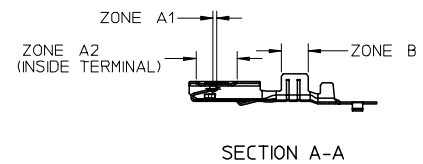


**PLATING INFORMATION**

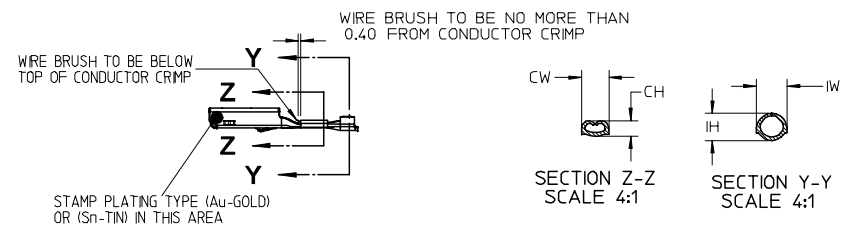


PLATING NOTES: (FOR SEALED AND UNSEALED TERMINALS)

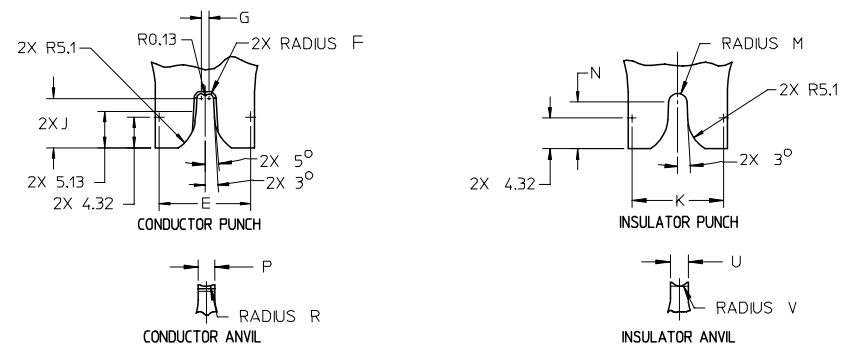
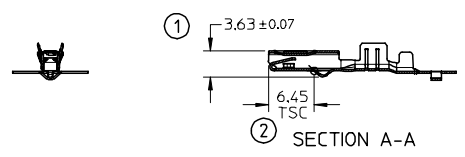
1. TIN PLATING: (ENTIRE TERMINAL)  
 BASE LAYER THICKNESS 0.25-100 MICROMETERS  
 ELECTRODEPOSITED ADVANCED TIN BARRIER  
 TIN THICKNESS 0.50-100 MICROMETERS  
 ELECTRODEPOSITED REFLOW 100% TIN, NO BRIGHTENERS

GOLD PLATING NOTES: (FOR SEALED AND UNSEALED TERMINALS)  
 ZONE A1 AND ZONE A2:  
 PER MOLEX ES-88 REVISION:REL  
 BASE LAYER THICKNESS 1.25 - 2.25 MICROMETERS  
 ELECTRODEPOSITED DUCTILE SULFAMATE NICKEL  
 GOLD LAYER THICKNESS 0.76 MICROMETERS MINIMUM  
 ELECTRODEPOSITED GOLD  
 ZONE B:  
 TIN PLATING: PER MOLEX ES-88 REVISION:REL  
 BASE LAYER THICKNESS 1.25-2.25 MICROMETERS  
 ELECTRODEPOSITED DUCTILE SULFAMATE NICKEL  
 TIN LAYER THICKNESS 2.50 - 4.00 MICROMETERS  
 ELECTRODEPOSITED 100% TIN MATTE FINISH

