

NOTES:

△ UPPER RIGHT CRUX UNIT IS PICTURED ON THE CALIBRATION FIXTURE.

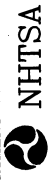
△ REFER TO CRUX SECTION OF THE USER'S MANUAL FOR DETAILS ON THE CALIBRATION PROCEDURE

△ THE SPACER BLOCK IS POSITIONED UNDER THE POT #3 JOINT AND PINNED INTO PLACE WITH A 1/8" DOVEL PIN

△ THE BASE MOUNT (TICEM130) IS NOT USED FOR THIS ORIENTATION OF THE UNIT. IT IS USED TO ROTATE THE BASE OF THE CRUX UNIT TO MEASURE THE POT #1 ANGLES OF +90° AND -90°.

6	3	MCM# 91251A342	#10-32 X 1/2" S.H.C.S.	ALLOY
5	2	MCM# 91253A006	#10-32 X 5/8" F.H.C.S	ALLOY
4	1	TICEM140	CRUX CALIBRATION - U-JOINT MOUNT	1018 CRS
3	1	TICEM130	CRUX CALIBRATION - BASE MOUNT	1018 CRS
2	1	TICEM120	CRUX CALIBRATION - SPACER BLOCK	1018 CRS
1	1	TICEM110	CRUX CALIBRATION - BASE PLATE	1018 CRS
A	1	TICEM001	UPPER RIGHT CRUX UNIT	-
QTY		DTG/PART NUMBER	DESCRIPTION	MATERIAL
ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		ENGINEERED:	DATE:	
Tolerances		D. BEACH	3/21/97	
Angles: ± .5°		FRANK:		
Fractions ± 1/64		D. BEACH	3/21/97	
Decimals: .xx ± .01		CHECKED:		
.xxx ± .005		D. BEACH	3/21/97	
Hole Dia. ± .002		SCALE	SIZE	REVISION
* DO NOT SCALE DRAWING *		1=1	E	1
FINISH:		QUANTITY FOR CALIBRATION		
		1		
MATERIAL:		DRAWING NUMBER:		
SEE SPECS.		TICEM100		
		Page		
		1/1		

DEPARTMENT OF TRANSPORTATION



DESIGNED BY: GESAC, INC.
125 ORCHARD DRIVE
ROCKFORD, IL 61103

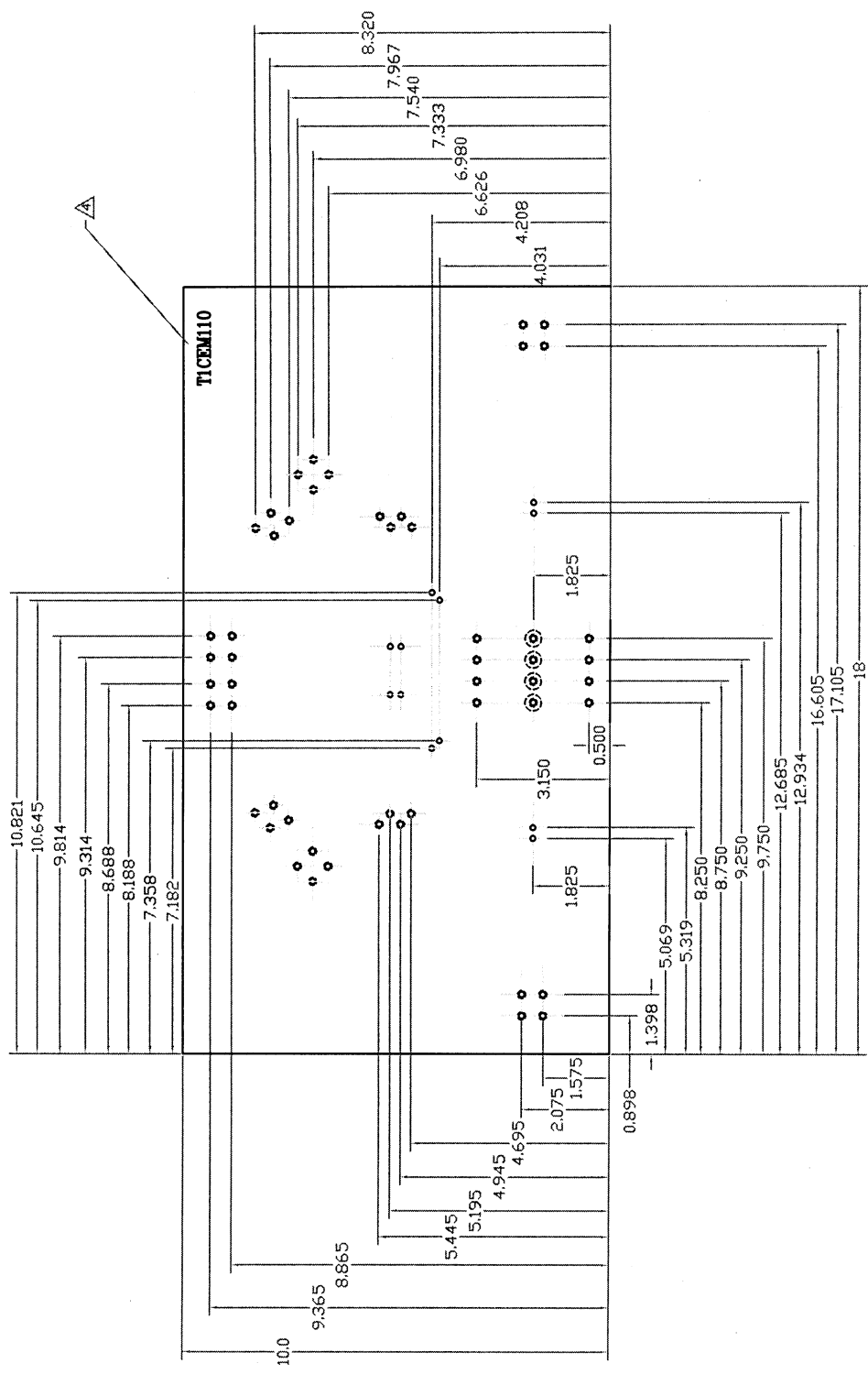
DRAWING TITLE: CRUX CALIBRATION FIXTURE
MECHANICAL ASSEMBLY

DRAWING NUMBER: TICEM100

Page 1/1

22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
P	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A							
REF. #		ZONE		DESCRIPTION		REVISION		BY														
1		L, 12		UPDATED WITH REVISED U-JOINT, ADDED HARDWARE		6/7/01		J. McDONALD														

P	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A						
22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
REV. #		ZONE		REVISION DESCRIPTION												BY					



NOTES!

SEE DETAIL DIMENSIONS ON DWG. # TIC1M11, TIC1M12, AND TIC1M13.

PLATE SHOULD BE MACHINED FROM 3/8" STEEL STOCK WITH A MACHINED FINISH ON THE TOP SIDE.

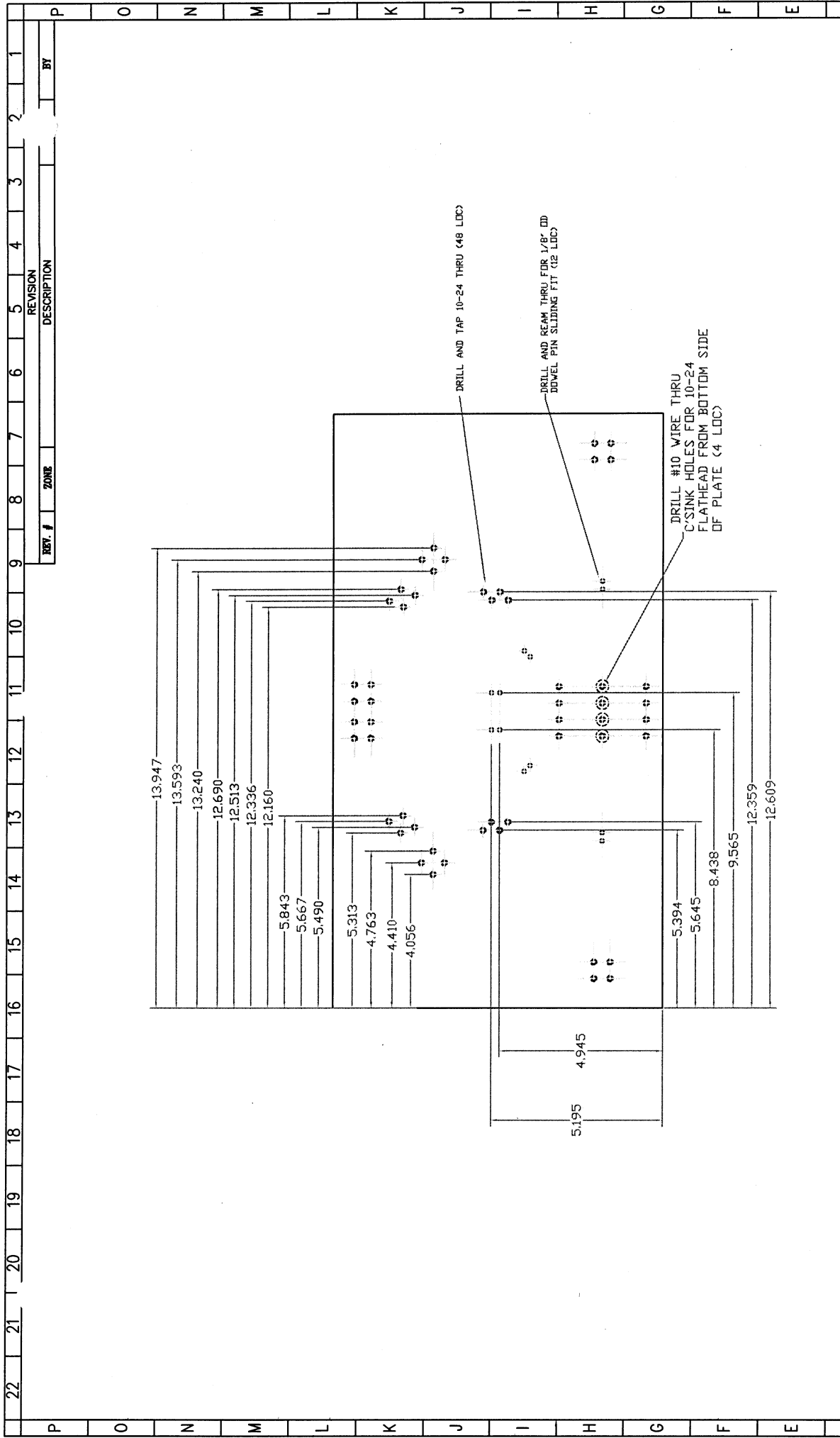
Holes ARE SYMMETRICAL.

