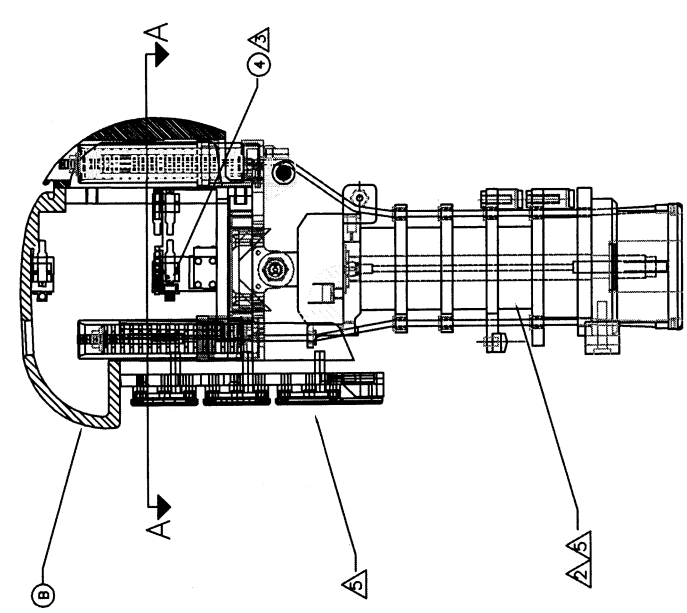
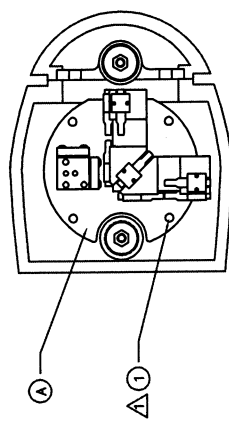


A - A (SKIN REMOVED)



- NOTES:
- △ THE HEAD IS ATTACHED TO THE HEAD MOUNTING PLATE ON THE NECK ASSEMBLY. THE HEAD IS SECURED WITH FOUR 1/4-28 X 1" F.H.S.C.S. THE 1/4-28 X 1" F.H.S.C.S. THE 1/4-28 X 1" F.H.S.C.S. ARE INSERTED THROUGH THE BOTTOM OF THE HEAD MOUNTING PLATE, THE BASE OF THE SKULL, AND THREAD INTO THE HEAD ACCELEROMETER MOUNTING PLATE.
 - △ THE NECK ASSEMBLY TINKWOOD IS SHOWN FOR REFERENCE ONLY.
 - △ A #4-40 X 1/4" NYLON S.H.C.S. IS PLACED ON BOTH SIDES OF THE HEAD ASSEMBLY TO MARK THE LOCATION OF THE HEAD C.G..
 - △ REFER TO THOR ALPHA CERTIFICATION MANUAL FOR PERFORMANCE SPECIFICATIONS FOR THIS ASSEMBLY.
 - △ THE FACE AND NECK ASSEMBLIES ARE SHOWN FOR REFERENCE ONLY.

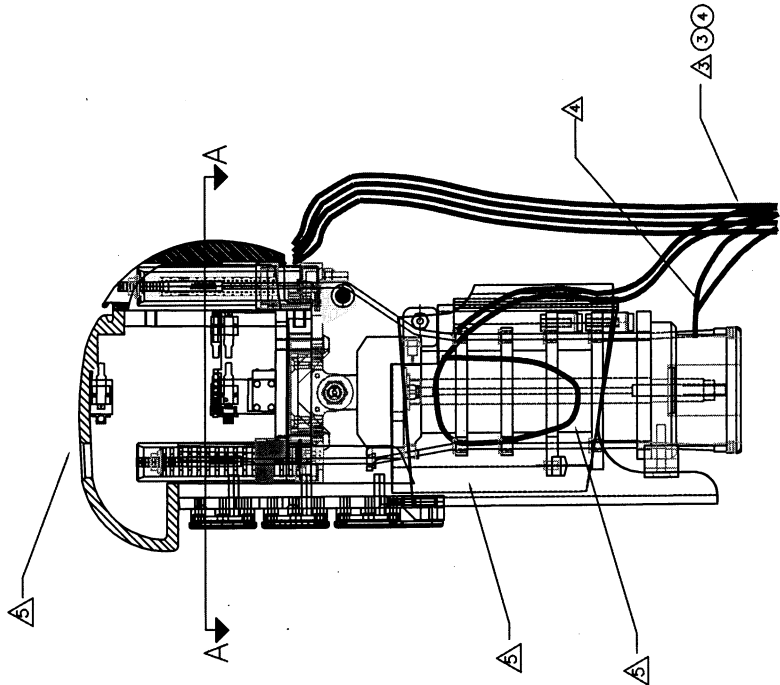
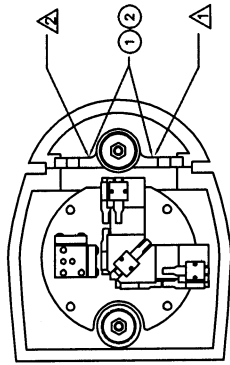
REV. #	ZONE	DESCRIPTION	BY
1	HARDWARE	CORRECTED HARDWARE LIST ITEMS 1,4,6,7	D. BRACHE
2	F-18	ADDED CG MARKER AND NOTE 7	D. BRACHE
3	NOTE 1	ADDED NOTE 1 FOR ALTERNATE TRIAXIAL UNITS	D. BRACHE
4	GLOBAL	CHANGED NOTE 1 AND ITEM 7	J. POLAND
5	GLOBAL	UPDATED FOR HEAD ACCEL. NOTES, AND NECK.	J. POLAND
6	GLOBAL	UPDATED FOR THOR ALPHA 1.1 MODS	M. ARTIS
7	GLOBAL	UPDATED HEAD ACCELEROMETER ARRAY	M. ARTIS
8	PARTS LIST	CHANGED TINKWOOD TO TINKWOOD	M. ARTIS
9	GLOBAL	UPDATE HEAD SKIN AND CHANGE 1/4-28 BH TO FH	J. McDONALD
10	GLOBAL	REMOVE SKIN PARTS, ADD TINKWOOD TO HARDWARE LIST	J. McDONALD

REV. #	ZONE	DESCRIPTION	BY
2	MCM # 96888A106	#4-40 X 1/4" S.H.C.S.	NYLON
1	MCM # 91253A309	#1/4-28 X 1" F.H.S.C.S.	ALLOY
B	TIHDM100	HEAD/SKULL ASSEMBLY	SEE DWG.
A	TIHDM200	HEAD ACCELEROMETER MOUNT PLATE ASSEMBLY	SEE DWG.
QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL

ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	ENGINEERED:	DATE:	DEPARTMENT OF TRANSPORTATION
Tolerances	Y.M. ZHAO	4/12/96	NHTSA
Angles: ± .5	DRAWN:	DATE:	CONTRACT NO.: DTRH 22-94-C-07010
Fractions: ± 1/64	Y.M. ZHAO	4/12/96	DESIGNED BY: GESAC, INC.
Decimals: .xx ± .01	CHECKED:	DATE:	125 ORLAND DRIVE
.xxx ± .005	M. ARTIS	10/30/01	ROCKVILLE, MD 20850
Hole Dia. ± .002	SCALE	REVISION	
* DO NOT SCALE DRAWING *	1=1	E 10	
FINISH:	QUANTITY FOR AN ASSEMBLY		
	1		
MATERIAL:	QUANTITY FOR ENTIRE DUMMY		
	1		

REV. #	ZONE	DESCRIPTION	BY
1	HARDWARE	CHANGED PART NUMBERS OF ITEMS 1 & 2	5/13/96 D. BRACH
2	HARDWARE	CHANGED PART NUMBERS OF ITEM 2	7/28/99 J. POLAND
3	GLOBAL	UPDATED FOR THOR ALPHA ACCEL ARRAY AND WIRING	4/25/01 M. ARTIS
4	GLOBAL	UPDATED FOR THOR ALPHA T.I. MDDS	10/17/01 M. ARTIS
5	GLOBAL	UPDATED WITH NOISE REDUCED ACCEL ARRAY	10/30/01 M. ARTIS
6	GLOBAL	ACCELEROMETER ARRAY UPDATE (T10M212RTD)	11/7/01 M. ARTIS
7	GLOBAL	UPDATE TO THOR-NT, ADDED ITEMS 1-4	9/28/05 J. McDONALD

A - A (SKIN REMOVED)



NOTES:

△ A 3/8" WIRE CLAMP AND A #6-32 x 3/8" B.H.S.C.S IS USED TO STRAIN RELIEVE THE 9 HEAD ACCELEROMETER WIRES, AND FRONT & REAR SPRING LOAD CELL TO THE BACK OF THE LEFT-SIDE OF THE HEAD/NECK PLATFORM ASSEMBLY (T1NKM000).

△ THE TILT SENSOR WIRE IS JOINED WITH THE 5 FACE LOAD CELL WIRES (T1FCM000) AND IS STRAINED RELIEVED BY A 3/8" WIRE CLAMP AND A #6-32 x 3/8" B.H.S.C.S. TO THE RIGHT-SIDE OF THE HEAD/NECK PLATFORM ASSEMBLY (T1NKM000). WRAP THE WIRES WITH RUBBERIZED TAPE IF IT IS LOOSE IN THE CLAMP.

