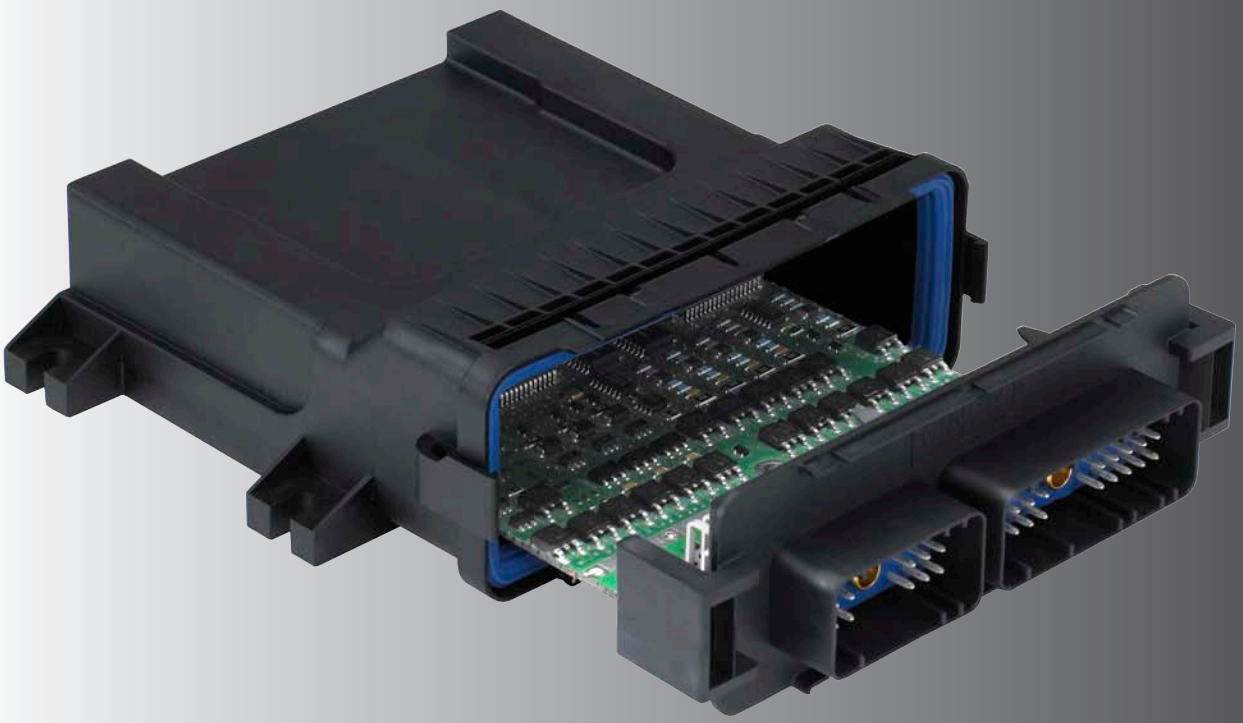
ModICE™ SE/LE

Enclosure Assembly Instructions

Assembly and Opening Tools



CINCH®

Introduction

This instruction manual applies to both the ModICE™ SE and LE enclosure systems.

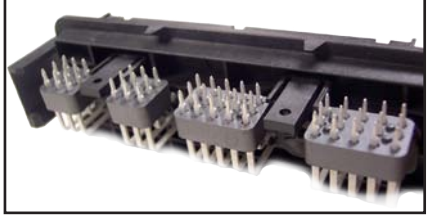
- Small Enclosure : SE 18, 30 and 48 I/O
- Large Enclosure : LE 30, 48 and 60 I/O
- Blank Headers are also available for specific customer applications

Available options:

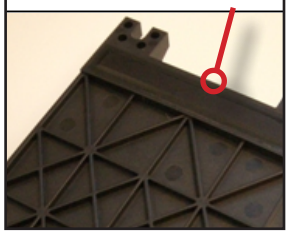
- Header with ferrite filter
- Enclosure with 1 or 2 heat sinks
- Enclosure with breather membrane

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

Ferrite filter (optional)



Heat Sink (optional)



Spring Plate for Heat Sink (optional)

For technical or ordering information on Transportation products, contact Cinch at 630-705-6000 or visit our website at www.cinch.com

© 2011 Cinch Connectors V2 10-2011

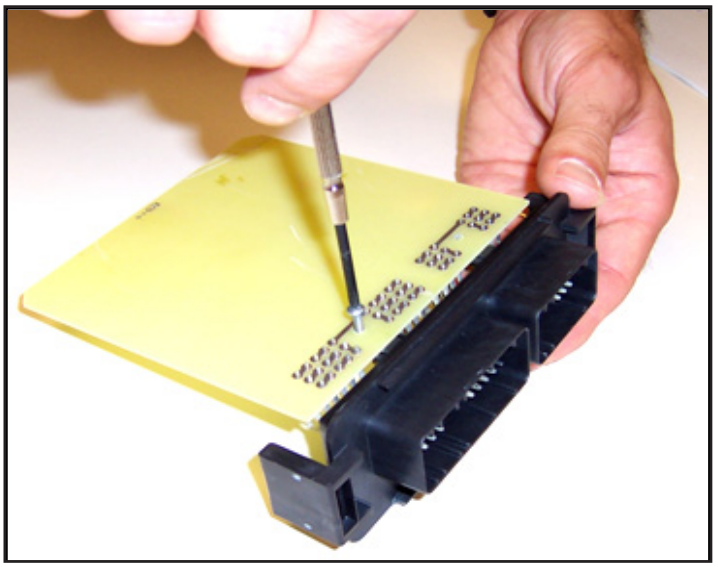
Printed Circuit Board Assembly

Refer to the Cinch Header drawings for board layout, keep out areas and component height restrictions

Secure Header onto the board

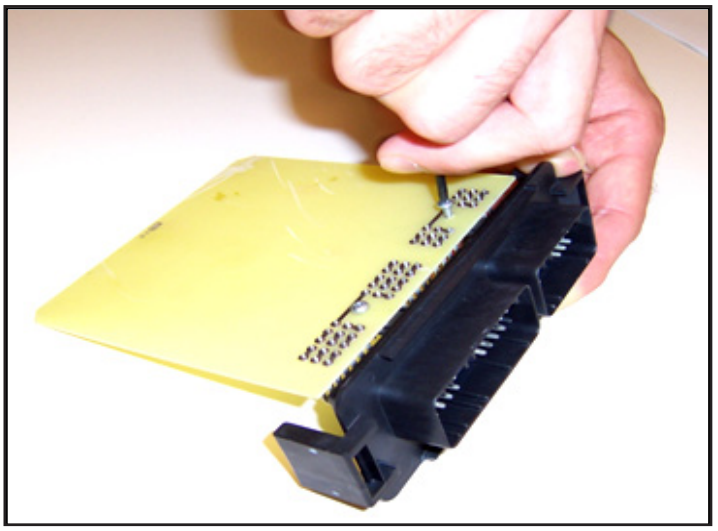
Headers must be secured to the board with 2 screws

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



Protect the Header functional areas from conformal coating.