ENGRAVE DWG. # TICEM110 AT THE LOCATION INDICATED

QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
Tolerances			
Angles: ± .5°			
Fractions: ± 1/64			
Decimals: .xx ± .01			
Hole Dia.: ± .002			
• DO NOT SCALE DRAWING •			
FINISH:			
ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY			
ENGINEERED:		DATE:	
D. BEACH		3/21/87	
DRAWN:		DATE:	
D. BEACH		3/21/87	
CHECKED:		DATE:	
D. BEACH		3/21/87	
SCALE		SIZE	REVISION
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QUANTITY FOR CALIBRATION			
1			
DRAWING NUMBER:			
TICEM110			
Page			
1/1			

DEPARTMENT OF TRANSPORTATION
NHTSA
 CONTRACT NO.: DTMB 28-94-C-07010
 DESIGNED BY: GESAC, INC.
125 ORCHARD DRIVE
 ROCKFORD, IL 61153

DRAWING TITLE: CRUX CALIBRATION FIXTURE
 BASE PLATE - SHEET #1



REV. #	QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
			ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY	
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES				
Tolerances				
Angles: ± .5°				
Fractions: ± 1/64				
Decimals: .xx ± .01				
.xxx ± .005				
Hole Dia. ± .002				
* DO NOT SCALE DRAWING *				
FINISH:				
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DATE: 3/21/97				
ENGINEERED: D. BEACH				
DRAWN: D. BEACH				
CHECKED: D. BEACH				
DATE: 3/21/97				
REVISION				
DRAWING TITLE: CRUX CALIBRATION FIXTURE BASE PLATE - SHEET #2				
DRAWING NUMBER: TICEM111				
Page 1/1				

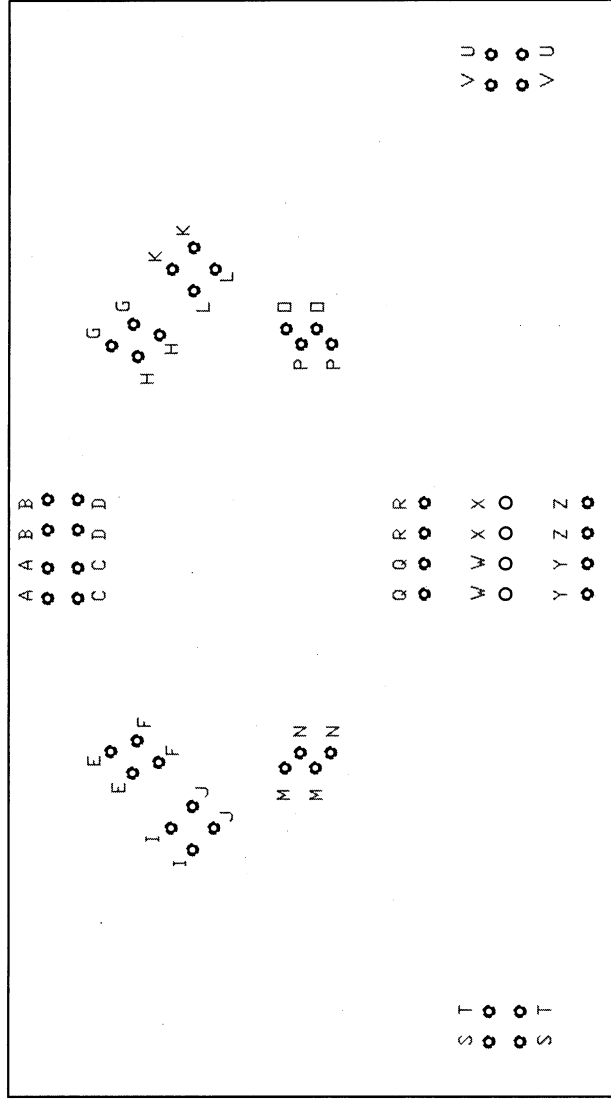
NOTE:
 REFER TO DIMENSIONS ON DWG. # TICLM110, TICLM112, AND TICLM113.

22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

P O N M L K J I H G F E D C B A

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REV. #	DATE	DESCRIPTION	BY



NOTES:

- ① DRAWING SHOWING ONLY THE #10 WIRE THRU HOLES (QTY 4) AND THE #10-24 TAPPED HOLES (QTY 48)
- ② REFER TO DETAIL DIMENSIONS ON DWG # T1CLM110, T1CLM111, T1CLM113.
- ③ ENGRAVE HOLE LOCATIONS WITH LETTERS AS INDICATED.

QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY ENGINEERED: D. BEACH DATE: 9/21/97 DRAWN: D. BEACH DATE: 9/21/97 CHECKED: D. BEACH DATE: 9/21/97 SCALE: 1=1 SIZE: D REVISION:			
DEPARTMENT OF TRANSPORTATION NHTSA CONTRACT NO.: DTMB 95-C-07610 DESIGNED BY: GESAC, INC. <small>1000 W. BROADWAY, SUITE 200 HOUSTON, TX 77002</small>			
DRAWING TITLE: CRUI CALIBRATION FIXTURE BASE PLATE - SHEET #3 DRAWING NUMBER: T1CEM112 MATERIAL: 1018 CRS QTY: 1018 CRS			
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<p>ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY: DEPARTMENT OF TRANSPORTATION</p> <p>NHTSA</p> <p>CONTRACT NO.: DTMB 99-94-C-0700</p> <p>DESIGNED BY: GESAC, INC.</p> <p>100 GROUND BOLT</p> <p>EXCESSIVE STRESS</p> <p>DRAWING TITLE: CRUX CALIBRATION FIXTURE</p> <p>BASE PLATE - SHEET #4</p> <p>DRAWING NUMBER: TICEM113</p> <p>MATERIAL: 1018 CRS</p> <p>Page: 1/1</p>																																														
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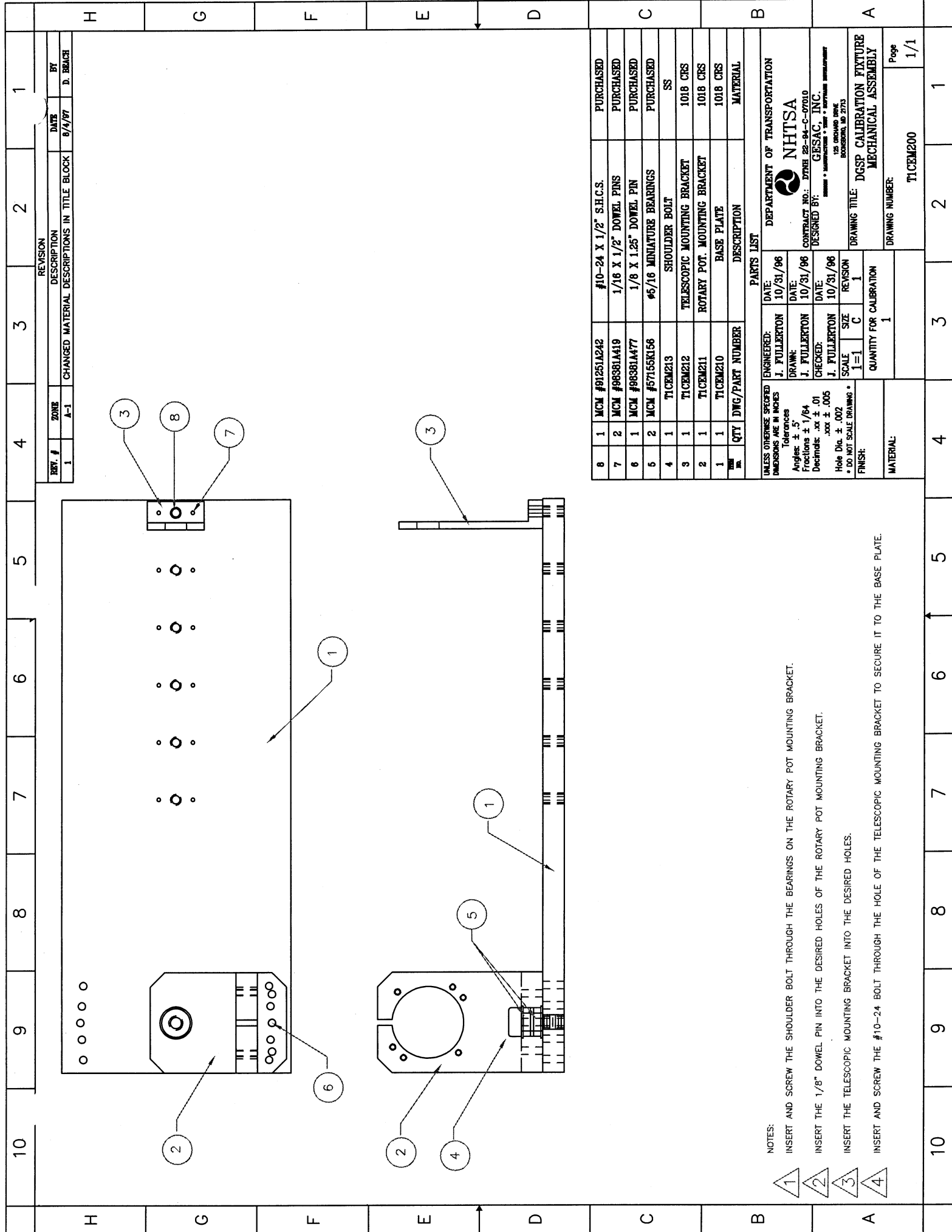
NOTES:

