

# ModICE Modular Integrated Connector Enclosure

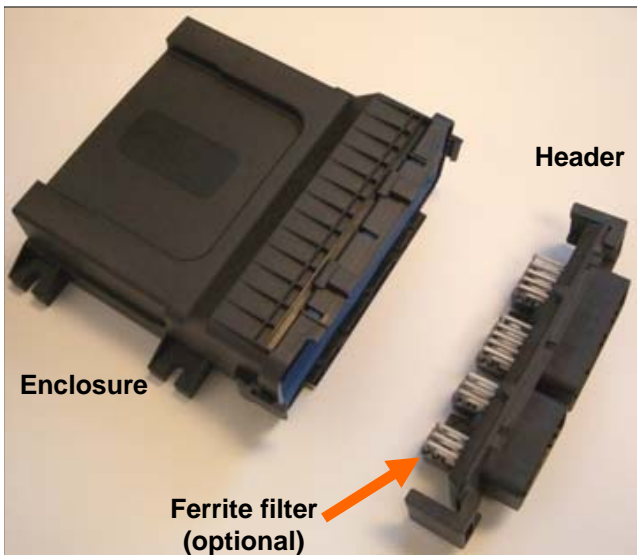
**Enclosure Assembly Instructions**

**Assembly and Opening Tools**



For technical or ordering information relating to this product, contact Cinch Transportation Marketing Department at 630-705-6031 or consult our website at [www.cinch.com](http://www.cinch.com)

## Introduction



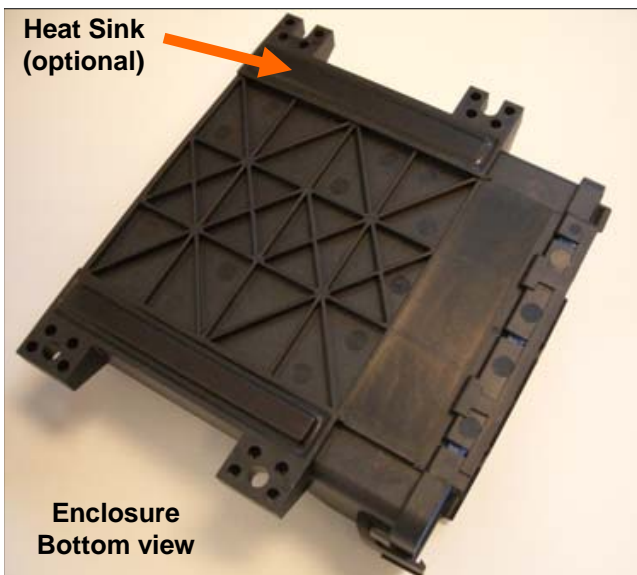
The ModICE connector enclosure system is available in 2 sizes and various pin counts :

- Small Enclosure : SE 18, 30 and 48 I/O
- Large Enclosure : LE 30, 48 and 60 I/O
- Blank face headers are also available for custom interconnection.

Available options :

- Headers with ferrite filter
- Enclosure with 1 or 2 heat sink

The assembly process is identical for all header sizes.

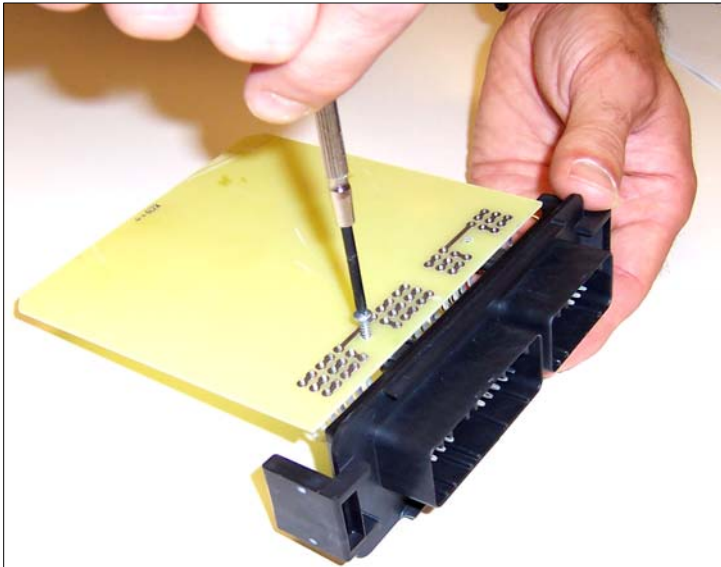


The heat sink feature requires additional steps in the assembly of the printed circuit board.

**Unless otherwise noted, the following instructions apply to both the SE and LE enclosure systems.**



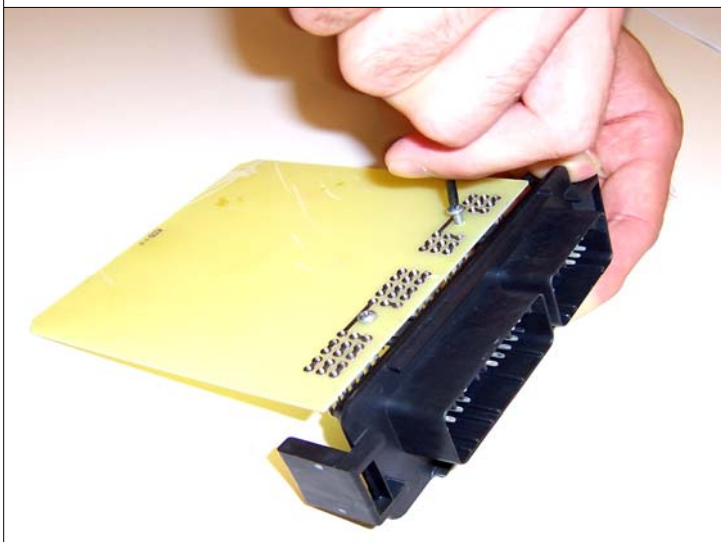
## Mount Header to Printed Circuit Board