Ferrites must be immobilized by using conformal coating or a bead of epoxy.

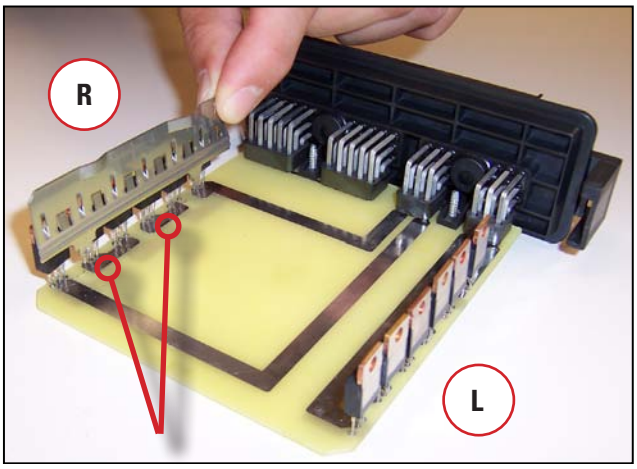


© 2011 Cinch Connectors V2 10-2011

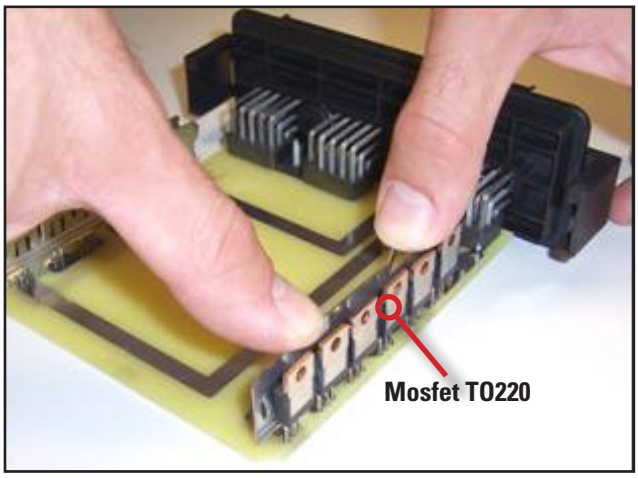
Heat Sink Option

Install heat sink spring plates

- Install the spring plates after the printed circuit board has been processed.
- Spring plates are marked “R” and “L” and must be installed as indicated.
- When using a one (1) heat sink, use spring plate “R” only.
- Spring plates and thermally conductive adhesive paste are necessary to guarantee proper heat conduction through the heat sinks;
  Cinch recommends Loctite 383.

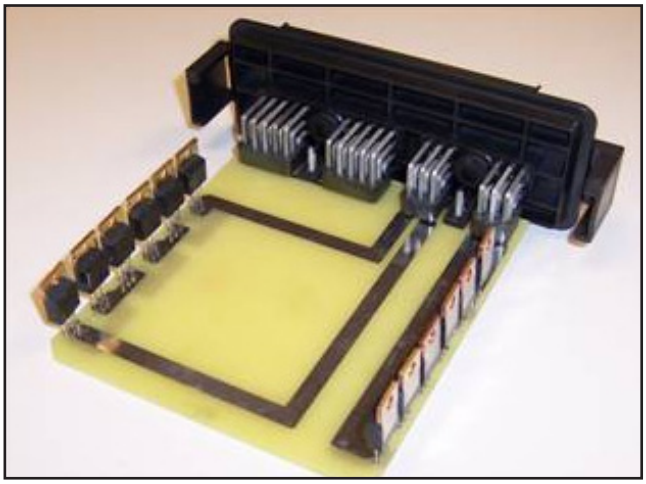


Slots (2) for Spring Plate press fit



Press fit spring plates into board

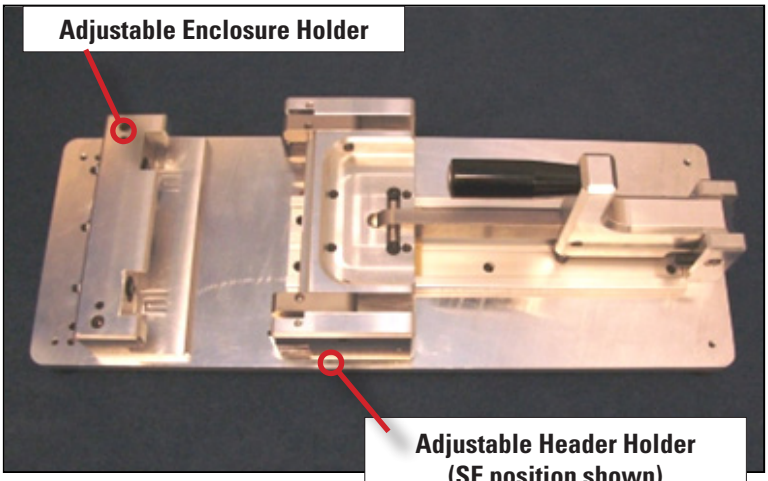
- Refer to Cinch header prints for specific board layout and spring plate selection.