- △ DRAWING SHOWING ONLY THE 1/8" REAMED DOWEL PIN HOLES - QTY. 12
- △ REFER TO DWG. #T1CLM110, T1CLM111, AND T1CLM112
- △ ENGRAVE HOLE LOCATIONS WITH NUMBERS AS INDICATED.

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REF. #	ZONE	REVISION	DATE	BY
1	A-1	CHANGED MATERIAL DESCRIPTIONS IN TITLE BLOCK	8/4/97	D. BRACE

QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
6	1	MCM #91251A242	#10-24 X 1/2" S.H.C.S.
7	2	MCM #98381A419	1/16 X 1/2" DOWEL PINS
6	1	MCM #98381A477	1/8 X 1.25" DOWEL PIN
6	2	MCM #57155K156	#5/16 MINIATURE BEARINGS
4	1	TICEM213	SHOULDER BOLT
3	1	TICEM212	TELESCOPIC MOUNTING BRACKET
2	1	TICEM211	ROTARY POT MOUNTING BRACKET
1	1	TICEM210	BASE PLATE

PARTS LIST		
ENGINEERED:	DATE:	
J. FULLERTON	10/31/86	
DRAWN:	DATE:	
J. FULLERTON	10/31/86	
CHECKED:	DATE:	
J. FULLERTON	10/31/86	
SCALE	SIZE	REVISION
1=1	C	1
QUANTITY FOR CALIBRATION		
1		

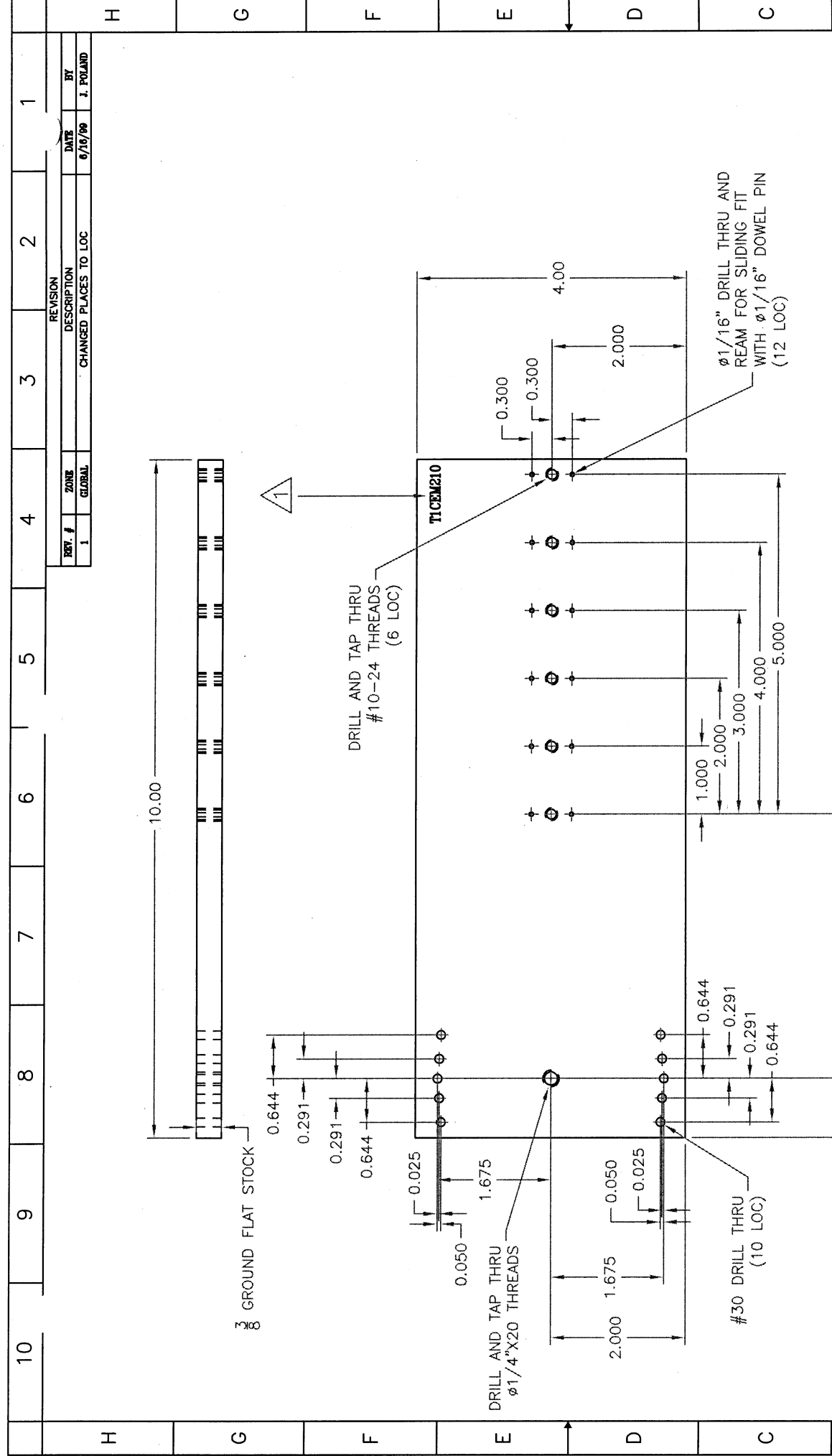
UNLESS OTHERWISE SPECIFIED	
DIMENSIONS ARE IN INCHES	
Tolerances	
Angles:	± .5°
Fractions:	± 1/64
Decimals:	.xx ± .01
	.xxx ± .005
Hole Dia.:	± .002
* DO NOT SCALE DRAWING *	
FINISH:	
MATERIAL:	

DEPARTMENT OF TRANSPORTATION	
NHTSA	
CONTRACT NO.: DTN82-84-C-07010	
DESIGNED BY: GESAC, INC.	
125 ORLANDO DRIVE	
BOZEMAN, ID 83723	
DRAWING TITLE: DGSP CALIBRATION FIXTURE	
MECHANICAL ASSEMBLY	
DRAWING NUMBER:	TICEM200
Page	1/1

NOTES:

1. INSERT AND SCREW THE SHOULDER BOLT THROUGH THE BEARINGS ON THE ROTARY POT MOUNTING BRACKET.
2. INSERT THE 1/8" DOWEL PIN INTO THE DESIRED HOLES OF THE ROTARY POT MOUNTING BRACKET.
3. INSERT THE TELESCOPIC MOUNTING BRACKET INTO THE DESIRED HOLES.
4. INSERT AND SCREW THE #10-24 BOLT THROUGH THE HOLE OF THE TELESCOPIC MOUNTING BRACKET TO SECURE IT TO THE BASE PLATE.

