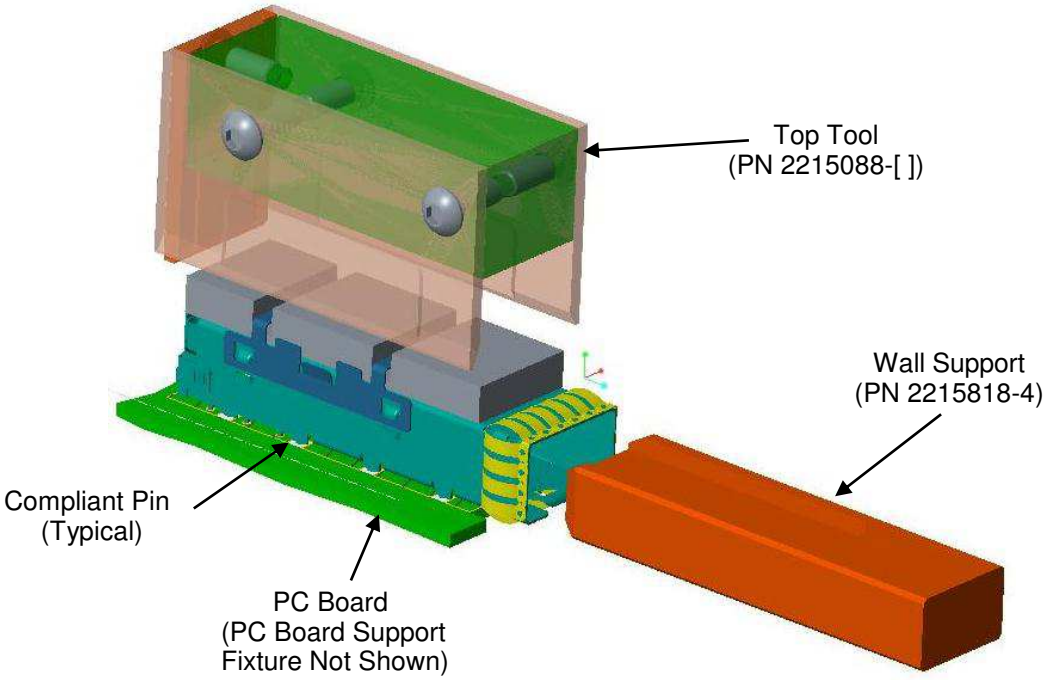
ORIGINAL INSTRUCTIONS

Typical SFP+ Cage Assembly Seating Tool Kit; PN 2215087-[ ]



NOTE: Connector not shown

Seating Tool Kit PN	Micro QSFP w/Bezel Cage Assembly Configuration	Application Specification
2215087-1	1X1 with No Heat Sink	
2215087-2	1X1 with Block Heat Sink	
2215087-3	1X1 with Low Pin Heat Sink	114-13120
2215087-4	1X1 with Medium Pin Heat Sink	
2215087-5	1X1 with High Pin Heat Sink	

Figure 1

1. INTRODUCTION

SFP+ Surface Mount Pluggable Connector and cage assembly Seating Tool kits (PN 2215087-[ ]) are used to seat the cage assemblies[1] (see Figure 1) onto a pc board. Each cage assembly contains compliant pin contacts to allow solderless pc board installation.

NOTE
Read these instructions thoroughly before using the Seating Tool kit.

NOTE
Dimensions in this Instruction Sheet are in millimeters [with inches in brackets]. Illustrations are for reference only and are not drawn to scale.

[1] The PN 2215087-[ ] seating tool kits are designed to seat ONLY the cage assemblies; NOT the connectors.

2. DESCRIPTION

Each PN 2215087-[ ] Seating Tool kit consists of a Top Tool and a Wall Support.

NOTE
The Top Tool and Wall Support can be purchased separately.

The Top tool has cutouts (two located on each side) to accept the protruding part of the standoffs of the cage assembly. The Wall Support fits into the port of the cage assembly.

The top of the Top Tool provides a surface to accept the force applied by the application tool to seat the cage assembly onto the pc board. During seating, the back and sides of the Top Tool protect the cage assembly from damage; the Wall Support provides rigidity to the port of the cage assembly.

3. REQUIREMENTS

3.1. PC Board Support Fixture (Customer Supplied)

A pc board support fixture must be used under the pc board to protect the pc board, connector and cage assembly from damage. The support fixture must be designed for the specific application; using the following recommendations. The pc board support fixture:

- Should be at least 25.4 mm [1 in.] longer and wider than the pc board
- Should have flat surfaces with holes or a channel large enough and deep enough to receive any protruding components of the product(s).