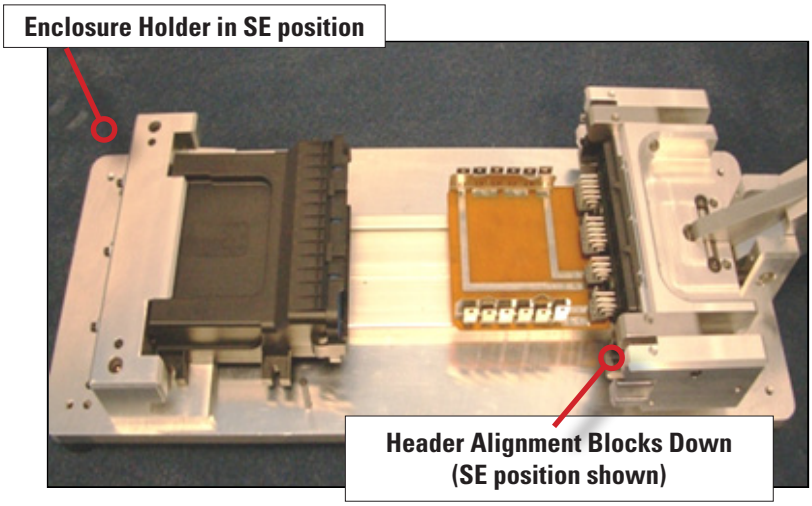


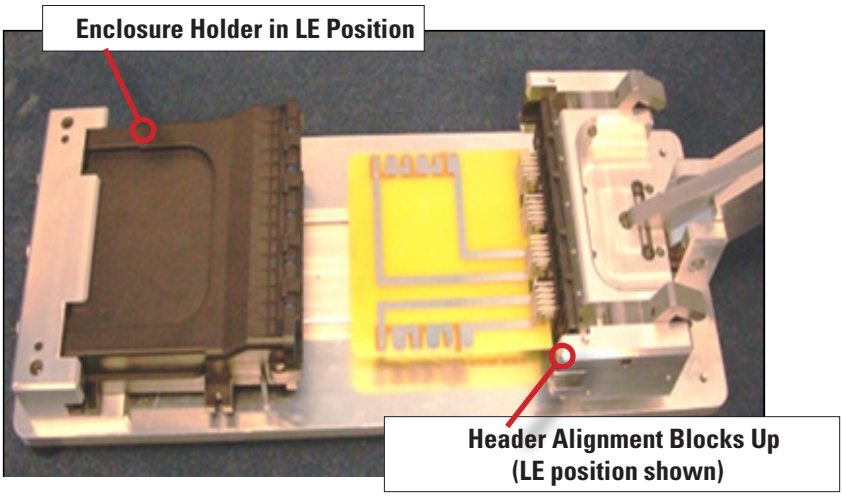
© 2011 Cinch Connectors V2 10-2011

ModICE™ Assembly Tool

- Tool p/n 5991111650
- The assembly tool is common to the ModICE SE and LE Enclosures
- Simple settings to convert from the SE to the LE size





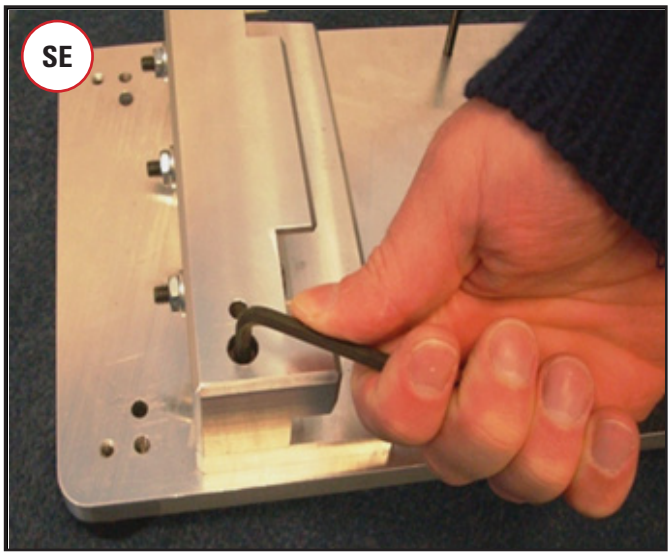


© 2011 Cinch Connectors V2 10-2011

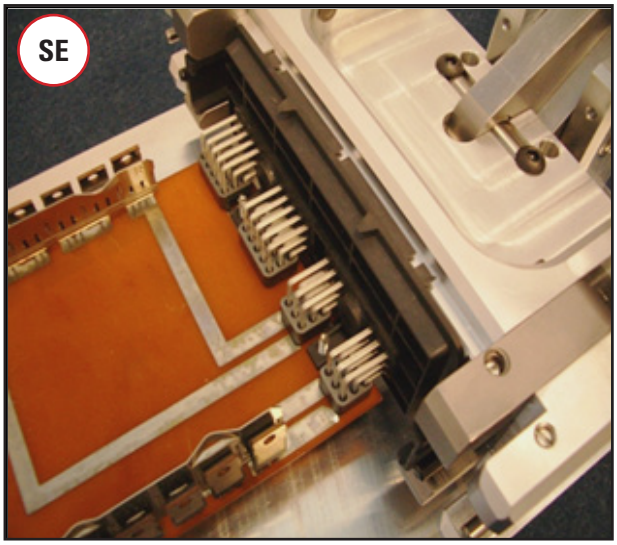
ModICE™ Assembly Tool

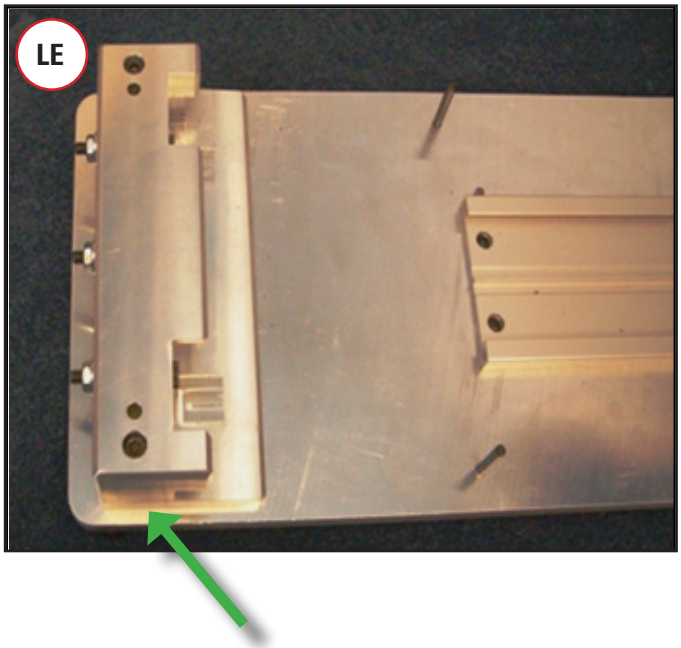
Tool Settings for Small (SE) and Large (LE) Enclosure