10	9	8	7	6	5	4	3	2	1
H	G	F	E	D	C	B	A		



REV. #	ZONE	DESCRIPTION	DATE	BY
1	GLOBAL	CHANGED PLACES TO LOC	6/16/96	J. POLAND

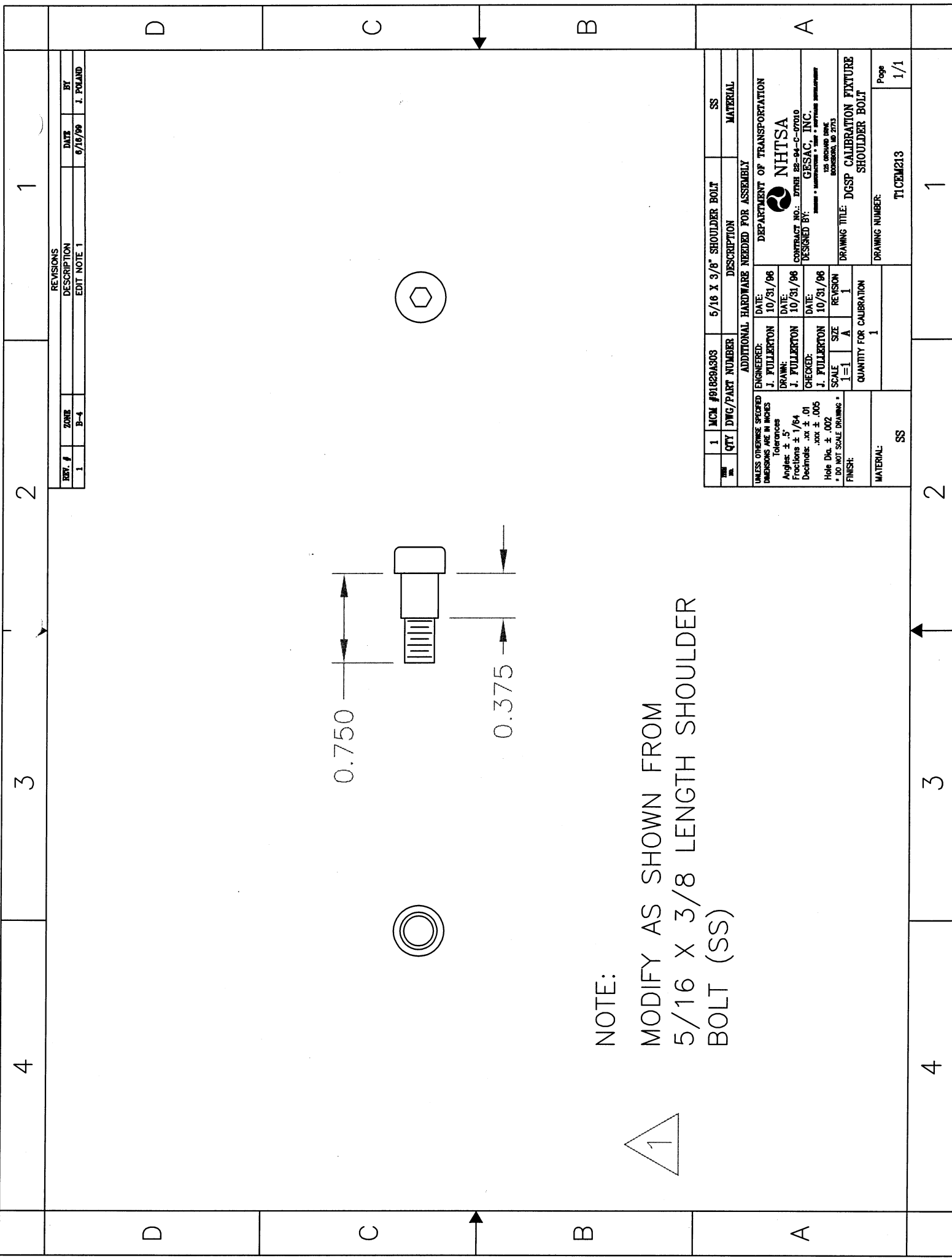
QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
1	T11CEM210	DRILL AND TAP THRU #10-24 THREADS (6 LOC)	T11CEM210
1	T11CEM210	DRILL AND TAP THRU ø1/4"x20 THREADS	T11CEM210
1	T11CEM210	#30 DRILL THRU (10 LOC)	T11CEM210
1	T11CEM210	ø1/16" DRILL THRU AND REAM FOR SLIDING FIT WITH ø1/16" DOWEL PIN (12 LOC)	T11CEM210
1	T11CEM210	GROUND FLAT STOCK	1018 CRS

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY
Tolerances Angles: ± .5° Fractions: ± 1/64 Decimals: .xxx ± .005 Hole Dia: ± .002 * DO NOT SCALE DRAWING	DEPARTMENT OF TRANSPORTATION NHTSA CONTRACT NO.: DTMB 22-84-C-07010 DESIGNED BY: GESAC, INC. 125 OSWALD DRIVE ROCKFORD, IL 61103
ENGINEERED: J. FULLERTON DATE: 11/7/96 DRAWN: J. FULLERTON DATE: 11/7/96 CHECKED: J. FULLERTON DATE: 11/7/96 SCALE: 1=1 SIZE: C REVISION: 1	DRAWING TITLE: DGSP CALIBRATION FIXTURE BASE PLATE DRAWING NUMBER: T11CEM210 QUANTITY FOR CALIBRATION: 1 MATERIAL: 1018 CRS

NOTES:

- ENGRAVE THE DWG. # T11CEM210 AT THE LOCATION SPECIFIED ABOVE.
- BREAK ALL SHARP EDGES
- HOLD ALL HOLE POSITION TOLERANCES TO WITHIN 0.003"

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<p>NOTES:</p> <p>1 ENGRAVE THE DWG. # TICEM212 AT THE LOCATION SPECIFIED ABOVE.</p> <p>2 BREAK ALL SHARP EDGES</p> <p>3 HOLD ALL HOLE POSITION TOLERANCES TO 0.001"</p> <p>4 PERFORM SURFACE FINISH TO OBTAIN FINAL THICKNESS OF 0.250"</p>																															
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DRAWING NUMBER: TICEM212		Page: 1/1																													

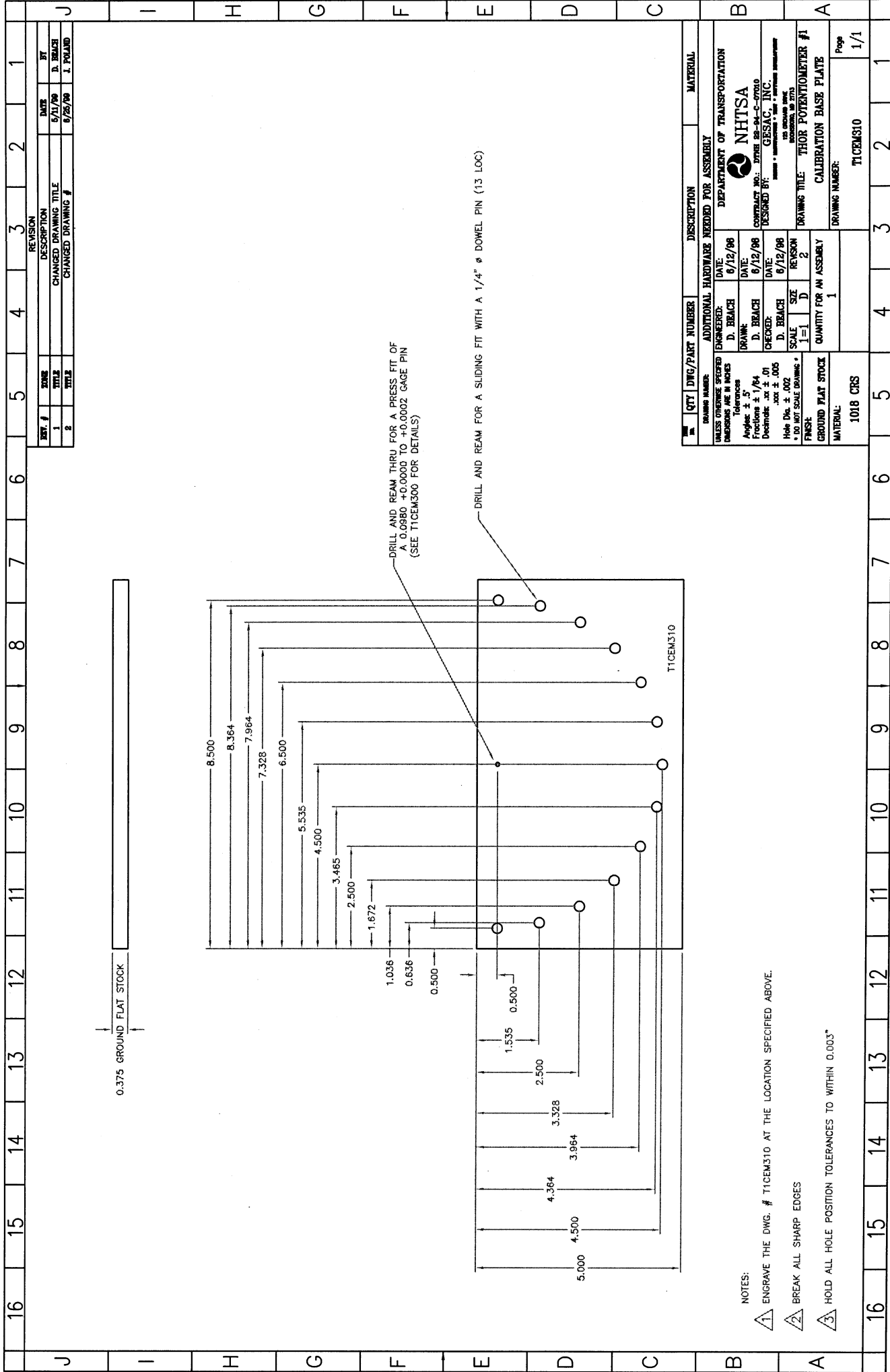


NOTE:
 MODIFY AS SHOWN FROM
 5/16 X 3/8 LENGTH SHOULDER
 BOLT (SS)