Headers must be secured to the board with 2 screws

- #4 self-tapping screws
- Torque : 2-3 in-lbs (0.23-0.34 Nm)

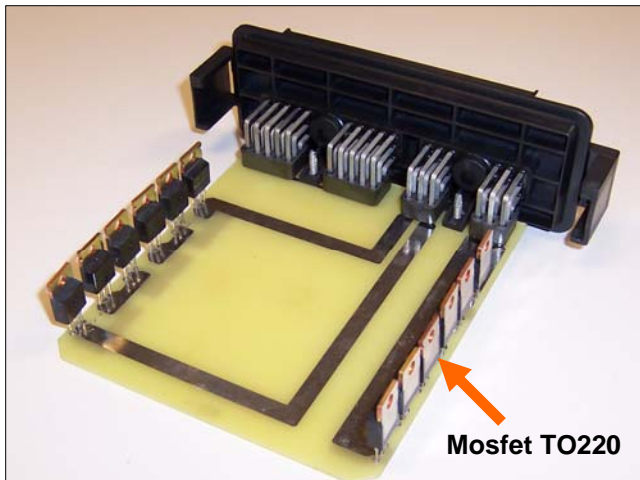
Refer to Cinch header drawings for board layout.



## Process Printed Circuit Board

Protect header functional areas from conformal coating.  
Refer to Cinch header drawings for protection of heat sink spring plate mounting slots.

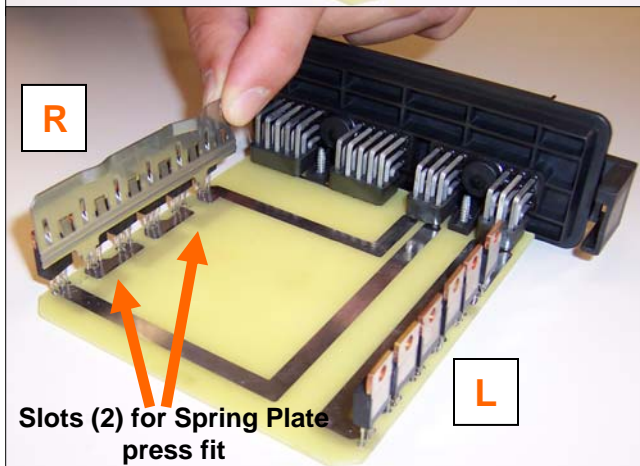
## Heat Sink Option



Install heat sink spring plates after printed circuit board has been processed.

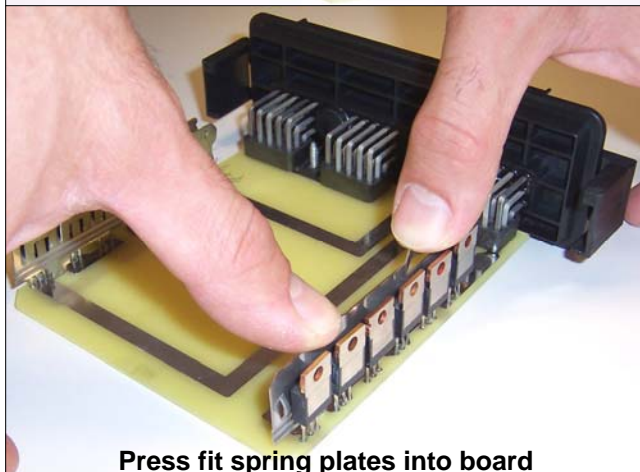
Spring plates and thermally conductive adhesive paste are necessary to guarantee proper heat conduction through the heat sinks; Cinch recommends Loctite 383.

Spring plates are marked "R" and "L" and need be installed as indicated.



When using a one (1) heat sink enclosure, use spring plate "R" only.

Refer to Cinch header prints for specific board lay out and spring plate selection.

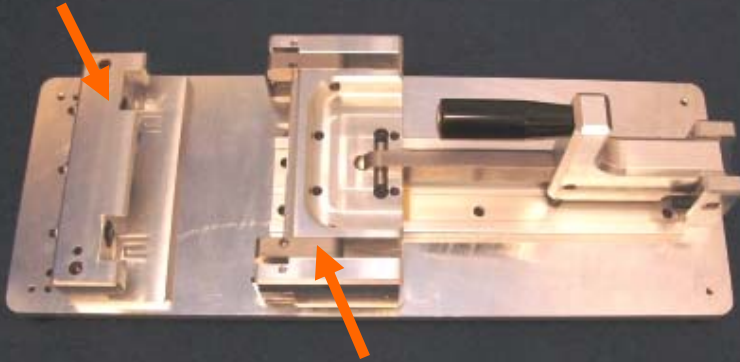




# ModICE Assembly Tool

## General

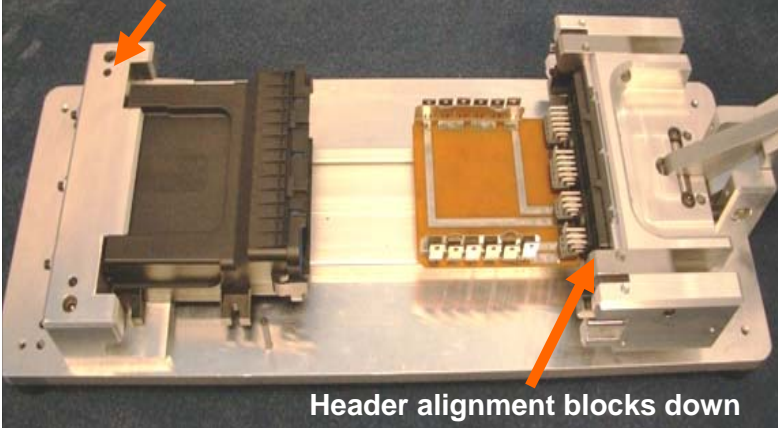
Adjustable Enclosure Holder



Adjustable Header Holder (SE position shown)

