

## GENERAL

## NOTE

The following table provides a description of the connectors found on your motorcycle.

*Male ends of connectors are labeled "A" in text.  
Female ends of connectors are labeled "B" in text.*

Connector numbers are listed in [brackets] in this manual.

**Table B-1. Electrical Connectors**

CONNECTOR	DESCRIPTION	COMPONENT(S)	LOCATION
[7]	6-place Amp Multilock	Tail Lamp/Rear Directionals	Under Seat
[10]	6-place Deutsch	Integrated Ignition Module Sensor	Left side of frame backbone on T-stud
[22]	4-place Amp Multilock	Right Handlebar Switch Housing-ignition power, module and starter	Behind windscreen
[20]	12-place Deutsch	Indicators/Speedometer	Behind windscreen
[24]	10-place Amp Multilock	Left Handlebar Switch Housing-turn signals, lights	Behind windscreen
[30]	3-blade relay connector	Flasher Relay	Under seat, to right of battery
[33]	4-place Deutsch	Ignition/Headlamp Key Switch	Behind windscreen
[38]	4-place Amp Multilock	Headlamp	Behind windscreen/headlamp
[39]	12-place Packard	Speedometer/Indicators	On back of speedometer
[46]	2-place barrel connector	Voltage Regulator	Above swingarm, left side
[60]	2-place Amp Multilock	Side Stand Switch	On top of swingarm, cable tied to rear brake line
[61]	9-slot fuse block	Fuse Block	Under seat on right side
[65]	3-place Deutsch	Speed Sensor	Under seat, to right of shock
[83]	3-place Amp Multilock	Ignition Coil	Under frame backbone at coil
[88]	6-place Deutsch	Throttle Position Sensor and Auto-Enrichener	Under frame backbone, right side
[95]	2-place Amp Multilock	Clutch Switch	At left handlebar
[120]	Post	Oil Pressure Switch	Above oil filter, right lower side of crankcase
[121]	2 blades	Rear Stoplight Switch	At switch, under frame by shock absorber
[122]	Blade	Horn	At horn, behind front fork
[123]	4-blade relay connector	Starter Relay	Under seat to right of battery
[128]	Blade	Starter	Under starter solenoid
[131]	Post	Neutral Switch	Behind sprocket cover, right side
[134]	3-place Packard	Bank Angle Sensor	Under Seat to right of battery
[170]	2 blades	Front Brake Switch	At right handlebar switch
[171]	4-blade relay connector	System Relay	Under seat, to left of battery
[172]	1-Place Bullet	Neutral Switch to main harness	Above sprocket cover, right side

## GENERAL

The Deutsch Connector features a seal to protect electrical contacts from dirt and moisture.

Three and eight pin connectors are of similar construction with one exception: eight pin connectors use two external latches on the socket side.

### NOTE

Use the *DEUTSCH TERMINAL CRIMP TOOL* (Part No. HD-39965) to install Deutsch pin and socket terminals on wires. If **new** terminals must be installed, follow the instructions included with the crimping tool or see [CRIMPING INSTRUCTIONS](#).

## REMOVING/INSTALLING SOCKETS

1. See [Figure B-1](#). Remove the secondary locking wedge (6). Insert the blade of a small screwdriver between the socket housing and locking wedge in—line with the groove (in—line with the pin holes if the groove is absent). Turn the screwdriver 90° to pop the wedge up.
2. Gently depress terminal latches inside socket housing (3) and back out socket terminals (1) through holes in rear wire seal (2).
3. Fit rear wire seal (2) into back of socket housing, if removed. Grasp socket terminal approximately 1.0 in. (25.4 mm) behind the contact barrel. Gently push sockets through holes in wire seal into their respective chambers. Feed socket into chamber until it “clicks” in place. Verify that socket will not back out of chamber; a slight tug on the wire will confirm that it is properly locked in place.
4. Install internal seal (5) on lip of socket housing, if removed. Insert tapered end of secondary locking wedge (6) into socket housing and press down until it snaps in place. The wedge fits into the center groove within the socket housing and holds the terminal latches tightly closed.

