1.0 OBJECTIVE

This specification provides information and requirements regarding customer application of **Hand tool for Minitek 0.8mm pitch Crimp to wire connectors**. This specification is intended to provide general guidance for application process development. It is recognized that no single application process will work under all customer scenarios and that customers will develop their own application processes to meet their needs. However, if these application processes differ greatly from the one recommended, AICC cannot guarantee results.

2.0 SCOPE

This specification provides information and requirements regarding customer application of **Hand tool for Minitek 0.8mm pitch Crimp to wire connectors.**

3.0 GENERAL

This document is meant to be an application guide. If there is a conflict between the product drawings and specifications, the drawings take precedence.

4.0 DRAWINGS AND APPLICABLE DOCUMENTS

- AFCI PRODUCT SPECIFICATION GS-12-1444
- AFCI PRODUCT DRAWINGS Latest version of 10145492&10169000(0.8mm pitch Receptacle Housing), 10145493&10169001(0.8mm pitch Receptacle crimp terminal)

Product drawings and **AFCI's GS-12-1444** Product Specification are available at www.fci.com In the event of a conflict between this application specification and the drawing, the drawing will take precedence. Customers are advised to refer to the latest revision level of AFCI product drawings for appropriate details.

5.0 APPLICATION REQUIREMENTS

The wires in Table **1** are qualified for use with crimp terminal 10145493&10169001.

Table 1

Crimp Terminal Part Number	Applicable Wire Gauge (AWG)	Insulation Outside Diameter (mm)
10145493-X0LF	AWG 28~30	0.4~0.6
10145493-X1LF	AWG 32	0.3~0.4
10169001-X0LF	AWG 28~30	0.4~0.6
10169001-X1LF	AWG 32	0.3~0.4

6.0 APPLICATION TOOLING

Application Tooling needed for installation of crimp terminals is defined in Table 2:

Table 2

Tool Description	Tool PN	Applicable Wire Gauge (AWG)	Applicable Terminal
Ratched hand crimping tool	10152960-001LF (or equivalent model) (*)	AWG 28~30	10145493-X0LF 10169001-X0LF

** Read the instructions before using these commercial crimping machine and tool.*
*** Depends on conductor dia. and insulation dia. of selected wire.*

10152960-001LF

7.0 APPLICATION PROCEDURE

Crimping Terminals

7.1 Open the tool by squeezing the handles together. At the end of the closing stroke, the ratchet mechanism will release the handles and the hand tool will spring open. See Figure 1.

7.2 Select the desired terminal listed in Table 1.

7.3 Pull the Flap locator and turn it on. See Figure 2.

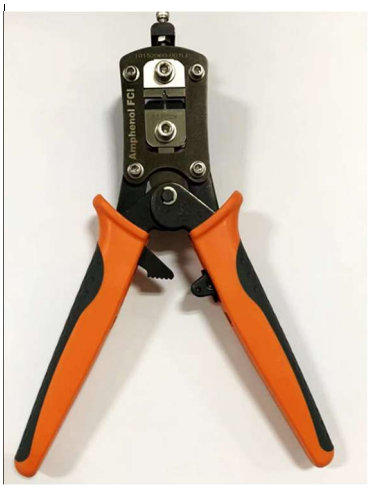


Figure 1

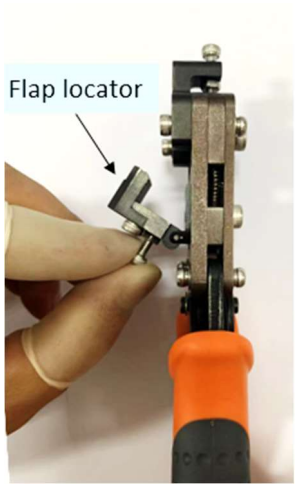


Figure 2

7.4 While holding the locator button in, load the terminal into the proper nest opening in the locator based on the wire gauge or terminal type markings on the hand tooling. See Figure 3.