△ THE WIRES FROM THE HEAD, NECK SPRING LOAD CELLS, UPPER NECK LOAD CELL, AND NECK ROTARY POT (T1NKM000) ARE CLAMPED TO THE TOP OF THE SPINE BY USING A 1/2" WIRE CLAMP. THE WIRES ARE MEASURED 13.5" DOWN FROM THE BASE OF THE HEAD MOUNTING PLATE, WRAPPED WITH RUBBERIZED ELECTRICAL TAPE AND CLAMPED TO THE SPINE. THIS ALLOWS ENOUGH SLACK FOR THE HEAD AND NECK DURING FLEXION.

△ THE WIRES FROM THE LOWER NECK LOAD CELL ARE ROUTED OUT THE BACK OF THE THORACIC SPINE ASSEMBLY (T1SPM100) WITH THE NECK TILT SENSOR WIRE (T1SPC000). THE WIRES ARE THEN JOINED TO THE WIRE BUNDLE, RUNNING ALONG THE REAR OF THE SPINE.

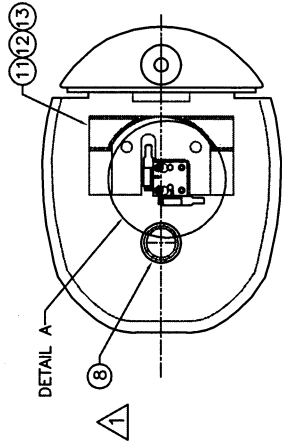
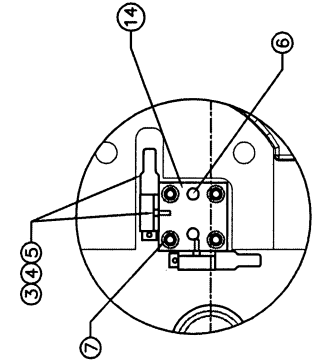
△ THE HEAD AND NECK ASSEMBLIES ARE SHOWN FOR REFERENCE ONLY.

QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
4	MCM# 91255A263	#10-32 X 3/8" BHSCS	PURCHASED
8	MCM# 3225T4	1/2" RUBBER CUSHIONED STEEL LOOP STRAP	PURCHASED
2	MCM# 91255A146	#6-32 X 3/8" BHSCS	PURCHASED
1	DK# RP327-ND	Ø3/8" NYLON P-CLAMP	PURCHASED

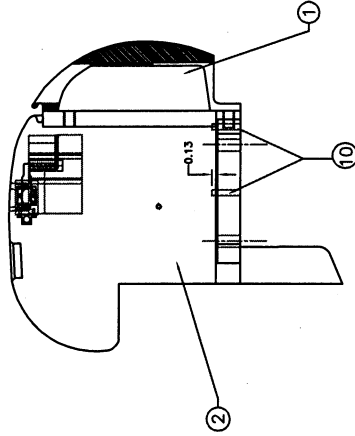
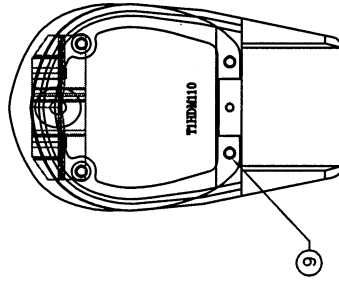
ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DATE: 4/12/96	ENGINEERED: Y.M. ZHAO	DEPARTMENT OF TRANSPORTATION
Tolerances	DATE: 7/22/97	DRAWN: J. McDONALD	NHTSA
Angles: ± .5°	CHECKED: M. ARTIS	SCALE: 1=1	CONTRACT NO.: DTMB 22-94-C-07010
Fractions: ± 1/64	DATE: 10/17/01	SIZE: E	DESIGNED BY: GESAC, INC.
Decimals: .xx ± .01	REVISION: 7	FINISH: *	122 ORCHARD DRIVE BOONSBURG, MO 2715
.xxx ± .005	QUANTITY FOR AN ASSEMBLY: 1		
Hole Dia. ± .002	QUANTITY FOR ENTIRE DUMMY: 1		
* DO NOT SCALE DRAWING *			

DRAWING TITLE: HEAD ELECTRICAL ASSEMBLY
DRAWING NUMBER: T1HDE000
Page 1/1



DETAIL A



NOTES:

- 1 TIGHTEN HEAD PLUG AND SAND OR GRIND FLUSH WITH HEAD CASTING.
- 2 REMOVE ALL SHARP EDGES.

REV. #	ZONE	DESCRIPTION	DATE	BY
1	GLOBAL	PLACED FLAT HEAD SCREW IN HEAD	6/18/98	J. DRUMMOND
2	GLOBAL	CORRECTED HEAD PLUG AND NOTE 3	5/14/99	D. BRACH
3	GLOBAL	ADDED ITEM 10 TP PARTS LIST AND DWG	7/29/99	J. POLAND
4	GLOBAL	UPDATED FOR THOR ALPHA NEW WEIGHTS AND REAR HEAD PLUG	4/4/01	J. POLAND
5	D-6	CHANGED TITLE FROM HEAD CASTING TO MACHINING	4/4/01	M. ARTIS
6	K-15	REMOVED MISCELLANEOUS CALL OUT	10/04/01	M. ARTIS
7	HARDWARE	REMOVED MATL. DESCRIPTION FOR TH10M13 & 114 ADDED TOP ACCELEROMETER ASSEMBLY REVISED CS EQUIPMENT	10/29/01	M. ARTIS
8	GLOBAL	ADDED 1/8 DOWEL PINS, REMOVED #10-32 X 5/8" FISCS, AND RENUMBERED NOTES	11/7/01	K. BEAR
9	MIS	ADDED CALLOUT #14	6/14/02	M. ARTIS
10	GLOBAL	REMOVED HEAD PLUG/ITEMS 9,10 AND RENUMBERED ITEMS 11-14.	5/24/04	J. McDONALD
11	GLOBAL	CHANGED ITEM 10 FROM 3/4" LENGTH TO 5/8" 19.8	6/24/04	J. McDONALD
12	GLOBAL	UPDATED VIEWS WITH REVISED BALLAST DESIGN	7/29/04	J. McDONALD
13	N-21	CORRECTED CALLOUT FOR ITEM 8	9/1/04	B.SBECK
14	J-15,19; M-14	UPDATED DWG. WITH TH10M11-R15 REMOVED PART TH10M15	9/20/04	B.SBECK
15	HARDWARE	ADD TH10M20 AND #10-32 X .625 FISCS	3/29/05	J. McDONALD
	C-3	ADDED 18 SS WASHERS	3/29/05	B.SBECK

REV. #	ZONE	DESCRIPTION	DATE	BY
14	T1HDM119	TOP BIAXIAL ACCELEROMETER MOUNT	6061-76	
13	MCM# 91253A006	#10-32 X .625 FISCS	ALLOY	
12	T1HDM120	BALLAST WEIGHT	1018	
11	T1HDM118	BALLAST WEIGHTS DESIGN SPECS	SEE DWG.	
10	MCM# 90145A472	1/8" DIA. X 5/8" LENGTH (SS)	PURCHASED	
9	MCM# 91251A539	1/4-20 X 5/8" S.H.C.S. (ALLOY)	PURCHASED	
8	T1HDM116	HEAD PLUG	CRS 1018	
7	MCM# 91251A631	#4-40 X 7/16" S.H.C.S. (ALLOY)	PURCHASED	
6	MCM# 98380A471	1/8" X 1/2" DOWEL PIN (416 SS)	PURCHASED	
5	MCM# 98370A001	18-8 SS WASHER (1/16" ID, 1/8" OD)	PURCHASED	
4	MCM # 91251A052	#0-80 X 1/8" S.H.S.C.S. (ALLOY)	PURCHASED	
3	T1HDM111	ENDEYCO UNIAxIAL ACCELEROMETER	SEE DWG	
2	T1HDM111	HEAD MACHINING	PURCHASED	
1	T1HDM110	HEAD CAP	PURCHASED	
	QTY DWG/PART NUMBER	DESCRIPTION	MATERIAL	

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:

SCALE: 1"=1" E 15

QUANTITY FOR AN ASSEMBLY: 1

QUANTITY FOR ENTIRE DUMMY: 1

MATERIAL: T1HDM100

Page 1/1

REVISION

DATE

BY

DEPARTMENT OF TRANSPORTATION

NHTSA

CONTRACT NO.: DTRC 22-84-C-07010

DESIGNED BY: GRSAC, INC.

