

PIVOT BLOCK* Connectors

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 [$\pm .005$] and angles have a tolerance of $\pm 2^\circ$. Figures and illustrations are for identification only and are not drawn to scale.

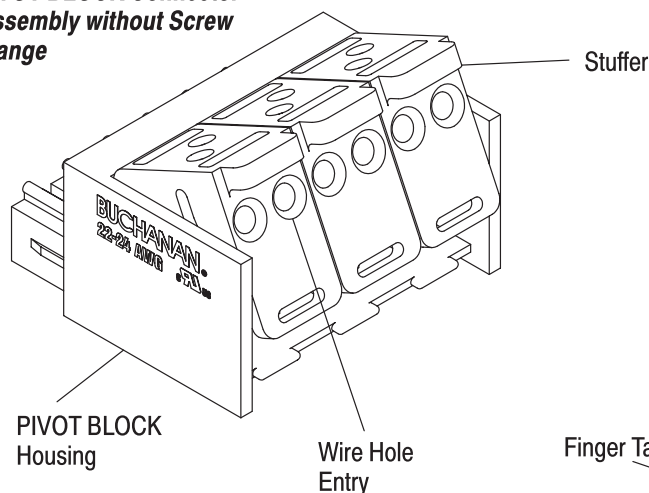
1. INTRODUCTION

This specification covers the requirements for application of PIVOT BLOCK Connectors. The connectors are available in 2– through 16–positions. The connectors contain insulation displacement contacts for ease of termination. The contacts accept 7–stranded or solid copper conductor wire sizes 22–24 AWG. A primary screwdriver slot (for closing stuffer) and a secondary screwdriver slot (for opening stuffer) are provided for optional use in wire termination. The connectors require no special tooling for wire insertion or extraction. The connector mates with Buchanan and other 3.5 mm [.138 in.] centerline industry headers.

When corresponding with Tyco Electronics Personnel, use the terminology provided in this specification to facilitate your inquiries for information. Basic terms and features of these connectors are provided in Figure 1.

BUCHANAN®

PIVOT BLOCK Connector Assembly without Screw Flange



PIVOT BLOCK Connector Assembly with Screw Flange

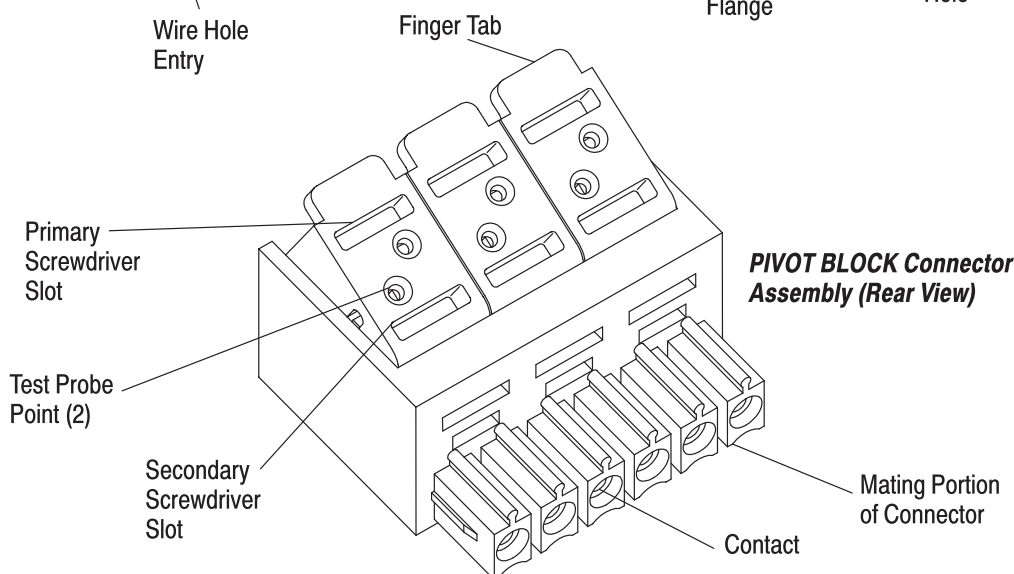
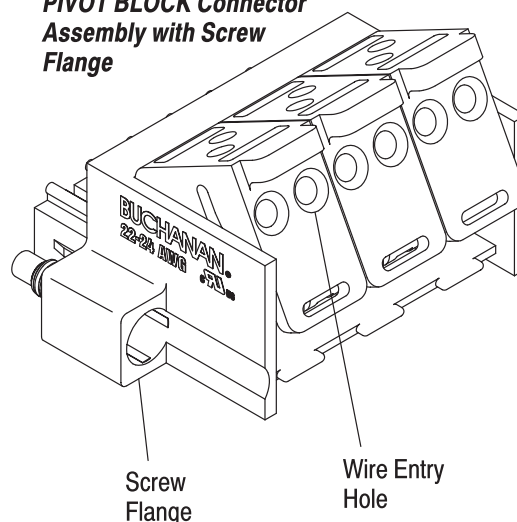


Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

- Updated document to corporate requirements
- Added new part numbers to Paragraph 2.2
- Deleted “lead” from “tin–lead” in Paragraph 3.3
- Added new CAUTION in Paragraph 3.4

2.2. Customer Assistance

Reference Base Product Part Numbers 1776279, 1776281, 1776282, and 1776283, and Product Code H308 are representative numbers of PIVOT BLOCK Connectors. Use of these numbers will identify the product line and expedite your inquiries through a service network established to help you obtain product and tooling information. Such information can be obtained through a local Tyco Electronics Representative or, after purchase, by calling the Product Information Center at the number at the bottom of page 1.

2.3. Drawings

Customer Drawings for product part numbers are available from the service network. If there is a conflict between the information contained in the Customer Drawings and this specification or with any other technical documentation supplied by Tyco Electronics, call the Product Information Center at the number at the bottom of page 1.

2.4. Specifications

Product specification 108–1981 provides product performance requirements and test information. Application Specification 114–20079 provides application of mating TERMINAL BLOCK Header Assemblies for PIVOT BLOCK Connectors.

3. REQUIREMENTS

3.1. Storage

The connectors should remain in the shipping containers until ready for use to prevent deformation to the contacts. The connectors should be used on a first in, first out basis to avoid storage contamination that could adversely affect signal transmissions.

3.2. Chemical Exposure

Do not store connectors near any chemical listed below as they may cause stress corrosion cracking in the contacts.

Alkalies	Ammonia	Citrates	Phosphates	Citrates	Sulfur Compounds
Amines	Carbonates	Nitrites	Sulfur	Nitrites	Tartrates

3.3. Materials

The contacts are made of copper alloy with tin over nickel underplate. The housings are made of polyester. The stuffers are made of polycarbonate.

3.4. Wire Selection and Preparation

The contacts will accept either stranded (7–strands) or solid wire with a wire size range of 22 to 24 AWG, with a maximum insulation diameter of 1.52 mm [.060 in.] and a maximum insulation thickness of 0.25 mm [.010 in.] for 22 AWG solid wire.

NOTE

PVC insulated wire was used in testing of this connector. Contact Tyco Electronics Engineering for use of other insulation types.

NOTE

DO NOT strip the insulation from the wire. A previously terminated wire, when removed, should be cut off but retain a minimum of 12.7mm [.050 in.] to provide a new end for termination.

CAUTION

Recommended wire insulation is PVC. This connector may not function correctly with SRPVC or any other rigid or semi-rigid insulation. Contact Tyco Electronics Engineering for all other wire insulation approval before use.

CAUTION

When terminating wires, make sure the stuffer latches to the housing and locks in place. You will be able to visually see the stuffer is latched as well as hear the latch “click” when closed.

3.5. Wire Insertion and Termination

The unstripped wire(s) are inserted into the wire entry hole in the stuffer until it bottoms. This process can be checked visually. While holding the wire(s) firmly in place, the stuffer must be pushed down with your finger until it latches to terminate the wire. A screwdriver may be used in the primary slot to aid in seating the stuffer, but is not required. See Figure 2.