### NOTE

- The conical secondary locking wedge of the 3-pin connector must be installed with the arrow pointing toward the external latch. See [Figure B-2](#).
- If the secondary locking wedge does not slide into the installed position easily, verify that all terminals are fully installed in the socket housing. The lock indicates when terminals are not properly installed by not entering its fully installed position.

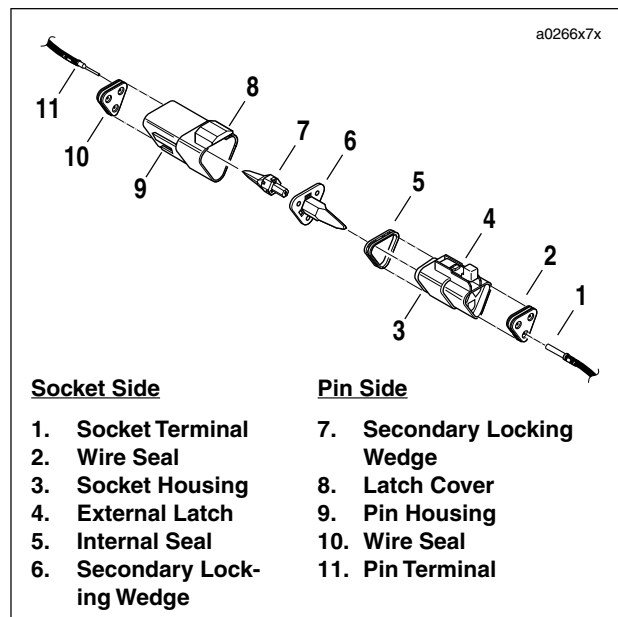


Figure B-1. 3-Pin Connector

## REMOVING/INSTALLING PINS

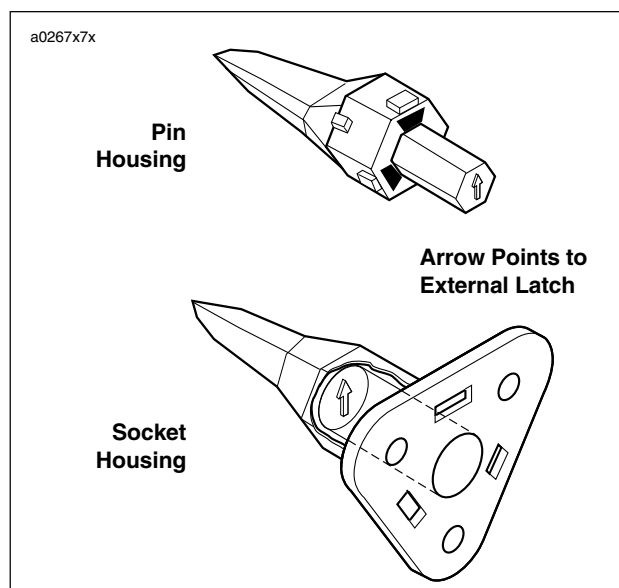
1. See [Figure B-1](#). Remove the secondary locking wedge (7). Use the hooked end of a stiff piece of mechanic's wire or a needle nose pliers, whichever is most suitable.
2. Gently depress terminal latches inside pin housing (9) and back out pin terminals (11) through holes in wire seal (10).
3. Fit wire seal (10) into back of pin housing (9). Grasp crimped pin approximately 1.0 in. (25.4 mm) behind the contact barrel. Gently push pins through holes in wire seal into their respective locations. Feed pin into chamber until it “clicks” in place. Verify that pin will not back out of chamber; a slight tug on the wire will confirm that it is properly locked in place.
4. Insert tapered end of secondary locking wedge (7) into pin housing (9) and press down until it snaps in place. The wedge fits in the center groove within the pin housing and holds the terminal latches tightly closed.