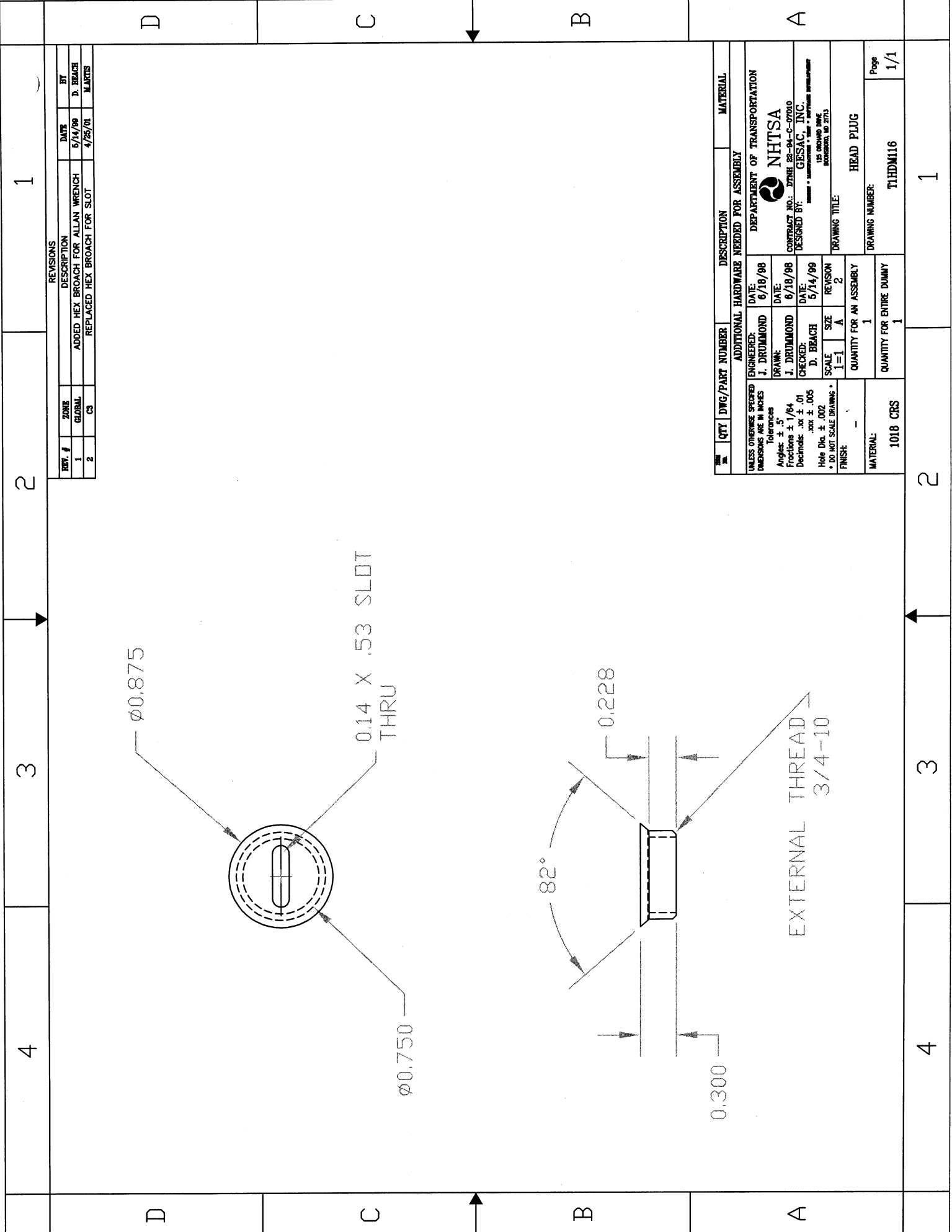
125 ORCHARD DRIVE
BOONSBORO, MD 21733

DRAWING TITLE: HEAD

SKULL ASSEMBLY

DRAWING NUMBER: T1HDM100

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																																																												
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<p>Technical drawing of a skull cap assembly. The drawing includes a top view, a side view, and a detail view of the lower mounting tab. Dimensions include: 2.800 (total width), 1.400 (width to center), 0.603 (tab thickness), 0.085 (tab radius), 2.80 DEEP (tab depth), 0.545 (width to hole center), 0.625 (hole diameter), 1.000 (width to edge), 1.25 (width to hole center), 2.000 (total width), 0.180 (width to edge), 0.545 (width to hole center), 0.32 R (radius), 1.06 DEEP (tab depth), 1.500 (total width), 0.748 (width to center), 0.025 (hole diameter), 0.100 (width to edge), 0.540 (width to hole center), 0.32 R (radius), 1.06 DEEP (tab depth), 1.3 R (2 LOC) (radius), 1.28 (width to center), 4.55 (width to center), 3.268 (width to hole center), 0.234 (width to edge), 2X #0.285 THRU (hole diameter), C-BORE #.422 X .25 MIN DEPTH (hole diameter and depth), TH1HDM110 (part number), RO.125 (radius), 0.180 (width to edge).</p>																																																																					
<table border="1"> <thead> <tr> <th>QTY</th> <th>DESC</th> <th>DATE</th> <th>BY</th> <th>STATUS</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>MSC# 00060020</td> <td>#2-56 X .179 HELICAL INSERT</td> <td></td> <td>PURCHASED</td> </tr> <tr> <td>1</td> <td>FTSS # AT06275</td> <td>SKULL CAP ASSEMBLY</td> <td></td> <td>PURCHASED</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>MATERIAL</td> </tr> </tbody> </table>																QTY	DESC	DATE	BY	STATUS	2	MSC# 00060020	#2-56 X .179 HELICAL INSERT		PURCHASED	1	FTSS # AT06275	SKULL CAP ASSEMBLY		PURCHASED					MATERIAL																																		
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				MATERIAL																																																																	
<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES</p> <p>FINISH: 1=1 D</p> <p>SCALE: 1=1 D</p> <p>SIZE: D</p> <p>REVISION: 7</p> <p>QUANTITY FOR AN ASSEMBLY: 1</p> <p>DATE: 3/21/06</p> <p>ENGINEER: L. YOGEL</p> <p>DRAWN: L. YOGEL</p> <p>CHECKED: J. McDONALD</p> <p>DATE: 3/21/06</p> <p>DATE: 7/18/07</p> <p>DESIGNED BY: GESAC, INC.</p> <p>CONTRACT NO.: FTSS 88-94-C-0040</p> <p>DEPARTMENT OF TRANSPORTATION</p> <p>NHTSA</p> <p>135 RICHARD BAYLOR AVENUE, WASHINGTON, DC 20590</p> <p>DRAWING TITLE: HEAD HEAD CAP</p> <p>DRAWING NUMBER: TH1HDM110</p> <p>Page: 1/1</p>																																																																					
<p>NOTES:</p> <p>1 REWORKING OF HYBRID 3 SKULL CAP DWG #78051-220</p> <p>2 ENGRAVE THE DWG# TH1HDM110 AT THE LOCATION SPECIFIED ABOVE.</p> <p>3 THIS IS THE DISTANCE FROM THE FLAT SURFACE TO THE CENTER OF THE 1.06 DIA. COUNTERBORE.</p> <p>4 REMOVE ALL BURRS AND BREAK SHARP EDGES ON THE INSIDE AND OUTSIDE OF R.32.</p>																																																																					



REV. #	ZONE	DESCRIPTION	DATE	BY
1	GLOBAL	ADDED HEX BROACH FOR ALLAN WRENCH	5/14/98	D. BEACH
2	C3	REPLACED HEX BROACH FOR SLOT	4/25/01	M. ANTIS

QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
1018	CRS	HEAD PLUG	
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: -			
ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY ENGINEERED: J. DRUMMOND DATE: 6/18/98 DRAWN: J. DRUMMOND DATE: 6/18/98 CHECKED: D. BEACH DATE: 5/14/99 SCALE: SIZE: A REVISION: 2 QUANTITY FOR AN ASSEMBLY: 1 QUANTITY FOR ENTIRE DUMMY: 1			
DEPARTMENT OF TRANSPORTATION NHTSA CONTRACT NO.: DTMB 98-04-C-0700 DESIGNED BY: GESSAC, INC. <small>14150 WILSON BLVD. SUITE 1000 ROCKVILLE, MD 20850</small>			
DRAWING TITLE: HEAD PLUG			Page: 1/1
DRAWING NUMBER: T1HDM116			

