# MX150 WIRE SEAL RECEPTACLE CRIMP TERMINAL

## 1.0 SCOPE

This specification details the crimping information and common practices of general crimps for the Molex MX150 Wire Seal Receptacle Terminal. Please refer to sales drawing SD-34083-002 for additional part information. The information in this document is for reference and benchmark purposes only. Customers are required to complete their own validation testing if tooling and/or wire is different than what is shown in this specification.

All measurements are in millimeters and Newtons unless otherwise specified.

Terminals shown in this document are generic representations. They are not intended to be an image of any terminal listed in the scope.

## 2.0 PRODUCT DESCRIPTION

### 1.0 DEFINITION OF TERMS:

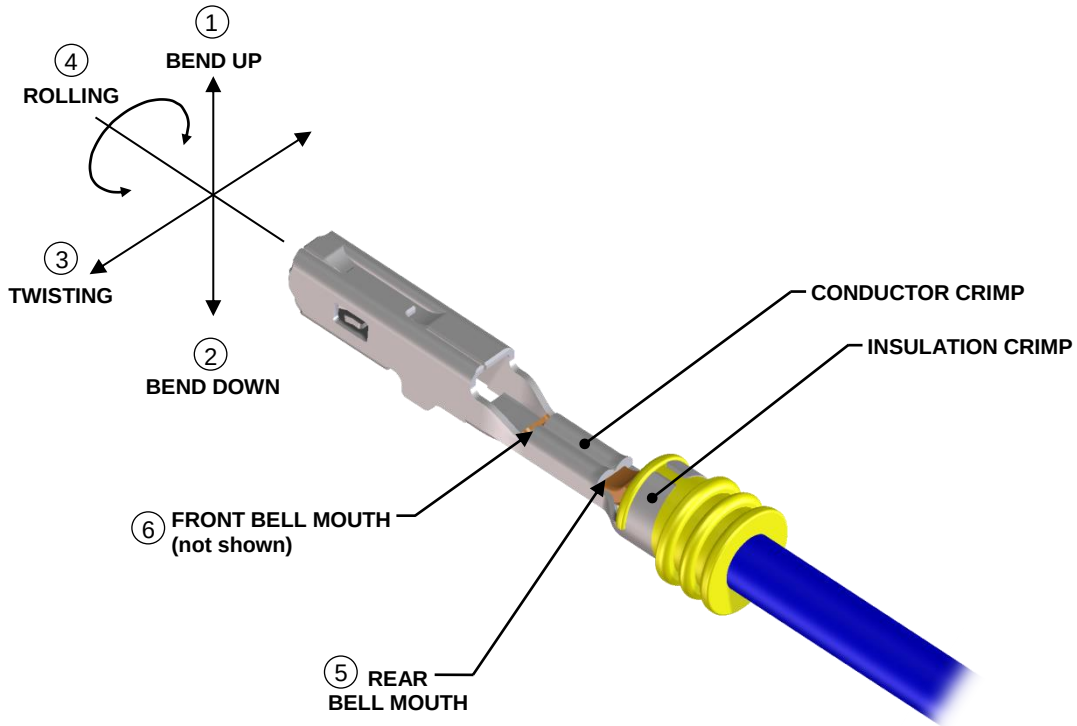



**Figure 1**

## DEFINITIONS OF TERMS (CONT.):

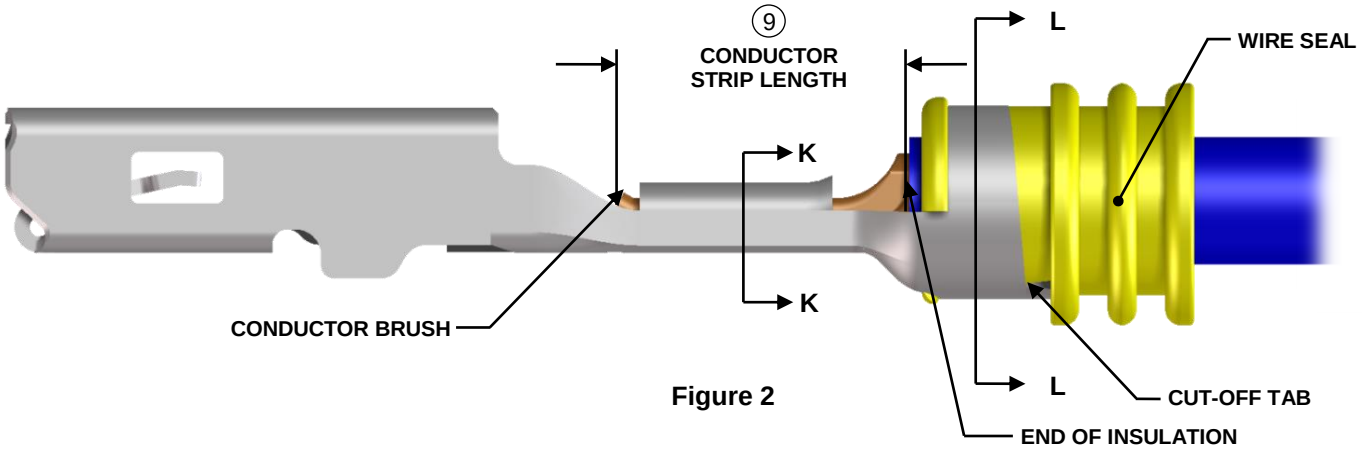
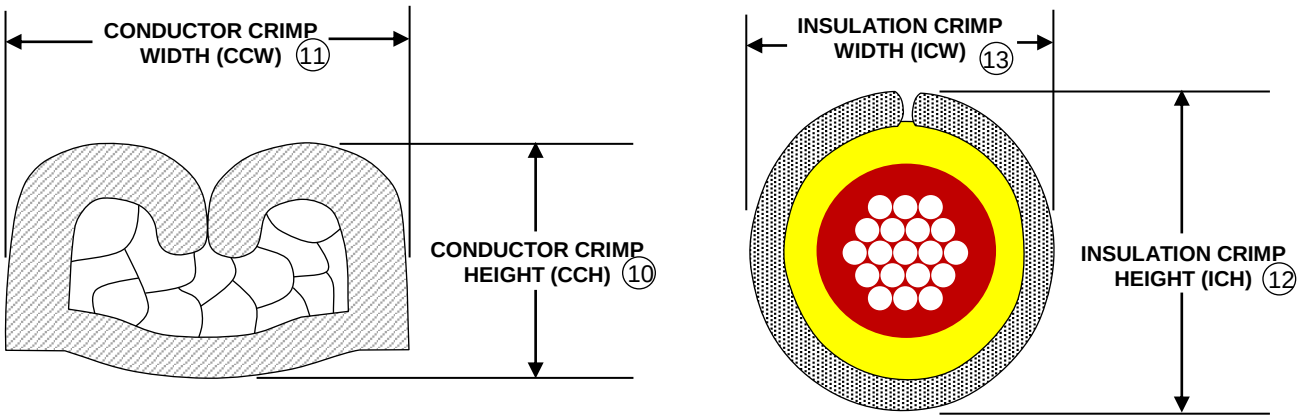



Figure 2




SECTION K-K

SECTION L-L

Figure 3

## STRAIGHTNESS MEASUREMENTS

The crimping process may result in some bending between the conductor crimp and the terminal box. This bending must not exceed the limits shown in Table 3.

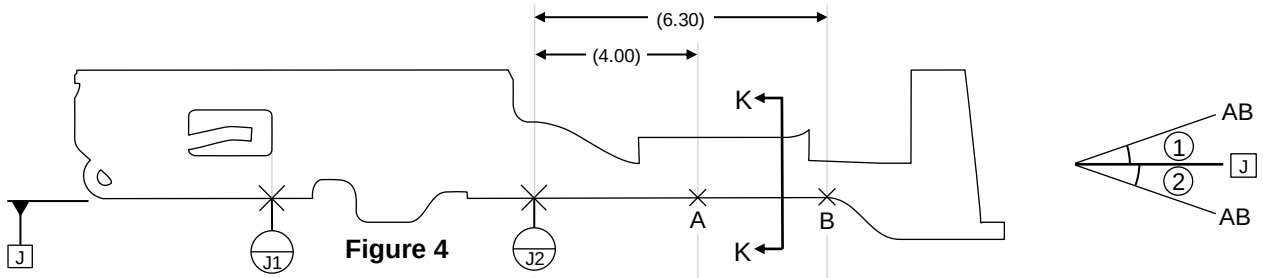



Figure 4

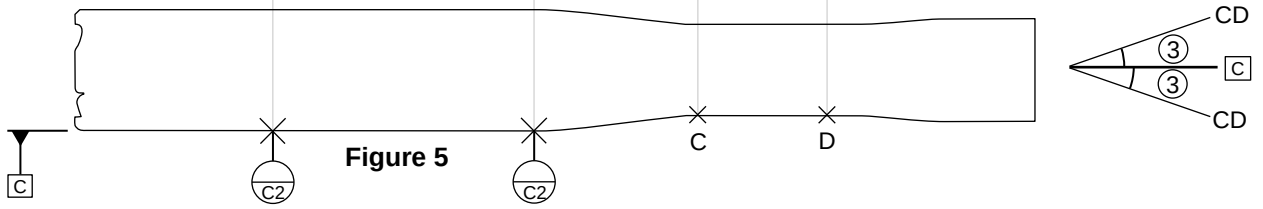



Figure 5

## BEND UP/DOWN ① ②

To measure bend up/down, establish datum J as shown in Figure 4 then measure the angle of the line defined by points A and B with respect to the datum. Positive angles are defined as bend up and negative angles are defined as bend down, see Figure 4.