## ASSEMBLY/INSTALLATION

Insert socket housing (3) into pin housing (9) until it snaps in place. To fit the halves of the connector together, the latch (4) on the socket side must be aligned with the latch cover (8) on the pin side.

## CRIMPING INSTRUCTIONS

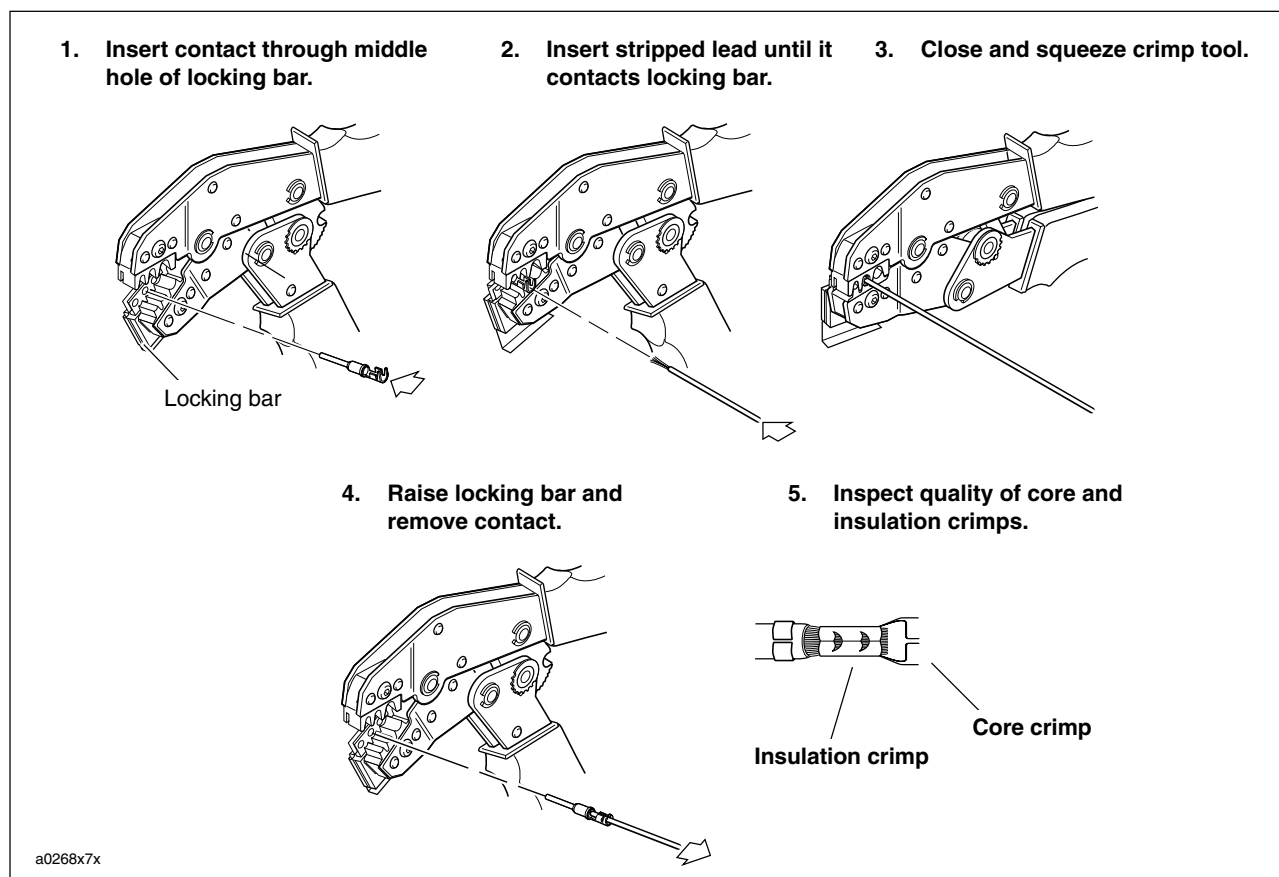
1. See [Figure B-3](#). Squeeze the handles to cycle the DEUTSCH TERMINAL CRIMP TOOL (Part No. HD-39965) to the fully open position.
2. Raise locking bar by pushing up on bottom flange. With the crimp tails facing upward and the rounded side of the contact barrel resting on the concave split level area of the crimp tool, insert contact (socket/pin) through middle hole of locking bar.
3. Release locking bar to lock position of contact. If the crimp tails are slightly out of vertical alignment, the crimp tool automatically rotates the contact so that the tails face straight upward. When correctly positioned, the locking bar fits snugly in the space between the contact band and the core crimp tails.
4. Strip lead removing 0.1562 in. (4.0 mm) of insulation. Insert wires between crimp tails until ends make contact with locking bar. Verify that wire is positioned so that short pair of crimp tails squeeze bare wire strands, while long pair folds over insulation material.
5. Squeeze handle of crimp tool until tightly closed. Tool automatically opens when the crimping sequence is complete. Raise up locking bar and remove contact.



