Guide Frame Assembly for Gigabit Interface Converter (GBIC)

NOTE
All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters [and inches]. Unless otherwise specified, dimensions have a tolerance of ±0.13 mm [±.005 in.] and angles have a tolerance of ±2°. Figures and illustrations are for identification only and are not drawn to scale.

1. INTRODUCTION

This specification covers the requirements for application of Guide Frame Assembly for Gigabit Interface Converters (GBIC).

The guide system comprises a spring-loaded dust door and guide frame with ESD (electrostatic discharge)/ ground shields. The guide assembly may be mounted horizontally or vertically. The printed circuit (pc) board connectors are right-angle or vertical CHAMP* .050 Series I Blindmate Connectors and will mate with the GBIC module assembly. This specification does not provide the requirements for the CHAMP Connectors, as that information is found on Application Specification 114-6061.

When corresponding with TE Connectivity Personnel, use the terminology provided in this specification to facilitate your inquiries for information. Basic terms and features of this product are provided in Figure 1.

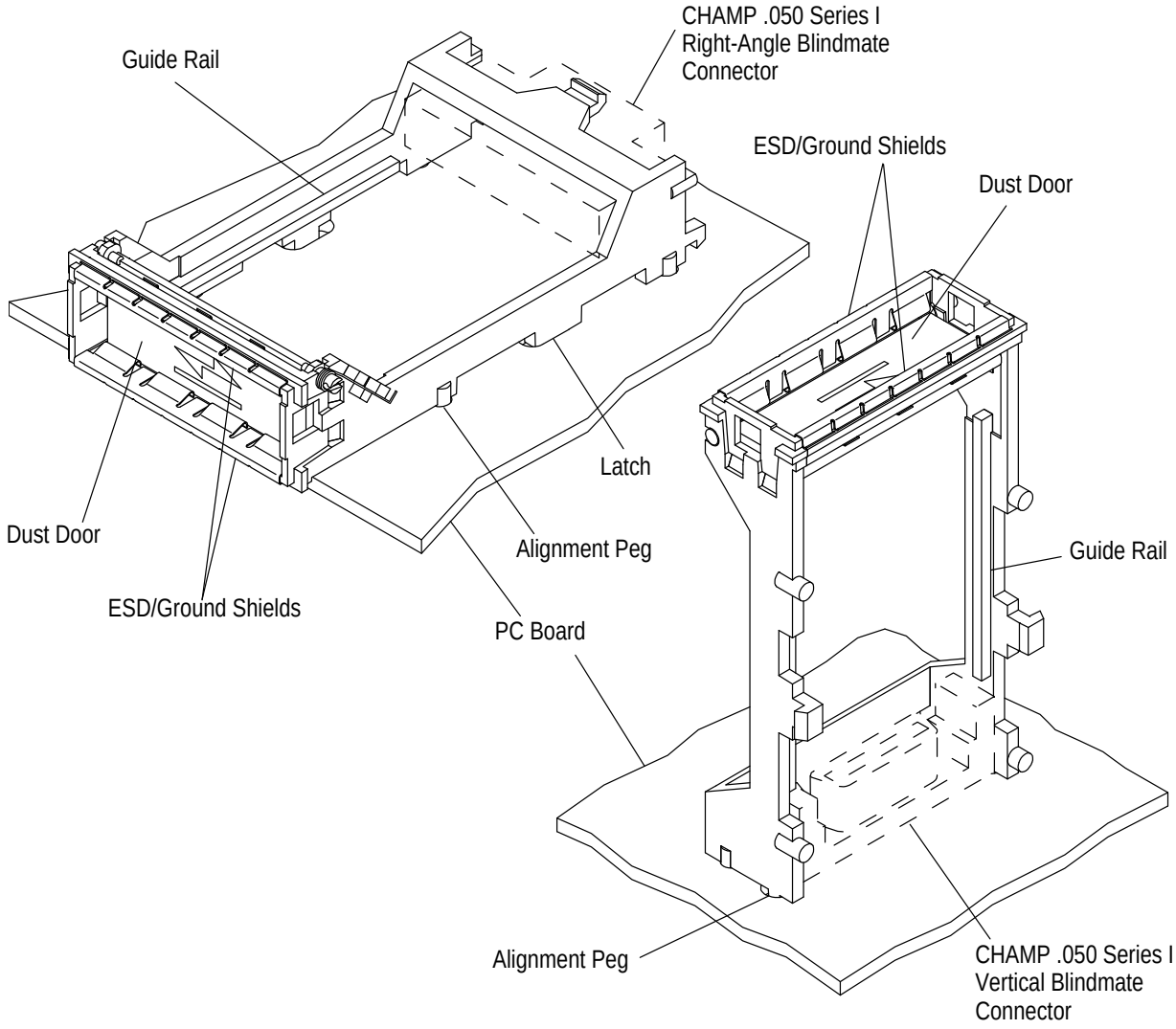


Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

Revisions to this application specification include:

- Updated document to corporate requirements
- Changed text in Section 4, QUALIFICATIONS

2.2. Customer Assistance

Reference Product Base Part Number 787663 and Product Code 7426 are representative of Guide Frame Assembly for Gigabit Interface Converter. Use of these numbers will identify the product line and help you to obtain product and tooling information. Such information can be obtained through a local TE Representative, by visiting our website at www.te.com, or by calling PRODUCT INFORMATION or the TOOLING ASSISTANCE CENTER at the numbers at the bottom of page 1.

2.3. Drawings

Customer Drawings for specific products are available from the service network. The information contained in Customer Drawings takes priority if there is a conflict with this specification or with any technical documentation supplied by TE.

2.4. Specifications

Refer to Application Specification 114-6061 for application information on the CHAMP .050 Series I Blindmate Plug and Receptacle.

3. REQUIREMENTS

3.1. Storage

A. Ultraviolet Light

Prolonged exposure to ultraviolet light may deteriorate the chemical composition used in the guide frame assembly.

B. Shelf Life

The guide frame assemblies should remain in the shipping containers until ready for use to prevent deformation. The guide frame assemblies should be used on a first in, first out basis to avoid storage contamination.

3.2. Printed Circuit Boards

A. Material and Thickness

The pc board material shall be glass epoxy (FR-4, G-10). The guide frame assemblies are designed for pc boards with thickness of 1.57 mm [.062 in.], 2.03 mm [.080 in.], and 2.54 mm [.100 in.]. Contact the Product Information Center number listed at the bottom of page 1 for suitability of other board materials and thicknesses.

B. Layout

The mounting and contact holes in the pc board must be precisely located to ensure proper placement and optimum performance of the guide frame assemblies. The “X” and “Y” symbols on the pc board layout represent customer established datums. They are the origin for the basic dimension (XXX and YYY datum), the point from which ALL hole positions must be located. Design the pc board using the dimensions provided in Figure 2.

NOTE
The layout dimensions apply to the component side of the pc board.