## TWISTING ③

To measure twisting, establish datum C as shown in Figure 5, then measure the angle of the line defined by points C and D with respect to the datum, see Figure 5.

## ROLLING ④

To measure rolling, cross section the part at section K-K (see Figure 4), then clamp the part in a vice as shown in Figure 6. Using a shadowgraph, focus the graph to section H-H and establish line M-M as the top of the terminal box. With line M-M established, refocus the graph to section J-J. Measure the angle of the line defined by points E and F with respect to line M-M.

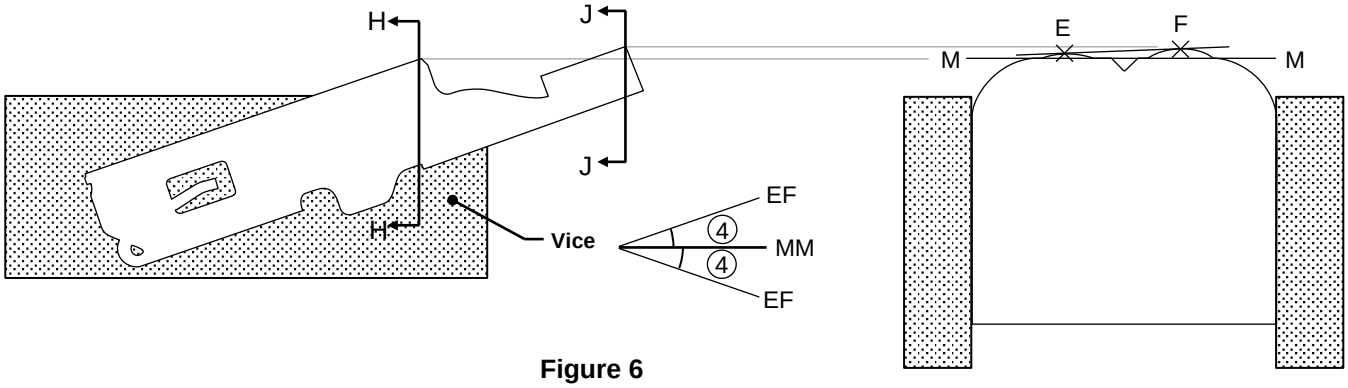



Figure 6

## BELLMOUTH (FLARE) (5)(6)

The flare that is formed on the edge of the conductor crimp acts as a funnel for the wire strands. This funnel reduces the possibility that a sharp edge on the conductor crimp will cut or nick the wire strands. A rear bellmouth is required on the conductor crimp. A front bellmouth is optional. Caution: Excessively large bellmouths will reduce crimp area and reduce pull forces. See Table 4 for bellmouth specifications.

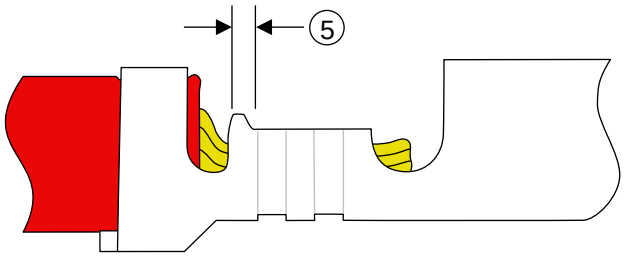



**Figure 7**

## CUT- OFF TAB (7)

This is the material that protrudes outside the insulation crimp after the terminal is separated from the carrier strip. A cut-off tab that is too long may expose a terminal outside the housing and it may fail electrical spacing requirements. In most situations, a tool is setup to provide a cut-off tab that shall not exceed the value indicated in Table 4.

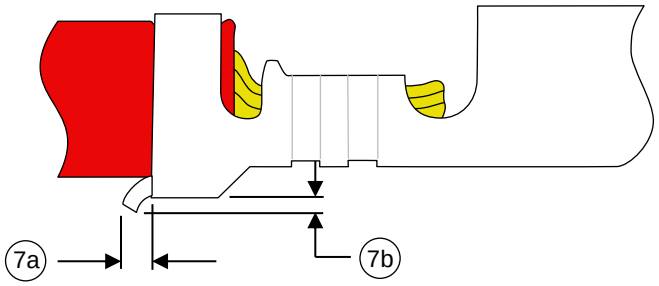



**Figure 8**

## CONDUCTOR BRUSH (8)

The conductor brush is made up of the wire strands that extend past the conductor crimp on the contact side of the terminal. This helps ensure that mechanical compression occurs over the full length of the conductor crimp. The conductor brush should not extend into the contact area or above the conductor crimp/transition wall height (whichever is tallest). CAUTION: Excessive conductor brush extended above the transition/crimp area can cause terminal retention issues inside plastic cavity.

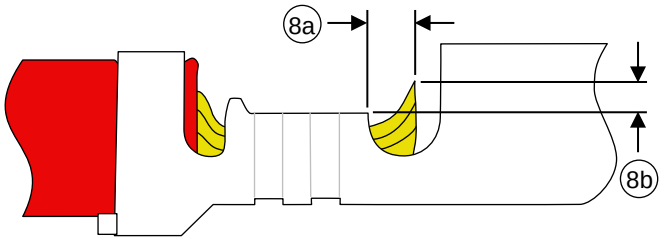



**Figure 9**

## CONDUCTOR STRIP LENGTH (9)

The strip length is determined by measuring the exposed conductor strands after the insulation is removed. The strip length determines the conductor brush length when the end-of-insulation position is centered in the transition area between conductor and insulation crimps. See Table 4 for the length requirement.

CAUTION: Care must be taken to ensure that all conductor strands are equal in length (no diagonally cut strands). No scratched or missing strands are permitted. The insulation cut must be uniform (no diagonally cut insulation and no extrusions of insulation).

## CONDUCTOR CRIMP

This is the metallurgical compression of a terminal around the wire's conductor. This connection creates a common electrical path with low resistance and high current carrying capabilities. The crimp seam shall not be open and all conductor strands must be contained within the conductor crimp.

## CONDUCTOR CRIMP HEIGHT (10)

The conductor crimp height is measured from the top surface of the formed crimp to the bottom most radial surface. Do not include the extrusion points in this measurement. Measuring crimp height is a quick, non-destructive way to help ensure the correct metallurgical compression of a terminal around the wire's conductor and is an excellent attribute for process control. The crimp height specification is typically set as a balance between electrical and mechanical performance over the complete range of wire stranding and coatings, and terminal materials and plating. Although it is possible to optimize a crimp height to individual wire strands and terminal plating, one crimp height specification is normally created. See Table 3 for crimp height specifications and see figure 3 for an example.

## INSULATION CRIMP HEIGHT (12)

Insulation crimp heights are specified in Table 3 and see figure 3 for an example. Wire Seal Terminals are designed to accommodate multiple wire sizes. Although within the terminal range, an insulation grip may not completely surround the wire, an acceptable insulation crimp will still be provided.

The insulation crimp should be visually evaluated to confirm it provides adequate compression on the wire. It should also be evaluated by sectioning through the center of the crimped insulation grip. The grip should compress the insulation but not pierce it or otherwise damage the integrity of the insulation. The grip should not contact the conductors under any circumstance.

Once the optimum setting for an insulation crimp height is determined, it is important to document it. The operator can then check it as part of the setup procedure.

## CONDUCTOR ANVIL FLASH (EXTRUSION / BURR) (14)

These are the small flares that form on the bottom of the conductor crimp resulting from the clearance between the punch and anvil tooling. If the anvil is worn or the terminal is over-crimped, excessive extrusion can result.
An uneven extrusion may also result if the punch and anvil are misaligned, if the feed is misadjusted or if there is insufficient or excessive terminal drag (see Figure 10 and Table 4).

Note: Anvil Flash (Burr) may not extend below the bottom of the crimp.

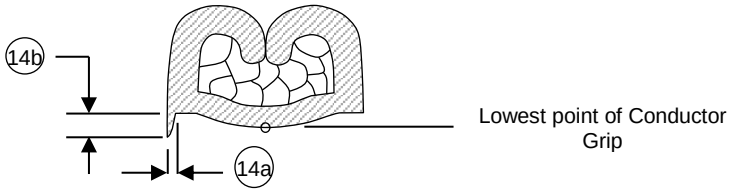



**Figure 10**

### INSULATION GRIP STEP (15)

The insulation grip step is the designed offset between the conductor grip and the insulation grip. This dimension must be achieved after the crimp is performed (see Figure 11 and Table 4).

### WIRE SEAL POSITION

(16) The wire seal is positioned on the wire such that the reference dimension is equal to the wire strip length as specified in Table 4, This ensures the seal neck is positioned in the area between the insulation and the conductor crimps. The seal ribs must have no damage (see Figure 11).

(17) The wire seal is also positioned within the terminal insulation grip such that the wings are only crimped around the shaft of seal. The value specified in Table 4 ensures that the seal lips/glands are in no harm of being crimped within the insulation grip. The value is to be held during crimping but will not be the final dimension due to the deformation of the wire seal involved in the crimping process (see Figure 11).