**Figure B-2. 3-pin Locking Wedge Orientation**

**NOTE**

*Inspect the quality of the core and insulation crimps. Distortion should be minimal.*



**Figure B-3. Deutsch Crimping Procedure**

## SOCKET/PIN TERMINALS

### Removal

1. If necessary, cut any surrounding cable straps to gain access to the connector.
2. See [Figure B-4](#). Depress the button (5) on the socket housing (3).
3. Pull apart the pin and socket halves.
4. Bend back the latch slightly and free one side of secondary lock, then repeat the step to release the other side.
5. Rotate the secondary lock outward on hinge to access terminals in chambers of connector housing.
6. Looking in the terminal side of the connector (opposite the secondary lock), take note of the cavity next to each terminal.
7. Remove socket terminal ([Figure B-6](#).) or pin terminal ([Figure B-7](#).)
  - a. With the flat edge against the terminal, insert the pick (Snap-On TT600-3) into the cavity until it stops.
  - b. Pivot the end of the pick away from the terminal to release the tang.
  - c. Gently tug on wire to pull terminal from chamber. Do not tug on the wire until the tang is released or the terminal will be difficult to remove. A “click” is heard if the tang is engaged but then inadvertently released. Repeat the steps without releasing the tang.

#### NOTE

An AMP *TERMINAL CRIMP TOOL* (Part No. HD-41609) is used to install Amp Multi-lock pin and socket terminals on wires. If **new** terminals must be installed, see *CRIMPING INSTRUCTIONS*.