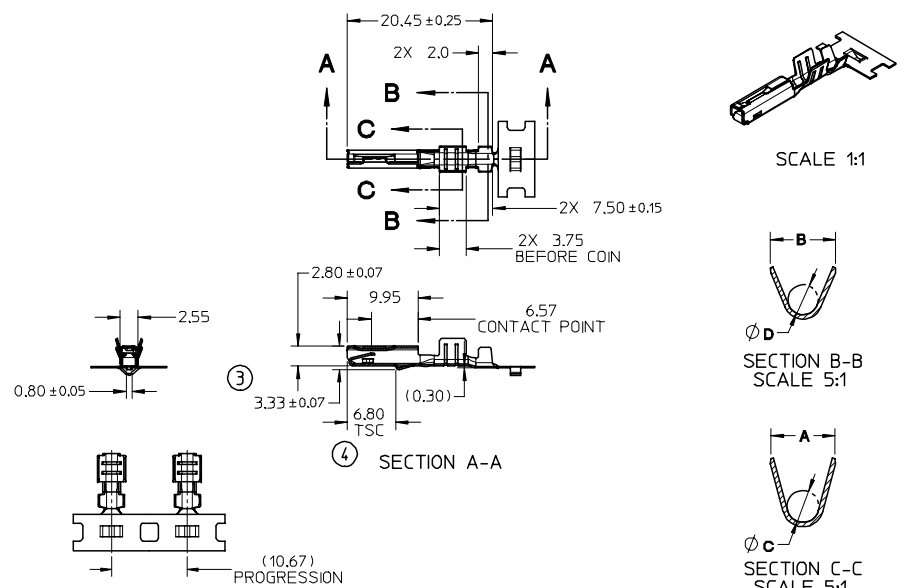
**CRIMP INFORMATION**



**DIMENSIONS FOR UNSEALED TERMINAL ONLY**



**CRIMP TOOL INFORMATION**  
 SEE TABLE 2 FOR TABULATED DIMENSIONS



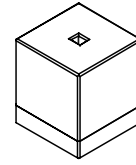
- NOTES: (UNLESS OTHERWISE SPECIFIED)
1. MATING TERMINAL SHOWN ON SD-33000-001
  2. MATERIAL: ASTM B422, UNS C19025, HR04  
 THICKNESS: 0.25 mm ±0.01  
 TEMPER: FULL HARD (REF)  
 TENSILE: 496-572 MPA  
 PLATING: SEE PLATING NOTES ABOVE
  - 3A. MEETS PERFORMANCE SPECIFICATION FOR CABLE TO TERMINAL ELECTRICAL CRIMPS PER SAE/USCAR-21 (8/2001)
  - 3B. MEETS PERFORMANCE STANDARD FOR AUTOMOTIVE ELECTRICAL CONNECTOR SYSTEMS FOR SAE/USCAR-2, REV. 3 (4/2001)
  - 3C. MEETS FIELD CORRELATED LIFE TEST (FCLT) PER SAE/USCAR-20 (11/2001)
  - 3D. MEETS WIRING COMPONENT DESIGN GUIDELINES SAE/USCAR-12 REV 2 (12/2001)
  4. TSC ON A DIMENSION TO BE INTERPRETED AS DISTANCE TO A THEORETICAL SHARP CORNER AS IF THE RADIUS WERE NOT PRESENT
  5. 0.2mm MAX RADIUS PERMISSIBLE ON EDGES AND FILLETS SHOWN SHARP FOR STAMPED PARTS
  6. ALL UNMARKED RADII 0.25mm MAX
  7. INSERTION FORCE (TIN) AVG. FROM PIV TESTING = 3.5N SEALED TERMINAL (REFERENCE)
  8. ALL DIMENSIONS EXCEPT ① ② ③ & ④ ARE COMMON TO BOTH SEALED AND UNSEALED TERMINALS.

