



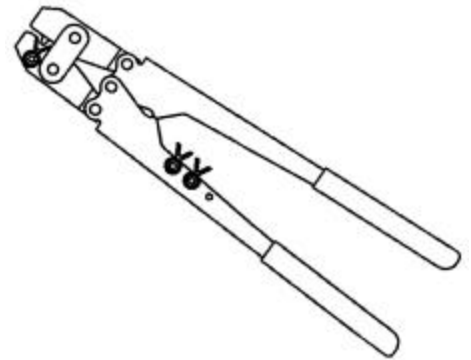
# Hand Crimp Tool

## Operating Instruction Sheet

### And Specifications

Part No. 19284-0034

Eng. No. E-406



### FEATURES

- Heavy-duty cable crimping tool with hand held precision
- Perfect for maintenance and lower volume crimping
- 3 Interchangeable Die Inserts which are stored in the handle and covers the full wire range
- Long handles provide maximum mechanical advantage which reduces operator fatigue

### SCOPE

Eyelet Style Copper Lug Terminals 8-4/0 AWG.

### Testing

#### Mechanical

The tensile test, or pull test is, a means of evaluating the mechanical properties of the crimped connections. The following chart shows the UL Specifications for various wire sizes. The tensile strength is shown in pounds and indicates the minimum acceptable force to break or separate the terminal from the conductor.

| Wire Size (AWG) | *UL - 486 A |
|-----------------|-------------|
| 8               | 90          |
| 6               | 100         |
| 4               | 140         |
| 2               | 180         |
| 1               | 200         |
| 1/0             | 250         |
| 2/0             | 300         |
| 3/0             | 350         |
| 4/0             | 450         |

\*UL - 486 A - Terminals (Copper conductors only)

The following is a partial list of the product part numbers and their specifications that this tool is designed to crimp. We will be adding to this list and an up to date copy is available on [www.molex.com](http://www.molex.com)

| Wire Size: 8 |                        | 8.50 mm²          |       | Die Insert |
|--------------|------------------------|-------------------|-------|------------|
| Terminal No. | Terminal Eng No. (REF) | Wire Strip Length |       |            |
|              |                        | In                | mm    |            |
| 19221-0223   | BCL-810-PL             | .437              | 11.09 | Insert A   |
| 19221-0224   | BCL-814-PL             | .437              | 11.09 | Insert A   |
| 19221-0225   | BCL-8516-PL            | .437              | 11.09 | Insert A   |
| 19221-0226   | BCL-838-WP-PL          | .437              | 11.09 | Insert A   |
| 19221-0408   | BCL-810                | .437              | 11.09 | Insert A   |
| 19221-0409   | BCL-814                | .437              | 11.09 | Insert A   |
| 19221-0410   | BCL-838-WP             | .437              | 11.09 | Insert A   |
| 19221-0411   | BCL-8516               | .437              | 11.09 | Insert A   |
| 19221-0414   | BCL-812-XWP-PL         | .437              | 11.09 | Insert A   |
| 19221-0415   | BCL-812-XWP            | .437              | 11.09 | Insert A   |
| 19221-0481   | BCL-838-XWP            | .437              | 11.09 | Insert A   |
| 19221-0482   | BCL-8516-WP            | .437              | 11.09 | Insert A   |
| 19221-0483   | BCL-8516-WP-PL         | .437              | 11.09 | Insert A   |
| 19221-0484   | BCL-838-XWP-PL         | .437              | 11.09 | Insert A   |

| Wire Size: 6 |                        | 16.0 mm <sup>2</sup> |       |            |
|--------------|------------------------|----------------------|-------|------------|
| Terminal No. | Terminal Eng No. (REF) | Wire Strip Length    |       | Die Insert |
|              |                        | In                   | mm    |            |
| 19221-0227   | BCL-614-WP-PL          | .437                 | 11.09 | Insert A   |
| 19221-0228   | BCL-6516-WP-RL         | .437                 | 11.09 | Insert A   |
| 19221-0229   | BCL-638-WP-PL          | .437                 | 11.09 | Insert A   |
| 19221-0384   | BCL-638-WP             | .437                 | 11.09 | Insert A   |
| 19221-0406   | BCL-614-WP             | .437                 | 11.09 | Insert A   |
| 19221-0407   | BCL-6516-WP            | .437                 | 11.09 | Insert A   |
| 19221-0416   | BCL-612-XWP-PL         | .437                 | 11.09 | Insert A   |
| 19221-0417   | BCL-612-XWP            | .437                 | 11.09 | Insert A   |
| 19221-0424   | BCL-610-PL             | .437                 | 11.09 | Insert A   |
| 19221-0425   | BCL-610                | .437                 | 11.09 | Insert A   |
| 19221-0492   | BCL-6561-RL            | .437                 | 11.09 | Insert A   |
| 19221-0493   | BCL-6561               | .437                 | 11.09 | Insert A   |
| 19221-0494   | BCL-614                | .437                 | 11.09 | Insert A   |
| 19221-0495   | BCL-6141-RL            | .437                 | 11.09 | Insert A   |
| 19221-0568   | BCL-638-XWP-PL         | .437                 | 11.09 | Insert A   |
| 19221-0569   | BCL-638-XWP            | .437                 | 11.09 | Insert A   |