REV. #	ZONE	DESCRIPTION	DATE	BY
1	B-4	EDIT NOTE 1	6/16/99	J. POLAND

1	QTY	MCM #01829A503	5/16 X 3/8" SHOULDER BOLT	SS
		DWG/PART NUMBER	DESCRIPTION	MATERIAL
ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		ENGINEERED:	DATE:	DEPARTMENT OF TRANSPORTATION
Tolerances		J. FULLERTON	10/31/96	NHTSA
Angles: ± .5°		DRAWN:	DATE:	CONTRACT NO.: DTMBL 88-94-C-07010
Fractions ± 1/64		J. FULLERTON	10/31/96	DESIGNED BY: GRSAC, INC.
Decimals: .xxx ± .01		CHECKED:	DATE:	125 ORCHARD DRIVE
.xxxx ± .005		J. FULLERTON	10/31/96	ROCKFORD, IL 60010
Hole Dia. ± .002		SCALE	SIZE	REVISION
• DO NOT SCALE DRAWING •		1=1	A	1
FINISH:		QUANTITY FOR CALIBRATION		
		1		
MATERIAL:		DRAWING NUMBER:		
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		Page		
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10	9	8	7	6	5	4	3	2	1																								
H	G	F	E	D	C	B	A																										
<table border="1"> <tr> <th>REV. #</th> <th>ZONE</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>										REV. #	ZONE	DESCRIPTION	DATE	BY																			
REV. #	ZONE	DESCRIPTION	DATE	BY																													
<p>DETAIL GAGE PIN (SCALE 4:1)</p> <p>REF LINE IS PERP TO LEFT EDGE OF PLATE</p> <p>0.0980" OD</p> <p>0.0875</p>																																	
<table border="1"> <tr> <th>QTY</th> <th>DWG/PART NUMBER</th> <th>DESCRIPTION</th> <th>MATERIAL</th> </tr> <tr> <td>5</td> <td>91251A107</td> <td>#4-40 X 5/16" S.H.C.S. (ALLOY)</td> <td>PURCHASED</td> </tr> <tr> <td>4</td> <td>98980A546</td> <td>1/4" DIAM. X 1-1/8" DOWEL PIN</td> <td>SEE DWG</td> </tr> <tr> <td>3</td> <td>TICEM812</td> <td>POTENTIOMETER D-SHAFT</td> <td>SEE DWG</td> </tr> <tr> <td>2</td> <td>TICEM811</td> <td>POTENTIOMETER HOLDER/ARMATURE</td> <td>1018 CRS</td> </tr> <tr> <td>1</td> <td>TICEM810</td> <td>CALIBRATION BASE PLATE</td> <td>1018 CRS</td> </tr> </table>										QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL	5	91251A107	#4-40 X 5/16" S.H.C.S. (ALLOY)	PURCHASED	4	98980A546	1/4" DIAM. X 1-1/8" DOWEL PIN	SEE DWG	3	TICEM812	POTENTIOMETER D-SHAFT	SEE DWG	2	TICEM811	POTENTIOMETER HOLDER/ARMATURE	1018 CRS	1	TICEM810	CALIBRATION BASE PLATE	1018 CRS
QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL																														
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2	TICEM811	POTENTIOMETER HOLDER/ARMATURE	1018 CRS																														
1	TICEM810	CALIBRATION BASE PLATE	1018 CRS																														
<p>ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY</p> <p>ENGINEER: D. BRACH DATE: 6/12/98</p> <p>DRAWN: J. POLAND DATE: 6/25/99</p> <p>CHECKED: J. POLAND DATE: 6/25/99</p> <p>SCALE: 1=1 SIZE: C</p> <p>REVISION: N/C</p> <p>QUANTITY FOR CALIBRATION: 1</p> <p>FINISH: * DO NOT SCALE DRAWING *</p> <p>MATERIAL: 1</p>																																	
<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES</p> <p>Tolerances: Angles: ± .5° Fractions: ± 1/64 Decimals: .xxx ± .005 Hole Dia. ± .002</p> <p>* DO NOT SCALE DRAWING *</p>																																	
<p>NOTES:</p> <p>1 FLAT GROUND ON LEFT SIDE OF PIN VIEWED FROM TOP (PARALLEL TO LEFT EDGE OF PLATE)</p>																																	
<p>DRAWING TITLE: THOR POTENTIOMETER #1 CALIBRATION FIXTURE ASSEMBLY</p> <p>DRAWING NUMBER: TICEM800</p> <p>Page: 1/1</p>																																	



REV #	DATE	BY
1	6/11/98	D. BEACH
2	9/25/98	L. POLARD

REV #	DATE	BY
1	6/11/98	D. BEACH
2	9/25/98	L. POLARD

REV #	DATE	BY
1	6/11/98	D. BEACH
2	9/25/98	L. POLARD

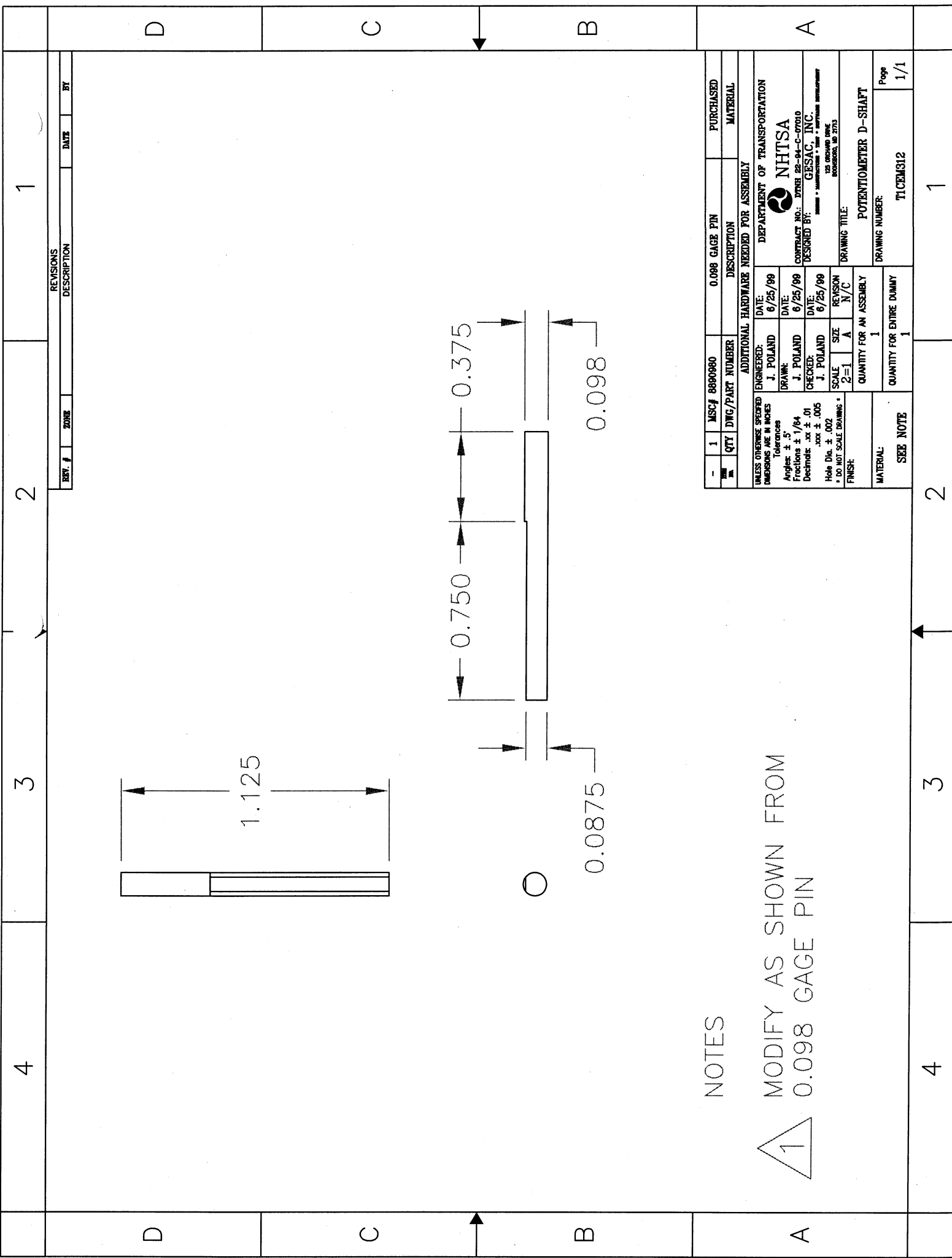
QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
1	TICEM310	ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY	TICEM310