ENTER DESCRIPTION EC NO: UAU2006-0478 DRAWN/PULL IAN 2006/03/09 CHKD: A. DHR 2006/03/09 APPR: B.MOSER 2006/03/09 REV: E1	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE 2:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION		
		4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.10 ± --- 1 PLACE ± 0.3 ± --- ANGULAR ± 3 °	mm INCH	DRAWN BY L. PULLIAM	DATE 2006/02/24	TITLE MX150 RECEPTACLE TERMINAL				
				CHECKED BY A. DHR	DATE 2006/03/06					
				APPROVED BY B. MOSER	DATE 2006/03/08					
		MATERIAL NO. SEE TABLE		DOCUMENT NO. SD-33012-001		MOLEX INCORPORATED		SHEET NO. 1 OF 4		
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION										

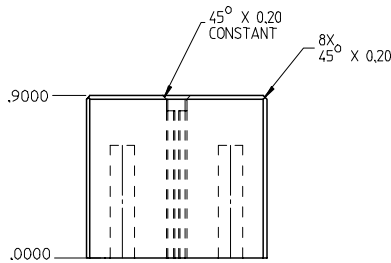
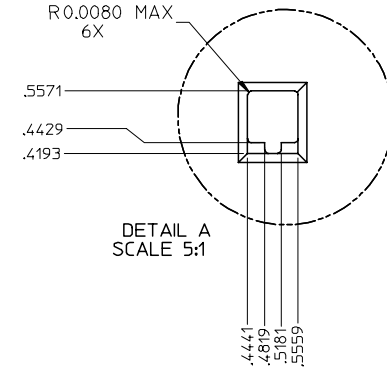
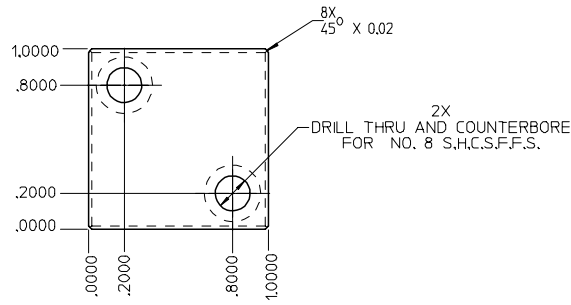
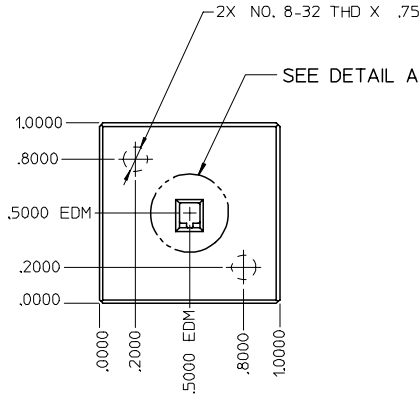
TABLE 1 - TERMINAL CRIMP DIM REFERENCE TABLE												
SUPPLIER PART NO.	FORD PART NO.	PLATING	WIRE SIZE (AWG)	WIRE SPECIFICATION	CONDUCTOR OH (SEC Z-Z) ±0.05 mm	CONDUCTOR CW (SEC Z-Z) ±0.10 mm	INSULATOR IH (SEC Y-Y) ±0.10 mm	INSULATOR IW (SEC Y-Y) ±0.10 mm	WIRE PULL FORCE (N)			
SEALED TERMINALS												
RIGHT PAYOFF	LEFT PAYOFF											
33012-0001	33012-0001	2L1T-14474-DA	TN	1/4	ML-135A1	T80	T80	T80	T80			
				1/8	ML-123A	1.35	1.95	2.15	2.50	2.80	2.80	2.80
33012-0002	33012-0002	2L1T-14474-CA	TN	1/8	ML-123A	1.40	1.95	1.90	2.20	2.60	2.60	2.60
				20	ML-123A	1.05	1.95	1.80	2.00	2.00	2.00	2.00
33012-0003	33012-0003	2L1T-14474-BA	TN	22	ML-123A	0.95	1.45	1.60	1.80	1.80	1.80	1.80
33012-0001	33012-0001	2L1T-14474-DA	TN	150mm <sup>2</sup>	ML-126A1	T80	T80	T80	T80	T80	T80	T80