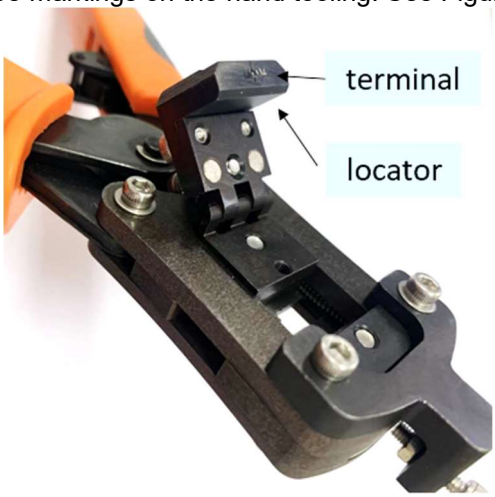


Figure 3

7.5 Turn the locator to close it.

7.6 Close the tool handle until the first ratchet position engages. See Figure4.

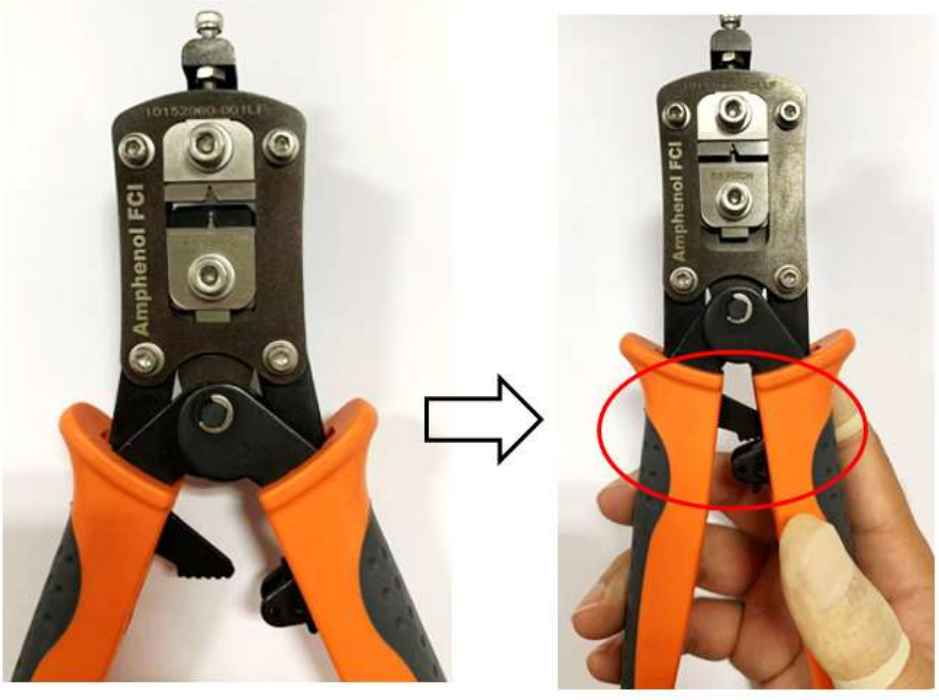


Figure 4

7.7 Insert the properly stripped wire through the terminal and against the wire stop. See Figure 5.

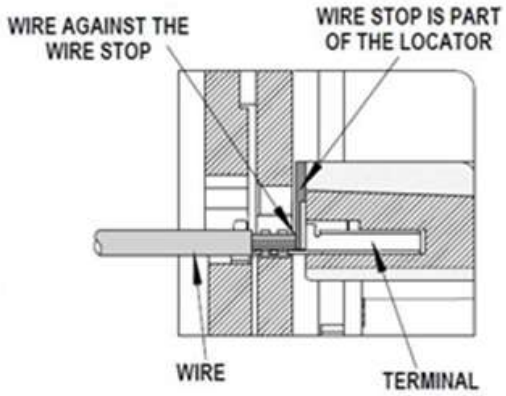


Figure 5

Figure 6

7.8 Crimp the terminal by squeezing the tool handles until the ratchet mechanism cycle has been completed. Release the handles to open the jaws. See Figure 6. (**The tamper proof ratchet action will not release the tool until it has been fully closed.)*

7.9 Remove the crimped terminal from the terminal locator by pulling on the wire.

7.10 Visually inspect the crimped terminal for proper crimp location.

7.11 On some large O.D. wires, it may not be possible to insert the wire with the tool partially closed.Those wires should be inserted with the hand tool in the open position. Insert the wire above the terminal in the punch and against the wire stop then close the tool. See Figure 7.