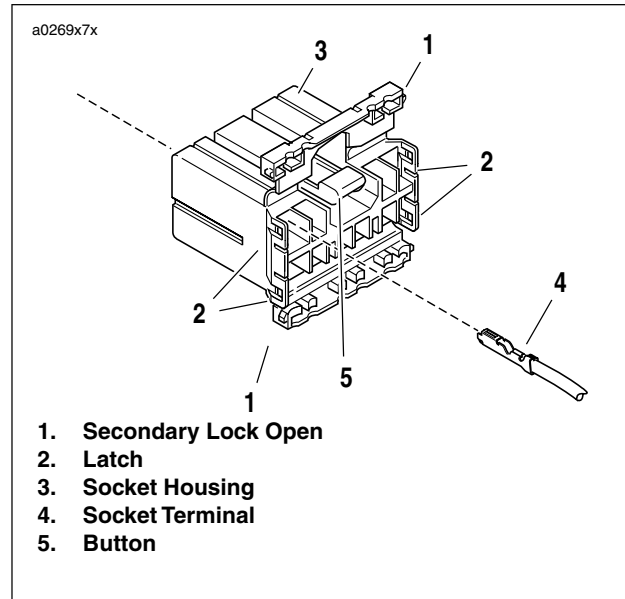


Figure B-4. Socket Housing

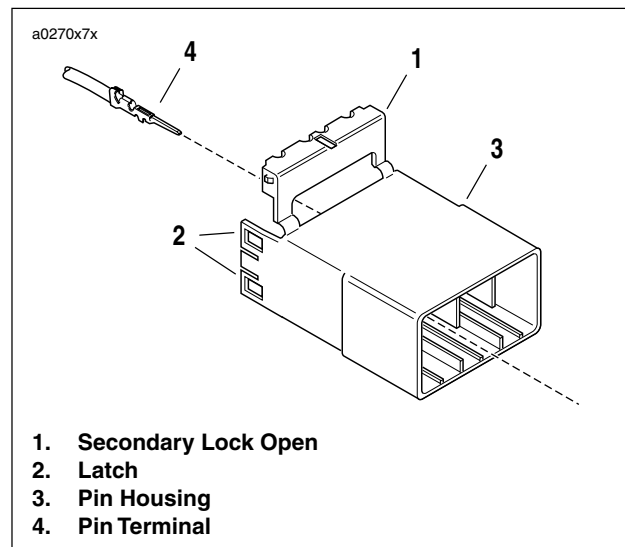


Figure B-5. Pin Housing

## Installation

### NOTES

- For wire location purposes, numbers are stamped into the secondary locks of both the socket and pin housings.
  - The tang in the chamber engages the slot to lock the terminal in position.
  - On the pin side of the connector, tangs are positioned at the bottom of each chamber, so the slot in the pin terminal (on the side opposite the crimp tails) must face downward.
  - On the socket side, tangs are at the top of each chamber, so the socket terminal slot (on the same side as the crimp tails) must face upward.
  - Up and down can be determined by the position of the release button (used to separate the pin and socket halves), the button always being the top of the connector.
1. From the secondary lock side of the connector, insert the terminal into its respective numbered chamber until it snaps in place. For proper fit, the slot in the terminal must face the tang in the chamber.
    - a. If installing socket terminals, see [Figure B-6](#).
    - b. If installing pin terminals, see [Figure B-7](#).
  2. Gently tug on wire end to verify that the terminal is locked in place and will not back out of chamber.
  3. Rotate the hinged secondary lock inward until tabs fully engage latches on both sides of connector.
  4. Insert the socket housing (plug) into the pin housing (receptacle) until it snaps in place.
  5. Secure wiring harness with **new** cable straps.