				10mm <sup>2</sup>	ML-126A1	1.20	1.95	2.00	2.20	2.10	2.10	2.10
33012-0002	33012-0002	2L1T-14474-CA	TN	0.75mm <sup>2</sup>	ML-126A1	1.10	1.95	1.85	2.00	1.68	1.68	1.68
				0.50mm <sup>2</sup>	ML-126A1	1.00	1.45	1.80	1.80	1.05	1.05	1.05
33012-0003	33012-0003	2L1T-14474-BA	TN	0.35mm <sup>2</sup>	T80	T80	T80	T80	T80	T80	T80	T80
33001-0003	33001-0003	2L1T-14474-GA	GOLD	1/4	ML-135A1	T80	T80	T80	T80	T80	T80	T80
				1/8	ML-123A	1.35	1.95	2.15	2.50	2.60	2.60	2.60
33001-0004	33001-0004	2L1T-14474-FA	GOLD	1/8	ML-123A	1.40	1.95	1.90	2.20	2.60	2.60	2.60
				20	ML-123A	1.05	1.95	1.80	2.00	2.00	2.00	2.00
33001-0005	33001-0005	2L1T-14474-EA	GOLD	22	ML-123A	0.95	1.45	1.60	1.80	1.80	1.80	1.80
33001-0003	33001-0003	2L1T-14474-GA	GOLD	150mm <sup>2</sup>	ML-126A1	T80	T80	T80	T80	T80	T80	T80
				10mm <sup>2</sup>	ML-126A1	1.20	1.95	2.00	2.20	2.10	2.10	2.10
33001-0004	33001-0004	2L1T-14474-FA	GOLD	0.75mm <sup>2</sup>	ML-126A1	1.10	1.95	1.85	2.00	1.68	1.68	1.68
				0.50mm <sup>2</sup>	ML-126A1	1.00	1.45	1.80	1.80	1.05	1.05	1.05
33001-0005	33001-0005	2L1T-14474-EA	GOLD	0.35mm <sup>2</sup>	T80	T80	T80	T80	T80	T80	T80	T80
UNSEALED TERMINALS												
33012-0021	33012-0021	4L2T-14474-CA	TN	1/4	ML-135A1	1.60	2.15	2.65	2.80	3.68	3.68	3.68
				1/8	ML-123A	1.35	1.95	2.15	2.50	2.60	2.60	2.60
33012-0022	33012-0022	4L2T-14474-BA	TN	1/8	ML-123A	1.40	1.95	1.90	2.20	2.60	2.60	2.60
				20	ML-123A	1.05	1.95	1.80	2.00	2.00	2.00	2.00
33012-0023	33012-0023	4L2T-14474-AA	TN	22	ML-123A	0.95	1.45	1.60	1.80	1.80	1.80	1.80
33012-0021	33012-0021	4L2T-14474-CA	TN	150mm <sup>2</sup>	ML-126A1	T80	T80	T80	T80	T80	T80	T80