3.2. APPLICATION TOOL

Power for the Seating Tool kit must be provided by an application tool (with a ram) capable of supplying a downward force of 44.5 N [10 lb-force] per contact.

NOTE
For information on the application tool(s) available, contact PRODUCT INFORMATION at the phone number on the bottom of page 1.

CAUTION
Over-driving of the cage assembly will deform parts critical to the quality of the connection. Maximum force occurs prior to bottoming of the cage assembly on the pc board.

4. SETUP

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

- The Top Tool must be matched to the cage assembly.

CAUTION
If the Top Tool and cage assembly are mismatched or are improperly aligned, damage could occur to the tooling, cage assembly, or both.

- Light pipes MUST NOT be assembled onto the cage assembly.
- The Wall Support must be properly installed, and the Top Tool, cage assembly, and application tool ram must be properly aligned before cycling the application tool.

1. Set the *Tool Seating Height* to the dimension shown in Figure 2 (application *Tool Shut Height* will equal the *Tool Seating Height* + the combined thicknesses of the pc board and support fixture).

   After seating, a gap of no more than 0.10 [.004] between the cage assembly standoffs and the pc board is allowed.

NOTE
Use the Tool Seating Height as a reference starting point. This height may need to be adjusted to obtain the amount allowed (maximum of 0.10 [.004]) between the standoffs of the cage assembly and the pc board.

2. Slide the Wall Support into the port of the cage assembly until the Wall Support is secure.

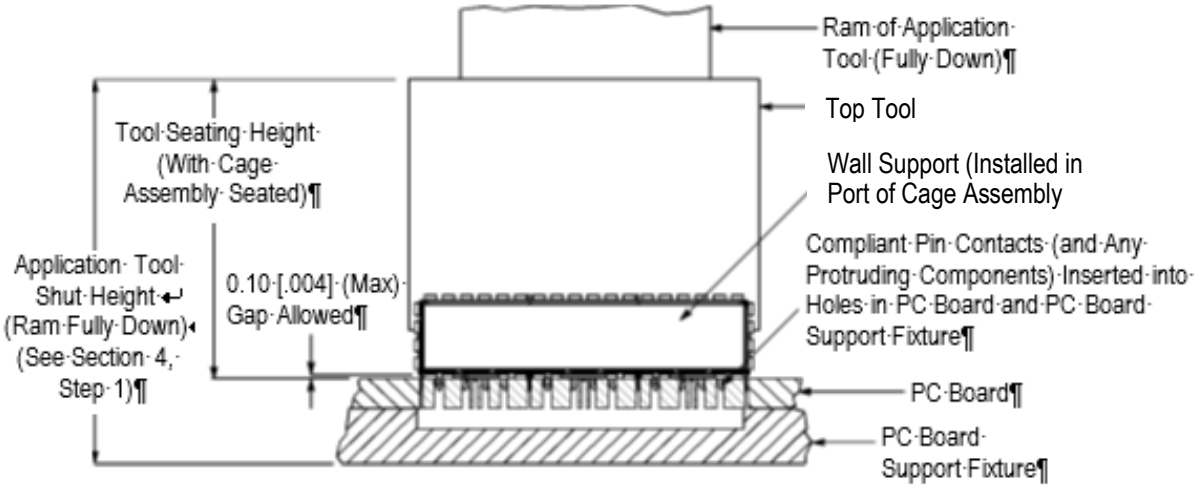


Figure 2

5. SEATING

NOTE
The connector must be mounted on the pc board BEFORE seating the cage assembly.

1. Place the pc board (with connector mounted) on the support fixture.
2. Orient the Top Tool over the cage assembly so the back of the tool is aligned with the back of the cage assembly. Lower the Top tool onto the cage assembly (ensuring the cutouts slide over the protruding components of the cage assembly) until the Top Tool bottoms on the top of the cage assembly.
3. Place the cage assembly on the pc board so the contacts and alignment posts are aligned and started into the matching holes in the pc board.
4. Center the Top Tool (with the cage assembly) under the ram of the application tool. Slowly lower the ram until it just meets the Top Tool. Verify alignment of pc board support fixture, pc board, cage assembly, and Top Tool.

CAUTION
Damage to the pc board, Top Tool, or cage assembly may occur if the Top Tool is not properly seated on the cage assembly before cycling the application tool.

5. Cycle the application tool to seat the cage assembly onto the pc board. Retract the ram and carefully remove the Top Tool by pulling it straight up from the cage assembly.
6. Check the cage assembly for proper seating according to the following:
   a. The widest section of each compliant pin contact is inside its intended pc board hole.
   b. Each alignment post is in its intended pc board hole.
   c. If present, the gap between the standoffs and the pc board is not more than 0.10 [.004].