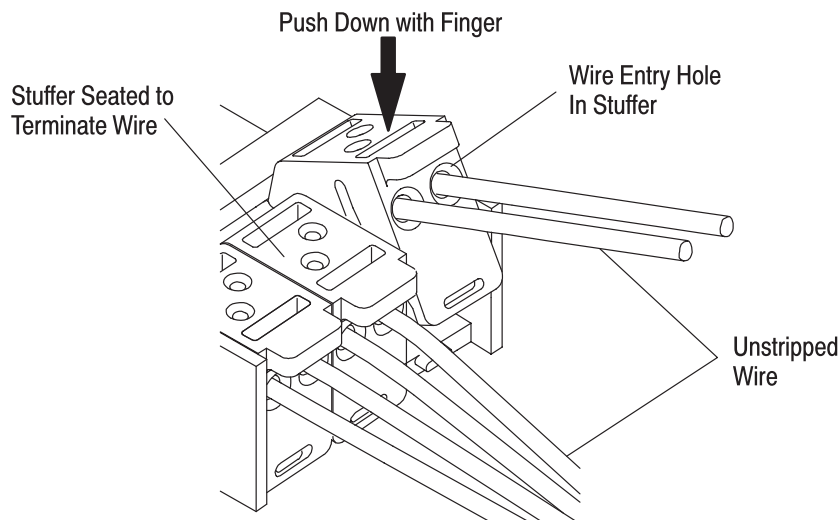


Figure 2

3.6. Wire Extraction

To release the wire, the stuffer must be lifted until it stops (approximately 20°). This can be done with your finger, a screwdriver (with maximum tip width of 6.35 mm [.250 in.]), or some other suitable instrument that will not damage the stuffer. Then the wire must be pulled gently straight out (in line with stuffer axis). See Figure 3.

NOTE

DO NOT attempt to pull the wire out of the connector until the stuffer is in the “up” position.

CAUTION

The 3-position stuffer with 22 AWG solid wire shown in Figure 3C must be closed and opened with a screwdriver.

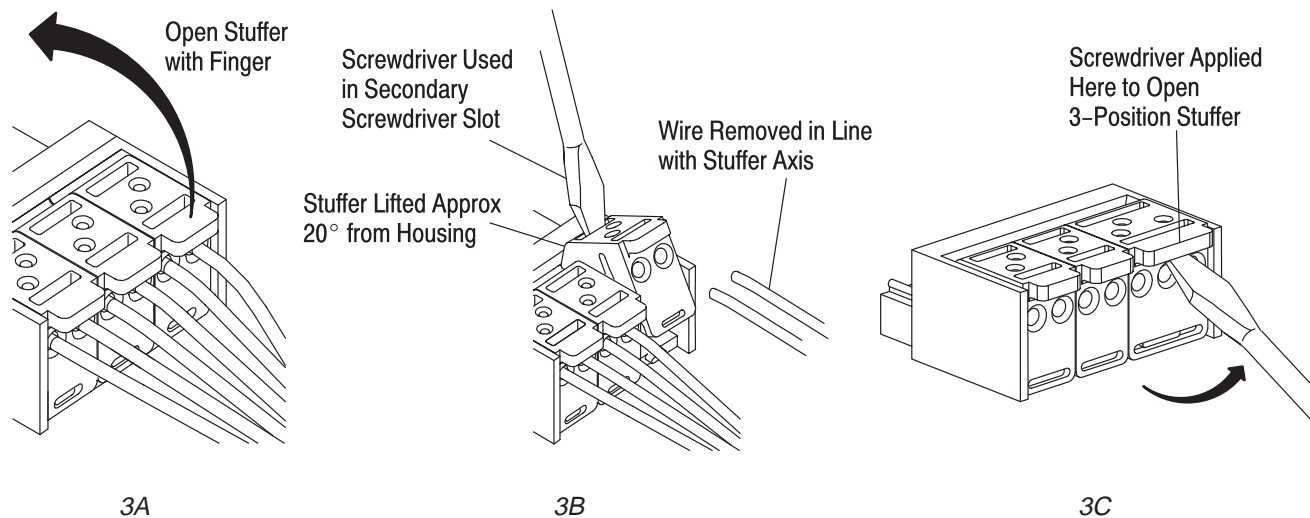


Figure 3

3.7. Strain Relief

Wires must be bundled together and supported with at least one fixed cable clamp. Wires must not be stretched or confined in any way that would put any undue stress on the contacts in the connector. Therefore, the wires must remain perpendicular to the connector, and avoid an excessively sharp bend radius. Even though the contacts provide high pullout forces, it is important to provide strain relief for the wires to prevent accidental wire pullout and mechanically stabilize the crimp interface. Therefore a fixed cable clamp, and the minimum bend radius of 12.7 mm [.500 in.] for a wire bundle, must be observed as shown in Figure 4.