1

2

3

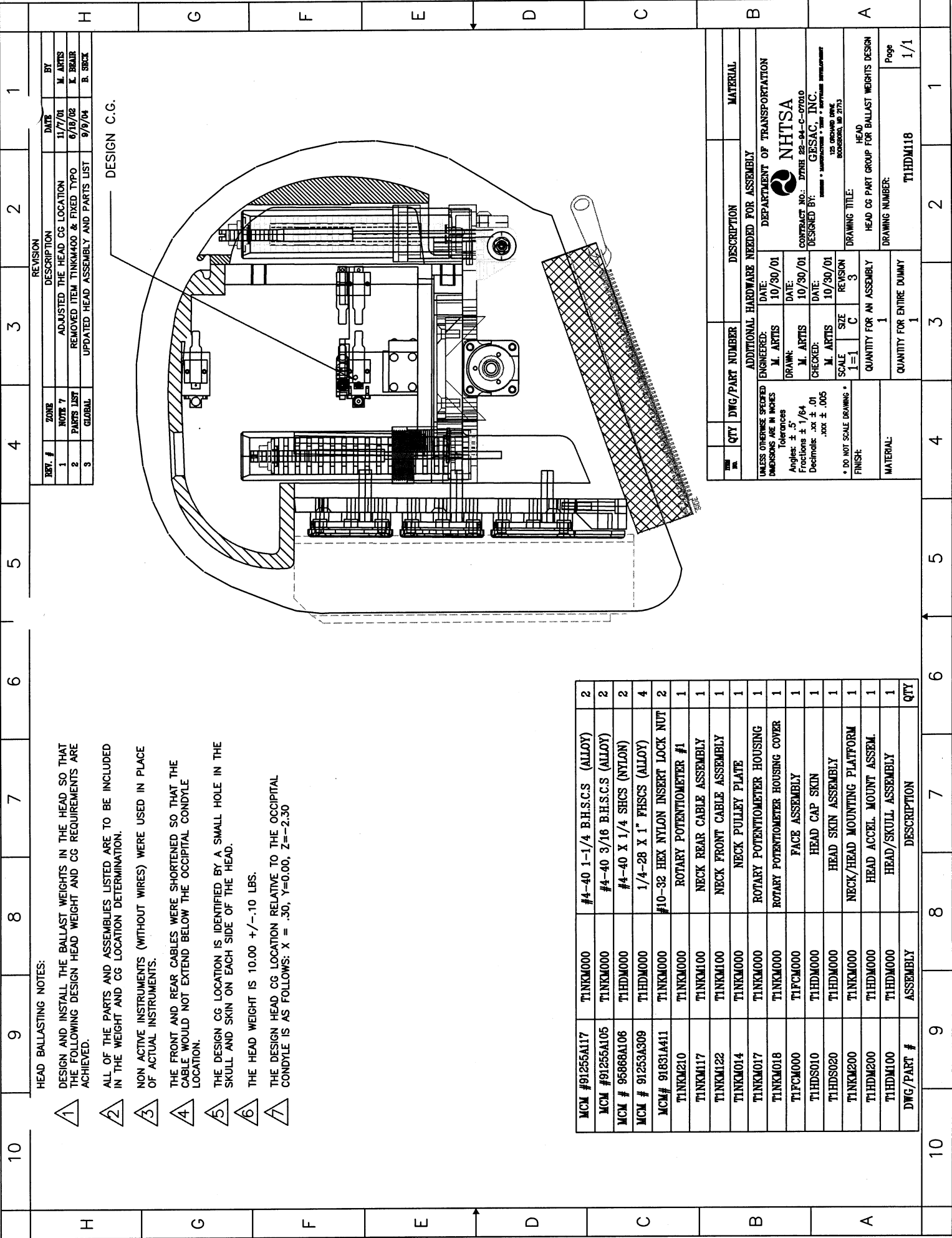
4

1

2

3

4



HEAD BALLASTING NOTES:

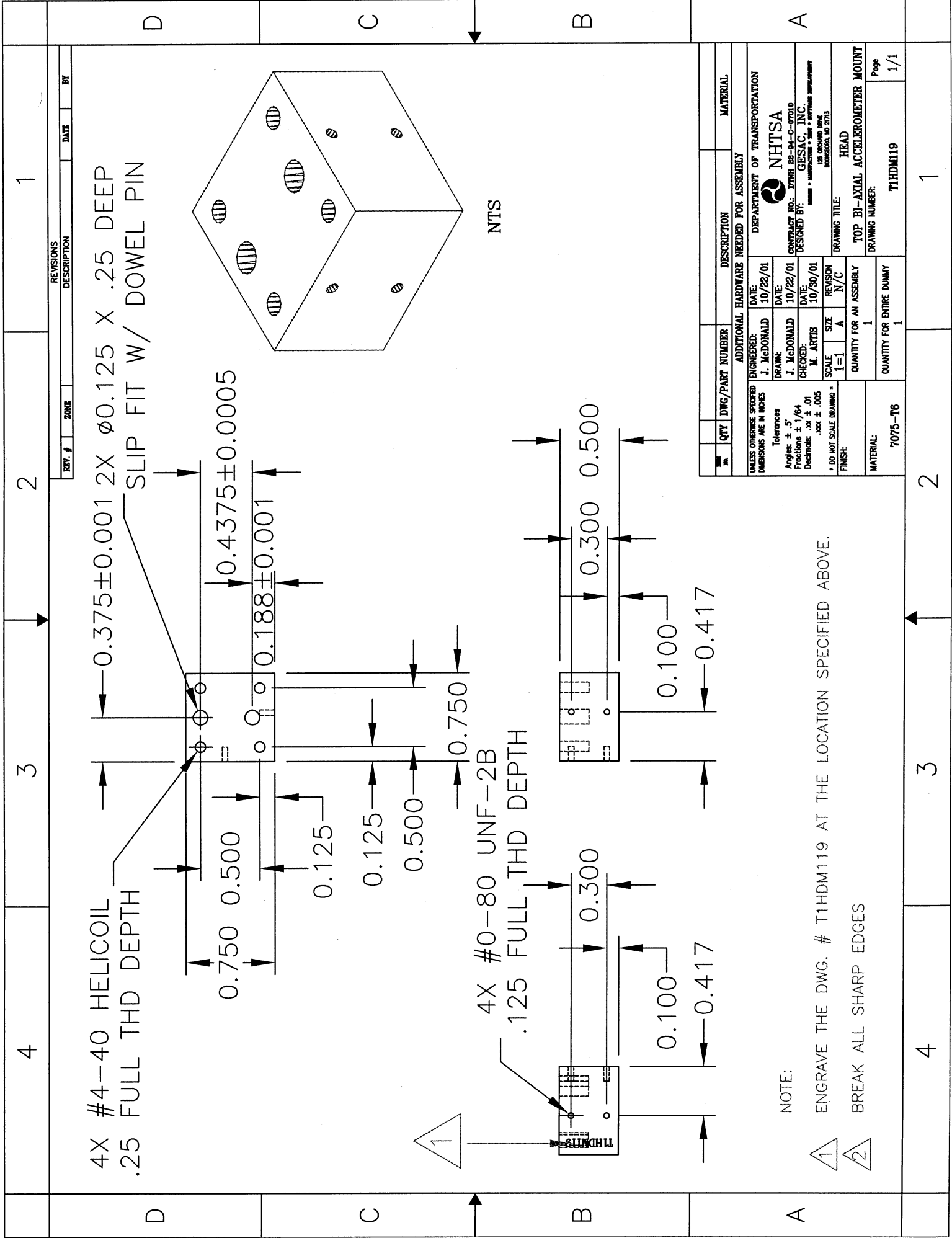
- 1 DESIGN AND INSTALL THE BALLAST WEIGHTS IN THE HEAD SO THAT THE FOLLOWING DESIGN HEAD WEIGHT AND CG REQUIREMENTS ARE ACHIEVED.
- 2 ALL OF THE PARTS AND ASSEMBLIES LISTED ARE TO BE INCLUDED IN THE WEIGHT AND CG LOCATION DETERMINATION.
- 3 NON ACTIVE INSTRUMENTS (WITHOUT WIRES) WERE USED IN PLACE OF ACTUAL INSTRUMENTS.
- 4 THE FRONT AND REAR CABLES WERE SHORTENED SO THAT THE CABLE WOULD NOT EXTEND BELOW THE OCCIPITAL CONDYLE LOCATION.
- 5 THE DESIGN CG LOCATION IS IDENTIFIED BY A SMALL HOLE IN THE SKULL AND SKIN ON EACH SIDE OF THE HEAD.
- 6 THE HEAD WEIGHT IS 10.00 +/- .10 LBS.
- 7 THE DESIGN HEAD CG LOCATION RELATIVE TO THE OCCIPITAL CONDYLE IS AS FOLLOWS: X = .30, Y=0.00, Z=-2.30

REV. #	ZONE	DESCRIPTION	DATE	BY
1	NOTES 7	ADJUSTED THE HEAD CG LOCATION	11/7/01	M. ARTIS
2	PARTS LIST	REMOVED ITEM TINKM400 & FIXED TYPO	6/19/02	K. BRAIR
3	GLOBAL	UPDATED HEAD ASSEMBLY AND PARTS LIST	9/9/04	B. SECK

REV. #	ZONE	DESCRIPTION	DATE	BY
1	NOTES 7	ADJUSTED THE HEAD CG LOCATION	11/7/01	M. ARTIS
2	PARTS LIST	REMOVED ITEM TINKM400 & FIXED TYPO	6/19/02	K. BRAIR
3	GLOBAL	UPDATED HEAD ASSEMBLY AND PARTS LIST	9/9/04	B. SECK

MCM #	TINKM000	#	DESCRIPTION	QTY
MCM #91255A117	TINKM000	#4-40 1-1/4 B.H.S.C.S (ALLOY)		2
MCM #91255A105	TINKM000	#4-40 3/16 B.H.S.C.S (ALLOY)		2
MCM # 95868A106	T1HDM000	#4-40 X 1/4 SHCS (NYLON)		2
MCM # 91253A309	T1HDM000	1/4-28 X 1" FHSCS (ALLOY)		4
MCM# 91831A411	TINKM000	#10-32 HEX NYLON INSERT LOCK NUT		2
TINKM210	TINKM000	ROTARY POTENTIOMETER #1		1
TINKM117	TINKM100	NECK REAR CABLE ASSEMBLY		1
TINKM122	TINKM100	NECK FRONT CABLE ASSEMBLY		1
TINKM014	TINKM000	NECK PULLEY PLATE		1
TINKM017	TINKM000	ROTARY POTENTIOMETER HOUSING		1
TINKM018	TINKM000	ROTARY POTENTIOMETER HOUSING COVER		1
T1FCM000	T1FCM000	FACE ASSEMBLY		1
T1HDS010	T1HDM000	HEAD CAP SKIN		1
T1HDS020	T1HDM000	HEAD SKIN ASSEMBLY		1
TINKM200	TINKM000	NECK/HEAD MOUNTING PLATFORM		1
T1HDM200	T1HDM000	HEAD ACCEL. MOUNT ASSEM.		1
T1HDM100	T1HDM000	HEAD/SKULL ASSEMBLY		1
DWG/PART #	ASSEMBLY	DESCRIPTION		QTY

QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY			
DEPARTMENT OF TRANSPORTATION			
NHTSA			
CONTRACT NO.: DTRR 82-84-C-07010			
DESIGNED BY: GIESAC, INC.			
125 OSCHAMP WPKG ROCKSPRING, MO 2713			
DATE:	10/30/01	ENGINEERED:	M. ARTIS
DATE:	10/30/01	DRAWN:	M. ARTIS
DATE:	10/30/01	CHECKED:	M. ARTIS
SCALE:	1=1	SIZE:	C
REVISION:	3	DRAWING TITLE:	
FINISH:		HEAD CG PART GROUP FOR BALLAST WEIGHTS DESIGN	
QUANTITY FOR AN ASSEMBLY:		DRAWING NUMBER:	
1		T1HDM118	
QUANTITY FOR ENTIRE DUMMY:		Page	
1		1/1	

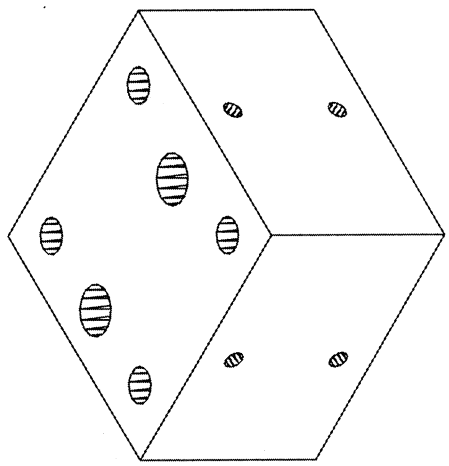


REV. #	ZONE	DESCRIPTION	DATE	BY
1				

4X #4-40 HELICOIL .25 FULL THD DEPTH

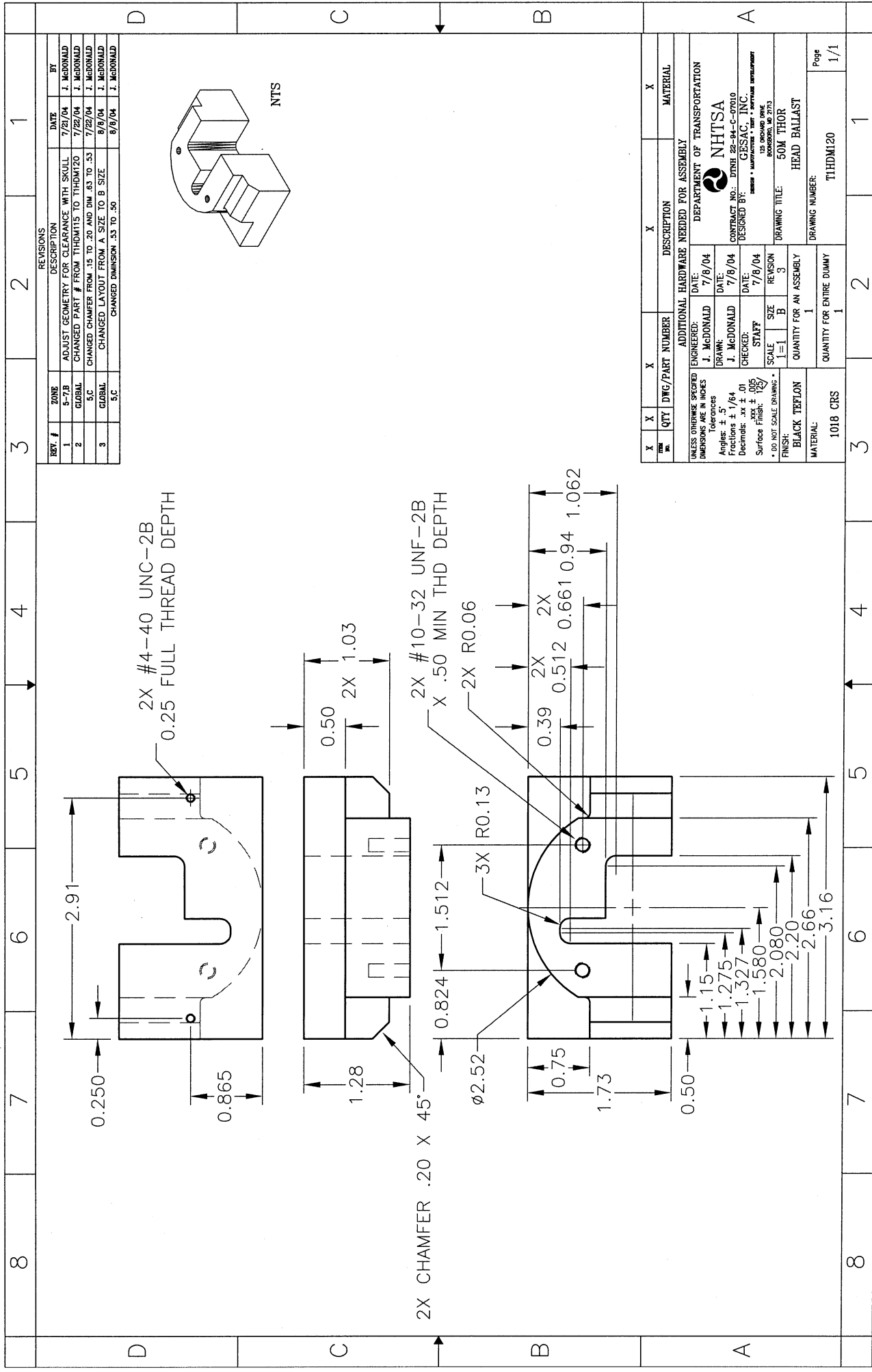
0.375 ± 0.001

SLIP FIT W/ DOWEL PIN

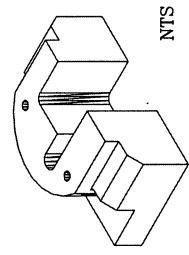


NOTE:
 ENGRAVE THE DWG. # T1HDM119 AT THE LOCATION SPECIFIED ABOVE.
 BREAK ALL SHARP EDGES

QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
		ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY	
		ENGINEERED: J. McDONALD	DATE: 10/22/01
		DRAWN: J. McDONALD	DATE: 10/22/01
		CHECKED: M. ARTIS	DATE: 10/30/01
		SCALE: 1=1	SIZE: A
		REVISION: IV/C	
		QUANTITY FOR AN ASSEMBLY: 1	
		QUANTITY FOR ENTIRE DUMMY: 1	
		MATERIAL: 7075-T6	
		DEPARTMENT OF TRANSPORTATION	
		NHTSA	
		CONTRACT NO.: DTNBI 98-94-C-07010	
		DESIGNED BY: GESAC, INC.	
		12000 WASHINGTON BLVD. • SUITE 100 • ROCKVILLE, MD 20850	
		DRAWING TITLE: HEAD	
		TOP BI-AXIAL ACCELEROMETER MOUNT	
		DRAWING NUMBER: T1HDM119	
		Page: 1/1	

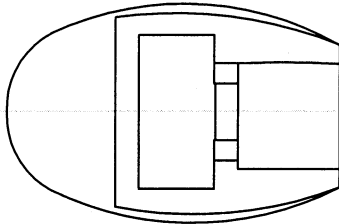
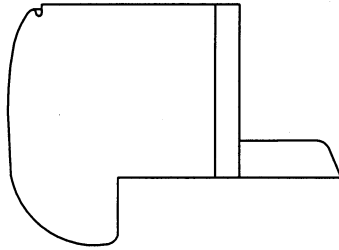
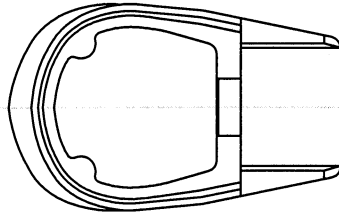
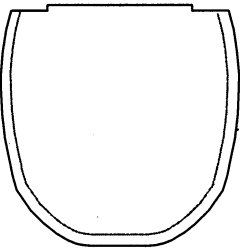