| Wire Size: 4 25.0 mm <sup>2</sup> |                        |                   |       |            |
|-----------------------------------|------------------------|-------------------|-------|------------|
| Terminal No.                      | Terminal Eng No. (REF) | Wire Strip Length |       | Die Insert |
|                                   |                        | In                | mm    |            |
| 19221-0230                        | BCL-414-PL             | .500              | 12.70 | Insert A   |
| 19221-0231                        | BCL-4516-RL            | .500              | 12.70 | Insert A   |
| 19221-0232                        | BCL-438-PL             | .500              | 12.70 | Insert A   |
| 19221-0383                        | BCL-438                | .500              | 12.70 | Insert A   |
| 19221-0404                        | BCL-414                | .500              | 12.70 | Insert A   |
| 19221-0405                        | BCL-4516               | .500              | 12.70 | Insert A   |
| 19221-0451                        | BCL-410                | .500              | 12.70 | Insert A   |
| 19221-0452                        | BCL-410-PL             | .500              | 12.70 | Insert A   |
| 19221-0453                        | BCL-412                | .500              | 12.70 | Insert A   |
| 19221-0454                        | BCL-412-PL             | .500              | 12.70 | Insert A   |
| 19221-0456                        | BCL-438-WP-PL          | .500              | 12.70 | Insert A   |
| 19221-0457                        | BCL-438-WXP-PL         | .500              | 12.70 | Insert A   |
| 19221-0458                        | BCL-438-WP             | .500              | 12.70 | Insert A   |
| 19221-0459                        | BCL-438-WXP            | .500              | 12.70 | Insert A   |
| 19221-0460                        | BCL-4516-WP-RL         | .500              | 12.70 | Insert A   |
| 19221-0461                        | BCL-4516-WP            | .500              | 12.70 | Insert A   |

| Wire Size: 2 35.0 mm <sup>2</sup> |                        |                   |       |            |
|-----------------------------------|------------------------|-------------------|-------|------------|
| Terminal No.                      | Terminal Eng No. (REF) | Wire Strip Length |       | Die Insert |
|                                   |                        | In                | mm    |            |
| 19221-0233                        | BCL-2516-RL            | .562              | 14.27 | Insert C   |
| 19221-0235                        | BCL-238-PL             | .562              | 14.27 | Insert C   |
| 19221-0236                        | BCL-212-WP-PL          | .562              | 14.27 | Insert C   |
| 19221-0380                        | BCL-238                | .562              | 14.27 | Insert C   |
| 19221-0399                        | BCL-212-WP             | .562              | 14.27 | Insert C   |
| 19221-0400                        | BCL-2516               | .562              | 14.27 | Insert C   |
| 19221-0418                        | BCL-214-PL             | .562              | 14.27 | Insert C   |
| 19221-0419                        | BCL-214                | .562              | 14.27 | Insert C   |

| Wire Size: 1 42.4 mm <sup>2</sup> |                        |                   |       |            |
|-----------------------------------|------------------------|-------------------|-------|------------|
| Terminal No.                      | Terminal Eng No. (REF) | Wire Strip Length |       | Die Insert |
|                                   |                        | In                | mm    |            |
| 19221-0237                        | BCL-1516-RL            | .625              | 15.87 | Insert C   |
| 19221-0238                        | BCL-138-PL             | .625              | 15.87 | Insert C   |
| 19221-0239                        | BCL-112-PL             | .625              | 15.87 | Insert C   |
| 19221-0378                        | BCL-138                | .625              | 15.87 | Insert C   |
| 19221-0395                        | BCL-112                | .625              | 15.87 | Insert C   |
| 19221-0396                        | BCL-1516               | .625              | 15.87 | Insert C   |
| 19221-0420                        | BCL-114-PL             | .625              | 15.87 | Insert C   |
| 19221-0421                        | BCL-114                | .625              | 15.87 | Insert C   |

