

TB-2245

XCede HD FAMILY BACKPLANE REMOVAL AND REINSERTION
PROCESS

Revision “D”

Specification Revision Status

Revision	SCR No.	Description	Initial	Date
A	S2635	Updated Section 2.0 Customer-use drawing numbers, and Section 3.0 Removal tool part numbers	B. Merrill	2/17/14
B	S4329	Added XCede HD PLUS backplane information	B. Wang	2/18/16
C	S7764	Updated document title, Added XCede HD2 backplane information	B. Wang	6/19/19
D	S8258	Updated section 2.0 part number	B. Wang	4/22/20

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1.0 SCOPE

This document describes the methods, process and tooling required to remove and replace signal pairs in an XCede HD , XCede HD PLUS & XCede HD2 Backplane module or the entire module assembly that is already mounted to a circuit board.

2.0 REFERENCE DOCUMENTS

- 2.1 XCede HD 2 Pair Backplane With Extra Ground Customer Use Drawings
 - C-923-201C-500 2 Pair, 6 Column Differential Backplane Module, Thick Wall
 - C-923-201E-500 2 Pair, 8 Column Differential Backplane Module, Thick Wall
 - C-923-201G-500 2 Pair, 10 Column Differential Backplane Module, Thick Wall
 - C-923-201J-500 2 Pair, 4 Column Differential Backplane Module, Thick Wall
- 2.2 XCede HD 3 Pair Backplane Without Extra Ground Customer Use Drawings
 - C-923-300C-500 3 Pair, 6 Column Differential Backplane Module
 - C-923-300E-500 3 Pair, 8 Column Differential Backplane Module
 - C-923-300J-500 3 Pair, 4 Column Differential Backplane Module
 - C-923-301C-500 3 Pair, 6 Column Differential Backplane Module, Thick Wall
 - C-923-301E-500 3 Pair, 8 Column Differential Backplane Module, Thick Wall
 - C-923-301J-500 3 Pair 4 Column Differential Backplane Module, Thick Wall
- 2.3 XCede HD 4 Pair Backplane Without Extra Ground Customer Use Drawings
 - C-923-400C-500 4 Pair, 6 Column Differential Backplane Module
 - C-923-400E-500 4 Pair, 8 Column Differential Backplane Module
 - C-923-400J-500 4 Pair, 4 Column Differential Backplane Module
 - C-923-401C-500 4 Pair, 6 Column Differential Backplane Module, Thick Wall
 - C-923-401E-500 4 Pair, 8 Column Differential Backplane Module, Thick Wall
 - C-923-401J-500 4 Pair, 4 Column Differential Backplane Module, Thick Wall
- 2.4 XCede HD 6 Pair Backplane Without Extra Ground Customer Use Drawings
 - C-923-600C-500 6 Pair, 6 Column Differential Backplane Module
 - C-923-600E-500 6 Pair, 8 Column Differential Backplane Module
 - C-923-600J-500 6 Pair, 4 Column Differential Backplane Module
 - C-923-601C-500 6 Pair, 6 Column Differential Backplane Module, Thick Wall
 - C-923-601E-500 6 Pair, 8 Column Differential Backplane Module, Thick Wall
 - C-923-601J-500 6 Pair, 4 Column Differential Backplane Module, Thick Wall

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- 2.5 XCede HD PLUS 3 Pair Backplane With Extra Ground Customer Use Drawings
 - C-926-301C-500 3 Pair, 6 Column Differential Backplane Module, Thick Wall
 - C-926-301E-500 3 Pair, 8 Column Differential Backplane Module, Thick Wall
 - C-926-301J-500 3 Pair, 4 Column Differential Backplane Module, Thick Wall
 - 2.6 XCede HD PLUS 4 Pair Backplane With Extra Ground Customer Use Drawings
 - C-926-401C-500 4 Pair, 6 Column Differential Backplane Module, Thick Wall
 - C-926-401E-500 4 Pair, 8 Column Differential Backplane Module, Thick Wall
 - C-926-401J-500 4 Pair, 4 Column Differential Backplane Module, Thick Wall
 - C-926-403C-500 4 Pair, 6 Column Differential Backplane Module, with cross shield
 - C-926-403E-500 4 Pair, 8 Column Differential Backplane Module, with Cross shield
 - C-926-403J-500 4 Pair, 4 Column Differential Backplane Module, with Cross shield
 - 2.7 XCede HD PLUS 6 Pair Backplane With Extra Ground Customer Use Drawings
 - C-926-601C-500 6 Pair, 6 Column Differential Backplane Module, Thick Wall
 - C-926-601E-500 6 Pair, 8 Column Differential Backplane Module, Thick Wall
 - C-926-601J-500 6 Pair, 4 Column Differential Backplane Module, Thick Wall
 - C-926-603C-500 6 Pair, 6 Column Differential Backplane Module, with Cross shield
 - C-926-603E-500 6 Pair, 8 Column Differential Backplane Module, with Cross shield
 - C-926-603J-500 6 Pair, 4 Column Differential Backplane Module, with Cross shield
 - 2.8 XCede HD2 3 Pair Backplane With Extra Ground Customer Use Drawings
 - C-972-301C-500 3 Pair, 6 Column Differential Backplane Module
 - C-972-301E-500 3 Pair, 8 Column Differential Backplane Module
 - C-972-301J-500 3 Pair, 4 Column Differential Backplane Module
 - 2.9 XCede HD2 4 Pair Backplane With Extra Ground Customer Use Drawings
 - C-972-401C-500 4 Pair, 6 Column Differential Backplane Module
 - C-972-401E-500 4 Pair, 8 Column Differential Backplane Module
 - C-972-401J-500 4 Pair, 4 Column Differential Backplane Module
 - 2.10 XCede HD2 6 Pair Backplane With Extra Ground Customer Use Drawings
 - C-972-601C-500 6 Pair, 6 Column Differential Backplane Module
 - C-972-601E-500 6 Pair, 8 Column Differential Backplane Module
 - C-972-601J-500 6 Pair, 4 Column Differential Backplane Module
 - C-972-601G-500 6 Pair, 10 Column Differential Backplane Module
 - 2.11 XCede HD2 3 Pair Backplane Without Extra Ground Customer Use Drawings
 - C-972-302C-500 3 Pair, 6 Column Differential Backplane Module
 - C-972-302E-500 3 Pair, 8 Column Differential Backplane Module
 - C-972-302J-500 3 Pair, 4 Column Differential Backplane Module
 - 2.12 XCede HD2 4 Pair Backplane Without Extra Ground Customer Use Drawings
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C-972-402C-500 4 Pair, 6 Column Differential Backplane Module

