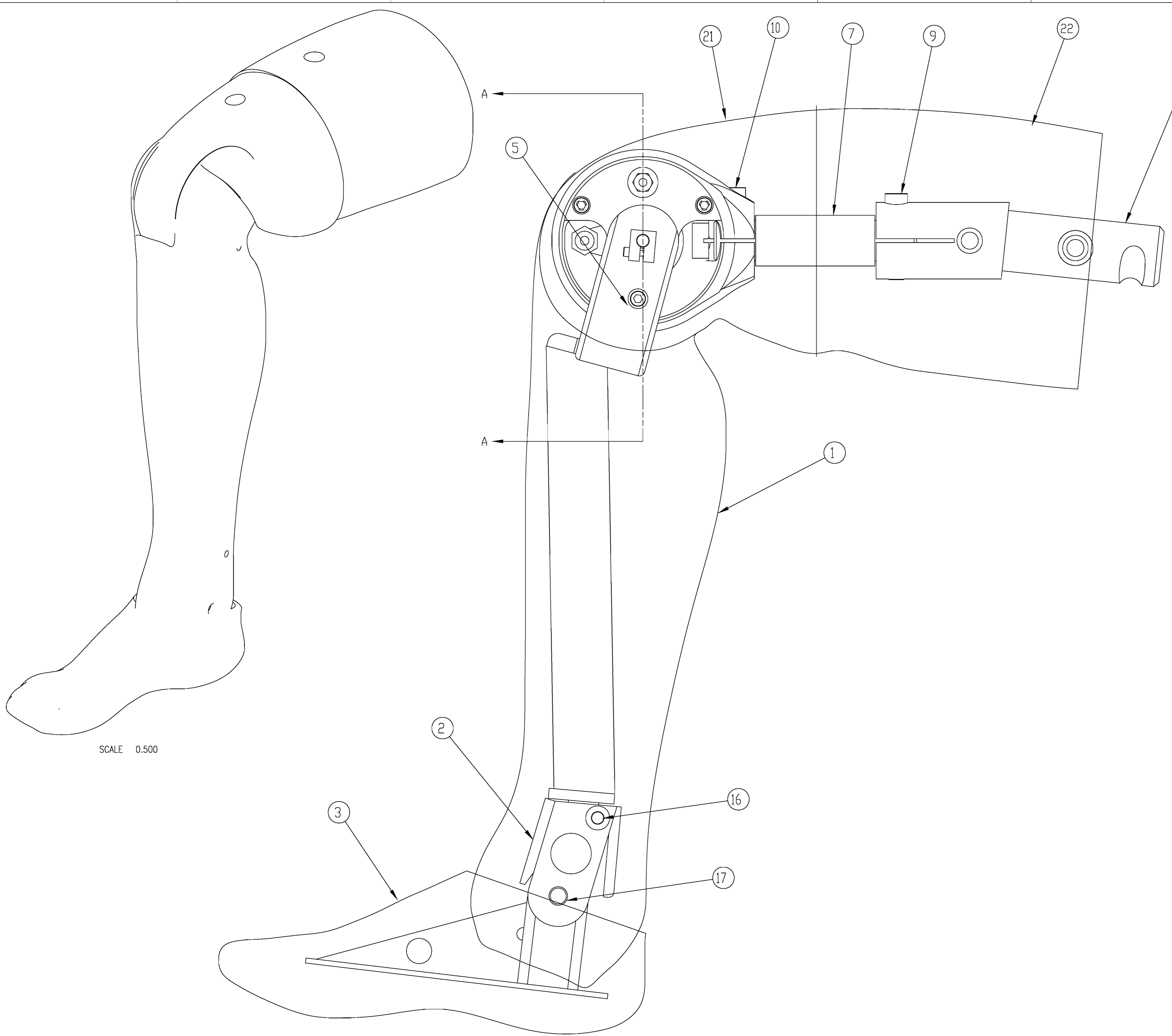
NOTES:

- MATERIAL REF.: PVC SKIN, ELASTOMER FOAM.
- TOLERANCE OF ±3 MM APPLIED TO ALL DIMENSIONS.



ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			<b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b> THIGH MOLDED, LEFT
MATERIAL: SEE NOTES			
SCALE: 0.500			SIZE: A2 SHEET: 1 OF 1 DRAWING NUMBER: 175-7090-1 REV: B
TOLERANCES ARE: *			
DECIMALS: X ±0.5 .X ±0.1 .XX ±0.05 ANGLES: ±0.5° MACHINED: 6.3/			
* unless otherwise noted			

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	REMOVED WASHER ITEM #3	12/12/05	DW



SECTION A-A

SCALE 0.500

ITEM NO.	QTY	PART NO.	DESCRIPTION
22	1	175-7090-2	THIGH MOLDED, RIGHT
21	1	175-7085-2	KNEE FLESH, RIGHT
20	1	175-7080	SCREW, SHSS 3/8 X 3
19	1	9000443	THRUST BEARING #B5-5
18	3	9000116	WASHER SCHNORR- DISC SPRING 20MM OD X 10.2MM ID X .9MM THK.
17	1	9000111	SCREW, SHCS 1/2-20 X 2
16	1	9000074	SCREW, SHSS 3/8 X 1
15	1	9000119	SCREW, SHCS #6-32 X 1/2
14	1	9000115	SCREW, SHCS 1/4-28 X 1/2
13	1	9000117	WASHER, HEAVY LOCK 1/4 (BOLT SIZE)
12	1	9000113	SCREW, SHCS 5/16-24 X 7/8
11	1	9000118	WASHER, SPRING LOCK 5/16 (BOLT SIZE)
10	1	9000405	SCREW, SHCS 3/8-16 X 2
9	1	9000449	SCREW, SHCS 3/8-16 X 1-3/4
8	1	175-7070	UPPER LEG BONE WELDMENT
7	1	175-7065	LOAD CELL SIMULATOR - FEMUR
6	1	175-7060	BUSHING
5	1	175-7050-2	KNEE JOINT ASSEMBLY, RIGHT
4	1	175-7040	WASHER
3	1	175-7030-2	FOOT MOLDED ASSEMBLY, RIGHT
2	1	175-7020-2	ANKLE ROTATION ASSEMBLY, RIGHT
1	1	175-7001-2	LOWER LEG ASSEMBLY, RIGHT

UNITS ARE millimeters

TOLERANCES ARE: \*  
 DECIMALS: X ±0.5  
 .XX ±0.05

ANGLES: ±0.5°  
 MACHINED: 6.3

\* unless otherwise noted

SCALE 0.750

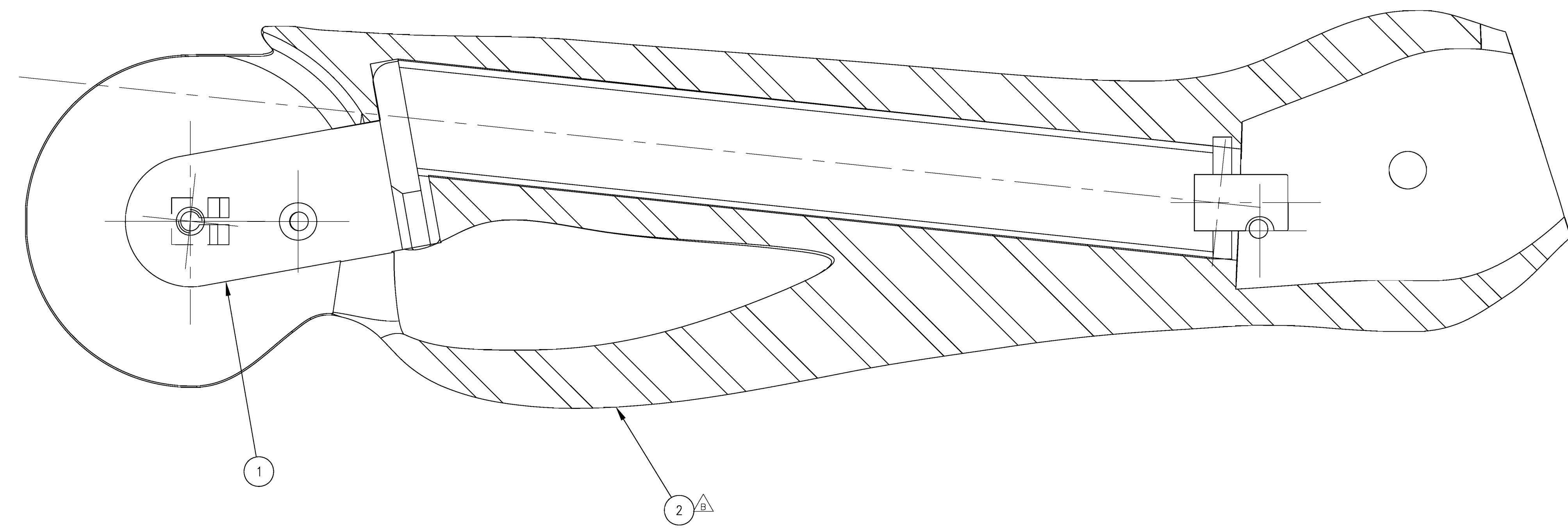
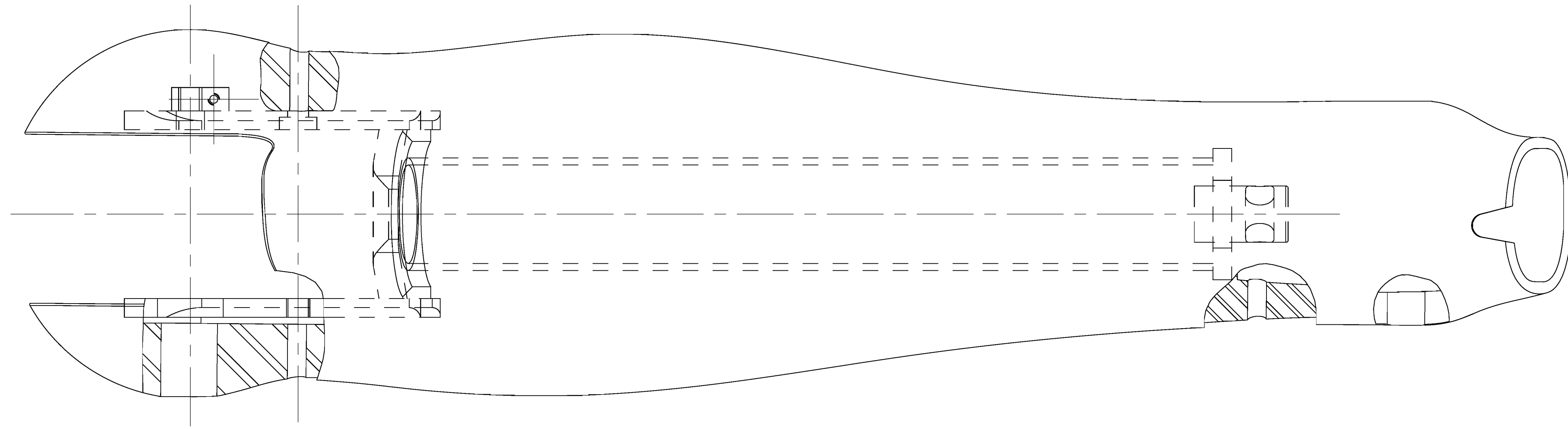
APPROVALS: \_\_\_\_\_ DATE: \_\_\_\_\_  
 DRAWN: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 ENGINEER: \_\_\_\_\_

**NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION**

**LEG ASSEMBLY, RIGHT**

SIZE: A1 SHEET: 1 OF 1 DRAWING NUMBER: 175-7000-2 REV: B

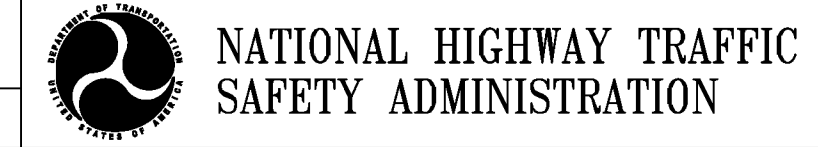
REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DMW
B	ADDED ITEM #2, REMOVED DIMENSIONS AND NOTES #2 & #3	12/12/05	DW



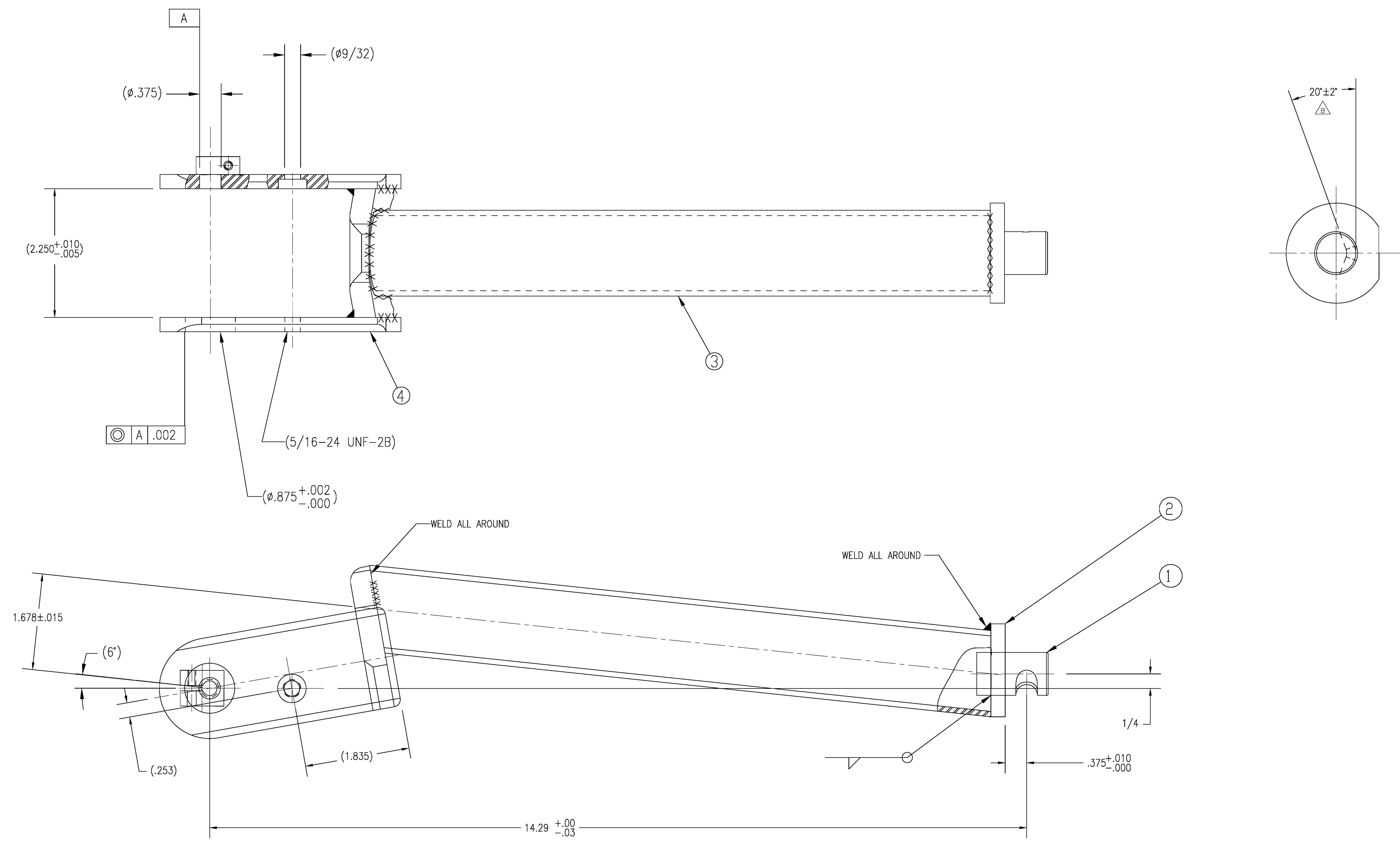
NOTES:  
 1. WEIGHT OF ASSEMBLY: 5.5 ±.3 LBS. (REF.)



1	1	175-7002-2	LOWER LEG WELDMENT, RIGHT	
ITEM NO.	QTY	FSCM NO.	PART NO.	DESCRIPTION
PART LIST				
UNITS ARE inches				
TOLERANCES ARE: *		SCALE 1.000		
DECIMALS:	.x ±0.1	ANGLES:	±0.5°	
	.xx ±0.01	MACHINED:	63/	
	.xxx ±0.005	FRACTIONS	±1/64	
* unless otherwise noted				
APPROVALS		DATE	LOWER LEG ASSEMBLY, RIGHT	
DRAWN		CHECKED	ENGINEER	
SIZE	SHEET	DRAWING NUMBER		REV.
D	1 OF 1	175-7001-2		B



REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DMW
B	ADDED REF. TO FINISH NOTE #2, CHANGED DIMENSION FROM 40' ±2 TO 20' ±2	12/13/05	DMW



- NOTES:
- SAND WELDED EDGES.
  - FINISH REF.: PENETRATE (BLACK OXIDE)

ITEM NO.	QTY	FSCM NO.	PART NO.	DESCRIPTION
4	1		175-7013-2	KNEE CLEVIS ASSEMBLY, RIGHT
3	1		175-7012	LOWER LEG BONE
2	1		175-7011	ANKLE SHAFT FLANGE
1	1		175-7010	ANKLE SHAFT

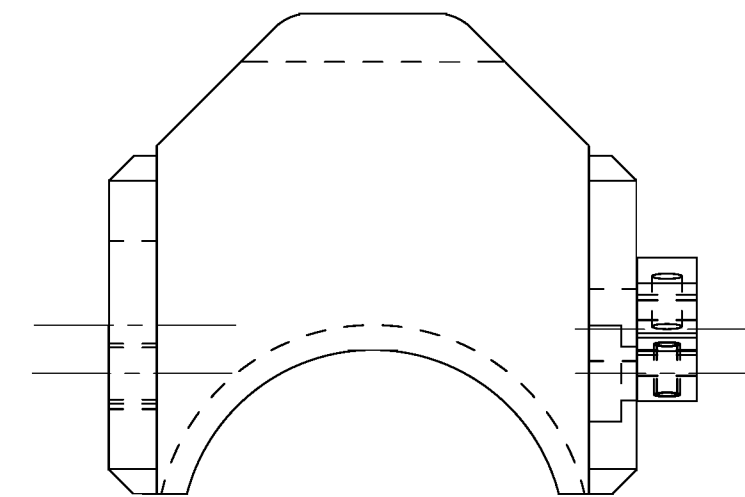
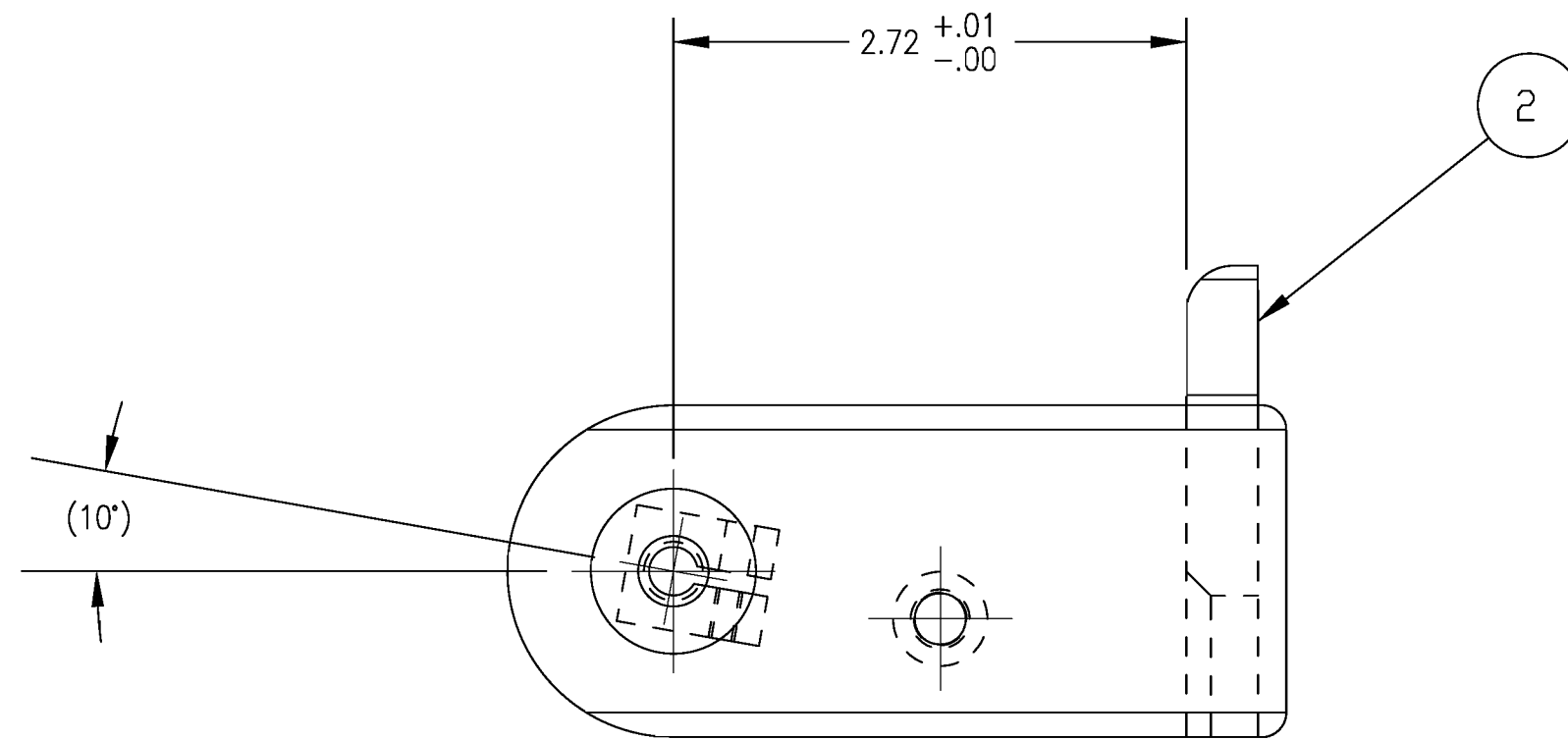
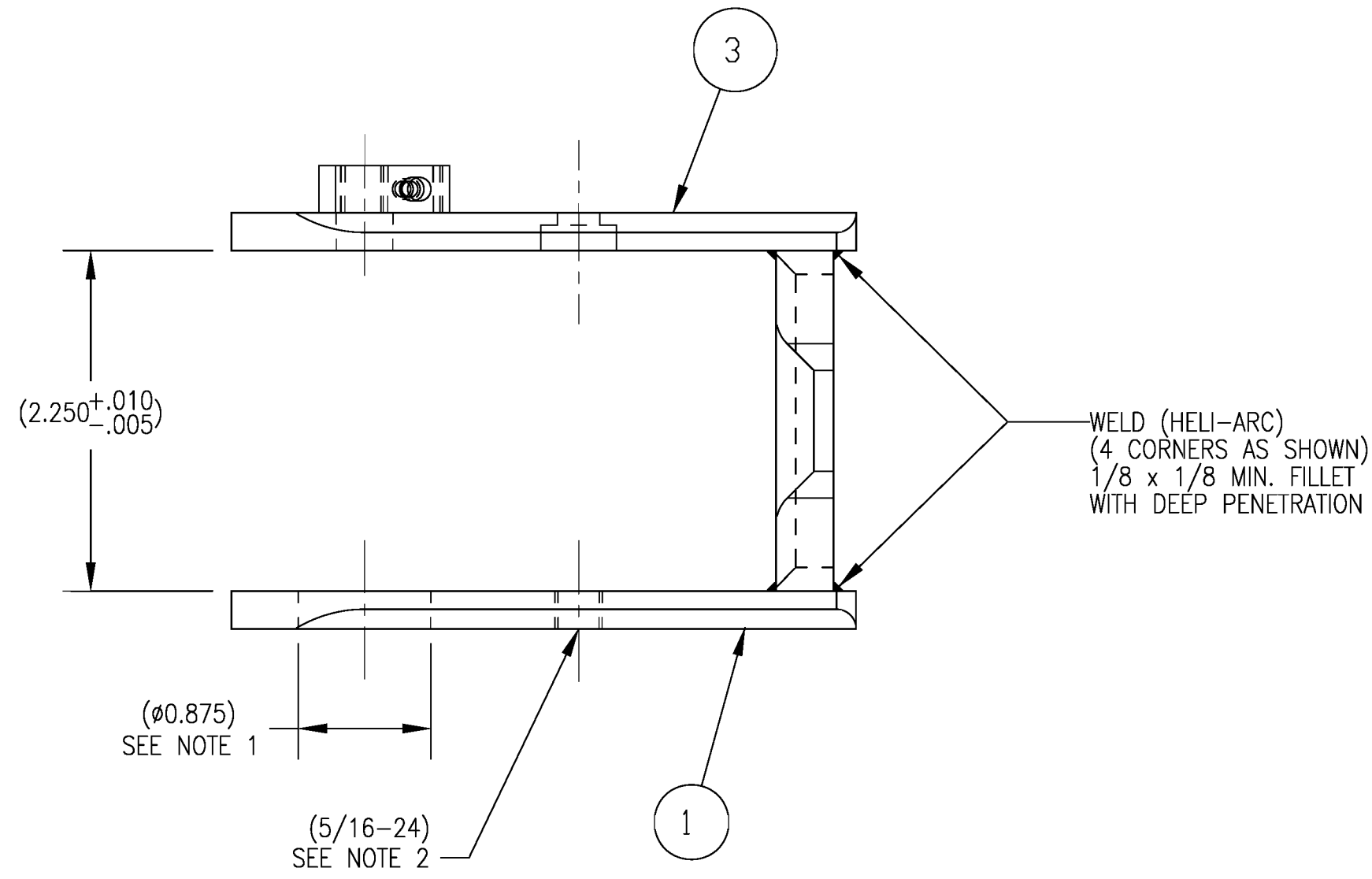
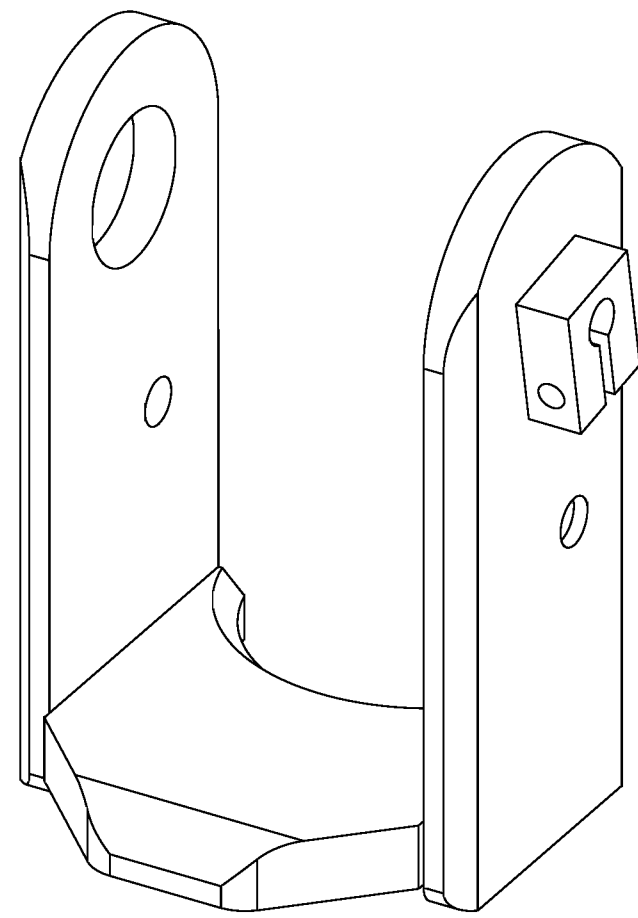
  

UNITS ARE inches		SCALE 1.000	
TOLERANCES ARE: *	DECIMALS: .X ±0.1 .XX ±0.01 .XXX ±0.005 FRACTIONS ±1/64 * unless otherwise noted	ANGLES: ±0.5°	MACHINED: 85/
APPROVALS		DATE	DESCRIPTION
DRAWN		CHECKED	ENGINEER
SIZE D	SHEET 1 OF 1	DRAWING NUMBER 175-7002-2	REV. B



LOWER LEG WELDMENT, RIGHT


REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DMW



NOTES:

1.  $\phi$ .875 HOLE IN PART #175-7014-2 MUST BE CONCENTRIC WITH  $\phi$ .375 HOLE IN PART #175-7016-2.
2. INSPECT TAP HOLE 5/16-24 UNF IN PART #175-7014-2 IS IN ALIGNMENT WITH  $\phi$ 9/32 HOLE IN PART #175-7016-2 WITHIN .010.

ITEM NO.	QTY	FSCM NO.	PART NO.	DESCRIPTION
3	1		175-7016-2	KNEE LUG ASSEMBLY, RIGHT
2	1		175-7015	KNEE BASE (LUG PLATE)
1	1		175-7014-2	OUTSIDE KNEE LUG, RIGHT

PART LIST			
UNITS ARE inches		 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>	
SCALE 1.000			
TOLERANCES ARE: *		KNEE CLEVIS ASSEMBLY, RIGHT	
DECIMALS:	ANGLES:	APPROVALS	DATE
.X ±0.1	±0.5°	DRAWN	
.XX ±0.01	MACHINED:	CHECKED	
.XXX ±0.005	63/	ENGINEER	
FRACTIONS ±1/64		SIZE	SHEET
* unless otherwise noted		C	1 OF 1
		DRAWING NUMBER 175-7013-2	
		REV. A	

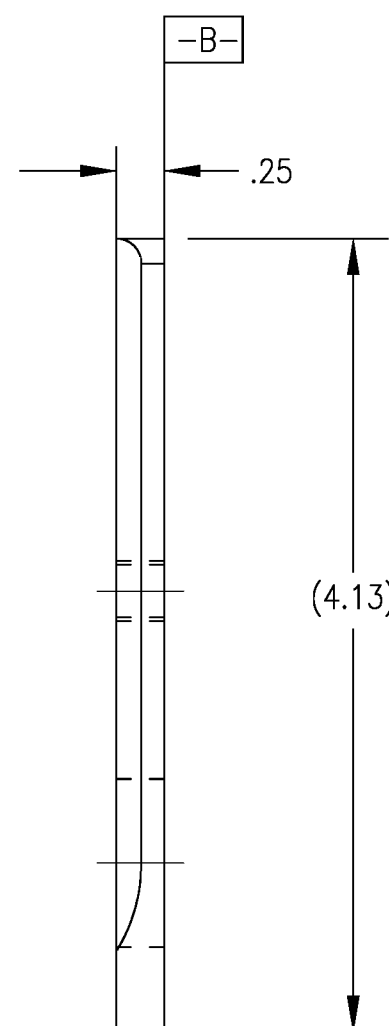
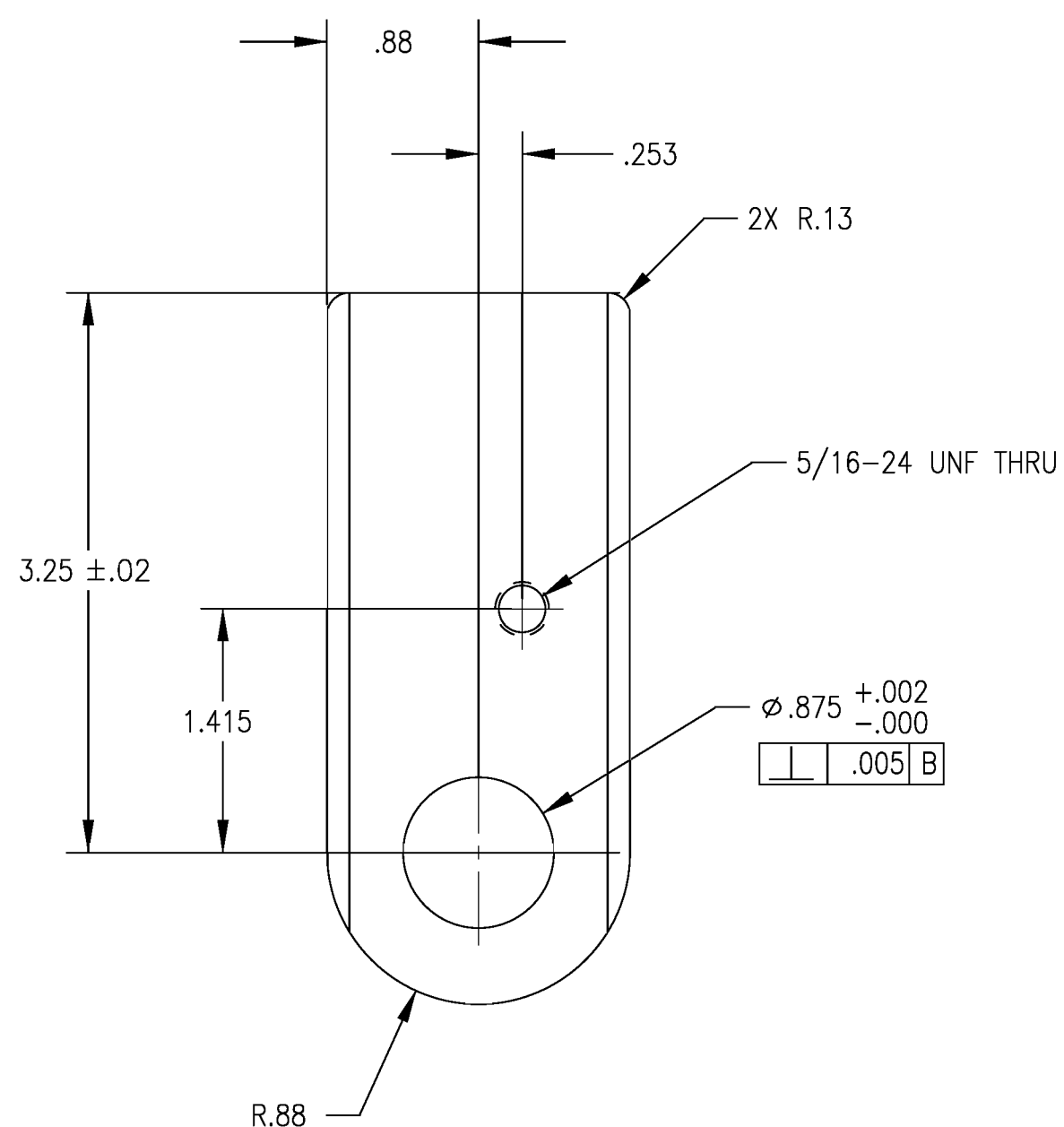
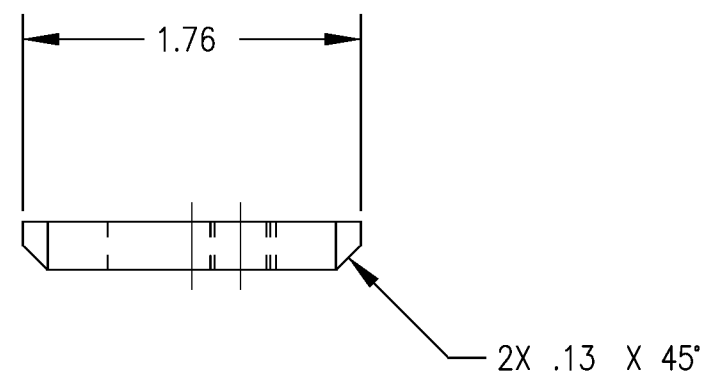
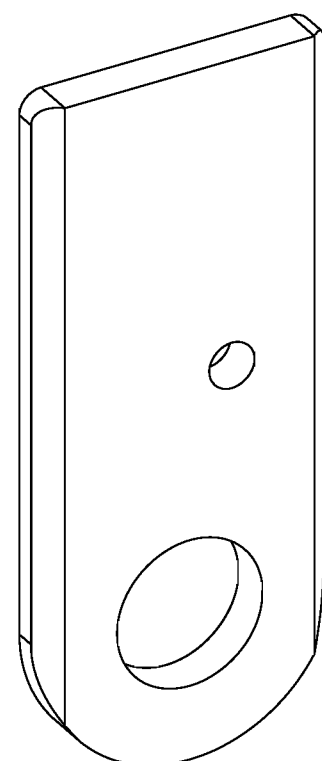
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1

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DMW
B	ADDED REF. TO MATERIAL SPECIFICATION	12/13/05	DW



D

D

C

C


B

B

A

A

NOTES:  
 1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.

ITEM NO.	QTY	FSCM NO.	PART NO.	DESCRIPTION
PART LIST				
UNITS ARE inches				 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. 1018 CRS				
SCALE 1.000				OUTSIDE KNEE LUG, RIGHT
APPROVALS		DATE		
DRAWN				
CHECKED				
ENGINEER				
SIZE C	SHEET 1 OF 1	DRAWING NUMBER 175-7014-2	REV. B	

4

3

2

1



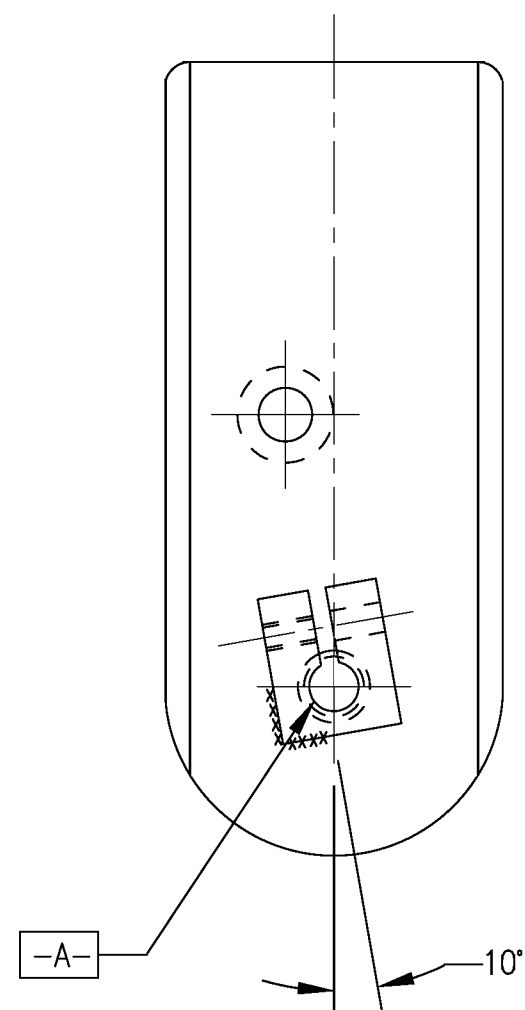
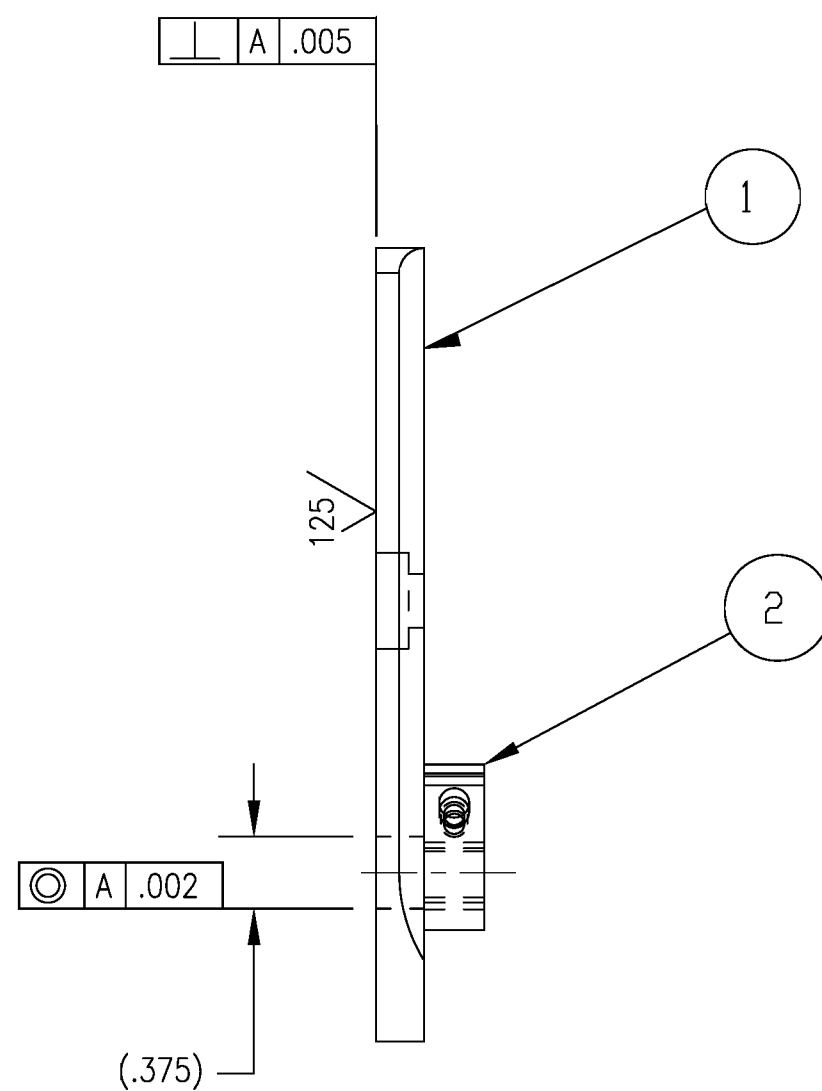
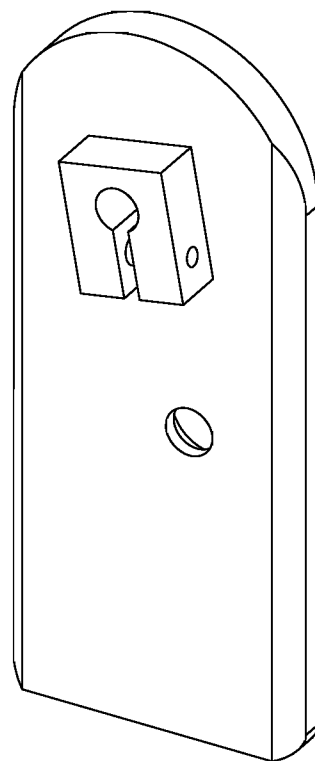
4

3

2

1

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DMW



NOTES:

1. WELD (HELI-ARC) 175-7018 TO 175-7017-2 AS SHOWN
2. MACHINE SURFACE [A] TO REMOVE WELDING DISTORTION.

ITEM NO.	QTY	FSCM NO.	PART NO.	DESCRIPTION
2	1		175-7018	KNEE LUG CLAMP
1	1		175-7017-2	INSIDE KNEE LUG, RIGHT

PART LIST

UNITS ARE inches



NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

KNEE LUG ASSEMBLY, RIGHT

TOLERANCES ARE: \*  
 DECIMALS: .X ±0.1  
 .XX ±0.01  
 .XXX ±0.005  
 FRACTIONS ±1/64  
 \* unless otherwise noted

ANGLES: ±0.5°  
 MACHINED: 63

SCALE	
1.000	
APPROVALS	DATE
DRAWN	
CHECKED	
ENGINEER	

SIZE	SHEET	DRAWING NUMBER	REV.
C	1 OF 1	175-7016-2	A

4

3

2

1

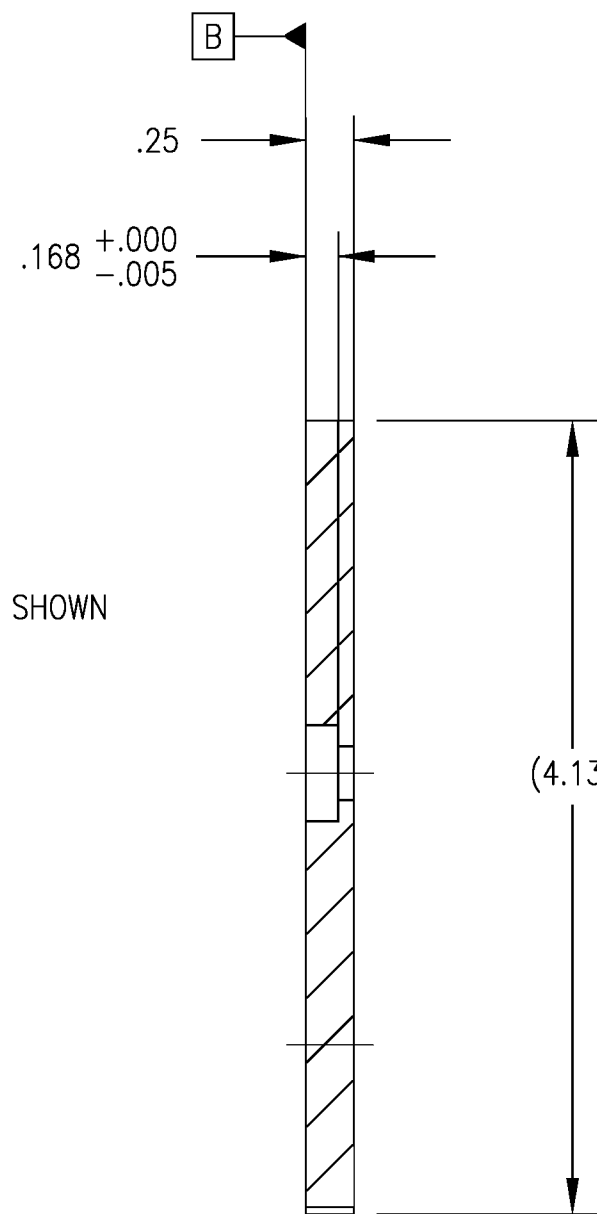
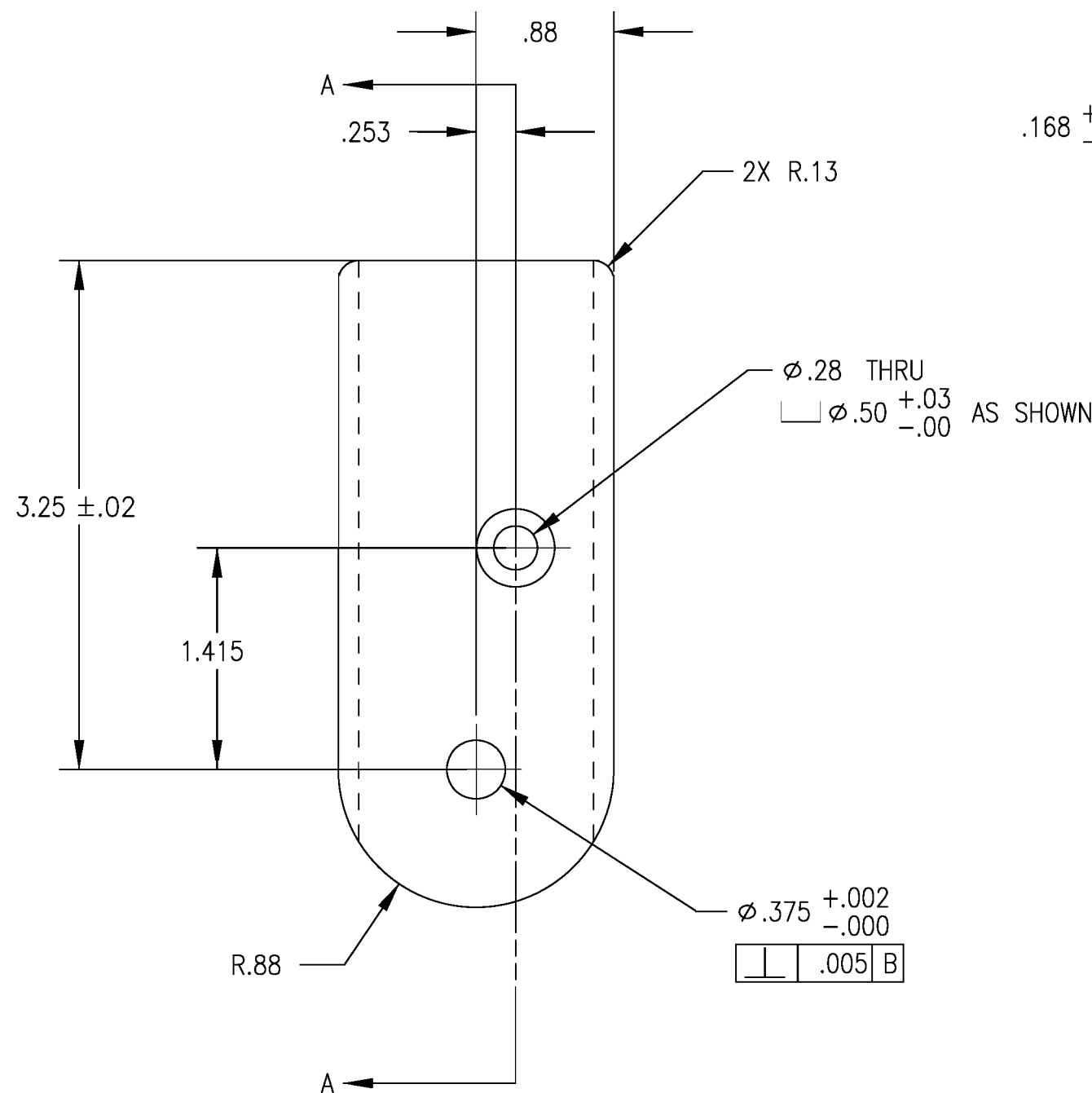
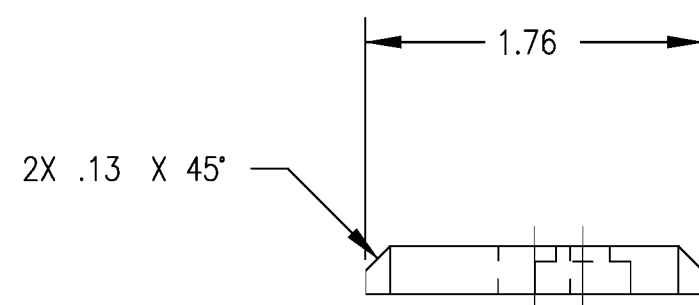
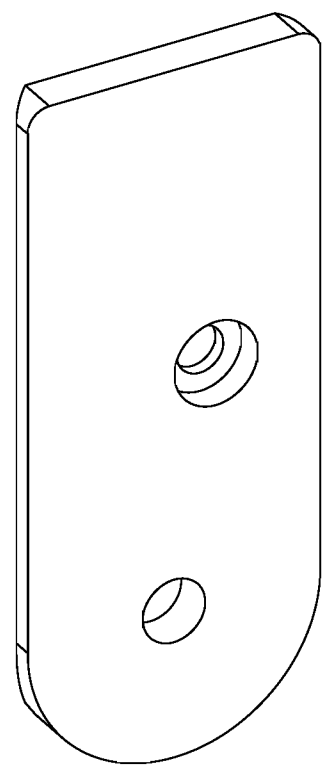
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2

1

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DMW
B	ADDED REF. TO MATERIAL SPECIFICATION	12/13/05	DW



SECTION A-A

NOTES:  
 1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.