- Tool part number 599-11-11-650
- One tool used to assemble both ModICE SE and LE systems
- Simple settings to convert from SE to LE enclosure system

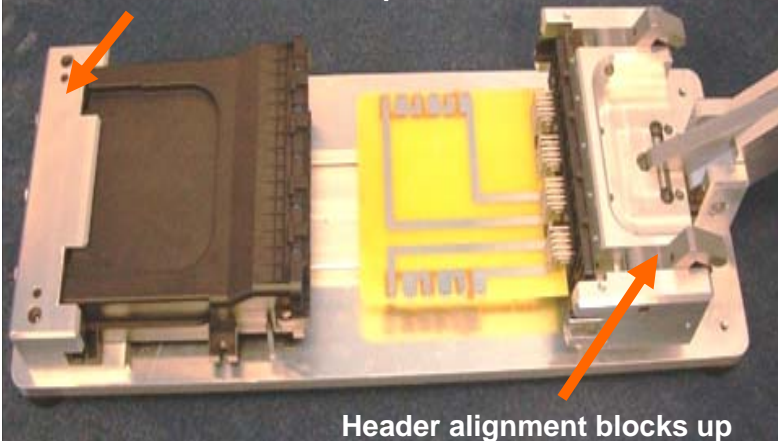
Enclosure Holder in SE position



Header alignment blocks down

## SE Setting

Enclosure Holder in LE position



Header alignment blocks up

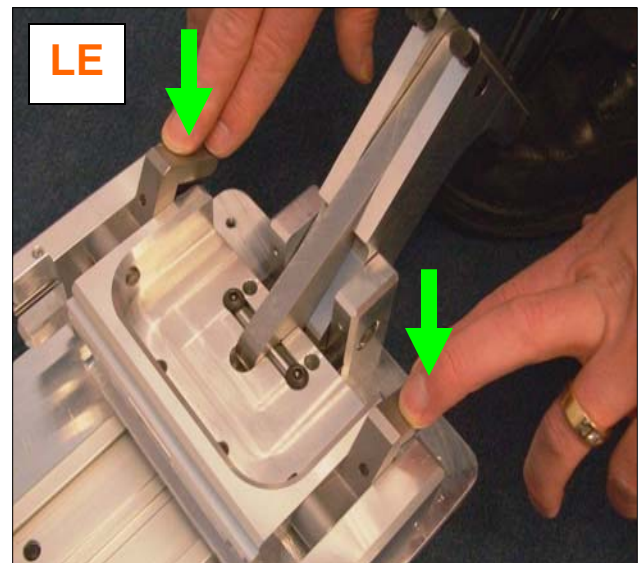
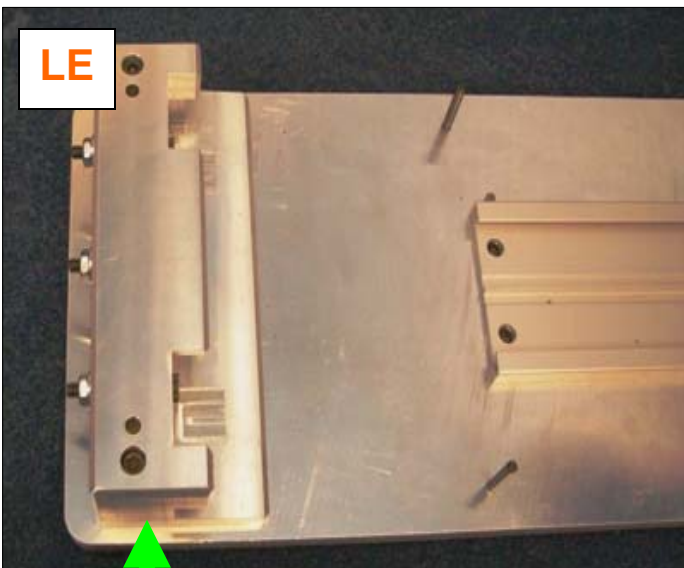
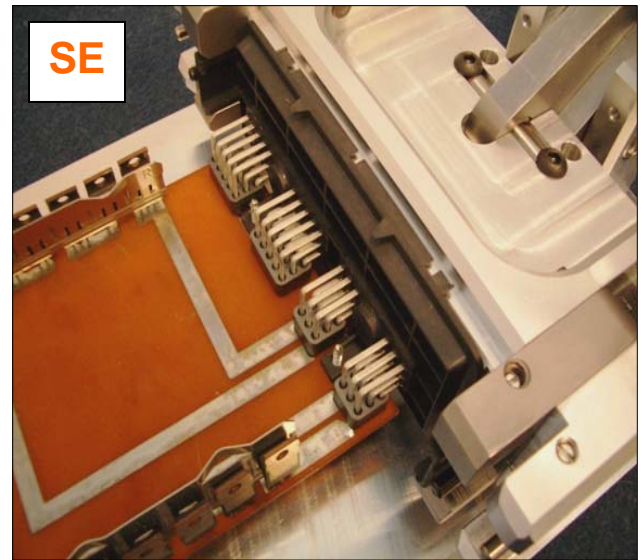
## LE Setting