C-972-402E-500 4 Pair, 8 Column Differential Backplane Module

C-972-402J-500 4 Pair, 4 Column Differential Backplane Module

2.13 XCede HD2 6 Pair Backplane Without Extra Ground Customer Use Drawings

C-972-602C-500 6 Pair, 6 Column Differential Backplane Module

C-972-602E-500 6 Pair, 8 Column Differential Backplane Module

C-972-602J-500 6 Pair, 4 Column Differential Backplane Module

2.14 XCede HD2 Plus 3 Pair Backplane With Extra Ground Customer Use Drawings

C-973-305C-500 3 Pair, 6 Column Differential Backplane Module, Lite

C-973-305E-500 3 Pair, 8 Column Differential Backplane Module, Lite

C-973-305J-500 3 Pair, 4 Column Differential Backplane Module, Lite

2.15 XCede HD2 Plus 4 Pair Backplane With Extra Ground Customer Use Drawings

C-973-405C-500 4 Pair, 6 Column Differential Backplane Module, Lite

C-973-405E-500 4 Pair, 8 Column Differential Backplane Module, Lite

C-973-405J-500 4 Pair, 4 Column Differential Backplane Module, Lite

2.16 XCede HD2 Plus 6 Pair Backplane With Extra Ground Customer Use Drawings

C-973-605C-500 6 Pair, 6 Column Differential Backplane Module, Lite

C-973-605E-500 6 Pair, 8 Column Differential Backplane Module, Lite

C-973-605J-500 6 Pair, 4 Column Differential Backplane Module, Lite

C-973-605G-500 6 Pair, 10 Column Differential Backplane Module, Lite

2.17 XCede HD Family Assembly Process Specification

TB-2252 XCede HD Family Backplane Installation Process

3.0 TOOLING

3.1 XCede HD & XCede HD2 Without Extra Ground Version Removal tools

PART NUMBER	DESCRIPTION
600-2295-000	3 PAIR x 4 POSITION 1.80mm PITCH
600-2295-000	3 PAIR x 6 POSITION 1.80mm PITCH
600-2295-000	3 PAIR x 8 POSITION 1.80mm PITCH
600-2296-000	4 PAIR x 4 POSITION 1.80mm PITCH
600-2296-000	4 PAIR x 6 POSITION 1.80mm PITCH
600-2296-000	4 PAIR x 8 POSITION 1.80mm PITCH
600-2323-000	6 PAIR x 4 POSITION 1.80mm PITCH
600-2323-000	6 PAIR x 6 POSITION 1.80mm PITCH
600-2323-000	6 PAIR x 8 POSITION 1.80mm PITCH
600-2294-000	SINGLE CONTACT KNOCKOUT TOOL ASSEMBLY
600-2496-000	DUAL SIGNAL PIN REMOVAL TOOL ASSEMBLY (1 PAIR)