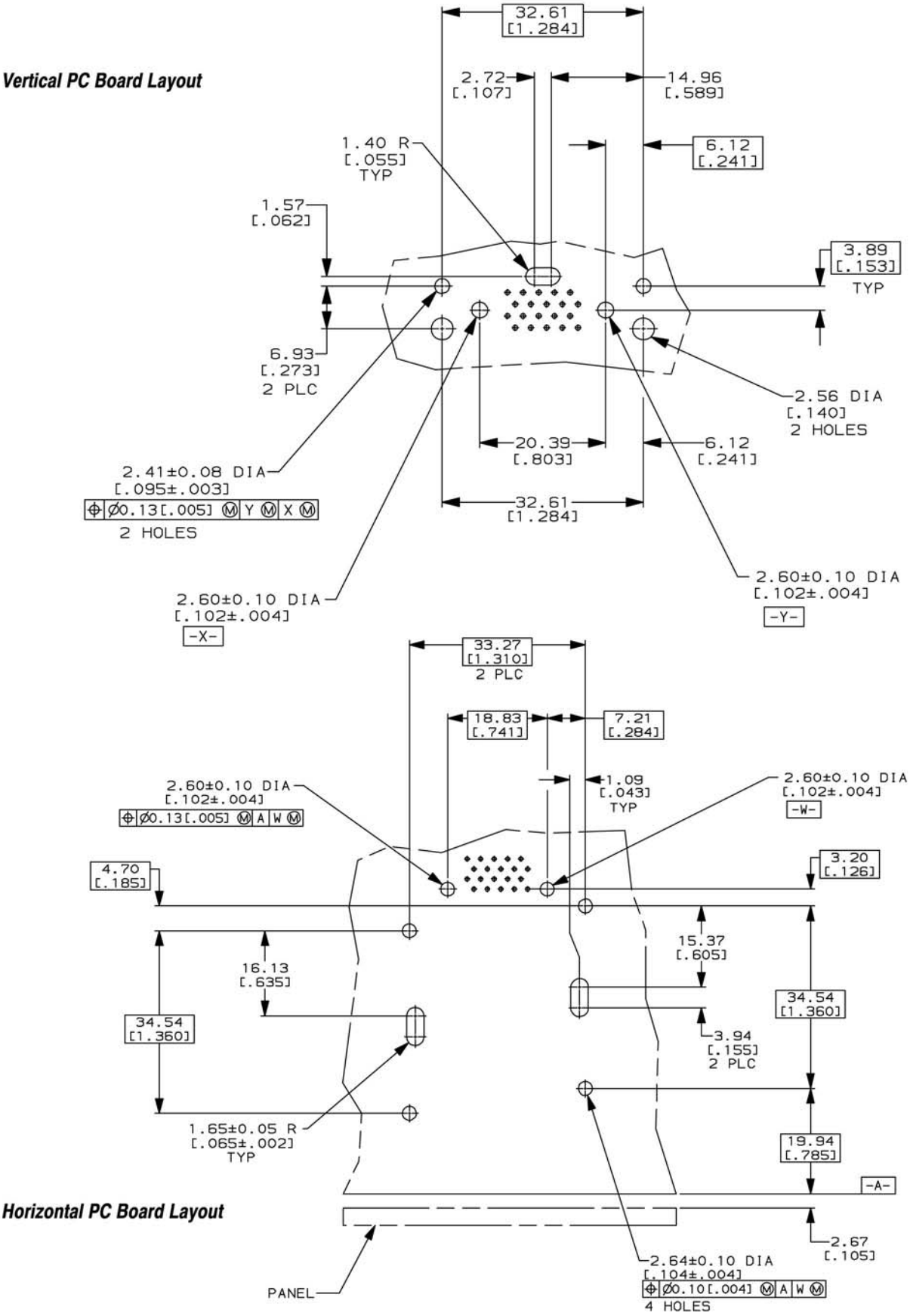

Vertical PC Board Layout
32.61 [1.284]
2.72 [.107]
14.96 [.589]
1.40 R [.055] TYP
6.12 [.241]
1.57 [.062]
3.89 [.153] TYP
6.93 [.273] 2 PLC
2.56 DIA [.140] 2 HOLES
20.39 [.803]
6.12 [.241]
2.41±0.08 DIA [.095±.003]
Ø0.13[.005] M Y M X M
2 HOLES
32.61 [1.284]
2.60±0.10 DIA [.102±.004] -Y-
2.60±0.10 DIA [.102±.004] -X-
33.27 [1.310] 2 PLC
18.83 [.741]
7.21 [.284]
1.09 [.043] TYP
2.60±0.10 DIA [.102±.004]
Ø0.13[.005] M A W M
2.60±0.10 DIA [.102±.004] -W-
4.70 [.185]
3.20 [.126]
15.37 [.605]
16.13 [.635]
34.54 [1.360]
34.54 [1.360]
3.94 [.155] 2 PLC
1.65±0.05 R [.065±.002] TYP
19.94 [.785]
-A-
Horizontal PC Board Layout
2.67 [.105]
2.64±0.10 DIA [.104±.004]
Ø0.10[.004] M A W M
4 HOLES
PANEL

Figure 2

3.3. PC Board Spacing

Figure 3 provides information on connector clearance zones and spacing that must be considered regarding CHAMP .050 Series I Plug Connectors when mated to the converter using the guide frame assembly and panel cutouts.