Enclosure Holder Settings

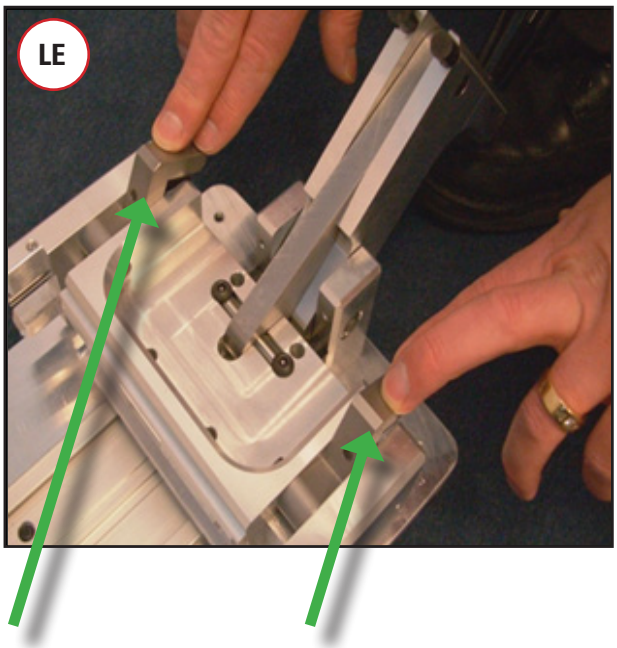


Header Holder Settings





Move Enclosure Holder to the back for the LE position



For LE setting, lift up the two alignment blocks

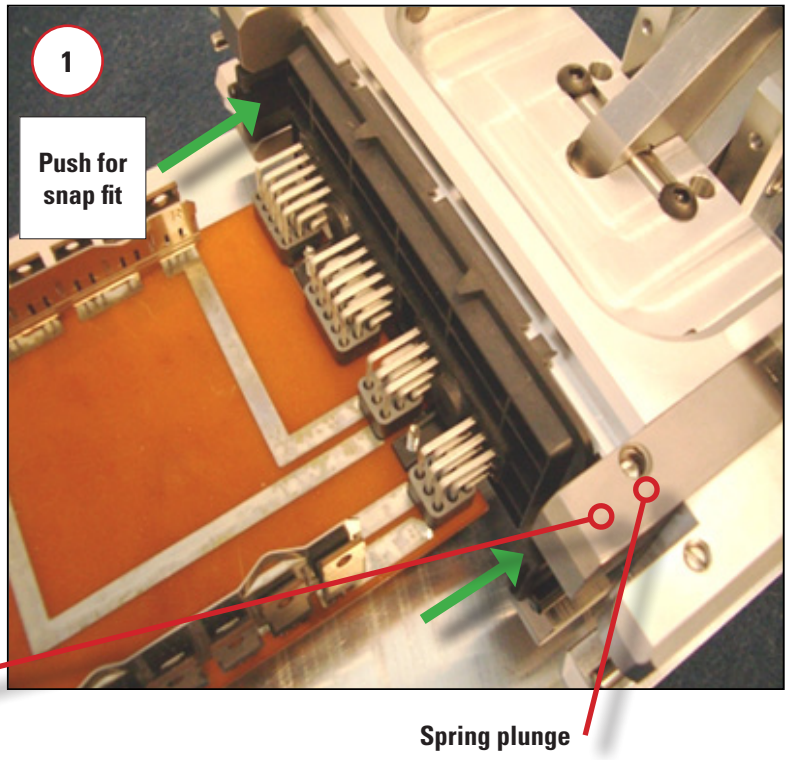
© 2011 Cinch Connectors V2 10-2011

ModICE™ Assembly

NOTE: Check gasket for proper alignment before assembly. Gasket should not be twisted or dislodged from corners during handling.

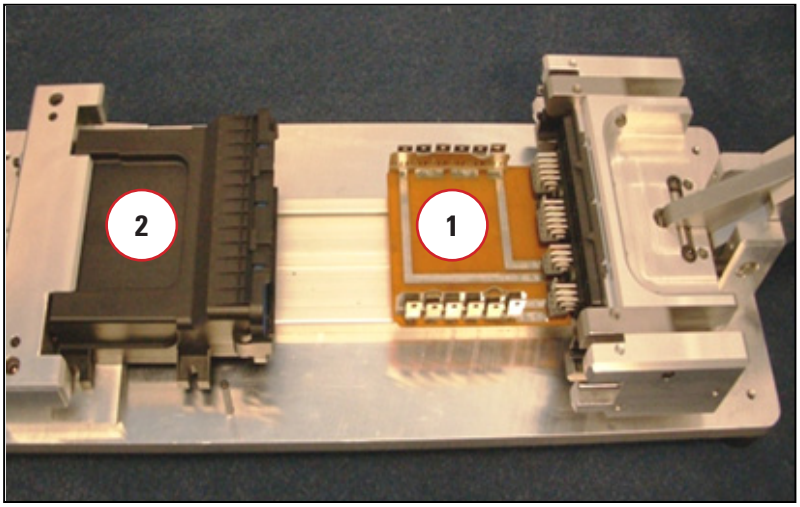
1 Load Header into the holder

- 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/Push the Header/PCB into the holder (snap fit retention by spring plunges)