3.2 XCede HD XCede HD PLUS & XCede HD2 With Extra Ground Version Removal tools

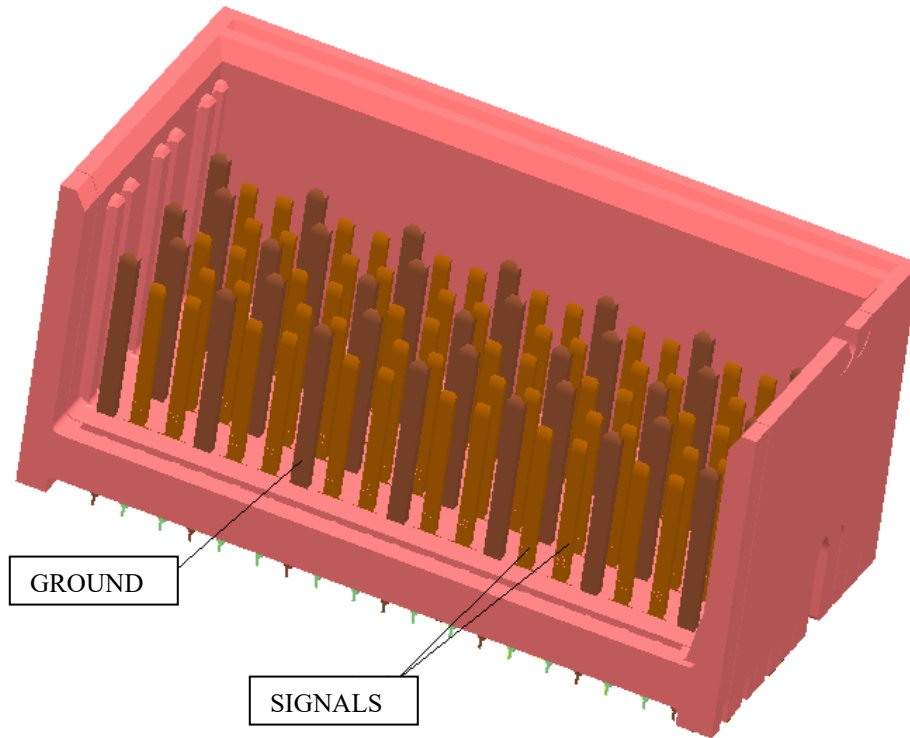
PART NUMBER	DESCRIPTION
600-2502-000	2 PAIR x 4 POSITION 1.80mm PITCH
600-2502-000	2 PAIR x 6 POSITION 1.80mm PITCH
600-2502-000	2 PAIR x 8 POSITION 1.80mm PITCH
600-2510-000	2 PAIR x 10 POSITION 1.80mm PITCH
600-2565-000	3 PAIR x 4 POSITION 1.80mm PITCH
600-2565-000	3 PAIR x 6 POSITION 1.80mm PITCH
600-2565-000	3 PAIR x 8 POSITION 1.80mm PITCH
600-2529-000	4 PAIR x 4 POSITION 1.80mm PITCH
600-2529-000	4 PAIR x 6 POSITION 1.80mm PITCH
600-2529-000	4 PAIR x 8 POSITION 1.80mm PITCH
600-2530-000	6 PAIR x 4 POSITION 1.80mm PITCH
600-2530-000	6 PAIR x 6 POSITION 1.80mm PITCH
600-2530-000	6 PAIR x 8 POSITION 1.80mm PITCH
600-2530-000	6 PAIR x 10 POSITION 1.80mm PITCH

3.3 Insertion Tools

600-2317-000	DUAL SIGNAL PIN HAND INSERTION TOOL ASSEMBLY (1 PAIR)
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4.0 METHODS

4.1 The XCede HD , XCede HD PLUS & XCede HD2 press-fit connector platform is designed with partial modular reparability. Signals are front (top) loaded and may be removed/replaced without removing module from circuit board. All grounds, are bottom loaded into module and cannot be individually removed from modules that are board mounted.



4.1.1 Backplane Signals

- Signal blades may be individually removed using miniature needle nose pliers. Serrated “gripping” features on the end of the pliers provide a significant advantage.
- Typical reasons for repair include bent blades, exposed base metal on contact or damage to top end of blade from mis-mating.

NOTE: UNDER NO CIRCUMSTANCES MAY A BACKPLANE SIGNAL BLADE BE USED AGAIN ONCE IT IS REMOVED.

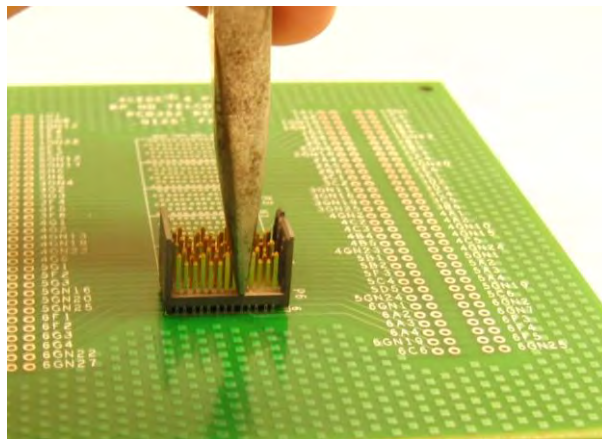
4.1.2 Backplane Grounds

Damaged grounds cannot be replaced individually on board mounted modules. A module removal tool will be needed to remove the module and contacts from the board. Removed modules, including all contacts, cannot be used again.

5.0 PROCEDURE

5.1 Backplane Signal Removal/Reinsertion (same for board mounted and free-standing assemblies)

- 5.1.1 Locate damaged signal blades within module. Signals are removed/inserted as pairs.
- 5.1.2 Remove defective signal pair by pulling straight up with needle nose pliers. Note contact orientation with gold side (mating side) of contact and presence of "L" and "R" symbols stamped onto mating side of contact. Be sure that both compliant pins also come out of the module/board. Verify that no damage is done to neighboring contacts during this process.