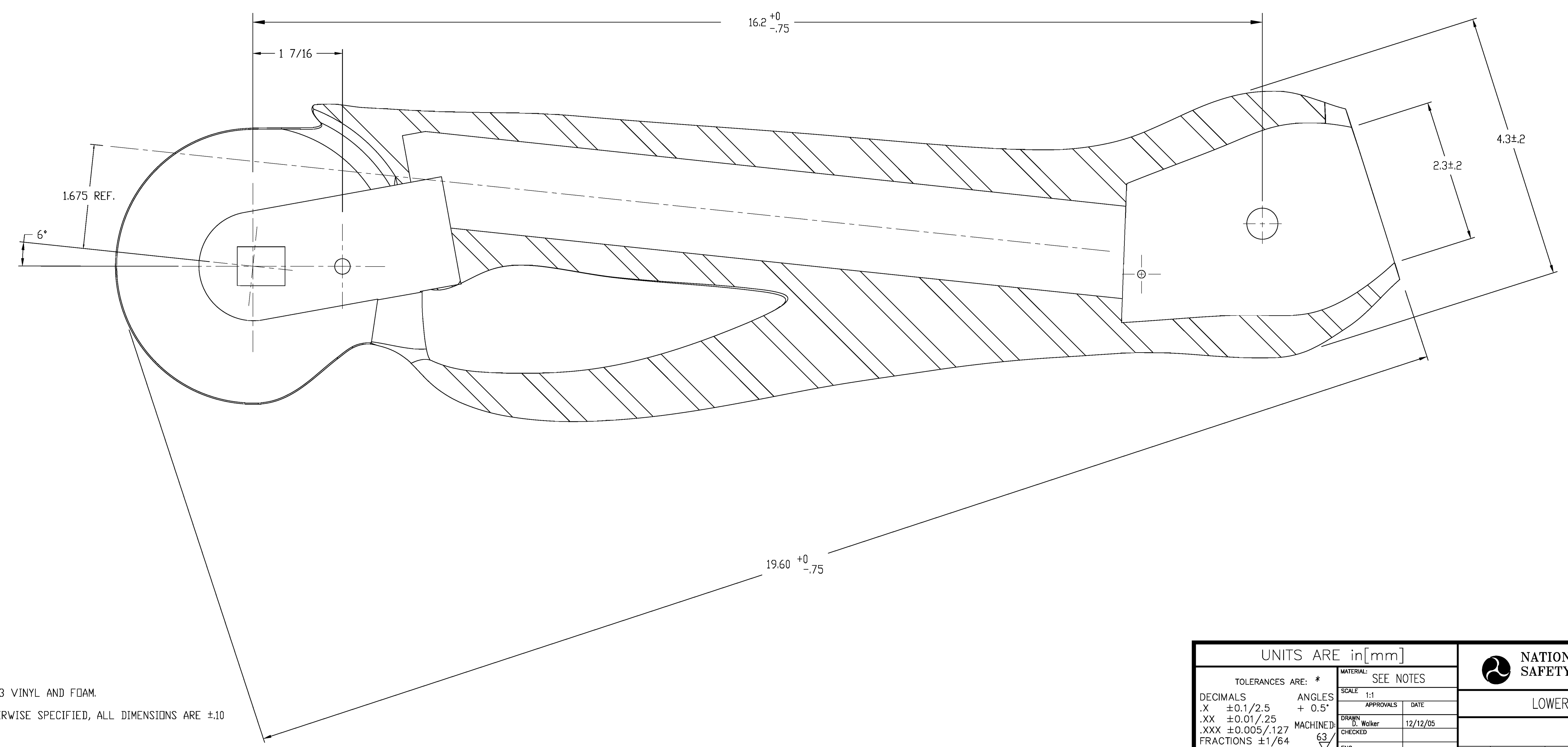
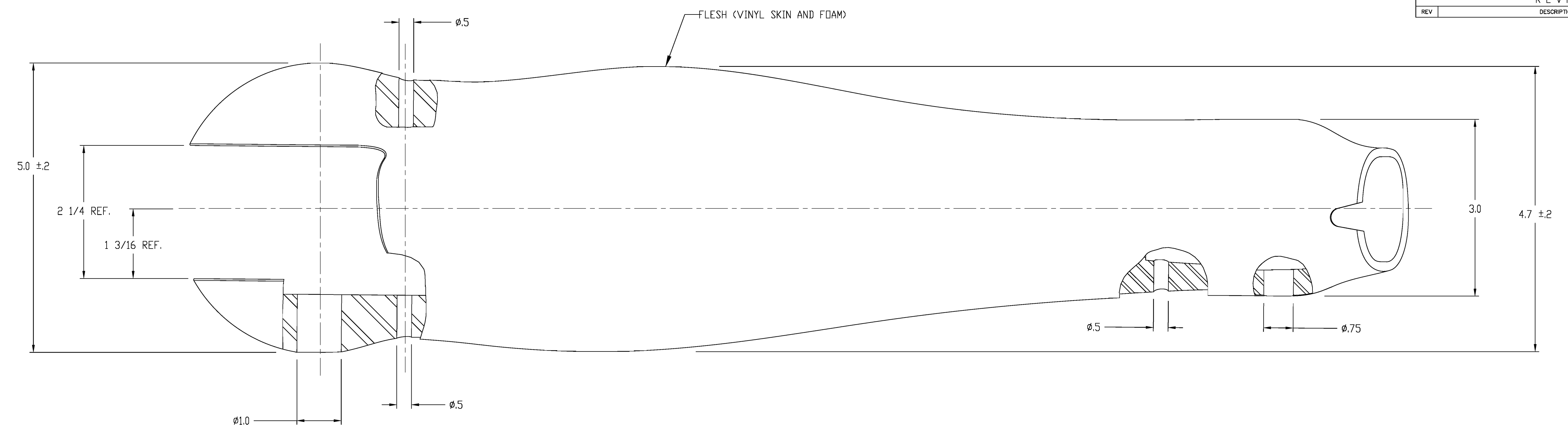
ITEM NO.	QTY	FSCM NO.	PART NO.	DESCRIPTION
PART LIST				
UNITS ARE inches				<b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. CRS 1018				
SCALE 1.000				INSIDE KNEE LUG, RIGHT
TOLERANCES ARE: *		APPROVALS		DATE
DECIMALS:	ANGLES:	DRAWN		
.X ±0.1	±0.5°	CHECKED		
.XX ±0.01	MACHINED:	ENGINEER		
.XXX ±0.005	63			
FRACTIONS ±1/64	* unless otherwise noted	SIZE	SHEET	DRAWING NUMBER
		C	1 OF 1	175-7017-2
				REV. B

4

3

2

1



NOTES:

1. MATERIAL: PT3 VINYL AND FOAM.
2. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE ±.10

UNITS ARE in[mm]		MATERIAL: SEE NOTES	
TOLERANCES ARE: *		SCALE 1:1	
DECIMALS	ANGLES	APPROVALS	DATE
.X ±0.1/2.5	+ 0.5°	DRAWN	12/12/05
.XX ±0.01/.25		BY Walker	
.XXX ±0.005/.127	MACHINED	CHECKED	
FRACTIONS ±1/64	63	ENG	
* unless otherwise noted		SIZE	SHEET
		D	1 of 1
		DRAWING NUMBER	REV
		175-7003-2	

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

LOWERLEG MOLDED, RIGHT

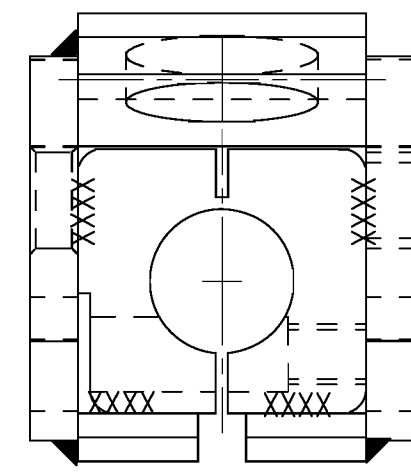
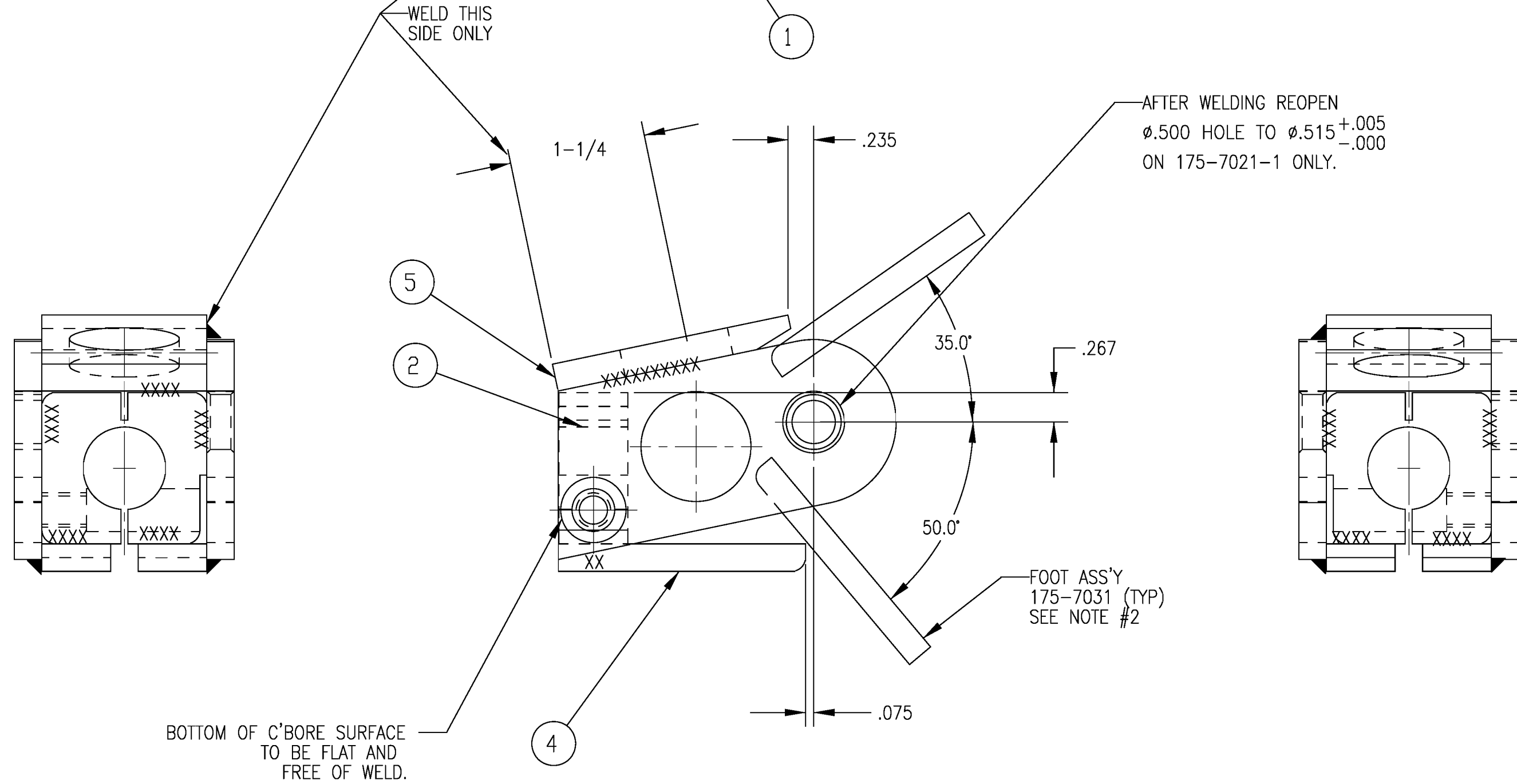
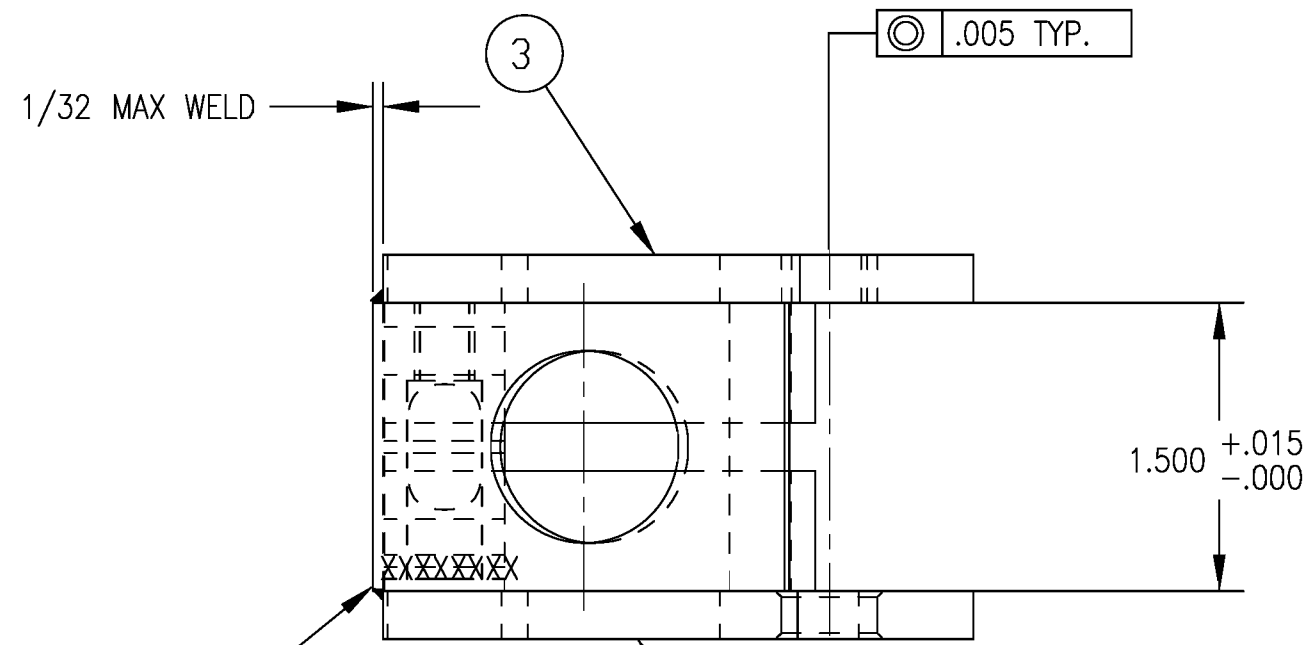
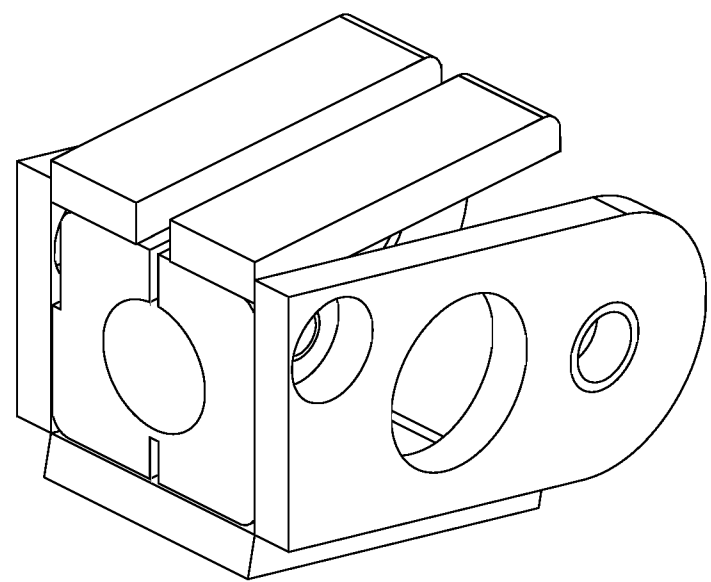
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1

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DMW



BOTTOM OF C'BORE SURFACE  
TO BE FLAT AND  
FREE OF WELD.

FOOT ASS'Y  
175-7031 (TYP)  
SEE NOTE #2

ITEM NO.	QTY	FSCM NO.	PART NO.	DESCRIPTION
5	1		175-7024	ANKLE STOP BAR FORWARD
4	2		175-7023	ANKLE STOP REAR
3	1		175-7021-2	ANKLE LUG, RIGHT
2	1		175-7022	ANKLE ROTATION CLAMP
1	1		175-7021-1	ANKLE LUG, LEFT

PART LIST

UNITS ARE inches

SCALE 1.000

APPROVALS \_\_\_\_\_ DATE \_\_\_\_\_

DRAWN \_\_\_\_\_

CHECKED \_\_\_\_\_

ENGINEER \_\_\_\_\_

TOLERANCES ARE: \*

DECIMALS: .X ±0.1      ANGLES: ±0.5°  
 .XX ±0.01      MACHINED: 63/ ✓  
 .XXX ±0.005  
 FRACTIONS ±1/64  
 \* unless otherwise noted

**NATIONAL HIGHWAY TRAFFIC  
SAFETY ADMINISTRATION**

ANKLE ROTATION ASSEMBLY, RIGHT

- NOTES:
1. WELD AS SHOWN (HELI-ARC).
  2. CHECK ANGULAR MOTION OF FOOT ASS'Y (175-7031) AS SHOWN.

4

3

2

1

SIZE C	SHEET 1 OF 1	DRAWING NUMBER 175-7020-2	REV. A
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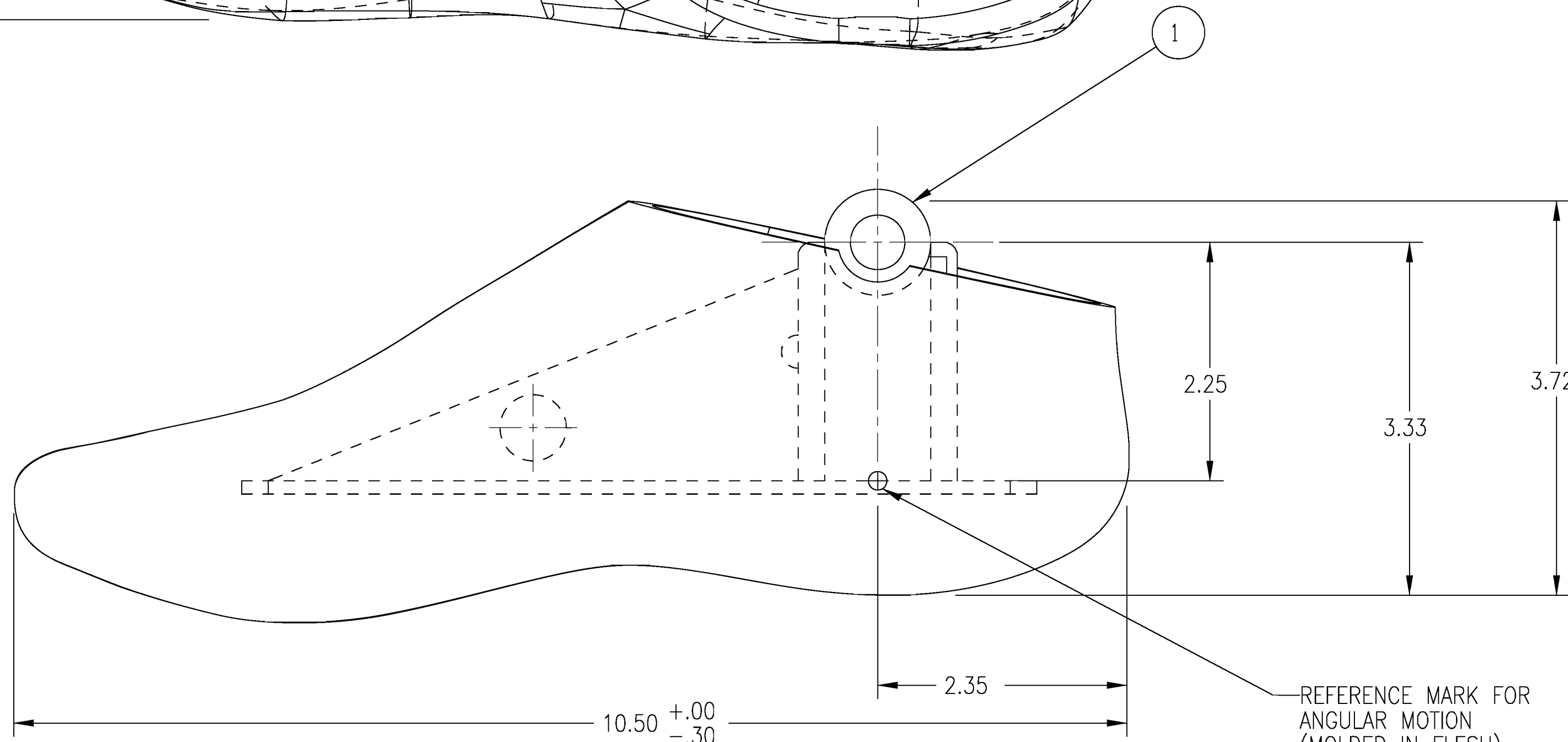
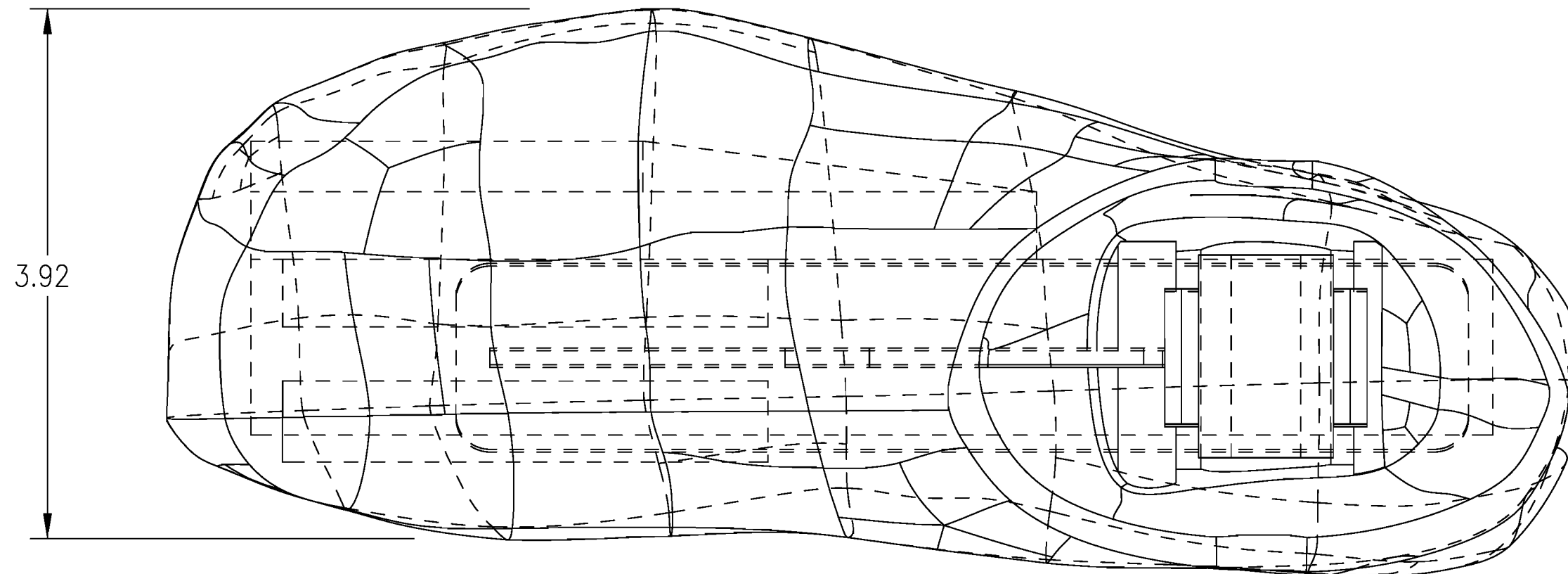
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1

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DMW
B	ADDED REF. TO MATERIAL SPECIFICATION NOTE #2	12/29/05	DMW



NOTES:

- 1. ASSY WT: 2.8 ±0.1 LBS. EA.
- 2. MAT'L REF.: PT3 VINYL, 45-65 SHORE "A"
- 3. ± .10 TOLERANCE APPLY TO ALL DIMS UNLESS OTHERWISE SPECIFIED.

1	1		175-7031	90° FOOT WELDMENT/ ASSY
ITEM NO.	QTY	FSCM NO.	PART NO.	DESCRIPTION
PART LIST				
UNITS ARE inches				 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
SCALE 1.000				
TOLERANCES ARE: *		MATERIAL		<b>FOOT MOLDED ASSEMBLY, RIGHT</b>
DECIMALS: .X ±0.1		SCALE		
.XX ±0.01		APPROVALS		
.XXX ±0.005		DATE		
FRACTIONS ±1/64		DRAWN		
* unless otherwise noted		CHECKED		
		ENGINEER		
SIZE	SHEET	DRAWING NUMBER	REV.	
C	1 OF 1	175-7030-2	B	

D

D

C

C

B

B

A

A

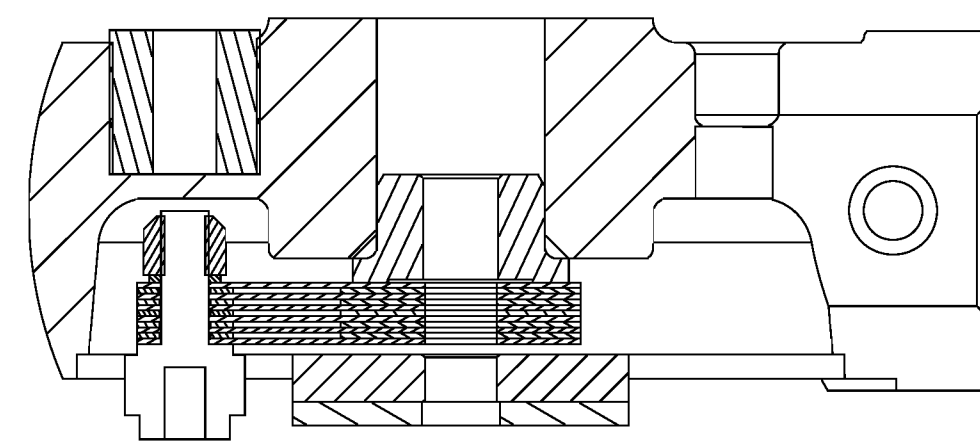
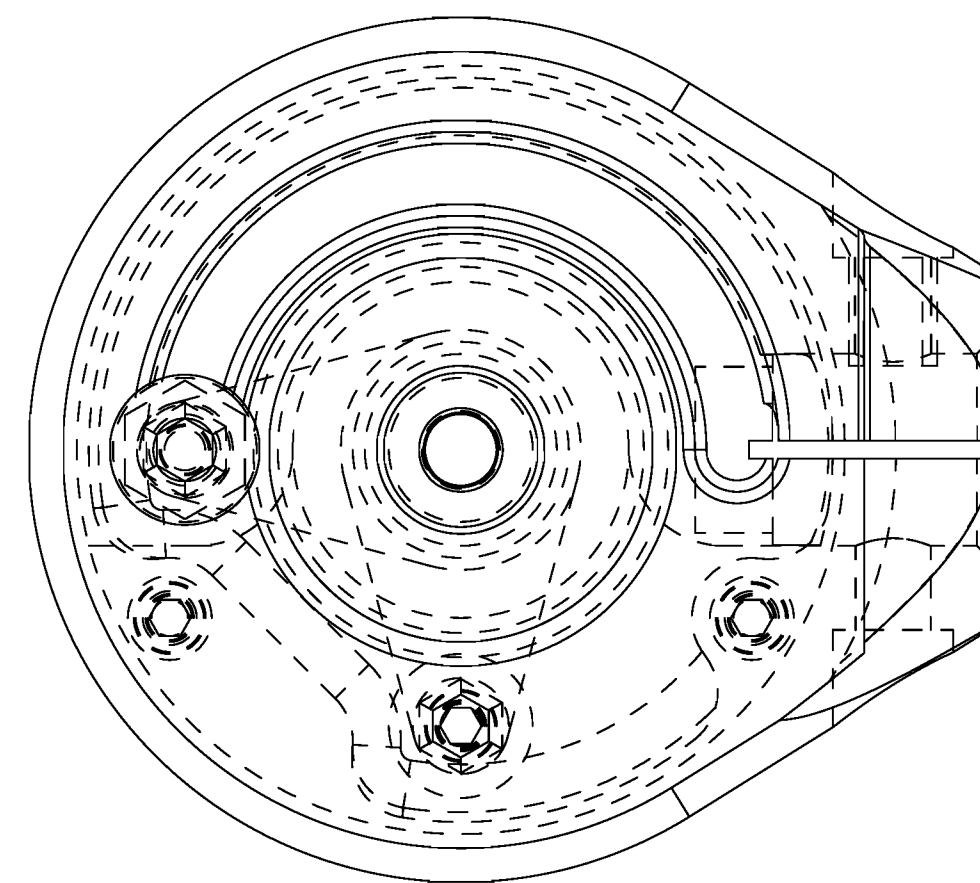
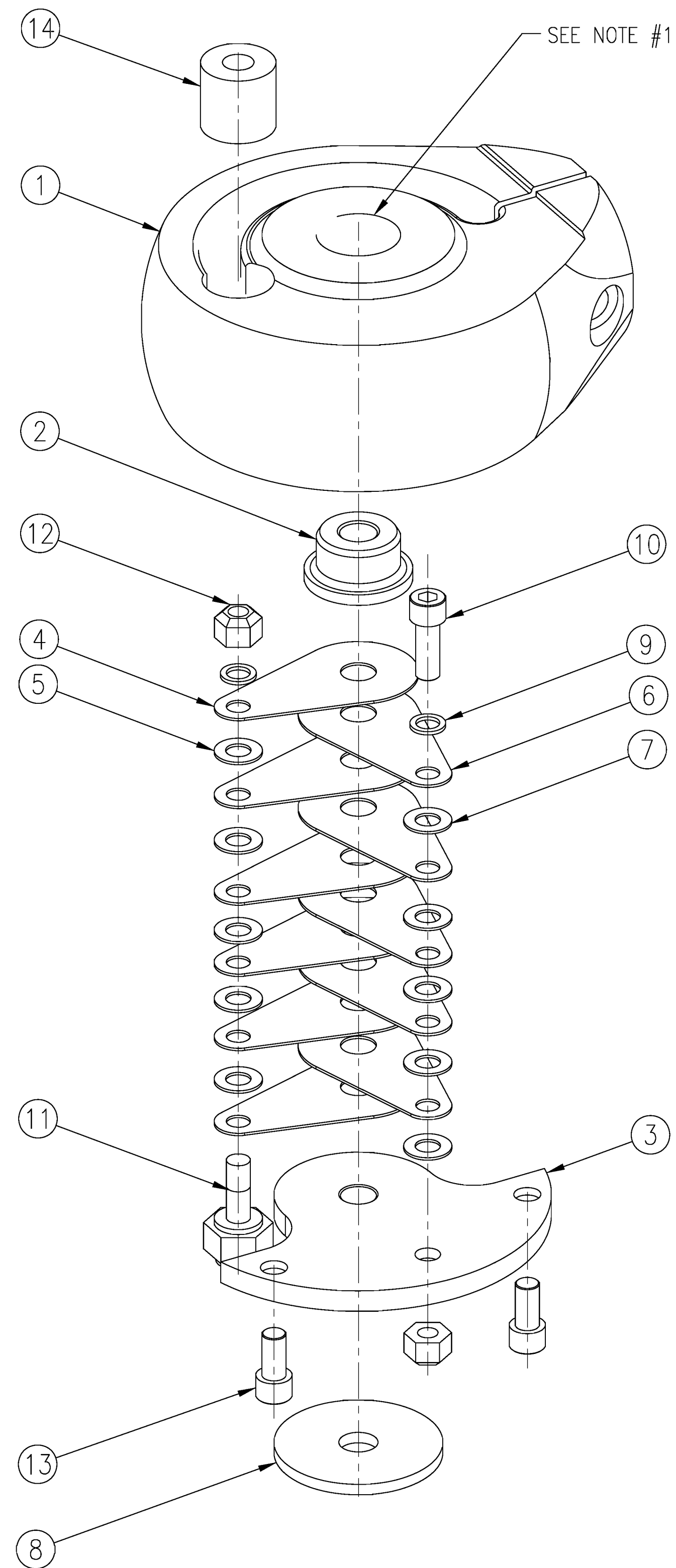
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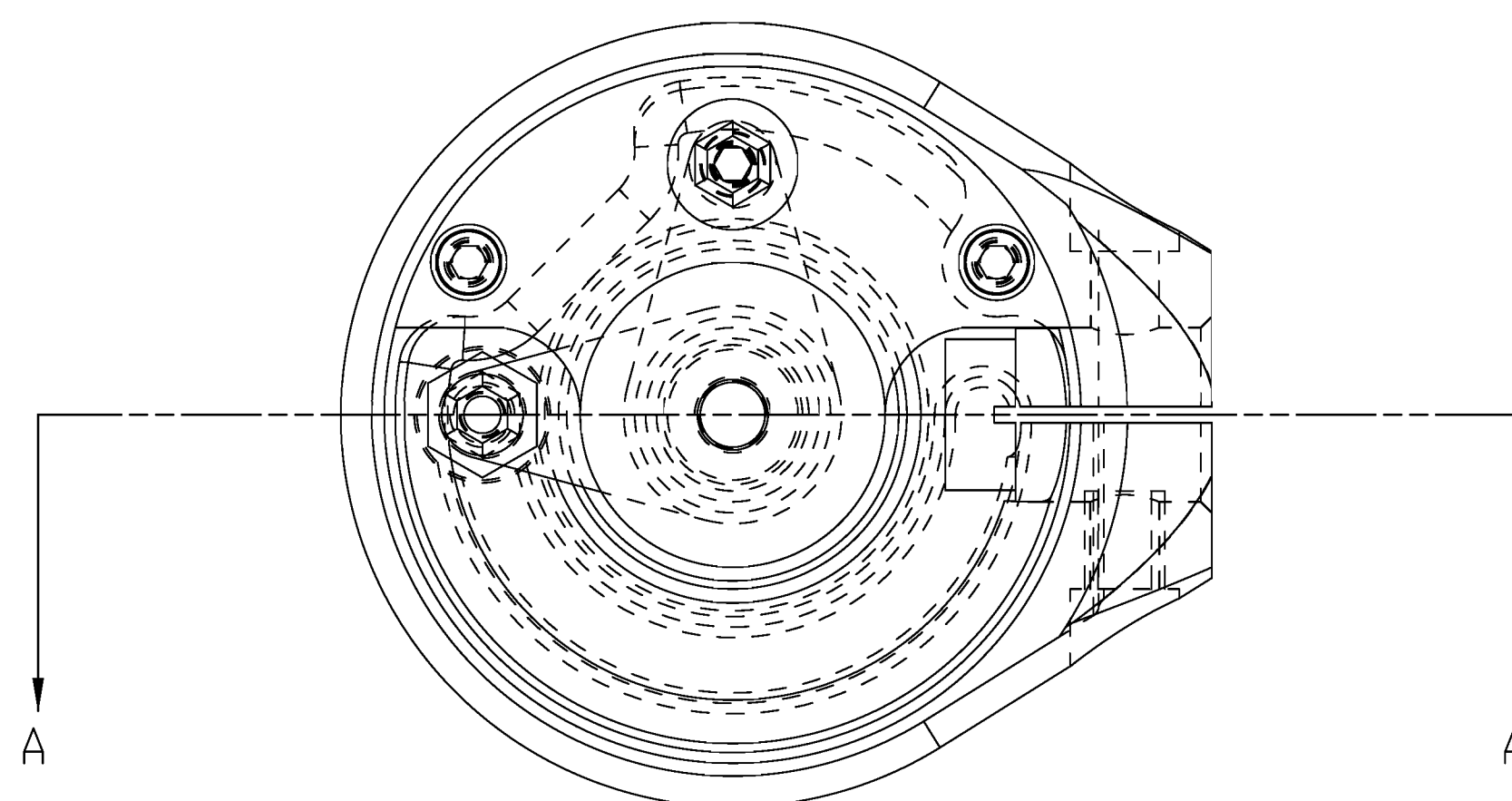
2

1

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DMW



SECTION A-A



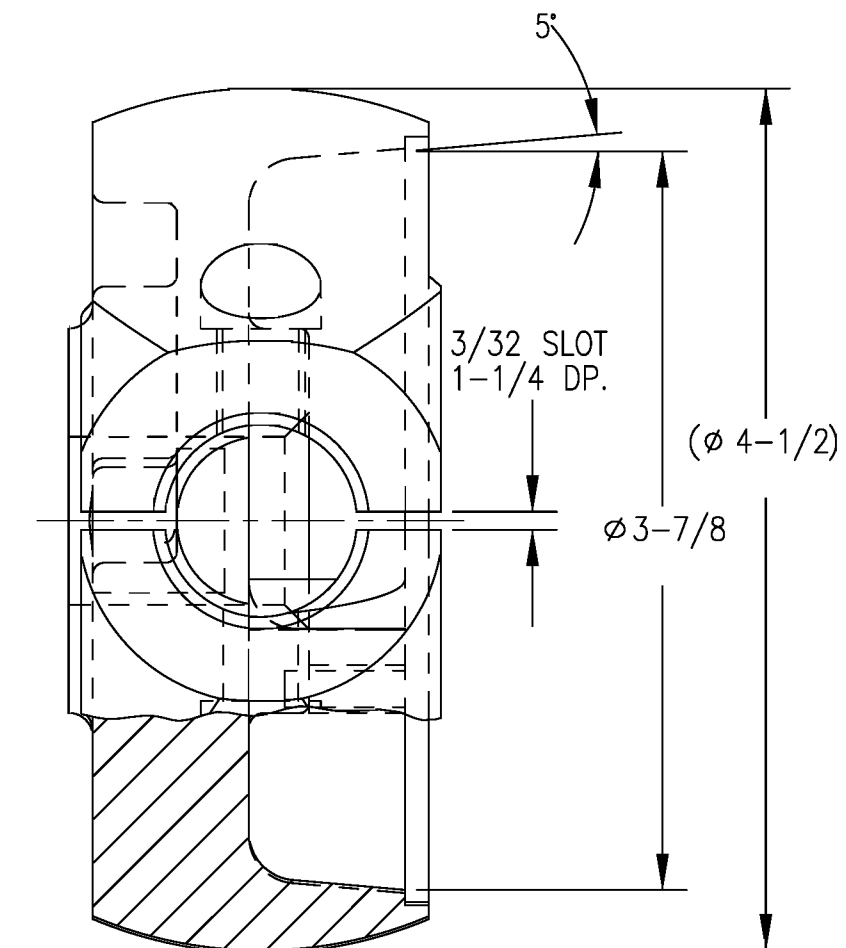
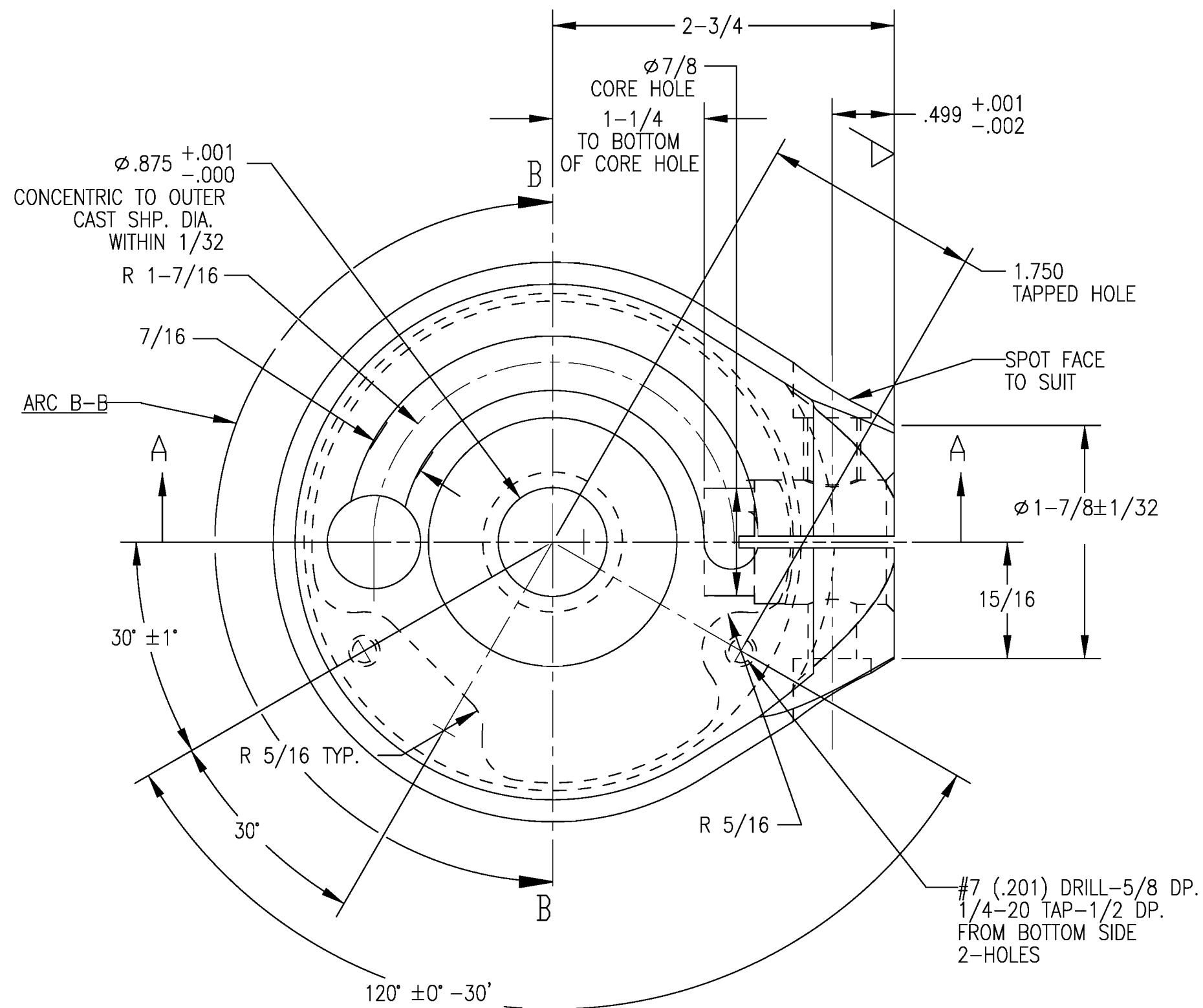
NOTES:

1. APPLY THIN FILM OF CHEVRON GREASE BRB-2 TO  $.875^{+.001}_{-.000}$  HOLE AT ASSEMBLY.

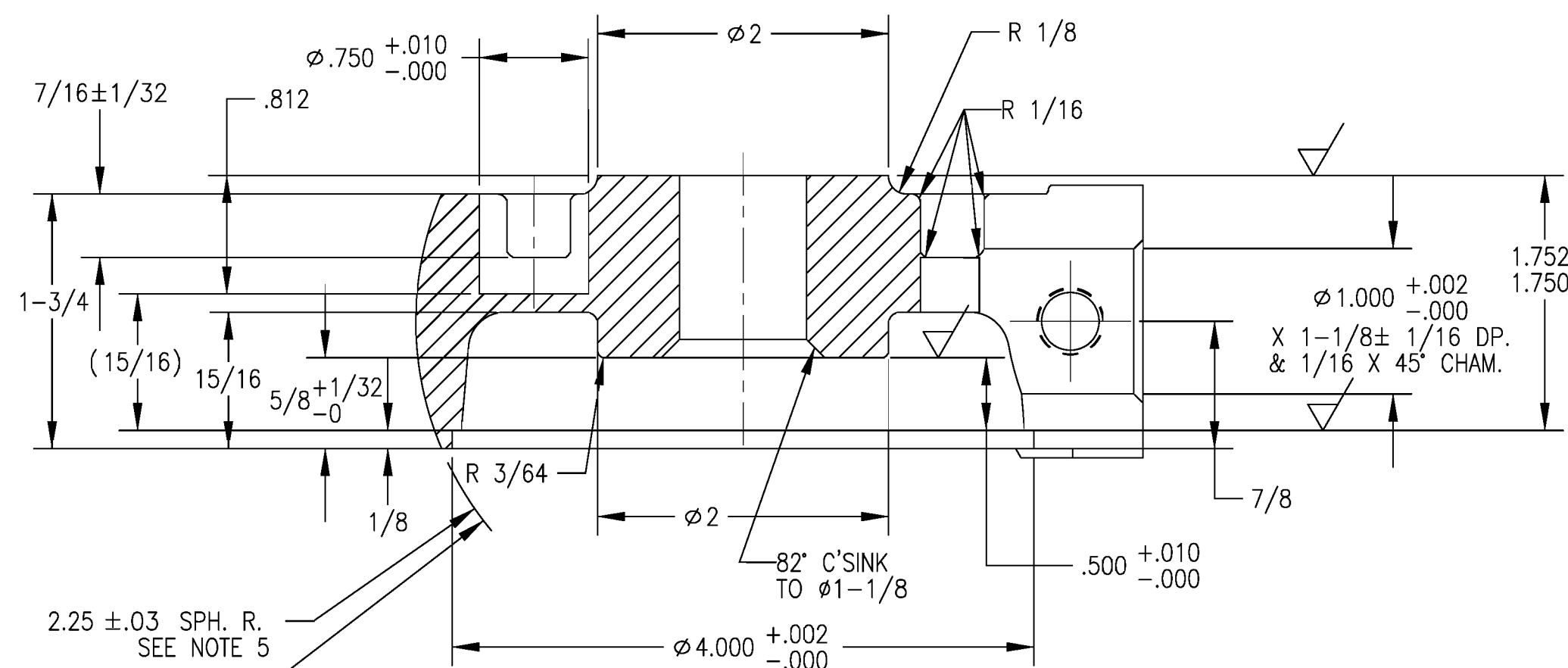
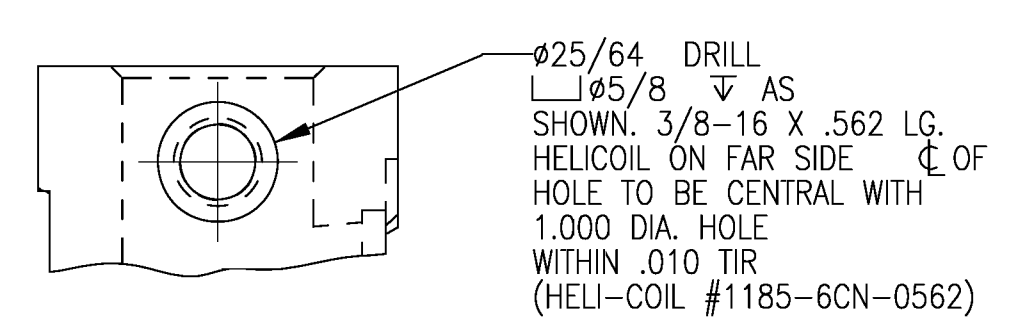
14	1	9000202	RUBBER BUMPER
13	2	9000121	SCREW, SHCS 1/4-20 X 1/2
12	2	9000790	NUT, LOCKNUT 1/4-28
11	1	175-7058	FRICTION PLATE RETAINING STUD
10	1	175-7052	FRICTION PLATE RETAINING SCREW
9	2	9000120	WASHER, SAFETY SPRING 6.35MM ID X 9.45MM OD X 1MM THK
8	1	175-7056	WASHER
7	5	175-7053-4	PLATE SPACER
6	5	175-7053-1	FRICTION PLATE
5	5	175-7053-2	PLATE SPACER
4	6	175-7053-3	FRICTION PLATE
3	1	175-7055	SIDE PLATE
2	1	175-7057	RETAINER
1	1	175-7051-2	KNEE CAP, RIGHT

ITEM NO.	QTY	FSCM NO.	PART NO.	DESCRIPTION
PART LIST				
UNITS ARE inches				
TOLERANCES ARE: *		1.000		
DECIMALS:	ANGLES:	APPROVALS	DATE	 KNEE JOINT ASSEMBLY, RIGHT
.X ±0.1	° ±0.5°			
.XX ±0.01				
.XXX ±0.005	MACHINED:			
FRACTIONS ±1/64				
				D
				1 OF 1
				175-7050-2
				A

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DMW
B	ADDED REF. TO MATERIAL SPECIFICATION NOTE #1	12/29/05	DW



SECTION B-B



SECTION A-A

- NOTES:
- MAT'L REF.: ALUM. ALLOY NO. 355. (CASTING) HT. T-6
  - ALL DRAFT ANGLES 5° UNLESS NOTED
  - ALL FILLETS RADII 1/4 R. UNLESS NOTED
  - FRACTIONS ±1/64  
DECIMALS ±.005  
ANGULAR ±2°
  - CENTER OF 2-1/4 R CENTRAL TO 1-3/4 WIDTH WITHIN .06
  - REMOVE BURRS AND SHARP EDGES

ITEM NO.	QTY	FSCM NO.	PART NO.	DESCRIPTION
PART LIST				
UNITS ARE inches				<b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL SEE NOTE 1				
SCALE 1.000				KNEE CAP, RIGHT
APPROVALS		DATE		
DRAWN		CHECKED		
ENGINEER		MACHINED: 63/		
SIZE C	SHEET 1 OF 1	DRAWING NUMBER 175-7051-2	REV. B	