				10mm <sup>2</sup>	ML-126A1	1.20	1.95	2.00	2.20	2.10	2.10	2.10
33012-0022	33012-0022	4L2T-14474-BA	TN	0.75mm <sup>2</sup>	ML-126A1	1.10	1.95	1.85	2.00	1.68	1.68	1.68
				0.50mm <sup>2</sup>	ML-126A1	1.00	1.45	1.80	1.80	1.05	1.05	1.05
33012-0023	33012-0023	4L2T-14474-AA	TN	0.35mm <sup>2</sup>	T80	T80	T80	T80	T80	T80	T80	T80
				20-20	ML-123A	1.25	1.95	2.80	2.80	1.19	1.19	1.19
				20-22	ML-123A	1.10	1.95	2.70	2.80	1.19	1.19	1.19
				22-22	ML-123A	1.00	1.95	2.50	2.80	1.19	1.19	1.19
33001-0024	33001-0024	4L2T-14474-DA	TN	0.35-0.35	ML-126A1	T80	T80	T80	T80	T80	T80	T80
				0.35-0.50	ML-126A1	T80	T80	T80	T80	T80	T80	T80
				0.35-0.75	ML-126A1	T80	T80	T80	T80	T80	T80	T80
				0.50-0.50	ML-126A1	T80	T80	T80	T80	T80	T80	T80
				0.50-0.75	ML-126A1	T80	T80	T80	T80	T80	T80	T80
33001-0021	33001-0021	4L2T-14474-GA	GOLD	1/4	ML-135A1	1.60	2.15	2.65	2.80	3.68	3.68	3.68
				1/8	ML-123A	1.35	1.95	2.15	2.50	2.60	2.60	2.60
33001-0022	33001-0022	4L2T-14474-FA	GOLD	1/8	ML-123A	1.40	1.95	1.90	2.20	2.60	2.60	2.60
				20	ML-123A	1.05	1.95	1.80	2.00	2.00	2.00	2.00
33001-0023	33001-0023	4L2T-14474-EA	GOLD	22	ML-123A	0.95	1.45	1.60	1.80	1.80	1.80	1.80
33001-0021	33001-0021	4L2T-14474-GA	GOLD	150mm <sup>2</sup>	ML-126A1	T80	T80	T80	T80	T80	T80	T80
				10mm <sup>2</sup>	ML-126A1	1.20	1.95	2.00	2.20	2.10	2.10	2.10
33001-0022	33001-0022	4L2T-14474-FA	GOLD	0.75mm <sup>2</sup>	ML-126A1	1.10	1.95	1.85	2.00	1.68	1.68	1.68
				0.50mm <sup>2</sup>	ML-126A1	1.00	1.45	1.80	1.80	1.05	1.05	1.05
33001-0023	33001-0023	4L2T-14474-EA	GOLD	0.35mm <sup>2</sup>	T80	T80	T80	T80	T80	T80	T80	T80