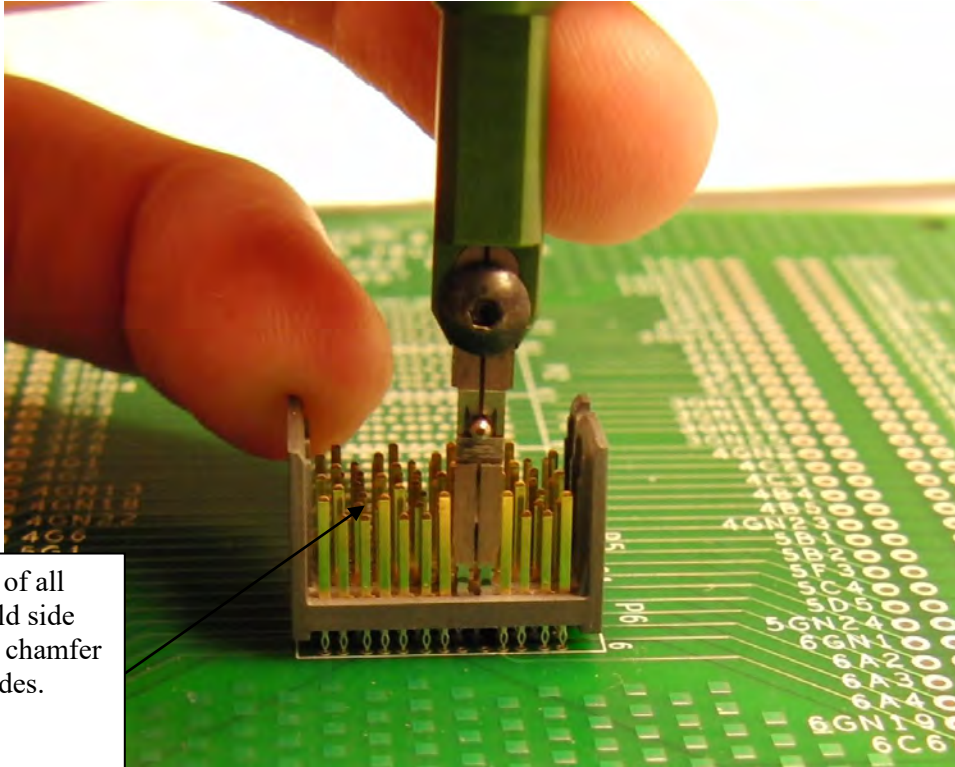


NOTE: UNDER NO CIRCUMSTANCES MAY A BACKPLANE SIGNAL BLADE BE USED AGAIN ONCE IT IS REMOVED FROM A MODULE OR BOARD.

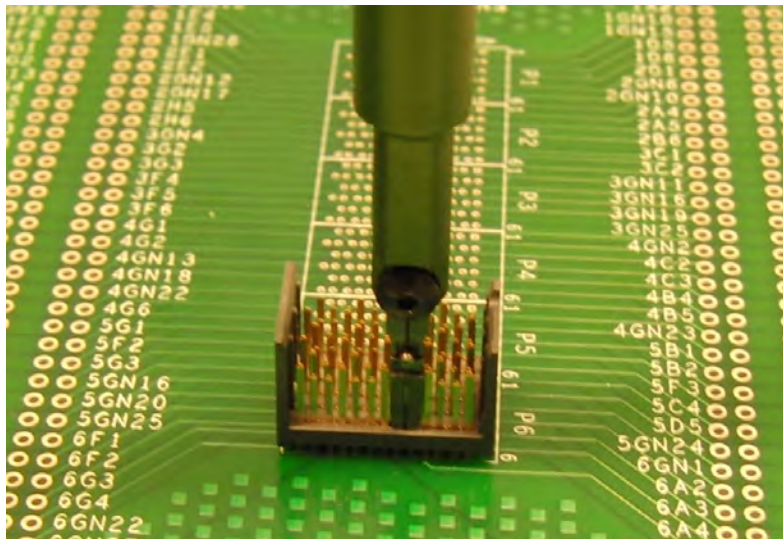
- 5.1.3 Load loose pieced signals from repair kit into signal pair inserter. Note: location of "L" and "R" and mating side of contact must match orientation of contacts in module.