D  
C  
B  
A

D  
C  
B  
A

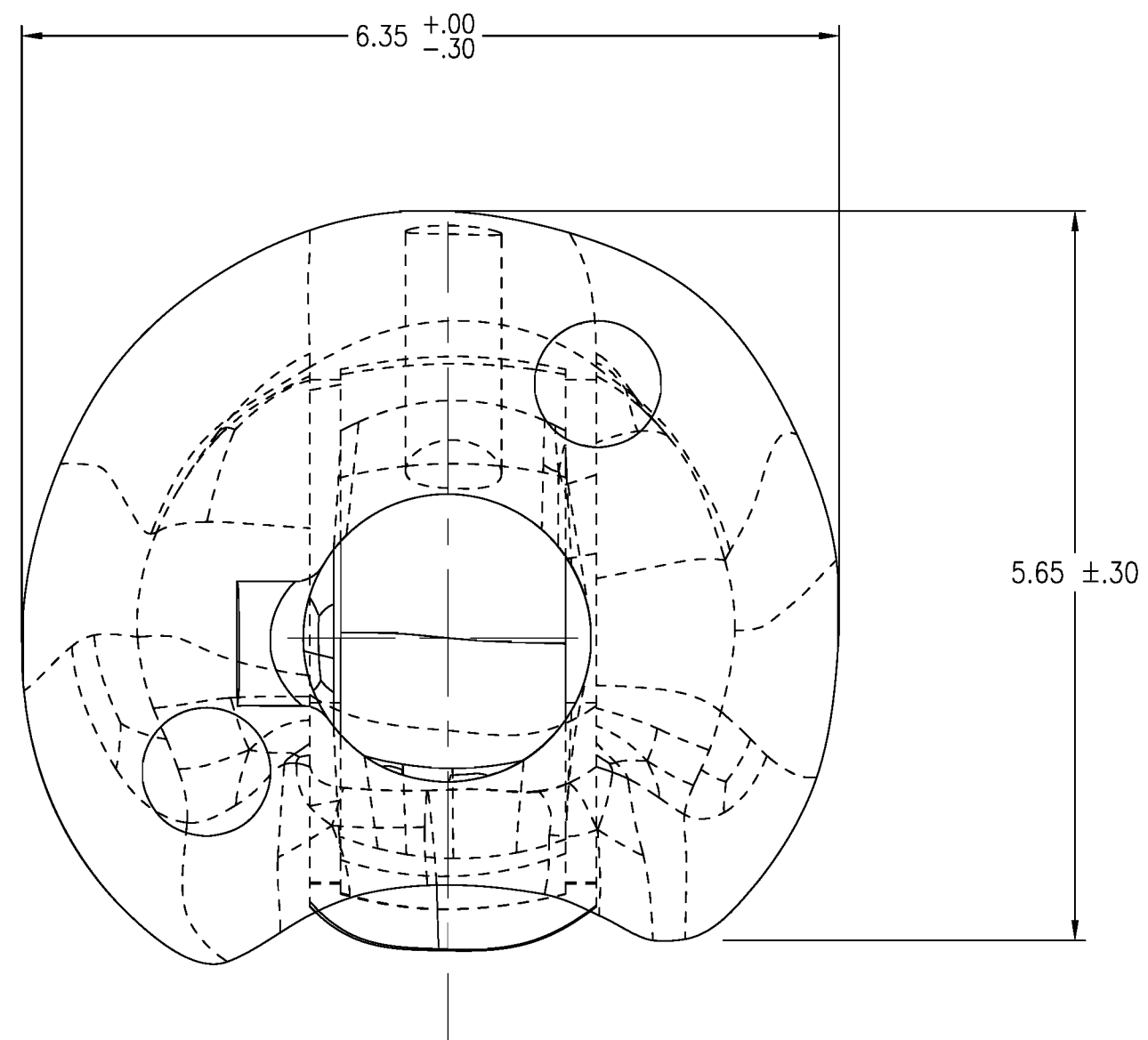
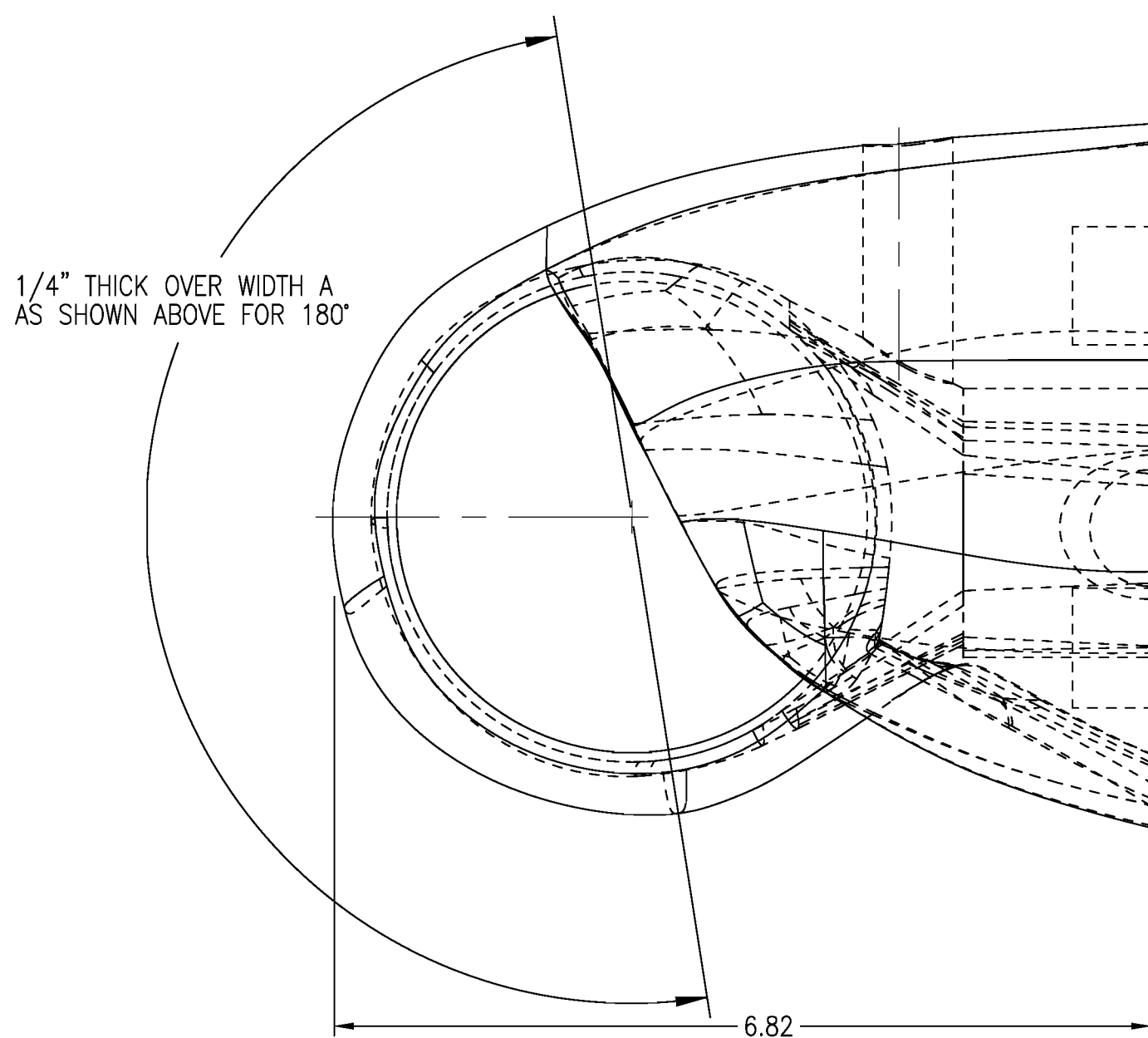
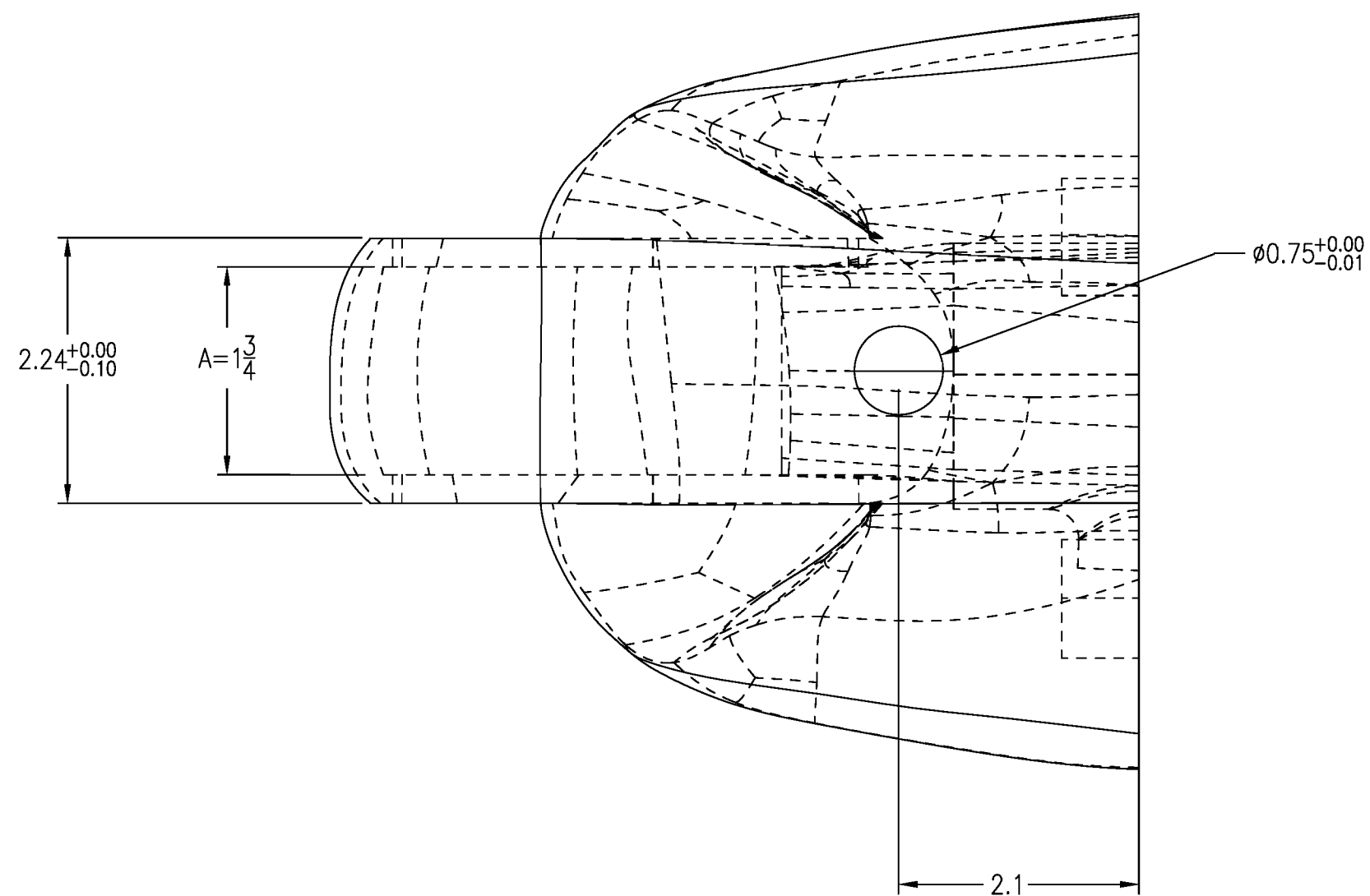
4  
3  
2  
1

4  
3  
2  
1

4  
3  
2  
1

4  
3  
2  
1

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DMW
B	CHANGED MATERIAL NOTE FROM "MATERIAL: PT3 VINYL AND FOAM" TO "MATERIAL REF.: PVC VINYL AND URETHANE FOAM"	12/13/05	DW



NOTES:

1. MOLDED WT. 1.4 ±.1 LBS.

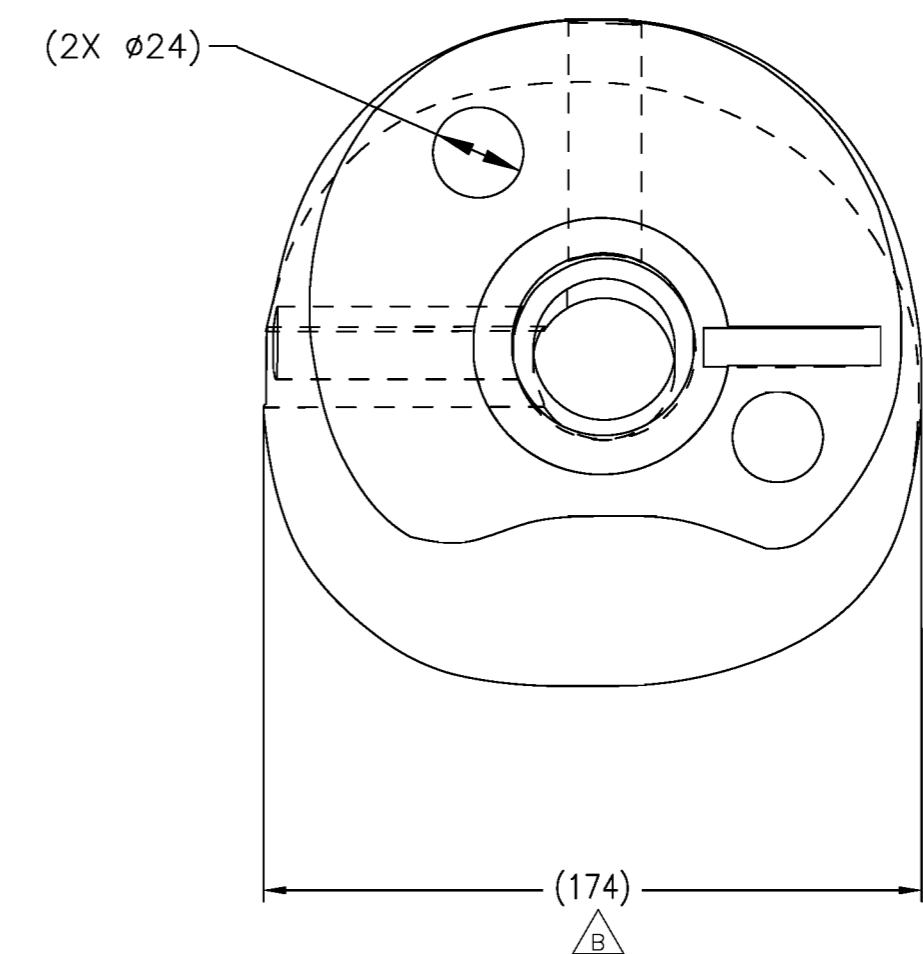
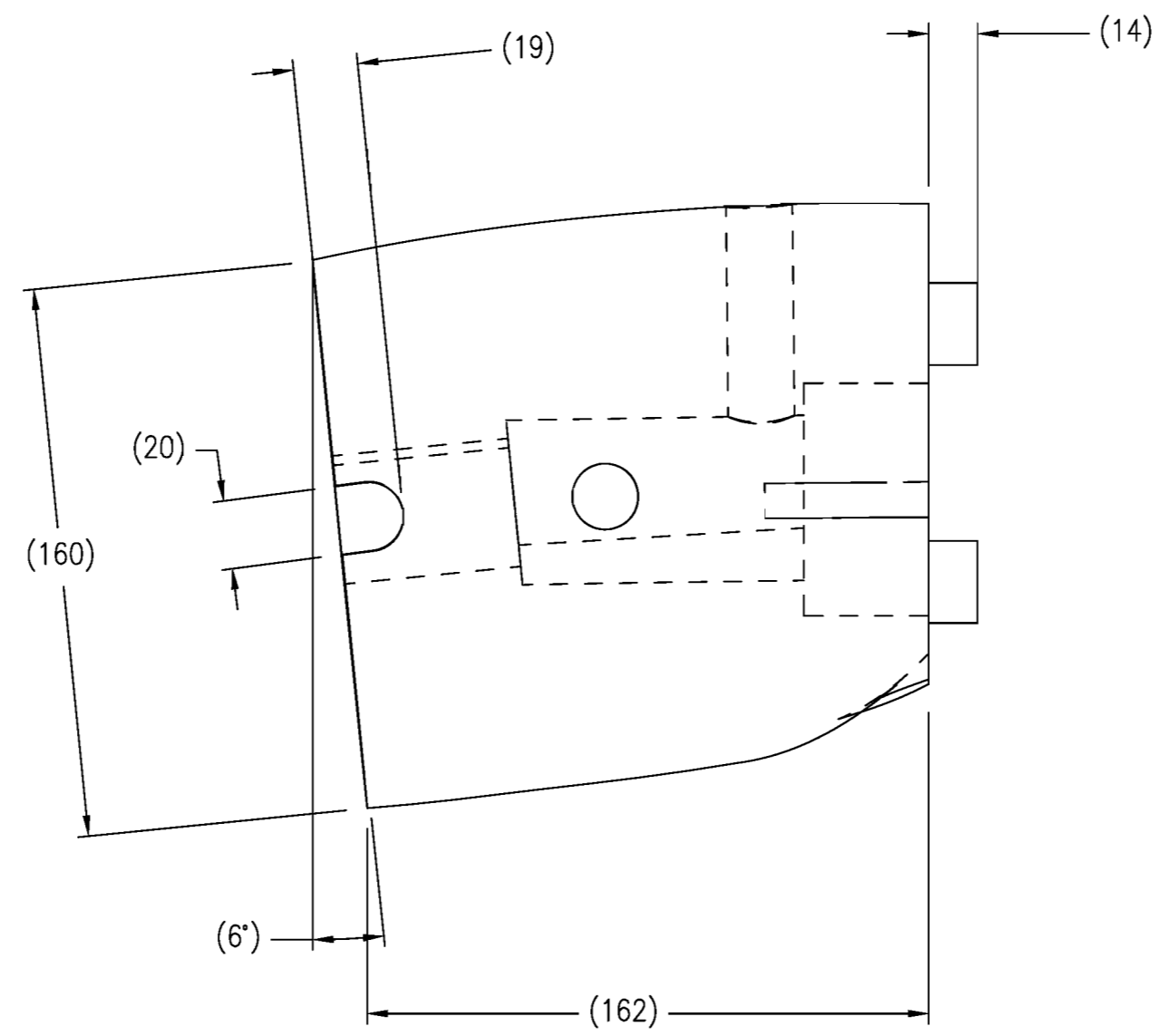
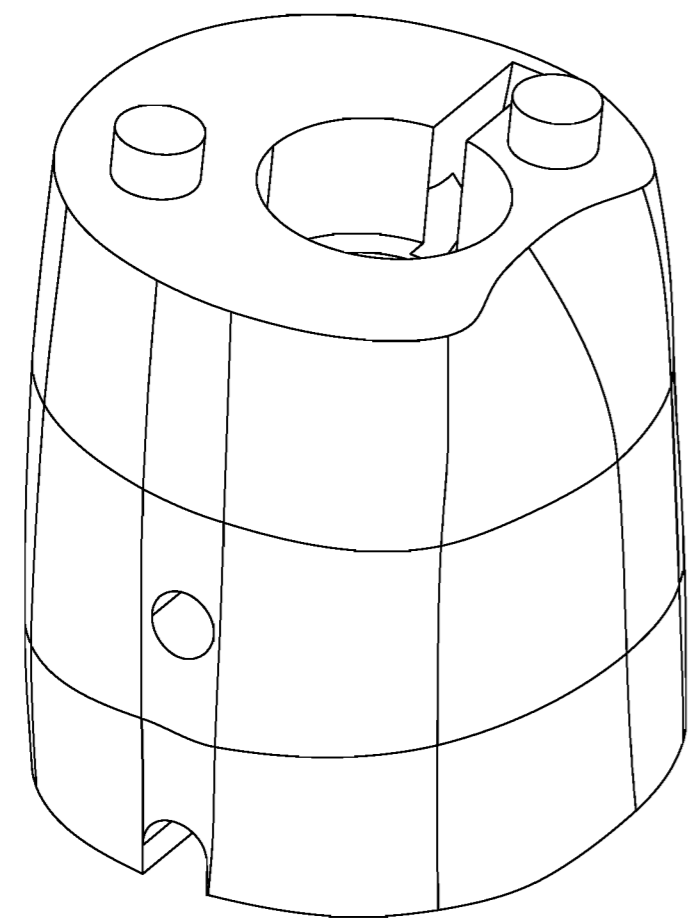
2. MATERIAL REF.: PVC VINYL (OR EQUIV.) AND URETHANE FOAM

3. TOLERANCE OF ± .10 APPLY TO ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED.

ITEM NO.	QTY	FSCM NO.	PART NO.	DESCRIPTION
PART LIST				
UNITS ARE inches				<b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL SEE NOTES				
SCALE 0.750				KNEE FLESH, RIGHT
APPROVALS		DATE		
DRAWN				
CHECKED				
ENGINEER				
TOLERANCES ARE: *		MACHINED: 63/		SIZE C SHEET 1 OF 1 DRAWING NUMBER 175-7085-2 REV. B
DECIMALS: X ±0.1	ANGLES: ±0.5°	* unless otherwise noted		
.XX ±0.01				
.XXX ±0.005				
FRACTIONS ±1/64				




REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED DIMENSION (174), ADDED "MATERIAL REF.:" TO MATERIAL NOTE #1	12/13/05	DW



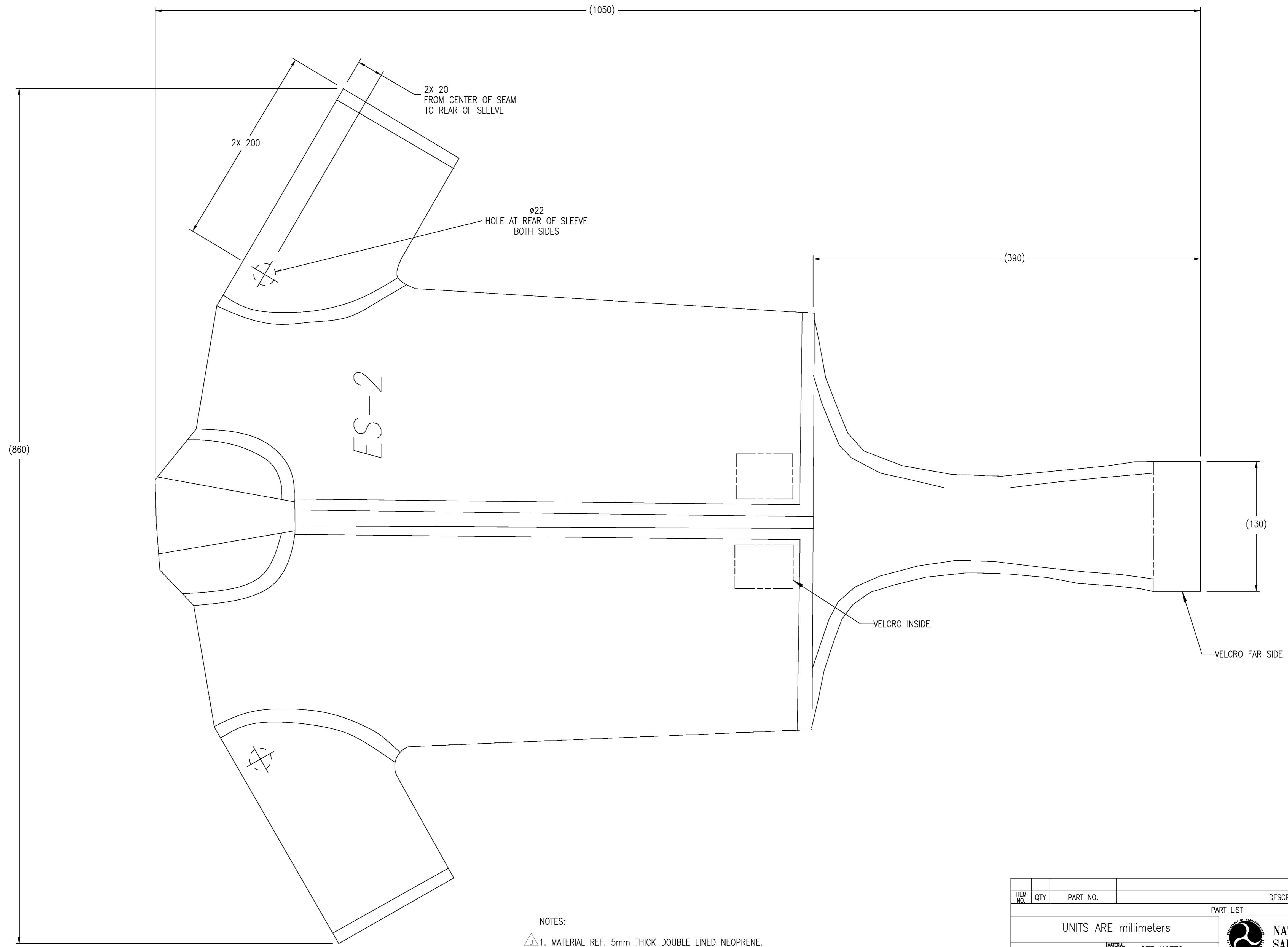
NOTES:

1. MATERIAL REF.:  $\triangle B$  PVC SKIN, ELASTOMER FOAM.

2. TOLERANCE OF  $\pm 3$  MM APPLIED TO ALL DIMENSIONS.


ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b> THIGH MOLDED, RIGHT
MATERIAL SEE NOTES			
SCALE 0.500			
TOLERANCES ARE: *		APPROVALS	DATE
DECIMALS:	ANGLES:		
X ±0.5	±0.5°		
.X ±0.1	MACHINED:		
.XX ±0.05	6.3		
* unless otherwise noted			
SIZE	SHEET	DRAWING NUMBER	REV.
A2	1 OF 1	175-7090-2	B

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	REMOVED PART MARK NOTE #2, REMOVED COLOR CALL OUT FROM MATERIAL NOTE #1 AND ADDED REF. TO MATERIAL SPECIFICATION NOTE #1	12/13/05	DW



NOTES:  
 1. MATERIAL REF. 5mm THICK DOUBLE LINED NEOPRENE.

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			
TOLERANCES ARE: *		MATERIAL SEE NOTES	
DECIMALS:	ANGLES:	SCALE	N/A
X ±0.5	±0.5°	APPROVALS	DATE
.X ±0.1		DRAWN	
.XX ±0.05	MACHINED: 6.3	CHECKED	
* unless otherwise noted		ENGINEER	



**NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION**

SUIT

SIZE: A1	SHEET: 1 OF 3	DRAWING NUMBER: 175-8000	REV: B
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REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED SCALE	12/13/05	DW

D

D

C

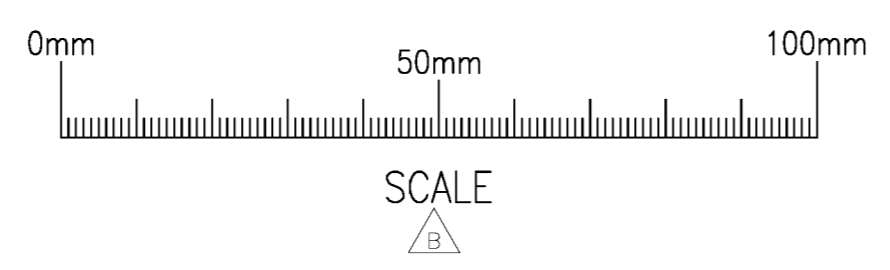
C


B

B

A

THIS IS A FULL SCALE TEMPLATE



 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>	
SUIT	
SIZE <b>A1</b>	DRAWING NUMBER 175-8000
SCALE FULL	SHEET 2 OF 3

8

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5

4

3

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1

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7

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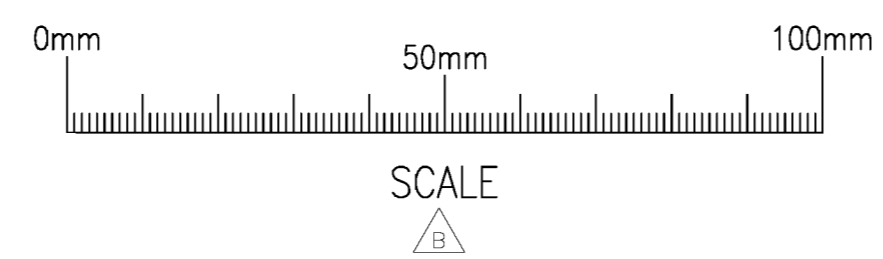
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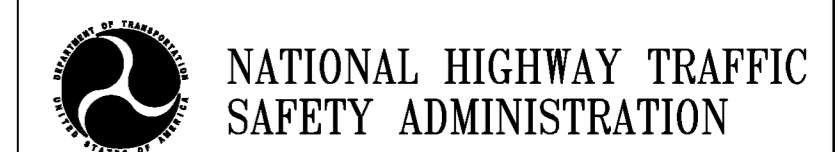
2

1

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED SCALE	12/13/05	DW



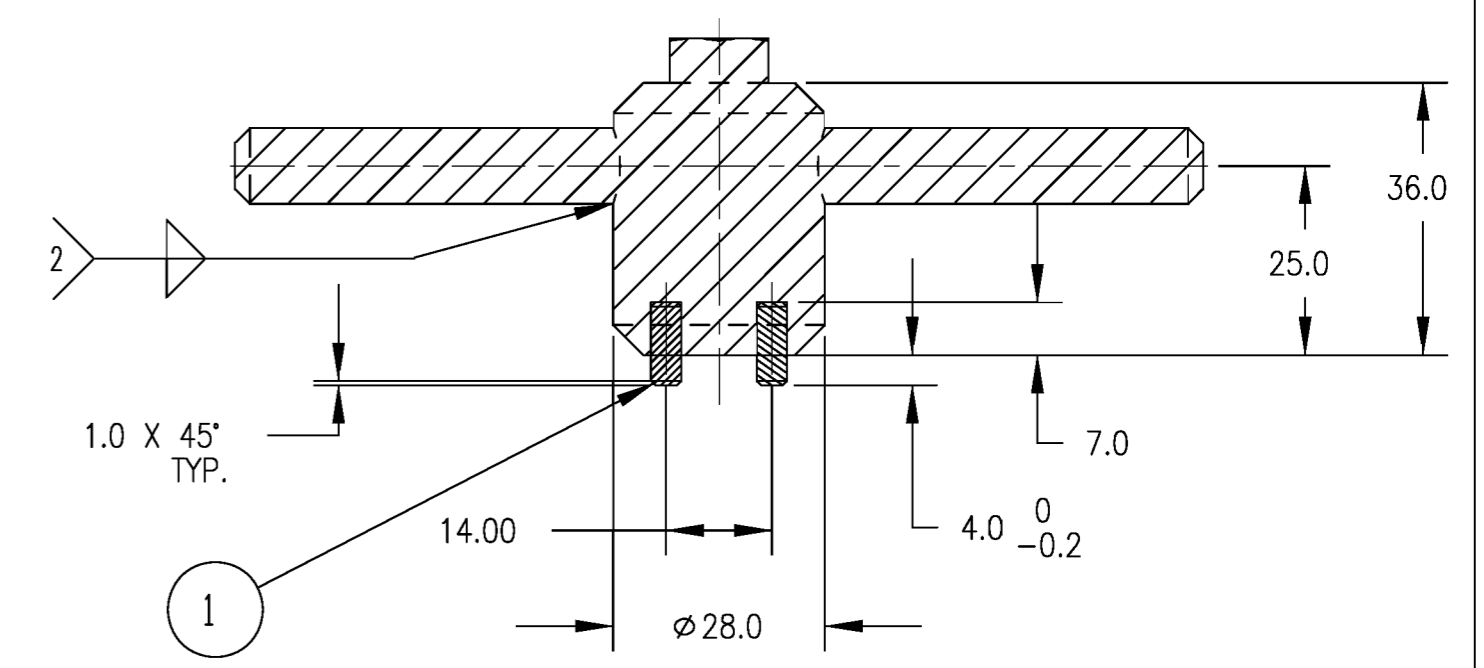
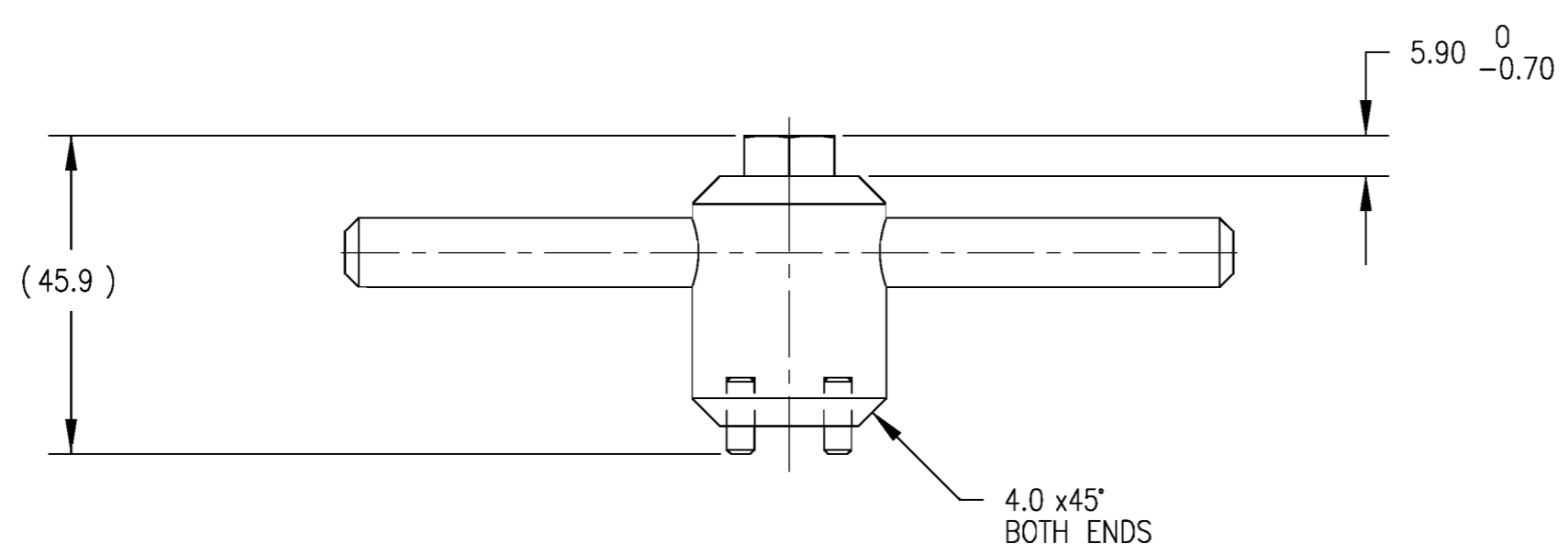
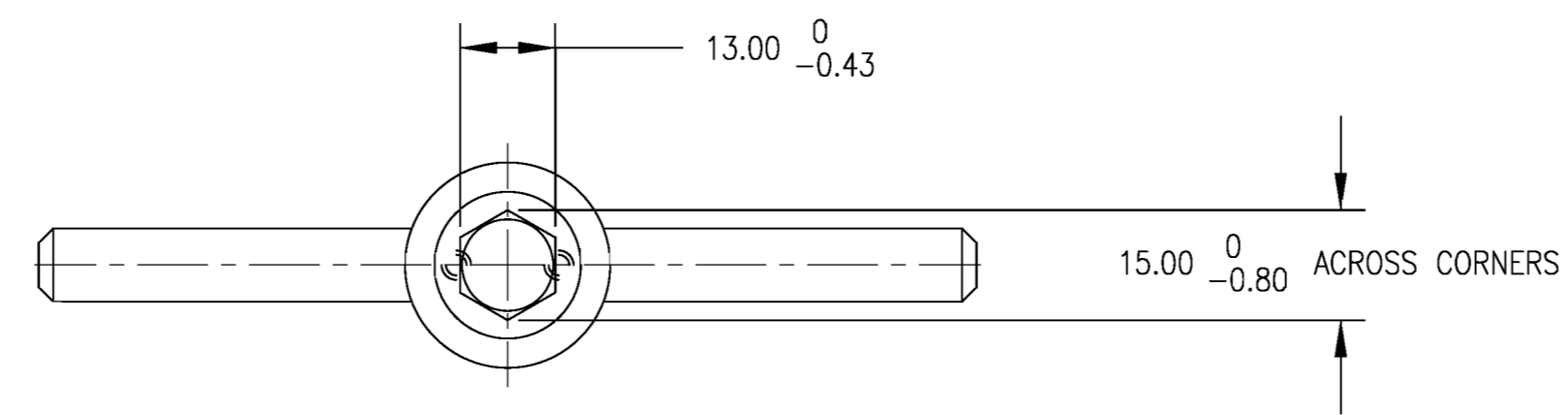
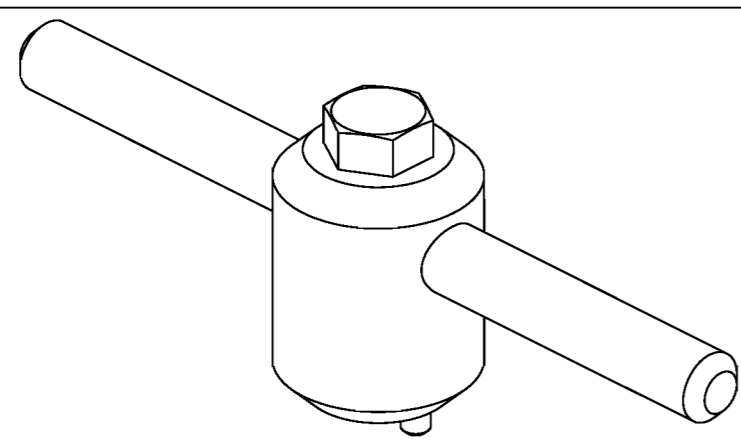
THIS IS A FULL SCALE TEMPLATE



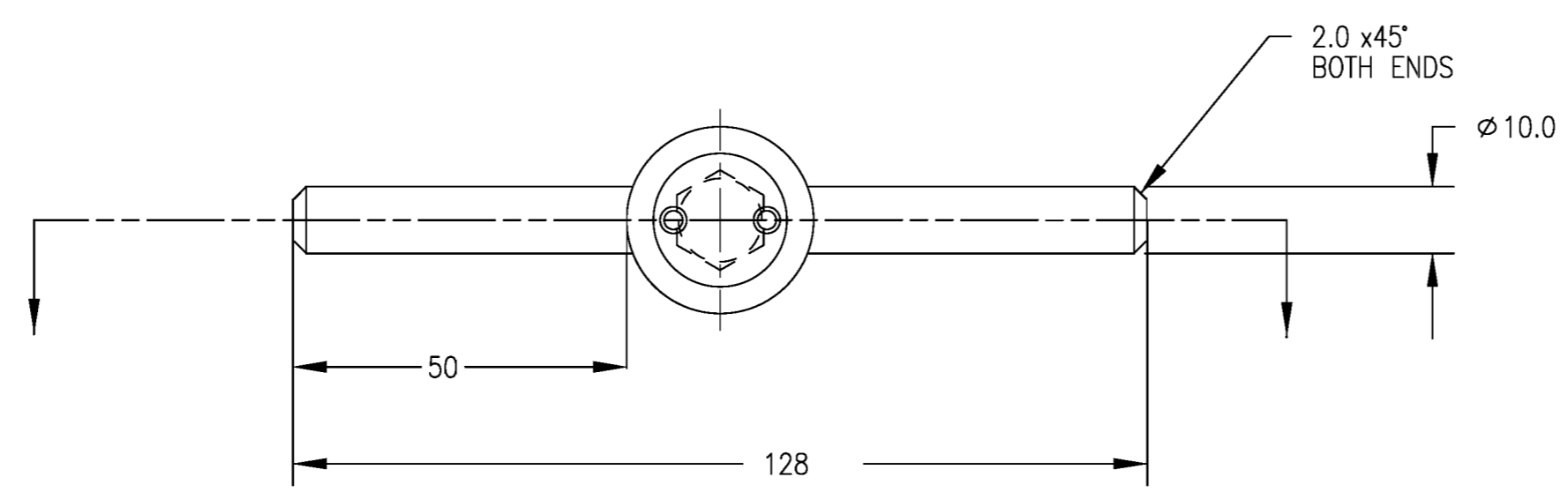
SUIT

SIZE A1	DRAWING NUMBER 175-8000	REV. B
SCALE FULL	SHEET 3 OF 3	

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	REMOVED WELD NOTE #3, ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #3	12/14/05	DW



SECTION A-A



- NOTES:
- REMOVE ALL BURRS AND BREAK SHARP EDGES.
  - SURFACE FINISH TO BE  $\sqrt{1.2}$  OR BETTER ALL OVER UNLESS OTHERWISE STATED.
  - FINISH REF.: BRIGHT NICKEL PLATE THICKNESS 5 TO 8 MICRONS.

1	2	5000424	PIN, DOWEL M4 X 11	
ITEM NO.	QTY	PART NO.	DESCRIPTION	
PART LIST				
UNITS ARE millimeters			<b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b> NECK COMPRESSION TOOL	
MATERIAL REF. 080M40 STEEL TO BS970				
TOLERANCES ARE: *			SCALE 1.000	
DECIMALS: X ±0.5			APPROVALS	DATE
.X ±0.1			DRAWN	
.XX ±0.05			CHECKED	
MACHINED: 6.3			ENGINEER	
* unless otherwise noted			SIZE A2	SHEET 1 OF 1
			DRAWING NUMBER 175-9500	REV. B

4

3

2

1

D

D

C

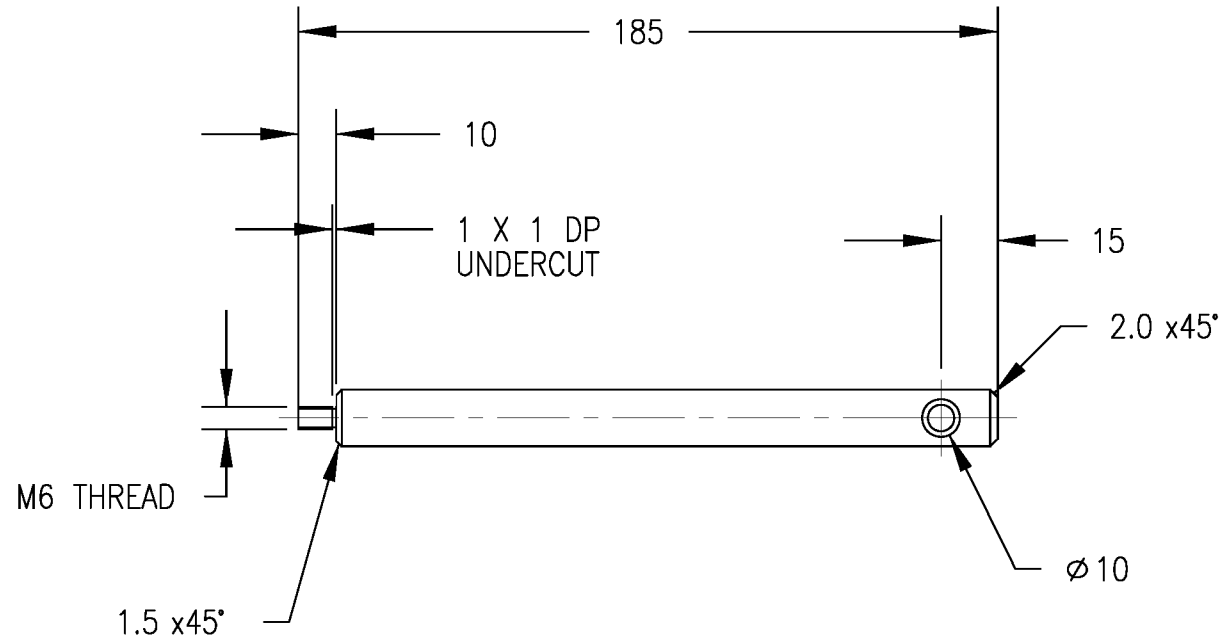
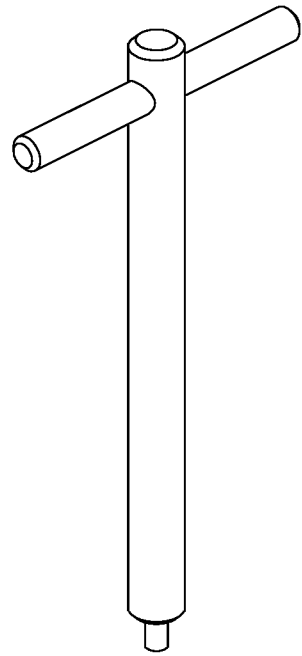
C

B

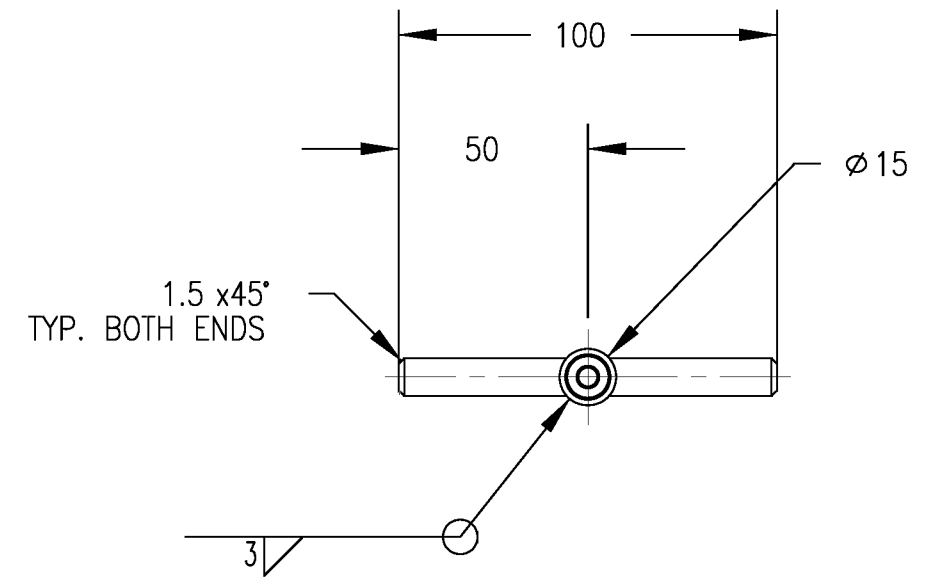
B

A

A




REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	REMOVED THREAD NOTE #3 AND WELD NOTE #4, ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #3	12/14/05	DW



NOTES

1. SURFACE FINISH TO BE  $\sqrt{0.8}$  OR BETTER ALL OVER UNLESS OTHERWISE STATED.
2. REMOVE ALL BURRS AND BREAK SHARP EDGES PRIOR TO PLATING
3. FINISH REF.: BRIGHT NICKEL PLATE 5 TO 8 MICRONS

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. 1018 STEEL			
SCALE 0.500			PULLER TOOL
TOLERANCES ARE: *		APPROVALS	
DECIMALS: X ±0.5		DRAWN	ENGINEER
.X ±0.1			
.XX ±0.05		CHECKED	SIZE A3
* unless otherwise noted		ENGINEER	SHEET 1 OF 1
			DRAWING NUMBER 175-9501
			REV. B

4

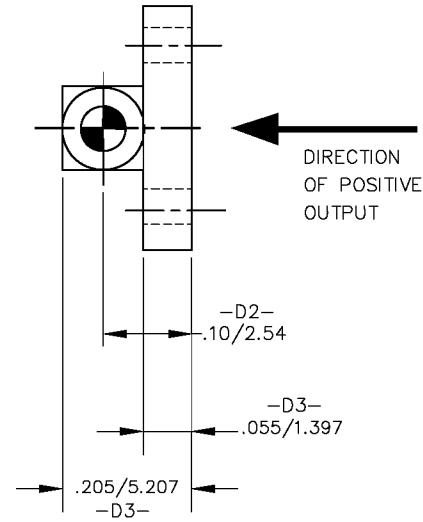
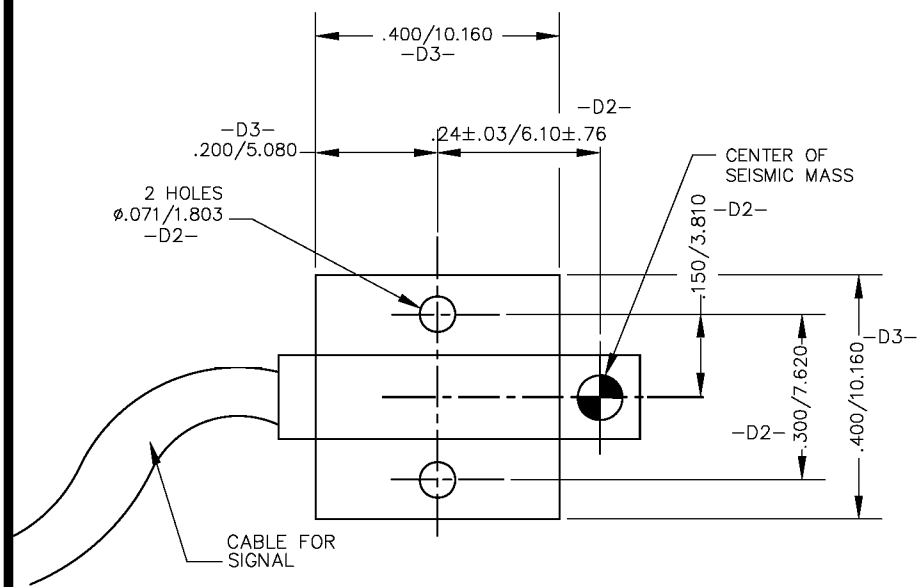
3

2

1

REVISION RECORD

ITEM NO.	BY	DATE	DESCRIPTION
-A-	HP	01/09/99	TOLERANCES
-B1-	DW	09/27/99	UPDATED NOTE
-B2-			CHANGE TRANSVERSE SENSITIVITY TO 1%
-B3-			REVISED FORMAT, ENLARGED TOLERANCES
-C1-	DW	02/8/00	REVISED TOLERANCE
-D1-	DW	08/15/01	CHANGED SINGLE DECIMAL PLACE TOLERANCE FROM ± 0.1/2.54 TO ± 0.1/2.5
-D2-	DW		CORRECTED METRIC EQUIVALENTS
-D3-	DW		ADDED DIMENSIONS



SPECIFICATIONS

RANGE	±2000 g
SENSITIVITY	.20 mV/g MIN
MOUNTED RESONANCE FREQUENCY	22,000 Hz MIN
-B1- SIGNAL OUTPUT MUST BE COMPATIBLE WITH AND RECORDABLE IN A DATA CHANNEL AS DEFINED BY SAE J211	
DAMPING RATIO	UNDAMPED (.005)
-B2- TRANSVERSE SENSITIVITY	±1% MAX
NON-LINEARITY & HYSTERESIS	±2% MAX
ZERO OFFSET	±25 mV
EXCITATION	10V DC
THERMAL SENSITIVITY	-5% Typ AT 0°F TO 150°F
TEMPERATURE EXPOSURE LIMITS	0°/+200°F WITHOUT DAMAGE
WEIGHT	1 gram (WITHOUT CABLE)
HUMIDITY	SEALED

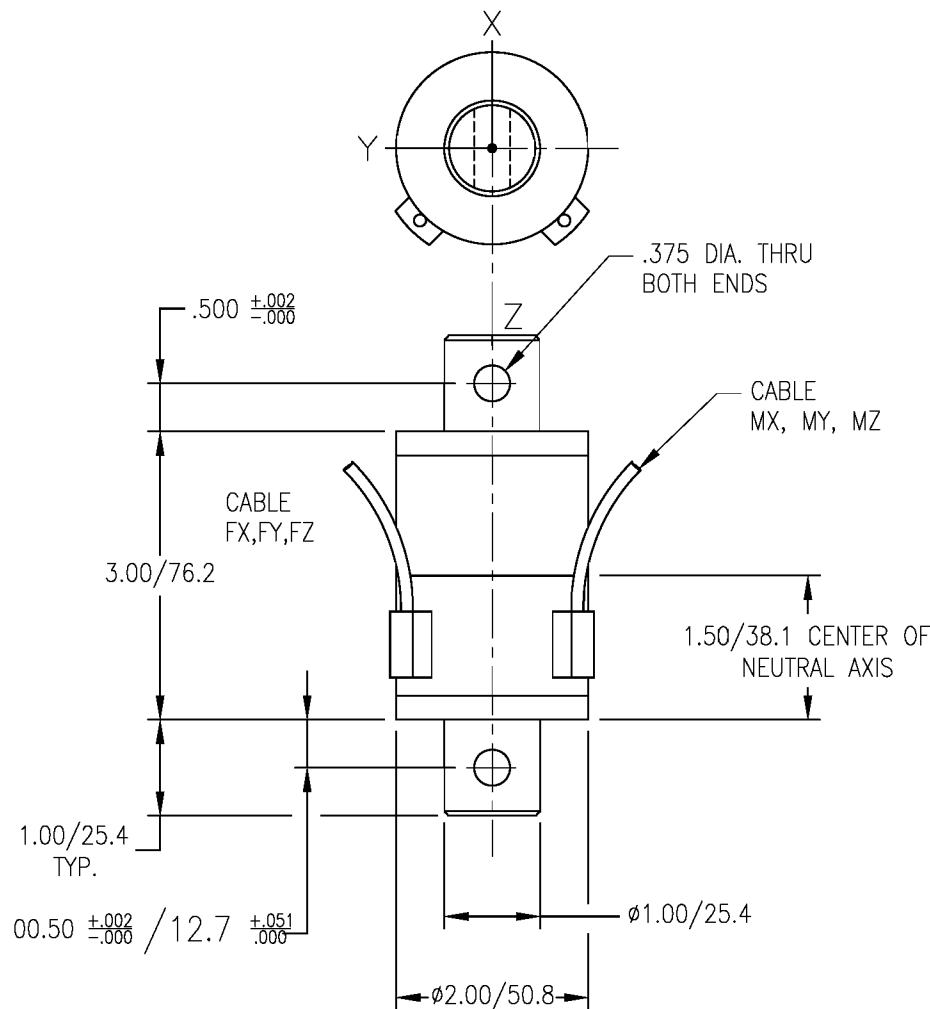
**RELEASED**  
AUG. 15 2001  
**NHTSA**

-D1-  
-C1-  
-B3-

UNITS ARE in/mm		NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION	
TOLERANCES ARE: *		MATERIAL:	
DECIMALS	ANGLES	SCALE	NONE
.X ±0.1/2.5	+ 0.5°	APPROVALS	DATE
.XX ±0.01/25		DRAWN	3/5/98
.XXX ±0.005/127		CHECKED	
* unless otherwise noted		ENG	J McF H.P.
		SIZE	A
		DRAWING NUMBER	SA572-S4
		REV	D
UNIAxIAL PIEZORESISTIVE ACCELEROMETER			
HYBRID III DUMMY FAMILY			

REVISION RECORD

ITEM NO.	BY	DATE	DESCRIPTION
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AXIS	CAPACITY
FX	3000 lbs./1119.73 kg.
FY	3000 lbs./1119.73 kg.
FZ	5000 lbs./1866.21 kg.
MX	3000 lb.-in./336 Nm.
MY	3000 lb.-in./336 Nm.
MZ	3000 lb.-in./336 Nm.