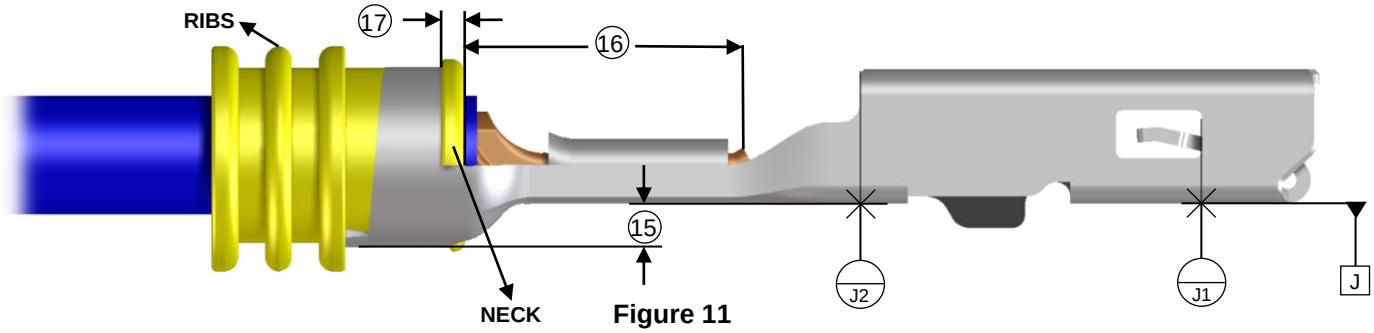


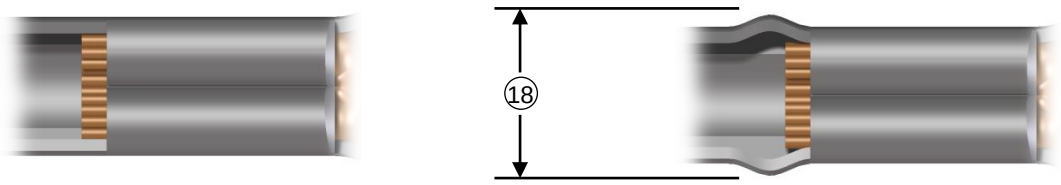

Figure 11

### END-OF-INSULATION POSITION

This is the location of the insulation in relation to the transition area between the conductor and insulation crimps. Equal amounts of the conductor strands and insulation needs to be visible in the transition area. The insulation position ensures that the insulation is crimped along the full length of the insulation crimp, and that no insulation gets crimped under the conductor crimp. The insulation position is set by the wire stop and strip length for bench applications. For automatic wire processing applications the insulation position is set by the in/out press adjustment (see Figure 2).

## CRIMP BULGE (18)

Caution needs to be taken with the crimp tooling to prevent a bulge in the transition area during crimping. The transition should generally flow smoothly from the conductor crimp to the terminal box. Any bulge must not exceed the width shown in Table 4. See Figure 12 for an example of crimp bulge.




Good Crimp (No Bulge) Bad Crimp (Bulge)

**Figure 12**

## WING DISSYMMETRY (19)

Wing dissymmetry is the crimped offset between the ends of core wings (see Figure 13 and Table 4).

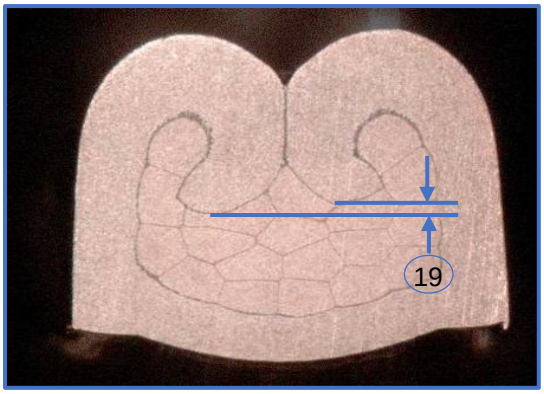



**Figure 13**

## BOX DEFORMATION

Care must be taken to ensure that the terminal box is not deformed during crimping and handling. Any deformation of the terminal box must not exceed the tolerances specified in sales drawing SD-34803-002.

## 3.0 PRODUCT SPECIFICATIONS

**Table 1**

| Terminal Family | Gender | Sealing | Plating | Special Characteristics | Grip Size | Wire Size | Insulation Diameter Range (mm) |
|---|---|---|---|---|---|---|---|
| MX150 | Receptacle | Wire Seal | Sn | High Performance Tin | 22 | 22AWG 0.35 – 0.50mm$^2$ | 1.20 – 1.70 |
| | | | Ag | High Performance Silver | | | |
| | | | Au | High Performance Gold | | | |
| | | | Sn | High Performance Tin | 18 | 20 – 18AWG 0.75 – 1.00mm$^2$ | 1.60 – 2.54 |
| | | | Ag | High Performance Gold | | | |
| | | | Au | High Performance Silver | | | |
| | | | Sn | High Performance Tin | 14 | 16 – 14AWG 1.50 – 2.00mm$^2$ | 2.10 – 2.70 |
| | | | Ag | High Performance Silver | | | |
| | | | Au | High Performance Gold | | | |

**Table 2**

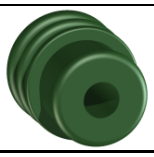
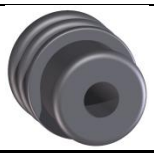
| Wire Seal | Pink | Green | Yellow | Gray |
|---|---|---|---|---|
| |  |  |  |  |
| **Acceptable Wire Diameter** | 1.20 – 1.70 | 1.60 – 2.10 | 2.10 – 2.54 | 2.54 – 2.70 |
| **QSR Part No.** | E-1644-01 | E-1644-00 | E-1644-02 | |
| **Yazaki Part No.** | | | | 7158-3033-40 |
| **Ford Part No.** | 97BG-10C930-SBA | XW43-14603-AA | XW4T-14603-FA | XW4T-14603-MA |

**Table 3**

| Grip Code | Special Characteristics | Validated Wire | | Conductor Barrel | | Insulation Barrel | | Wire Seal | Pull Out Force (N) MIN |
|---|---|---|---|---|---|---|---|---|---|
| | | Wire Type | Wire Size | CCH ± 0.05 | CCW ± 0.10 | ICH ± 0.10 | ICW ± 0.10 | | |
| 22 | High Performance Tin<br>High Performance Silver<br>High Performance Gold | M1L-123A4 (TXL) | 22AWG | 1.00 | 1.60 | 3.50 | 3.45 | Pink | 50 |
| | | GMW15626 (FLR2XA3ZH) | 0.35mm² | 1.04±0.03 | | | | | 50 |
| | | FLR91X-A XLPO* FLR2X-A-XLPE*❶ | 0.35mm² | 1.04±0.03 | | | | | |
| | | M1L-126A1 | 0.50mm² | 1.10 | | | | | 75 |
| | | JASO D611 (AVSS) | 0.50mm² | 1.10 | | | | | |
| | | FLR91X-A XLPO* FLR2X-A-XLPE*❶ | 0.50mm² | 1.10 | | | | | |
| 18 | High Performance Tin<br>High Performance Silver<br>High Performance Gold | M1L-123A4 (TXL) | 20AWG | 1.15 | 2.15 | 3.60 | 3.55 | Green | 75 |
| | | SAE J1128 (GXL) | 20AWG | 1.15 | | 3.80 | | Yellow | 75 |
| | | M1L-123A4 (TXL) | 18AWG | 1.25 | | 3.70 | | Green | 90 |
| | | SAE J1128 (GXL) | 18AWG | 1.25 | | 3.90 | | Yellow | 90 |
| | | M1L-126A1 | 0.75mm² | 1.25 | | 3.60 | | Green | 90 |
| | | FLR91X-A XLPO* FLR2X-A-XLPE*❶ | 0.75mm² | 1.25 | | | | | |
| | | M1L-126A1 | 1.00mm² | 1.30 | | 3.70 | | | 120 |
| | | FLR91X-A XLPO* FLR2X-A-XLPE*❶ | 1.00mm² | 1.35 | | | | | |
| 14 | High Performance Tin<br>High Performance Silver<br>High Performance Gold | M1L-123A4 (TXL) | 16AWG | 1.35 | 2.45 | 3.80 | 3.65 | Yellow | 120 |
| | | M1L-135A1 (UTX) | 14AWG | 1.65 | | 3.80 | | Yellow | 180 |
| | | M1L-123A4 (TXL) | 14AWG | 1.65 | | 3.95 | | Gray | 180 |
| | | M1L-126A1 | 1.50mm² | 1.40 | | 3.80 | | Yellow | 150 |
| | | FLR91X-A XLPO* FLR2X-A-XLPE*❶ | 1.50mm² | 1.40 | | | | | |
| | | JASO D611 (AVSS) | 2.00mm² | 1.60 | | 3.95 | | Gray | 180 |

The above specifications are guidelines to an optimum crimp. Crimp heights/widths are applicable for punch/anvil tooling shown in Figures 16 – 22.

**Note: Please refer to the Molex Product and Application Specification for the approved wires and terminals that have been qualified in the specific connector being used. This table does not imply that the terminal and wire combination has been qualified in a Molex connection system.**

Pull force should be measured with no influence from the insulation crimp

Customers are required to complete their own validation testing if tooling and/or wire is different than what is shown in this specification.

Terminals were validated per USCAR-21

*Wire type construction complies with GM and Ford wire specifications; GMW15626 (11/2012) and ES-AU5T-1A348-AA (03/2011).

❶ Wire validated according to USCAR 21 Rev 2 section 5.3 Reference “Same As” validation.