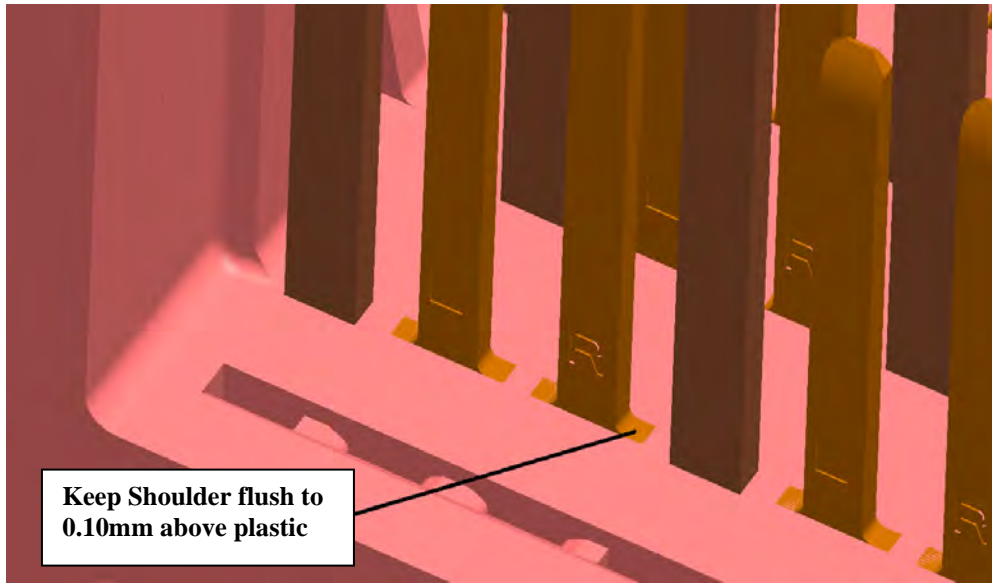


- 5.1.4 Align pair to empty coring in module and apply pressure downward. While holding tool vertical to module/board, tap tool with a small hammer to seat contacts into module/board.



Mating side of all contacts, gold side with lead-in chamfer at top of blades.





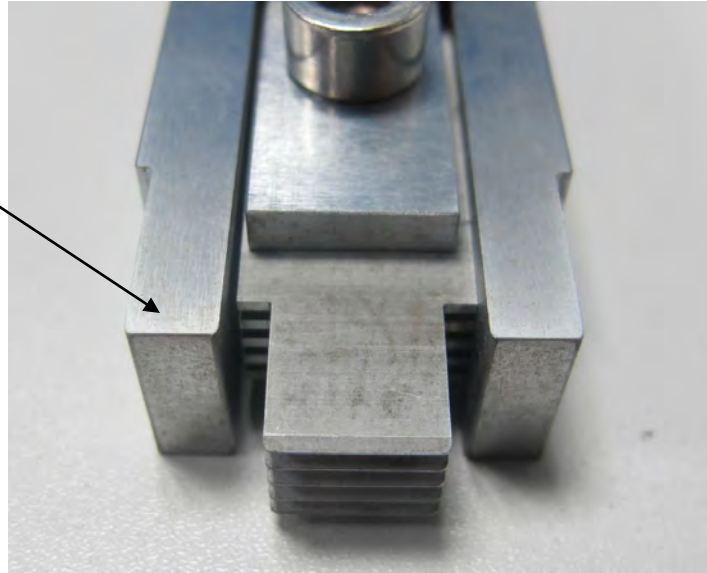
- 5.1.5 Inspect module/board under microscope for proper orientation of signal blades and proper seating height. Maximum shoulder height is 0.10mm above module surface.

5.2 Module Removal

The Module Removal Tool fits onto the outside of the shroud. Tightening the side screw, ensure the clamp hold the backplane blade well, while the C-frame put pressure on the board. The backplane module will start lifting the module off the board. Release the screw after off the boards, the module can be removed from the tool.

- Step 1. Locate the Module Removal Tool for the proper family size (3pair, 4pair, etc..). A 6 column removal tool will also work for an 4, 8 column module. There are also simplified tools for 24 column modules. Be sure there is enough room on either side of the board-mounted module sidewalls for the exterior standoffs.

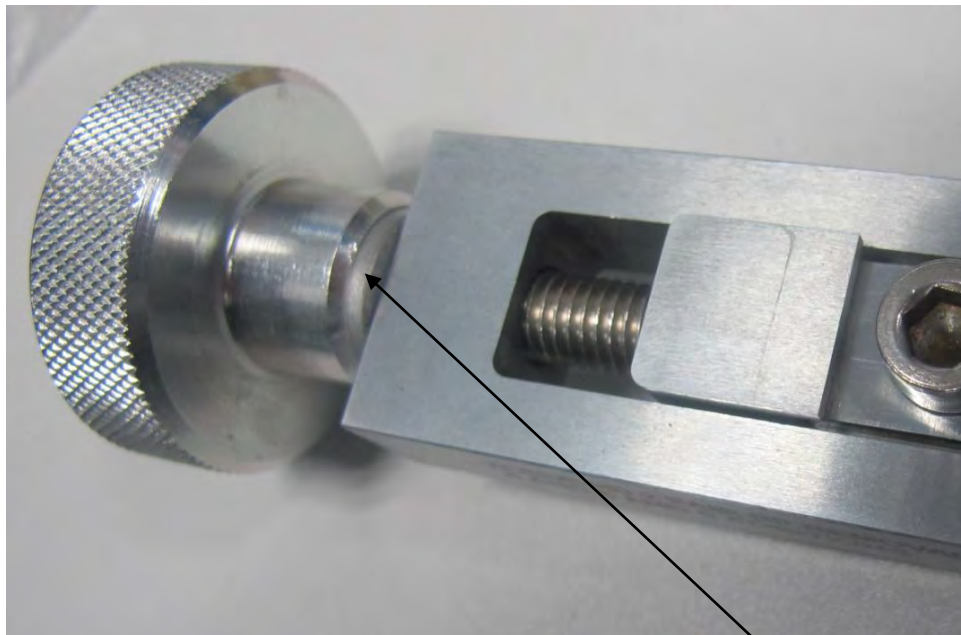
Typical standoff leg width is 5.08mm wide. This is the keepout zone as well.