NONLINEARITY < 1% OF FULL SCALE  
 CROSSTALK < 5% OF FULL SCALE  
 OUTPUT AT CAPACITY: 0.75 mV/V MIN.  
 WEIGHT: 1.87 lbs./0.85 kg. MAX.  
 WEIGHT INCLUDES APPROXIMATELY 8" OF CABLE LENGTH (EACH CABLE).  
 SIGNAL OUTPUT MUST BE COMPATIBLE WITH AND RECORDABLE IN A DATA CHANNEL AS DEFINED BY SAE J211.

FREE AIR RESONANT FREQUENCY  
 FORCE 3000 Hz MIN.  
 MOMENT 3000 Hz MIN.

OPERATING TEMPERATURE 0° TO 200° F  
 THERMAL SENSITIVITY (60° TO 80° F) < .03% OF READING /F  
 MATERIAL: THE LOAD BEARING STRUCTURE OF THE LOAD CELL, INCLUDING PROVISIONS FOR THE LOAD CELL MOUNTING, ARE OF METAL OR METAL ALLOYS. NON-LOAD BEARING PARTS OF THE LOAD CELL, INTERNALLY AND/OR EXTERNALLY, INCLUDING WIRES AND THEIR ATTACHMENTS, MAY BE MADE OF ANY MATERIAL PROVIDING THEY DO NOT INTERFERE WITH THE PERFORMANCE OF THE LOAD CELL OR THE TRANSMISSION OF THE LOAD CELL SIGNALS.

UNITS ARE in/mm

TOLERANCES ARE: *		MATERIAL: SEE NOTES
DECIMALS	ANGLES	SCALE: NONE
.X ±0.1/2.5	+ 0.5°	APPROVALS
.XX ±0.01/25		DATE
.XXX ±0.005/.127		DRAWN: D. WALKER
* unless otherwise noted		CHECKED: 1/14/00
		ENG: H. P.



NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

SIX-CHANNEL FEMUR LOAD CELL

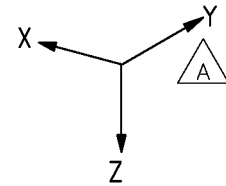
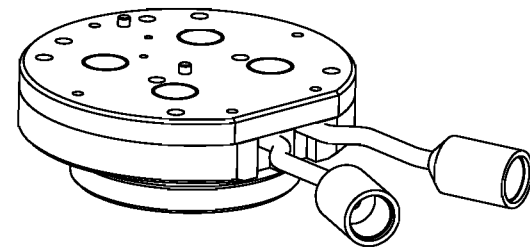
ES-2re

SIZE: A	DRAWING NUMBER: SA572-S36	REV:
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REVISION RECORD

REV	DESCRIPTION	DATE	BY
A	REVERSED "Y" COORDINATE ARROW, ADDED "REFERENCE FOR COMPUTING MOMENTS ABOUT OCCIPITAL CONDYLE" NOTE	12/13/05	DW



SPECIFICATIONS

AXIS	CAPACITY	
	lbf	N
F <sub>x</sub>	2,248	10,000
F <sub>y</sub>	2,248	10,000
F <sub>z</sub>	3,372	15,000
	lb-in	Nm
	M <sub>x</sub>	2,655
M <sub>y</sub>	2,655	300
M <sub>z</sub>	2,655	300

OUTPUT AT CAPACITY: 0.75 mV/V MIN.

NONLINEARITY < 1% FULL SCALE

CROSSTALK < 5% FULL SCALE

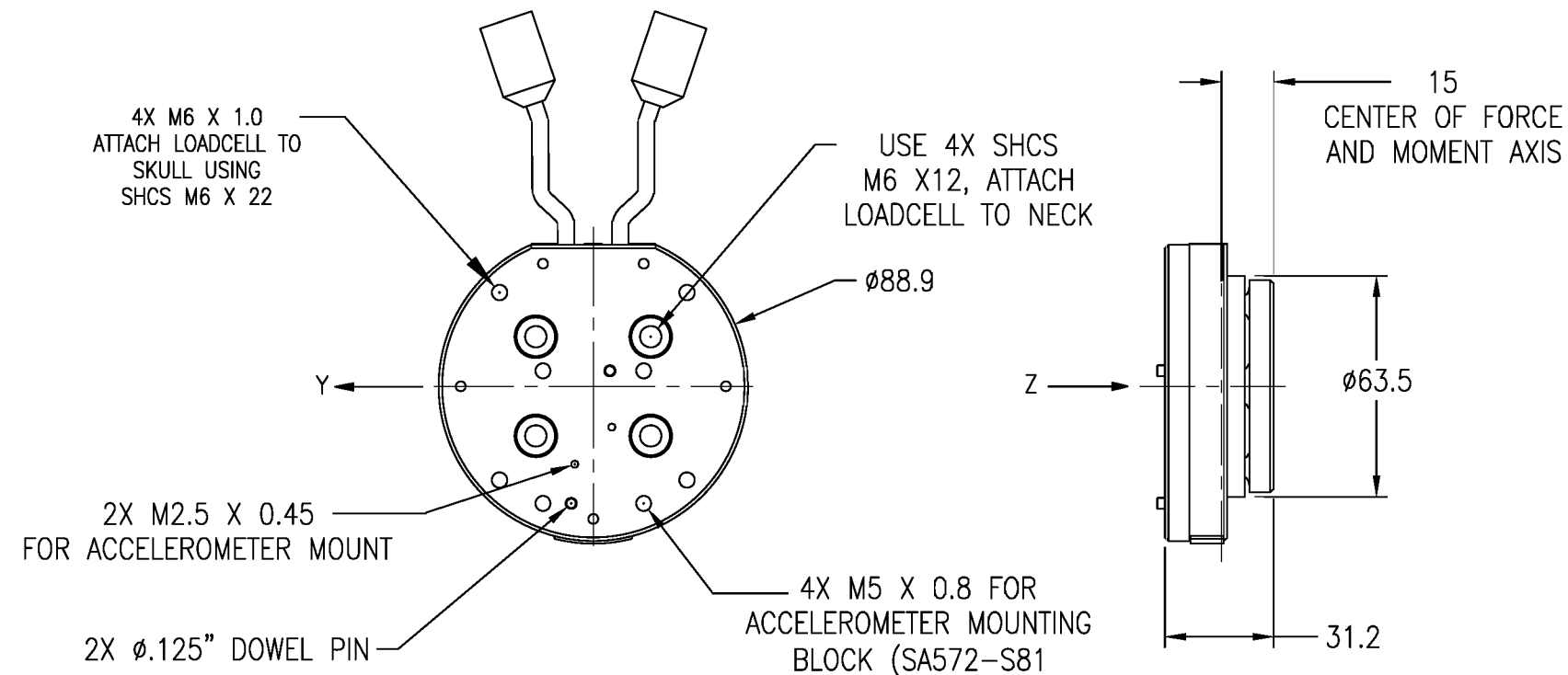
WEIGHT: 1.32 lb./0.60 kg MAX.

SIGNAL OUTPUT MUST BE COMPATIBLE WITH AND RECORDABLE IN A DATA CHANNEL AS DEFINED BY SAE J211

FREE AIR RESONANT FREQUENCY FORCES 5000 Hz MIN.  
MOMENTS 3000 Hz MIN.

OPERATING TEMPERATURE 0° TO 200°F  
THERMAL SENSITIVITY (60° TO 80°F) ≤ .03% OF READING /°F

MATERIAL: THE LOAD BEARING STRUCTURE OF THE LOAD CELL, INCLUDING PROVISIONS FOR THE LOAD CELL MOUNTING, ARE OF METAL OR METAL ALLOYS, NON-LOAD BEARING PARTS OF THE LOAD CELL, INTERNALLY AND/OR EXTERNALLY, INCLUDING WIRES AND THEIR ATTACHMENTS, MAY BE MADE OF ANY MATERIAL PROVIDED THEY DO NOT INTERFERE WITH THE PERFORMANCE OF THE LOAD CELL OR THE TRANSMISSION OF THE LOAD CELL SIGNALS.



△ REFERENCE FOR COMPUTING MOMENTS ABOUT OCCIPITAL CONDYLE:

$$M_{x,oc} = M_x, \text{ MEASURED} + (0.02 \times F_y, \text{ MEASURED})$$

$$M_{y,oc} = M_y, \text{ MEASURED} + (0.02 \times F_x, \text{ MEASURED})$$

WHERE UNITS ARE NEWTON FOR FORCE AND MEWTON-METERS FOR MOMENTS.

UNITS ARE mm

TOLERANCES ARE: *		MATERIAL:	
DECIMALS	ANGLES	SCALE	1.0 = 2.0
X ±0.5	+ 0.5°	APPROVALS	DATE
X.X ±0.1	MACHINED:	DRAWN	5/2/04
X.XX ±0.05	63/	CHECKED	
* unless otherwise noted		ENG	



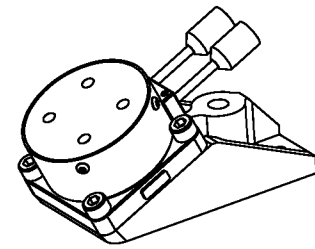
6 AXIS UPPER NECK LOAD CELL

ES-2re

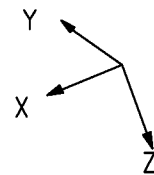
SIZE	DRAWING NUMBER	REV
B	SA572-S70	A

REVISION RECORD

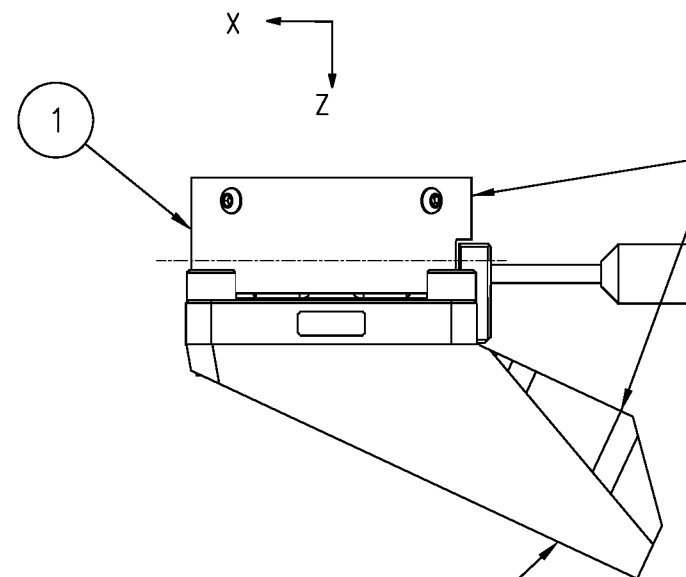
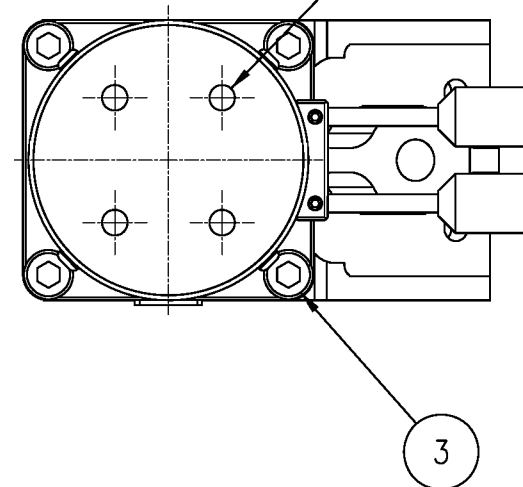
REV	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW



SCALE 0.250



4X MOUNTING HOLES  
FOR M6 X 1.0 X 20MM LENGTH  
SOCKET HEAD CAP SCREWS PART #5000281



LOADCELL AND BRACKET  
MAINTAIN NECK IN THE  
STANDARD LOCATION

BASE BRACKET DUPLICATES THE  
MOUNTING GEOMETRY OF STRUCTURAL  
REPLACEMENT (175-2500)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	MATERIAL
3	1	5000075	SCREW, SHCS M8 x 1.25 x 20mm LG.	
2	1	SA572-S71-3	LOWER NECK LOAD CELL-MOUNTING BRACKET	
1	1	SA572-S71-2	LOWER NECK LOAD CELL	

UNITS ARE mm

TOLERANCES ARE: *		MATERIAL:	
DECIMALS	ANGLES	SCALE	.5 = 1.0
.X ±2.5	+ 0.5°	APPROVALS	DATE
.XX ±0.25	MACHINED:	DRAWN	6/7/04
.XXX ±0.127	63/	CHECKED	
* unless otherwise noted		ENG	



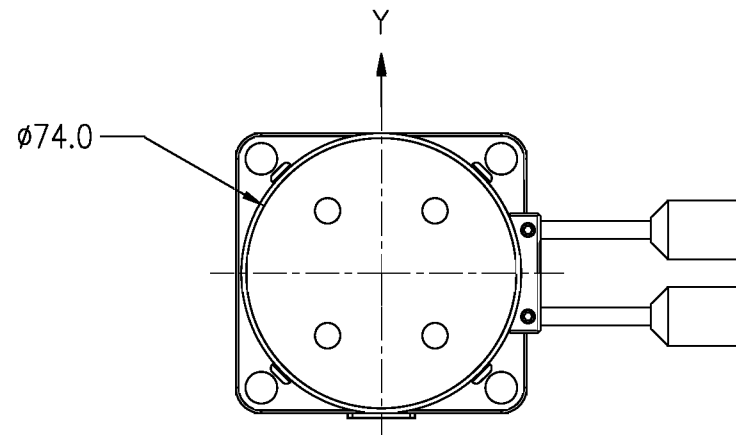
LOWER NECK LOAD CELL ASSEMBLY

ES-2re

SIZE	DRAWING NUMBER	REV
B	SA572-S71-1	A

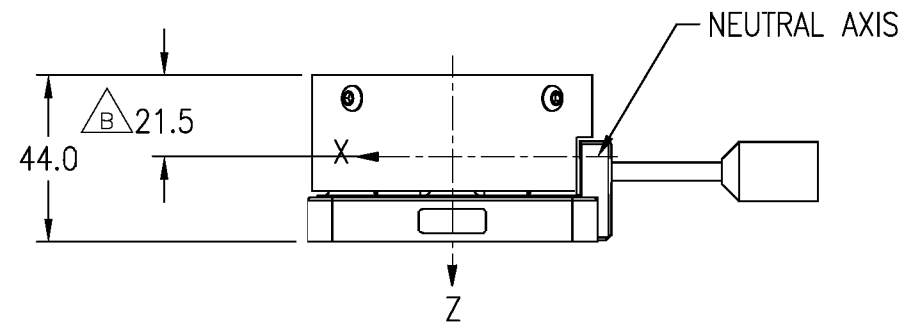
REVISION RECORD

REV	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	CHANGED WEIGHT FROM 1.76 lb./0.798 kg TO 0.8 lb/0.36 kg., CHANGED DIMENSION TO NUTRAL AXIS FROM 22.0 TO 21.5	12/13/05	DW



SPECIFICATIONS

AXIS	CAPACITY	
	lbf	KN
F <sub>X</sub>	2,698	12
F <sub>Y</sub>	2,698	12
F <sub>Z</sub>	3,147	14
	lb-in	Nm
M <sub>X</sub>	3,983	450
M <sub>Y</sub>	3,983	450
M <sub>Z</sub>	2,655	300



OUTPUT AT CAPACITY: 0.75 mV/V MIN.

NONLINEARITY < 1% FULL SCALE

CROSSTALK < 5% FULL SCALE

WEIGHT: 0.8 lb./0.36 kg MAX.  $\triangle_B$

SIGNAL OUTPUT MUST BE COMPATIBLE WITH AND RECORDABLE IN A DATA CHANNEL AS DEFINED BY SAE J211

FREE AIR RESONANT FREQUENCY      FORCES 5000 Hz MIN.  
MOMENTS 3000 Hz MIN.

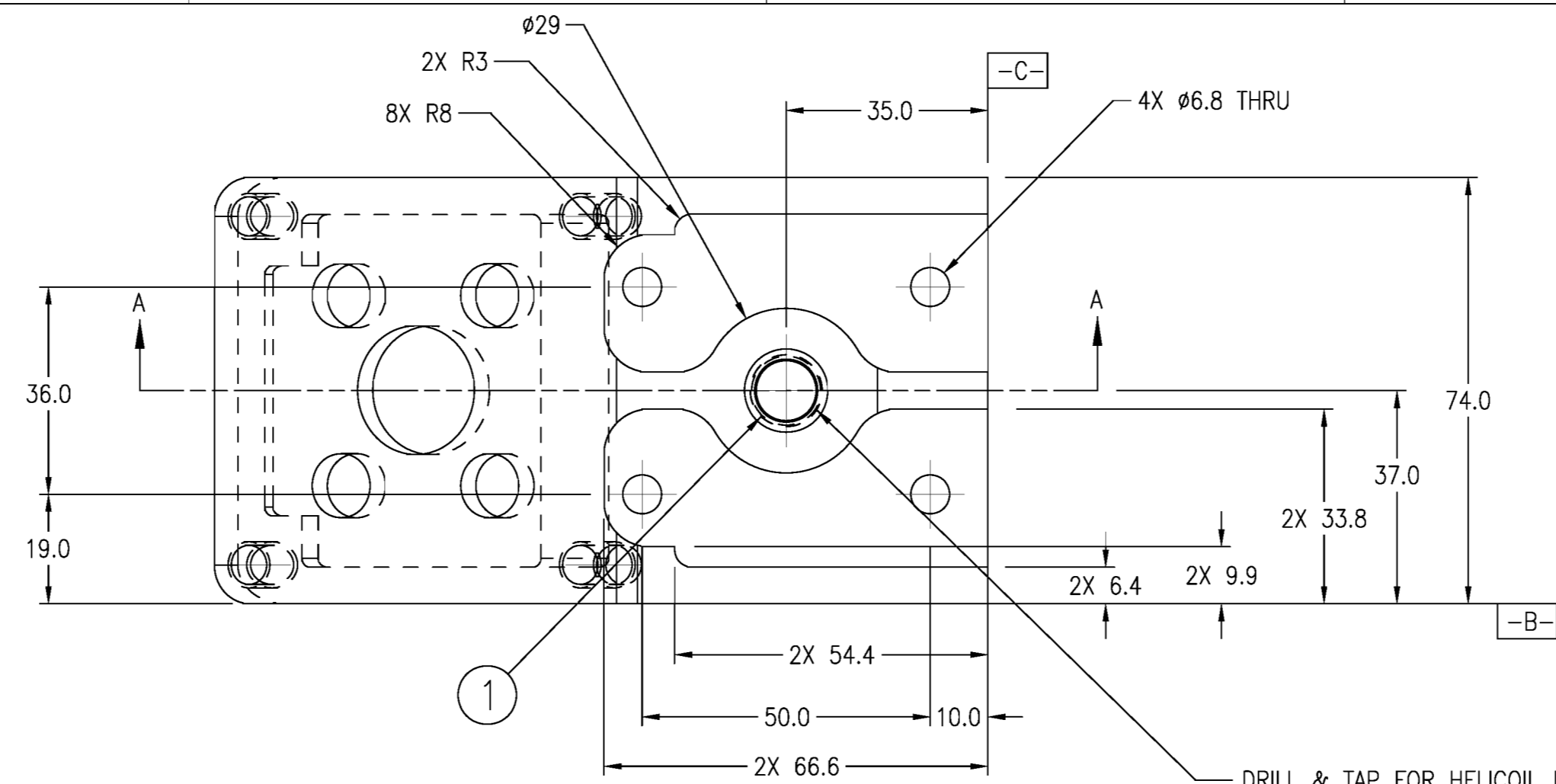
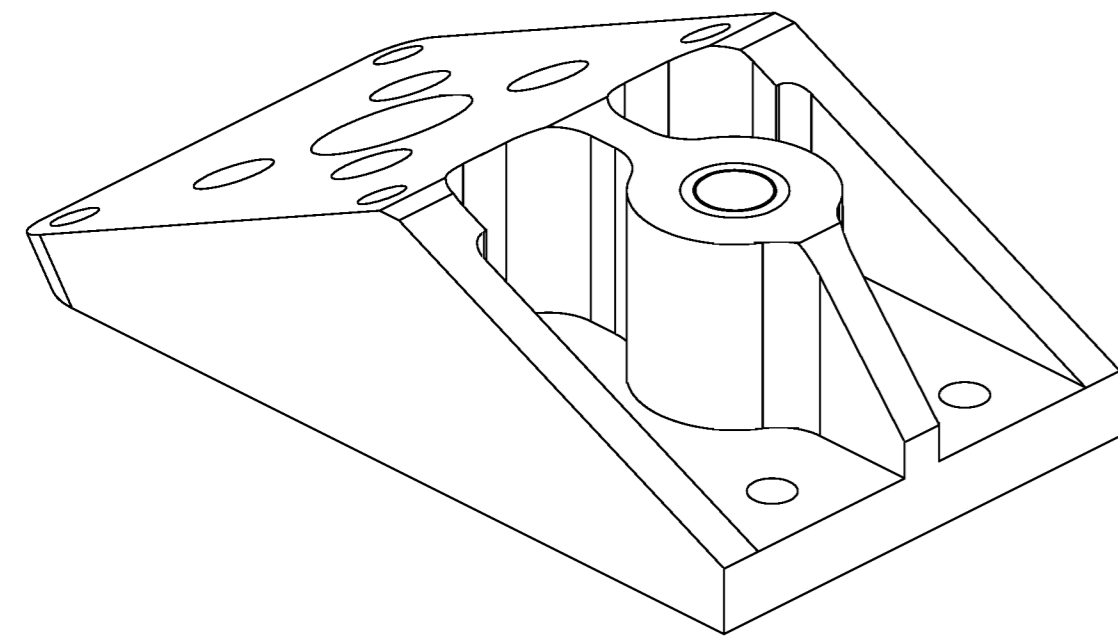
OPERATING TEMPERATURE      0° TO 200°F  
THERMAL SENSITIVITY      (60° TO 80°F) ≤ .03% OF READING /°F

MATERIAL: THE LOAD BEARING STRUCTURE OF THE LOAD CELL, INCLUDING PROVISIONS FOR THE LOAD CELL MOUNTING, ARE OF METAL OR METAL ALLOYS, NON-LOAD BEARING PARTS OF THE LOAD CELL, INTERNALLY AND/OR EXTERNALLY, INCLUDING WIRES AND THEIR ATTACHMENTS, MAY BE MADE OF ANY MATERIAL PROVIDED THEY DO NOT INTERFERE WITH THE PERFORMANCE OF THE LOAD CELL OR THE TRANSMISSION OF THE LOAD CELL SIGNALS.

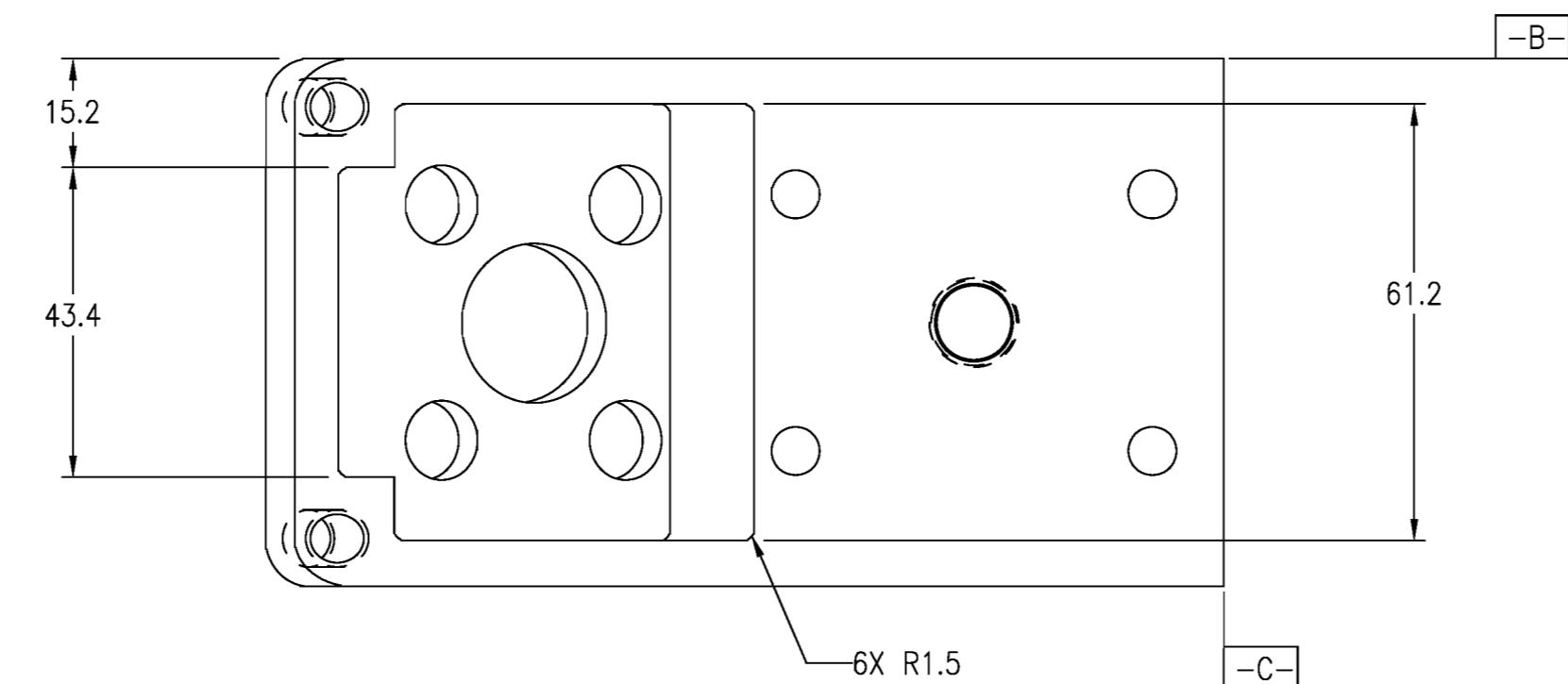
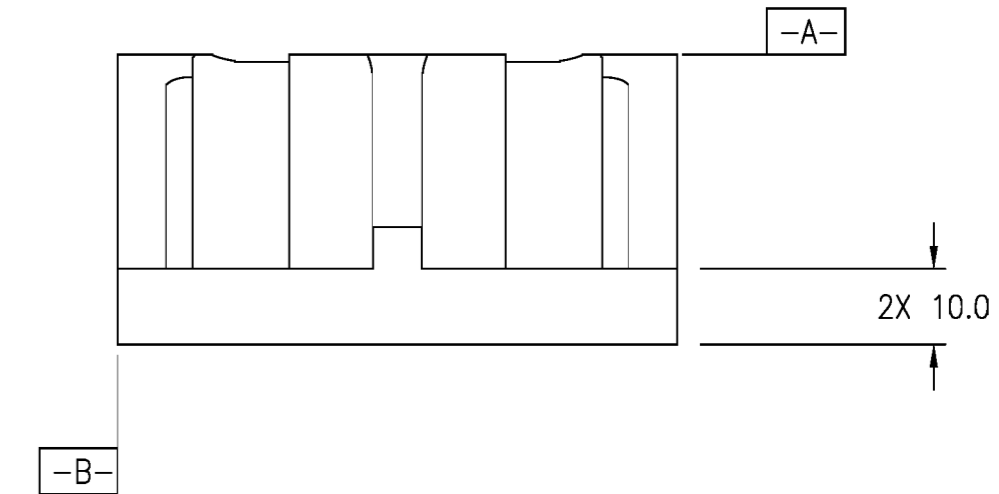
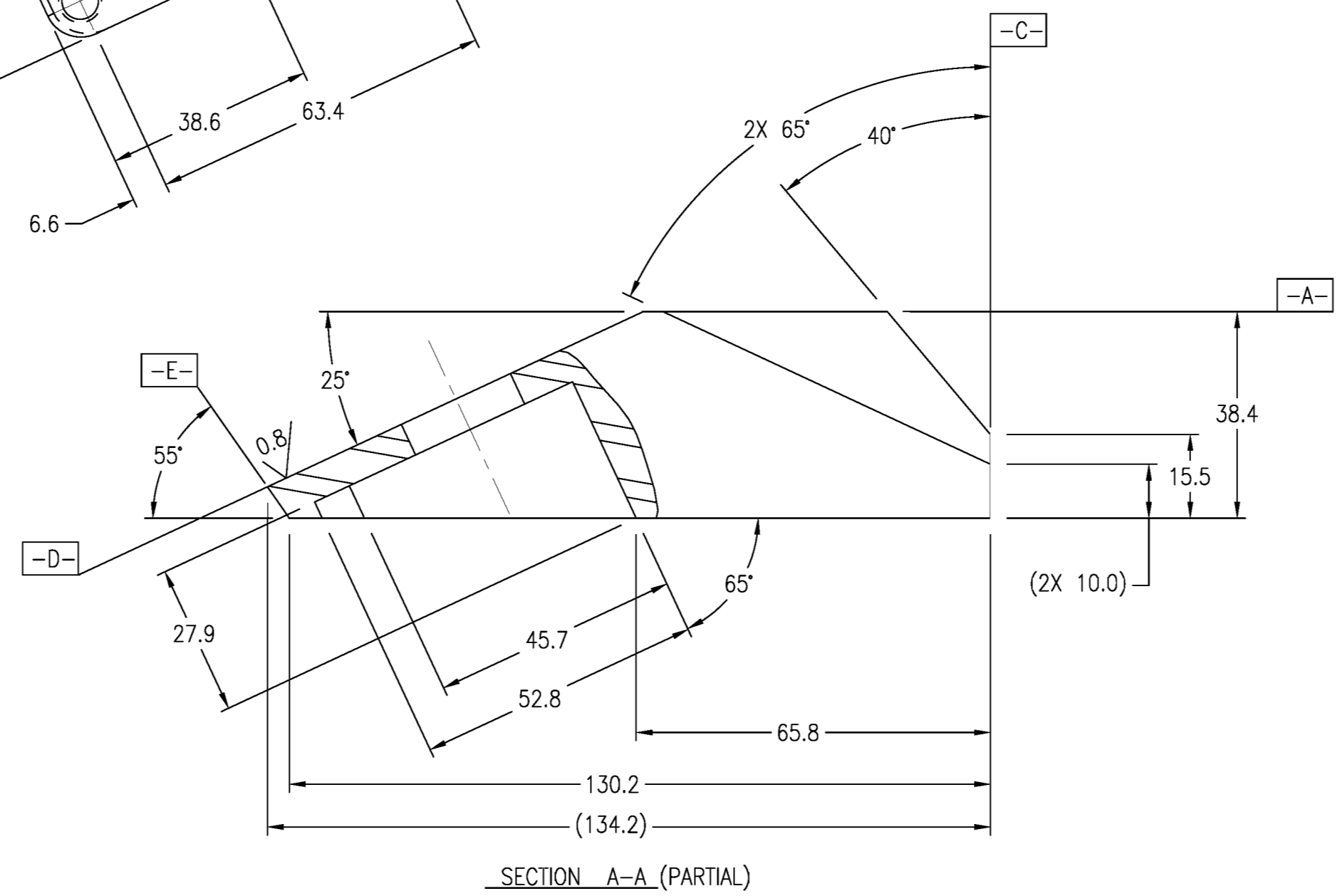
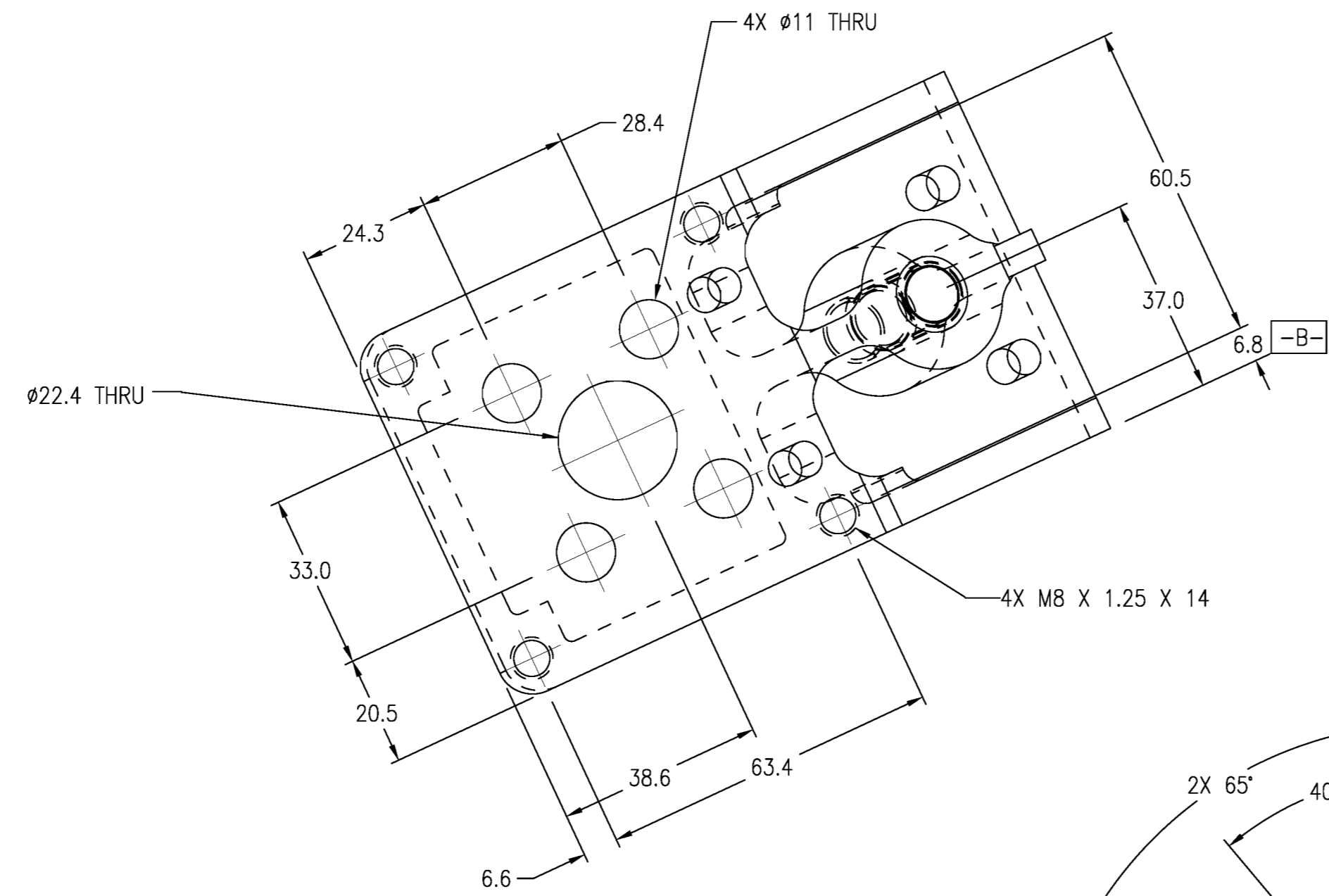
UNITS ARE mm		NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION	
TOLERANCES ARE: *	MATERIAL:	SCALE .5 = 1.0	
DECIMALS	ANGLES	APPROVALS	DATE
.X ±2.5	+ 0.5°	DRAWN	6/7/04
.XX ±0.25	MACHINED:	D. WALKER	
.XXX ±0.127	63/	CHECKED	
* unless otherwise noted	ENG	ES-2re	
		SIZE B	DRAWING NUMBER SA572-S71-2
		REV B	

REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION, REMOVED PART MARK NOTE #2	12/29/05	DW

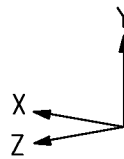
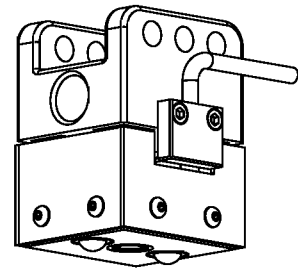


DRILL & TAP FOR HELICOIL INSERT  
 NO. 1084-12CN 24.0 (M12 X 1.75 X 24MM)  
 TAP DRILL Ø12.5MM (FOR M12 X 1.75 HELICOIL PLUG TAP)  
 Ø12.0 MM X 120° C'SINK  
 USE INSERTION TOOL NO. 7751-12  
 INSERT HELICOIL FROM THIS SIDE.

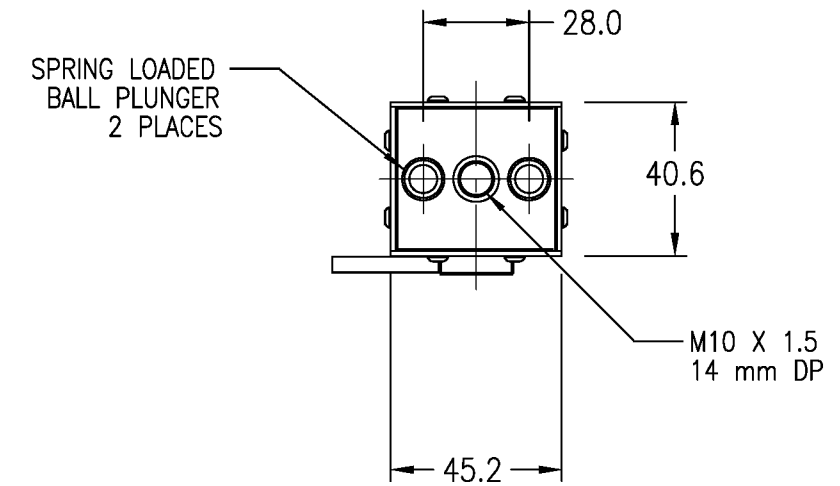
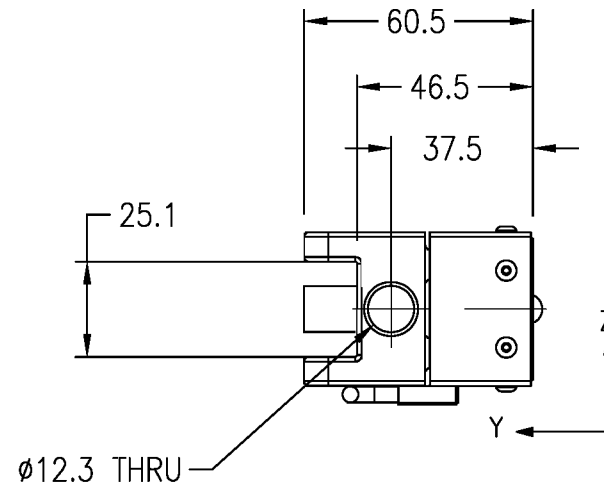


NOTES:  
 1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.

1	1	5000043	HELICOIL, M12 X 1.75 X 24	DESCRIPTION
ITEM NO.	QTY	PART NO.	PART LIST	
UNITS ARE millimeters				
MATERIAL REF. 6061-T6 ALUMINUM			NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION	
SCALE 1.000			LOWER NECK LOAD CELL - MOUNTING BRACKET	
TOLERANCES ARE: * DECIMALS: X ±0.5, .X ±0.1, .XX ±0.05			ES-2re	
ANGLES: ±0.5°			DRAWING NUMBER SA572-S71-3	
MACHINED: 65/			REV B	
* unless otherwise noted			SIZE SHEET A1 1 OF 1	



REVISION RECORD			
REV	DESCRIPTION	DATE	BY
A	CHANGED WEIGHT FROM 0.47 lb./0.213 kg. TO 0.53 lb./0.24 kg., ADDED "OPTIONAL: C'SINK AND USE M6 x 1.0 x 16 mm FHCS" TO MOUNTING HOLE NOTE	12/13/05	DW



**SPECIFICATIONS**

AXIS	CAPACITY	
	lbf	N
F <sub>x</sub>	899	4,000
F <sub>y</sub>	1,799	8,000
F <sub>z</sub>	899	4,000

OUTPUT AT CAPACITY: 0.75 mV/V MIN.

NONLINEARITY < 1% FULL SCALE

CROSSTALK < 5% FULL SCALE

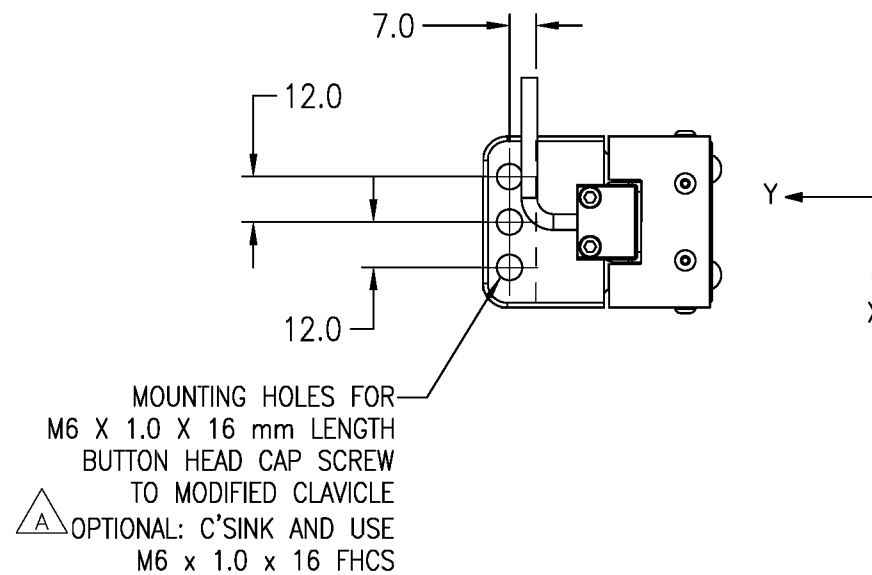
WEIGHT: 0.53 lb./0.24 kg MAX.  $\triangle A$

SIGNAL OUTPUT MUST BE COMPATIBLE WITH AND RECORDABLE IN A DATA CHANNEL AS DEFINED BY SAE J211

FREE AIR RESONANT FREQUENCY      FORCES 5000 Hz MIN.  
MOMENTS 3000 Hz MIN.

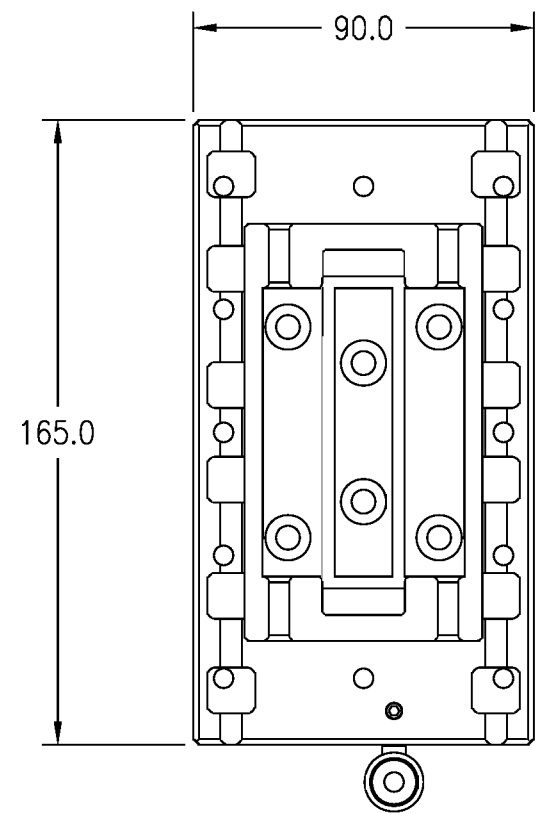
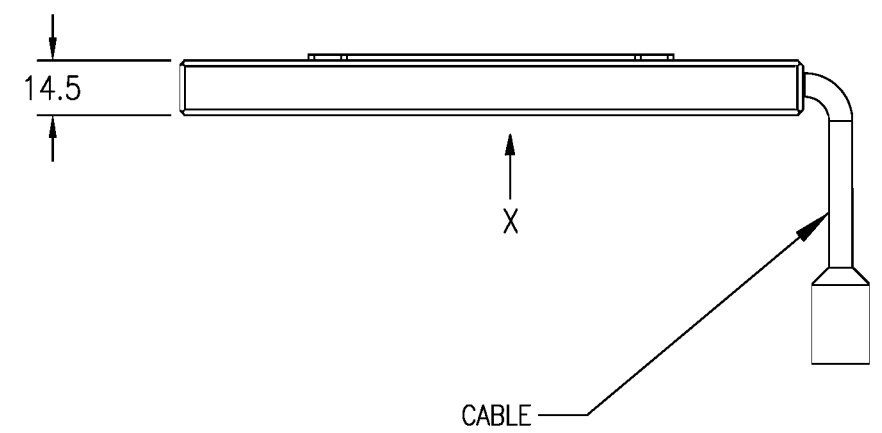
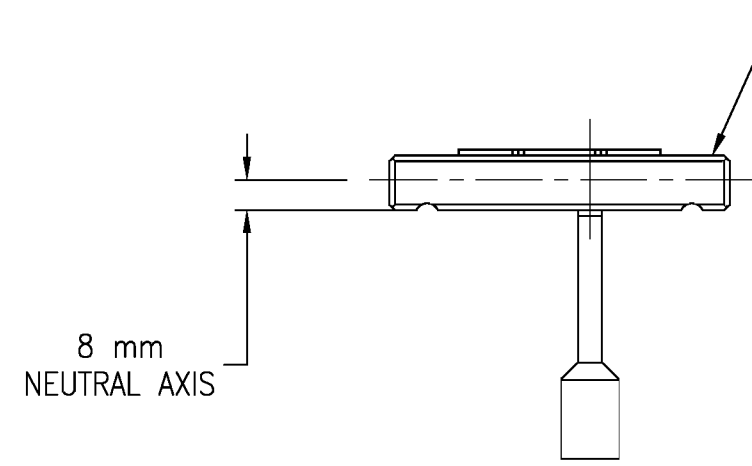
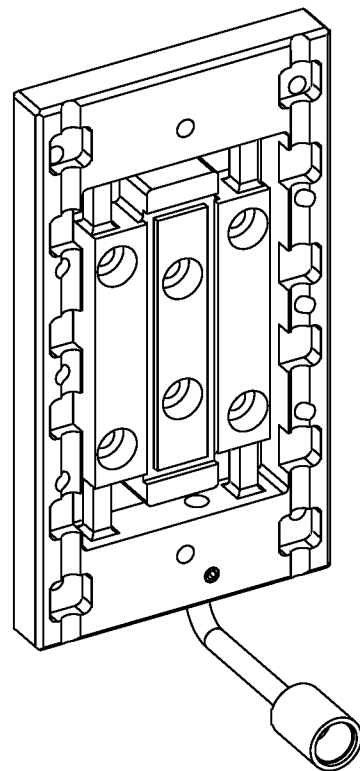
OPERATING TEMPERATURE      0° TO 200°F  
THERMAL SENSITIVITY      (60° TO 80°F)  $\leq$  .03% OF READING /°F

MATERIAL: THE LOAD BEARING STRUCTURE OF THE LOAD CELL, INCLUDING PROVISIONS FOR THE LOAD CELL MOUNTING, ARE OF METAL OR METAL ALLOYS, NON-LOAD BEARING PARTS OF THE LOAD CELL, INTERNALLY AND/OR EXTERNALLY, INCLUDING WIRES AND THEIR ATTACHMENTS, MAY BE MADE OF ANY MATERIAL PROVIDED THEY DO NOT INTERFERE WITH THE PERFORMANCE OF THE LOAD CELL OR THE TRANSMISSION OF THE LOAD CELL SIGNALS.