**Table 4**

| Specifications | | | |
|---|---|---|---|
| **Balloon #** | **Feature** | **Requirement** | |
| 1 | Bend Up | 3° MAX | |
| 2 | Bend Down | 3° MAX | |
| 3 | Twisting | 3° MAX | |
| 4 | Rolling | 3° MAX | |
| 5 | Rear Bell Mouth | 0.30 – 0.70 | |
| 6 | Front Bell Mouth | None Required | |
| 7 | Cut-Off Tab | a | 0.50 MAX |
| | | b | 0.30 MAX |
| 8 | Conductor Brush | a | 0.40 MAX |
| | | b | MAX 0.40 above conductor crimp |
| 9 | Conductor Strip Length | 5.20 ± 0.20 | |
| 10 | Conductor Crimp Height | See Table 3 | |
| 11 | Conductor Crimp Width | See Table 3 | |
| 12 | Insulation Crimp Height | See Table 3 | |
| 13 | Insulation Crimp Width | See Table 3 | |
| 14 | Conductor Anvil Flash | a | 0.1 MAX |
| | | b | Not to extend below lowest point of conductor crimp |
| 15 | Grip Step<br>From J1-J2 (see Figure 11) | Grip Code 22 | 0.55 ± 0.10 |
| | | Grip Code 18 | 0.70 ± 0.10 |
| | | Grip Code 14 | 0.90 ± 0.10 |
| 16 | Wire Seal Position on Wire | 5.20 for reference | |
| 17 | Wire Seal Position on Terminal | 1.10 MIN | |
| 18 | Crimp Bulge | 2.62 MAX | |
| 19 | Wing Dissymmetry | 0.1 MAX | |

## 4.0 REFERENCE DOCUMENTS

Reference documentation for general practices is located on the website per the below links:

1. Molex Quality Crimping Handbook http://www.molex.com/images/products/apptool/qual_crimp.pdf
2. Molex-Recognizing Good Crimps http://www.molex.com, search for Application Tooling

## 5.0 PROCEDURE

### 5.1 GENERAL MEASUREMENT AND EVALUATION REQUIREMENTS

**Crimp Height Measurement (Anvil Flash Evaluation)**

1. Complete tool set-up procedure.
2. Crimp a minimum of 5 samples.
3. Place the flat blade of the crimp micrometer across the center of the dual radii of the conductor crimp. Do not take the measurement near the conductor bell mouth (see Figure 14).
4. Rotate the micrometer dial until the point contacts the bottom most radial surface. If using a caliper, be certain not to measure the conductor anvil flash (extrusions) of the crimp (see Figure 15).

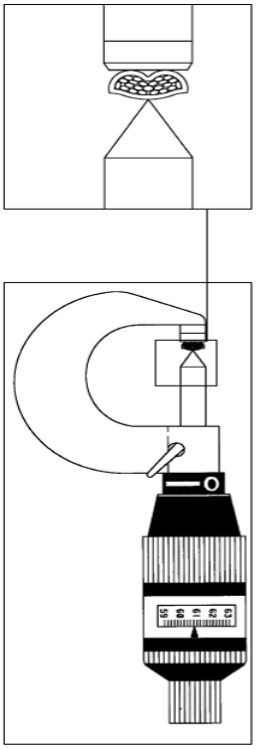


**Figure 14**

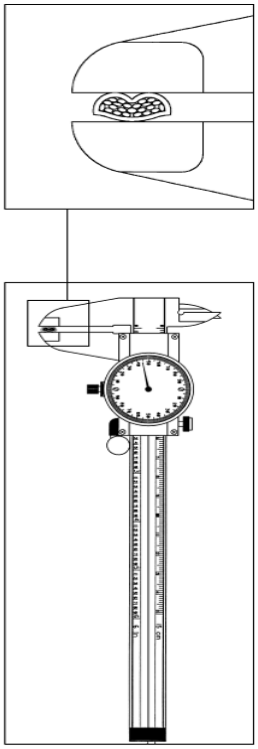


**Figure 15**

## 6.0 CRIMP TOOLING GEOMETRY

The crimp tooling information shown below defines the tooling used by Molex to perform validation testing to establish recommended crimp height and widths. The user is responsible for validating crimp performance based on tooling, equipment and wire that is being used.

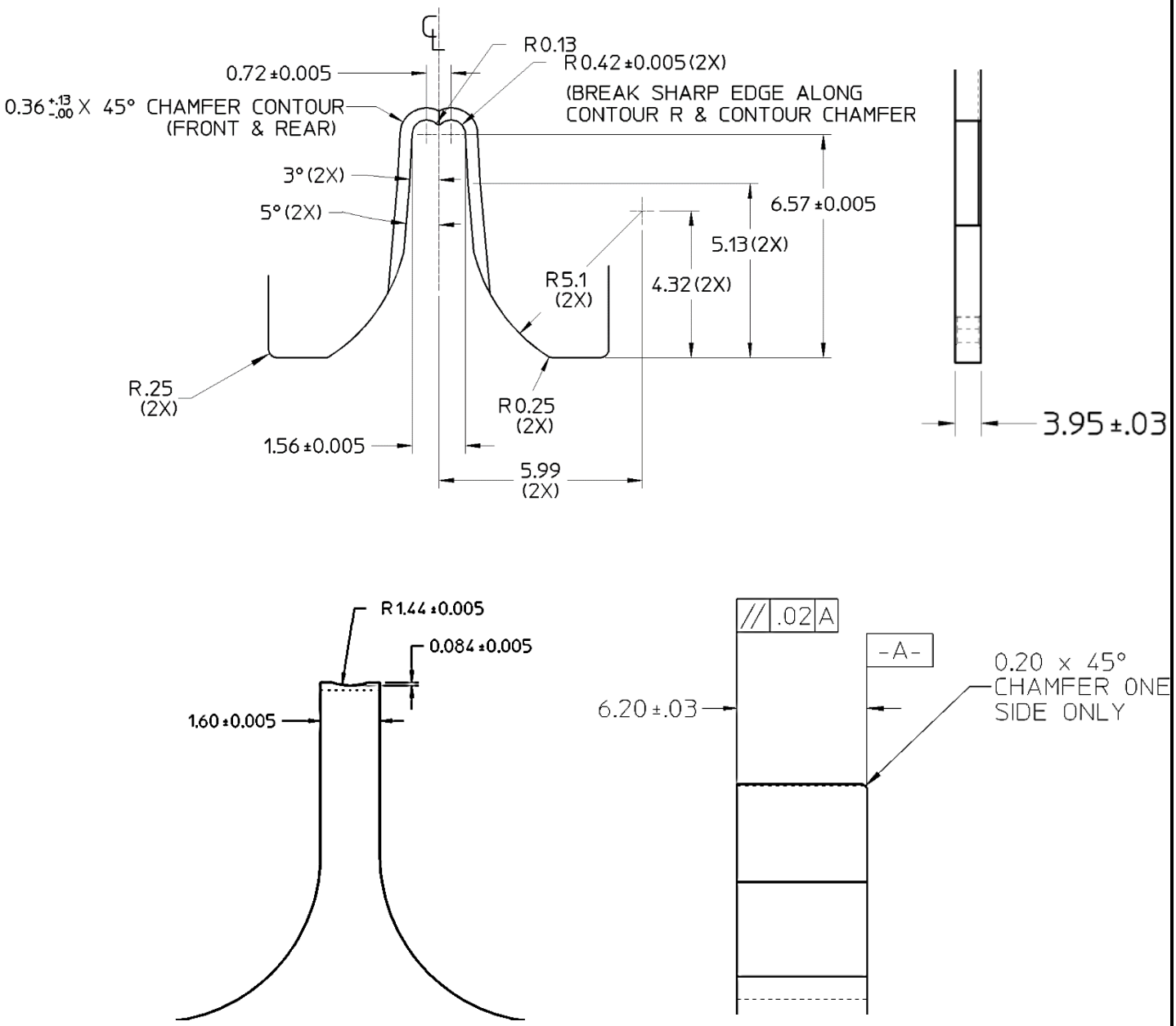



**Figure 16 – Conductor Tooling Geometry**
**(0.35mm² wire ONLY)**

| GENERAL TOLERANCE UNLESS OTHERWISE SPECIFIED | | |
|---|---|---|
| DEC. PLCS. | mm | INCH |
| 4 PLACES | ± --- | ± --- |
| 3 PLACES | ± --- | ± --- |
| 2 PLACES | ± 0.13 | ± --- |
| 1 PLACE | ± 0.25 | ± --- |
| ANGULAR | ± 0.5° | |



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| REVISION DESCRIPTION | SEE REVISION LOG | | | MX150 TERMINAL WIRE SEAL RCPT APPLICATION SPEC | | | | |
| CHANGE NO. | CO-000001669 | | | | | | | |
| REVISED BY | BSKANTHARAJU | DATE | 2021/04/0723 | DOC TYPE | DOC TYPE DESCRIPTION | | DOC PART | SERIES |
| REV APPR BY | JCUATACERVAN | DATE | 2021/04/2128 | ES | APPLICATION SPECIFICATION | | 000 | 34083 |
| INITIAL RELEASE | | | | CUSTOMER | DOCUMENT NUMBER | | REVISION | SHEET |
| INITIAL DRWN | B.MOSER | DATE | 2014/02/11 | MOLEX INTERNAL | AS-34083-002 | | B4 | 12 OF 21 |
| INITIAL APPR | A.DHIR | DATE | 2014/02/11 | | | | | |