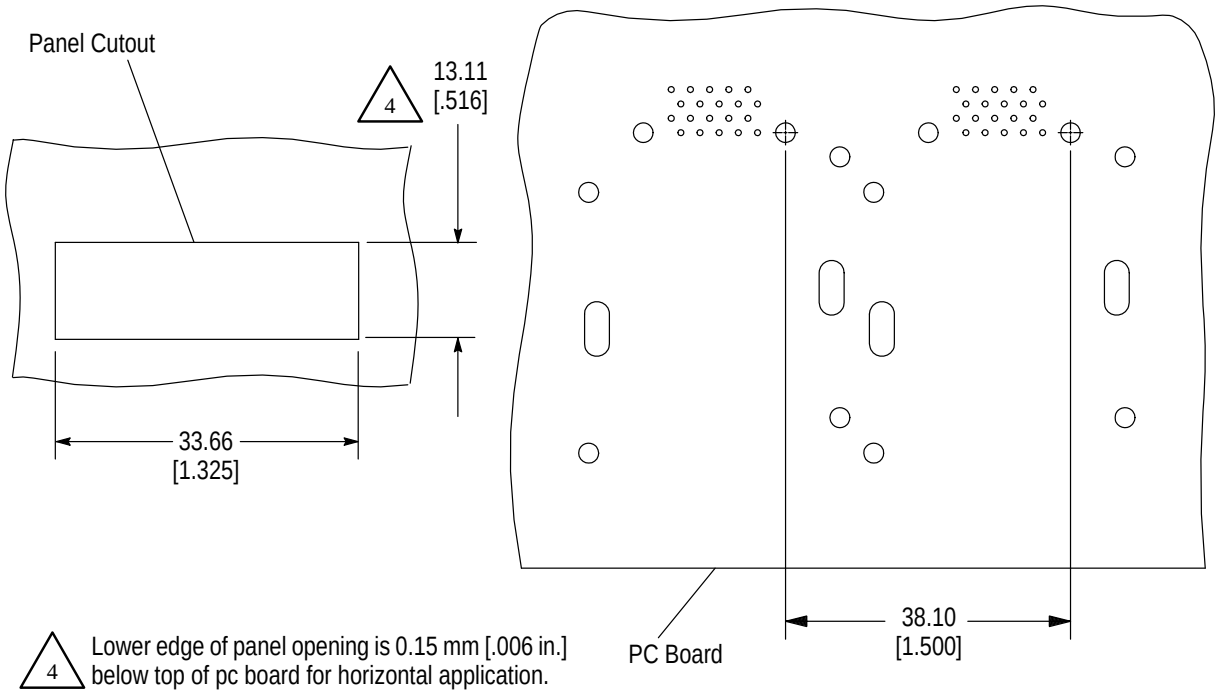


Figure 3

3.4. Polarizing

The connector is inherently polarized. The guide rails as well as the keystone configuration of each connector mating face prohibits the accidental inversion of mating connectors. See Figure 4.

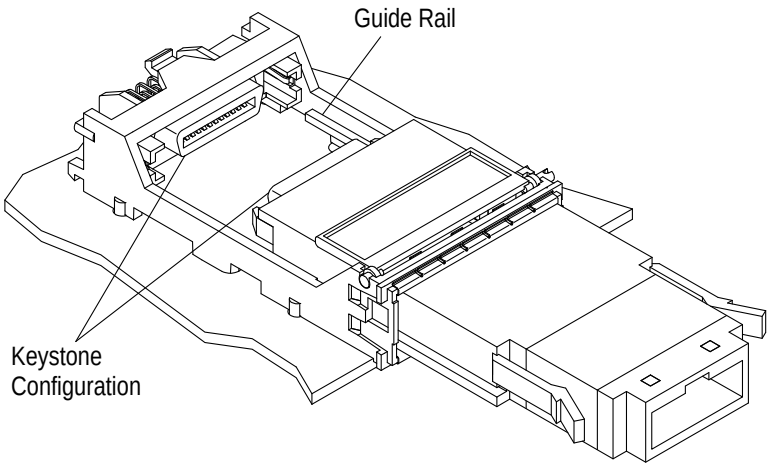


Figure 4

3.5. Connector/GBIC Assembly (Horizontal)

The following steps should be followed when assembling the guide frame assembly to the pc board for horizontal application.

1. With the dust door of the guide frame assembly in front of you, tilt the right side up approximately 30° from the pc board. See Figure 5A.

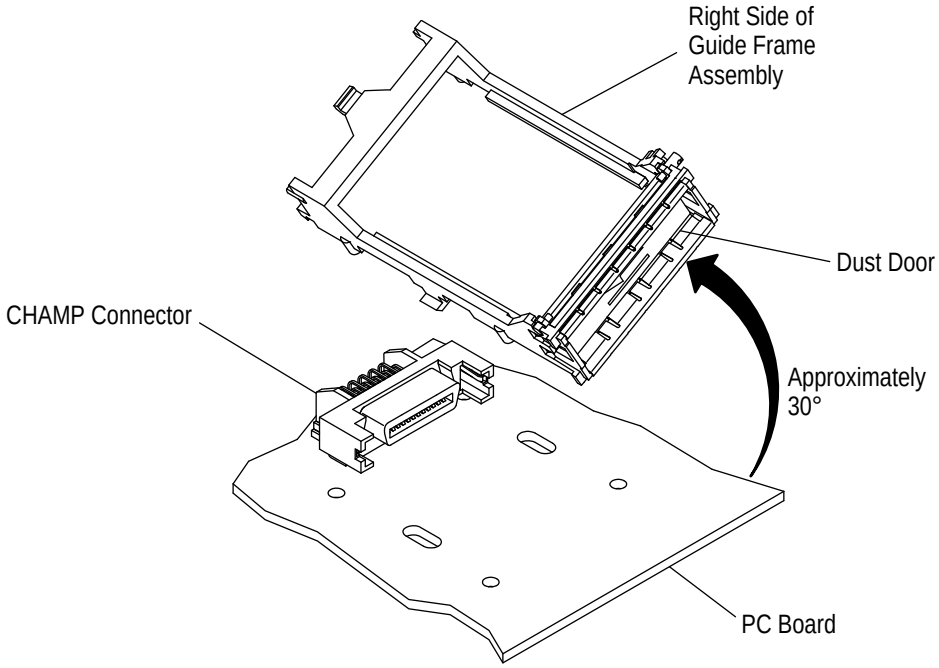
2. Insert the latch and two alignment pegs of the left side of the guide frame assembly into the corresponding holes of the pc board. See Figure 5B.