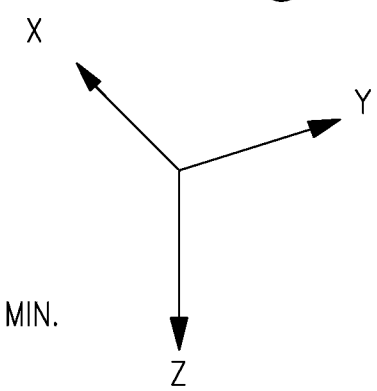
UNITS ARE mm		NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION	
TOLERANCES ARE: *		SCALE 0.5 = 1.0	
DECIMALS	ANGLES	APPROVALS	DATE
X ±0.5	+ 0.5°	DRAWN	5/3/04
X.X ±0.1	MACHINED:	CHECKED	
X.XX ±0.05	63/	ENG	
* unless otherwise noted		3 AXIS SHOULDER LOAD CELL	
		ES-2re	
SIZE	DRAWING NUMBER	REV	
B	SA572-S72	A	

REVISION RECORD			
REV	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	CHANGED WEIGHT FROM 6.83 lb./3.10 kg. TO 2.80 lb./1.27 kg.	12/13/05	DW



**SPECIFICATIONS**

AXIS	CAPACITY	
	lbf	N
F <sub>X</sub>	674	3,000
F <sub>Y</sub>	674	3,000
M <sub>Y</sub>	lb-in	Nm
	1,416	160
M <sub>Z</sub>	1,416	160



OUTPUT AT CAPACITY: 0.75 mV/V MIN.

NONLINEARITY < 1% FULL SCALE

CROSSTALK < 5% FULL SCALE

WEIGHT: 2.80 lb./1.27 kg MAX.

SIGNAL OUTPUT MUST BE COMPATIBLE WITH AND RECORDABLE IN A DATA CHANNEL AS DEFINED BY SAE J211

FREE AIR RESONANT FREQUENCY      FORCES 5000 Hz MIN.  
MOMENTS 3000 Hz MIN.

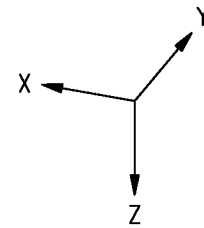
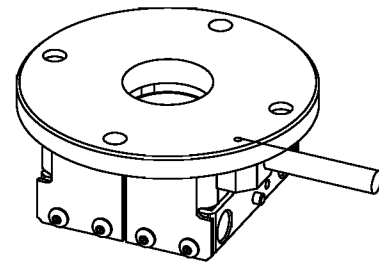
OPERATING TEMPERATURE      0° TO 200°F  
THERMAL SENSITIVITY      (60° TO 80°F) ≤ .03% OF READING /°F

MATERIAL: THE LOAD BEARING STRUCTURE OF THE LOAD CELL, INCLUDING PROVISIONS FOR THE LOAD CELL MOUNTING, ARE OF METAL OR METAL ALLOYS, NON-LOAD BEARING PARTS OF THE LOAD CELL, INTERNALLY AND/OR EXTERNALLY, INCLUDING WIRES AND THEIR ATTACHMENTS, MAY BE MADE OF ANY MATERIAL PROVIDED THEY DO NOT INTERFERE WITH THE PERFORMANCE OF THE LOAD CELL OR THE TRANSMISSION OF THE LOAD CELL SIGNALS.

UNITS ARE mm		<b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>	
TOLERANCES ARE: * DECIMALS      ANGLES X ±0.5          + 0.5° X.X ±0.1       MACHINED: X.XX ±0.05      63/			
* unless otherwise noted		<b>4 AXIS BACKPLATE LOAD CELL</b>	
		ES-2re	
SIZE B	DRAWING NUMBER SA572-S73		REV B

REVISION RECORD

REV	DESCRIPTION	DATE	BY



SPECIFICATIONS

AXIS	CAPACITY	
	lbf	KN
F <sub>x</sub>	3,147	14
F <sub>y</sub>	3,147	14
		Nm
M <sub>x</sub>	8,851	1,000
M <sub>y</sub>	8,851	1,000

OUTPUT AT CAPACITY: 0.75 mV/V MIN.

NONLINEARITY < 1% FULL SCALE

CROSSTALK < 5% FULL SCALE

WEIGHT: 1.10 lb./0.50 kg MAX.

SIGNAL OUTPUT MUST BE COMPATIBLE WITH AND RECORDABLE IN A DATA CHANNEL AS DEFINED BY SAE J211

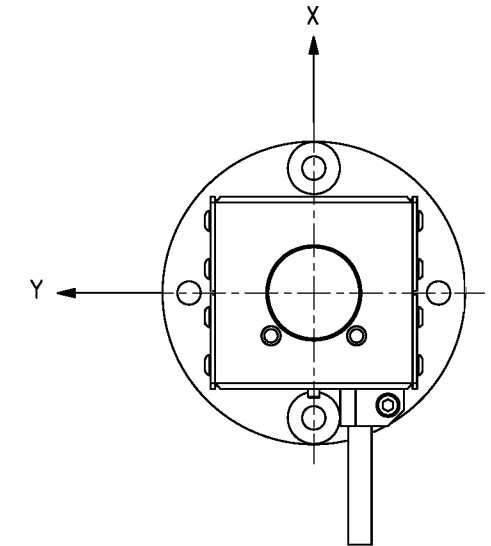
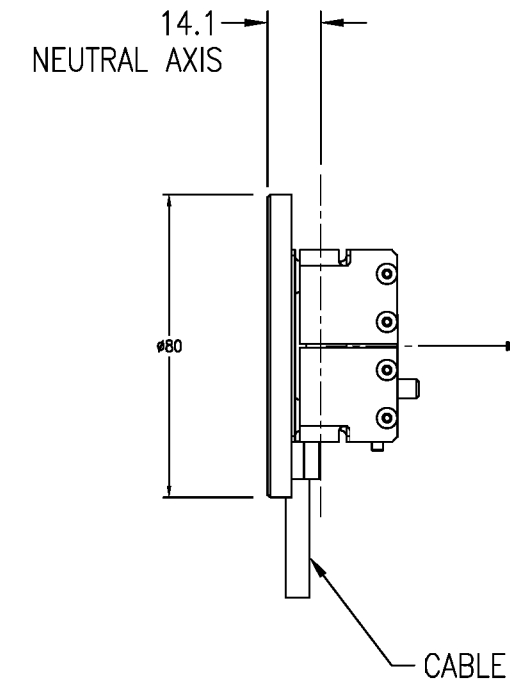
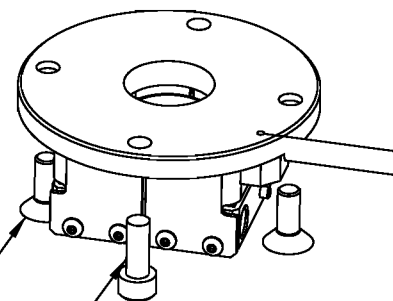
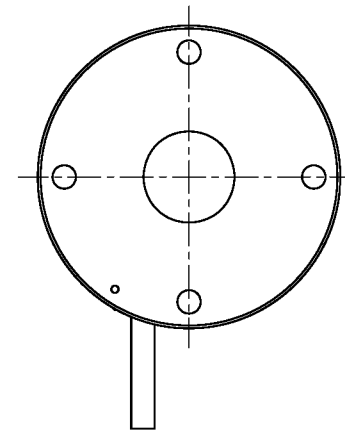
FREE AIR RESONANT FREQUENCY      FORCES 5000 Hz MIN.  
MOMENTS 3000 Hz MIN.

OPERATING TEMPERATURE      0° TO 200°F  
THERMAL SENSITIVITY      (60° TO 80°F) ≤ .03% OF READING /°F

MATERIAL: THE LOAD BEARING STRUCTURE OF THE LOAD CELL, INCLUDING PROVISIONS FOR THE LOAD CELL MOUNTING, ARE OF METAL OR METAL ALLOYS, NON-LOAD BEARING PARTS OF THE LOAD CELL, INTERNALLY AND/OR EXTERNALLY, INCLUDING WIRES AND THEIR ATTACHMENTS, MAY BE MADE OF ANY MATERIAL PROVIDED THEY DO NOT INTERFERE WITH THE PERFORMANCE OF THE LOAD CELL OR THE TRANSMISSION OF THE LOAD CELL SIGNALS.

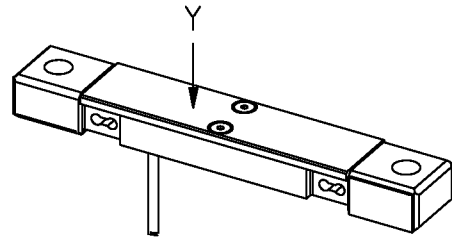
2X M6 X 16 FHCS  
TORQUE TO 14NM

2X M6 X 16 SHCS  
TORQUE TO 14 NM



UNITS ARE mm		 NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION	
TOLERANCES ARE: * DECIMALS      ANGLES X ±0.5            + 0.5° X.X ±0.1        MACHINED: X.XX ±0.05      63/		MATERIAL: SCALE 0.5 = 1.0 APPROVALS      DATE DRAWN D. Walker      5/3/04 CHECKED ENG	
* unless otherwise noted		T12 LOAD CELL	
		ES-2re	
SIZE B	DRAWING NUMBER SA572-S74		REV

REVISION RECORD			
REV	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW



SCALE 0.500

SPECIFICATIONS

AXIS	CAPACITY	
	lbf	N
F <sub>y</sub>	1,124	5,000

OUTPUT AT CAPACITY: 0.75 mV/V MIN.

NONLINEARITY < 1% FULL SCALE

CROSSTALK < 5% FULL SCALE

WEIGHT: 0.45 lb./0.204 kg MAX.

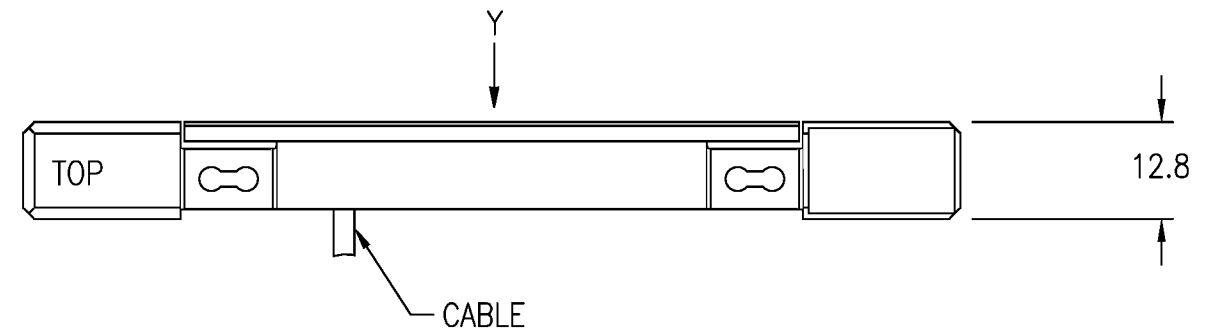
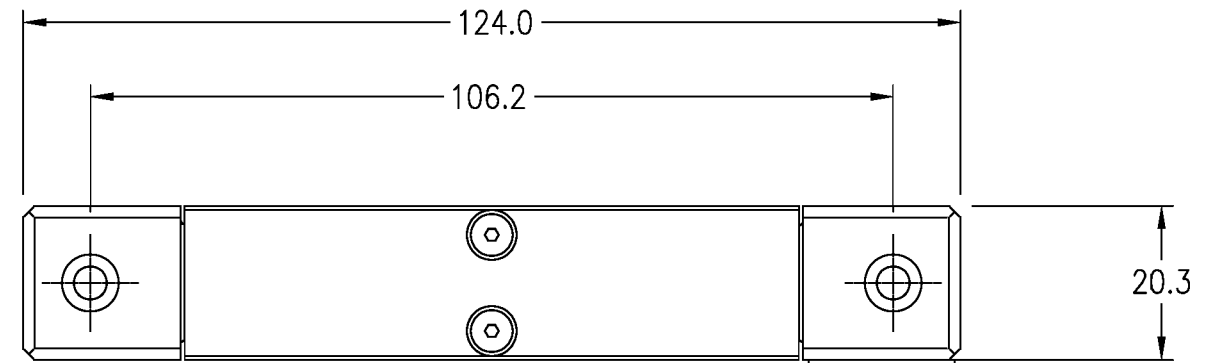
SIGNAL OUTPUT MUST BE COMPATIBLE WITH AND RECORDABLE IN A DATA CHANNEL AS DEFINED BY SAE J211

FREE AIR RESONANT FREQUENCY      FORCES 5000 Hz MIN.  
 MOMENTS 3000 Hz MIN.

OPERATING TEMPERATURE -65° TO +250°F

THERMAL SENSITIVITY (60° TO 80°F) ≤ .03% OF READING /°F

MATERIAL: THE LOAD BEARING STRUCTURE OF THE LOAD CELL, INCLUDING PROVISIONS FOR THE LOAD CELL MOUNTING, ARE OF METAL OR METAL ALLOYS, NON-LOAD BEARING PARTS OF THE LOAD CELL, INTERNALLY AND/OR EXTERNALLY, INCLUDING WIRES AND THEIR ATTACHMENTS, MAY BE MADE OF ANY MATERIAL PROVIDED THEY DO NOT INTERFERE WITH THE PERFORMANCE OF THE LOAD CELL OR THE TRANSMISSION OF THE LOAD CELL SIGNALS.



UNITS ARE mm		NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION	
TOLERANCES ARE: * DECIMALS .X ±2.5 .XX ±0.25 .XXX ±0.127 * unless otherwise noted		MATERIAL: SCALE 1 = 1 APPROVALS      DATE DRAWN D. Walker      5/3/04 CHECKED ENG	
		UNIAxIAL ABDOMEN LOAD CELL	
		ES-2re	
SIZE B	DRAWING NUMBER SA572-S75	REV A	



4

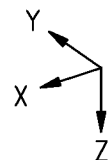
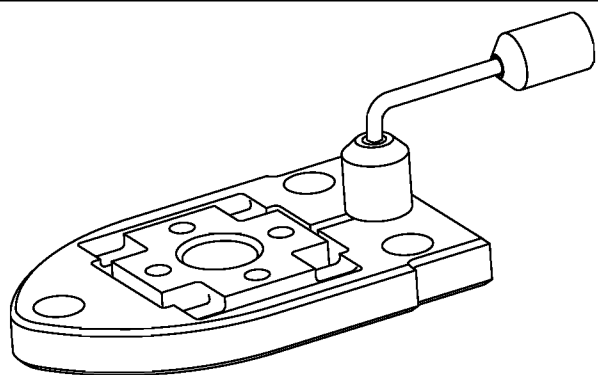
3

2

1

REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	SWAPPED Fx & Fy IN SPECIFICATION TABLE, CHANGED WEIGHT FROM 0.55 lb./0.25 kg. TO 0.59 lb./0.27 kg	12/13/05	DW



SPECIFICATIONS

AXIS	CAPACITY	
	lbf	N
F <sub>y</sub>	1,012	4,500
F <sub>x</sub>	1,012	4,500
M <sub>x</sub>	lb-in	Nm
	1,770	200

OUTPUT AT CAPACITY: 0.75 mV/V MIN.

NONLINEARITY < 1% FULL SCALE

CROSSTALK < 5% FULL SCALE

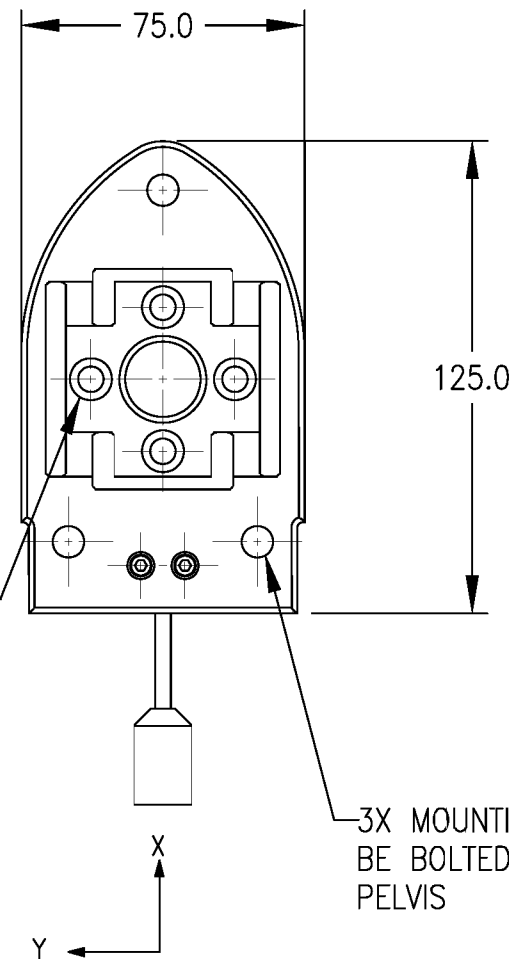
WEIGHT: 0.59 lb./0.27 kg MAX.  $\triangle_B$

SIGNAL OUTPUT MUST BE COMPATIBLE WITH AND RECORDABLE IN A DATA CHANNEL AS DEFINED BY SAE J211

FREE AIR RESONANT FREQUENCY FORCES 5000 Hz MIN. MOMENTS 3000 Hz MIN.

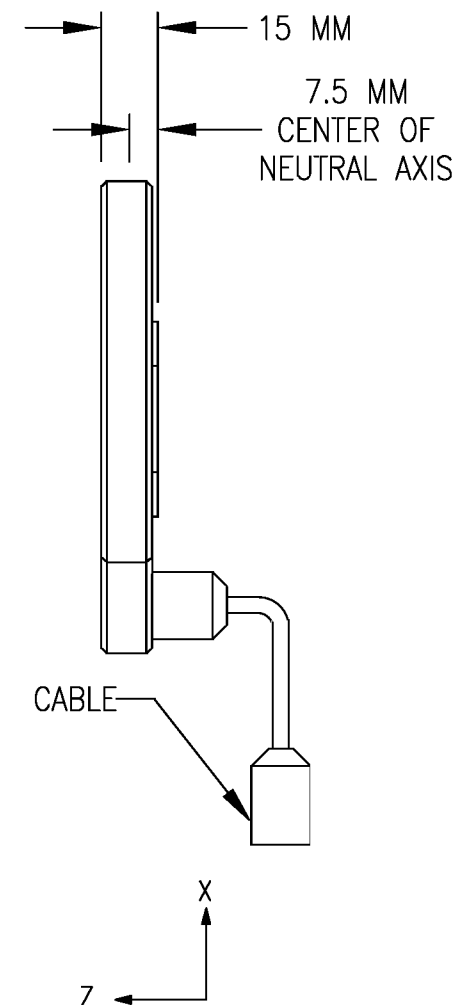
OPERATING TEMPERATURE 0° TO 200°F  
THERMAL SENSITIVITY (-65° TO 250°F) ≤ .03% OF READING /°F

MATERIAL: THE LOAD BEARING STRUCTURE OF THE LOAD CELL, INCLUDING PROVISIONS FOR THE LOAD CELL MOUNTING, ARE OF METAL OR METAL ALLOYS, NON-LOAD BEARING PARTS OF THE LOAD CELL, INTERNALLY AND/OR EXTERNALLY, INCLUDING WIRES AND THEIR ATTACHMENTS, MAY BE MADE OF ANY MATERIAL PROVIDED THEY DO NOT INTERFERE WITH THE PERFORMANCE OF THE LOAD CELL OR THE TRANSMISSION OF THE LOAD CELL SIGNALS.



SPINE MOUNTING HOLES 4 PLACES EQUALLY SPACED ON 1.500" (38.1 MM) BC USING 4X 1/4-20 X 3/4 SOCKET HEAD CAP SCREWS. HOLE PATTERN ON BASE OF SPINE MUST BE MODIFIED TO MOUNT LOADCELL

3X MOUNTING HOLES TO BE BOLTED TO EUROSID PELVIS



ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			<b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
TOLERANCES ARE: * DECIMALS: X ±0.5, .X ±0.1, .XX ±0.05 ANGLES: ±0.5° MACHINED: 63/			
SCALE 0.500		APPROVALS	DATE
DRAWN		CHECKED	
ENGINEER		DATE	
SIZE A3	SHEET 1 OF 1	DRAWING NUMBER SA572-S76	REV. B

LUMBAR LOAD CELL

ES-2re

4

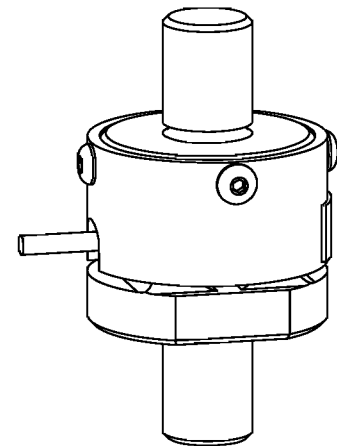
3

2

1

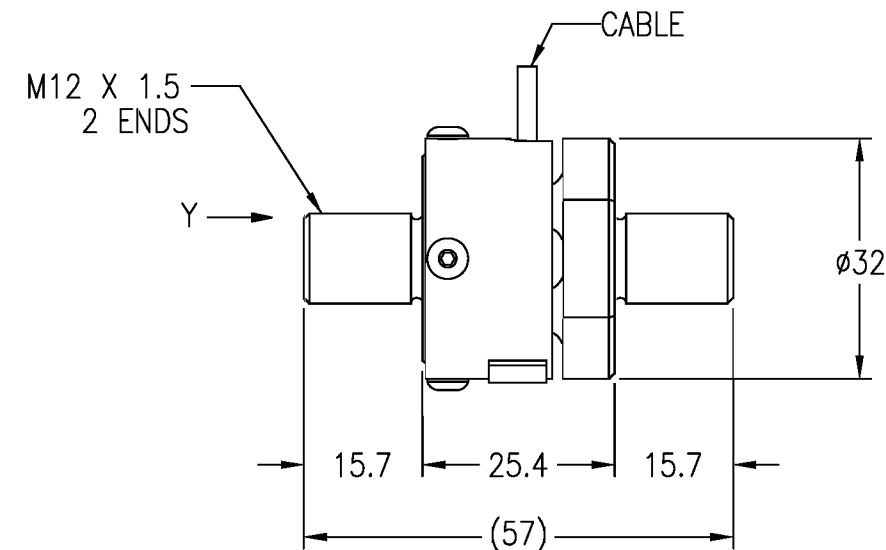
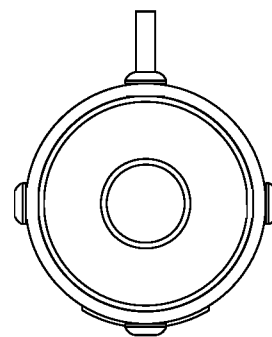
REVISION RECORD

REV	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED AXIL LOAD ERROR NOTE, CHANGED Fy SPECIFICATION FROM 450 lbf, 2,000 N TO 4500 lbf, 20,000 N	12/13/05	DW



SPECIFICATIONS

AXIS	CAPACITY	
	lbf	N
F <sub>y</sub>	4500	20,000



**B** NOTE:

AXIAL LOAD ERROR SHALL BE LESS THAN 7% FOR A 3,000 POUND AXIAL LOAD APPLIED AT ANY LOCATION ALONG A ONE INCH RADIUS FROM THE LONGITUDINAL CENTERLINE OF THE LOAD CELL.

OUTPUT AT CAPACITY: 0.75 mV/V MIN.

NONLINEARITY < 1% FULL SCALE

CROSSTALK < 5% FULL SCALE

WEIGHT: 0.28 lb./0.127 kg MAX.

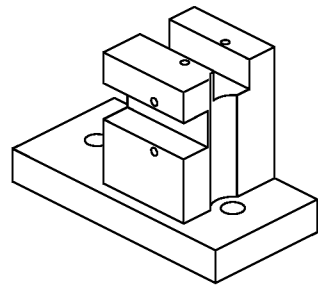
SIGNAL OUTPUT MUST BE COMPATIBLE WITH AND RECORDABLE IN A DATA CHANNEL AS DEFINED BY SAE J211

FREE AIR RESONANT FREQUENCY      FORCES 5000 Hz MIN.  
 MOMENTS 3000 Hz MIN.

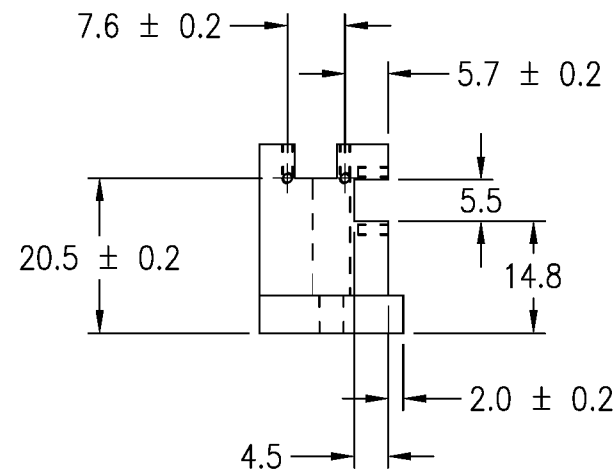
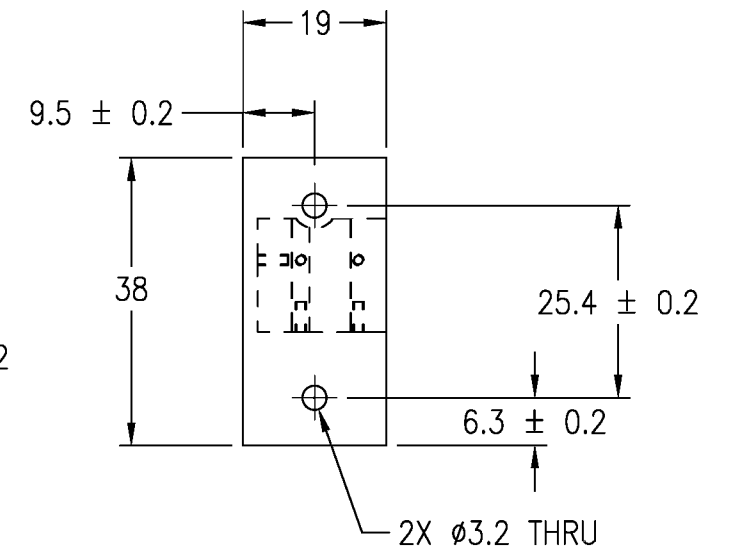
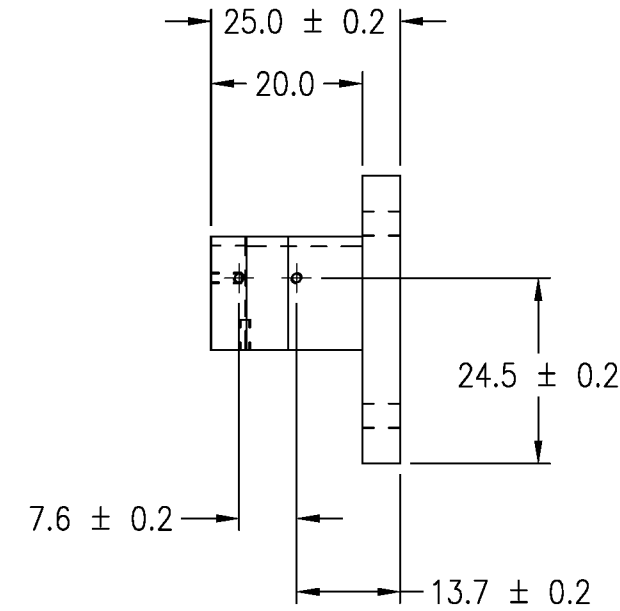
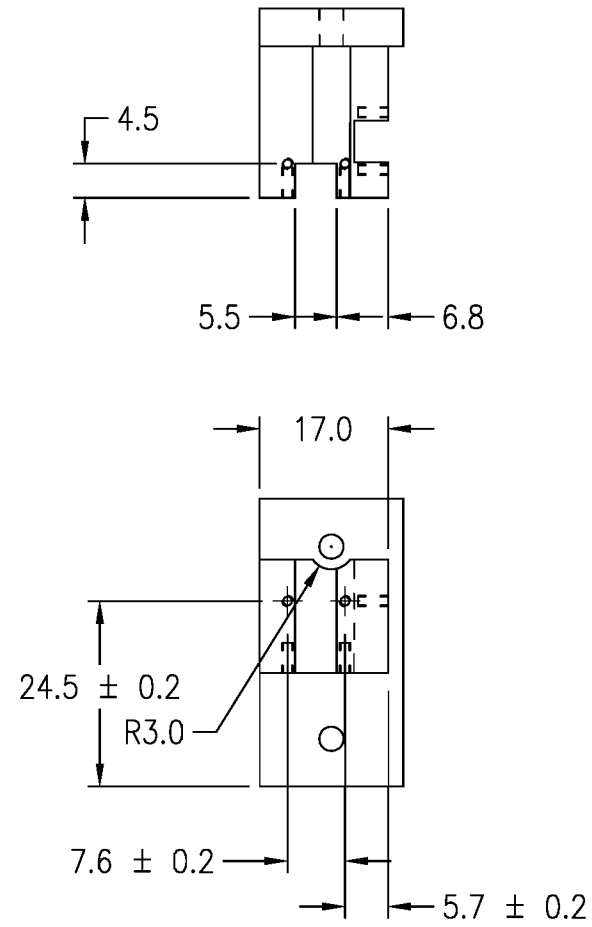
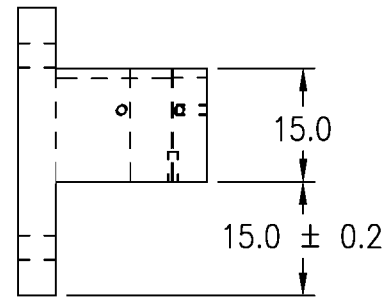
OPERATING TEMPERATURE      -65° TO +250°F  
 THERMAL SENSITIVITY      (60° TO 80°F) ≤ .03% OF READING /°F

MATERIAL: THE LOAD BEARING STRUCTURE OF THE LOAD CELL, INCLUDING PROVISIONS FOR THE LOAD CELL MOUNTING, ARE OF METAL OR METAL ALLOYS, NON-LOAD BEARING PARTS OF THE LOAD CELL, INTERNALLY AND/OR EXTERNALLY, INCLUDING WIRES AND THEIR ATTACHMENTS, MAY BE MADE OF ANY MATERIAL PROVIDED THEY DO NOT INTERFERE WITH THE PERFORMANCE OF THE LOAD CELL OR THE TRANSMISSION OF THE LOAD CELL SIGNALS.

UNITS ARE mm		NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION	
TOLERANCES ARE: *		MATERIAL:	
DECIMALS	ANGLES	SCALE	1 = 1
X ±0.5	+ 0.5°	APPROVALS	DATE
X.X ±0.1	MACHINED:	DRAWN	5/3/04
X.XX ±0.05	63/	CHECKED	
* unless otherwise noted		ENG	
		PUBIC LOAD CELL	
		ES-2re	
SIZE	DRAWING NUMBER		REV
B	SA572-S77		B



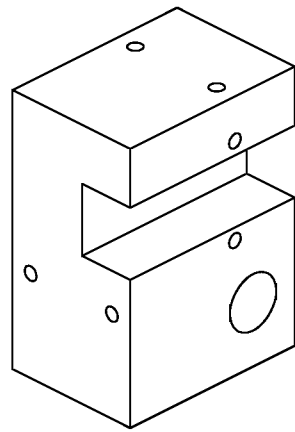
REVISION RECORD			
REV	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION	12/13/05	DW



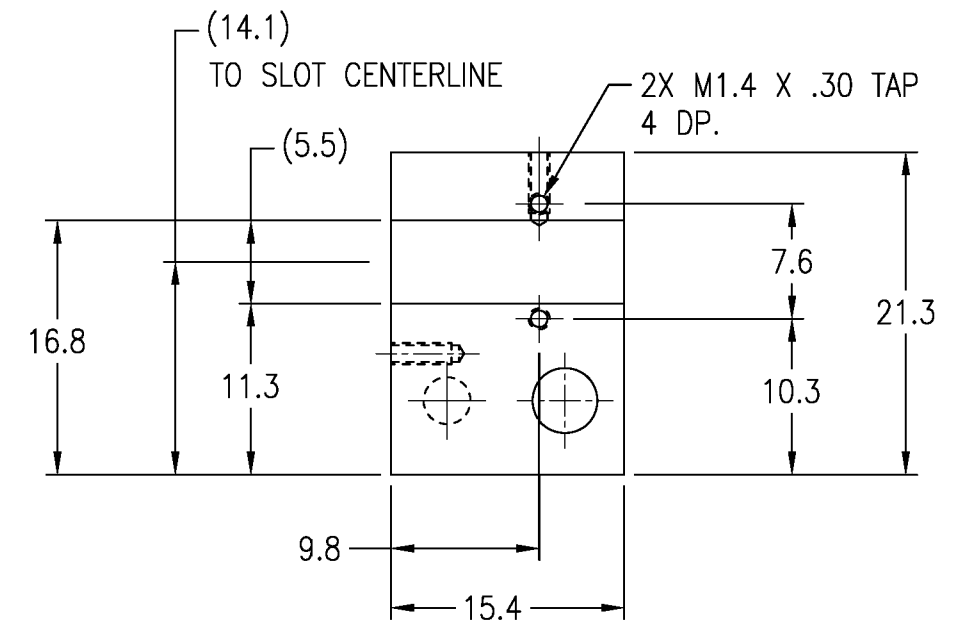
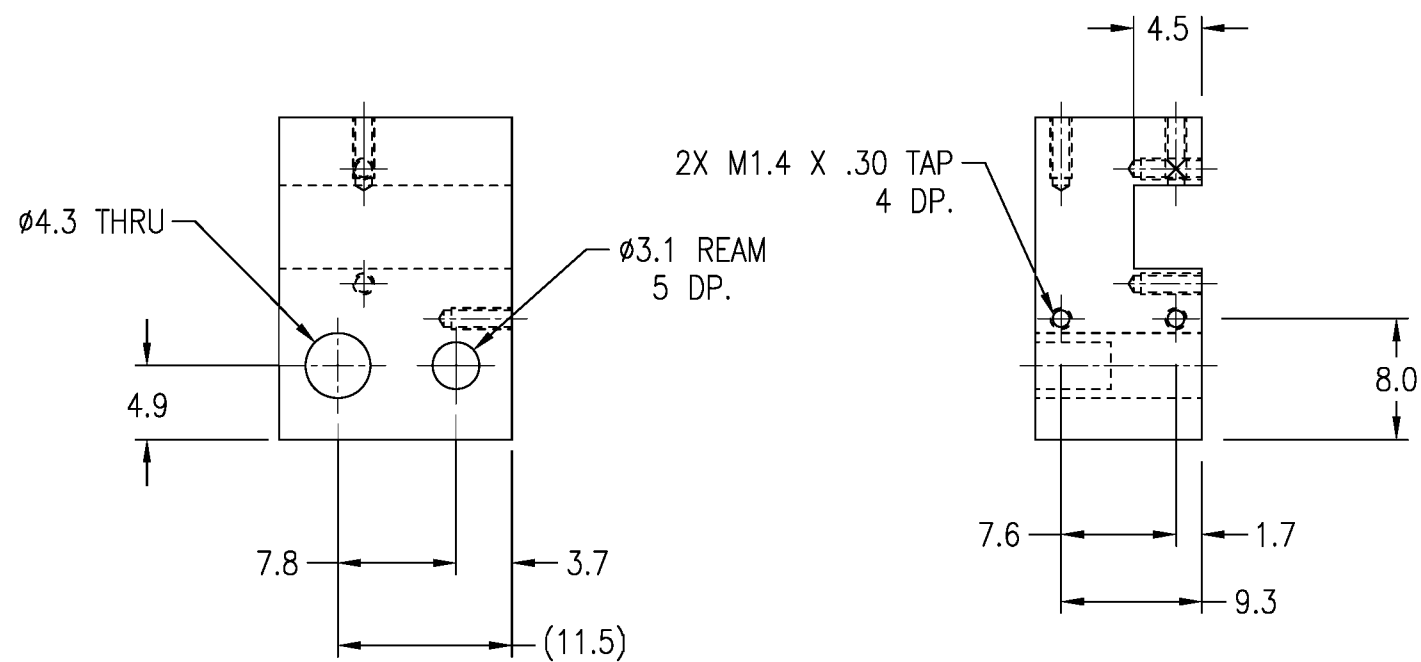
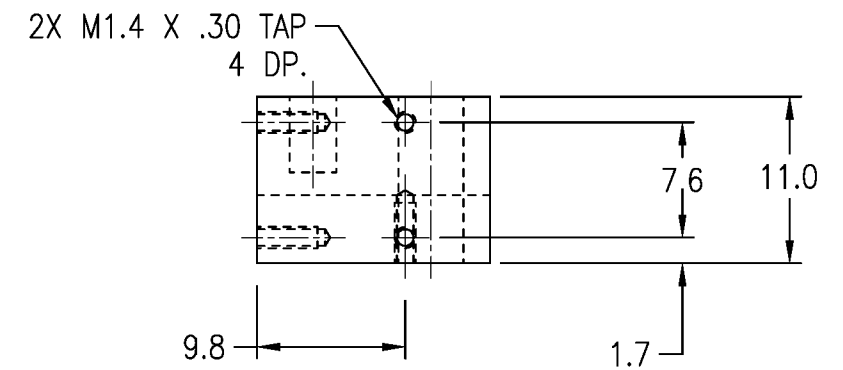
NOTES:

1. REMOVE BURRS AND BREAK SHARP EDGES.

UNITS ARE mm		 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>	
TOLERANCES ARE: $\frac{A}{B}$ DECIMALS X ±0.5 X.X ±0.1 X.XX ±0.05 * unless otherwise noted		MATERIAL: REF. ALUM. 6061-T6 SCALE 1 = 1 APPROVALS DATE DRAWN D. Walker 4/30/04 CHECKED ENG	
		ACCEL MOUNTING BLOCK, UPPER SPINE/PELVIS SA572-S4	
		ES-2re	
SIZE B	DRAWING NUMBER SA572-S82		REV B



REVISION RECORD			
REV	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #3	12/13/05	DW



NOTES:

1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.

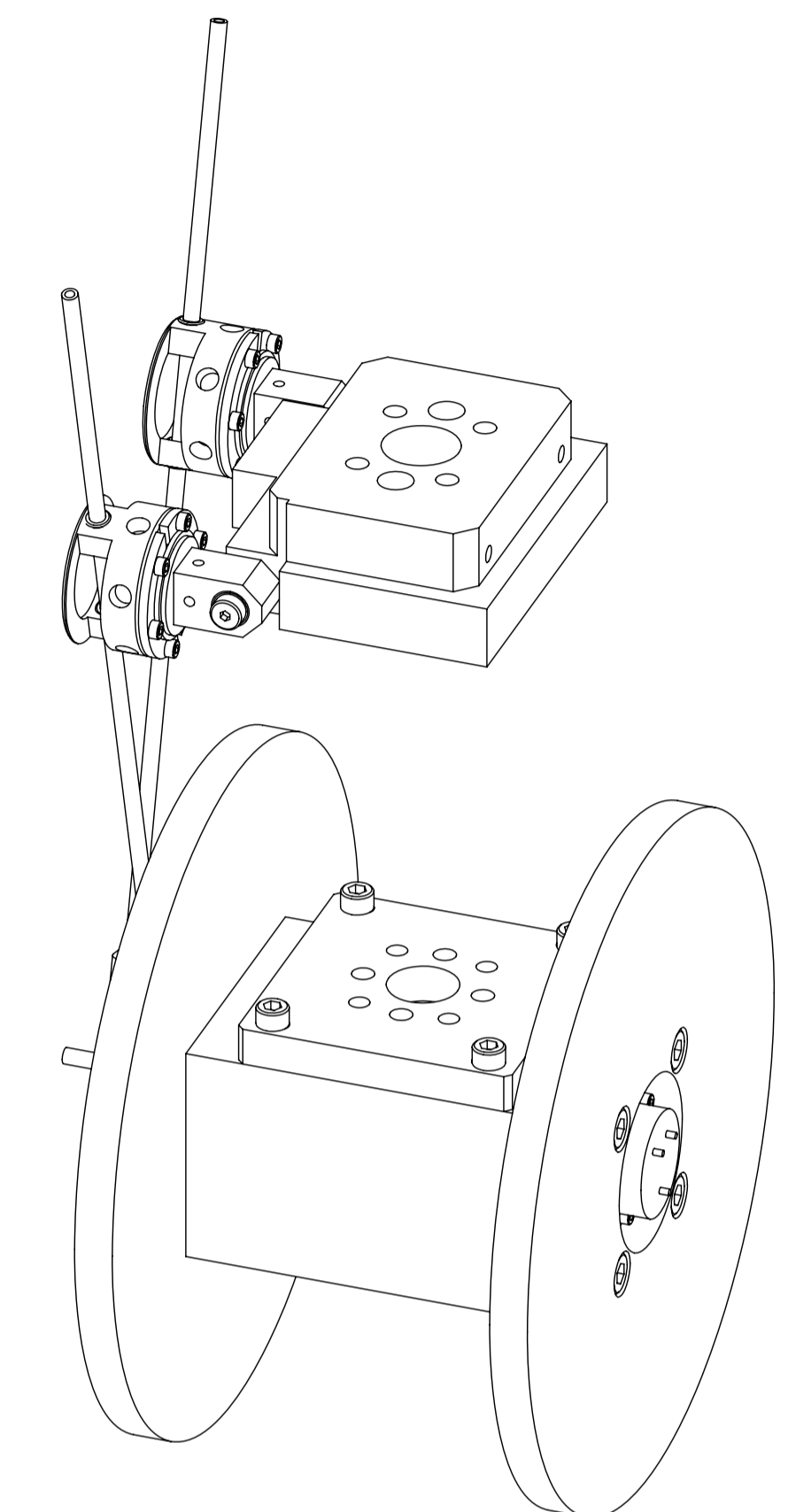
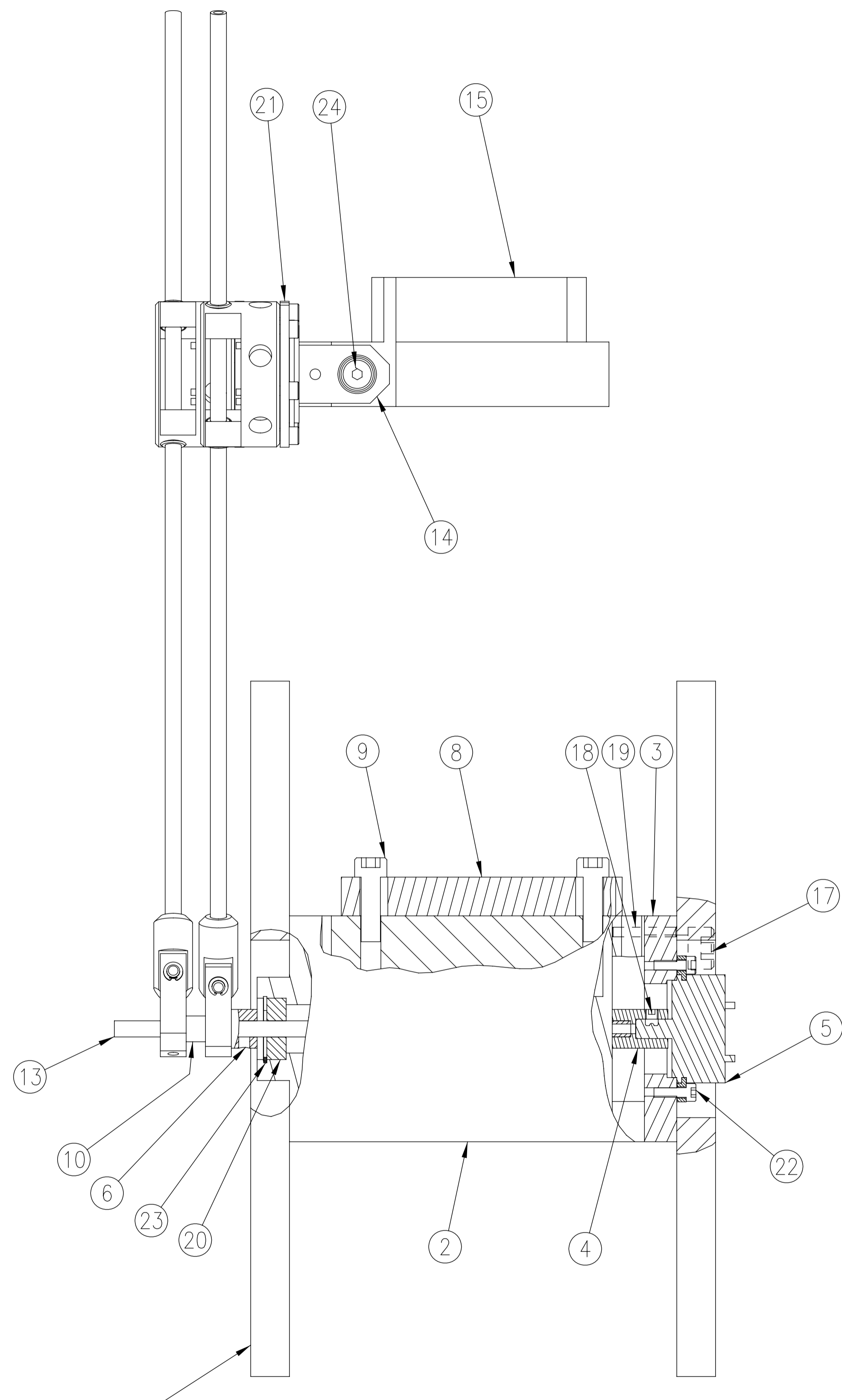
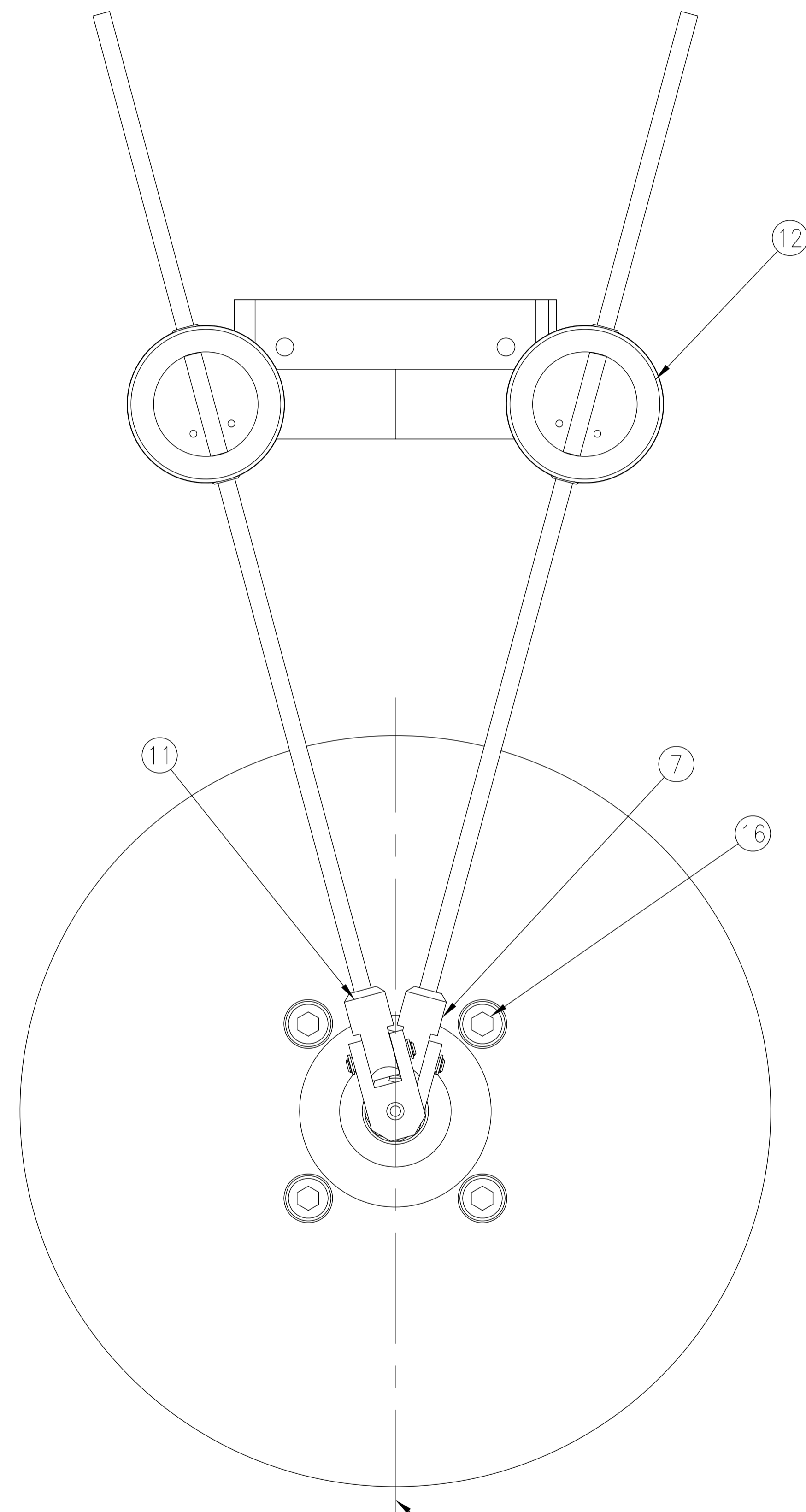
2. MACHINE FINISH SHALL NOT EXCEED 0.8  $\sqrt{\text{mm}}$