DRAWING NUMBER		ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY	
UNLESS OTHERWISE SPECIFIED	ENGINEERED:	DATE:	DEPARTMENT OF TRANSPORTATION
DIMENSIONS ARE IN INCHES	D. BEACH	6/12/98	NHTSA
Tolerances	DRAWN:	DATE:	CONTRACT NO.: DTRE 98-04-0700
Angles: ± 1/64	D. BEACH	6/12/98	DESIGNED BY: GEBELAC, INC.
Fractions: ± 1/64	CHECKED:	DATE:	125 GROUND STOCK
Diameters: ± 0.005	D. BEACH	6/12/98	REVISION 1
Hole Dia: ± 0.002	SCALE:	SIZE:	REVISION 2
* DO NOT SCALE DRAWING *	1=1	D	QUANTITY FOR AN ASSEMBLY
FINISH:	1	1	1
GROUND FLAT STOCK	1	1	1
MATERIAL:	1018 CRS	1	1

- NOTES:
- ENGRAVE THE DWG. # TICEM310 AT THE LOCATION SPECIFIED ABOVE.
 - BREAK ALL SHARP EDGES
 - HOLD ALL HOLE POSITION TOLERANCES TO WITHIN 0.003"

J	I	H	G	F	E	D	C	B	A	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1														
<table border="1"> <thead> <tr> <th>REV. #</th> <th>ZONE</th> <th>TITLE</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td>CHANGED DRAWING TITLE</td> <td>6/11/98</td> <td>D. BEACH</td> </tr> <tr> <td>2</td> <td></td> <td>CHANGED DRAWING TITLE AND NUMBER, ADDED RIGHT VIEW</td> <td>6/25/98</td> <td>J. POLARD</td> </tr> </tbody> </table>																									REV. #	ZONE	TITLE	DATE	BY	1		CHANGED DRAWING TITLE	6/11/98	D. BEACH	2		CHANGED DRAWING TITLE AND NUMBER, ADDED RIGHT VIEW	6/25/98	J. POLARD
REV. #	ZONE	TITLE	DATE	BY																																			
1		CHANGED DRAWING TITLE	6/11/98	D. BEACH																																			
2		CHANGED DRAWING TITLE AND NUMBER, ADDED RIGHT VIEW	6/25/98	J. POLARD																																			
<table border="1"> <thead> <tr> <th>QTY</th> <th>DWG/PART NUMBER</th> <th>DESCRIPTION</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1018 CRS</td> <td>POTENTIOMETER HOLDER/ARMATURE</td> <td>TICEM311</td> </tr> </tbody> </table>																									QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL	1	1018 CRS	POTENTIOMETER HOLDER/ARMATURE	TICEM311							
QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL																																				
1	1018 CRS	POTENTIOMETER HOLDER/ARMATURE	TICEM311																																				
<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES</p> <p>Tolerances Angles: ± .5° Fractions: ± 1/64 Decimals: .xx ± .01 .xxx ± .005</p> <p>Hole Dls: ± .002 * DO NOT SCALE DRAWING *</p> <p>FINISH</p>																																							
<p>ENGINEERED BY: D. BEACH DATE: 6/12/98</p> <p>DRAWN BY: D. BEACH DATE: 6/12/98</p> <p>CHECKED BY: D. BEACH DATE: 6/12/98</p> <p>SCALE: 1" = 1" D</p> <p>REVISION: 2</p> <p>QUANTITY FOR AN ASSEMBLY: 1</p>																																							
<p>DRAWING NUMBER: 1018 CRS</p> <p>DEPARTMENT OF TRANSPORTATION</p> <p>NHTSA</p> <p>CONTRACT NO.: DTMB 98-94-C-0000</p> <p>DESIGNED BY: GESSAC, INC.</p> <p>100 BROADWAY, NEWTON, MA 02774</p> <p>DRAWING TITLE: THOR POTENTIOMETER #1</p>																																							
<p>MATERIAL: 1018 CRS</p> <p>DRAWING NUMBER: TICEM311</p> <p>Page: 1/1</p>																																							

- NOTES:
- △ ENGRAVE THE DWG. # TICEM311 AT THE LOCATION SPECIFIED ABOVE.
 - △ BREAK ALL SHARP EDGES
 - △ HOLD ALL HOLE POSITION TOLERANCES TO WITHIN 0.003"



NOTES

1 \triangle MODIFY AS SHOWN FROM 0.098 GAGE PIN

REV.	QTY	MSC#	DWG/PART NUMBER	0.098 GAGE PIN	DESCRIPTION	PURCHASED	MATERIAL
1	1	8880980					
UNLESS OTHERWISE SPECIFIED:							
DIMENSIONS ARE IN INCHES							
Tolerances							
Angles $\pm .5$							
Fractions $\pm 1/64$							
Decimals .xx $\pm .01$							
.xxx $\pm .005$							
Hole Dia. $\pm .002$							
* DO NOT SCALE DRAWING *							
FINISH:							
SCALE 2=1							
SIZE A							
REVISION N/C							
QUANTITY FOR AN ASSEMBLY 1							
QUANTITY FOR ENTIRE DUMMY 1							
MATERIAL:							
SEE NOTE							
DRAWING TITLE: POTENTIOMETER D-SHAFT							
DRAWING NUMBER: T1CEM312							
Page 1/1							

ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY

DEPARTMENT OF TRANSPORTATION
NHTSA
 CONTRACT NO.: DTRB 22-94-C-07010
 DESIGNED BY: GESAC, INC.
122 GARDNER DRIVE
 BOSTON, MA 02125

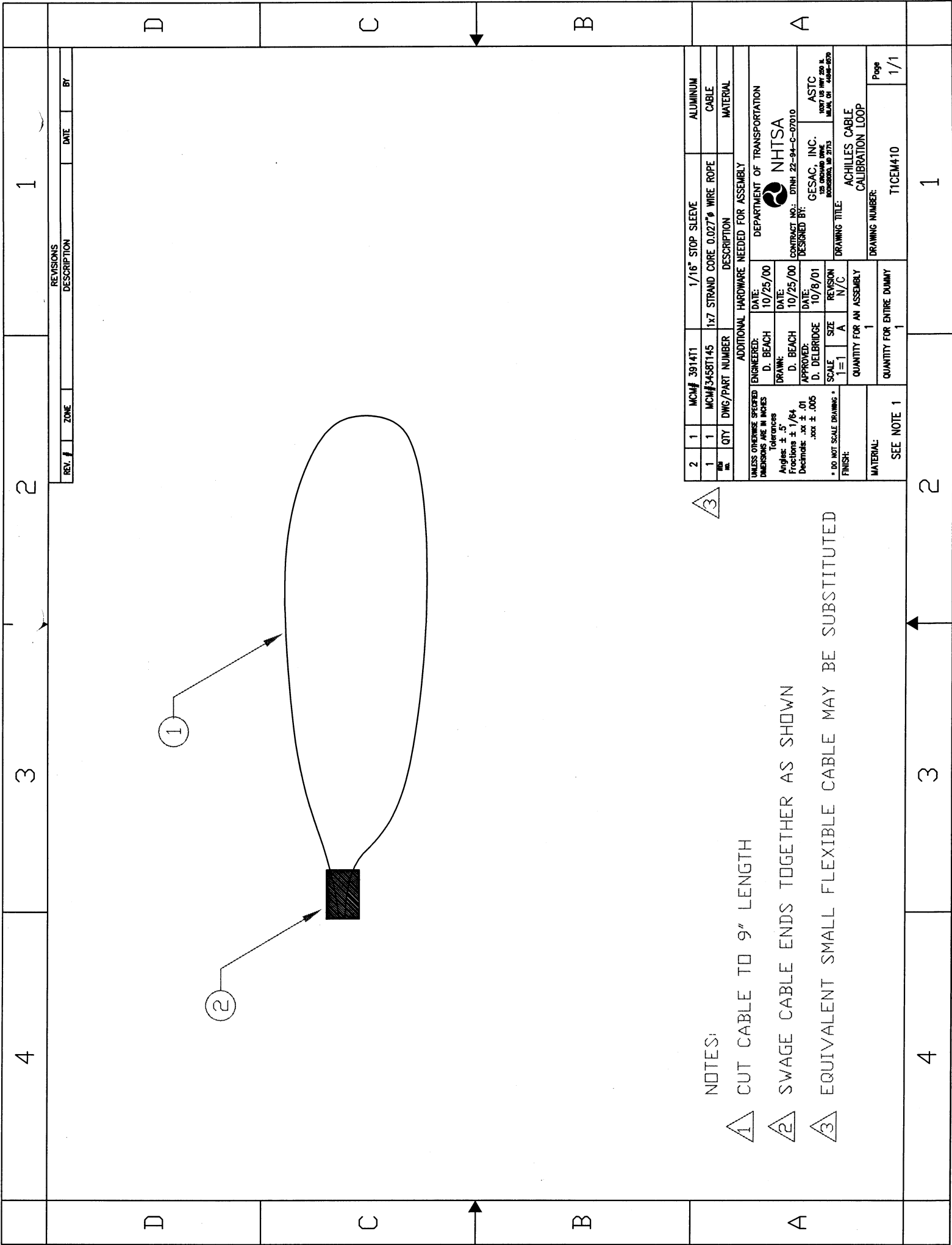
REV.	QTY	MSC#	DWG/PART NUMBER	0.098 GAGE PIN	DESCRIPTION	PURCHASED	MATERIAL
1	1	8880980					