# ModICE Assembly Tool

## Tool Settings for Small (SE) and Large (LE) Enclosure

### Enclosure Holder Settings

### Header Holder Settings

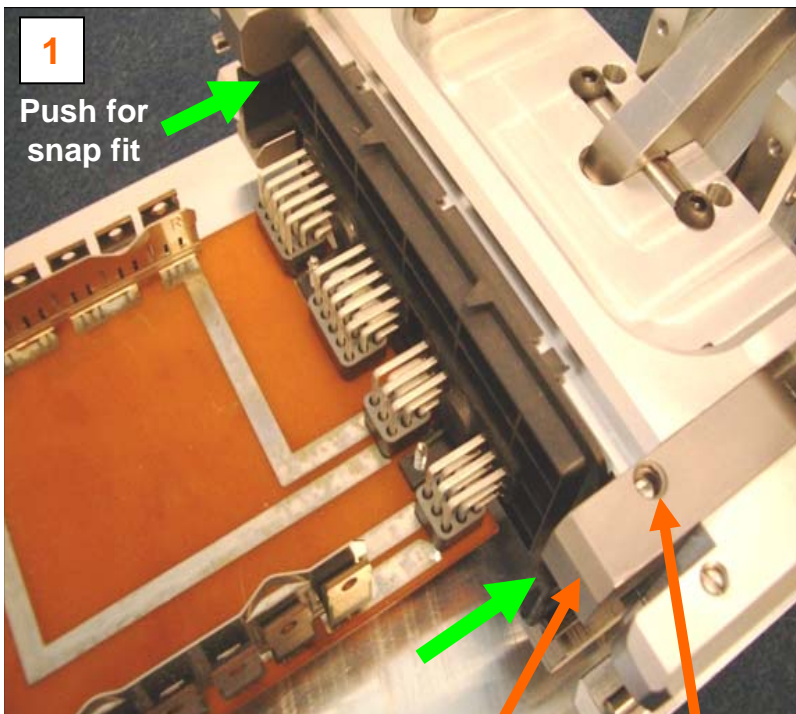


Move Enclosure Holder to the back position for the LE position

For LE setting, rotate and snap the two alignment blocks.

## ModICE Assembly Tool

## Loading of the Enclosure and Header

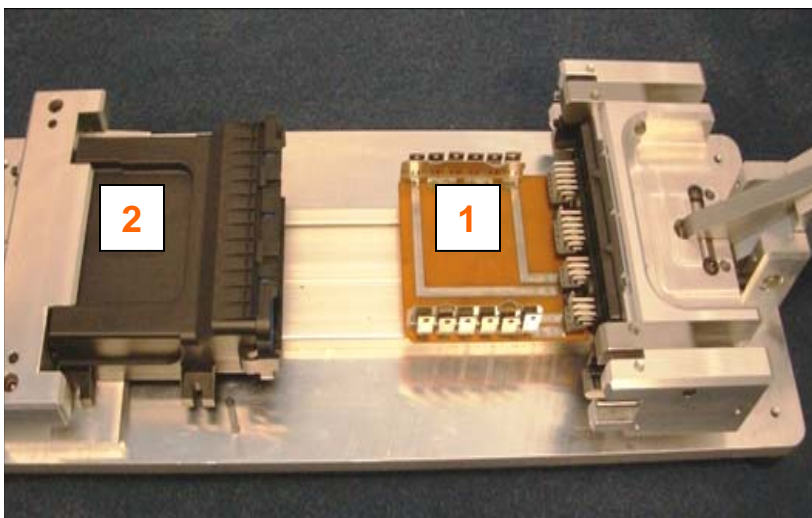


Alignment Block  
Spring plunger

1

### Load Header into the holder

- Open the press to load the header/PCB assembly
- Alignment blocks must be in the down position for SE headers (pic. shown)
  - Alignment blocks must be in the up position for LE headers (see previous page)
  - Slide Header into alignment blocks
  - Push header against the holder (snap fit retention by spring plunges)



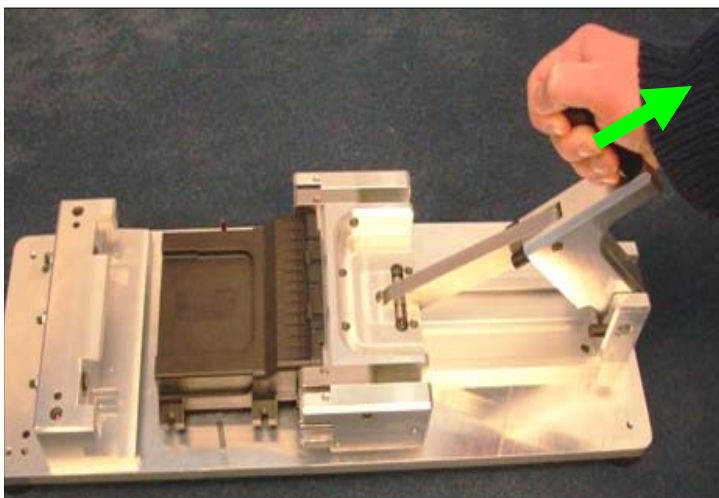
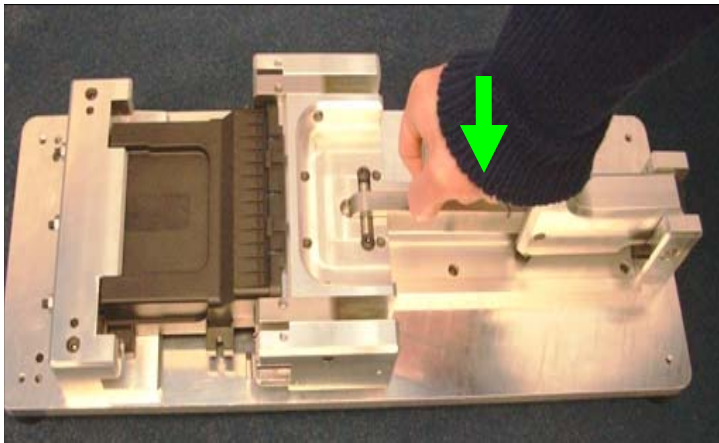
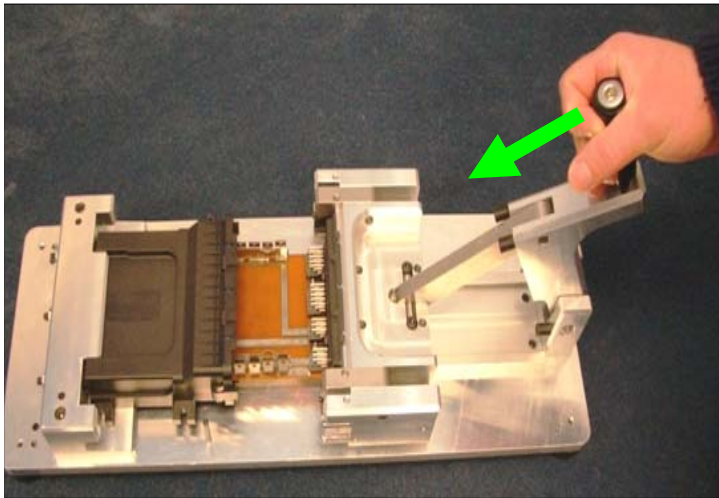
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### Load Enclosure into the holder