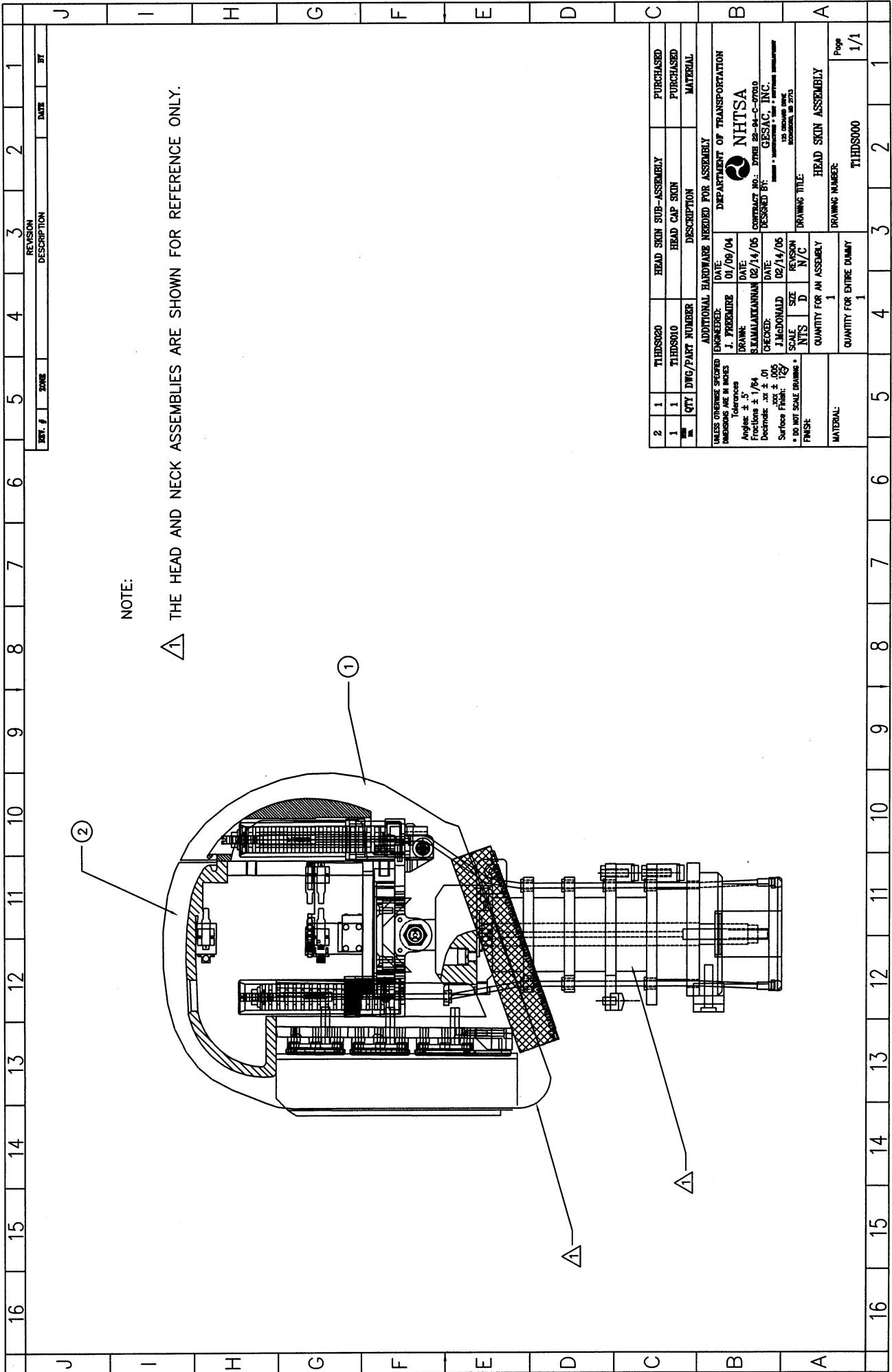
REV. #	ZONE	DESCRIPTION	DATE	BY
1	5-7B	ADJUST GEOMETRY FOR CLEARANCE WITH SKULL	7/21/04	J. McDONALD
2	GLOBAL	CHANGED PART # FROM TH10M120 TO TH10M120	7/22/04	J. McDONALD
	5.C	CHANGED CHAMFER FROM .15 TO .20 AND DIM. .63 TO .53	7/22/04	J. McDONALD
3	GLOBAL	CHANGED LAYOUT FROM A SIZE TO B SIZE	8/9/04	J. McDONALD
	5.C	CHANGED DIMENSION .53 TO .50	8/9/04	J. McDONALD



QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
1018 CRS		ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY	
1		QUANTITY FOR AN ASSEMBLY	HEAD BALLAST
1		QUANTITY FOR ENTIRE DUMMY	TH10M120

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	ENGINEERED: J. McDONALD	DATE: 7/8/04	DEPARTMENT OF TRANSPORTATION
Tolerances	DRAWN: J. McDONALD	DATE: 7/8/04	NHTSA
Angles: ± 5'	CHECKED: STAFF	DATE: 7/8/04	CONTRACT NO.: DTRR 22-04-C-07010
Fractions: ± 1/64	SCALE: 1=1	REVISION: 3	DESIGNED BY: GESSAC, INC.
Decimals: xxx ± .005	FINISH: BLACK TEFLON		125 DECADE PARK
Surface Finish: 125			BOSSBORO, IA 52703
* DO NOT SCALE DRAWING *			

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																																			
															<table border="1"> <tr> <td>REV. #</td> <td>ZONE</td> <td>REVISION</td> </tr> <tr> <td>1</td> <td>NOTE</td> <td>DESCRIPTION</td> </tr> <tr> <td></td> <td></td> <td>EDIT NOTE 1</td> </tr> </table>		REV. #	ZONE	REVISION	1	NOTE	DESCRIPTION			EDIT NOTE 1	<table border="1"> <tr> <td>DATE</td> <td>BY</td> </tr> <tr> <td>5/25/04</td> <td>J. McDONALD</td> </tr> </table>		DATE	BY	5/25/04	J. McDONALD																									
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		MATERIAL:	AL 357-T6																																																					
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															<p>NOTE:</p> <p>1 PART IS AVAILABLE BY REQUEST FROM NHTSA</p>																																									
															<p>FRONT VIEW</p> 																																									
															<p>LEFT VIEW</p> 																																									
															<p>REAR VIEW</p> 																																									
															<p>TOP VIEW</p> 																																									



NOTE:

△ THE HEAD AND NECK ASSEMBLIES ARE SHOWN FOR REFERENCE ONLY.

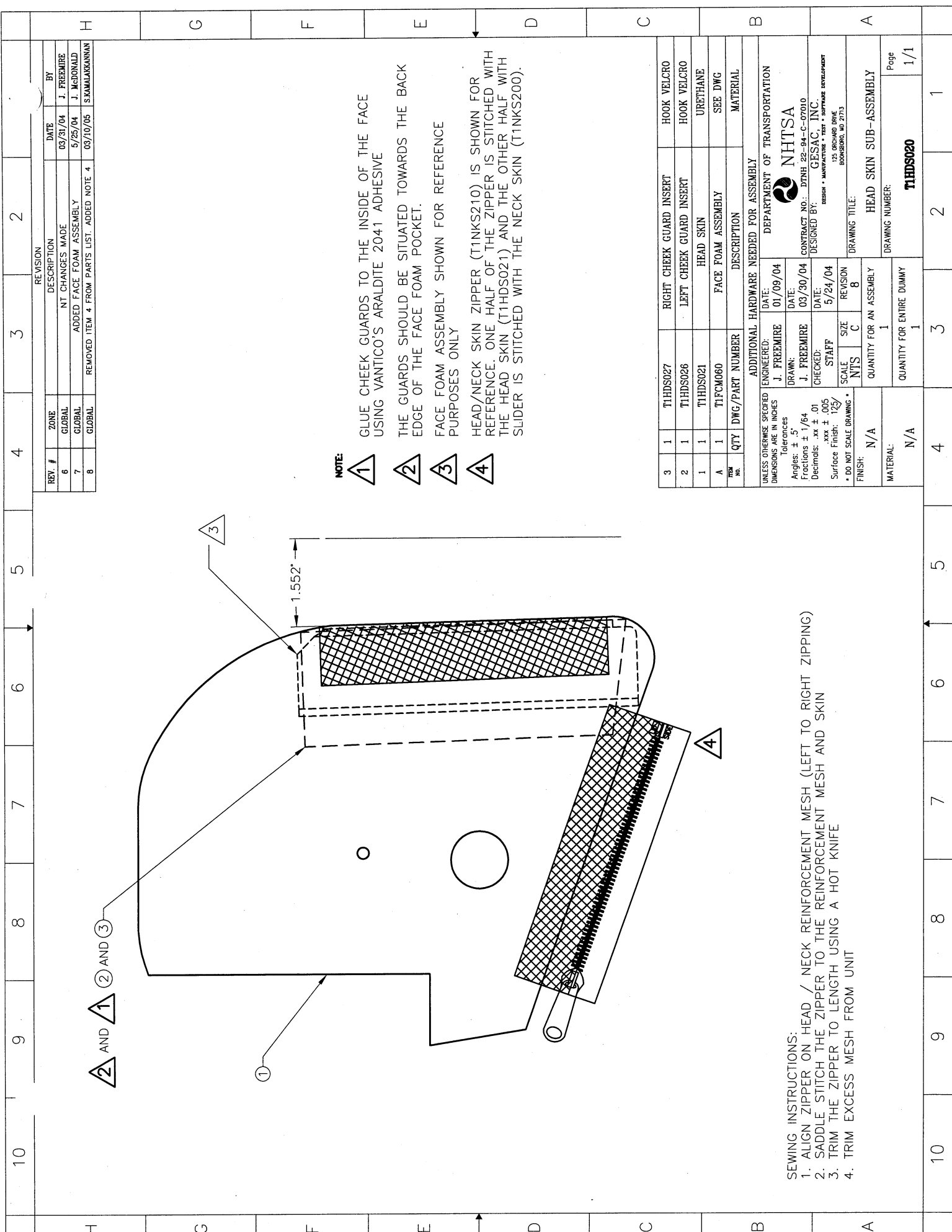
REV. #	ZONE	DATE	BY

REVISION	DESCRIPTION
1	

2	1	TTHDS020	HEAD SKIN SUB-ASSEMBLY		PURCHASED
1	1	TTHDS010	HEAD CAP SKIN		PURCHASED
		QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES Tolerances: Angles: ± .5° Finishes: ± .004 Decimals: .xx ± .005 Surface Finish: 125 • DO NOT SCALE DRAWING • FINISH:					
ENGINEERED: J. FREEMAN DATE: 01/06/04 DRAWN: S. MALAKANNAN DATE: 02/14/05 CHECKED: J. McDONALD DATE: 02/14/05 SCALE: NTS SIZE: D REVISION: N/C QUANTITY FOR AN ASSEMBLY: 1					
DEPARTMENT OF TRANSPORTATION NHTSA CONTRACT NO.: DTPHS 28-24-C-07010 DESIGNED BY: CESSAC, INC. 125 WILSON BLVD ROCKVILLE, MD 2775					
DRAWING TITLE: HEAD SKIN ASSEMBLY DRAWING NUMBER: TTHDS000 QUANTITY FOR ENTIRE DUMMY: 1 MATERIAL:					

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
---	---	---	---	---	---	---	---	---	---



② AND ① ② AND ③

①

1.552"

④

- NOTE:**
- ① GLUE CHEEK GUARDS TO THE INSIDE OF THE FACE USING VANTICO'S ARLDITE 2041 ADHESIVE
 - ② THE GUARDS SHOULD BE SITUATED TOWARDS THE BACK EDGE OF THE FACE FOAM POCKET.
 - ③ FACE FOAM ASSEMBLY SHOWN FOR REFERENCE PURPOSES ONLY
 - ④ HEAD/NECK SKIN ZIPPER (T1NKS210) IS SHOWN FOR REFERENCE. ONE HALF OF THE ZIPPER IS STITCHED WITH THE HEAD SKIN (T1HDS021) AND THE OTHER HALF WITH SLIDER IS STITCHED WITH THE NECK SKIN (T1NKS200).