2 Load Enclosure into the holder

- Check SE / LE position on the previous page

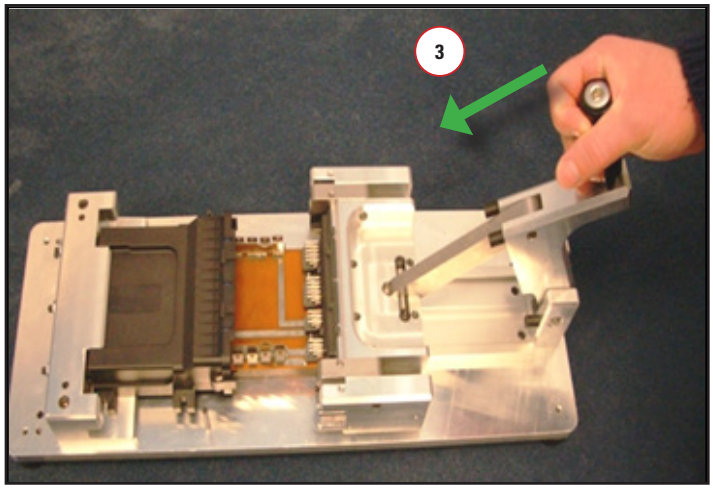


© 2011 Cinch Connectors V2 10-2011

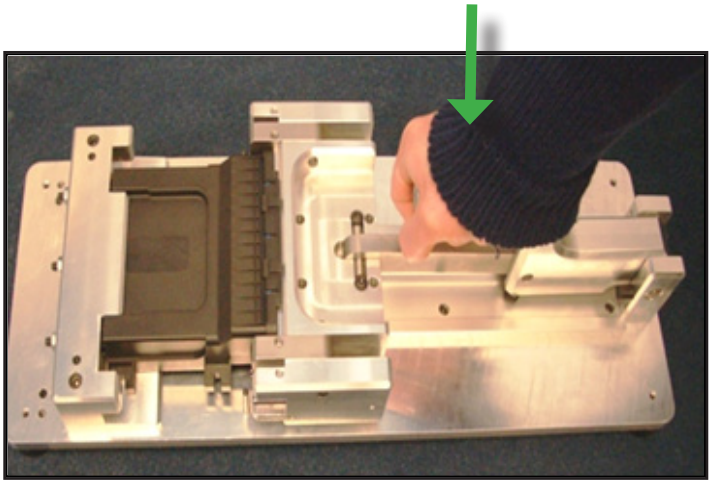
ModICE™ Assembly

3 Close the assembly tool

- Push lever to assemble
- Header/PCB into the Enclosure

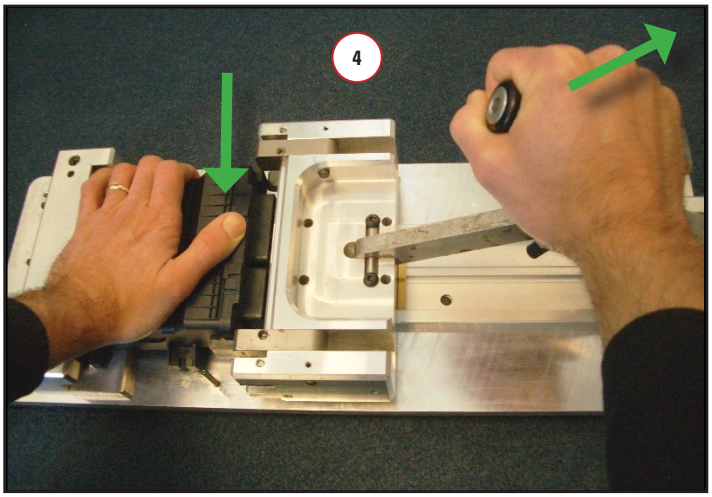


- Push all the way down to close the enclosure (audible snaps)



4 Open the assembly tool

- Hold the enclosure down while releasing the lever

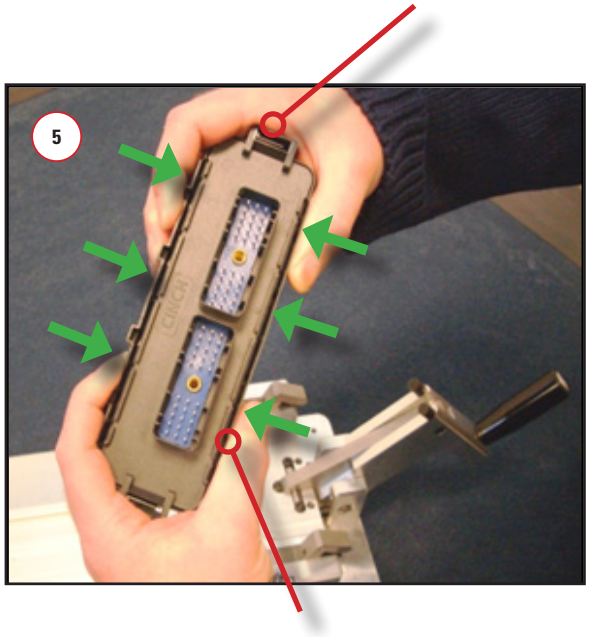


© 2011 Cinch Connectors V2 10-2011

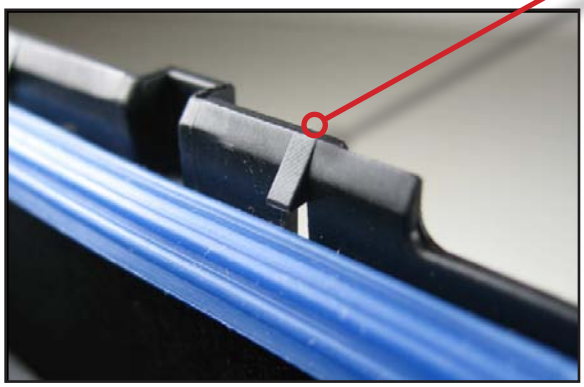
ModICE™ Assembly

5 Final inspection

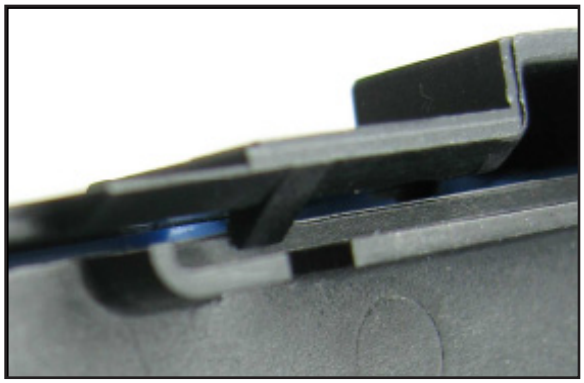
- Even if using the Cinch Assembly tool
- 100% visual inspection is required to verify proper engagement of all the locking tabs
- Manual engagement of the minitabs may be necessary to complete the assembly. Press the Enclosure over the Header so that all minitabs are engaged



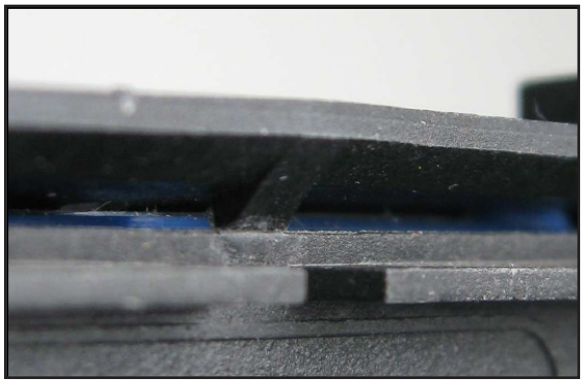
Mini locking tabs
x6 SE Enclosure
x10 LE Enclosure