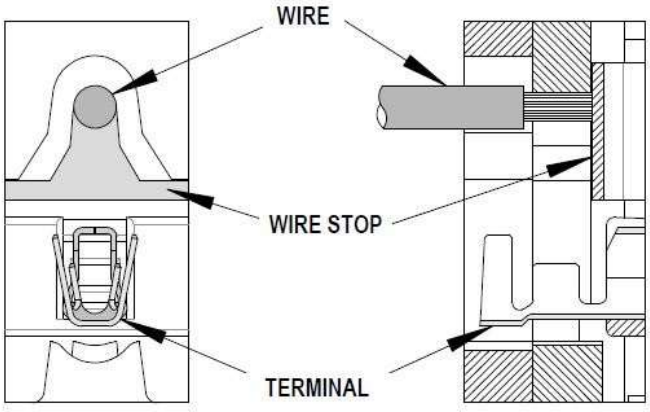
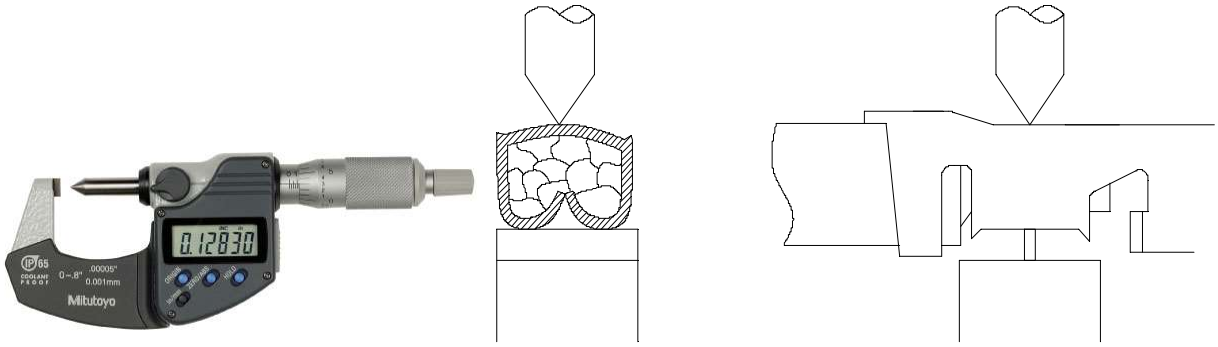


Figure 7

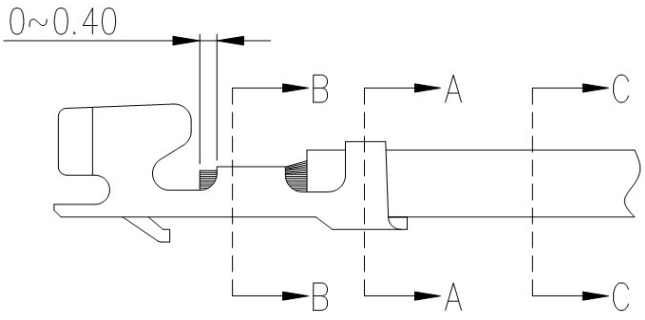
8.0 POST-APPLICATION INSPECTION PROCEDURES

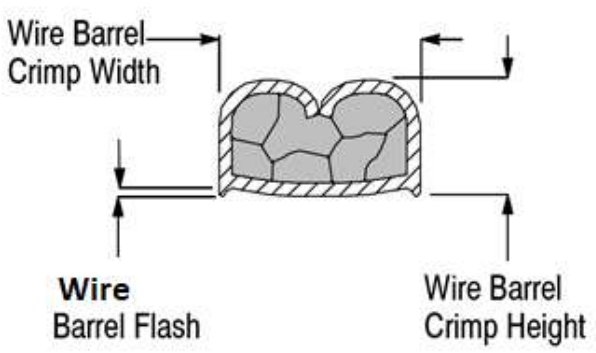
8.1 Crimp height and width measurement:

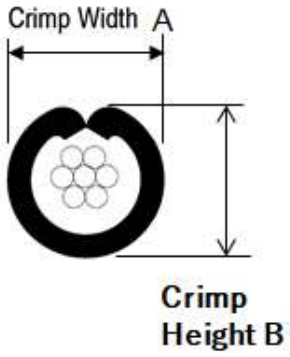
8.1.1 Use Crimp Height Type Micrometers to measure crimping height.