SEWING INSTRUCTIONS:

1. ALIGN ZIPPER ON HEAD / NECK REINFORCEMENT MESH (LEFT TO RIGHT ZIPPING)
2. SADDLE STITCH THE ZIPPER TO THE REINFORCEMENT MESH AND SKIN
3. TRIM THE ZIPPER TO LENGTH USING A HOT KNIFE
4. TRIM EXCESS MESH FROM UNIT

REV. #	ZONE	DESCRIPTION	DATE	BY
6	GLOBAL	NT CHANGES MADE	03/31/04	J. FREEMIRE
7	GLOBAL	ADDED FACE FOAM ASSEMBLY	5/25/04	J. McDONALD
8	GLOBAL	REMOVED ITEM 4 FROM PARTS LIST. ADDED NOTE 4	03/10/05	SKAMALAKANNAN

ITEM NO.	QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
3	1	T1HDS027	RIGHT CHEEK GUARD INSERT	HOOK VELCRO
2	1	T1HDS026	LEFT CHEEK GUARD INSERT	HOOK VELCRO
1	1	T1HDS021	HEAD SKIN	URETHANE
A	1	T1PCM060	FACE FOAM ASSEMBLY	SEE DWG
			DESCRIPTION	MATERIAL

ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES

ENGINEERED: J. FREEMIRE
DATE: 01/09/04

DRAWN: J. FREEMIRE
DATE: 03/30/04

CHECKED: STAFF
DATE: 5/24/04

SCALE: NTS
SIZE: C

REVISION: 8

QUANTITY FOR AN ASSEMBLY: 1

QUANTITY FOR ENTIRE DUMMY: 1

FINISH: N/A

MATERIAL: N/A

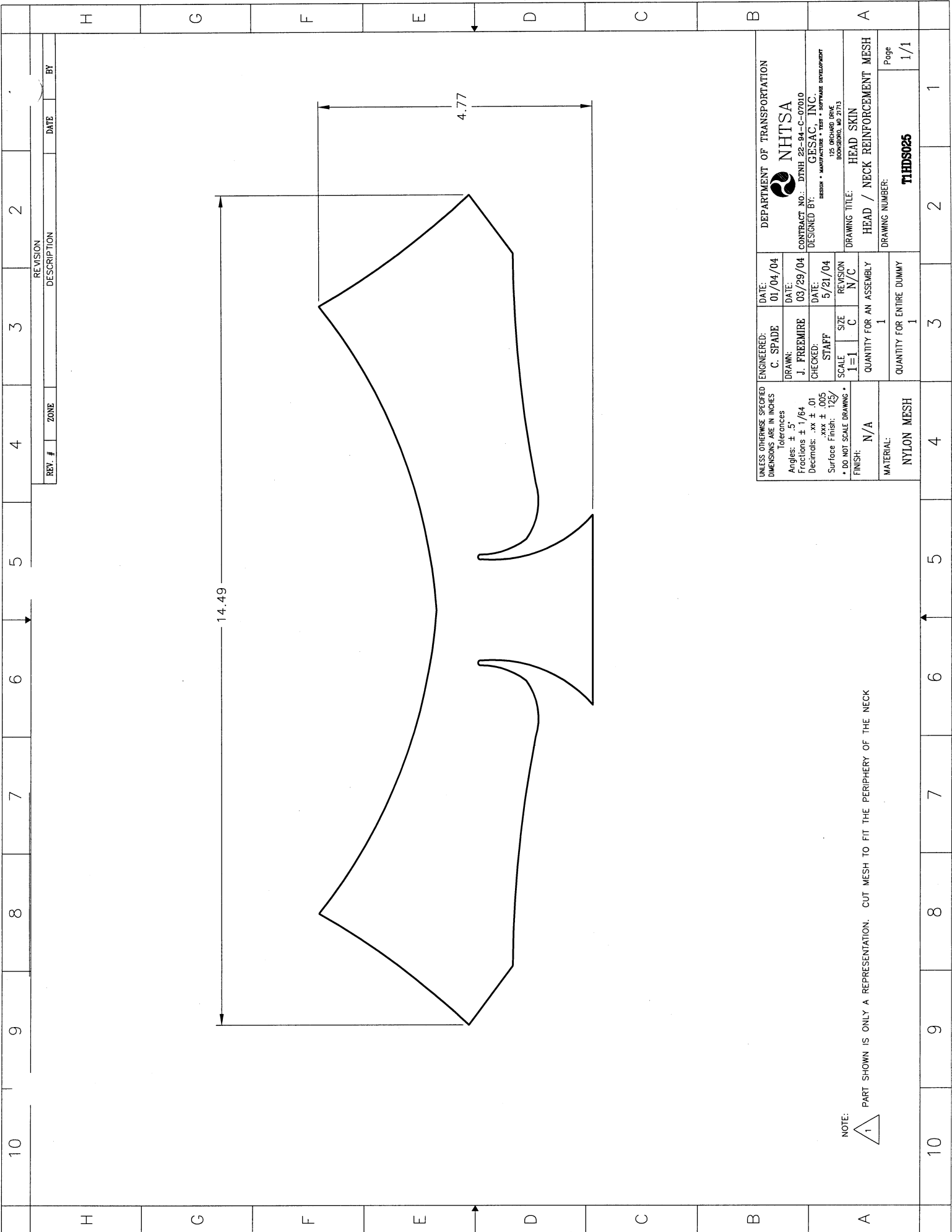
DEPARTMENT OF TRANSPORTATION
NHTSA

CONTRACT NO.: DTNH 22-94-C-07010
DESIGNED BY: GESAC, INC.
HARRIS • MANUFACTURED BY: HARRIS INSTRUMENT
15115 WILLOW BIRCH
BROOKSBORO, NJ 07003