| Wire Size: 1/0 50.0 mm <sup>2</sup> |                        |                   |       |            |
|-------------------------------------|------------------------|-------------------|-------|------------|
| Terminal No.                        | Terminal Eng No. (REF) | Wire Strip Length |       | Die Insert |
|                                     |                        | In                | mm    |            |
| 19221-0240                          | BCL-10516-PL           | .687              | 17.44 | Insert B   |
| 19221-0241                          | BCL-1038-RL            | .687              | 17.44 | Insert B   |
| 19221-0242                          | BCL-1012-RL            | .687              | 17.44 | Insert B   |
| 19221-0377                          | BCL-1038               | .687              | 17.44 | Insert B   |
| 19221-0393                          | BCL-1012               | .687              | 17.44 | Insert B   |
| 19221-0394                          | BCL-10516              | .687              | 17.44 | Insert B   |
| 19221-0422                          | BCL-1014-RL            | .687              | 17.44 | Insert B   |
| 19221-0423                          | BCL-1014               | .687              | 17.44 | Insert B   |
| 19221-0436                          | BCL-1012-WP-RL         | .687              | 17.44 | Insert B   |
| 19221-0437                          | BCL-1012-WP            | .687              | 17.44 | Insert B   |
| 19221-0440                          | BCL-1038-WP-RL         | .687              | 17.44 | Insert B   |
| 19221-0441                          | BCL-1038-WP            | .687              | 17.44 | Insert B   |

| Wire Size: 2/0 70.0 mm <sup>2</sup> |                        |                   |       |            |
|-------------------------------------|------------------------|-------------------|-------|------------|
| Terminal No.                        | Terminal Eng No. (REF) | Wire Strip Length |       | Die Insert |
|                                     |                        | In                | mm    |            |
| 19221-0234                          | BCL-2014-RL            | .687              | 17.44 | Insert B   |
| 19221-0243                          | BCL-20516-PL           | .687              | 17.44 | Insert B   |
| 19221-0244                          | BCL-2038-RL            | .687              | 17.44 | Insert B   |
| 19221-0245                          | BCL-2012-RL            | .687              | 17.44 | Insert B   |
| 19221-0249                          | BCL-2014               | .687              | 17.44 | Insert B   |
| 19221-0379                          | BCL-2038               | .687              | 17.44 | Insert B   |
| 19221-0397                          | BCL-2012               | .687              | 17.44 | Insert B   |
| 19221-0398                          | BCL-20516              | .687              | 17.44 | Insert B   |

| Wire Size: 3/0 95.0 mm <sup>2</sup> |                        |                   |       |            |
|-------------------------------------|------------------------|-------------------|-------|------------|
| Terminal No.                        | Terminal Eng No. (REF) | Wire Strip Length |       | Die Insert |
|                                     |                        | In                | mm    |            |
| 19221-0246                          | BCL-30516-PL           | .750              | 19.05 | No Insert  |
| 19221-0247                          | BCL-3038-RL            | .750              | 19.05 | No Insert  |
| 19221-0248                          | BCL-3012-RL            | .750              | 19.05 | No Insert  |
| 19221-0381                          | BCL-3038               | .750              | 19.05 | No Insert  |
| 19221-0401                          | BCL-3012               | .750              | 19.05 | No Insert  |
| 19221-0402                          | BCL-30516              | .750              | 19.05 | No Insert  |
| 19221-0478                          | BCL-3014               | .750              | 19.05 | No Insert  |
| 19221-0570                          | BCL-3014-RL            | .750              | 19.05 | No Insert  |

| Wire Size: 4/0 120.0 mm <sup>2</sup> |                        |                   |       |            |
|--------------------------------------|------------------------|-------------------|-------|------------|
| Terminal No.                         | Terminal Eng No. (REF) | Wire Strip Length |       | Die Insert |
|                                      |                        | In                | mm    |            |
| 19221-0250                           | BCL-4038-RL            | .812              | 20.62 | No Insert  |
| 19221-0251                           | BCL-4012-RL            | .812              | 20.62 | No Insert  |
| 19221-0371                           | BCL-4038-PL (.625)     | .812              | 20.62 | No Insert  |
| 19221-0372                           | BCL-4012-PL (.625)     | .812              | 20.62 | No Insert  |
| 19221-0374                           | BCL-4038 (.625)        | .812              | 20.62 | No Insert  |
| 19221-0375                           | BCL-4012 (.625)        | .812              | 20.62 | No Insert  |
| 19221-0382                           | BCL-4038               | .812              | 20.62 | No Insert  |
| 19221-0403                           | BCL-4012               | .812              | 20.62 | No Insert  |
| 19221-0412                           | BCL-40516-PL           | .812              | 20.62 | No Insert  |
| 19221-0413                           | BCL-40516              | .812              | 20.62 | No Insert  |
| 19221-0502                           | BCL-40516 (.625)       | .812              | 20.62 | No Insert  |
| 19221-0503                           | BCL-40516-PL (.625)    | .812              | 20.62 | No Insert  |

## INTRODUCTION

Hand Crimp Tool 19284-0034 (E-406) is used to crimp heavy-duty copper lug terminals onto the wire sizes given in the charts 1 and 2.