NOTE

The connectors provide an electrical connection by mechanical means. The connection is not intended to provide mechanical support for the wire bundle. Static and dynamic force on these connectors should be kept as near to zero as possible.

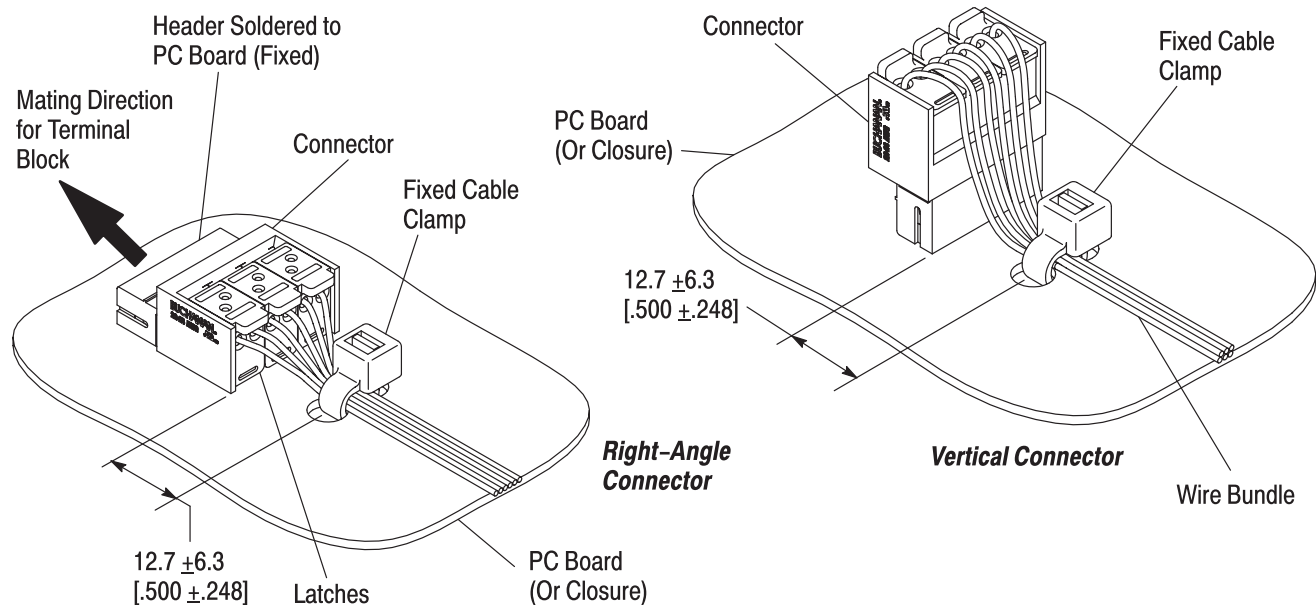


Figure 4

3.8. Repair

Damaged terminal blocks or headers must be replaced. Headers may be removed from the pc board by normal desoldering methods and replaced with new connectors. Refer to Application Specification 114-20079.

NOTE

If the stuffer becomes disengaged from the terminal block housing when removing the wire, the stuffer can be replaced by inserting the pivot end into the base of the housing and pressing until an audible and tactile click is heard at 20° angle as shown in Figure 3.

4. QUALIFICATIONS

Pivot Block Connectors are a UL Recognized Component and UL Recognized to Canadian safety requirements under the Component Recognition Program of Underwriters Laboratories Inc. under File E60677.

5. TOOLING

The connectors can be terminated or extracted without tooling by using your finger as shown in Figures 2 and 3. If desired, a typical flat-blade screwdriver with a maximum tip width of 6.35 mm [.250 in.] can be used to aid in wire termination and extraction. See Figure 5.