3. Pivot the guide frame assembly down over the CHAMP connector. The guide frame assembly should straddle the right-angle connector, with the right side latch resting on the top surface of the pc board. The left side latch and alignment pegs should still be in their corresponding pc board holes. See Figure 5C.

4. Start the right side latch into its respective pc board slot by pushing in (to the left) and down (toward the pc board) on the right outside wall of the guide assembly. The latch should only go in a short distance before the right side alignment pegs come in contact with the top surface of the pc board. See Figure 5D.

5. Push out (to the right) on the right inside wall of the guide frame assembly until the right side alignment pegs snap into their respective holes. See Figure 5E.

5A



5B

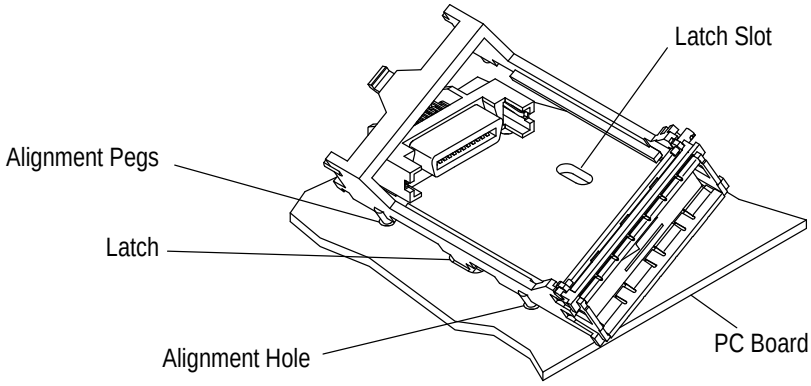
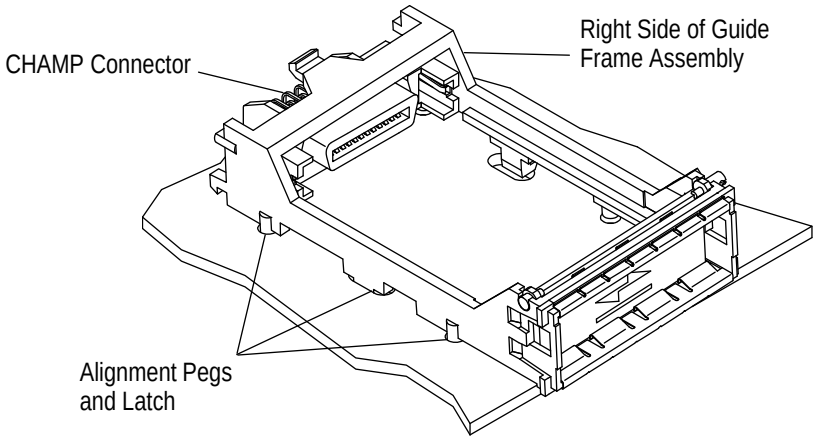
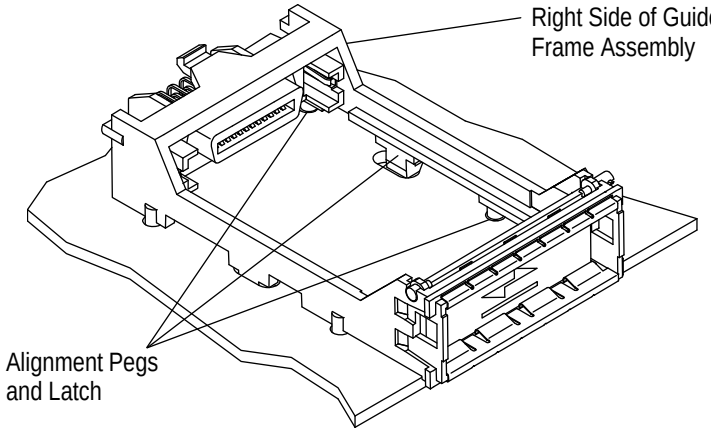