Step 2. Be sure that the tool is set to the ready position by loosening the knob while pushing knob toward C-frame.



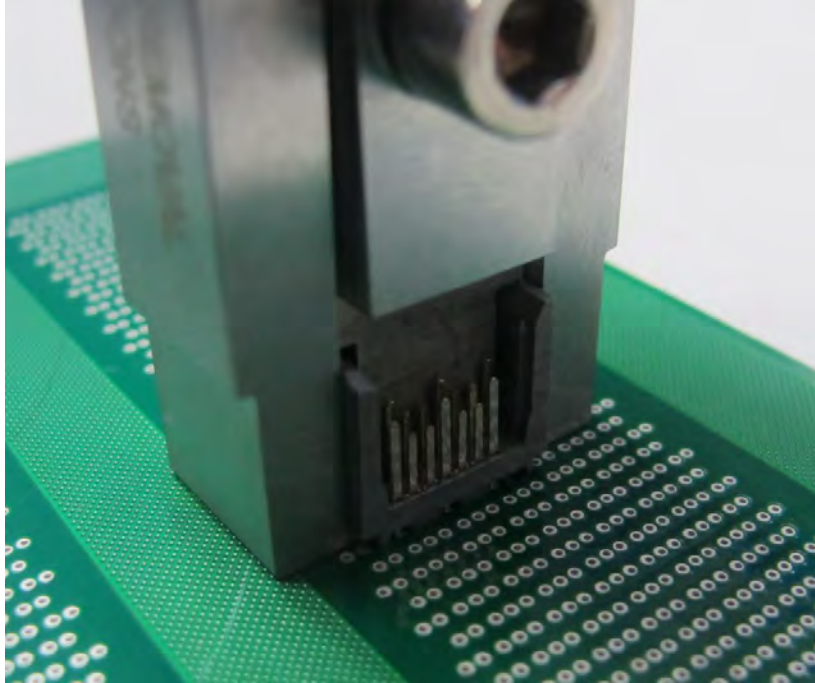
Feet on tool
will engage
into the
backplane
blade columns