3. FINISH REF.: GOLD ANODIZE.



UNITS ARE mm		 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>	
TOLERANCES ARE: *B DECIMALS X ±0.5 X.X ±0.1 X.XX ±0.05 * unless otherwise noted		MATERIAL: REF. ALUM. 6061-T6 SCALE 2 = 1 APPROVALS DATE DRAWN D. Walker 4/30/04 CHECKED ENG	
		ACCEL MOUNT BLOCK, SPINE T12 SA572-S4	
		ES-2re	
SIZE B	DRAWING NUMBER SA572-S83		REV A

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED CERTIFICATION TEST ANGULAR MOTION PLANE NOTE	1/11/06	DW



SCALE 0.500

ITEM NO.	QTY	PART NO.	DESCRIPTION
24	2	5000079	SCREW, SHSS M6 X 16
23	1	5000558	RETAINING RING, 19 x 1
22	6	5000119	SCREW, SHCS M3 X .5 X 10
21	1	175-9022	POTENTIOMETER CLAMP
20	1	175-9028	BALL BEARING
19	4	5000389	PIN, DOWEL M3 X 20
18	1	5000406	SCREW, SSCP M4 X 0.7 X 5
17	4	5000372	SCREW, SHCS M8 X 1.25 X 30
16	4	5000075	SCREW, SHCS M8 X 1.25 X 20
15	1	175-9027	UPPER MOUNTING BASE
14	2	175-9024	COUPLING ASSEMBLY
13	1	175-9023	ARROW SHAFT
12	2	175-9019	POT ASSEMBLY
11	1	175-9017	ARROW SHAFT-PIVOT ASSEMBLY A
10	1	175-9016	SPACER
9	4	5000001	SCREW, SHCS M6 X 1 X 20
8	1	175-9029	NECK & LUMBAR SPINE MOUNTING BASE
7	1	175-9007	ARROW SHAFT-PIVOT ASSEMBLY B
6	1	175-9006	LOCK SPACER
5	1	SA572-S53	ROTARY POTENTIOMETER, MCB H33A
4	1	175-9004	COUPLING
3	1	175-9003	COVER
2	1	175-9002	CENTRAL PART
1	2	175-9001	DISC

CERTIFICATION TEST  
ANGULAR MOTION  
REFERENCE PLANE

SECTION A-A (OFFSET)

UNITS ARE millimeters

TOLERANCES ARE: \*  
 DECIMALS: X ±0.5  
 .XX ±0.1  
 .XXX ±0.05

ANGLES: ±0.5°  
 MACHINED:  $\frac{B.S.}{\nabla}$

\* unless otherwise noted

SCALE 1.000

APPROVALS: [Signature] DATE: [Date]

CHECKED: [Signature] ENGINEER: [Signature]

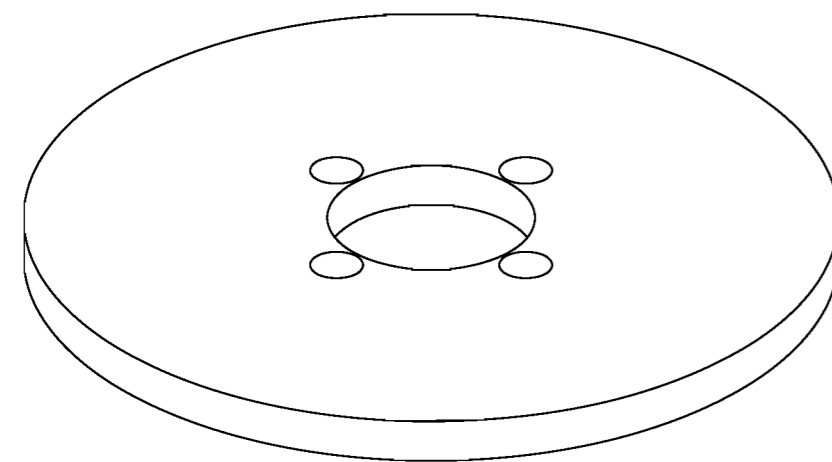
SIZE: A1 SHEET: 1 OF 1

DRAWING NUMBER: 175-9000

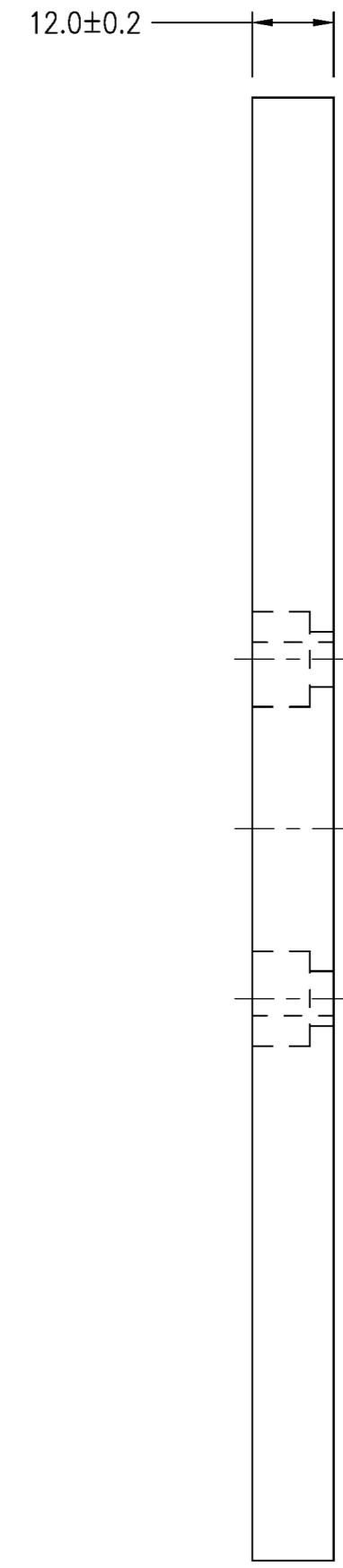
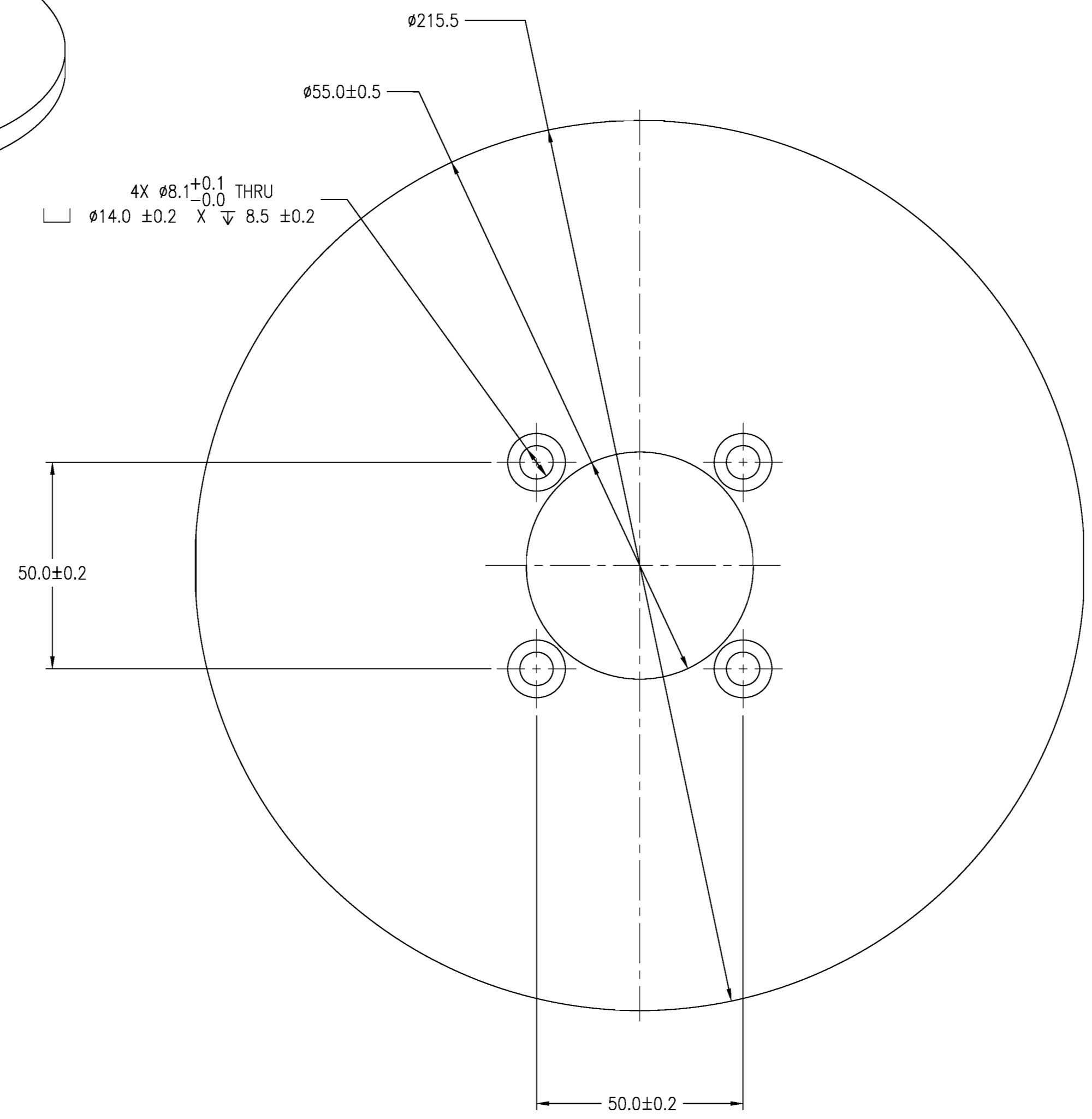
REV: B

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
HEADFORM

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #2	12/13/05	DW




SCALE 0.500

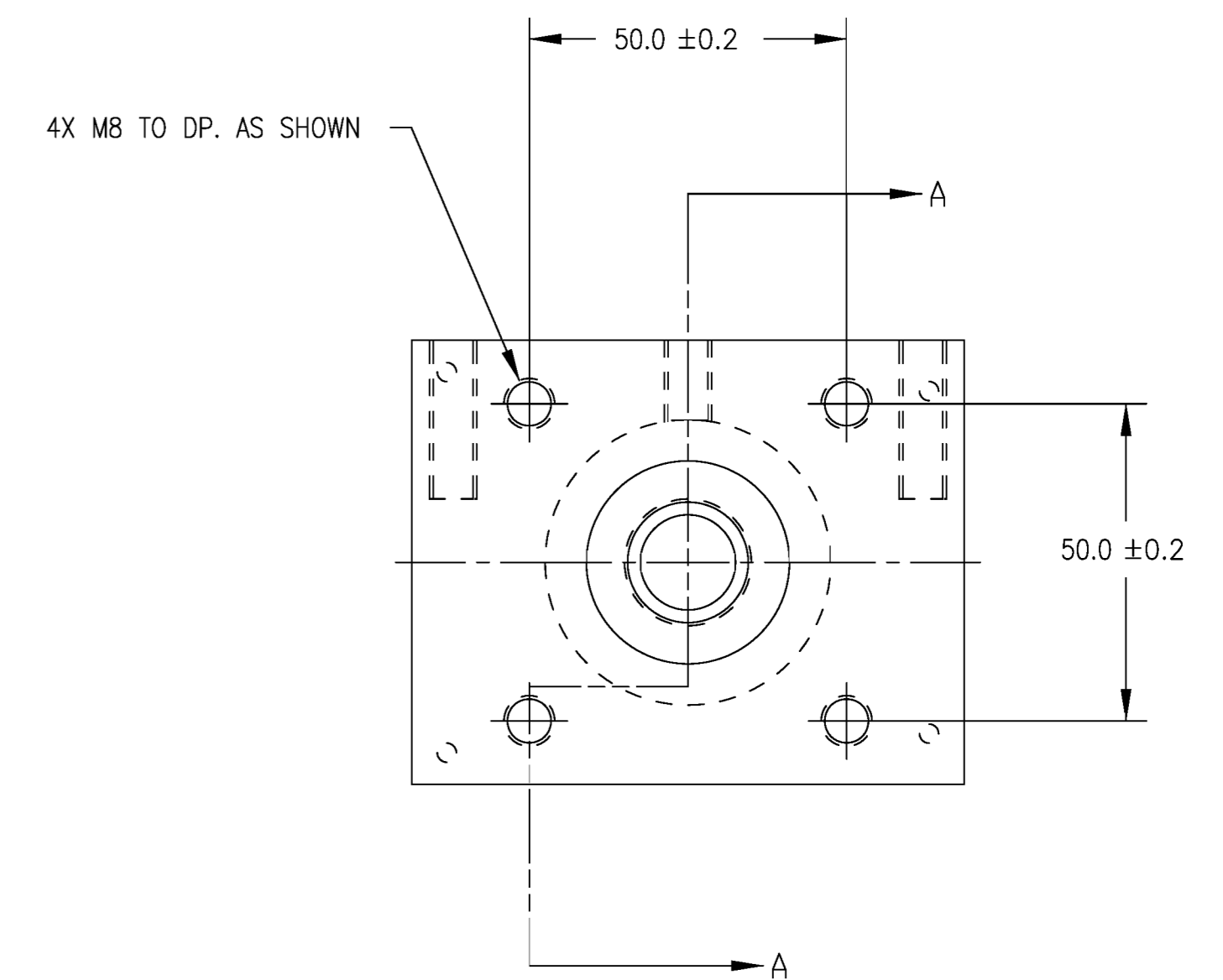
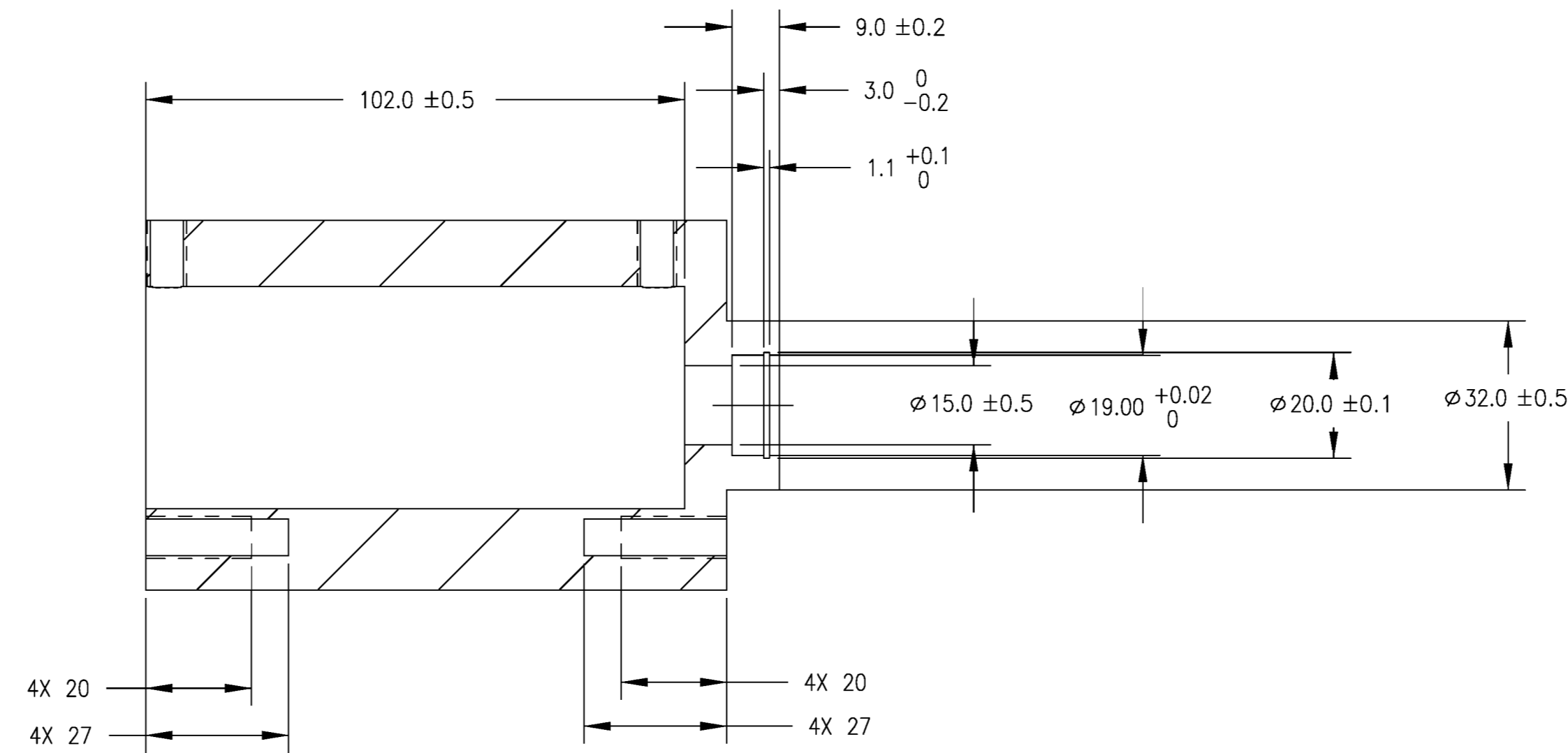
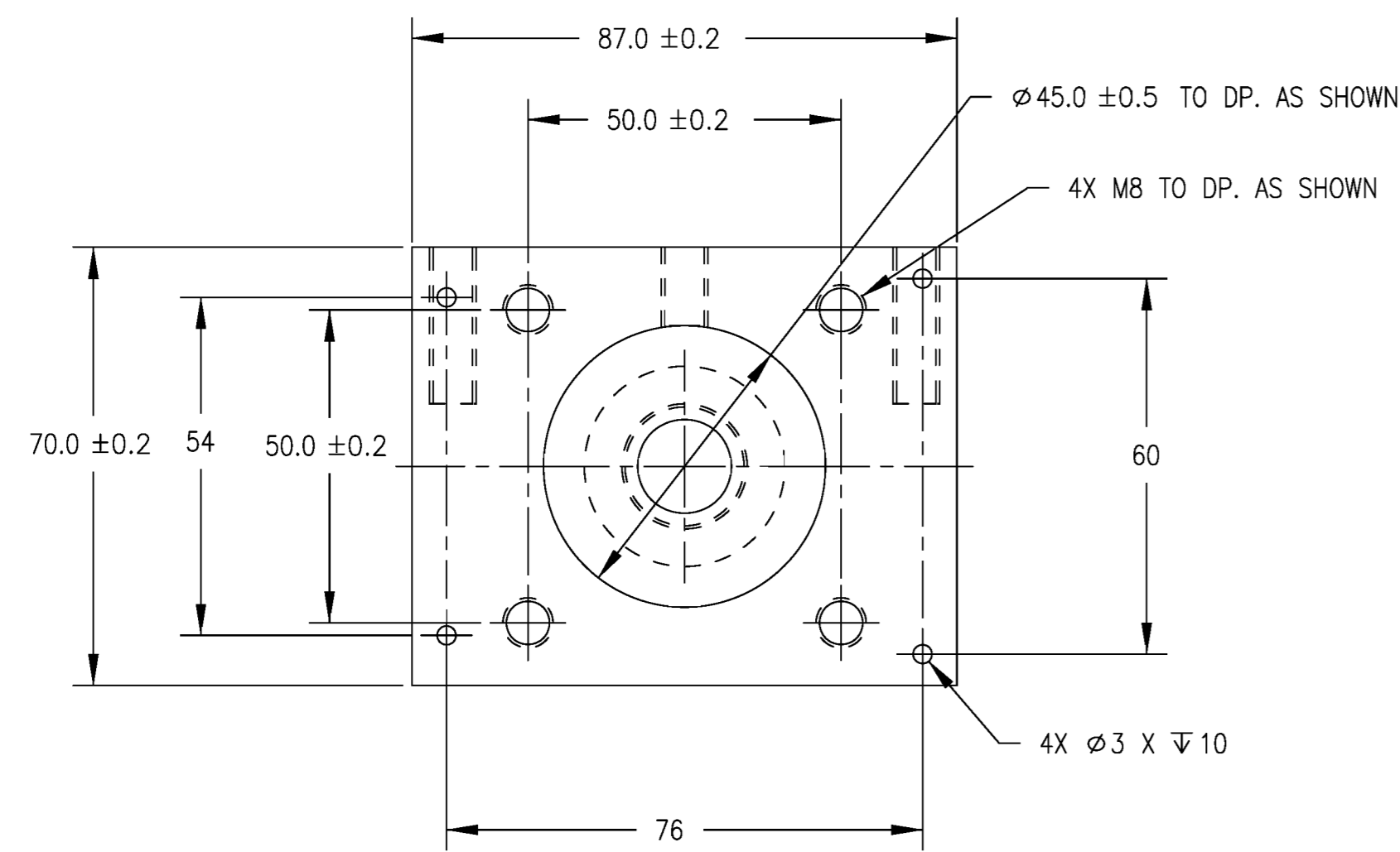
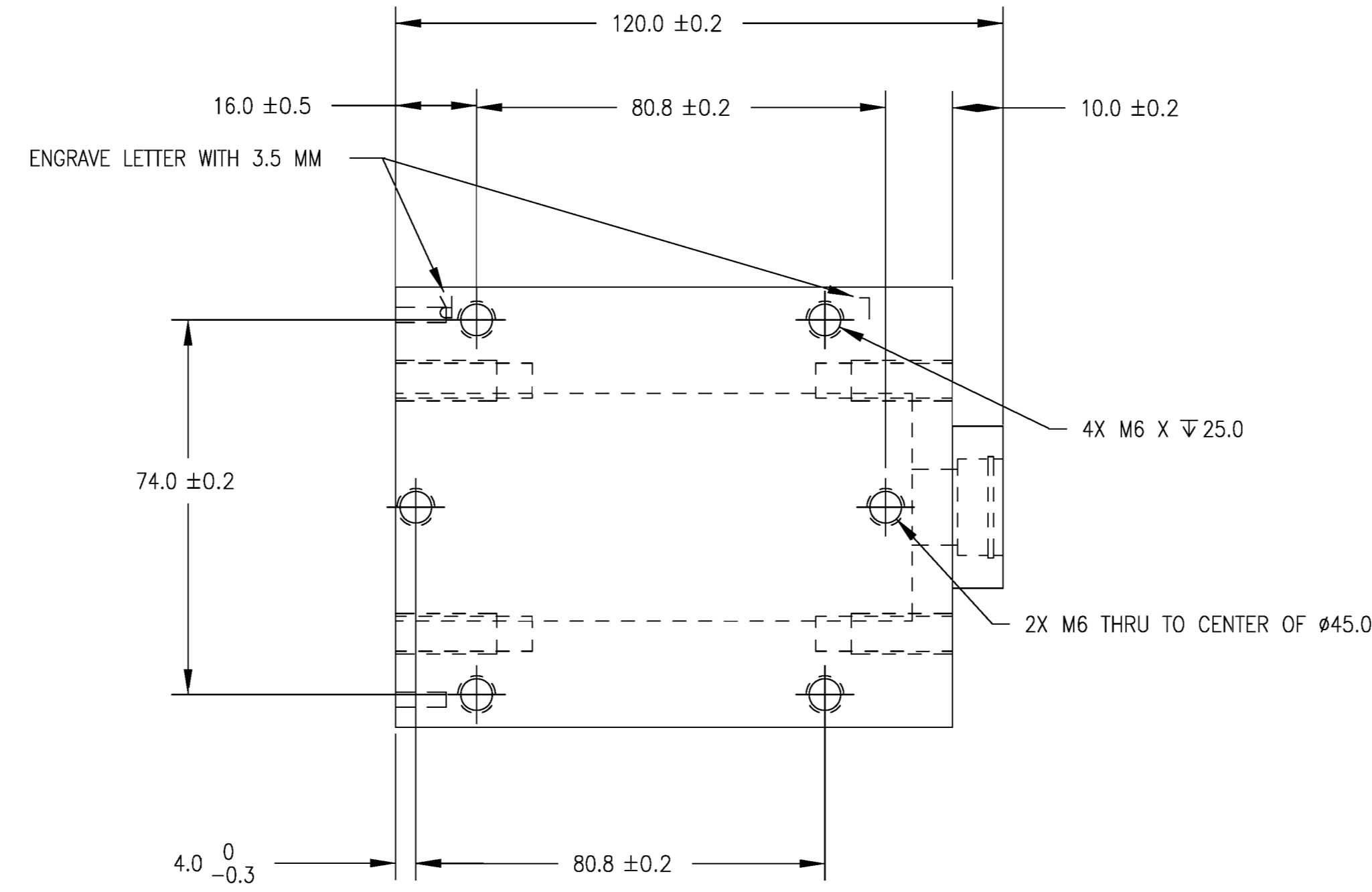
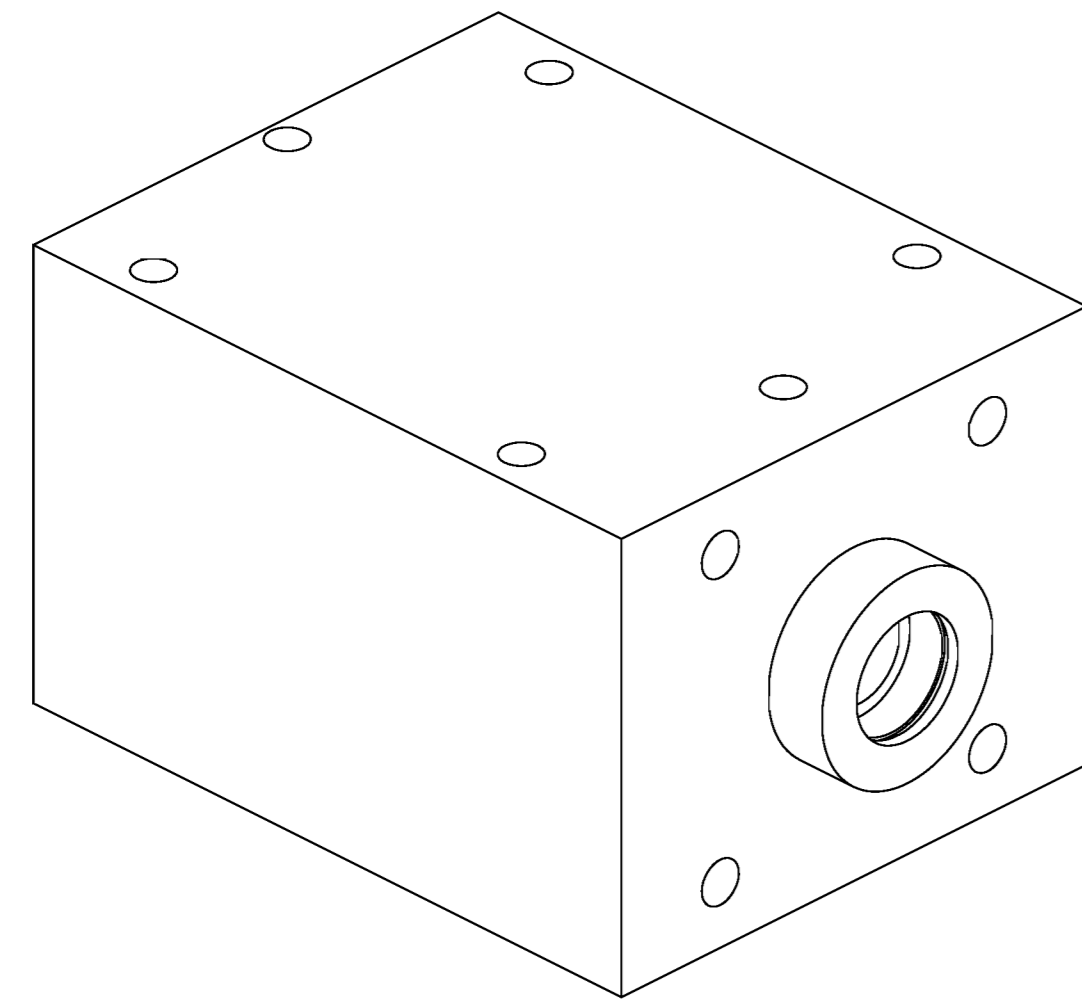


- NOTES:
1. REMOVE ALL BURRS AND BREAK SHARP EDGES.
  2. FINISH REF.: SILVER ANODIZE.



ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. ALUM. 6082			
SCALE 1.000			DISC
TOLERANCES ARE: *		APPROVALS	
DECIMALS:	ANGLES:	DATE	
X ±0.5	±0.5°	DRAWN	
.X ±0.1	MACHINED:	CHECKED	
.XX ±0.05	6.3	ENGINEER	
* unless otherwise noted		SIZE A2	SHEET 1 OF 1
DRAWING NUMBER 175-9001			REV. B

REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #2	12/14/05	DW

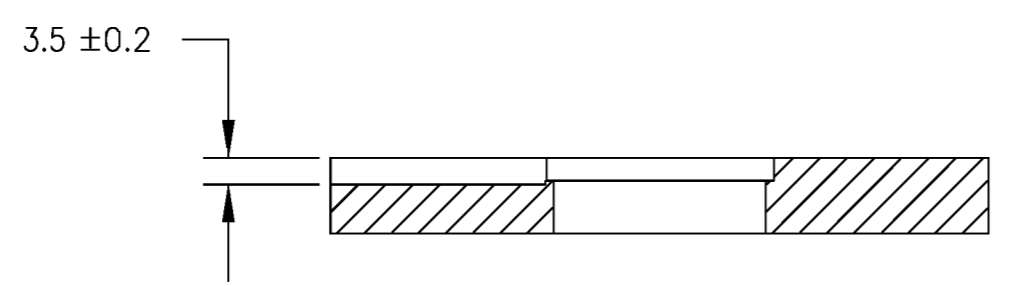
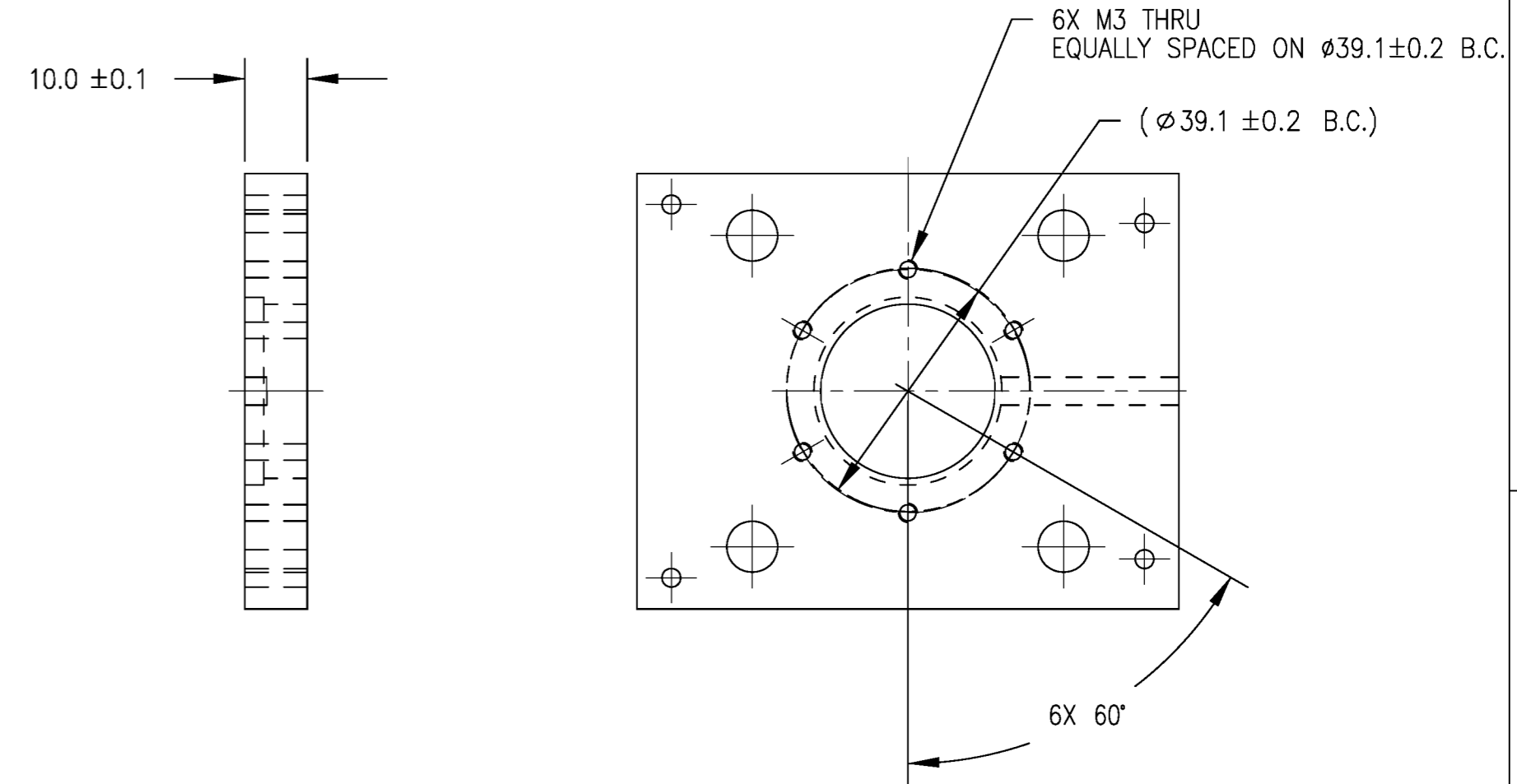
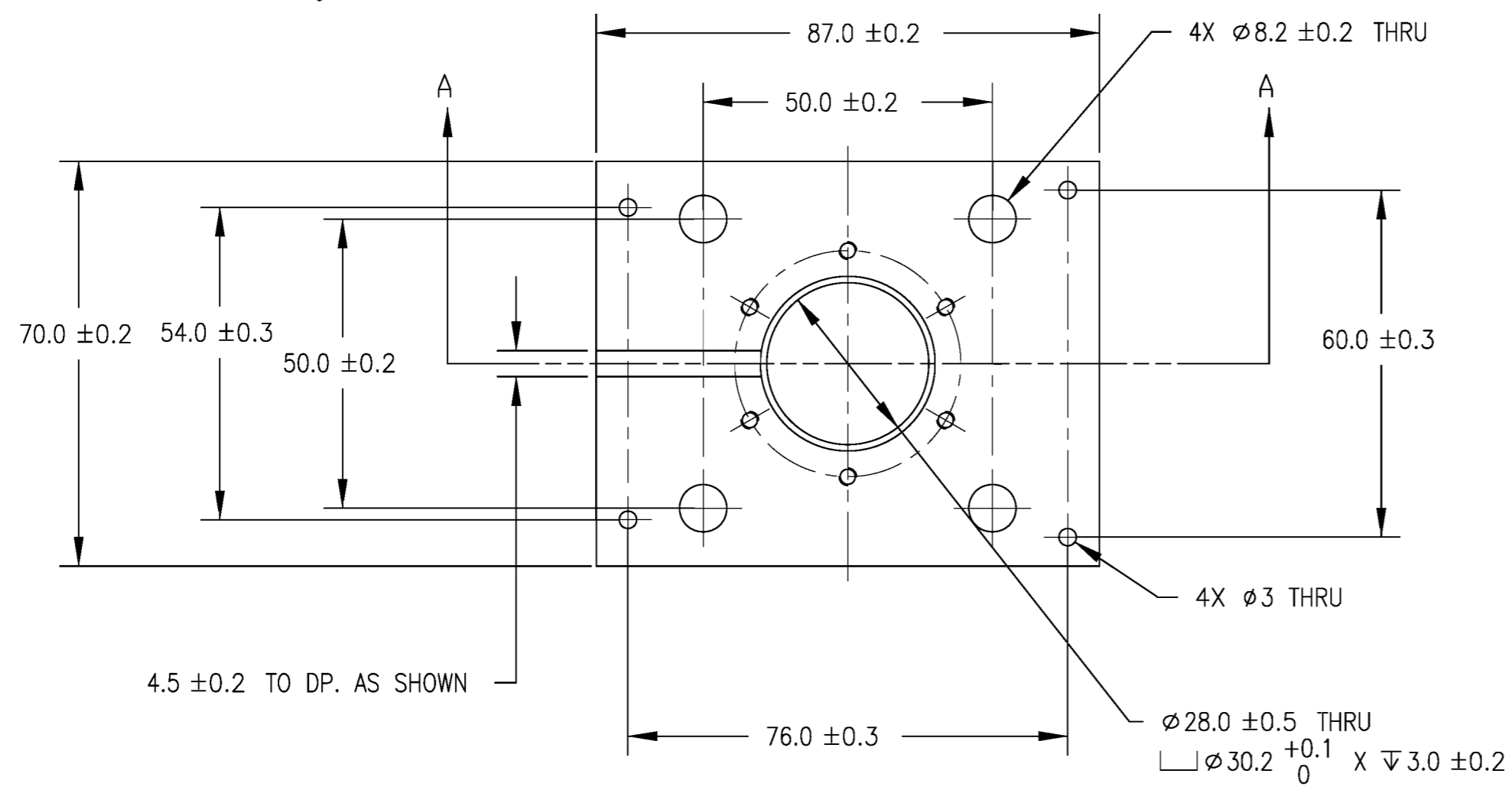
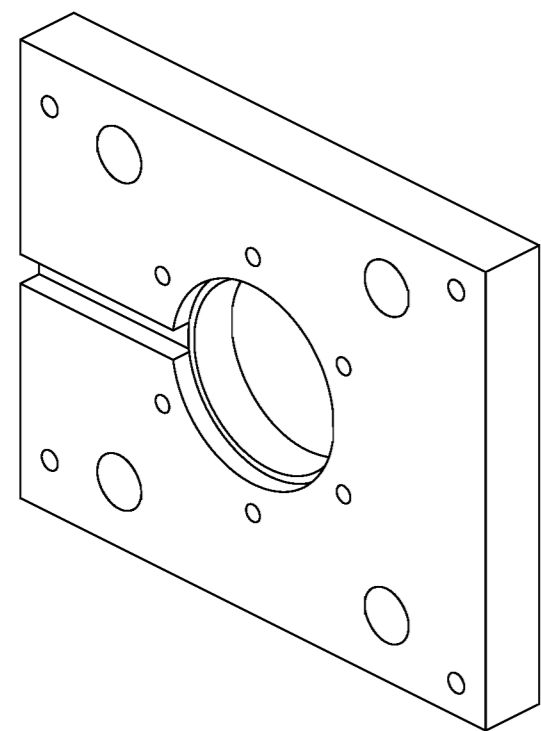


SECTION A-A

- NOTES:
1. REMOVE ALL BURRS AND BREAK SHARP EDGES.
  2. FINISH REF.: SILVER ANODIZE

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			
MATERIAL REF. ALUM. 6082		<b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b> CENTRAL PART	
SCALE 1.000			
TOLERANCES ARE: *		APPROVALS	DATE
DECIMALS:	ANGLES:	CHECKED: _____ ENGINEER: _____	
X ±0.5	±0.5°		
.XX ±0.05	MACHINED: $\frac{BS}{\nabla}$		
* unless otherwise noted		SIZE: A1	SHEET: 1 OF 1
DRAWING NUMBER: 175-9002			REV: B


REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #2	12/14/05	DW



SECTION A-A

- NOTES:
1. REMOVE ALL BURRS AND BREAK SHARP EDGES.
  2. FINISH REF.: SILVER ANODIZE



ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. ALUM. 6082			
SCALE 1.000			COVER
APPROVALS			
DRAWN			SIZE A2 SHEET 1 OF 1 DRAWING NUMBER 175-9003
CHECKED			
ENGINEER			REV. B

TOLERANCES ARE: \*

DECIMALS: X ±0.5, .X ±0.1, .XX ±0.05

ANGLES: ±0.5°

MACHINED: 6.3

\* unless otherwise noted



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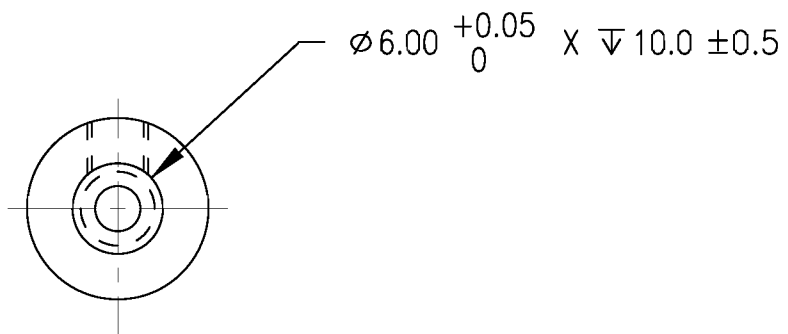
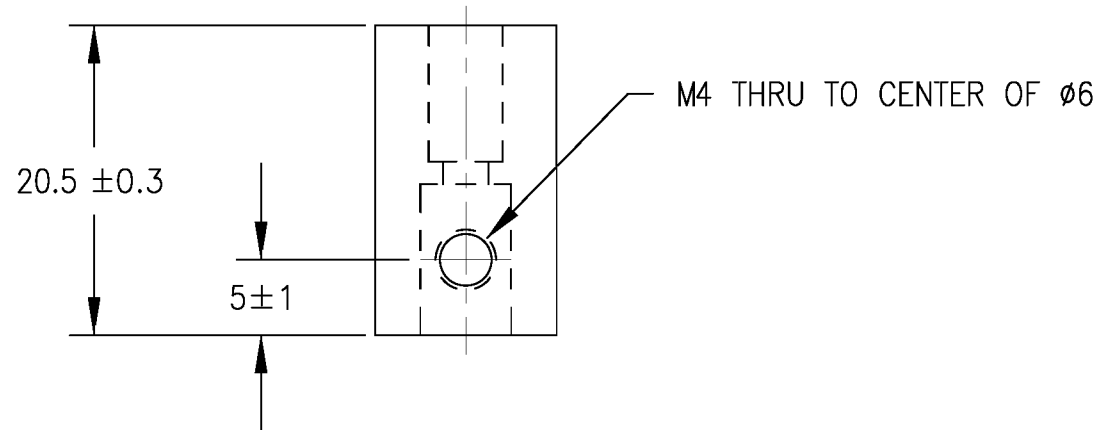
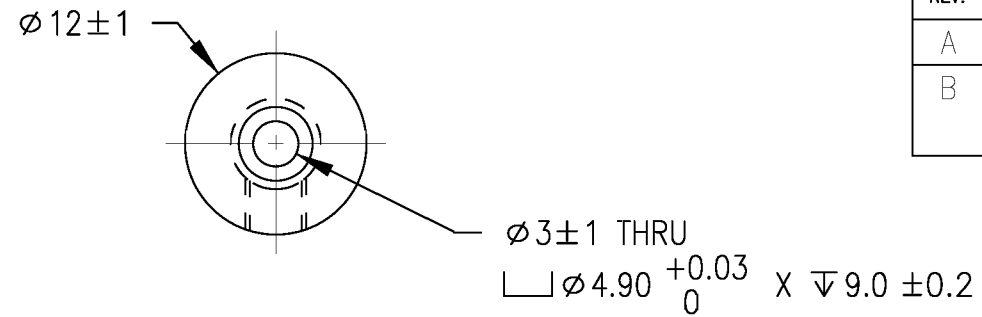
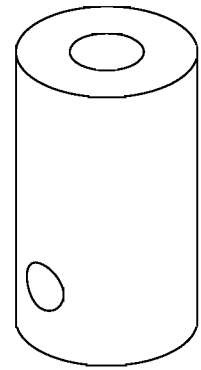
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REVISION RECORD


REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #2	12/14/05	DW



NOTES:

- 1. REMOVE ALL BURRS AND BREAK SHARP EDGES.
- 2. FINISH REF.: SILVER ANODIZE



ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
TOLERANCES ARE: * DECIMALS: X ±0.5, .X ±0.1, .XX ±0.05 ANGLES: ±0.5° MACHINED: 63/			
		MATERIAL REF. ALUM. 6082	
		SCALE 2.000	
		APPROVALS	DATE
		DRAWN	
		CHECKED	
		ENGINEER	
		SIZE A3	SHEET 1 OF 1
		DRAWING NUMBER 175-9004	
			REV. B

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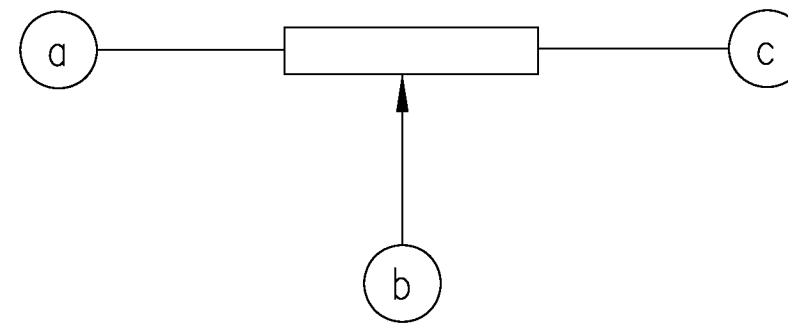
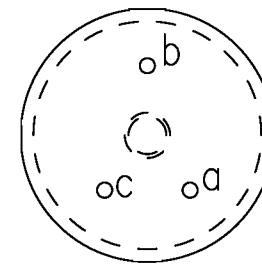
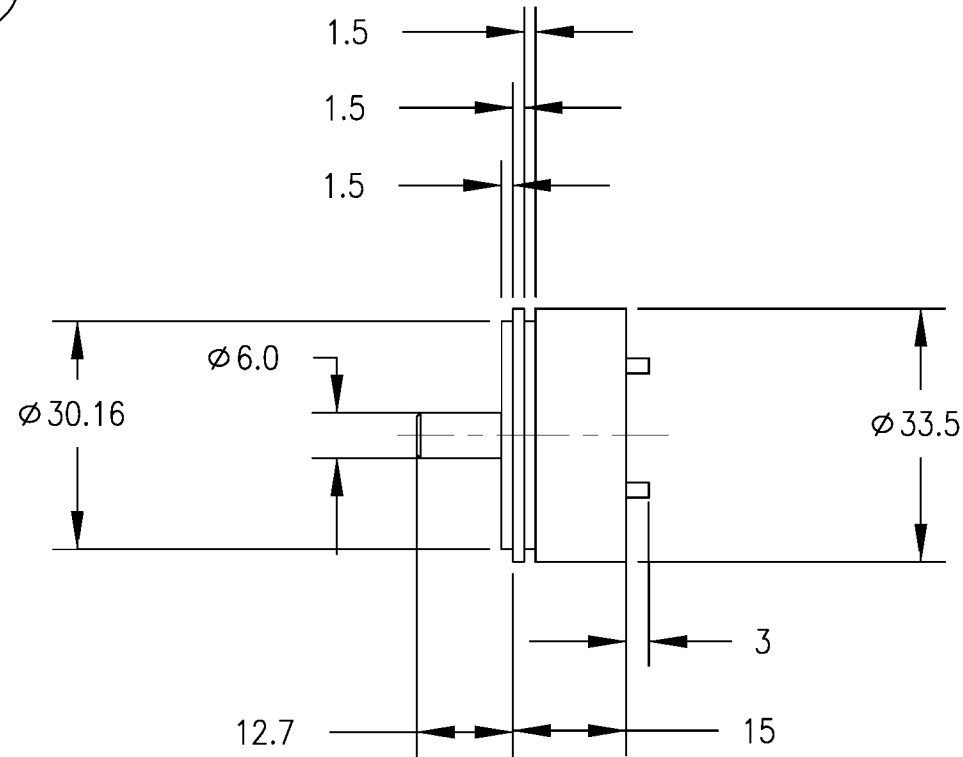
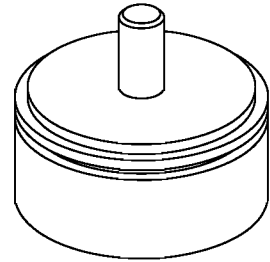
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REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW



NOTES:

- 1. WORKING ELECTRICAL TRAVEL 350°±3°
- 2. RESISTANCE RANGE 1 TO 220 K Ω
- 3. INDEPENDENT LINEARITY ±.25%
- 4. WIPER CURRENT LESS THAN 1 mA
- 5. STARTING AND RUNNING TORQUE LESS THAN 30 cN.cm

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			<b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
TOLERANCES ARE: *			
DECIMALS: X ±0.5 .X ±0.1 .XX ±0.05		ANGLES: ±0.5° MACHINED: 63/	<b>ROTARY POTENTIOMETER</b>
* unless otherwise noted		SCALE 1.000 APPROVALS _____ DATE _____ DRAWN _____ CHECKED _____ ENGINEER _____	ES-2re
SIZE A3		SHEET 1 OF 1	
DRAWING NUMBER SA572-S53			REV. A

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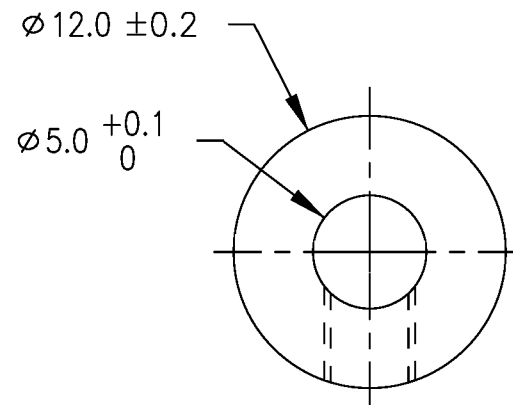
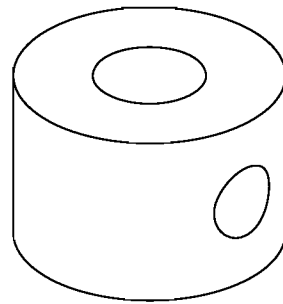
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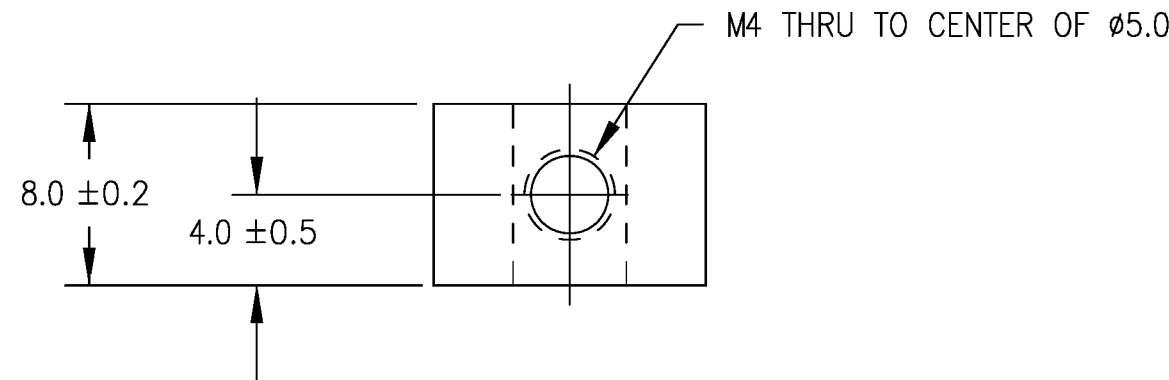
REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #2	12/14/05	DW