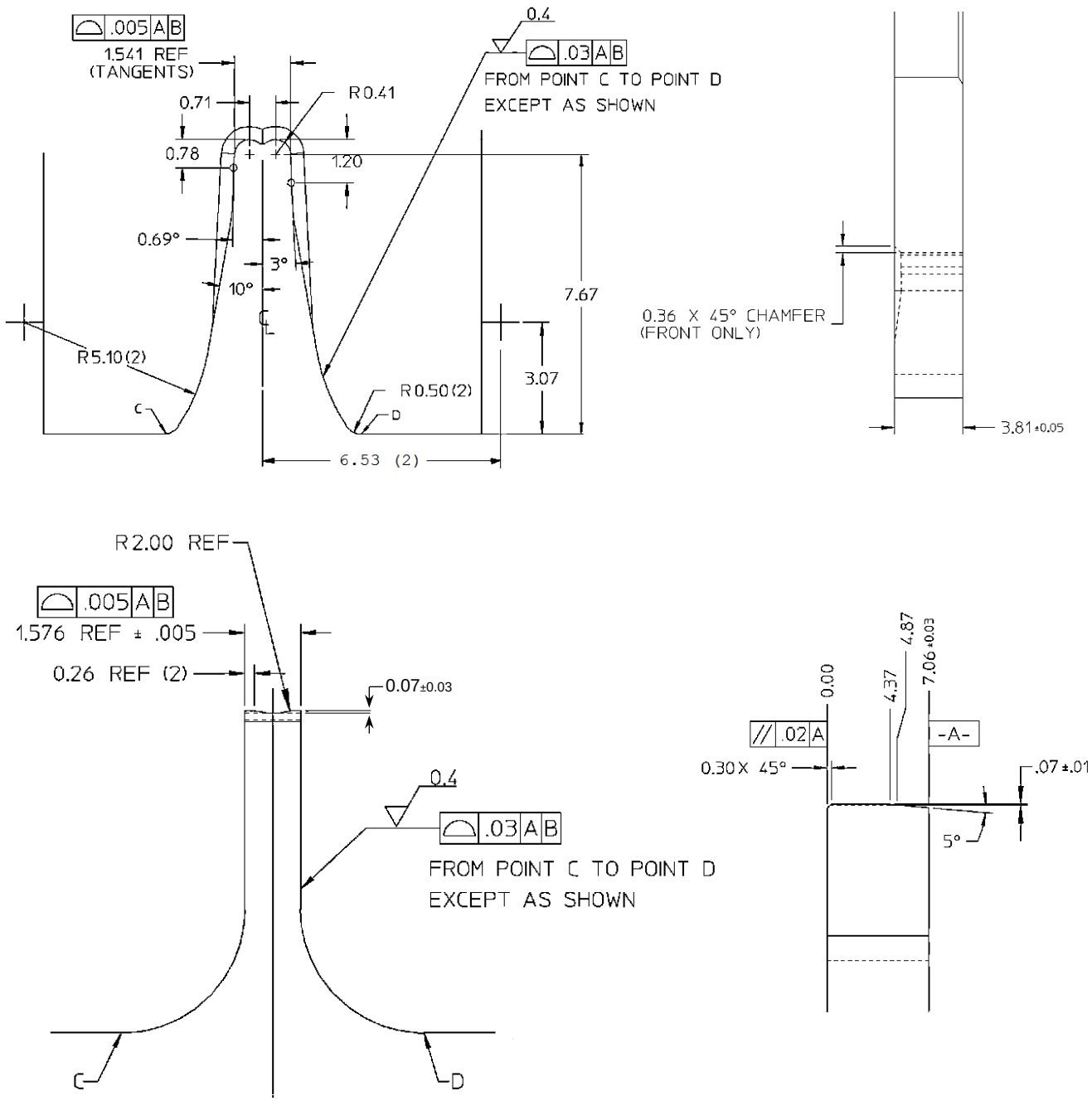



**Figure 17 – Conductor Tooling Geometry**
**(Grip Code 22 ONLY except 0.35mm² wire)**

| GENERAL TOLERANCE UNLESS OTHERWISE SPECIFIED | | |
|---|---|---|
| DEC. PLCS. | mm | INCH |
| 4 PLACES | ± --- | ± --- |
| 3 PLACES | ± --- | ± --- |
| 2 PLACES | ± 0.13 | ± --- |
| 1 PLACE | ± 0.25 | ± --- |
| ANGULAR | ± 0.5° | |



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| REVISION DESCRIPTION | SEE REVISION LOG | | | MX150 TERMINAL WIRE SEAL RCPT APPLICATION SPEC | | | | |
| CHANGE NO. | CO-000001669 | | | | | | | |
| REVISED BY | BSKANTHARAJU | DATE | 2021/04/0723 | DOC TYPE | DOC TYPE DESCRIPTION | | DOC PART | SERIES |
| REV APPR BY | JCUATACERVAN | DATE | 2021/04/2128 | ES | APPLICATION SPECIFICATION | | 000 | 34083 |
| INITIAL RELEASE | | | | CUSTOMER | DOCUMENT NUMBER | | REVISION | SHEET |
| INITIAL DRWN | B.MOSER | DATE | 2014/02/11 | MOLEX INTERNAL | AS-34083-002 | | B4 | 13 OF 21 |
| INITIAL APPR | A.DHIR | DATE | 2014/02/11 | | | | | |

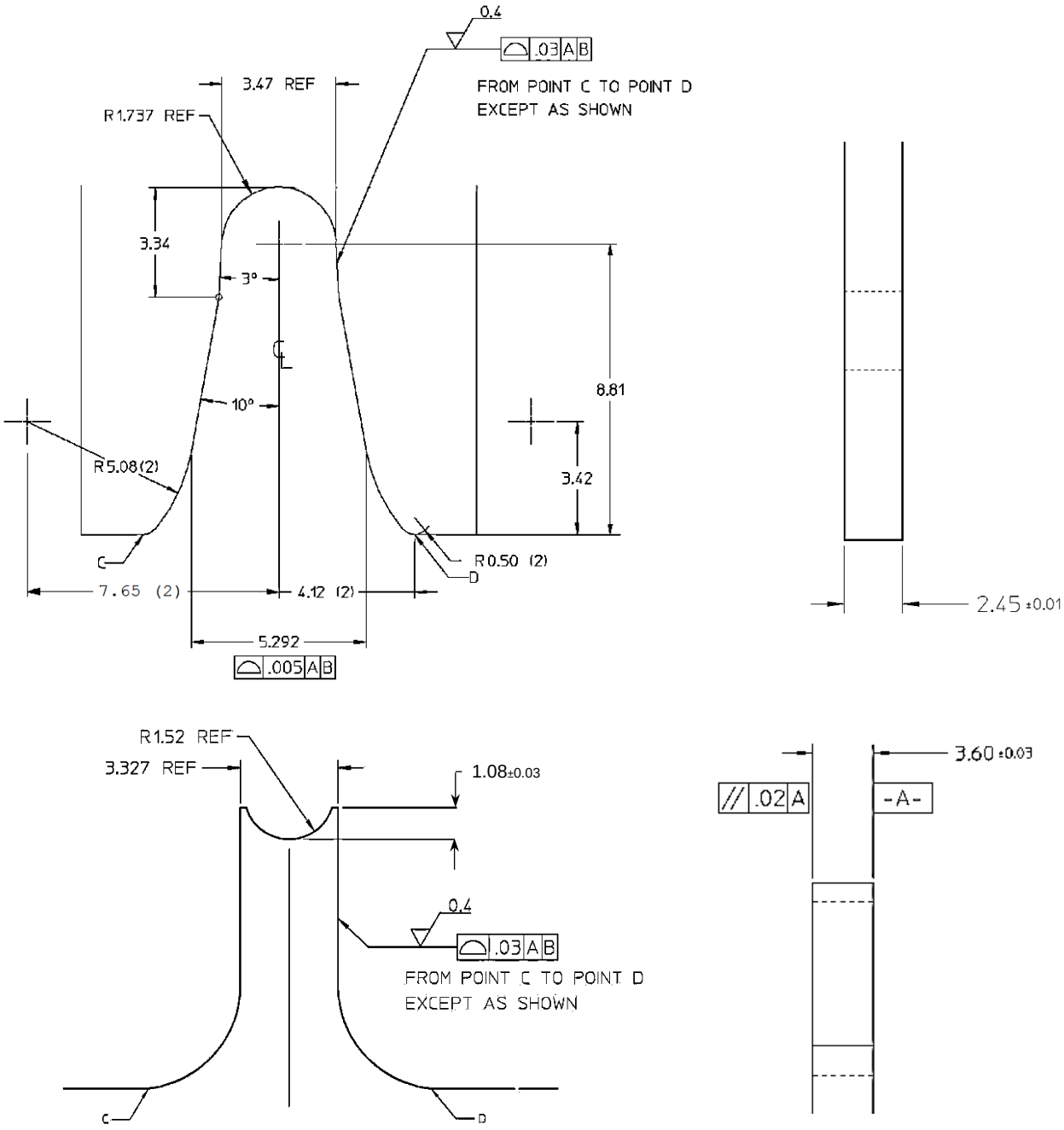



**Figure 18 – Insulation Tooling Geometry**
**(Grip Code 22 ONLY)**

| GENERAL TOLERANCE UNLESS OTHERWISE SPECIFIED | | |
|---|---|---|
| DEC. PLCS. | mm | INCH |
| 4 PLACES | ± --- | ± --- |
| 3 PLACES | ± --- | ± --- |
| 2 PLACES | ± 0.13 | ± --- |
| 1 PLACE | ± 0.25 | ± --- |
| ANGULAR | ± 0.5° | |