TABLE 2 - TERMINAL GRIP/CRIMP TOOL DIM. REFERENCE TABLE																				
SUPPLIER PART NO.	FORD PART NO.	PLATING STAMPING	WIRE APPLICATION	A ±0.30	B ±0.30	C ±0.30	D ±0.30	E ±0.005	F ±0.005	G ±0.005	J ±0.005	K ±0.005	M ±0.005	N ±0.005	P ±0.005	R ±0.005	U ±0.005	V ±0.005	W ±0.005	
SEALED TERMINALS																				
RIGHT PAYOFF	LEFT PAYOFF	SAE		METRIC																
33012-0001	33012-0001	2L1T-14474-DA	TN	1/4	15	T80	T80	T80	T80	T80	T80	T80	T80	T80	T80	T80	T80	T80	T80	T80
33012-0002	33012-0002	2L1T-14474-CA	TN	1/8	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
33012-0003	33012-0003	2L1T-14474-BA	TN	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
33012-0001	33012-0001	2L1T-14474-DA	TN	150mm <sup>2</sup>	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
				10mm <sup>2</sup>	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
33001-0004	33001-0004	2L1T-14474-FA	GOLD	1/8	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
33001-0005	33001-0005	2L1T-14474-EA	GOLD	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
33001-0003	33001-0003	2L1T-14474-GA	GOLD	150mm <sup>2</sup>	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
				10mm <sup>2</sup>	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
33001-0004	33001-0004	2L1T-14474-FA	GOLD	0.75mm <sup>2</sup>	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
				0.50mm <sup>2</sup>	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
33001-0005	33001-0005	2L1T-14474-EA	GOLD	0.35mm <sup>2</sup>	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
UNSEALED TERMINALS																				
33012-0021	33012-0021	4L2T-14474-CA	TN	1/4	15	3.9	3.6	1.8	1.7	12.58	0.56	0.88	6.53	13.07	1.38	6.61	2.08	1.84	2.72	1.40
33012-0022	33012-0022	4L2T-14474-BA	TN	1/8	16	3.0	2.9	1.2	1.3	12.39	0.51	0.88	6.54	12.55	1.23	6.51	1.89	1.74	2.22	1.25
33012-0023	33012-0023	4L2T-14474-AA	TN	22	22	2.3	2.3	0.9	0.9	11.88	0.37	0.65	6.52	12.44	0.88	6.26	1.41	1.31	1.74	0.90
33012-0021	33012-0021	4L2T-14474-CA	TN	150mm <sup>2</sup>	16	3.0	3.6	1.2	1.7	12.39	0.51	0.88	6.54	12.96	1.28	6.51	1.89	1.74	2.52	1.30
				10mm <sup>2</sup>	16	3.0	3.6	1.2	1.7	12.39	0.51	0.88	6.54	12.96	1.28	6.51	1.89	1.74	2.52	1.30
33001-0024	33001-0024	4L2T-14474-DA	TN	20-22	20	3.0	3.6	1.2	1.7	12.39	0.51	0.88	6.54	12.96	1.28	6.51	1.89	1.74	2.52	1.30
33012-0024	33012-0024	4L2T-14474-DA	TN	-	0.35-0.35	3.0	3.6	1.2	1.7	12.39	0.51	0.88	6.54	12.96	1.28	6.51	1.89	1.74	2.52	1.30
33012-0024	33012-0024	4L2T-14474-DA	TN	-	0.35-0.75	3.0	3.6	1.2	1.7	12.39	0.51	0.88	6.54	12.96	1.28	6.51	1.89	1.74	2.52	1.30
33012-0024	33012-0024	4L2T-14474-DA	TN	-	0.50-0.50	3.0	3.6	1.2	1.7	12.39	0.51	0.88	6.54	12.96	1.28	6.51	1.89	1.74	2.52	1.30
33012-0024	33012-0024	4L2T-14474-DA	TN	-	0.50-0.75	3.0	3.6	1.2	1.7	12.39	0.51	0.88	6.54	12.96	1.28	6.51	1.89	1.74	2.52	1.30
33001-0022	33001-0022	4L2T-14474-FA	GOLD	1/8	16	3.0	2.9	1.2	1.3	12.39	0.51	0.88	6.54	12.55	1.23	6.51	1.89	1.74	2.22	1.25
33001-0022	33001-0022	4L2T-14474-FA	GOLD	10	10	3.0	2.9	1.2	1.3	12.39	0.51	0.88	6.54	12.55	1.23	6.51	1.89	1.74	2.22	