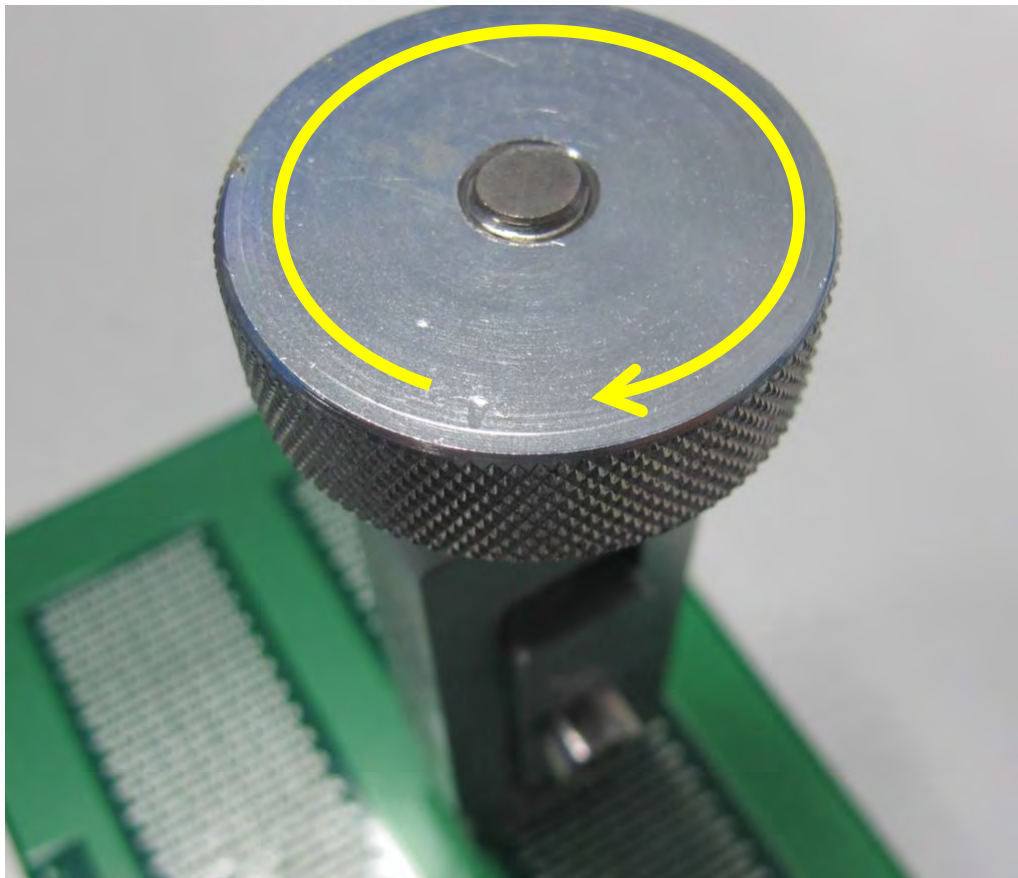
Tool is in ready position

Washer to maintain gap
between knob and C-frame

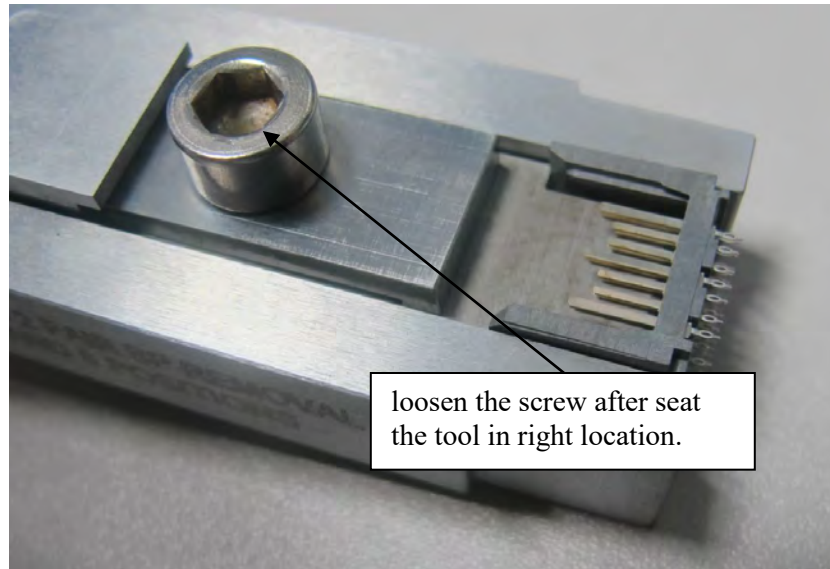
Step 3. Insert tool into module so the feet on the tool line up, tightening the side screw.



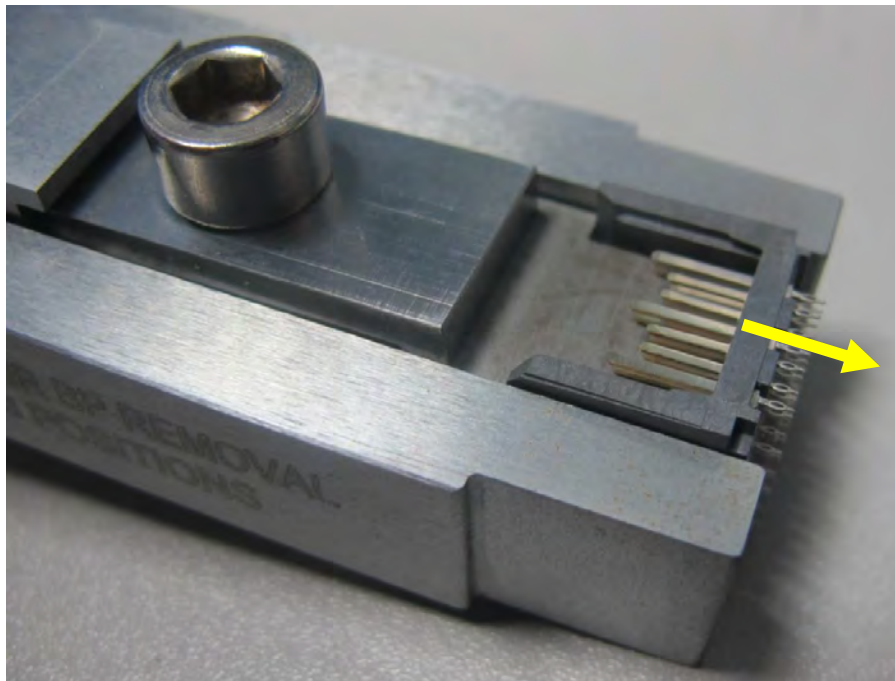
Step 4. The module is now clamped in the tool. Start turning knob clockwise.



Step 5. Keep turning knob till the module is lifted from the board. Then



Step 6. Loosen screw. (Module will remain in place.)