- Check SE / LE position on the previous page



## ModICE Assembly Tool



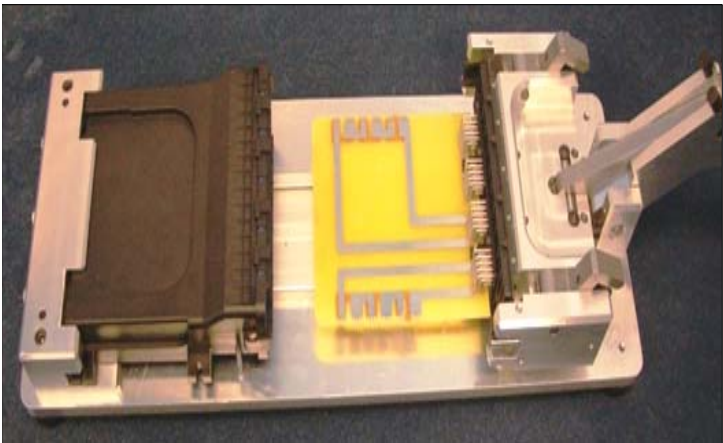
## ModICE SE Small Enclosure

- Install enclosure and header
- Activate lever to assemble header/PCB into the enclosure
- Push all the way down to close all latches (audible snaps)
- Pull back to open position to release the ModICE assembly from the press
- Verify that all latches are fully engaged



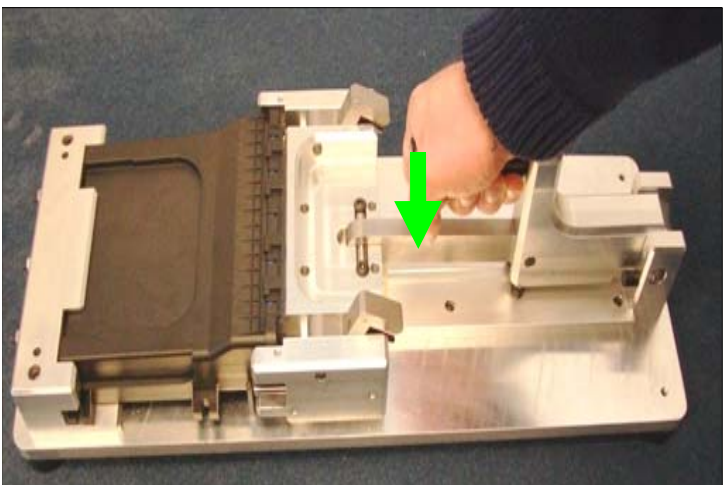
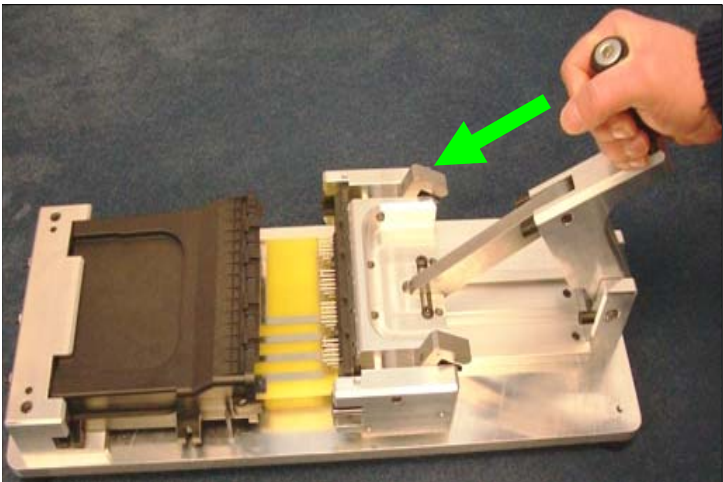


## ModICE Assembly Tool



### ModICE Large Enclosure

- Install enclosure and header
- Activate lever to assemble header/PCB into the enclosure
- Push all the way down to close all latches (audible snaps)
- Pull back to open position to release the ModICE assembly from the press
- Verify that all latches are fully engaged