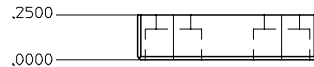
THIS GAUGE IS FOR SEALED TERMINALS ONLY



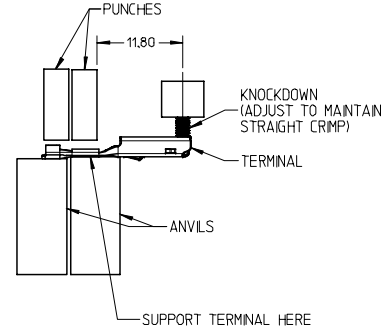
GAUGE BLOCK ASSEMBLY  
SCALE 1:1



GAUGE BLOCK UPPER



GAUGE BLOCK LOWER



CRIMPING INFORMATION

CRIMP REQUIREMENTS:

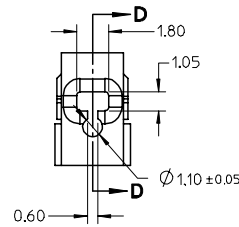
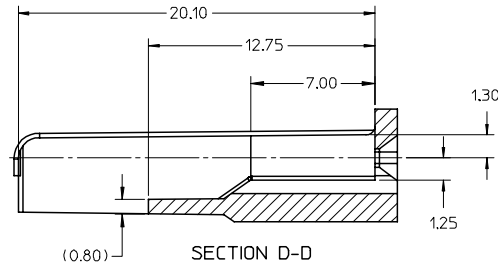
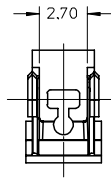
1. CRIMP STRAIGHTNESS MUST BE MAINTAINED USE A KNOCKDOWN TOOL LOCATED AS SHOWN TERMINAL BOX MUST NOT BE DEFORMED
2. AFTER CRIMPING, THE CRIMPED TERMINAL (AND UP TO 5 mm OF WIRE PAST THE INSULATOR CUTOFF TAB) MUST BE ABLE TO FREELY FIT IN THE GAUGE SHOWN ON THE PAGE
3. FOR OTHER MECHANICAL REQUIREMENTS ON CRIMPED TERMINALS, REFER TO SAE/USCAR-21 (5-13-02) SECTIONS 4.2 (VISUAL INSPECTION), 4.2 (CROSS SECTION ANALYSIS) AND 4.4 (CONDUCTOR CRIMP PULLOUT FORCE)

ALL DIMENSIONS ON SHEET 3 ARE IN INCHES

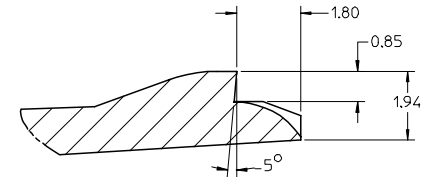
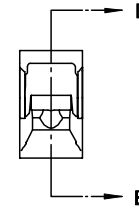
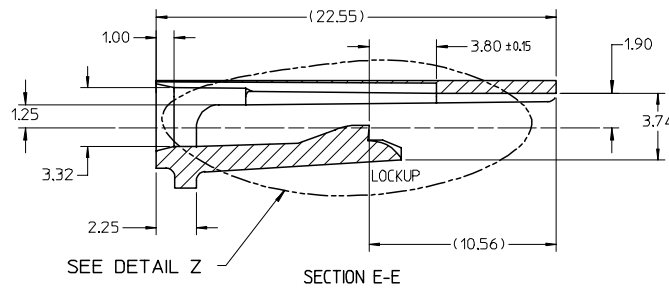
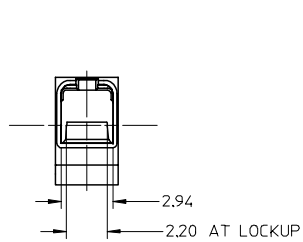
ENTER DESCRIPTION EC NO: UAU2006-0478 DRAWN/PULL IAM 2006/03/09 CHKD: A. DHIR 2006/03/09 APPR: BMOSER 2006/03/09 REV: E1	QUALITY SYMBOLS =0 =0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE 2:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
		4 PLACES ± .0005	± .0005	DRAWN BY L. PULLIAM	DATE 2006/02/24	TITLE MX150 RECEPTACLE TERMINAL			
		3 PLACES ± .0010	± .0010	CHECKED BY A. DHIR	DATE 2006/03/06	MATERIAL NO. SD-33012-001			
		2 PLACES ± 0.10	± .0010	APPROVED BY B. MOSER	DATE 2006/03/08	SHEET NO. 3 OF 4			
ANGULAR ± 3°		SIZE C		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION					

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. TOLERANCES: LINEAR  $\pm 0.10$ , ANGULAR  $\pm 3^\circ$
2. ALL DRAFT WITHIN TOLERANCE
3. MAX RADI ON ALL CORNERS SHOWN SHARP; 0.10
4. MAX FLASH PERMISSIBLE: 0.1
5. EJECTOR PIN MARKS PERMISSIBLE F FLUSH TO 0.25 BELOW SURFACE.
6. MATERIAL: HOUSING/FINGER SPECIFICATION ENGINEERED FOR MATERIAL WITH THE FOLLOWING PROPERTIES:  
 A. FLEXURAL MODULUS = 4,500 TO 9,000 MPa PER ASTM TEST D790  
 B. ELONGATION AT YIELD = 2.3% OR BETTER PER ASTM TEST D638 TYPE V
7. CAVITY SPEC FOR USE ONLY WITH MOLEX RECEPTACLE TERMINAL PART NUMBERS SPECIFIED ELSEWHERE ON THIS DRAWING