## DESCRIPTION

The tool consists of jaws, handles, and three interchangeable die inserts. Each die insert is marked with an alphabetic letter to correspond with the wire size being used. See terminal part number for correct insert.

**Note:** On some standard and minimum gauge cables, re-crimping the assembly with the next smaller insert may be advisable for maximum circuit efficiency

## OPERATION

### Crimping Terminals

1. Strip the wire to the dimension given in the preceding terminal lists.
2. Install the proper die insert onto the jaw. The three interchangeable die inserts are changed by removing the holding screw on the handle and installing the proper die insert into the jaws of the tool.
3. Insert the properly stripped wire into the terminal barrel.
4. Center the terminal barrel with the wire in the proper die insert. Make sure that the pad or bottom side of the terminal barrel faces the tool indenter.
5. Now close the crimp tool handles completely and release. Open the handles and remove the crimped terminal.
6. Inspect the product for a quality crimp.

Hand held crimping tools are intended for low volume, prototyping, or repair requirements only.

**Caution:** Repetitive use of this tool should be avoided.

**PARTS LIST**

| Item | Order No   | Description     | Quantity |
|------|------------|-----------------|----------|
| 1    | 19284-0034 | Hand Crimp Tool | (Fig. 2) |

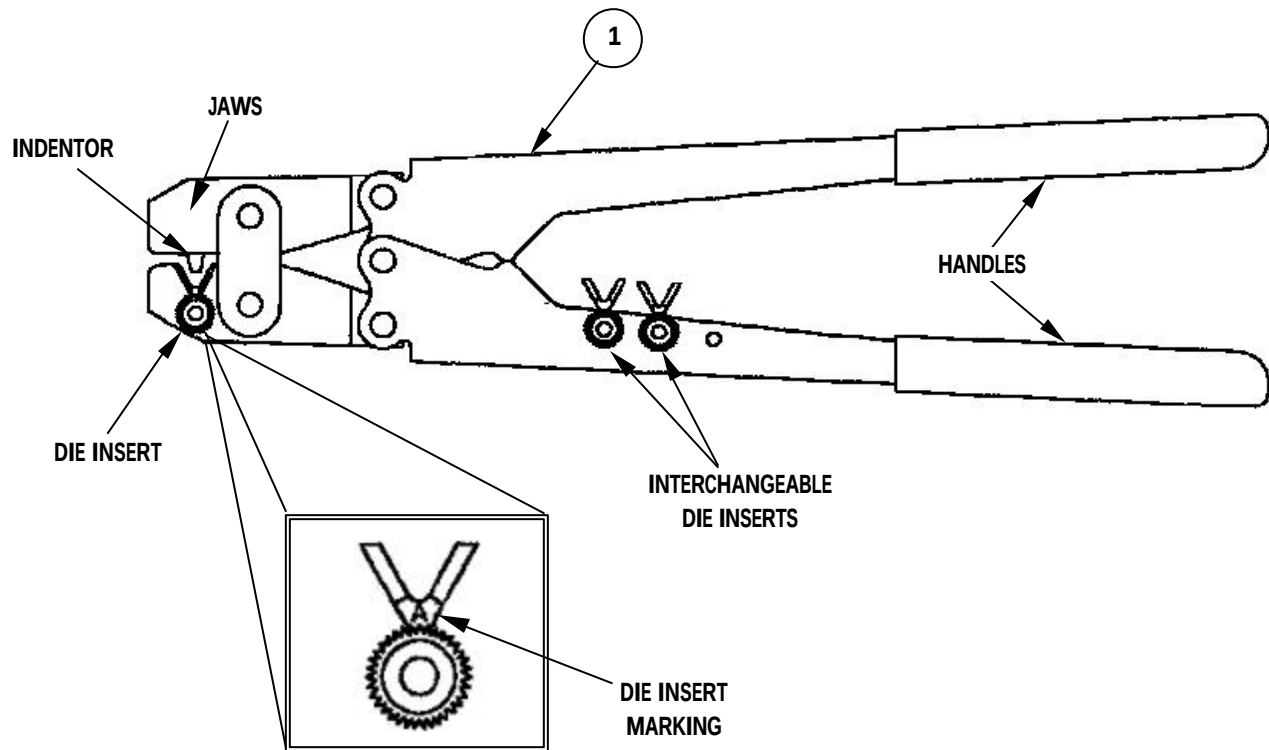


Figure 2

**Molex Application Tooling Group**

1150 E. Diehl Road  
Naperville, IL 60563  
Tel: (630) 969-4550  
Fax: (630) 505-0049