D



C




B

NOTES:

1. REMOVE ALL BURRS AND BREAK SHARP EDGES.
2. FINISH REF.: SILVER ANODIZE



A

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. ALUM. 6082			
TOLERANCES ARE: * DECIMALS: X ±0.5, .X ±0.1, .XX ±0.05 ANGLES: ±0.5° MACHINED: 63/			SCALE 3.000 APPROVALS _____ DATE _____ DRAWN _____ CHECKED _____ ENGINEER _____
* unless otherwise noted			LOCK SPACER SIZE A3 SHEET 1 OF 1 DRAWING NUMBER 175-9006 REV. B

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REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW

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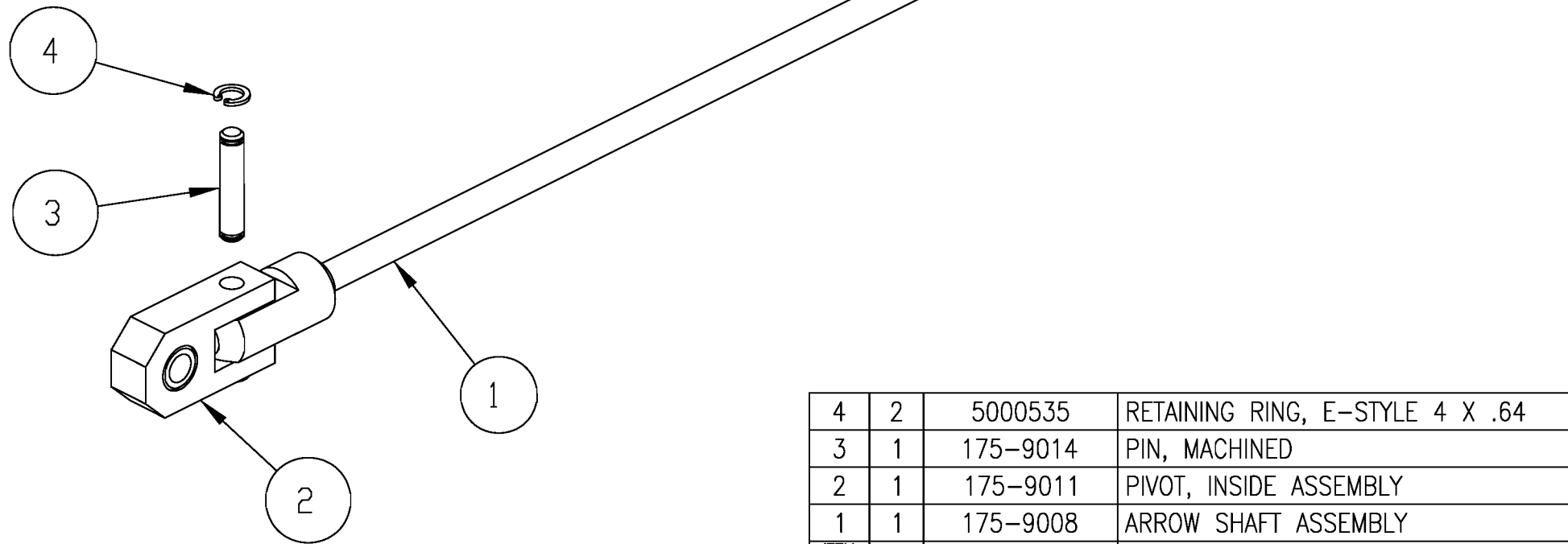
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ITEM NO.	QTY	PART NO.	DESCRIPTION
4	2	5000535	RETAINING RING, E-STYLE 4 X .64
3	1	175-9014	PIN, MACHINED
2	1	175-9011	PIVOT, INSIDE ASSEMBLY
1	1	175-9008	ARROW SHAFT ASSEMBLY

PART LIST

UNITS ARE millimeters

TOLERANCES ARE: \*

DECIMALS:  
 X ±0.5  
 .X ±0.1  
 .XX ±0.05

ANGLES: ±0.5°

MACHINED:  
 63/

\* unless otherwise noted

MATERIAL

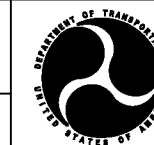
SCALE 1.000

APPROVALS	DATE
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DRAWN

CHECKED

ENGINEER



**NATIONAL HIGHWAY TRAFFIC  
 SAFETY ADMINISTRATION**

ARROW SHAFT-PIVOT ASSEMBLY B

SIZE <b>A3</b>	SHEET 1 OF 1
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DRAWING NUMBER 175-9007
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REV. A
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REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW

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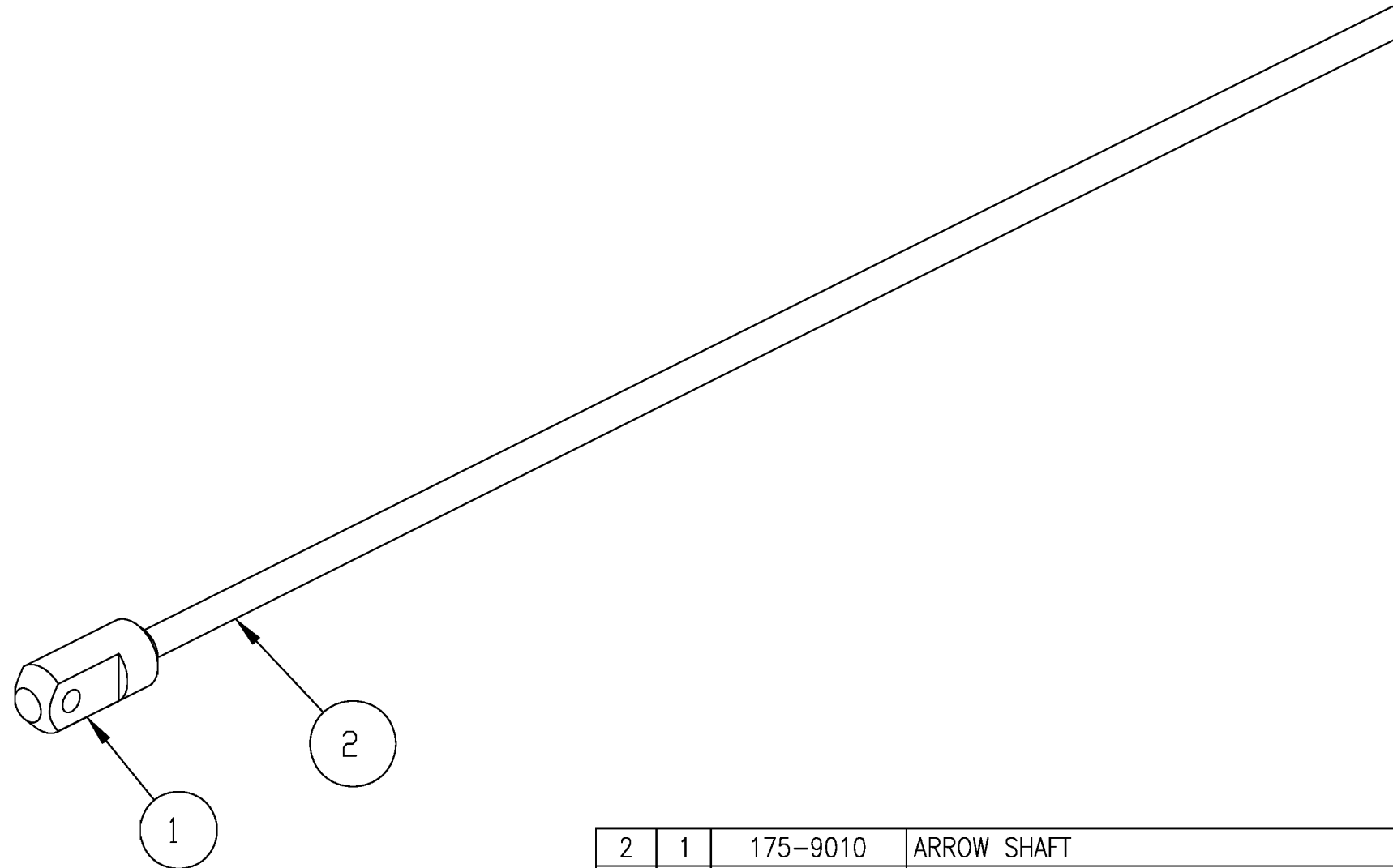
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ITEM NO.	QTY	PART NO.	DESCRIPTION
2	1	175-9010	ARROW SHAFT
1	1	175-9009	COUPLING

PART LIST

UNITS ARE millimeters

TOLERANCES ARE: \*

DECIMALS:  
 X ±0.5  
 .X ±0.1  
 .XX ±0.05

ANGLES: ±0.5°

MACHINED:  
 63

\* unless otherwise noted

MATERIAL

SCALE

1.000

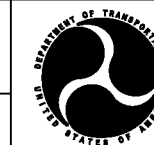
APPROVALS

DATE

DRAWN

CHECKED

ENGINEER



**NATIONAL HIGHWAY TRAFFIC  
 SAFETY ADMINISTRATION**

ARROW SHAFT ASSEMBLY

SIZE A3

SHEET 1 OF 1

DRAWING NUMBER 175-9008

REV. A

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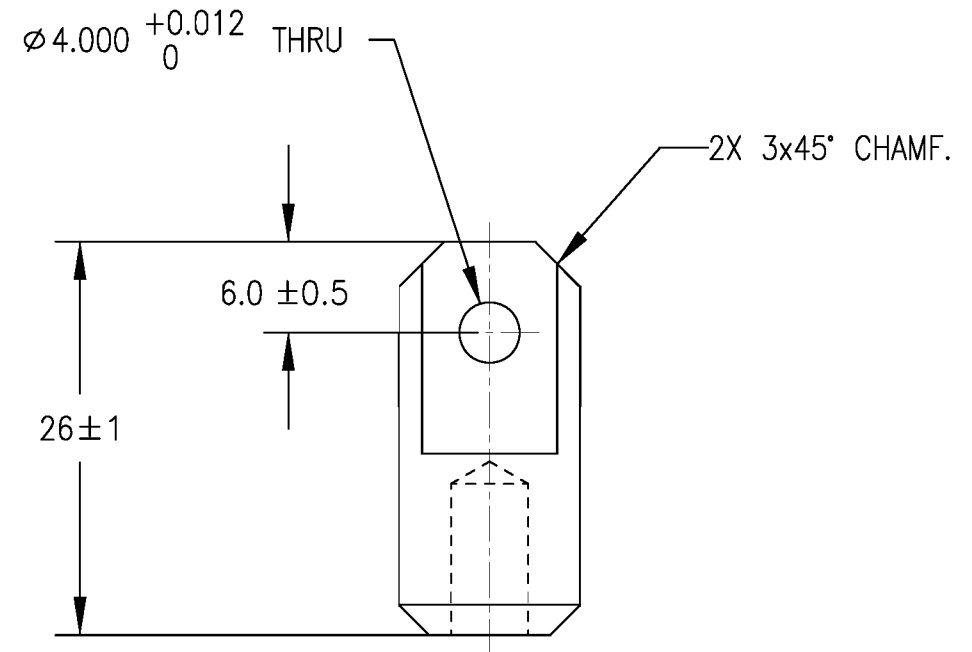
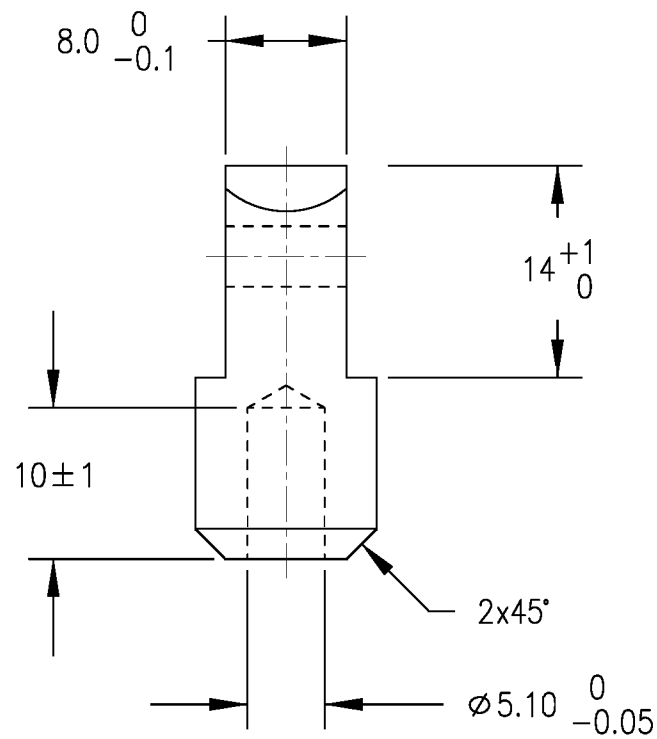
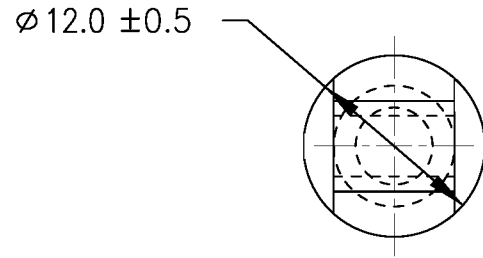
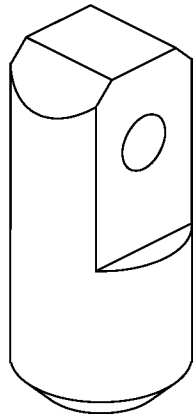
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REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #2	12/14/05	DW

NOTES:

- 1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
- 2. FINISH REF.: SILVER ANODIZE



ITEM NO.	QTY	PART NO.	DESCRIPTION										
PART LIST													
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>										
MATERIAL REF. ALUM. 6082													
TOLERANCES ARE: *			<b>COUPLING</b>										
DECIMALS: X ±0.5, .X ±0.1, .XX ±0.05 ANGLES: ±0.5° MACHINED: 63/													
* unless otherwise noted			<table border="1" style="width: 100%;"> <tr> <td>SCALE</td> <td>2.000</td> </tr> <tr> <td>APPROVALS</td> <td>DATE</td> </tr> <tr> <td>DRAWN</td> <td></td> </tr> <tr> <td>CHECKED</td> <td></td> </tr> <tr> <td>ENGINEER</td> <td></td> </tr> </table>	SCALE	2.000	APPROVALS	DATE	DRAWN		CHECKED		ENGINEER	
SCALE	2.000												
APPROVALS	DATE												
DRAWN													
CHECKED													
ENGINEER													
SIZE	A3	SHEET	1 OF 1										
DRAWING NUMBER		175-9009											
REV.			B										

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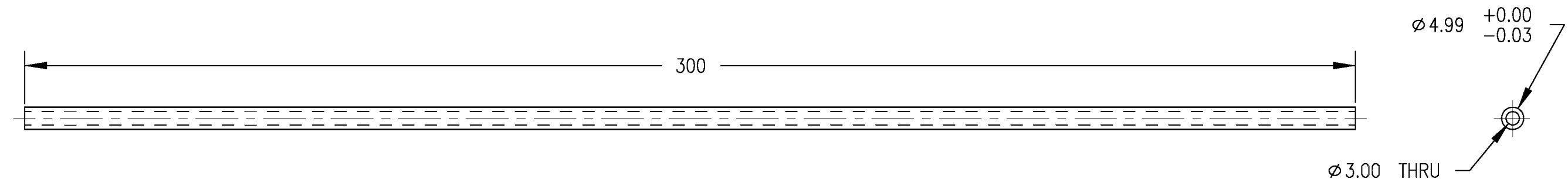
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REVISION RECORD


REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION	12/29/05	DW

SCALE 0.500



NOTES:

- 1. REMOVE BURRS AND BREAK SHARP EDGES.

ITEM NO.	QTY	PART NO.	DESCRIPTION										
PART LIST													
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>										
MATERIAL REF. CARBON FIBER/ARROW SHAFT													
TOLERANCES ARE: *			ARROW SHAFT										
DECIMALS: X $\pm 0.5$ , .X $\pm 0.1$ , .XX $\pm 0.05$ ANGLES: $\pm 0.5^\circ$ MACHINED: 63/													
* unless otherwise noted			<table border="1"> <tr> <td>SCALE</td> <td>1.000</td> </tr> <tr> <td>APPROVALS</td> <td>DATE</td> </tr> <tr> <td>DRAWN</td> <td></td> </tr> <tr> <td>CHECKED</td> <td></td> </tr> <tr> <td>ENGINEER</td> <td></td> </tr> </table>	SCALE	1.000	APPROVALS	DATE	DRAWN		CHECKED		ENGINEER	
SCALE	1.000												
APPROVALS	DATE												
DRAWN													
CHECKED													
ENGINEER													
SIZE	SHEET	DRAWING NUMBER	REV.										
A3	1 OF 1	175-9010	B										

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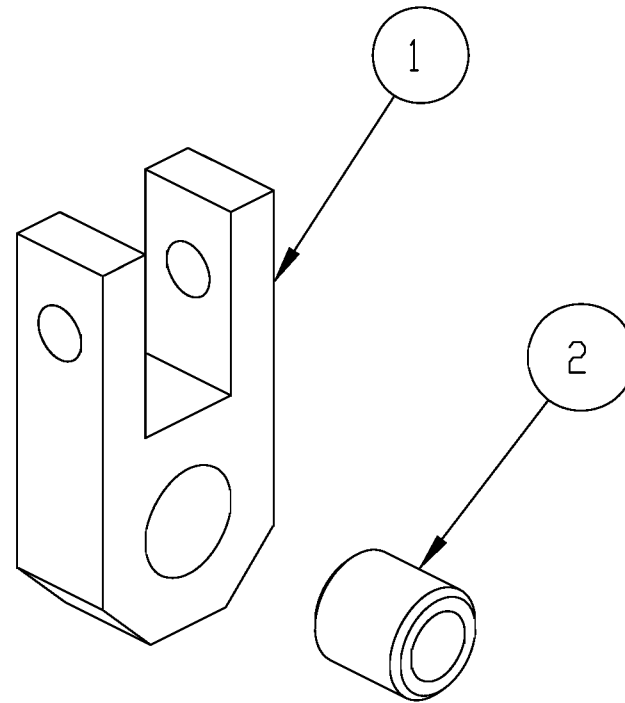
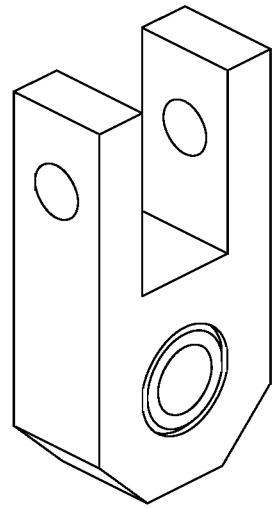
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REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW



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ITEM NO.	QTY	PART NO.	DESCRIPTION
2	1	175-9013	BEARING
1	1	175-9012	PIVOT, INSIDE

PART LIST

UNITS ARE millimeters

TOLERANCES ARE: \*

DECIMALS:  
 X ±0.5  
 .X ±0.1  
 .XX ±0.05

ANGLES: ±0.5°

MACHINED:  
 63

\* unless otherwise noted

MATERIAL

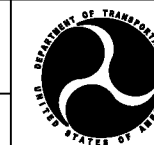
SCALE 2.000

APPROVALS	DATE

DRAWN

CHECKED

ENGINEER



NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

PIVOT, INSIDE ASSEMBLY

SIZE A3

SHEET 1 OF 1

DRAWING NUMBER 175-9011

REV. A

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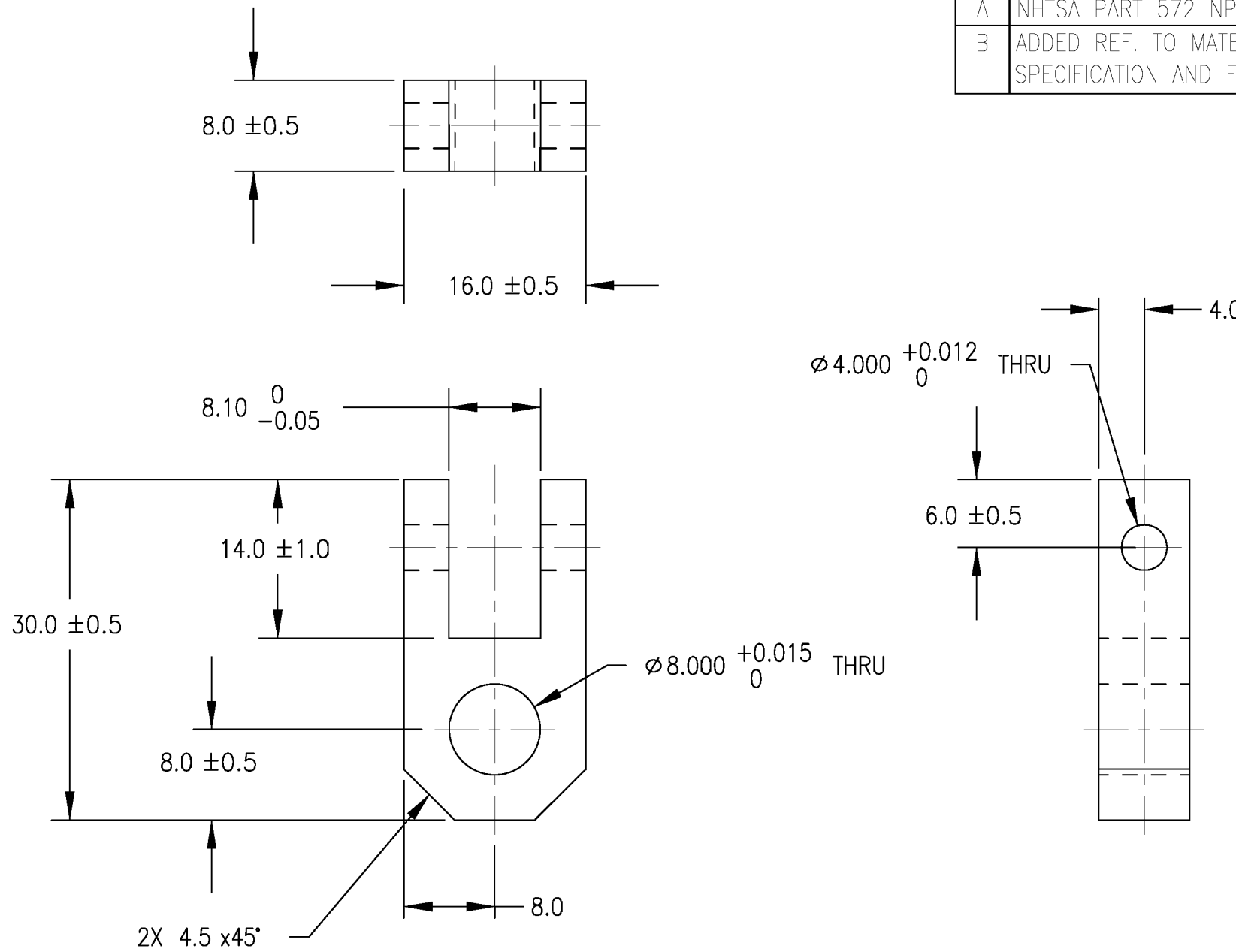
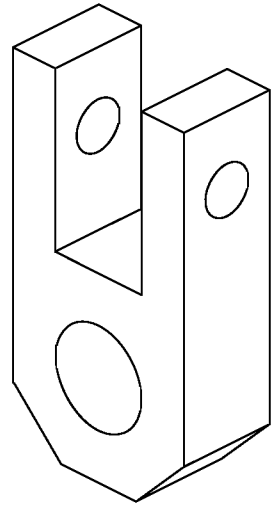
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REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #2	12/14/05	DW




NOTES:

1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.

2. FINISH REF.: SILVER ANODIZE



ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. ALUM. 6082			
TOLERANCES ARE: * DECIMALS: X ±0.5, .X ±0.1, .XX ±0.05 ANGLES: ±0.5° MACHINED: 63/			PIVOT, INSIDE
* unless otherwise noted			
SCALE 2.000		APPROVALS	DATE
DRAWN			
CHECKED			
ENGINEER			
SIZE A3	SHEET 1 OF 1	DRAWING NUMBER 175-9012	REV. B

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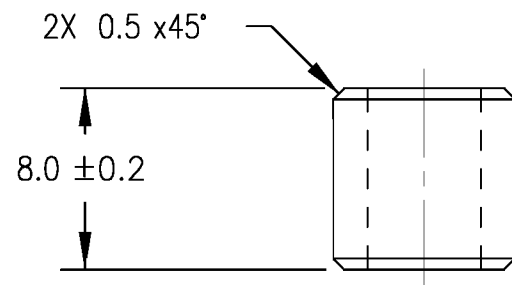
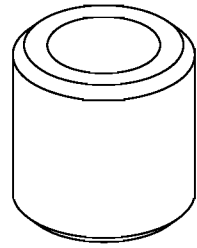
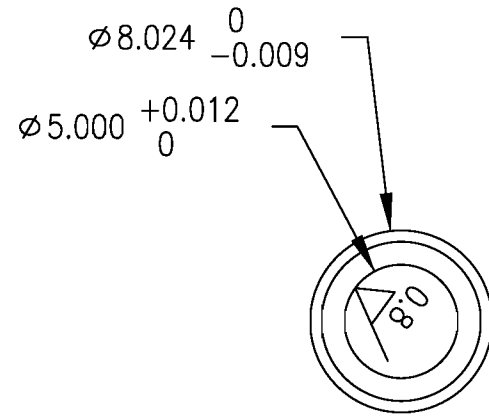
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REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #2	12/14/05	DW



NOTES:

1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. BRONZE SCALE 3.000 TOLERANCES ARE: * DECIMALS: X ±0.5, .X ±0.1, .XX ±0.05 ANGLES: ±0.5° MACHINED: 63/ * unless otherwise noted			
		APPROVALS	DATE
		DRAWN	
		CHECKED	
		ENGINEER	
SIZE	SHEET	DRAWING NUMBER	REV.
A3	1 OF 1	175-9013	B

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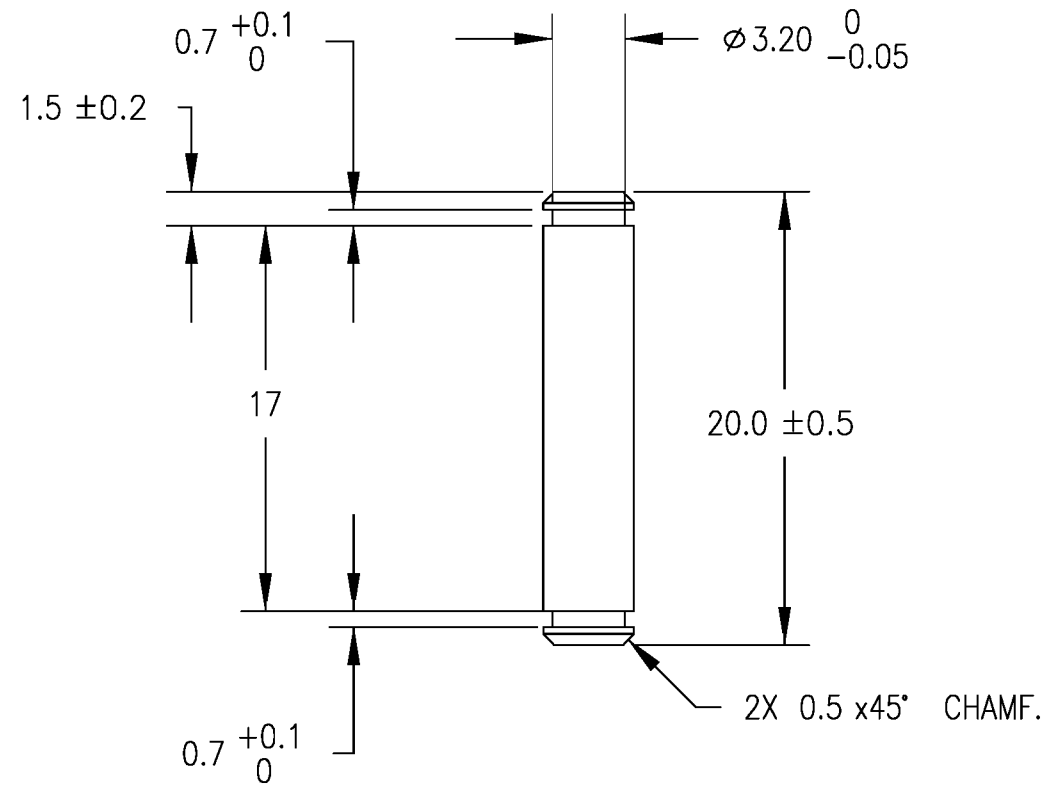
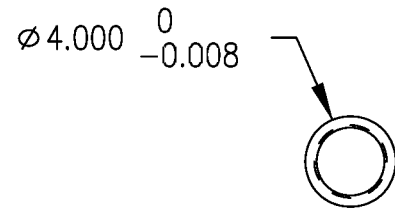
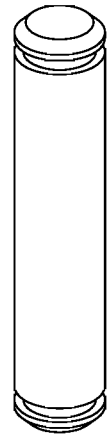
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REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION	12/14/05	DW

NOTES:

- 1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. SS 304			
SCALE 3.000			PIN, MACHINED
APPROVALS		DATE	
DRAWN			
CHECKED			
ENGINEER			
TOLERANCES ARE: * DECIMALS: X ±0.5, .X ±0.1, .XX ±0.05 ANGLES: ±0.5° MACHINED: 63/		SIZE A3 SHEET 1 OF 1 DRAWING NUMBER 175-9014 REV. B	
* unless otherwise noted			

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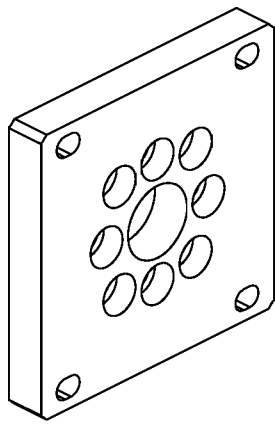
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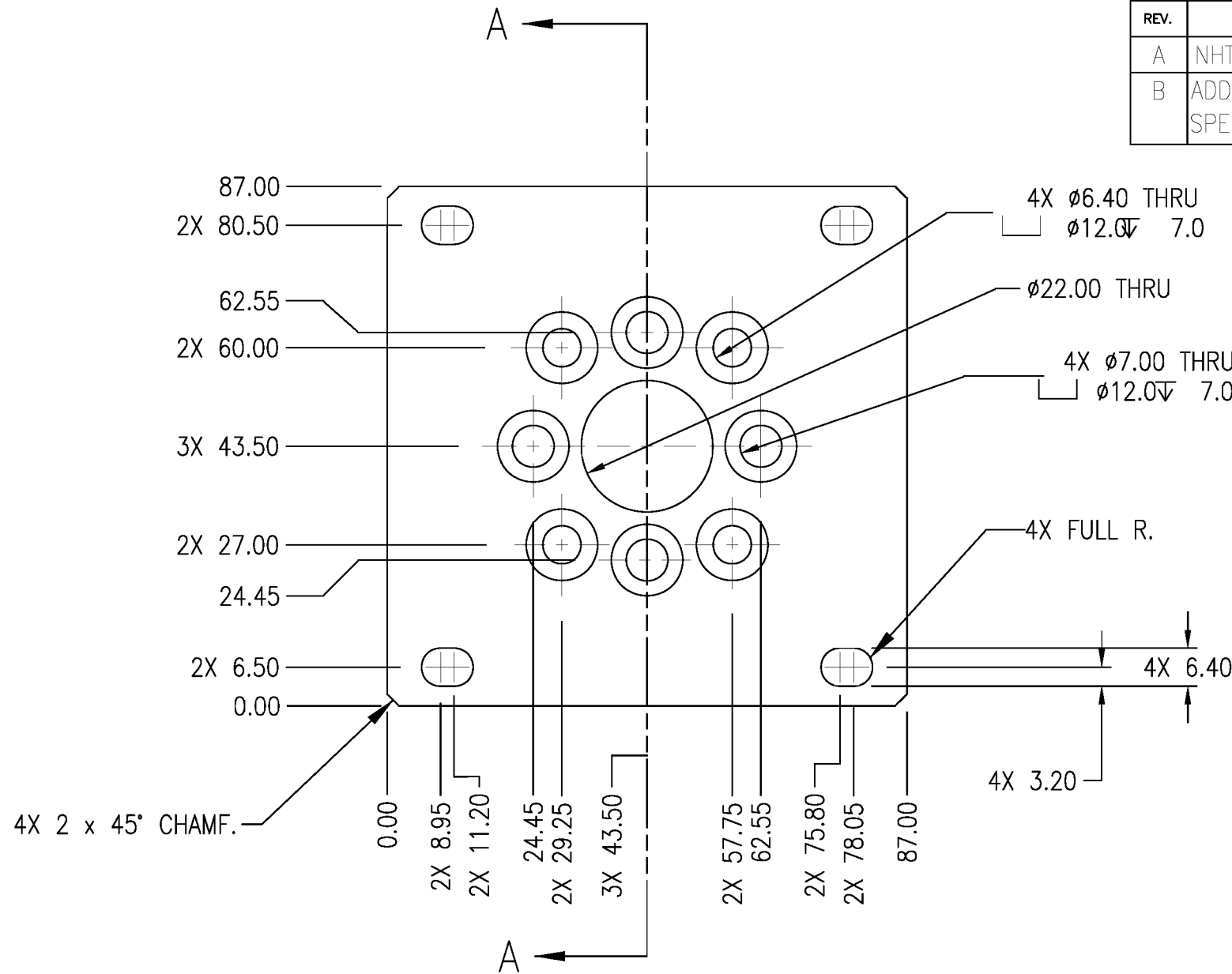
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REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #2	12/14/05	DW



SCALE 0.500



SECTION A-A

NOTES:

1. REMOVE ALL BURRS AND BREAK SHARP EDGES.

2. FINISH REF.: CLEAR ANODIZE



ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			<b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. ALUMINUM 6082			
TOLERANCES ARE: *			NECK & LUMBAR SPINE MOUNTING BASE
DECIMALS: X ±0.5, .X ±0.1, .XX ±0.05 ANGLES: ±0.5° MACHINED: 63/			
* unless otherwise noted			SCALE 1.000 APPROVALS _____ DATE _____ DRAWN _____ CHECKED _____ ENGINEER _____
SIZE	SHEET	DRAWING NUMBER	REV.
A3	1 OF 1	175-9029	B

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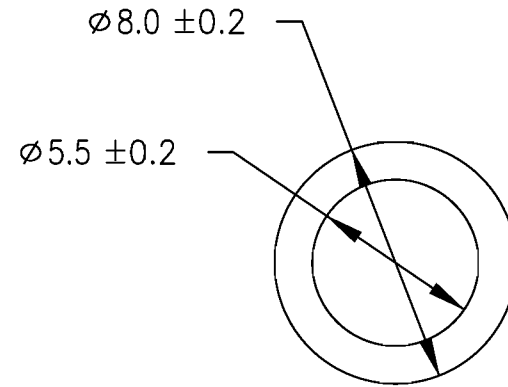
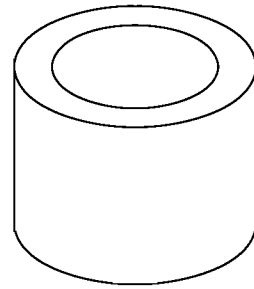
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REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION	12/14/05	DW

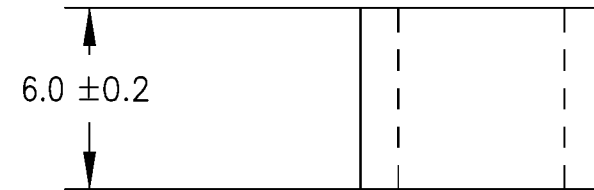
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NOTES:

1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.

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ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. ALUM. 6082			
TOLERANCES ARE: * DECIMALS: X ±0.5 .X ±0.1 .XX ±0.05 ANGLES: ±0.5° MACHINED: 63 * unless otherwise noted			SCALE 4.000
APPROVALS		DATE	
DRAWN			
CHECKED			
ENGINEER			
SIZE A3		SHEET 1 OF 1	
DRAWING NUMBER 175-9016			REV. B

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REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW

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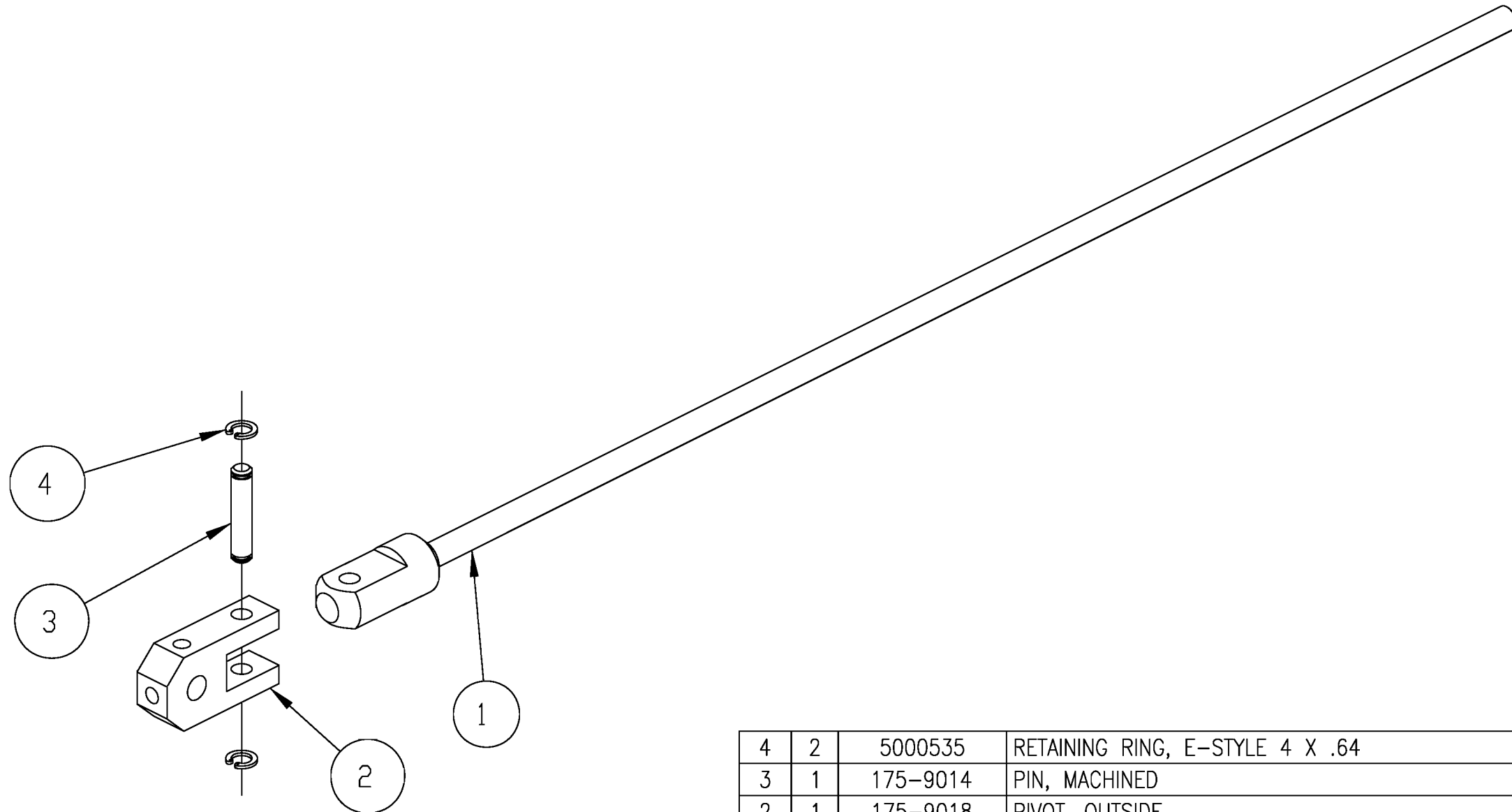
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ITEM NO.	QTY	PART NO.	DESCRIPTION
4	2	5000535	RETAINING RING, E-STYLE 4 X .64
3	1	175-9014	PIN, MACHINED
2	1	175-9018	PIVOT, OUTSIDE
1	1	175-9008	ARROW SHAFT ASSEMBLY

PART LIST

UNITS ARE millimeters

TOLERANCES ARE: \*

DECIMALS: X ±0.5  
.X ±0.1  
.XX ±0.05

ANGLES: ±0.5°

MACHINED: 63/

\* unless otherwise noted

MATERIAL	
SCALE	1.000
APPROVALS	DATE
DRAWN	
CHECKED	
ENGINEER	



NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

ARROW SHAFT-PIVOT ASSEMBLY, A

SIZE <b>A3</b>	SHEET 1 OF 1	DRAWING NUMBER 175-9017	REV. A
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A

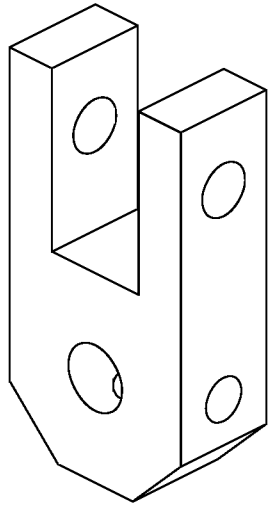
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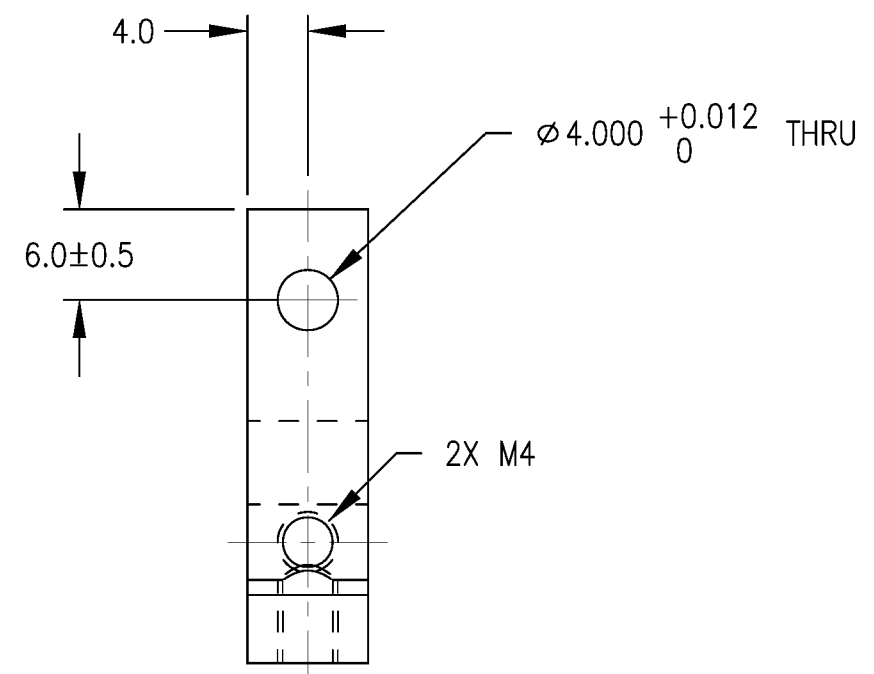
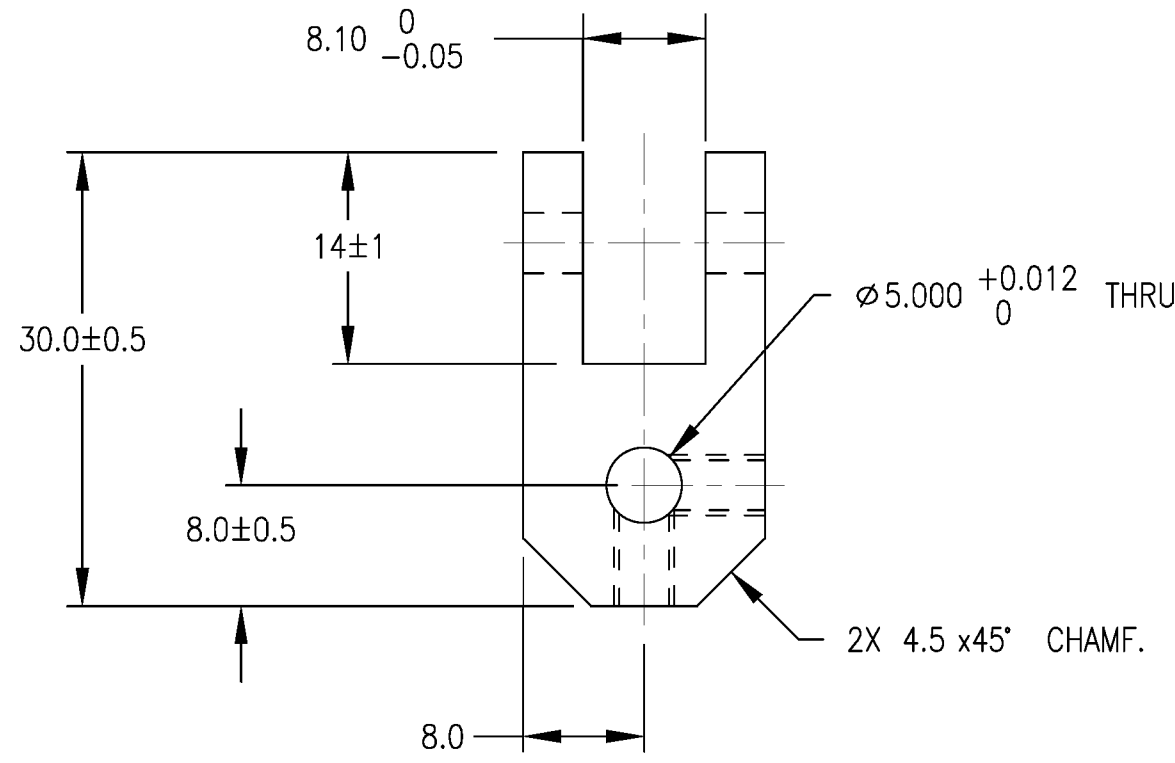
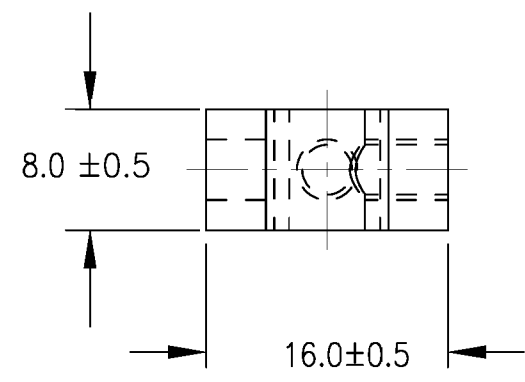
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SCALE 2.000




REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #2	12/14/05	DW

NOTES:

- REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
- FINISH REF.: SILVER ANODIZE



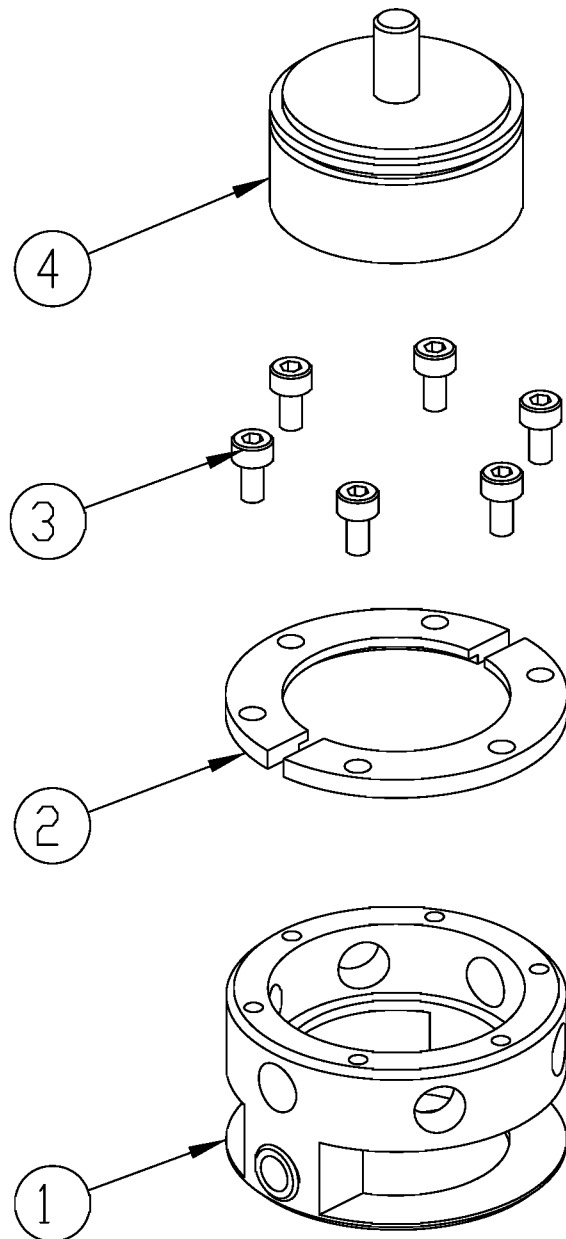
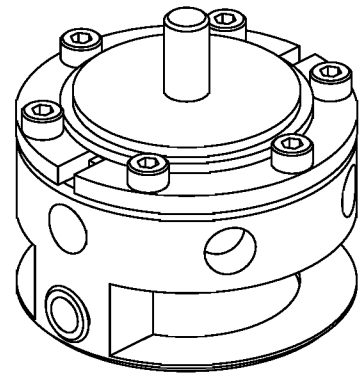
ITEM NO.	QTY	PART NO.	DESCRIPTION						
PART LIST									
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>						
MATERIAL REF. ALUM. 6082									
SCALE 2.000			PIVOT, OUTSIDE						
TOLERANCES ARE: *		APPROVALS	DATE						
DECIMALS:	ANGLES:	<table border="1"> <tr> <td>DRAWN</td> <td></td> </tr> <tr> <td>CHECKED</td> <td></td> </tr> <tr> <td>ENGINEER</td> <td></td> </tr> </table>		DRAWN		CHECKED		ENGINEER	
DRAWN									
CHECKED									
ENGINEER									
X ±0.5	±0.5°								
.X ±0.1	MACHINED:								
.XX ±0.05	63								
* unless otherwise noted		SIZE A3	SHEET 1 OF 1						
		DRAWING NUMBER 175-9018							
		REV. B							

