

Figure 1

## 1. INTRODUCTION

Seating Tools 91377-1 and 91378-1 (shown in Figure 1) are designed to seat a Z-PACK HM-Zd right-angle header assembly connector onto a printed circuit (pc) board. These connectors have eye-of-needle compliant pin contacts which allows for solderless installation.

Read and understand these instructions before using the seating tool.

### NOTE



*Dimensions in this instruction sheet are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.*

Reasons for reissue of this instruction sheet are provided in Section 8, REVISION SUMMARY.

## 2. DESCRIPTION

Each seating tool is one piece. During seating, the tool provides a surface to accept the force applied by the application tool to seat the connector onto the pc board.

## 3. REQUIREMENTS

### 3.1. PC Board Support Fixture (Customer Supplied)

A pc board support must be used to provide proper support for the pc board and to protect the pc board and connector from damage. The board support fixture must be designed for specific needs using the following recommendations:

- it should be at least 25.4 mm [1 in.] wider than the pc board

- it should have a flat surface with a cutout or holes at least 28.5 mm [1.12 in.] deep (to allow adequate clearance for the contacts)

**3.2. Application Tooling**

Power for the seating tool must be provided by application tools (with a ram) capable of supplying a maximum downward force of 890 Newtons (N) [200 lb] per contact. For available application tools, call PRODUCT INFORMATION at the number at the bottom of page 1.



*Over-driving of the connector could cause damage to the pc board.*

**4. SETUP**

When setting up equipment to seat the connector, pay particular attention to the following:

- the seating tool must be matched to the connector



*If the seating tool and connector are mismatched or are improperly aligned, damage could occur to the tooling, connector, or both.*

- the seating tool, connector, and application tool ram must be properly aligned before cycling the application tool

Set the seating height to the dimension shown in Figure 2 (application tool shut height will equal the

seating height PLUS the combined thicknesses of the pc board and support fixture). After seating, a gap of no more than 0.10 mm [.004 in.] between the connector housing and the pc board is allowed.



*Use the seating height as a reference starting point. This height may need to be adjusted to obtain the amount allowed (maximum of 0.10 mm [.004 in.]) between the housing of the connector and the pc board.*

**5. USING THE TOOL**

1. Place the pc board on the support fixture.
2. Place the connector on the pc board so that the contacts are aligned and started into the matching holes in the pc board.
3. Position the seating tool onto the connector so that the bottom surface sits flat on the connector.
4. Center the top of the seating tool (with the connector) under the ram of the application tool. Slowly lower the ram until it just meets the seating tool. Verify alignment of pc board support, pc board, connector, and seating tool.



*Damage to the pc board, seating tool, or connector may occur if the seating tool is not properly inserted into the connector before cycling the application tool.*

5. Cycle the application tool to seat the connector on the pc board. Then retract the ram, and remove the seating tool from the connector.