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| REVISION DESCRIPTION | SEE REVISION LOG | | | MX150 TERMINAL WIRE SEAL RCPT APPLICATION SPEC | | | | |
| CHANGE NO. | CO-000001669 | | | | | | | |
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| REV APPR BY | JCUATACERVAN | DATE | 2021/04/2128 | ES | APPLICATION SPECIFICATION | | 000 | 34083 |
| INITIAL RELEASE | | | | CUSTOMER | DOCUMENT NUMBER | | REVISION | SHEET |
| INITIAL DRWN | B.MOSER | DATE | 2014/02/11 | MOLEX INTERNAL | AS-34083-002 | | B4 | 14 OF 21 |
| INITIAL APPR | A.DHIR | DATE | 2014/02/11 | | | | | |

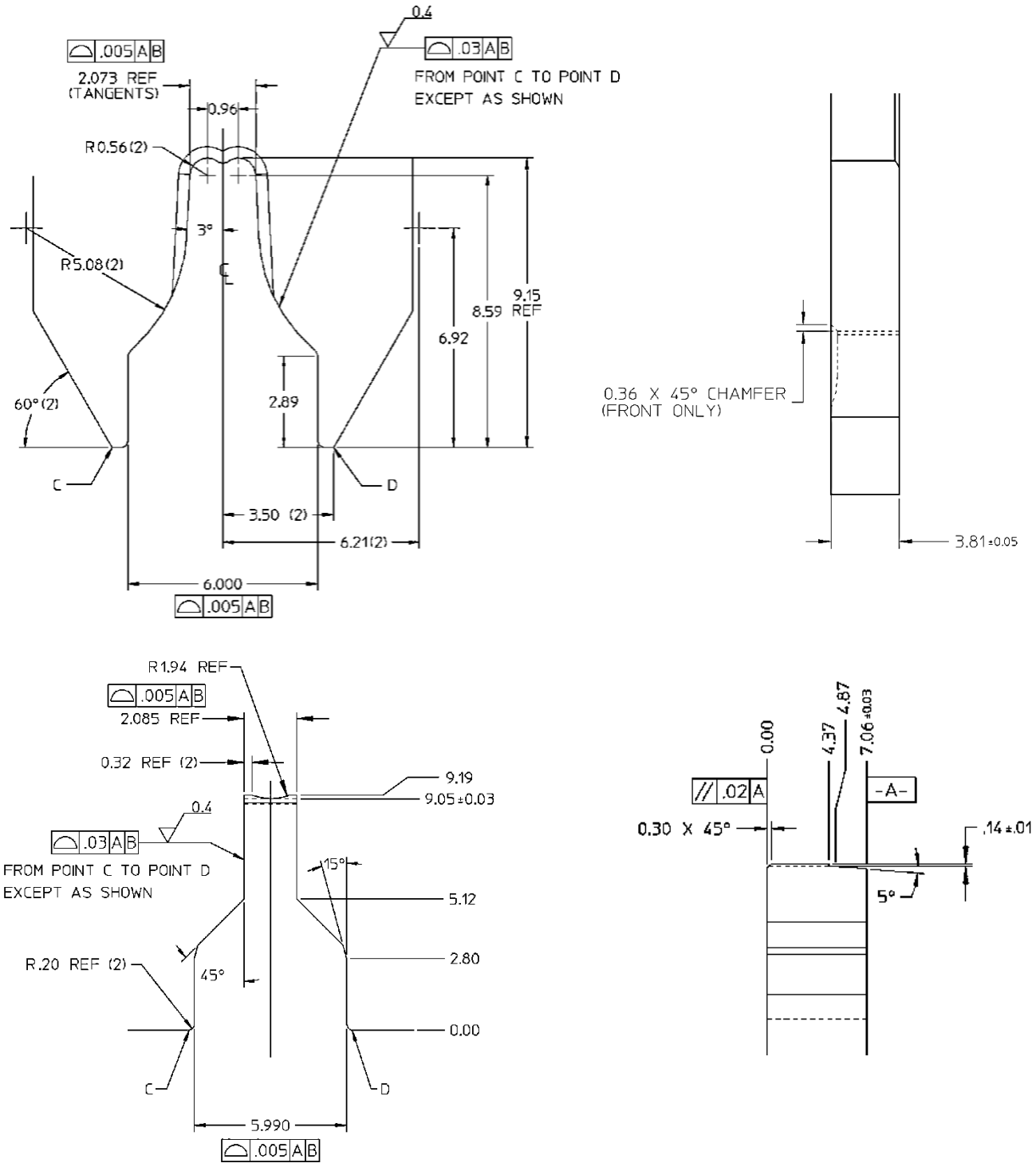



**Figure 19 – Conductor Tooling Geometry (Grip Code 18 ONLY)**

| GENERAL TOLERANCE UNLESS OTHERWISE SPECIFIED | | |
|---|---|---|
| DEC. PLCS. | mm | INCH |
| 4 PLACES | ± --- | ± --- |
| 3 PLACES | ± --- | ± --- |
| 2 PLACES | ± 0.13 | ± --- |
| 1 PLACE | ± 0.25 | ± --- |
| ANGULAR | ± 0.5° | |



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| REVISION DESCRIPTION | SEE REVISION LOG | | | MX150 TERMINAL WIRE SEAL RCPT APPLICATION SPEC | | | | |
| CHANGE NO. | CO-000001669 | | | | | | | |
| REVISED BY | BSKANTHARAJU | DATE | 2021/04/0723 | DOC TYPE | DOC TYPE DESCRIPTION | | DOC PART | SERIES |
| REV APPR BY | JCUATACERVAN | DATE | 2021/04/2128 | ES | APPLICATION SPECIFICATION | | 000 | 34083 |
| INITIAL RELEASE | | | | CUSTOMER | DOCUMENT NUMBER | | REVISION | SHEET |
| INITIAL DRWN | B.MOSER | DATE | 2014/02/11 | MOLEX INTERNAL | AS-34083-002 | | B4 | 15 OF 21 |
| INITIAL APPR | A.DHIR | DATE | 2014/02/11 | | | | | |

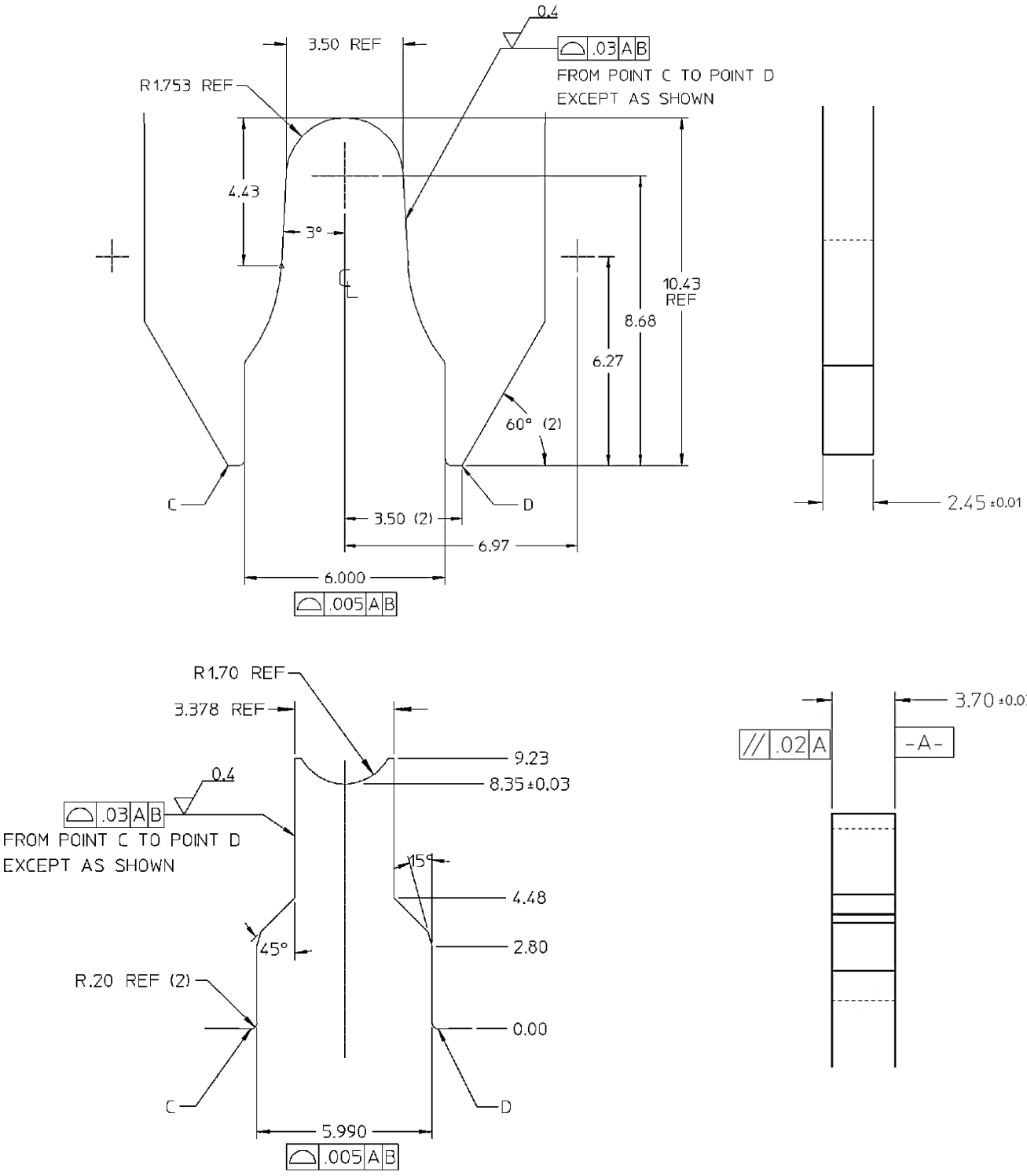



**Figure 20 – Insulation Tooling Geometry (Grip Code 18 ONLY)**

| GENERAL TOLERANCE UNLESS OTHERWISE SPECIFIED | | |
|---|---|---|
| DEC. PLCS. | mm | INCH |
| 4 PLACES | ± --- | ± --- |
| 3 PLACES | ± --- | ± --- |
| 2 PLACES | ± 0.13 | ± --- |
| 1 PLACE | ± 0.25 | ± --- |
| ANGULAR | ± 0.5° | |