Tab Engaged



Tab Not Engaged



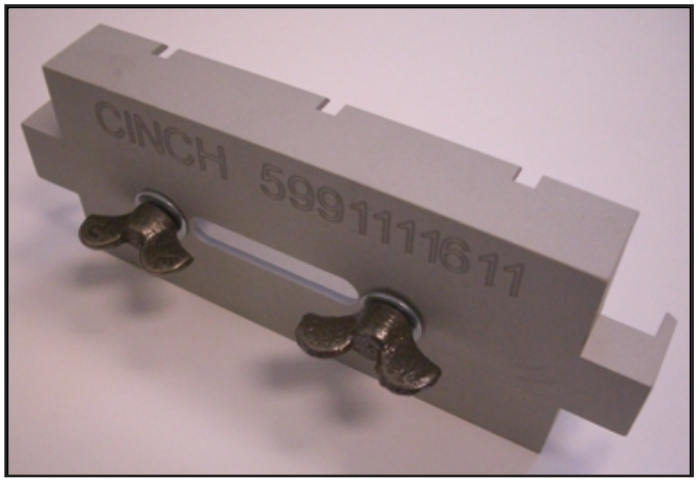
© 2011 Cinch Connectors V2 10-2011

ModICE™ Opening Tool

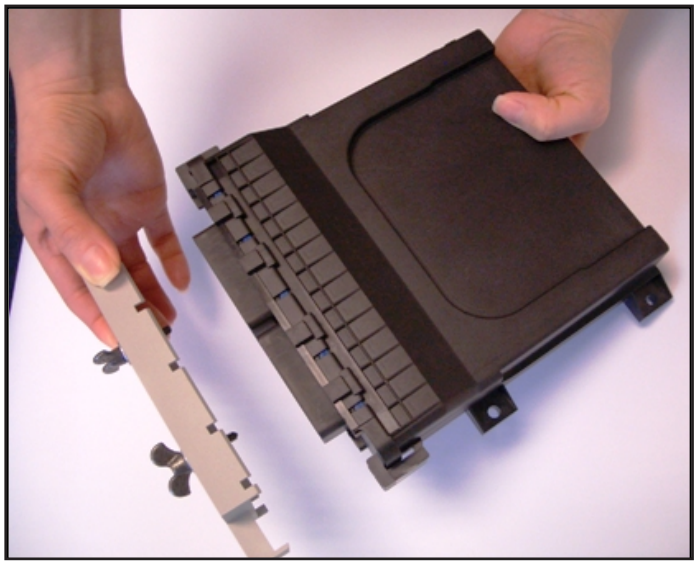
- Tool p/n 5991111611 – ModICE SE
- Tool p/n 5991111612 – ModICE LE

ModICE™ is designed to be tamper proof.

Specific tools are required to open the enclosures.



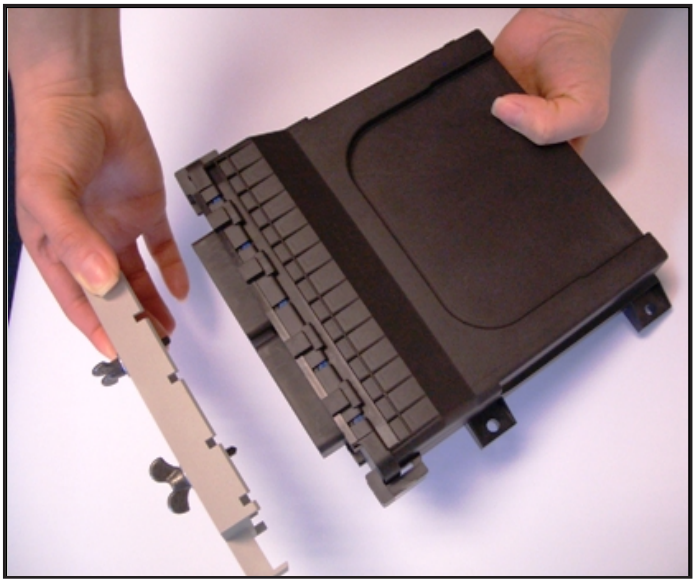
Any attempt to open an enclosure without the recommended tools may result in damaged parts that will affect the mechanical characteristics and the sealing of the enclosure.