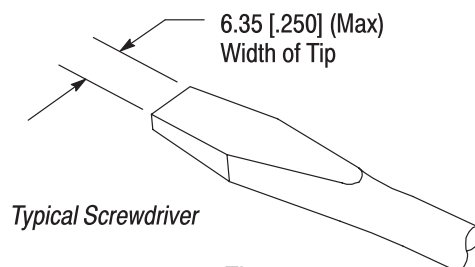


Figure 5

6. VISUAL AID

Figure 6 shows a typical application of PIVOT BLOCK Connectors. 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.

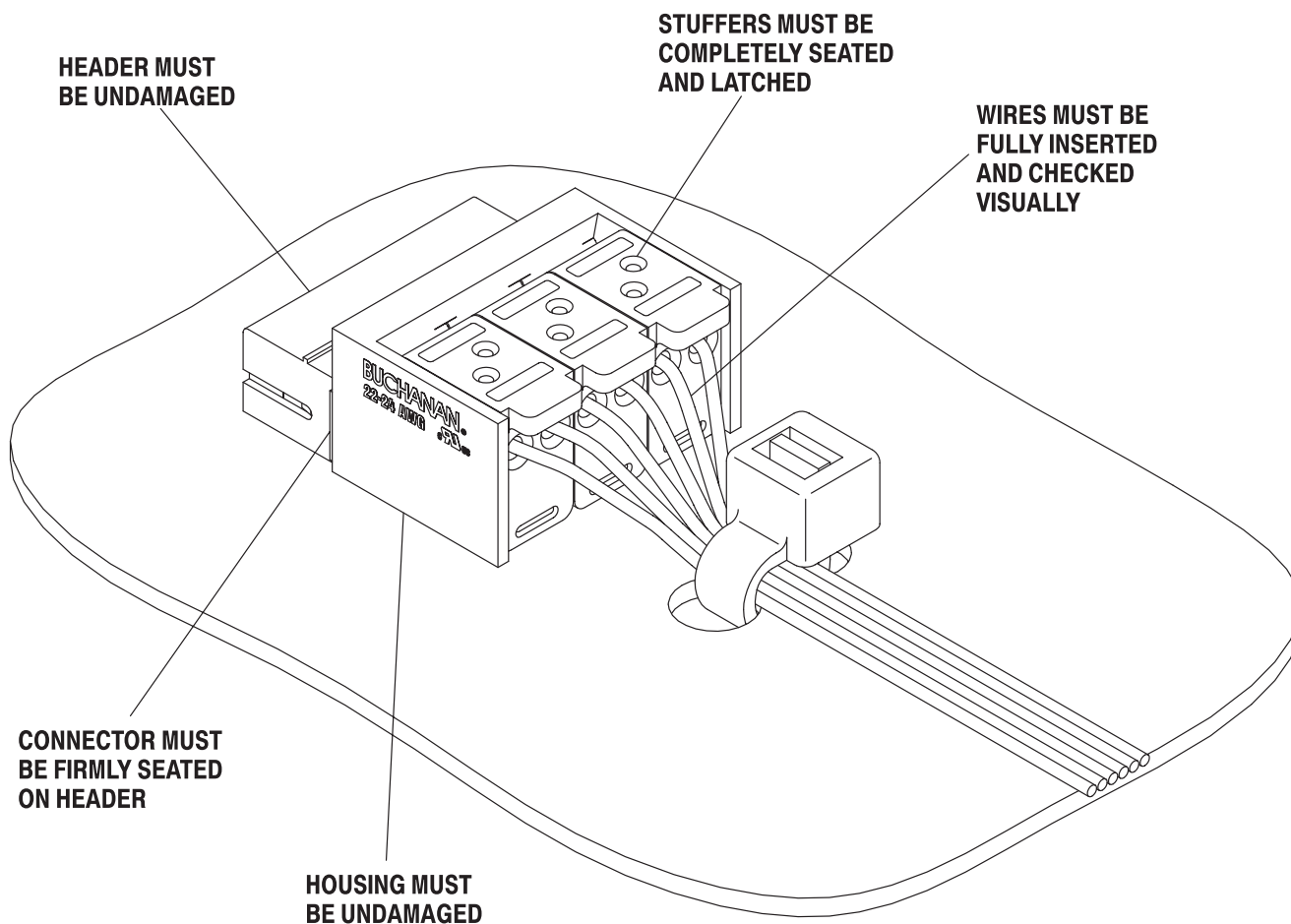


FIGURE 6. VISUAL AID