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| REVISION DESCRIPTION | SEE REVISION LOG | | | MX150 TERMINAL WIRE SEAL RCPT APPLICATION SPEC | | | | |
| CHANGE NO. | CO-000001669 | | | | | | | |
| REVISED BY | BSKANTHARAJU | DATE | 2021/04/0723 | DOC TYPE | DOC TYPE DESCRIPTION | | DOC PART | SERIES |
| REV APPR BY | JCUATACERVAN | DATE | 2021/04/2128 | ES | APPLICATION SPECIFICATION | | 000 | 34083 |
| INITIAL RELEASE | | | | CUSTOMER | DOCUMENT NUMBER | | REVISION | SHEET |
| INITIAL DRWN | B.MOSER | DATE | 2014/02/11 | MOLEX INTERNAL | AS-34083-002 | | B4 | 16 OF 21 |
| INITIAL APPR | A.DHIR | DATE | 2014/02/11 | | | | | |

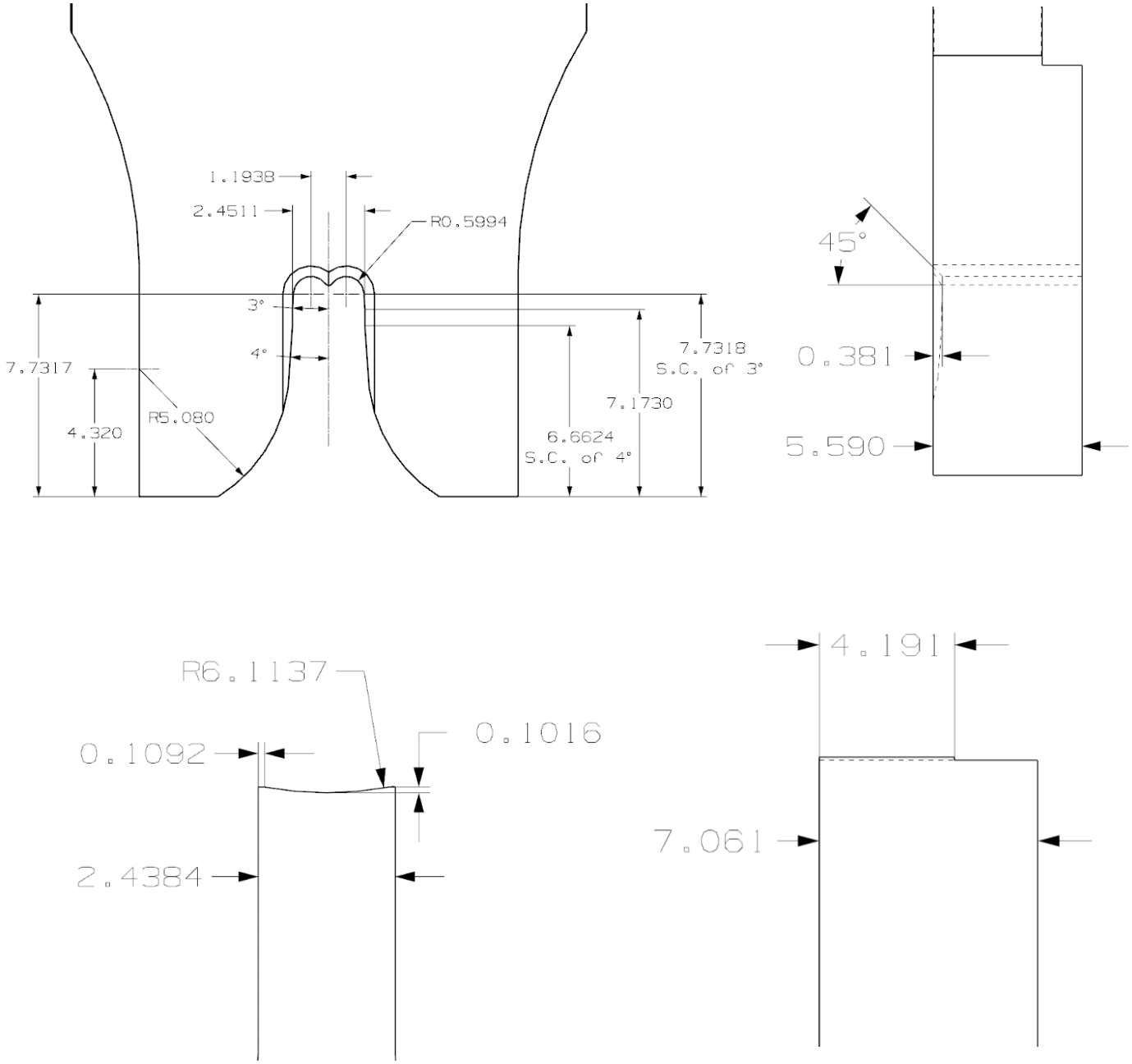



**Figure 21 – Conductor Tooling Geometry**
**(Grip Code 14 ONLY)**

| GENERAL TOLERANCE UNLESS OTHERWISE SPECIFIED | | |
|---|---|---|
| DEC. PLCS. | mm | INCH |
| 4 PLACES | ± 0.013 | ± --- |
| 3 PLACES | ± 0.025 | ± --- |
| 2 PLACES | ± 0.13 | ± --- |
| 1 PLACE | ± 0.25 | ± --- |
| ANGULAR | ± 0.5° | |

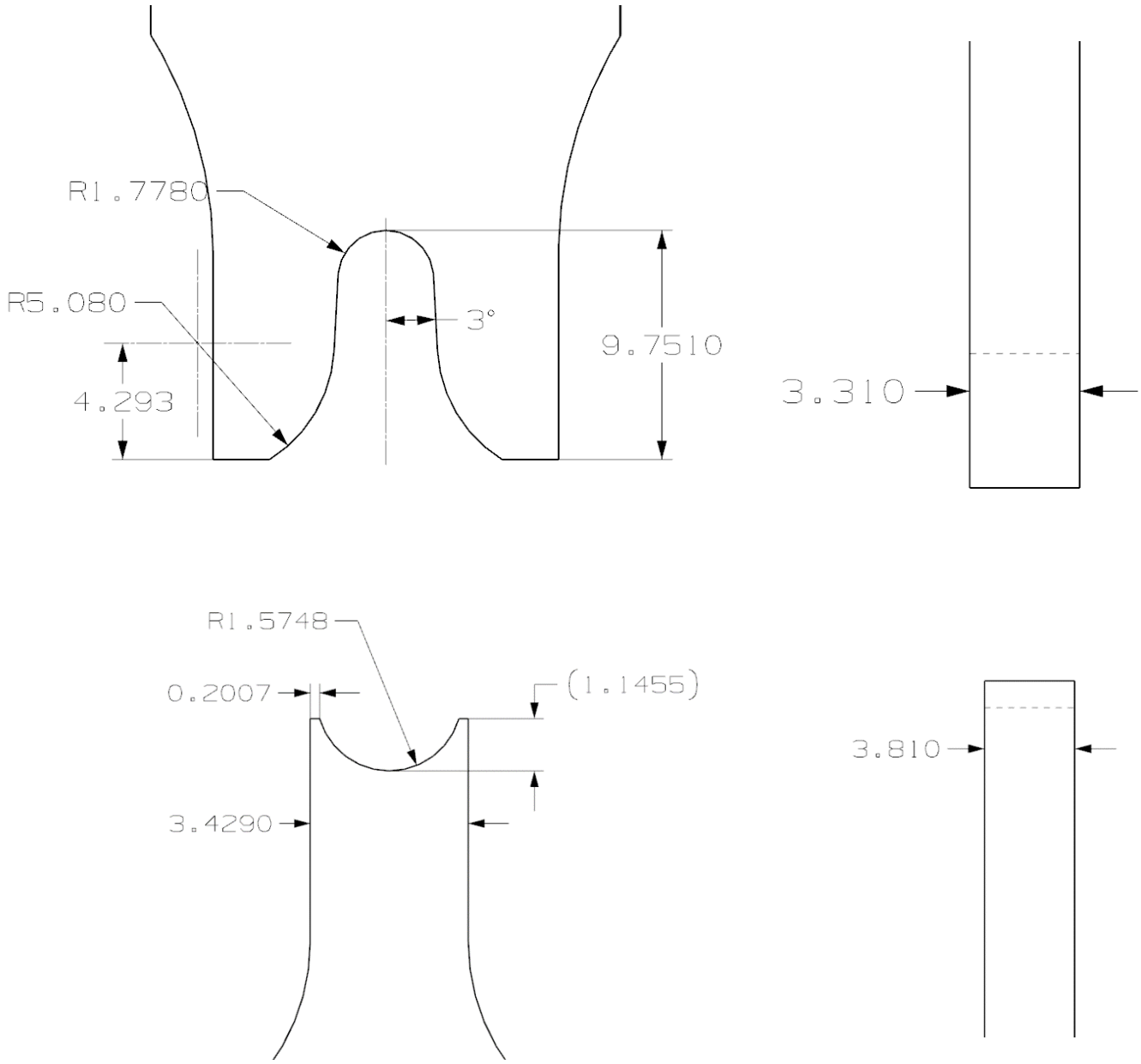
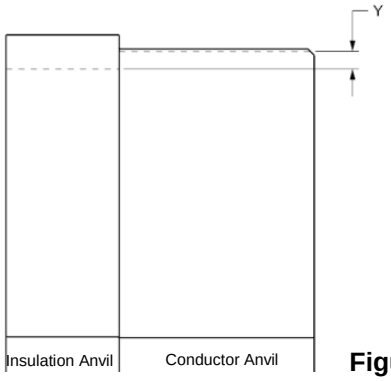