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
 Tolerances
 Angles $\pm .5$
 Fractions $\pm 1/64$
 Decimals .xx $\pm .01$
 .xxx $\pm .005$
 Hole Dia. $\pm .002$
 * DO NOT SCALE DRAWING *
 FINISH:
 SCALE 2=1
 SIZE A
 REVISION N/C
 QUANTITY FOR AN ASSEMBLY 1
 QUANTITY FOR ENTIRE DUMMY 1
 MATERIAL:
 SEE NOTE
 DRAWING TITLE: POTENTIOMETER D-SHAFT
 DRAWING NUMBER: T1CEM312
 Page 1/1

ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY

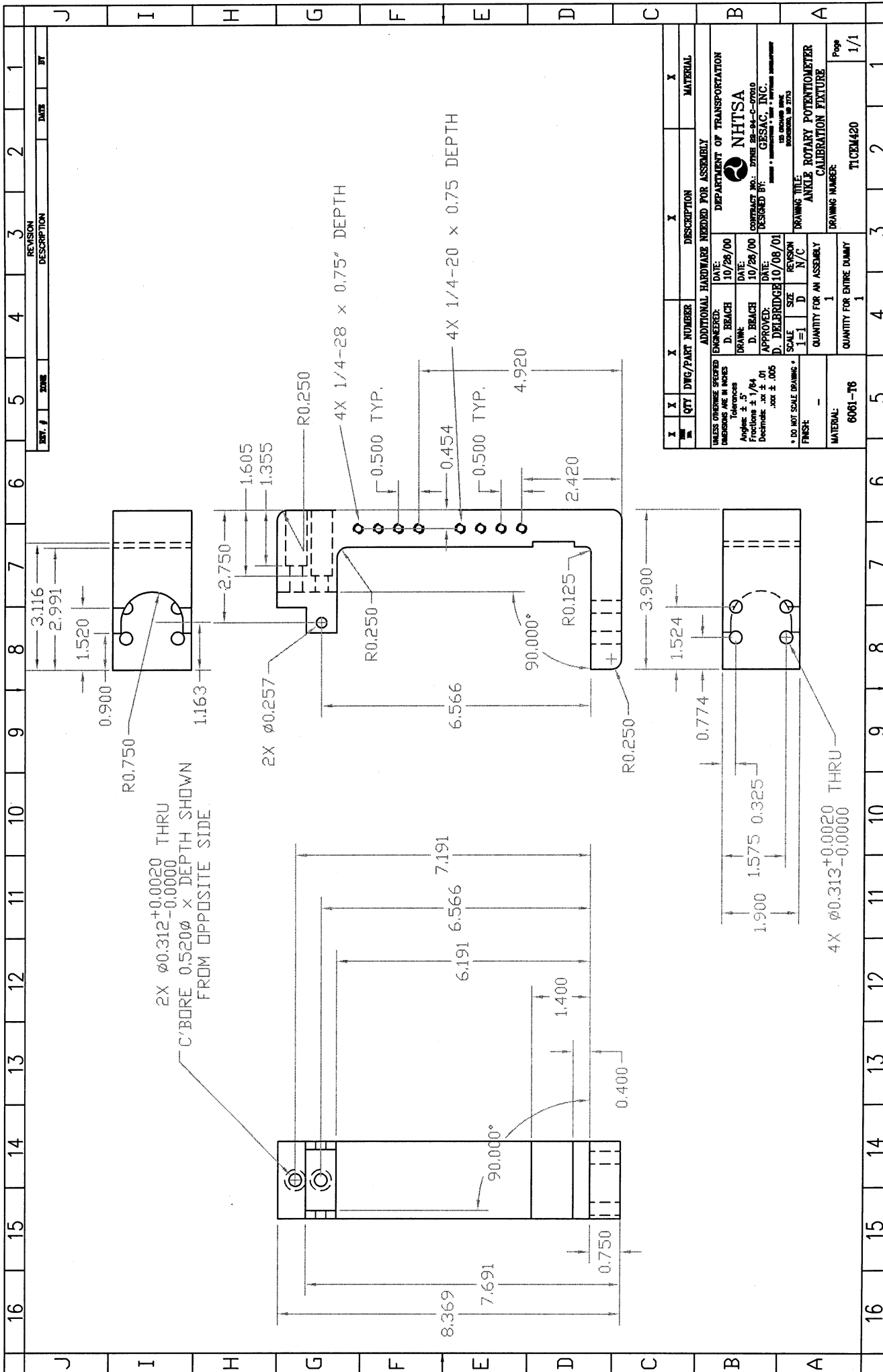
DEPARTMENT OF TRANSPORTATION
NHTSA
 CONTRACT NO.: DTRB 22-94-C-07010
 DESIGNED BY: GESAC, INC.
122 GARDNER DRIVE
 BOSTON, MA 02125



NOTES:

- ① CUT CABLE TO 9" LENGTH
- ② SWAGE CABLE ENDS TOGETHER AS SHOWN
- ③ EQUIVALENT SMALL FLEXIBLE CABLE MAY BE SUBSTITUTED

2	1	MCM# 3914T1	1/16" STOP SLEEVE	ALUMINUM
1	1	MCM#3458T145	1x7 STRAND CORE 0.027" WIRE ROPE	CABLE
	QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY DEPARTMENT OF TRANSPORTATION NHTSA CONTRACT NO.: DTHH 22-94-C-07010 DESIGNED BY: GESAC, INC. 1007 US HWY 200 N. BOSSARD, MO 63013 DRAWING TITLE: ACHILLES CABLE CALIBRATION LOOP DRAWING NUMBER: T1CEM410 Page 1/1				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES Tolerances Angles: ± .5° Fractions: ± 1/64 Decimals: .xx ± .01 .xxx ± .005 * DO NOT SCALE DRAWING * FINISH: 1=1 A N/C QUANTITY FOR AN ASSEMBLY: 1 QUANTITY FOR ENTIRE DUMMY: 1 MATERIAL: SEE NOTE 1				



REV. #	DATE	DESCRIPTION

QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
FRACCTIONS	1/16
DECIMALS	0.005
	0.001

ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY	
ENGINEERED:	DATE: 10/28/00
D. BRACE:	DATE: 10/28/00
D. BRACE:	DATE: 10/28/00
D. DELBURDANCE:	DATE: 10/08/01