© 2011 Cinch Connectors V2 10-2011

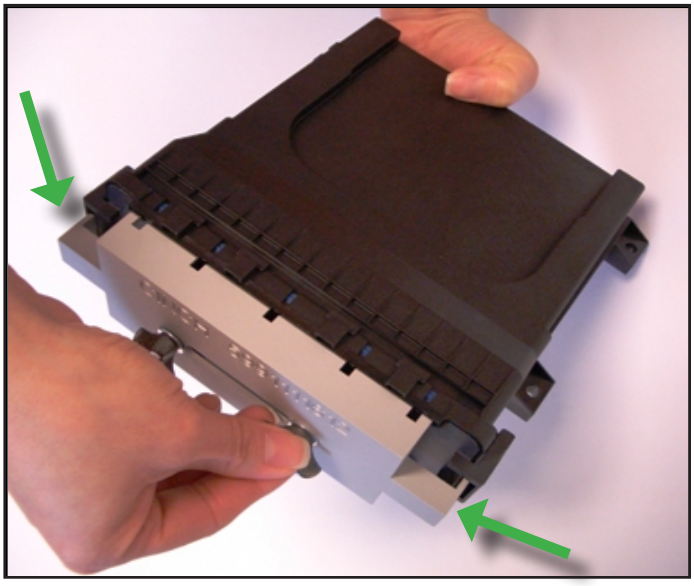
ModICE™ Opening

Instructions for headers with two connectors

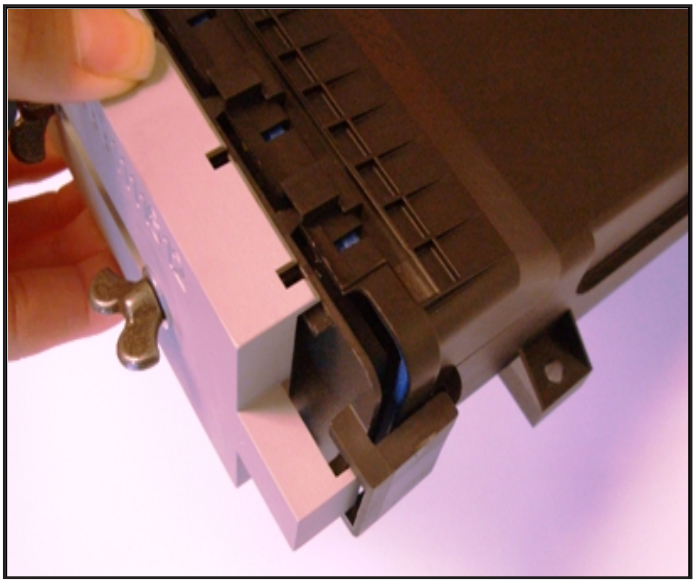


Position the tool so that the screws capture both Header bushings

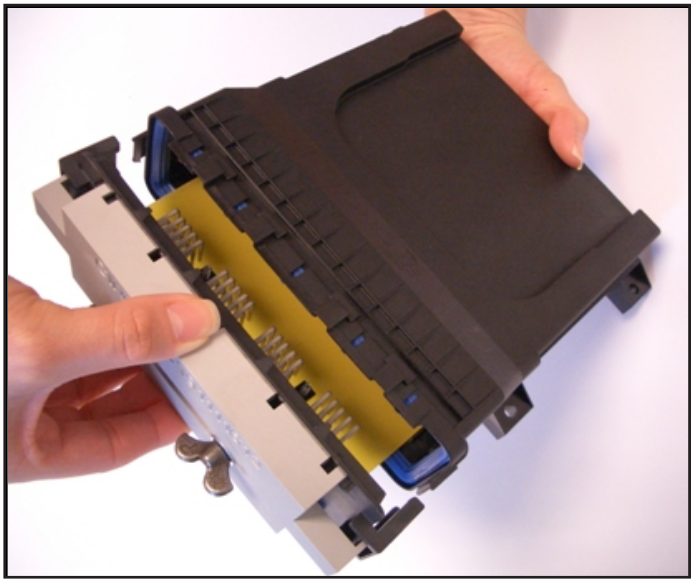
Align tool fingers with side latches



Alternately tighten each screw evenly until release of the Header from the Enclosure (audible snaps)



Both side latches must be unlocked to release the header

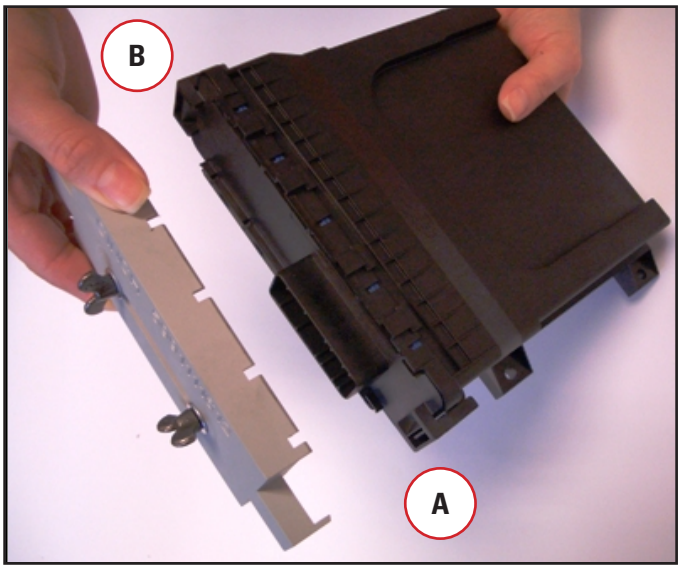


Pull straight out to remove the Header/PCB from the Enclosure

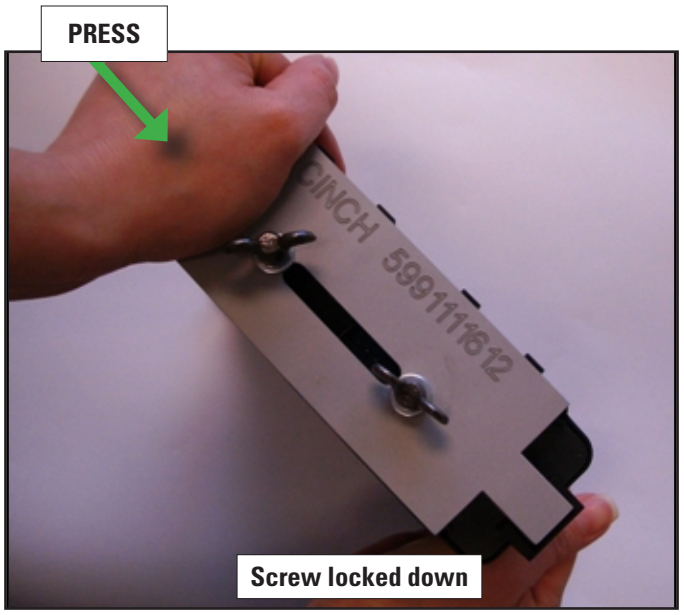
© 2011 Cinch Connectors V2 10-2011

ModICE™ Opening Tool

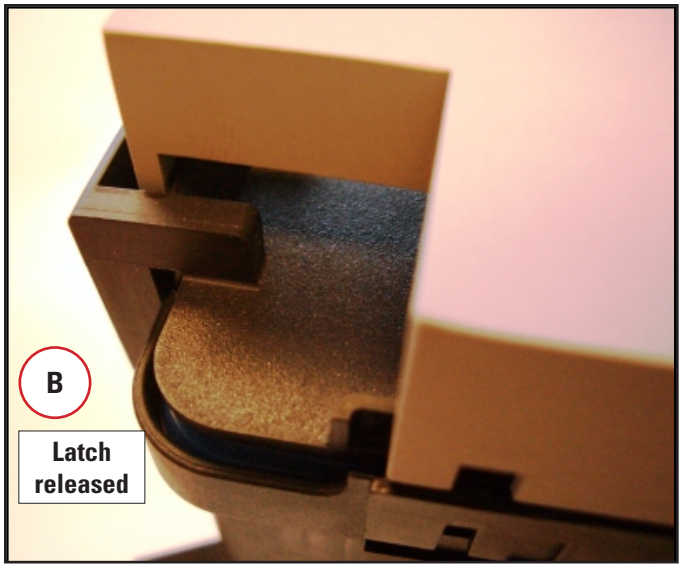
Instructions for headers with one connector



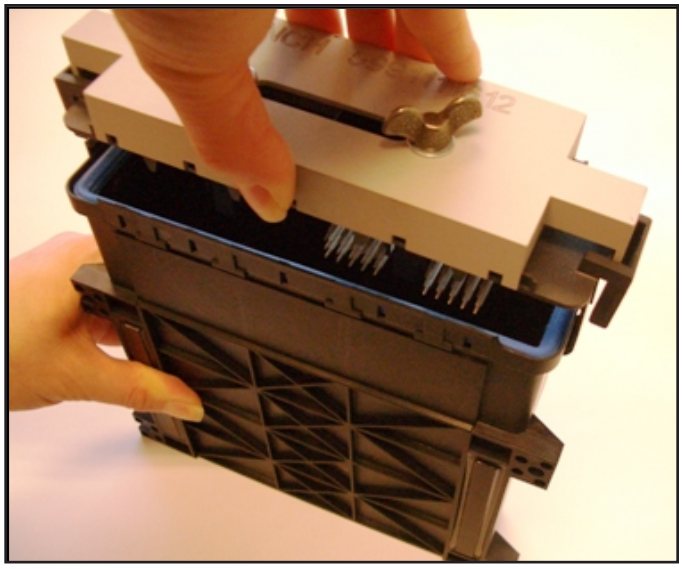
Position the tool so that the screw captures the Header bushing