Figure 5 (Cont'd)

5C



5D



5E

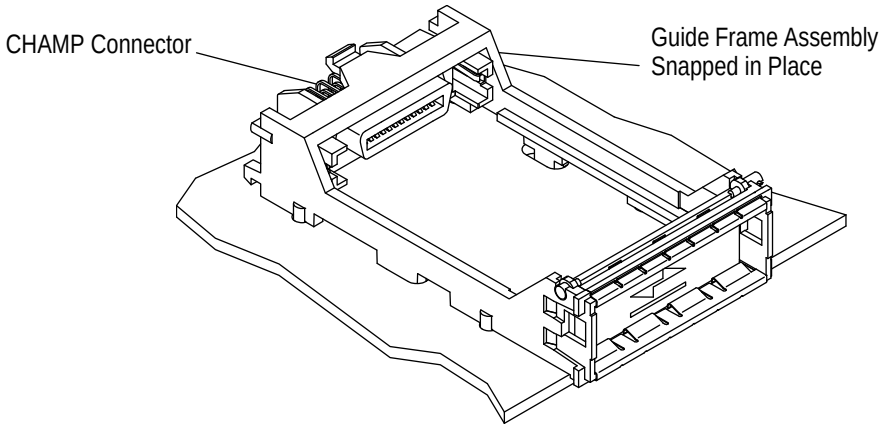


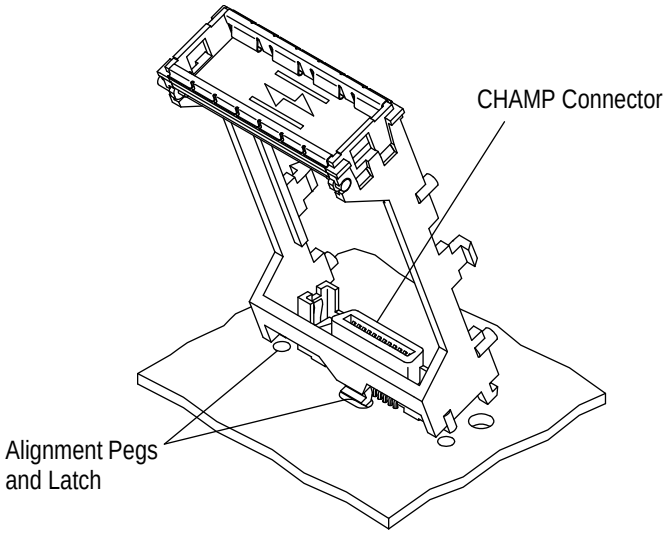
Figure 5 (End)

3.6. Connector/GBIC Assembly (Vertical)

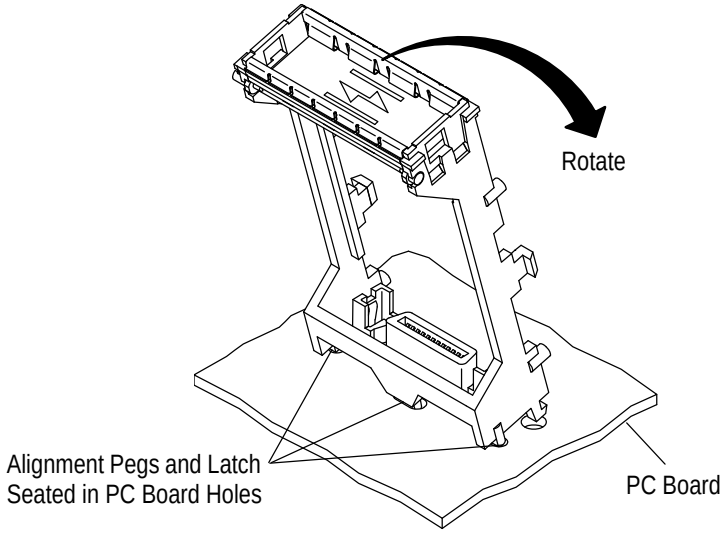
The following steps should be followed when assembling the guide frame assembly to the pc board for vertical application.

1. Tilt the guide frame assembly at an angle so the top latch is closest to the pc board. See Figure 6A.
2. Align the top latch and upper locating post with board holes and insert into pc board. See Figure 6B.
3. Straighten the guide frame assembly to be perpendicular with the pc board, snapping the lower latches into the board. See Figure 6C.