DRAWING TITLE: HEAD SKIN SUB-ASSEMBLY

DRAWING NUMBER: T1HDS020

Page: 1/1



H G F E D C B A

REV. #	ZONE	DESCRIPTION	DATE	BY

10 9 8 7 6 5 4 3 2

10 9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1

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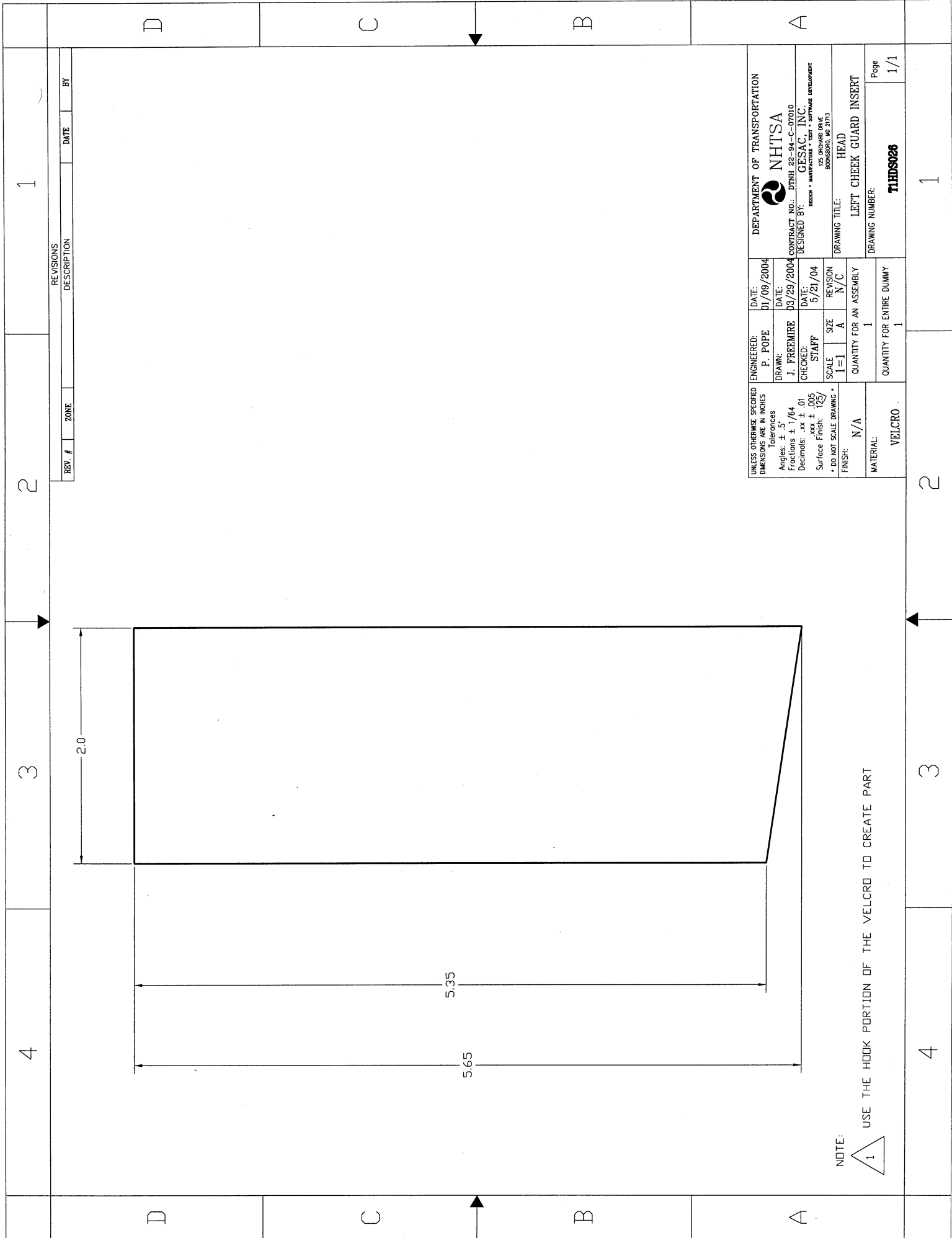
10 9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES Tolerances Angles: ± .5° Fractions ± 1/64 Decimals: .xx ± .01 Surface Finish: 125/ * DO NOT SCALE DRAWING *		ENGINEERED: C. SPADE	DATE: 01/04/04	DEPARTMENT OF TRANSPORTATION NHTSA	
DRAWN: J. FREEMIRE		DATE: 03/29/04	CONTRACT NO.: DTNH 22-94-C-07010		
CHECKED: STAFF		DATE: 5/21/04	DESIGNED BY: GESAC, INC. DESIGN • MANUFACTURE • TEST • SUPPORT DEVELOPMENT 125 ORCHARD DRIVE BOONSHAW, MD 21713		
SCALE 1=1	SIZE C	REVISION N/C	DRAWING TITLE: HEAD SKIN		
QUANTITY FOR AN ASSEMBLY 1		HEAD / NECK REINFORCEMENT MESH			
QUANTITY FOR ENTIRE DUMMY 1		DRAWING NUMBER: THDS025		Page 1/1	

NOTE:  PART SHOWN IS ONLY A REPRESENTATION. CUT MESH TO FIT THE PERIPHERY OF THE NECK



NOTE:



USE THE HOOK PORTION OF THE VELCRO TO CREATE PART

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		ENGINEERED:	DATE:	DEPARTMENT OF TRANSPORTATION	
Tolerances		P. POPE	01/09/2004	NHTSA	
Angles: ± .5°		DRAWN:		CONTRACT NO.: DTFH 22-94-C-07010	
Fractions: ± 1/64		J. FREEMIRE	03/29/2004	DESIGNED BY: GESAC, INC.	
Decimals: .xx ± .01		CHECKED:		ISSUE • MODIFICATION • TEST • SURVIVAL IMPROVEMENT	
Surface Finish: 125		STAFF	05/21/04	75 GROUND DRIVE	
• DO NOT SCALE DRAWING •		SCALE	SIZE	REVISION	HEAD
		1=1	A	IV/C	LEFT CHEEK GUARD INSERT
FINISH:	N/A	QUANTITY FOR AN ASSEMBLY		DRAWING NUMBER:	
		1		11HDS026	
MATERIAL:	VELCRO	QUANTITY FOR ENTIRE DUMMY		Page	
		1		1/1	

REV #	ZONE	DESCRIPTION	DATE	BY

4 3 2 1

D

C

B

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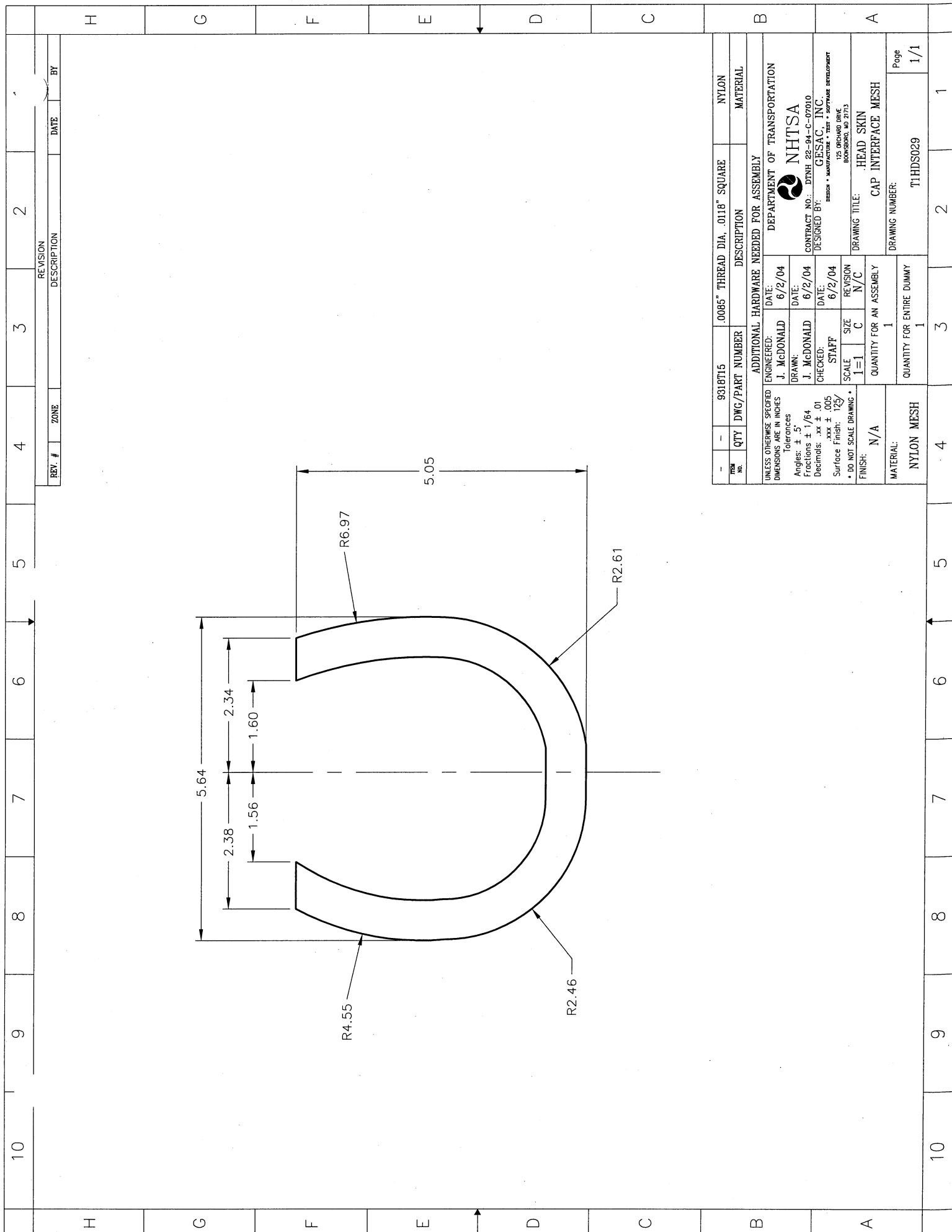
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B

A

4 3 2 1



REV. #	ZONE	DESCRIPTION	DATE	BY

FORM NO.	QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL
		9318T15	.0085" THREAD DIA, .0118" SQUARE	NYLON

ADDITIONAL HARDWARE NEEDED FOR ASSEMBLY		DATE:
ENGINEERED:	J. McDONALD	6/2/04
DRAWN:	J. McDONALD	6/2/04
CHECKED:		
STAFF:		
SCALE:	1=1	
SIZE:	C	
REVISION:	N/C	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
Tolerances	
Angles:	± .5°
Fractions:	± 1/64
Decimals:	.xx ± .01
Surface Finish:	.xxx ± .005
Scale:	125/
* DO NOT SCALE DRAWING *	
FINISH:	N/A
MATERIAL:	NYLON MESH

DEPARTMENT OF TRANSPORTATION	
NHTSA	
CONTRACT NO.: DTPH 22-94-C-07010	
DESIGNED BY: GESAC, INC.	
DESIGN • MANUFACTURE • TEST • SOFTWARE DEVELOPMENT	
125 ORCHARD DRIVE	
BOONSHORP, MO 2713	
DRAWING TITLE:	HEAD SKIN
DRAWING NUMBER:	CAP INTERFACE MESH
QUANTITY FOR AN ASSEMBLY:	1
QUANTITY FOR ENTIRE DUMMY:	1

FORM NO.	QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL

FORM NO.	QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL

FORM NO.	QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL

FORM NO.	QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL

FORM NO.	QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL

FORM NO.	QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL

FORM NO.	QTY	DWG/PART NUMBER	DESCRIPTION	MATERIAL