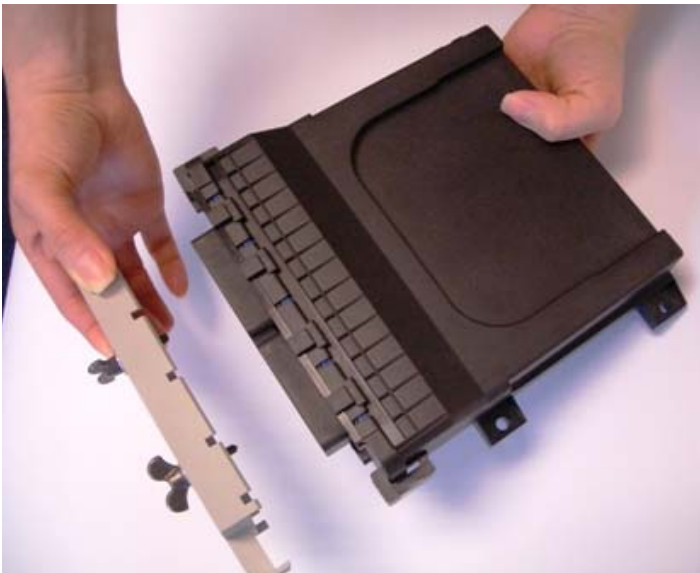


## ModICE Opening Tool



ModICE is designed to be tamper proof. Specific tools are required to open the enclosures.

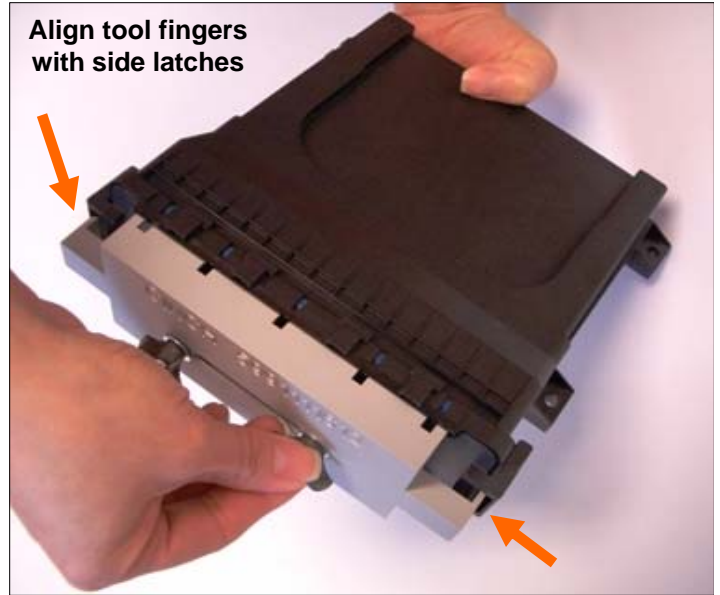
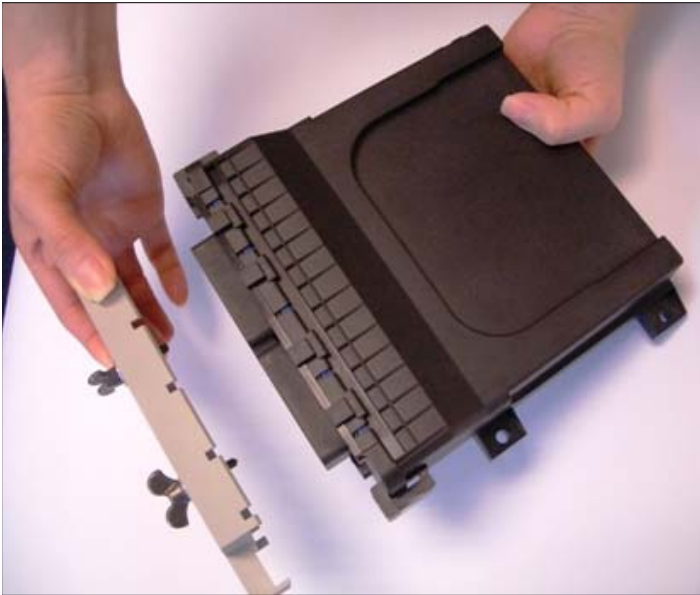
- Tool p/n 5991111611 – ModICE SE
- Tool p/n 5991111612 – ModICE LE



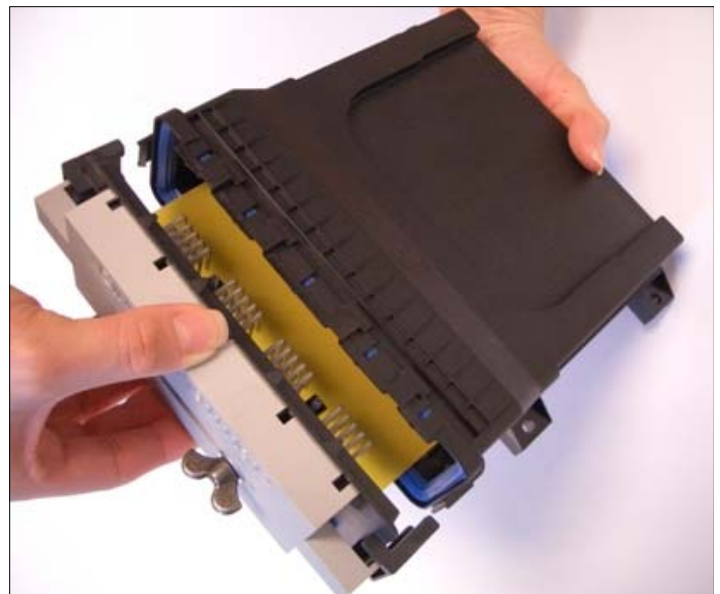
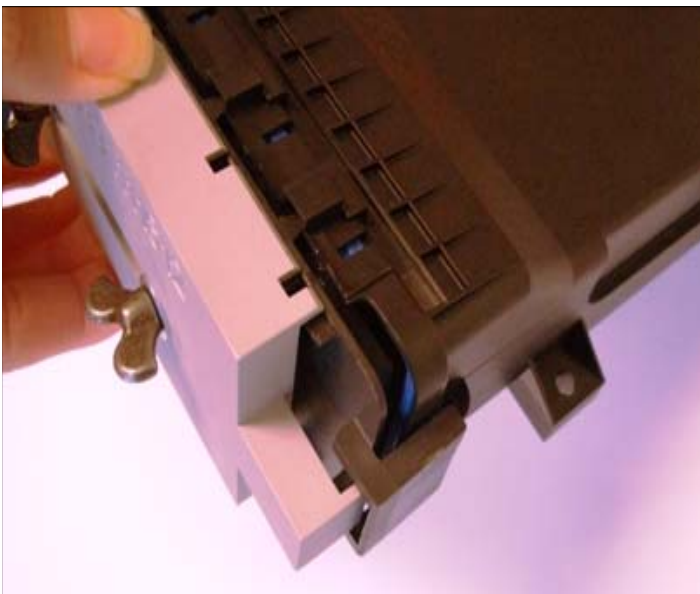
Any attempt to open an enclosure without the recommended tools may result in damaged parts that will affect the mechanical characteristics and the sealing of the enclosure.