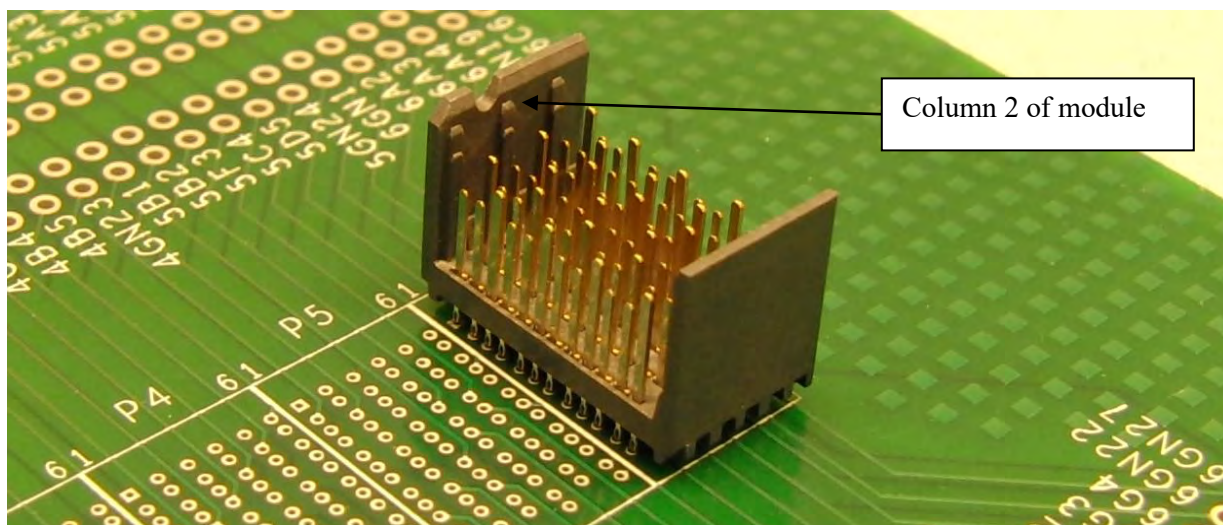
Step 7. Remove module by sliding out. Inspect module to be sure that all components have been removed from board with their respective compliant pins. If any blades are left in the board, remove them individually with needle nose pliers, being sure that no compliant pins are broken off and left in board.



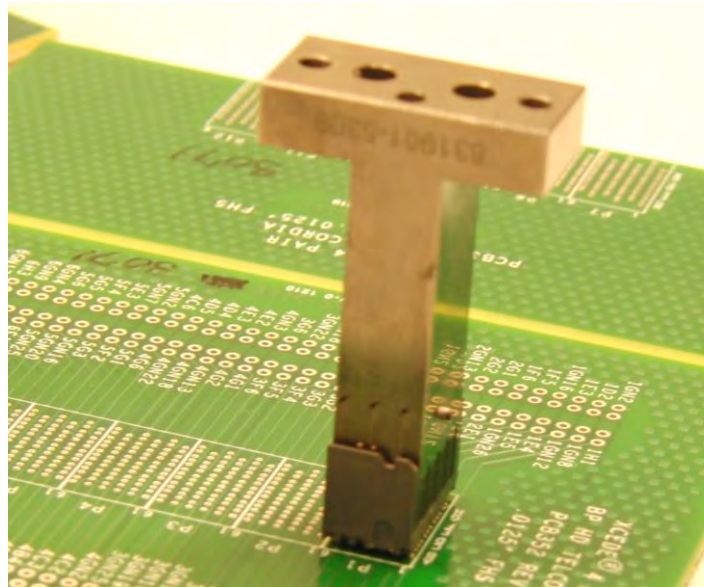
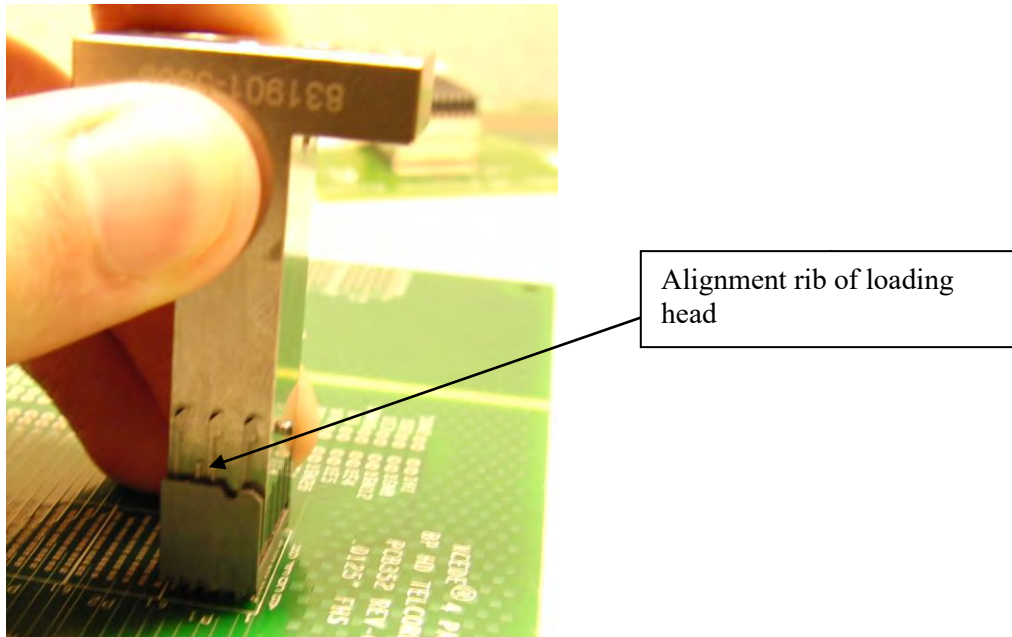
NOTE: UNDER NO CIRCUMSTANCES MAY A BACKPLANE MODULE OR IT'S COMPONENTS BE USED AGAIN ONCE IT IS REMOVED FROM A MODULE OR BOARD.

5.3 Module Reinsertion Into Board

5.3.1 Place new module onto board.



5.3.2 Insert loading head into pin field, aligning rib of tool to column "2" of module.



5.3.3 Seat module into board per TB-2252 guidelines.

5.3.4 Verify all components are present without defects.