**Figure 22 – Insulation Tooling Geometry**
**(Grip Code 14 ONLY)**

| GENERAL TOLERANCE UNLESS OTHERWISE SPECIFIED | | |
|---|---|---|
| DEC. PLCS. | mm | INCH |
| 4 PLACES | ± 0.013 | ± --- |
| 3 PLACES | ± 0.025 | ± --- |
| 2 PLACES | ± 0.13 | ± --- |
| 1 PLACE | ± 0.25 | ± --- |
| ANGULAR | ± 0.5° | |



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| REVISION DESCRIPTION | SEE REVISION LOG | | | MX150 TERMINAL WIRE SEAL RCPT APPLICATION SPEC | | | |
| CHANGE NO. | CO-000001669 | | | | | | |
| REVISED BY | BSKANTHARAJU | DATE | 2021/04/0723 | DOC TYPE | DOC TYPE DESCRIPTION | DOC PART | SERIES |
| REV APPR BY | JCUATACERVAN | DATE | 2021/04/2128 | ES | APPLICATION SPECIFICATION | 000 | 34083 |
| INITIAL RELEASE | | | | CUSTOMER | DOCUMENT NUMBER | REVISION | SHEET |
| INITIAL DRWN | B.MOSER | DATE | 2014/02/11 | MOLEX INTERNAL | AS-34083-002 | B4 | 18 OF 21 |
| INITIAL APPR | A.DHIR | DATE | 2014/02/11 | | | | |




| GRIP | SIZES | ANVIL STEP (Y) |
|---|---|---|
| 22 | 0.35 | 0.55 |
| 22 | 0.50 | 0.55 |
| 18 | 0.75 / 1.0 | 0.70 |
| 14 | 1.5 / 2.0 | 0.98 |

**Figure 23 – General Anvil Tooling Geometry**

## 7.0 CRIMP STRAIGHTNESS

A sample method for maintaining crimp straightness is shown in Figure 24 below.

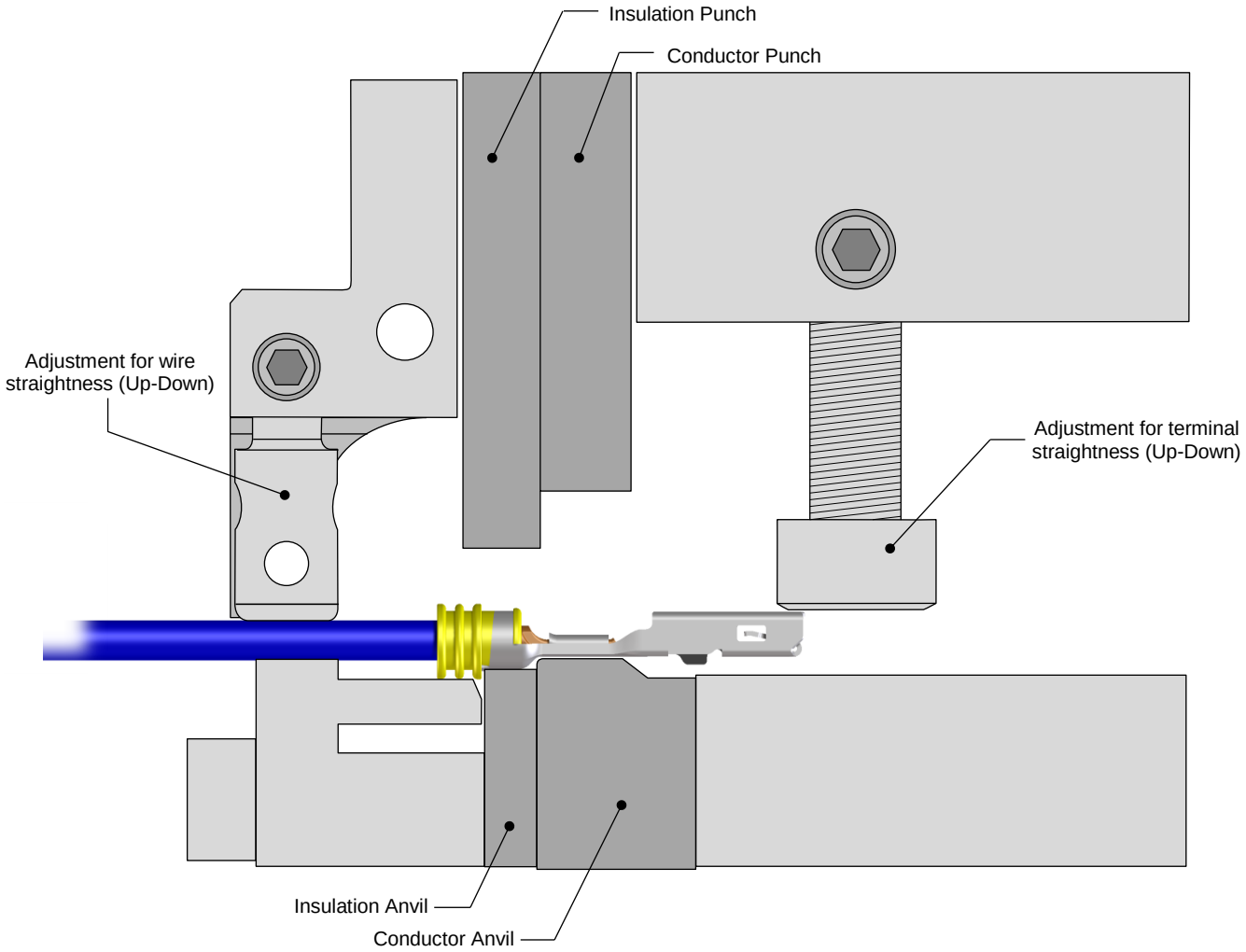



**Figure 24**

## 8.0 APPLICATION TOOLING

Application Tooling for the Terminal can be obtained directly from Molex.

To find the proper and latest Molex Application Tooling

1. Go to http://www.molex.com
2. Enter the terminal / connector part number into the search box and select the “Go” button.
    a. Molex part numbers can also be found by searching on the product description.
3. Review the Application Tooling available on the right side of the product window.
    a. It may be necessary to scroll down on the right side of the terminal / connector product page to view all the tooling options.
    b. Hand tools and manual type tools require the loose terminal / connector part number to be used in the search.
    c. Applicator or semi-automatic type tools require the reeled terminal / connector part number to be used in the search.
4. Select the tool part number link
5. Review the tooling page for general tool information
6. Open the link for the Application Tooling Specification (ATS) (located on the left under *Specifications & Other Documents*) for additional details such as:
    a. Termination specifications: crimp height, pull force, wire strip length, insulation diameter, etc.
    b. Tool information: tool diagram, tool parts list, repair parts, perishable parts list.
7. Order Molex Application Tooling through your preferred distributor

Notes:

1. Hand crimp tooling can only be used with certain wires and terminal part numbers. Check the Application Tooling Specification Sheet on the Molex website for details.
2. Application Tooling product numbers are subject to change without prior notice. Customers are advised to check the Molex website for the most up-to-date information.
3. Molex FineAdjust™ and MiniMac™ Application Tooling requires the use of left payoff (“D” Wind) parts

## Application Spec Revision Log

| Change | By | Date | Revision Number |
|---|---|---|---|
| 14 & 22ga crimp geometry views updated to reflect current tooling. Added conductor and insulation anvil depth dimensions. Added step size between crimp anvils to Crimp Tooling Geometry, Section 6.0. Added FLR91X-A XLPO wire to Table 3 for 0.35, 0.50, 0.75, 1.00, and 1.50mm$^2$ wire sizes. Added note on connector systems below Table 3. | J.Burgio | 3/29/2016 | B2 |
| Added Wing Dissymmetry (Balloon19) in Table 4 | B SKantharaju | 05/05/2021 | B3 |
| Adding FLR2X wire in table 3,<br>Updated wire seal position in Fig 11 & dimension 9&16 in table 4.<br>Added wing dissymmetry figure 13 for dimension 19. | B SKantharaju | 02/23/2023 | B4 |