## ModICE Opening Tool

### Instructions for headers with two connectors



- Position tool so that the screws capture both header bushings

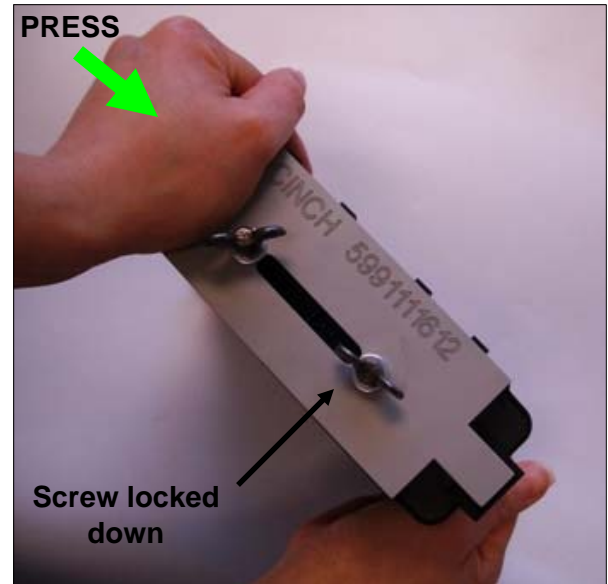
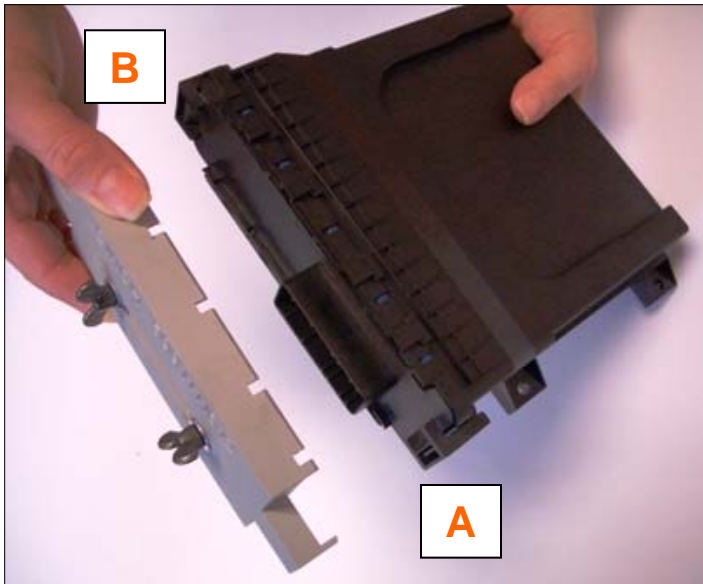


- Alternately tighten each screw evenly until tool releases the header from the enclosure,
- Both side latches must be unlocked (audible snaps) to release the header,
- Pull tool straight out to remove the header/PCB from the enclosure.