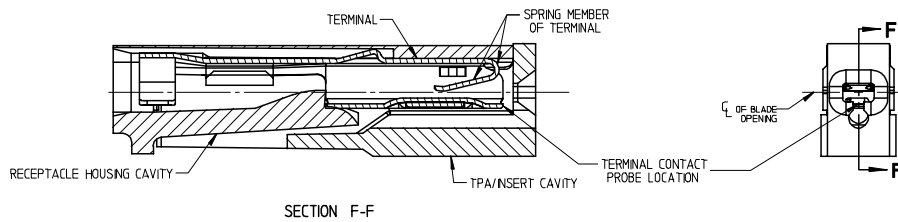


**TPA/INSERT DETAIL**



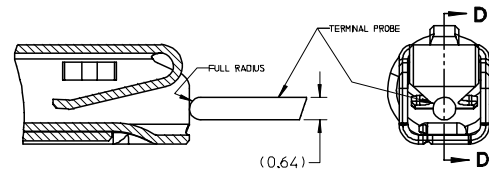
**DETAIL Z  
SCALE 20:1**

**HOUSING DETAIL**



**RECEPTACLE CAVITY ASSEMBLED VIEWS  
(FOR SEALED APPLICATIONS)  
FIG. 1**

PREFERRED PROBING LOCATION IS NOT ON SPRING MEMBER  
IF ELECTRICAL CONTINUITY PROBE TOUCHES SPRING MEMBER USE PROBING AS SHOWN IN FIG. 2



**SECTION D-D  
FOR UNSEALED APPLICATIONS  
FIG. 2**

PROBING DOWN THE THROAT MUST USE THIS TERMINAL PROBE

PROBE PIN DETAILS:  
MANUFACTURER: LONE STAR INDUSTRIAL  
PART NUMBER: LS054R-403-N-4.6  
PIN DIAMETER: 0.250IN (0.64mm)  
TIP SHAPE: SPHERICAL  
TEL: 915-779-7255

ENTER DESCRIPTION EC NO: UAU2006-0478 DRAWN/PULL IAN 2006/03/09 CHK'D: A. DHR 2006/03/09 APPR: BMOSE 2006/03/09 REV: E1	QUALITY SYMBOLS  	GENERAL TOLERANCES (UNLESS SPECIFIED) <table border="1"> <thead> <tr> <th></th> <th>mm</th> <th>INCH</th> </tr> </thead> <tbody> <tr> <td>4 PLACES</td> <td>± 0.10</td> <td>± 0.004</td> </tr> <tr> <td>3 PLACES</td> <td>± 0.15</td> <td>± 0.006</td> </tr> <tr> <td>2 PLACES</td> <td>± 0.20</td> <td>± 0.008</td> </tr> <tr> <td>1 PLACE</td> <td>± 0.3</td> <td>± 0.012</td> </tr> </tbody> </table> ANGULAR $\pm 3^\circ$		mm	INCH	4 PLACES	± 0.10	± 0.004	3 PLACES	± 0.15	± 0.006	2 PLACES	± 0.20	± 0.008	1 PLACE	± 0.3	± 0.012	DIMENSION STYLE MM ONLY	SCALE 5:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION
		mm	INCH																		
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DRAWN BY L. PULLIAM	DATE 2006/02/24	CHECKED BY A. DHR	DATE 2006/03/06	MX150 RECEPTACLE TERMINAL																	
APPROVED BY B. MOSER	DATE 2006/03/08	MOLEX INCORPORATED																			
MATERIAL NO. SEE TABLE		DOCUMENT NO. SD-33012-001		SHEET NO. 4 OF 4																	