6A



6B



6C

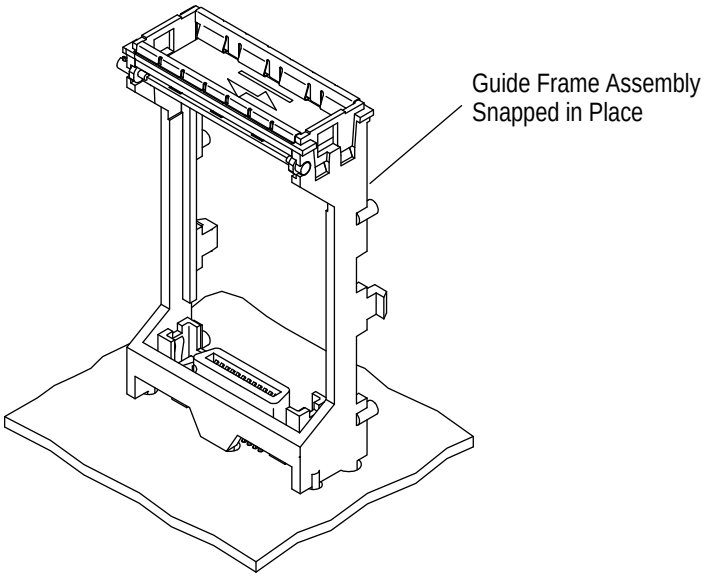


Figure 6

3.7. Checking Installed Connector

The GBIC module locks in place with an audible click when the locking latches snap into the slots on the side of the frame. See Figure 7.

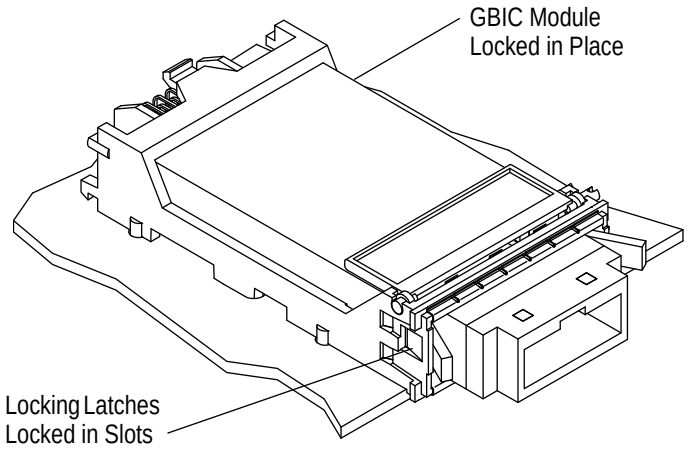


Figure 7

3.8. Repair/Removal

Damaged connectors must be removed, discarded, and replaced with new ones. Refer to Application Specification 114-6061 for de-soldering methods for the CHAMP .050 Series I Blindmate Connectors. Refer to Paragraph 3.9 for GBIC module removal.

3.9. Unmating Connectors

The connectors must be unmated by pressing simultaneously on the release latches and pulling the GBIC module back and out of the guide frame assembly. See Figure 8.

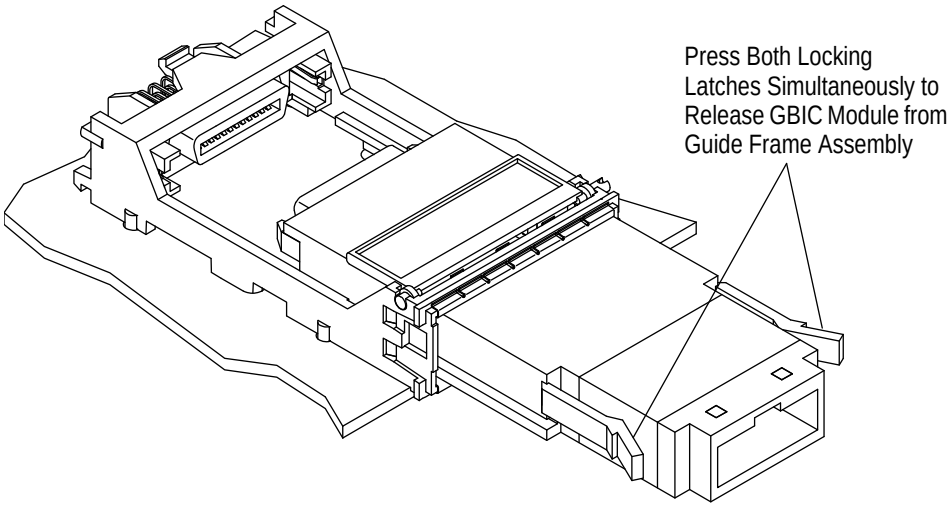


Figure 8

4. QUALIFICATIONS

Guide Frame Assembly for GBIC modules has been submitted for agency evaluation and testing.