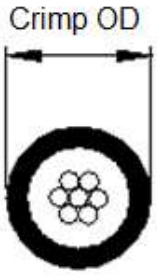


8.2 Required crimping dimensions, crimp height and width for different wire AWG are defined in Table 3









Sec. B-B Sec. A-A Sec. C-C

Table 3

UNIT: mm								
AWG	Wire Barrel Crimp Width	Wire Barrel Crimp Height	Wire Barrel Flash	Crimp Width A	Crimp Height B	Crimp OD	Tensile Strength	Applicable Terminal
28	0.62±0.05	0.650±0.05	0.05 Max	0.63±0.05	0.85±0.04	0.60 Max	10N Min	10145493-X0LF 10169001-X0LF
30							5N Min	

** When using hand crimping tool, crimping height in this table are reference only. Because the range of wires, strands, insulation OD will affect the actual crimping height.*

8.3 Pullout force measurement

8.3.1 After crimping, pullout force measurement should be applied to ensure the performance.

8.3.2 Follow test procedure of GS-12-1444.

8.3.3 Pullout force should not be less than those listed in Table 3.

9.0 REPAIR TOOLING

** Repair the tool is not be recommended, but maintenance is needful.*

9.1 Maintenance

It is recommended that each operator of the tool be made aware of, and responsible for, the following maintenance steps:

9.1.1 Remove dust, moisture, and other contaminants with a clean brush, or soft, lint free cloth.

9.1.2 Do not use any abrasive materials that could damage the tool.

9.1.3 Make certain all pins; pivot points and bearing surfaces are protected with a thin coat of high quality machine oil. Do not oil excessively.The tool was engineered for durability but like any other equipment it needs cleaning and lubrication for a maximum service life of trouble free crimping. Light oil (such as 30 weight automotive oil) used at the oil points, every 1,000 crimps at least, will significantly enhance the tool life.

9.1.4 Wipe excess oil from hand tool, particularly from crimping area. Oil transferred from the crimping area onto certain terminations may affect the electrical characteristics of an application.

9.1.5 When tool is not in use, keep the handles closed to prevent objects from becoming lodged in the crimping dies, and store the tool in a clean, dry area.

9.2 Miscrimps or Jams

Should this tool ever become stuck or jammed in a partially closed position, Do Not force the handles open or closed. The tool will open easily by pressing up on the ratchet release lever in the movable handle. See Figure8.

Figure 8

10.0 REPAIR / REMOVAL PROCEDURE

** Repair the tool is not be recommended, but maintenance is needful.*

11.0 OTHER

11.1 Warranty

This tool is for electrical terminal crimping purposes only. This tool is made of the best quality materials. All vital components are long life tested. All tools are warranted to be free of manufacturing defects for a period of 30 days. Should such a defect occur, we will repair or exchange the tool free of charge. This repair or exchange will not be applicable to altered, misused, or damaged tools. This tool is designed for hand use only. Any clamping, fixturing, or use of handle extensions voids this warranty.

** AFCI crimp specifications are valid only when used with AFCI terminals and tooling.*
** Manually powered hand tools are intended for low volume or field repair. This tool is NOT intended for production use. Repetitive use of this tool should be avoided.*
** Insulated rubber handles are not protection against electrical shock.*
** Wear eye protection at all times.*
** Use only the AFCI terminals specified for crimping with this tool.*

11.2 Certification

AFCI does not certify or re-certify hand tools but rather supplies the following guidelines for customers to re-certify hand tools.

11.2.1 This tool is qualified to pull force only. To re-certify, crimp a terminal to a wire, which has been stripped 12.7mm (1/2”) long, so there is no crimping of the insulation. Pull the terminal and wire at a rate no faster than 25mm (1.00”) per minute. See the AFCI web site for the Quality Crimp Handbook for more information on pull testing.

11.2.2 If the tool does not meet minimum pull force values, handle preload should be increased and the pull test rerun, (See How to Adjust Preload).

11.2.3 When the hand tool is no longer capable of achieving minimum pull force, it should be taken out of service and replaced.

12.0 RECORD RETENTION

REV	PAGE	DESCRIPTION	EC#	DATE
A	All	New Release	/	2019-06-11
B	All	Add new terminal 10169001	/	2022-12-29