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REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW

ITEM NO.	QTY	PART NO.	DESCRIPTION
4	1	SA572-S53	ROTARY POTENTIOMETER, MCB H33A
3	6	5000393	SCREW, SHCS M3 X .5 X 6
2	1	175-9022	POTENTIOMETER CLAMP
1	1	175-9020	POT HOUSING ASSEMBLY

PART LIST

UNITS ARE millimeters

TOLERANCES ARE: \*

DECIMALS:

X ±0.5

.X ±0.1

.XX ±0.05

ANGLES:

±0.5°

MACHINED:

63

\* unless otherwise noted

MATERIAL

SCALE

1.000

APPROVALS

DATE

DRAWN

CHECKED

ENGINEER



NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

POT ASSEMBLY

SIZE A3

SHEET 1 OF 1

DRAWING NUMBER 175-9019

REV. A

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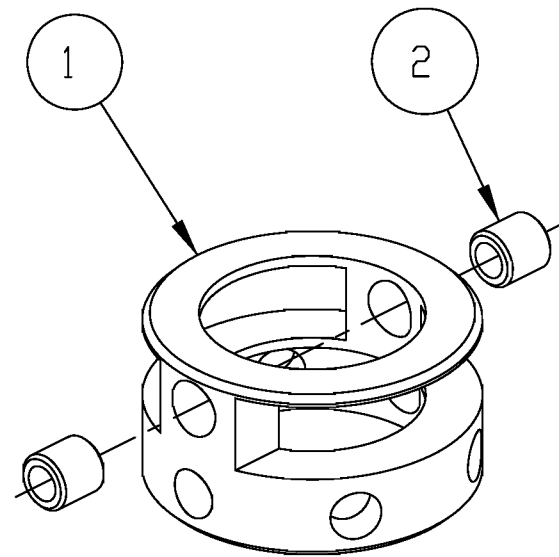
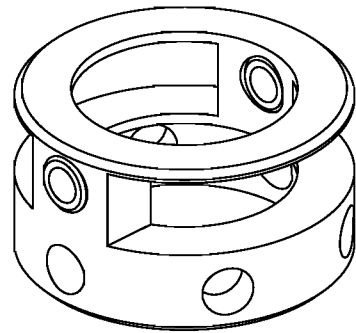
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REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW



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ITEM NO.	QTY	PART NO.	DESCRIPTION
2	2	175-9013	BEARING
1	1	175-9021	POTENTIOMETER HOUSING

PART LIST

UNITS ARE millimeters

TOLERANCES ARE: \*

DECIMALS: X ±0.5  
.X ±0.1  
.XX ±0.05

ANGLES: ±0.5°

MACHINED: 63

\* unless otherwise noted

MATERIAL	
SCALE	1.000
APPROVALS	DATE
DRAWN	
CHECKED	
ENGINEER	



NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

POT HOUSING ASSEMBLY

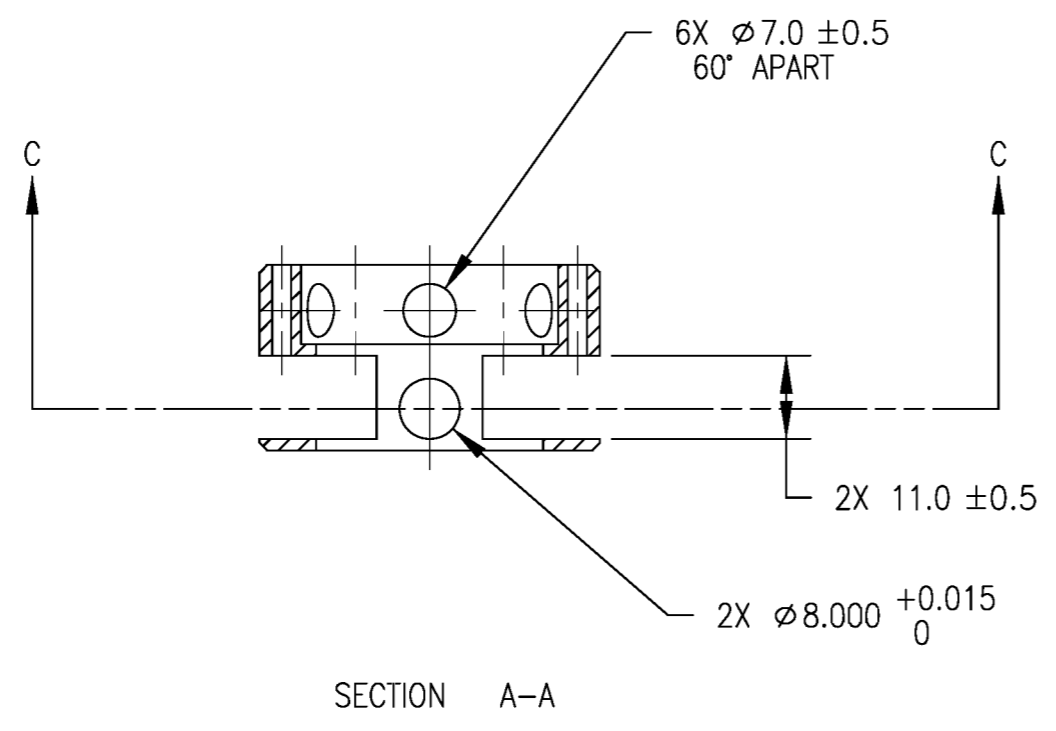
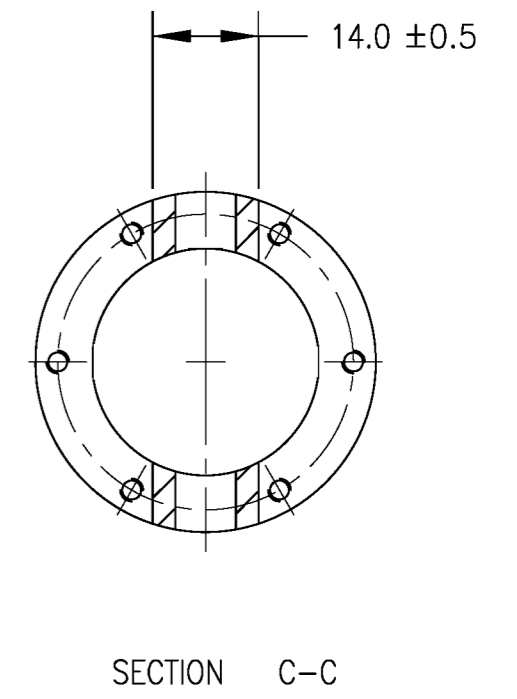
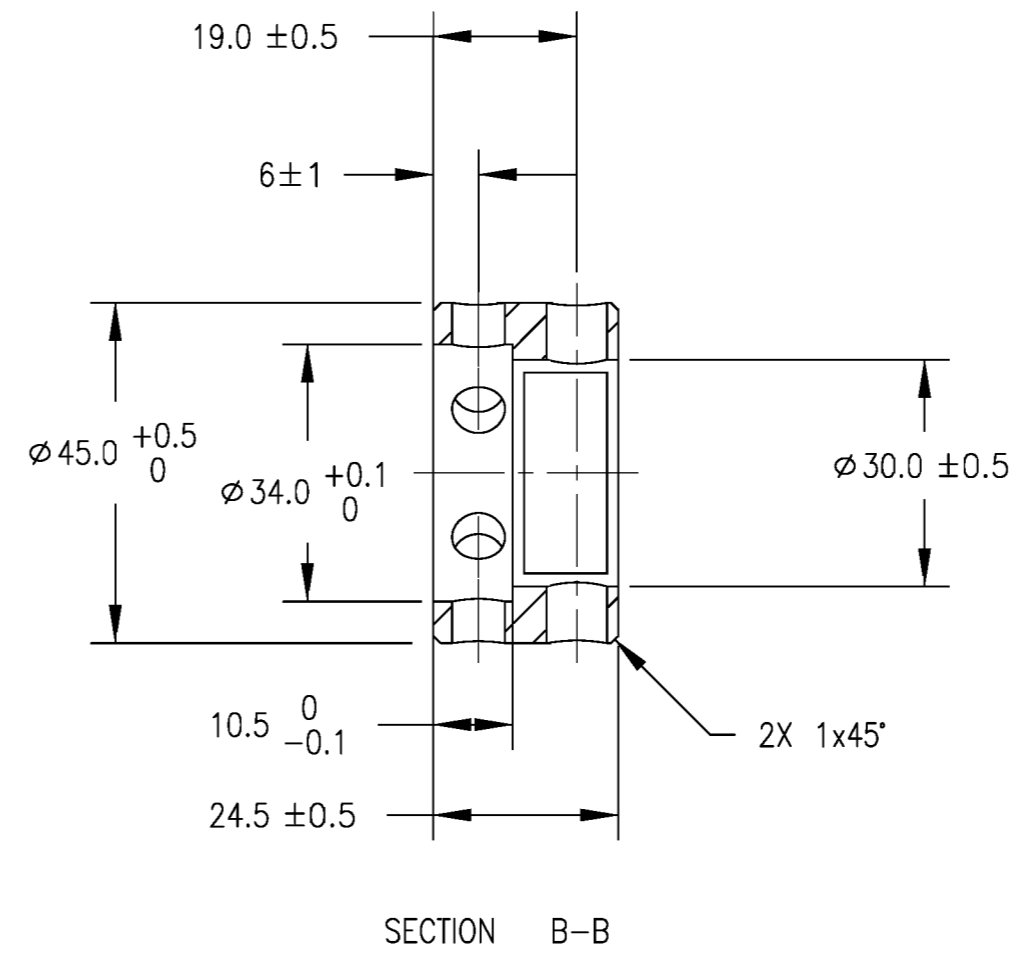
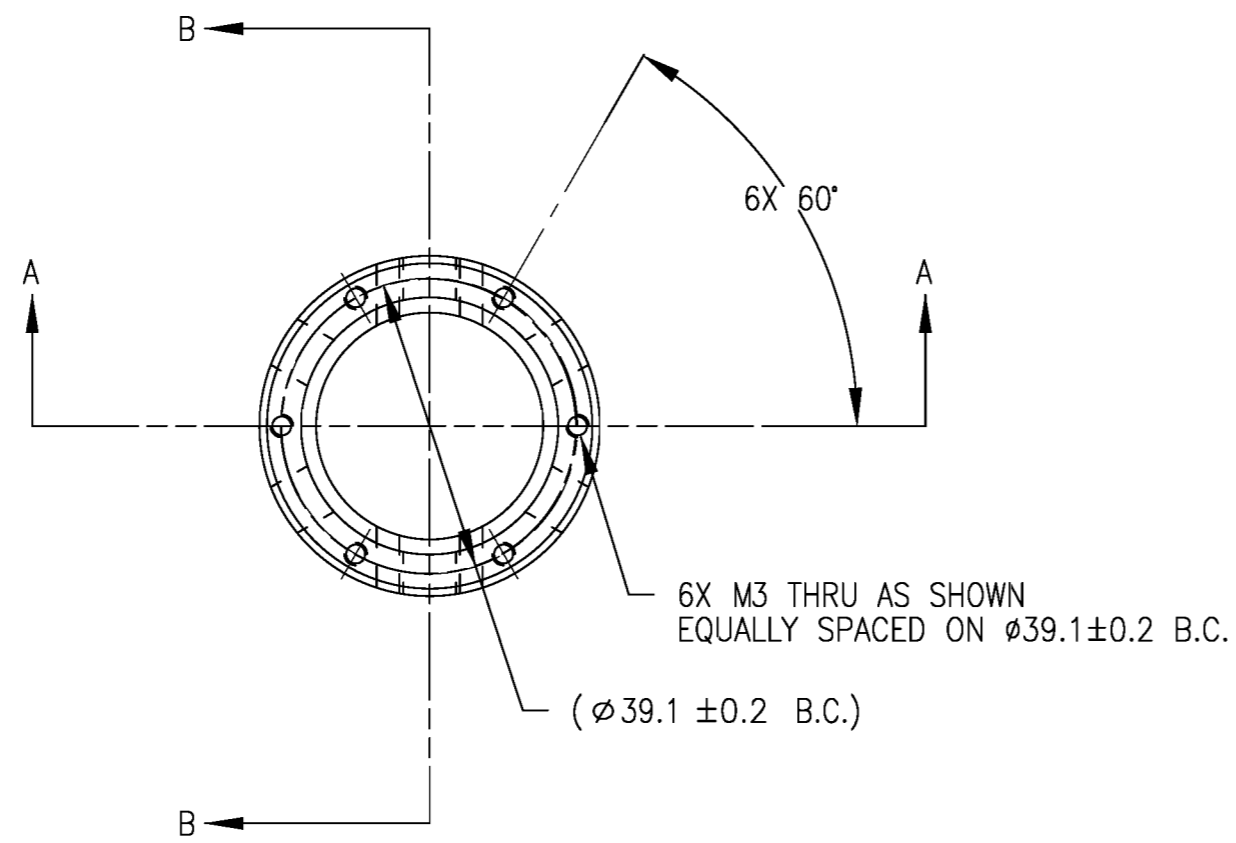
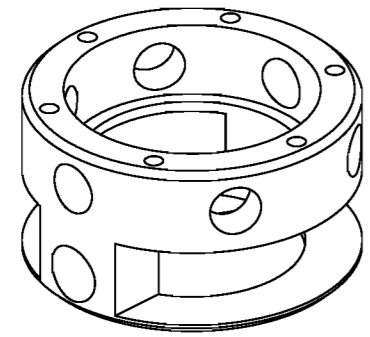
SIZE <b>A3</b>	SHEET 1 OF 1	DRAWING NUMBER 175-9020	REV. A
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REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #2	12/14/05	DW

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			<b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b> POTENTIOMETER HOUSING
MATERIAL REF. ALUM. 6082			
SCALE 1.000			APPROVALS
TOLERANCES ARE: *			DATE
DECIMALS: X $\pm 0.5$			DRAWN
.X $\pm 0.1$			
.XX $\pm 0.05$			CHECKED
ANGLES: $\pm 0.5^\circ$			ENGINEER
MACHINED: 6.3			SIZE A2
* unless otherwise noted			SHEET 1 OF 1
			DRAWING NUMBER 175-9021
			REV. B

NOTES:  
1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.  
2. FINISH REF.: SILVER ANODIZE

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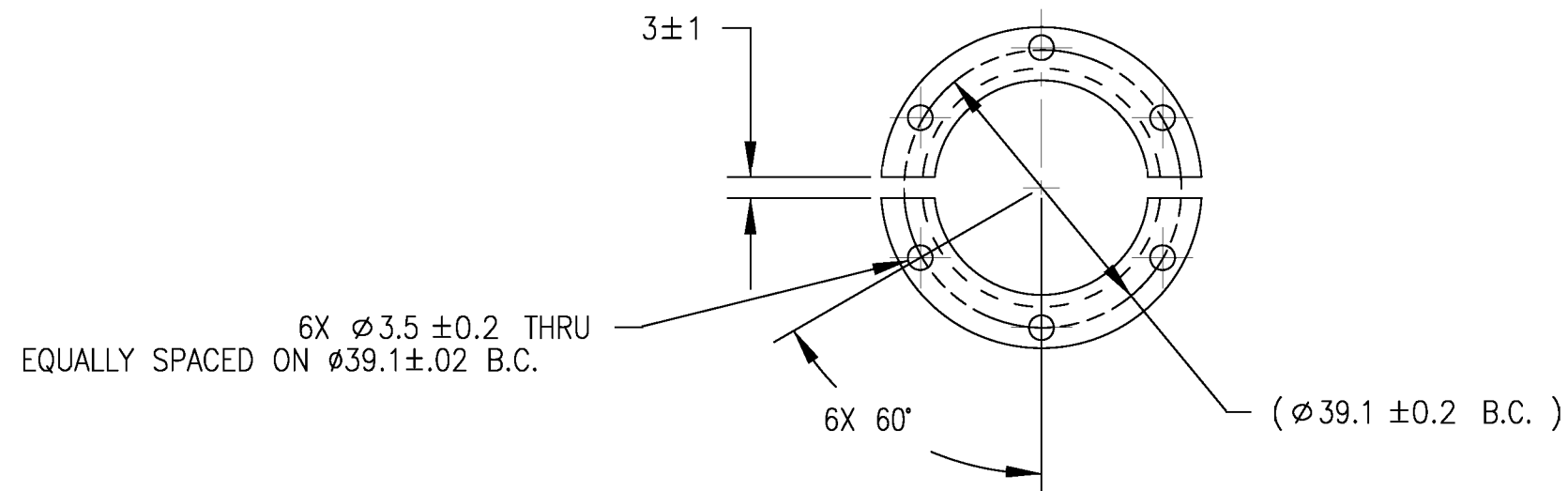
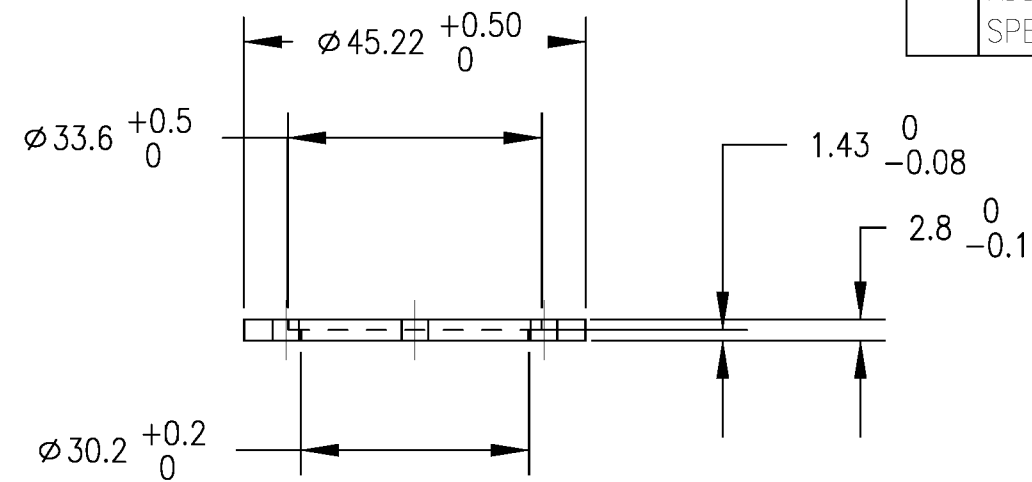
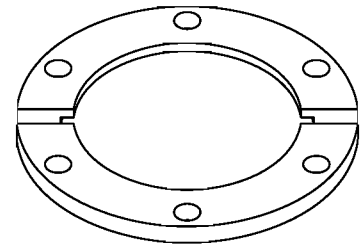
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## REVISION RECORD


REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #2	12/14/05	DW



## NOTES:

- REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
- FINISH REF.: SILVER ANODIZE



ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. ALUM. 6082			
TOLERANCES ARE: *			<b>POTENTIOMETER CLAMP</b>
DECIMALS: X ±0.5, .X ±0.1, .XX ±0.05 ANGLES: ±0.5° MACHINED: 63/			
* unless otherwise noted			SCALE 1.000 APPROVALS _____ DATE _____ DRAWN _____ CHECKED _____ ENGINEER _____
SIZE	SHEET	DRAWING NUMBER	REV.
A3	1 OF 1	175-9022	B

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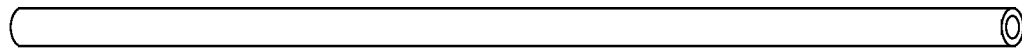
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REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION	12/30/05	DW



SCALE 1.000

∅ 4.99 +0.00  
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NOTES:

1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. CARBON FIBER/ARROW SHAFT			
TOLERANCES ARE: *			ARROW SHAFT
DECIMALS: X ±0.5 .X ±0.1 .XX ±0.05 ANGLES: ±0.5° MACHINED: 63/			
* unless otherwise noted			SCALE 2.000 APPROVALS _____ DATE _____ DRAWN _____ CHECKED _____ ENGINEER _____
SIZE A3		SHEET 1 OF 1	
DRAWING NUMBER 175-9023			REV. B

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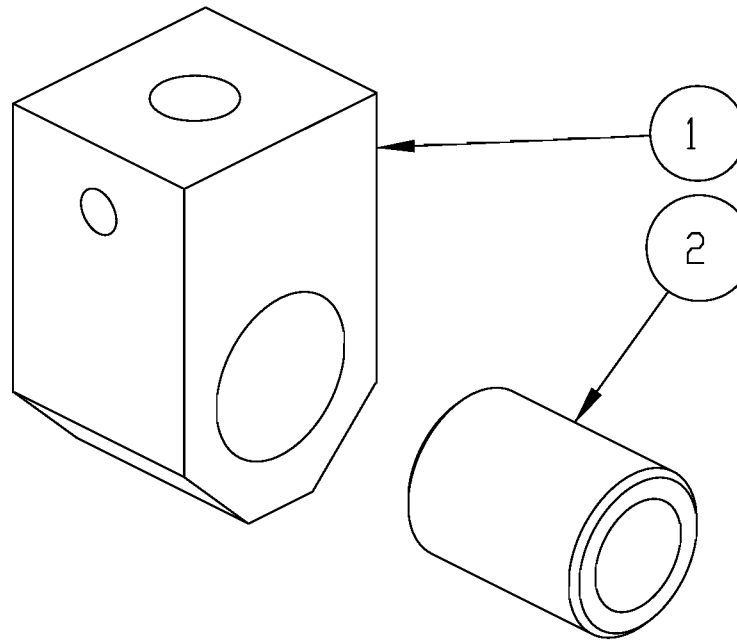
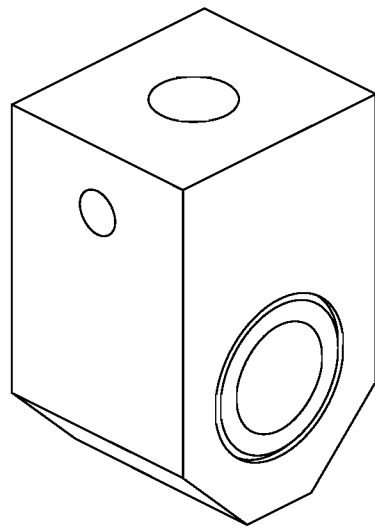
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REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW



ITEM NO.	QTY	PART NO.	DESCRIPTION
2	1	175-9026	BEARING
1	1	175-9025	COUPLING

PART LIST

UNITS ARE millimeters

TOLERANCES ARE: \*

DECIMALS:  
 X ±0.5  
 .X ±0.1  
 .XX ±0.05

ANGLES: ±0.5°

MACHINED:

\* unless otherwise noted

MATERIAL

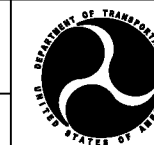
SCALE 2.000

APPROVALS	DATE

DRAWN

CHECKED

ENGINEER



NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

COUPLING ASSEMBLY

SIZE A3

SHEET 1 OF 1

DRAWING NUMBER 175-9024

REV. A

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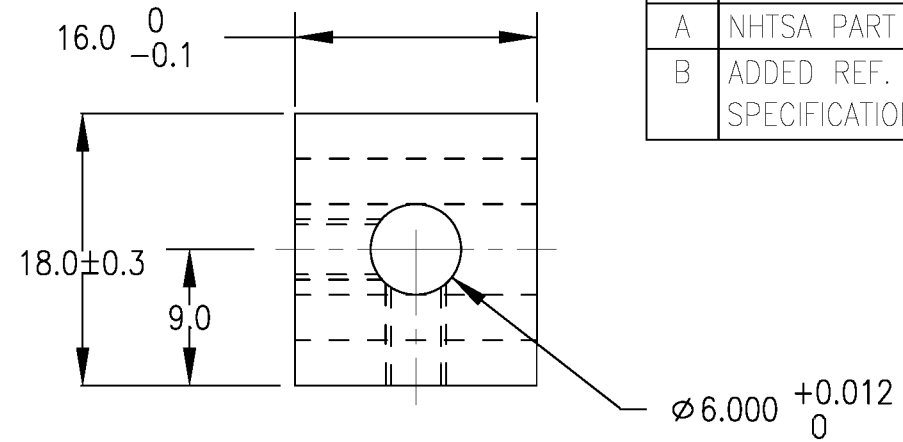
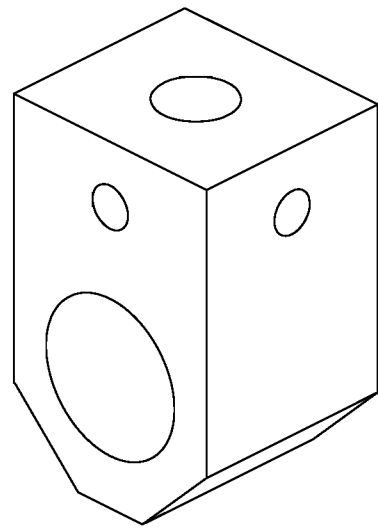
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REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #2	12/14/05	DW

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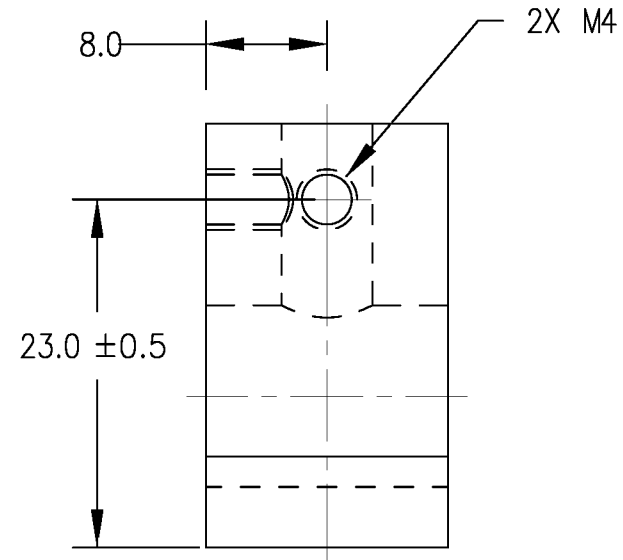
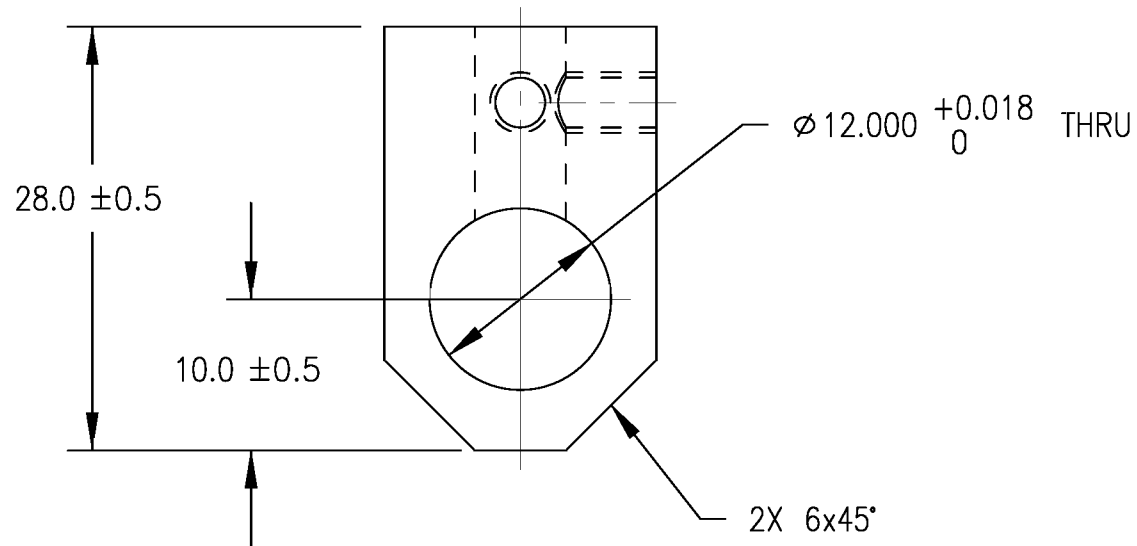
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NOTES:

1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
2. FINISH REF.: SILVER ANODIZE



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ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
TOLERANCES ARE: * DECIMALS: X ±0.5, .X ±0.1, .XX ±0.05 ANGLES: ±0.5° MACHINED: 63/			
		MATERIAL REF. ALUM. 6082	
		SCALE 2.000	
		APPROVALS	DATE
		DRAWN	
		CHECKED	
		ENGINEER	
SIZE A3	SHEET 1 OF 1	DRAWING NUMBER 175-9025	REV. B

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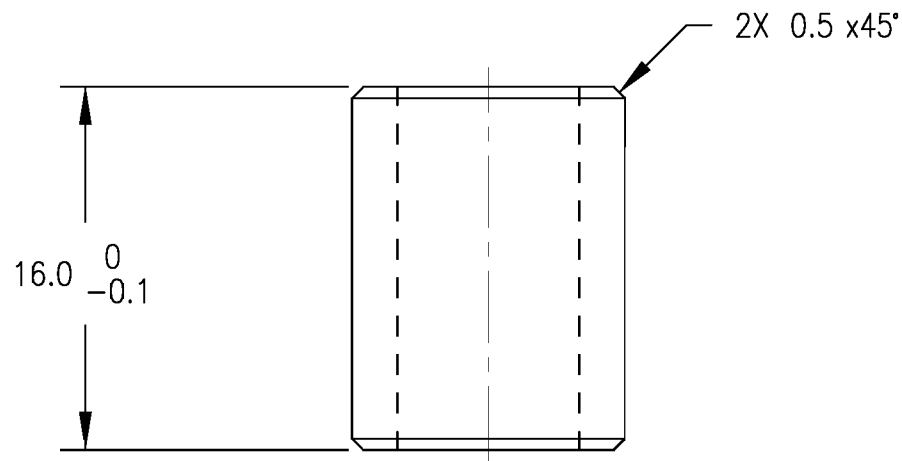
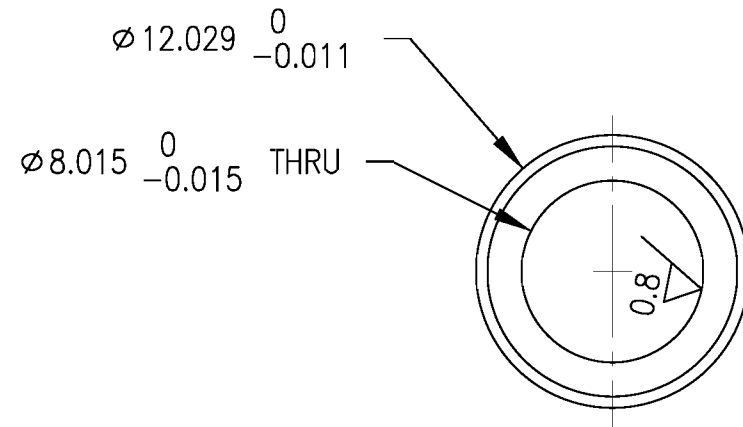
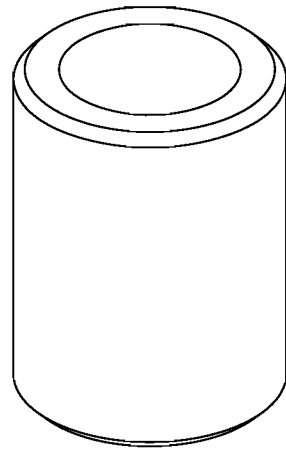
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REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION	12/14/05	DW

NOTES:

1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. BRONZE			
SCALE 3.000			BEARING
APPROVALS		DATE	
DRAWN			
CHECKED			
ENGINEER			
SIZE	SHEET	DRAWING NUMBER	REV.
A3	1 OF 1	175-9026	B

TOLERANCES ARE: \*

DECIMALS:  
 X ±0.5  
 .X ±0.1  
 .XX ±0.05

ANGLES:  
 ±0.5°

MACHINED:  
 63

\* unless otherwise noted

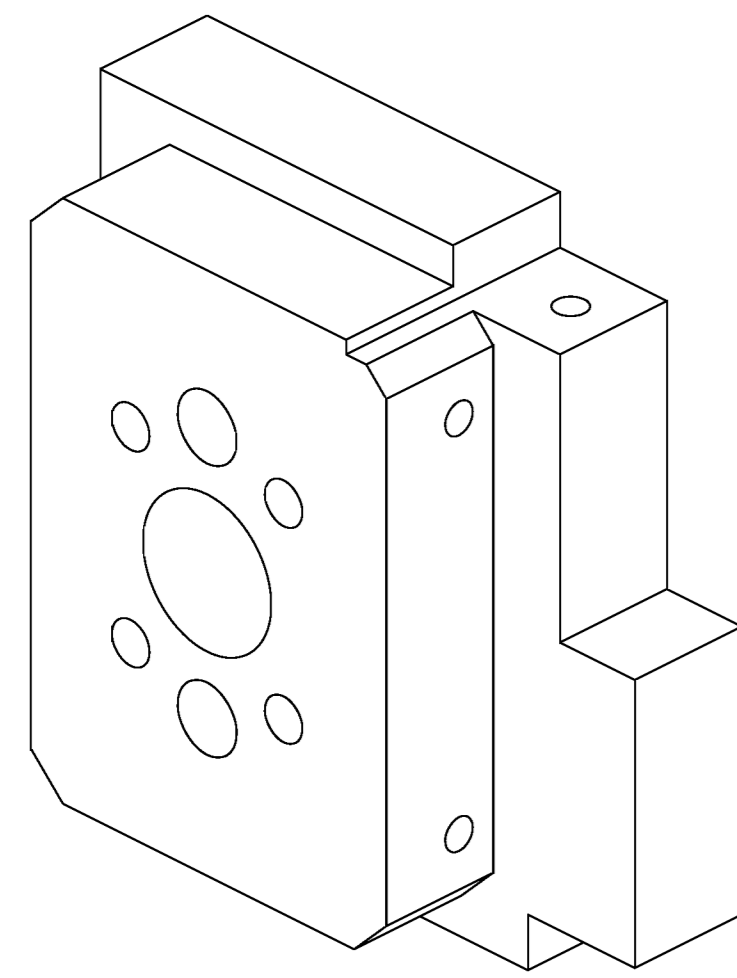
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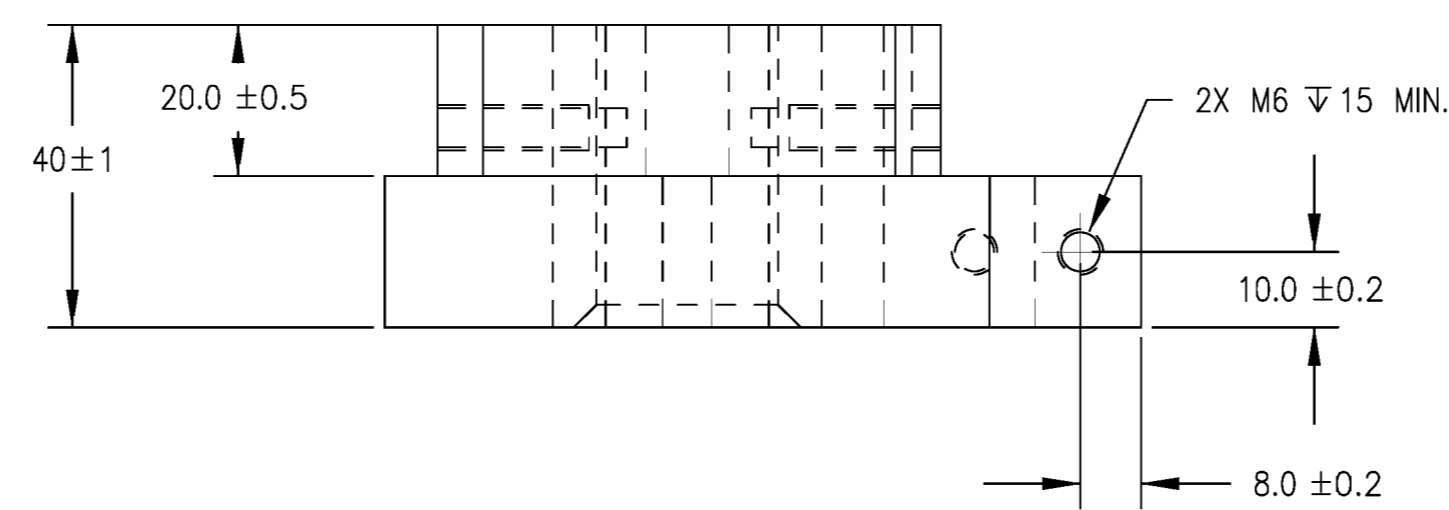
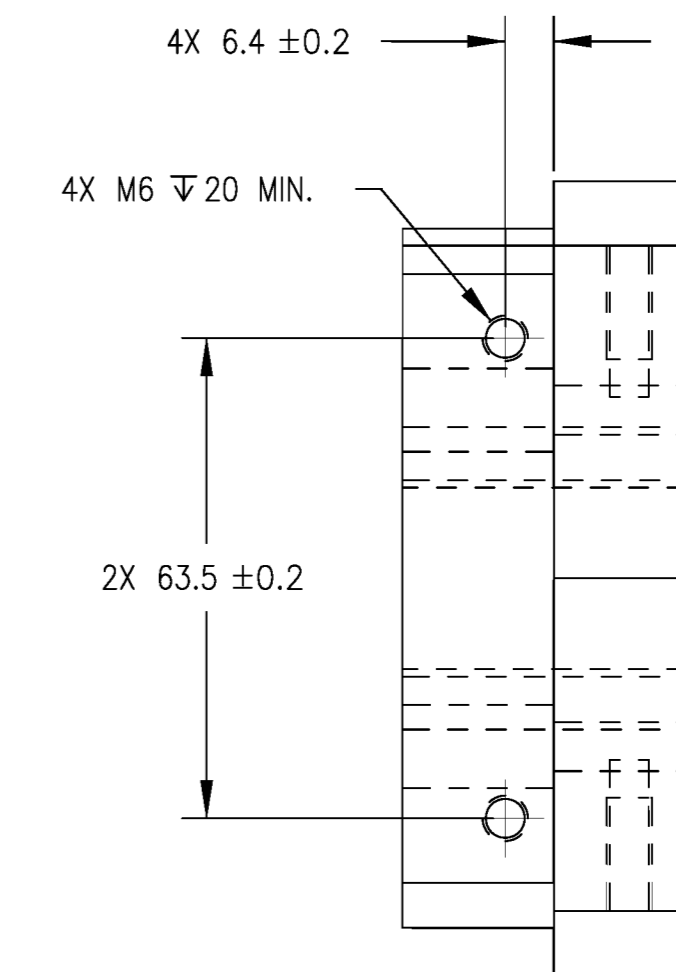
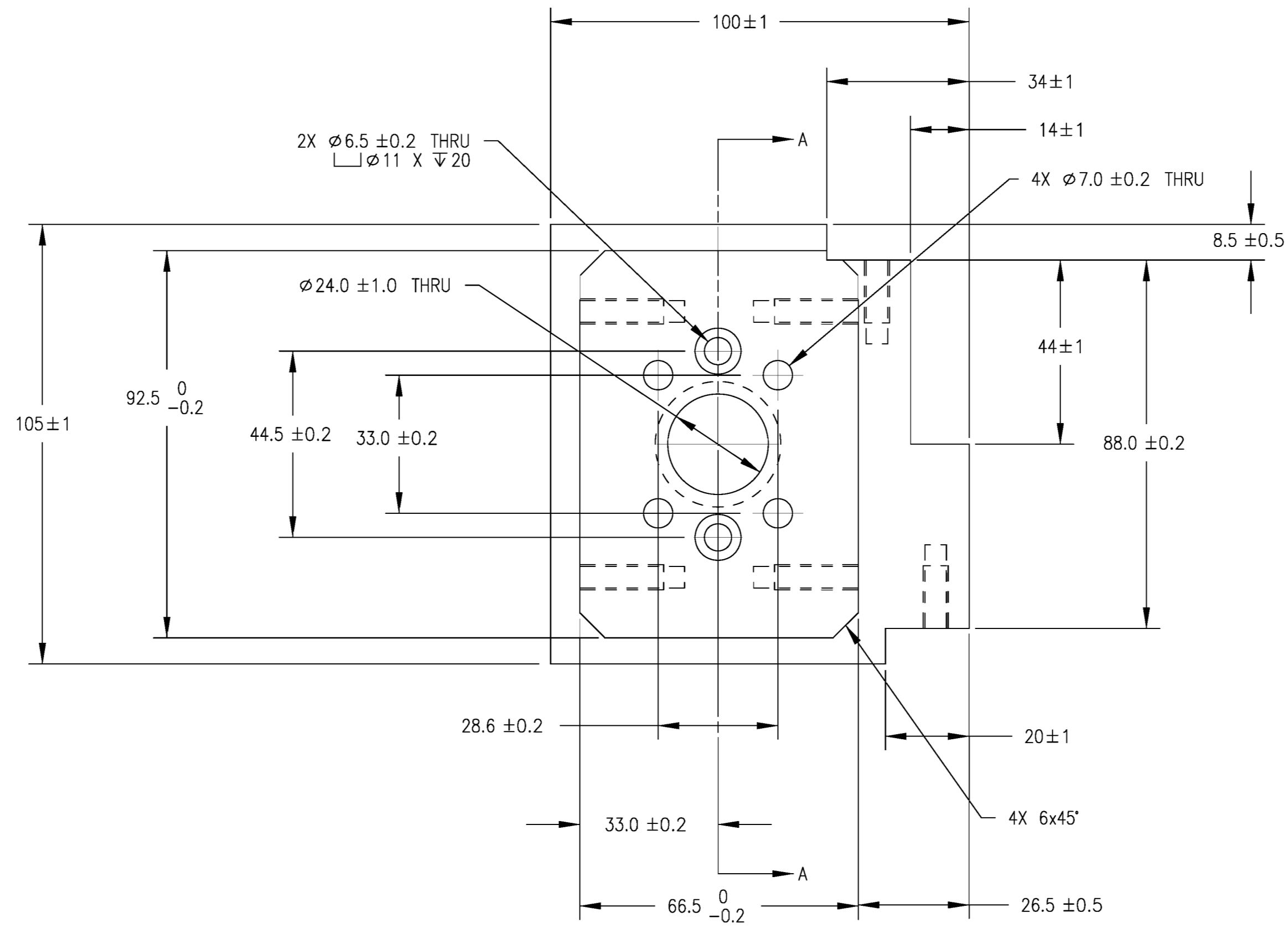
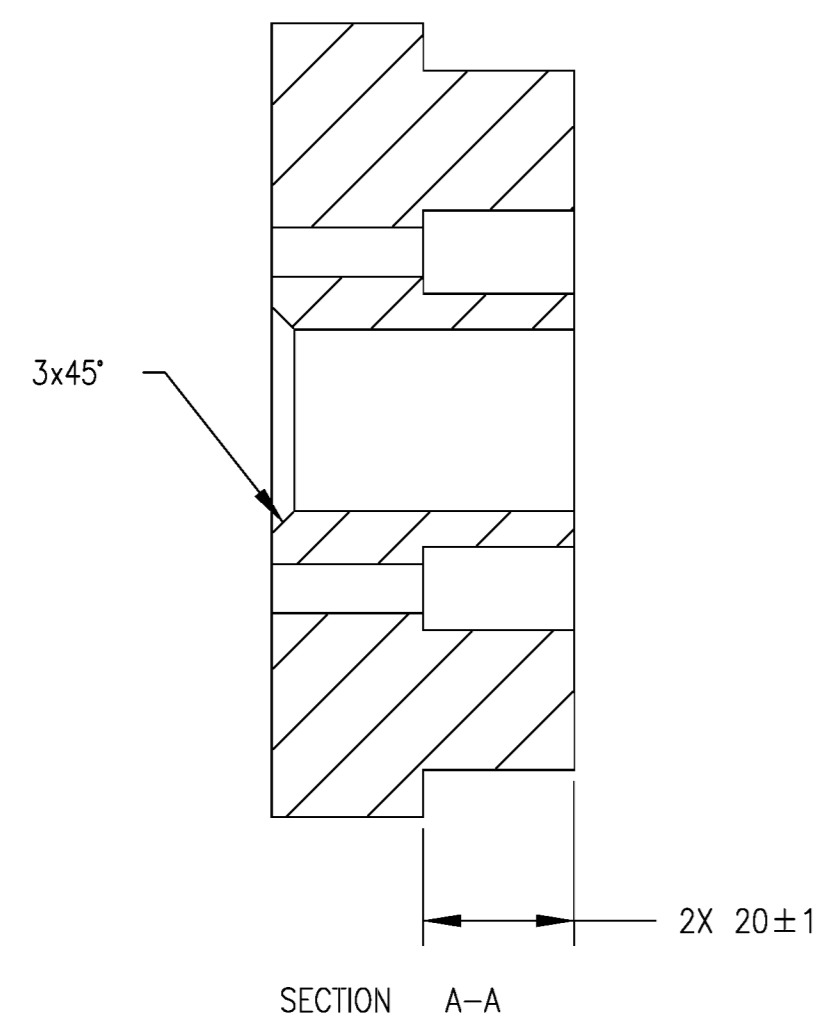
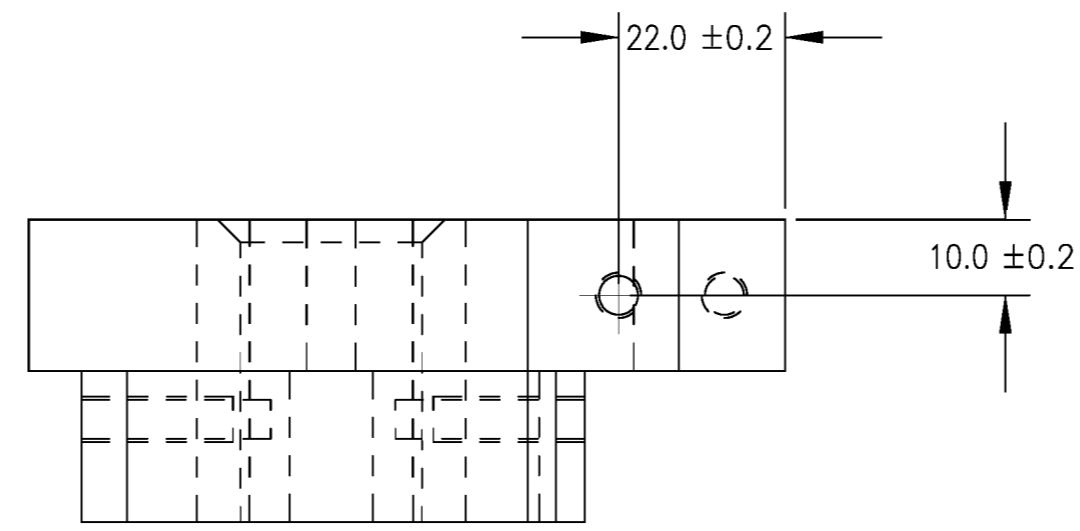
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REVISION RECORD			
REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION AND FINISH NOTE #2	12/14/05	DW



SCALE 1.000



- NOTES:
1. REMOVE ALL BURRS AND BREAK SHARP EDGES.
  2. FINISH REF.: SILVER ANODIZE

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			
MATERIAL REF. ALUM. 6082		<b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b> LOWER MOUNTING BASE	
SCALE 1.000			
TOLERANCES ARE: *		APPROVALS	DATE
DECIMALS:	ANGLES:	CHECKED: _____ ENGINEER: _____	
X ± 0.5	± 0.5°		
.XX ± 0.05	MACHINED: $\frac{6.3}{\sqrt{}}$		
* unless otherwise noted		SIZE: A1	SHEET: 1 OF 1
DRAWING NUMBER: 175-9027			REV: B



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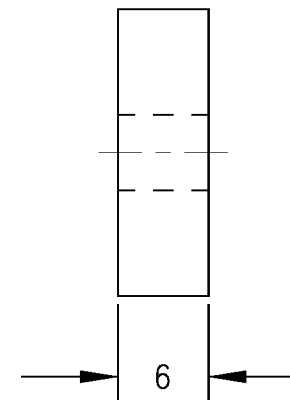
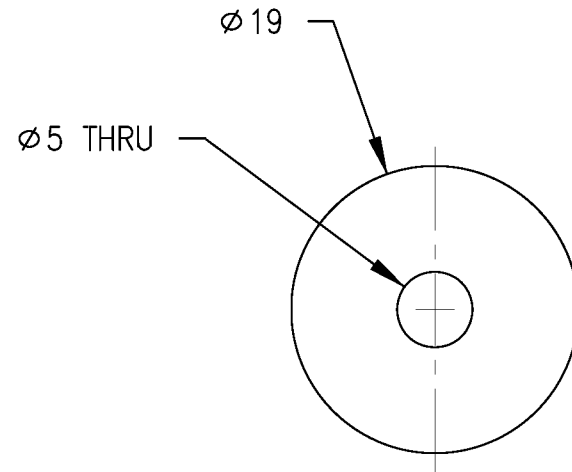
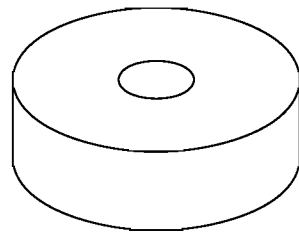
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REVISION RECORD

REV.	DESCRIPTION	DATE	BY
A	NHTSA PART 572 NPRM RELEASE	7/30/04	DW
B	ADDED REF. TO MATERIAL SPECIFICATION	12/30/05	DW



NOTES:

1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.

ITEM NO.	QTY	PART NO.	DESCRIPTION
PART LIST			
UNITS ARE millimeters			 <b>NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION</b>
MATERIAL REF. STEEL			
TOLERANCES ARE: *			BALL BEARING
DECIMALS: X ±0.5, .X ±0.1, .XX ±0.05 ANGLES: ±0.5° MACHINED: 63/			
* unless otherwise noted			SCALE 2.000 APPROVALS _____ DATE _____ DRAWN _____ CHECKED _____ ENGINEER _____
SIZE	SHEET	DRAWING NUMBER	REV.
A3	1 OF 1	175-9028	B

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