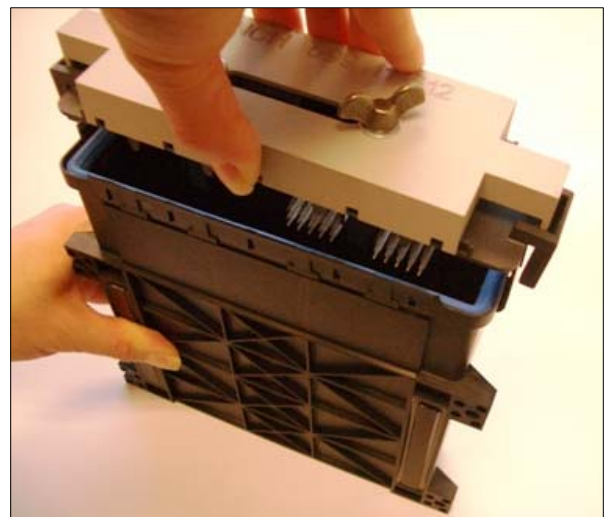


## ModICE Opening Tool

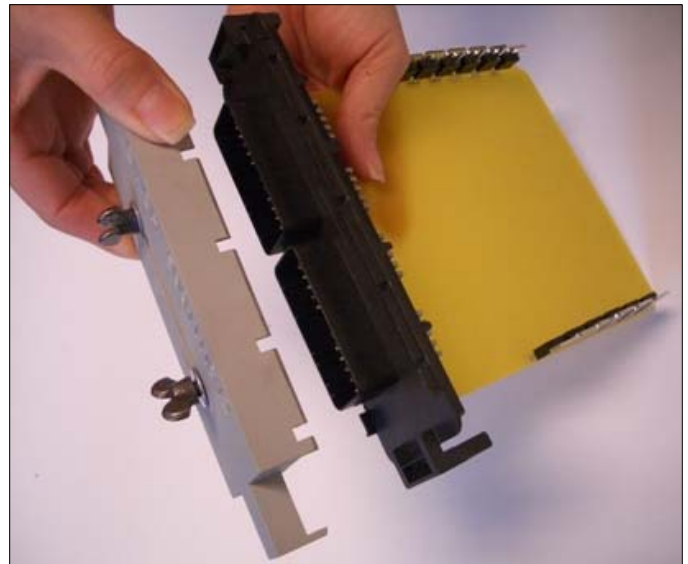
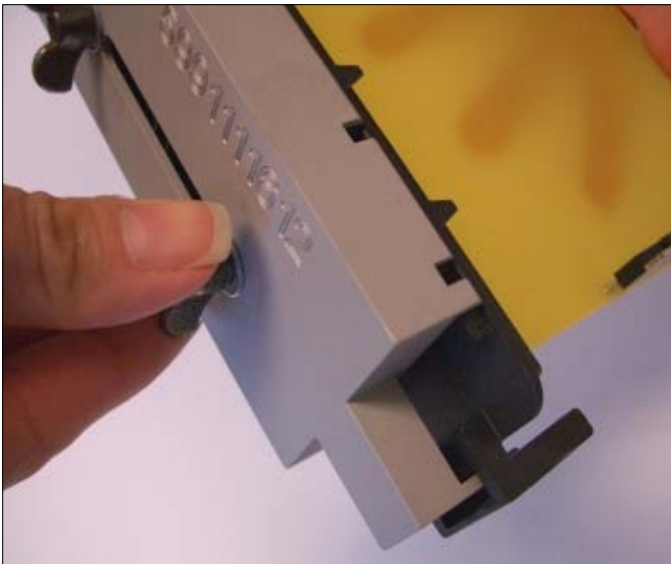
### Instructions for headers with only one connector



- Position tool so that the screw captures the header bushing,
- Tighten screw all the way down to release side latch A (audible snap),
- On a flat surface, press on opposite side of the tool to release latch B,
- Header will pop open,
- Pull tool straight out to remove the header/PCB from the enclosure.

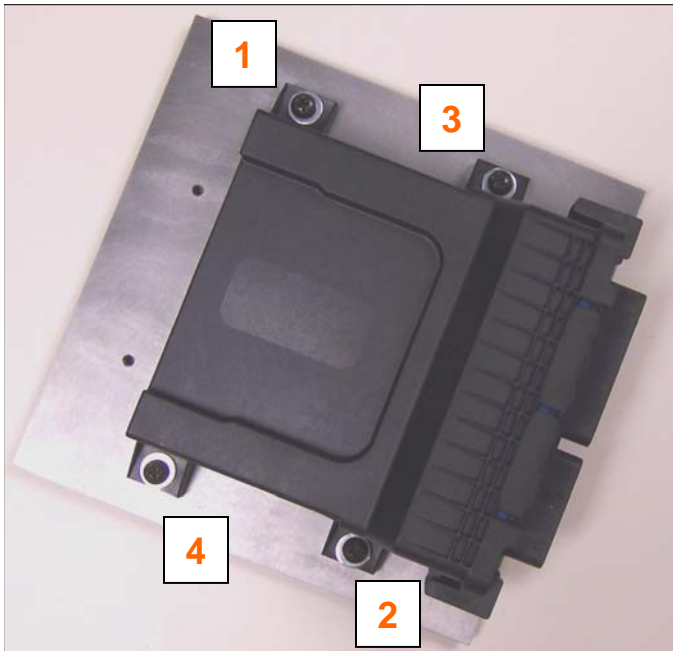


## ModICE Opening Tool



- Untighten screws to release the tool from the header

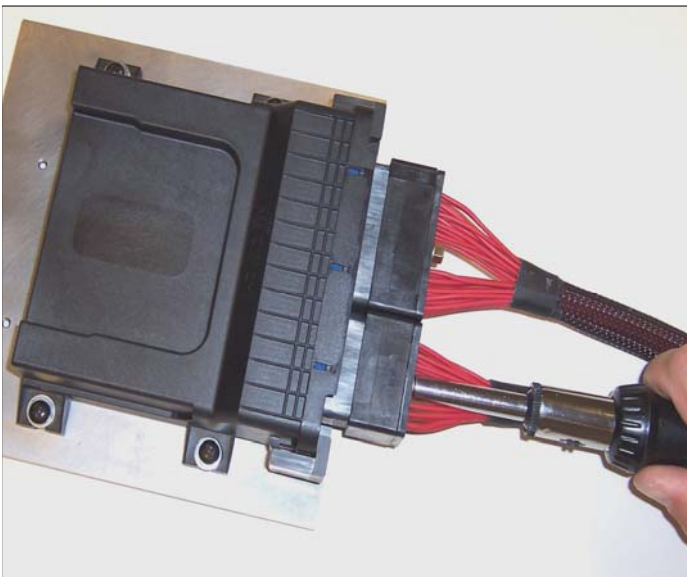
## Mounting of the Enclosure



Refer to Cinch enclosure drawings for details on mounting hole layout. Customer to select fastener type depending on mounting application.

- Fastening pattern : 1, 2, 3, 4.
- Torque : 10-12 in-lbs (1.13-1.36 Nm)

## Mating of the Harness with the Enclosure



Refer to Cinch SHS harness connector drawings and instructions for information on mating connectors.

- Torque : 15-20 in-lbs (1.70-2.26 Nm)