5. TOOLING

No special tooling is required for the application of the guide frame assembly. Tooling required for the application of the CHAMP .050 Series I Blindmate Connectors is covered on application specification 114-6061.

6. VISUAL AID

The illustration below shows a typical application of this product. This illustration should be used by production personnel to ensure a correctly applied product. Applications which DO NOT appear correct should be inspected using the information in the preceding pages of this specification and in the instructional material shipped with the product or tooling.

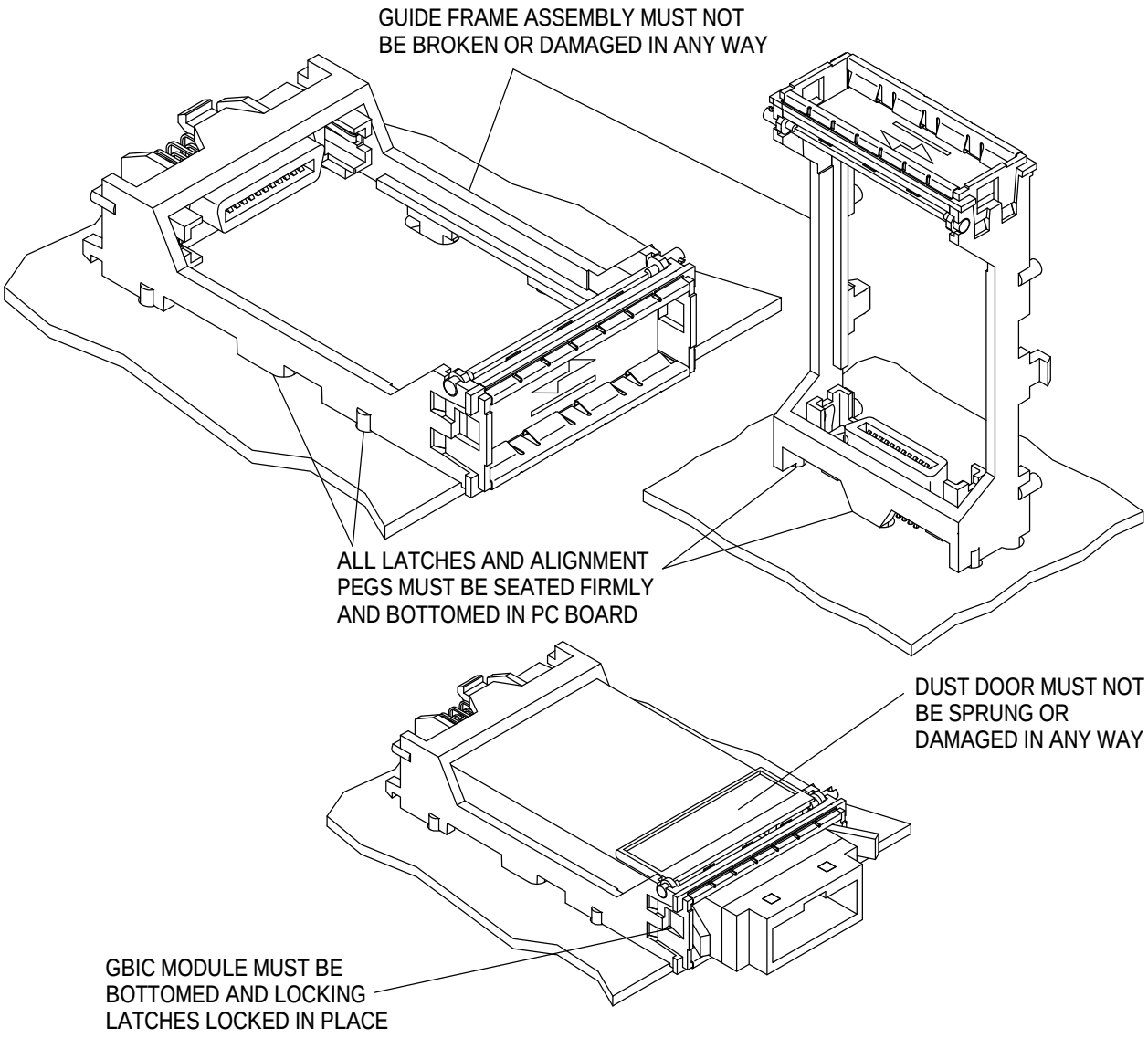


FIGURE 9. VISUAL AID