NOTE
For detailed application requirements of the cage assembly, refer to Application Specification 114-13120.

6. MAINTENANCE AND INSPECTION

The Seating Tool kit is assembled and inspected before shipment. It is recommended that the kit be inspected immediately upon arrival at the facility of use to ensure that it has not been damaged during shipment, and that it conforms to the dimensions provided in Figure 3.

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 contaminants with a clean, soft brush or a lint-free cloth. DO NOT use objects that could damage the Seating Tool Kit components.
2. When the Top Tool and Wall Support are not in use, store in a clean, dry area.

6.2. Periodic Inspection

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

7. REPLACEMENT AND REPAIR

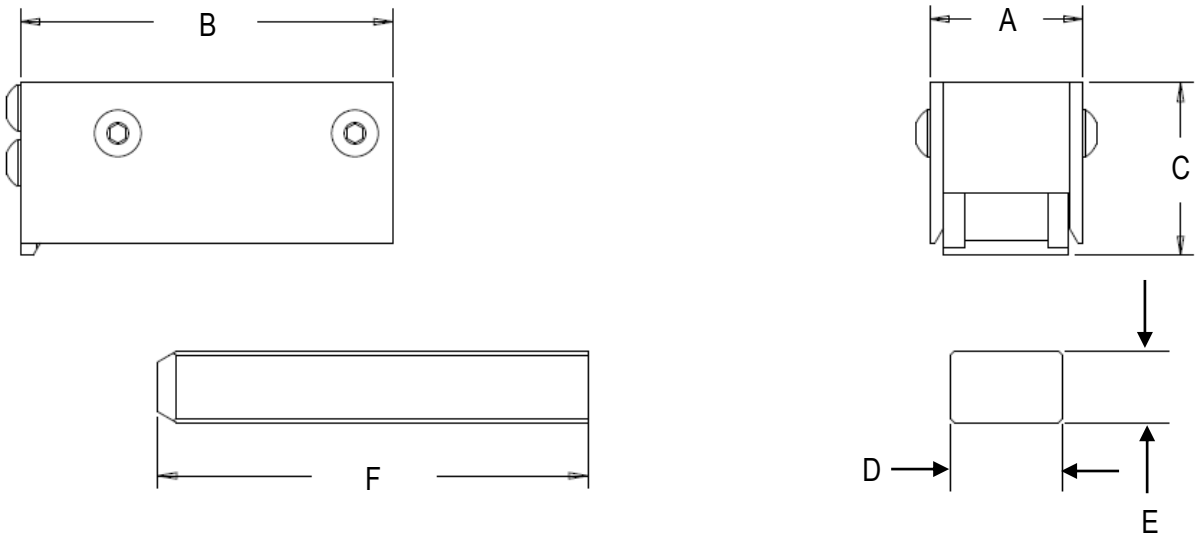
Customer-replaceable parts are listed in Figure 3. A complete inventory should be stocked and controlled to prevent lost time when replacement of parts is necessary. Parts other than those listed should be replaced by TE Connectivity (TE) to ensure quality and reliability. Order replacement parts through your TE 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)
TE CONNECTIVITY CORPORATION
PO BOX 3608
HARRISBURG PA 17105-3608

8. REVISION SUMMARY

- Initial release of document

Typical Seating Tool Kit; PN 2215087-[ ]



Cage Assembly Configuration	Seating Tool Kit Part Number	Dimension					
		A	B	C	D	E	F
1X1 with No Heat Sink	2215087-1	18.0 [.71]	44.0 [1.73]	20.4 [.80]	13.3 [.52]	8.45 [.33]	50.8 [2.00]
1X1 with Block Heat Sink	2215087-2			24.6 [.97]			
1X1 with Low Pin Heat Sink	2215087-3			23.5 [.93]			
1X1 with Medium Pin Heat Sink	2215087-4			25.8 [1.02]			
1X1 with High Pin Heat Sink	2215087-5			32.7 [1.29]			

Component Description	SEATING TOOL KIT				
	PN 2215087-1	PN 2215087-2	PN 2215087-3	PN 2215087-4	PN 2215087-5
	Part QTY and [Part Number] per Tool Kit				
Top Tool	1 [PN 2215088-1]	1 [PN 2215088-2]	1 [PN 2215088-3]	1 [PN 2215088-4]	1 [PN 2215088-5]
Wall Support	1 [PN 2215818-4]				

Figure 3