SCALE	
I=1	D N/C

FINISH	

QUANTITY FOR AN ASSEMBLY	

QUANTITY FOR ENTIRE DUMMY	

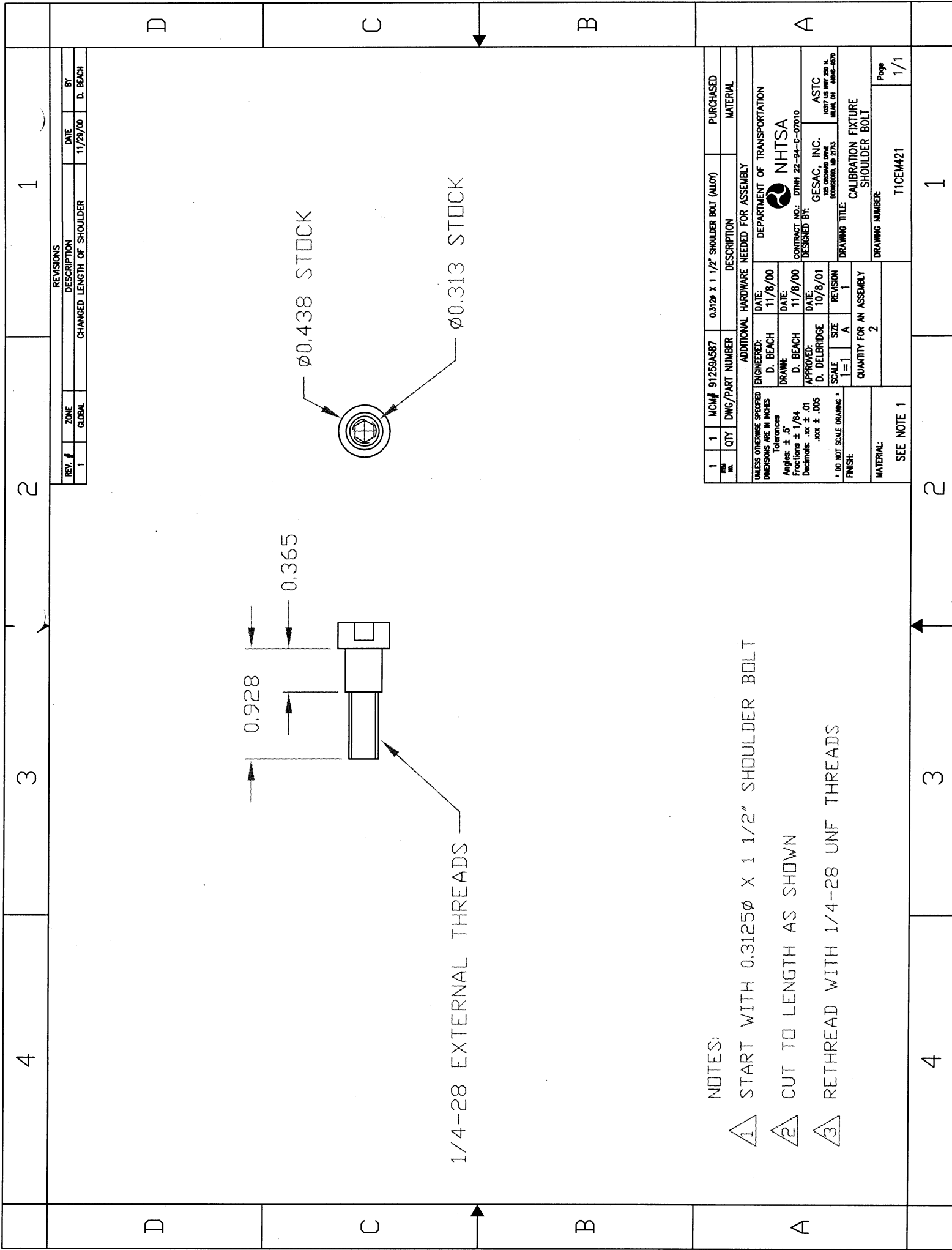
DRAWING TITLE	
ANKLE ROTARY POTENTIOMETER CALIBRATION FEATURE	

DRAWING NUMBER	
TTCM420	

MATERIAL	
6061-T6	

REVISION	

16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
J	I	H	G	F	E	D	C	B	A						



1/4-28 EXTERNAL THREADS

0.438 STOCK

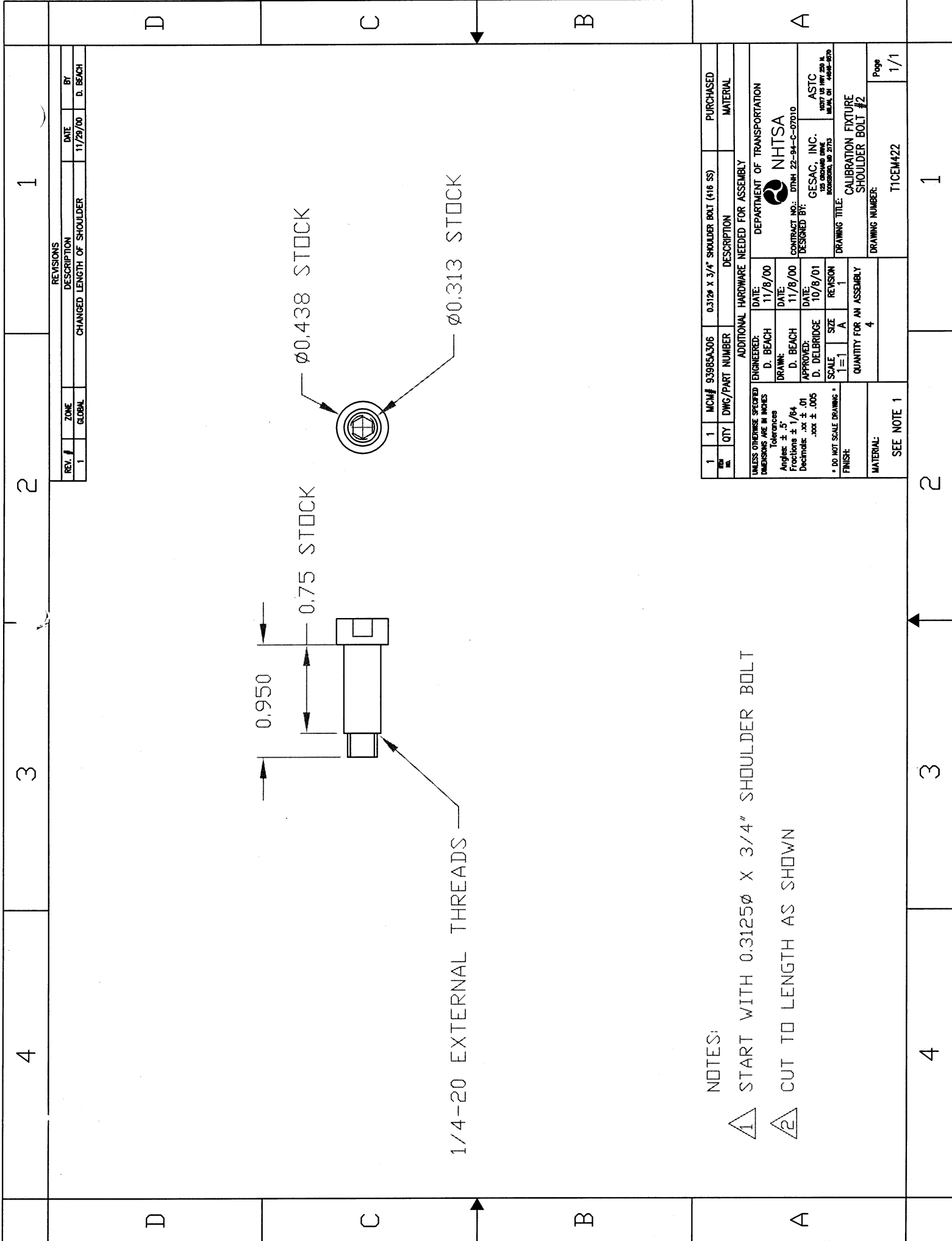
0.313 STOCK

NOTES:

- ① START WITH 0.3125Ø X 1 1/2" SHOULDER BOLT
- ② CUT TO LENGTH AS SHOWN
- ③ RETHREAD WITH 1/4-28 UNF THREADS

REV. #		ZONE	DESCRIPTION	DATE	BY
1		GLOBAL	CHANGED LENGTH OF SHOULDER	11/29/00	D. BEACH

REV. #	QTY	MCM#	DWG/PART NUMBER	DESCRIPTION	ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY	DATE	DEPARTMENT OF TRANSPORTATION	PURCHASED MATERIAL	
1	1	91259A587	0.3125 x 1 1/2" SHOULDER BOLT (ALLOY)			11/8/00	NHTSA		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES							DESIGNED BY: GESAC, INC. ASTC		
Tolerances							CONTRACT NO: DTMH 22-84-C-07010		
Angles: ± 5'							DESIGNED BY: GESAC, INC. ASTC		
Fractions: ± 1/64							DRAWING TITLE: CALIBRATION FIXTURE		
Decimals: .xxx ± .005							DRAWING NUMBER: T1CEM421		
* DO NOT SCALE DRAWING *							DRAWING NUMBER: T1CEM421		
FINISH:							QUANTITY FOR AN ASSEMBLY: 2		
MATERIAL:							PAGE: 1/1		
SEE NOTE 1									



1/4-20 EXTERNAL THREADS

NOTES:

- ① START WITH 0.3125Ø X 3/4" SHOULDER BOLT
- ② CUT TO LENGTH AS SHOWN

REVISIONS		
REV. #	ZONE	DESCRIPTION
1	GLOBAL	CHANGED LENGTH OF SHOULDER
		DATE: 11/29/00
		BY: D. BEACH

REV. #	QTY	MCM#	DWG/PART NUMBER	DESCRIPTION	PURCHASED MATERIAL
1	1	93985A306		0.3125 X 3/4" SHOULDER BOLT (416 SS)	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES Tolerances Angles ± 5° Fractions ± 1/64 Decimals .xxx ± .005					
* DO NOT SCALE DRAWINGS * FINISH:					
ENGINEERED: D. BEACH			DATE: 11/8/00		
DRAWN: D. BEACH			DATE: 11/8/00		
APPROVED: D. DELBRIDGE			DATE: 10/8/01		
SCALE: 1=1			SIZE: A		
REVISION: 1			QUANTITY FOR AN ASSEMBLY: 4		
MATERIAL: SEE NOTE 1			DRAWING NUMBER: T1CEM422		
DRAWING TITLE: CALIBRATION FIXTURE SHOULDER BOLT #2			Page: 1/1		

DEPARTMENT OF TRANSPORTATION
 NHTSA
 CONTRACT NO.: DTHM 22-94-C-07010
 DESIGNED BY: GESAC, INC.
 10075 W. HAYDEN BLVD.
 BOWLING GREEN, MO 63021
 ASTC
 10075 W. HAYDEN BLVD.
 BOWLING GREEN, MO 63021