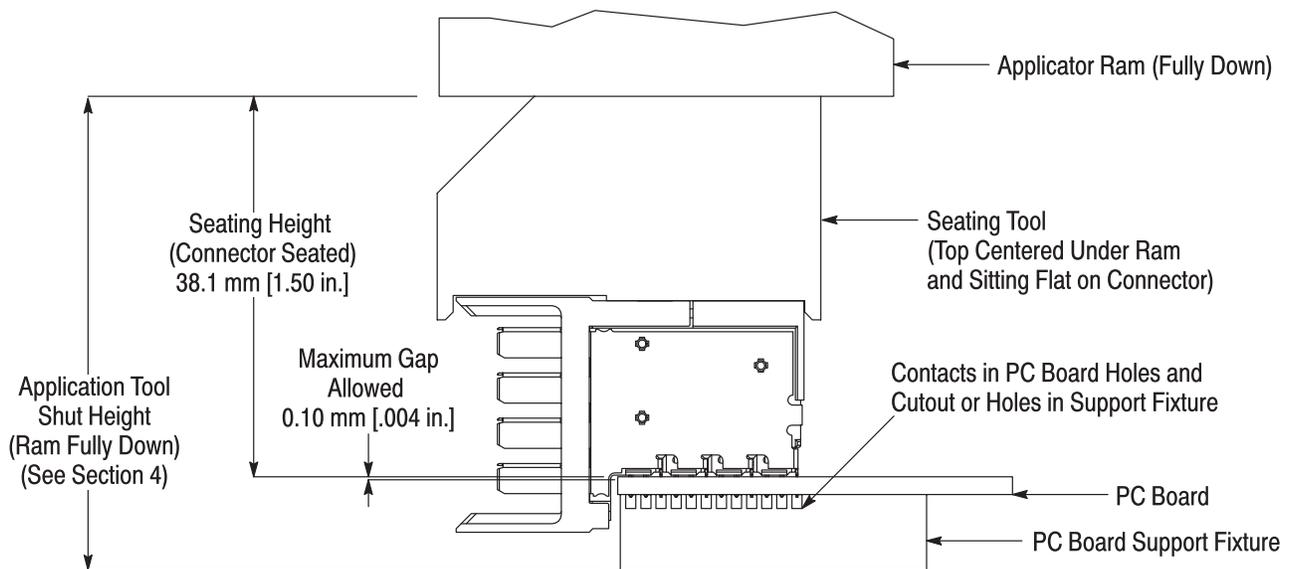


Figure 2

6. Check the connector for proper seating according to the following:
  - a. the widest section of each contact is inside its intended pc board hole
  - b. the connector is seated on the pc board with the seating height—measured from the top of the connector to the top of the pc board—given in Figure 2
  - c. if present, the gap between the housing and the pc board is no more than 0.10 mm [.004 in.]



*For detailed application requirements of the connector, refer to Application Specification 114-13059.*

**6. MAINTENANCE AND INSPECTION**

**6.1. Daily Maintenance**

It is recommended that each operator be made aware of, and responsible for, the following steps of daily maintenance:

1. Remove dust, moisture, and other contaminants with a clean, soft brush, or lint-free cloth. DO NOT use objects that could damage the tool.
2. When the tool is not in use, store it in a clean, dry area.

**6.2. Periodic Inspection**

It is recommended that the tool be inspected, using Figure 3, immediately upon its arrival to ensure that it has not been damaged during shipment.

Regular inspections should be performed by quality control personnel. A record of scheduled inspections should remain with the tool or be supplied to personnel responsible for the tool. The inspection frequency should be based on the amount of use, working conditions, operator training and skill, and established company standards.

**7. REPLACEMENT**

Order additional tools through your representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 717-986-7605, or write to:

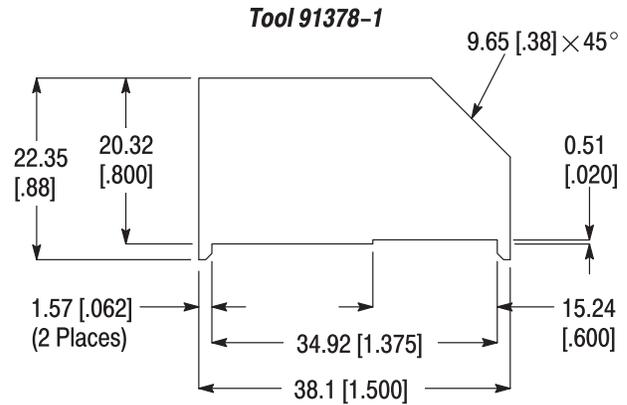
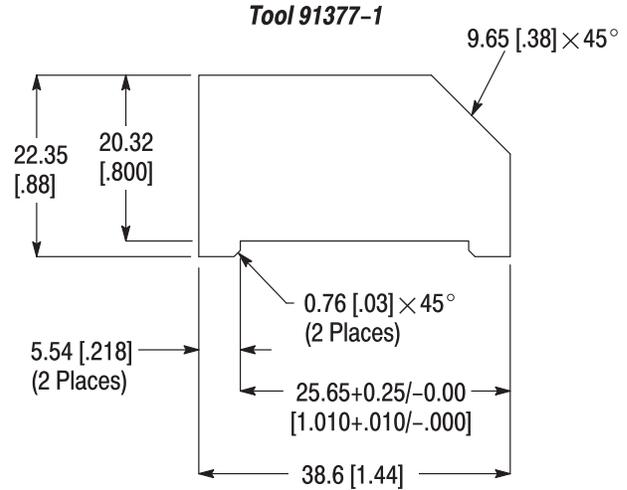
CUSTOMER SERVICE (038-035)  
 TYCO ELECTRONICS CORPORATION  
 PO BOX 3608  
 HARRISBURG PA 17105-3608

**8. REVISION SUMMARY**

Revisions to this instruction sheet include:

- Updated document to corporate requirements

**Note:** Dimensions are in millimeters with inches in brackets.



Front View  
 (Tools 91377-1 and 91378-1)

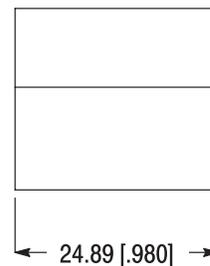


Figure 3