Tighten screw all the way down to release side latch A (audible snap)



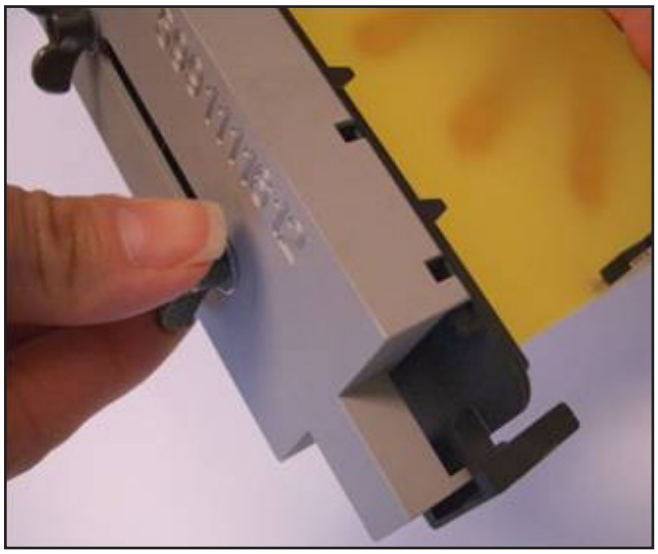
On a flat surface, press on opposite side of the tool to release latch B, Header will pop open

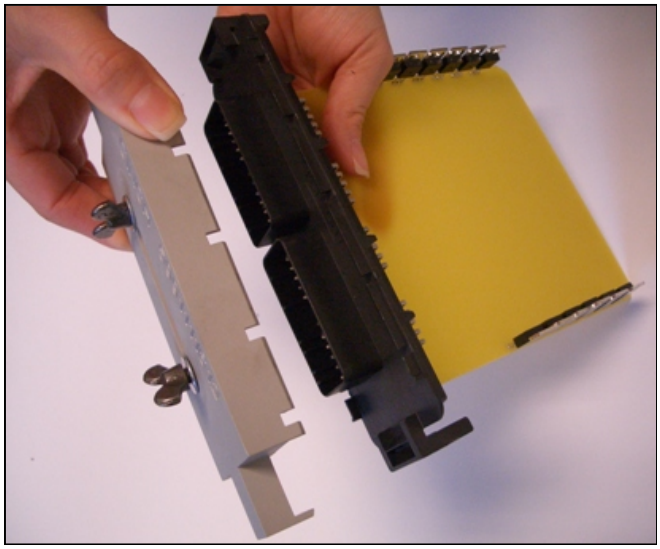


Pull straight out to remove the Header/PCB from the Enclosure

© 2011 Cinch Connectors V2 10-2011

ModICE™ Opening Tool





Untighten screws to release the tool from the header

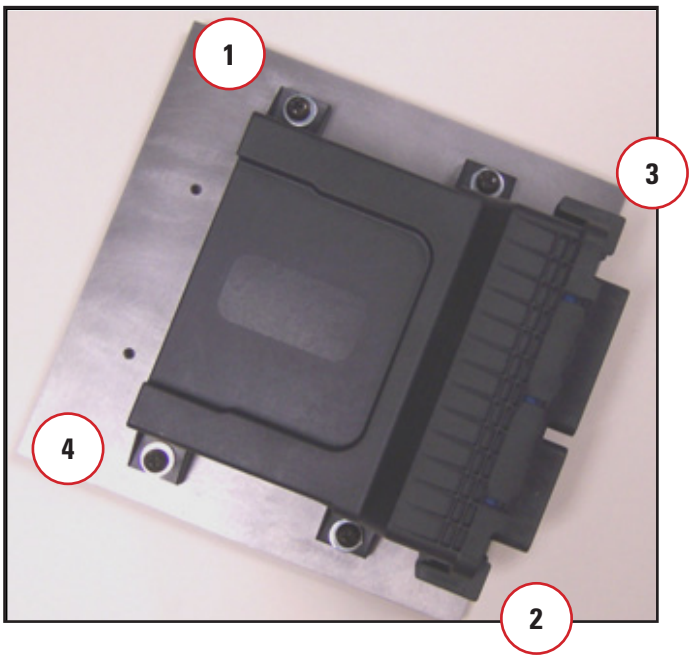
In the case of a customized header, customer may be required to modify the opening tool to allow it to work for the specific application.

© 2011 Cinch Connectors V2 10-2011

Mounting of the Enclosure

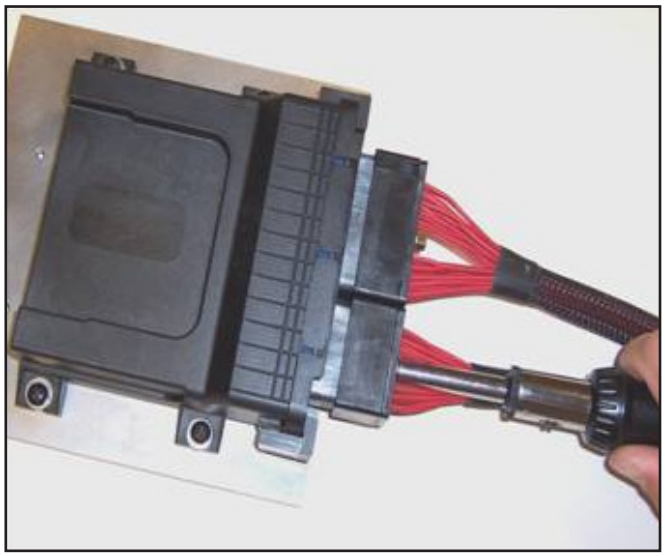
Refer to Cinch enclosure drawings for details on the mounting layout. Customer to select fastener type depending on mounting application.

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



Refer to Cinch SHS Harness Connector drawings and instructions for information on the mating connectors.

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



For technical or ordering information on Transportation products, contact Cinch at 630-705-6000 or visit our website at www.cinch.com

© 2011 Cinch Connectors V2 10-2011