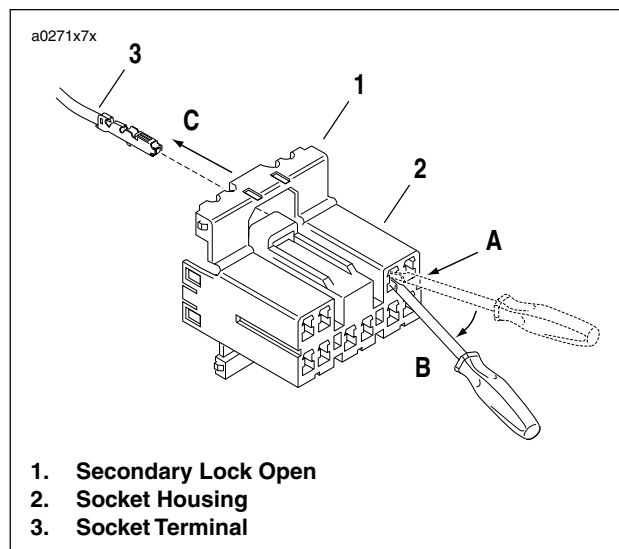


Figure B-6. Socket Terminals

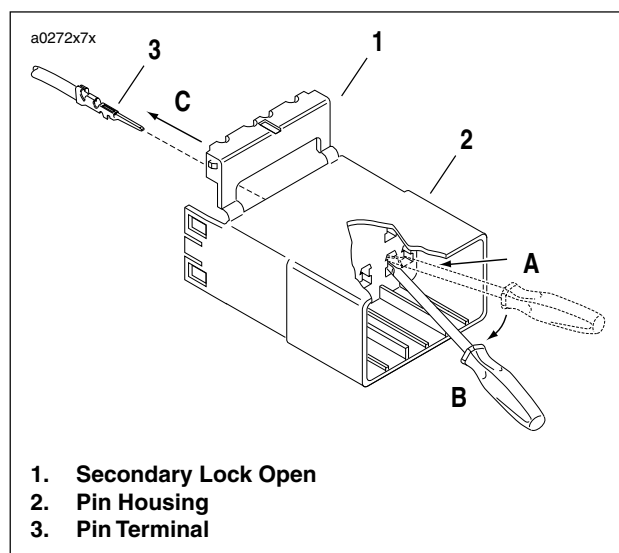


Figure B-7. Pin Terminals

## CRIMPING INSTRUCTIONS

1. See [Figure B-9](#). Squeeze the handles to cycle the AMP TERMINAL CRIMP TOOL (Part No. HD-41609) to the fully open position.
2. Raise locking bar by pushing up on bottom flange. With the crimp tails facing upward, insert contact (socket/pin) through locking bar, so that the closed side of the contact rests on the nest (concave split level area) of the crimp tool). Use the front nest for 20 gauge wire, the middle for 16 gauge and the rear for 18 gauge.
3. Release locking bar to lock position of contact. When correctly positioned, the locking bar fits snugly in the space at the front of the core crimp tails.
4. Strip lead removing 0.1562 in. (4.0 mm) of insulation. Insert wires between crimp tails until ends make contact with locking bar. Verify that wire is positioned so that short pair of crimp tails squeeze bare wire strands, while long pair folds over insulation material.
5. Squeeze handle of crimp tool until tightly closed. Tool automatically opens when the crimping sequence is complete. Raise up locking bar and remove contact.
6. See [Figure B-8](#). Inspect the quality of the core and insulation crimps. Distortion should be minimal.

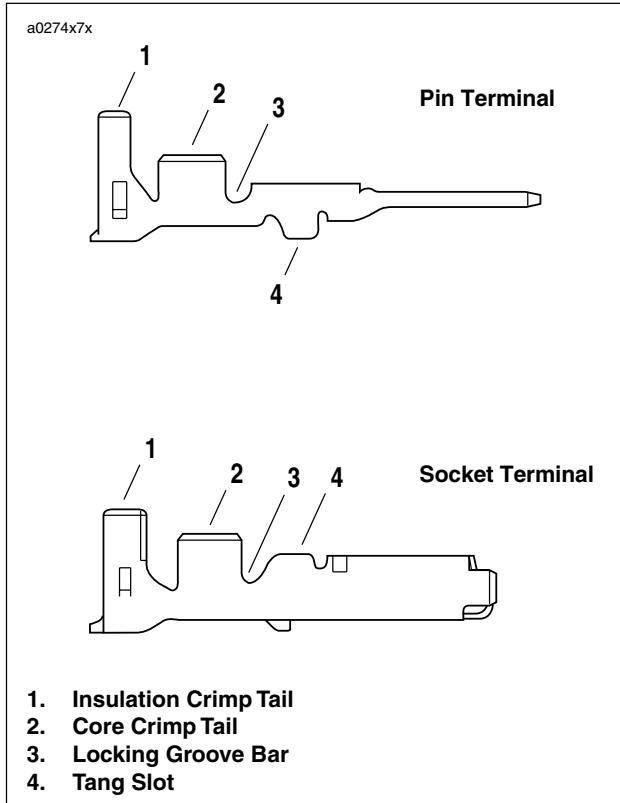


Figure B-8. Crimps

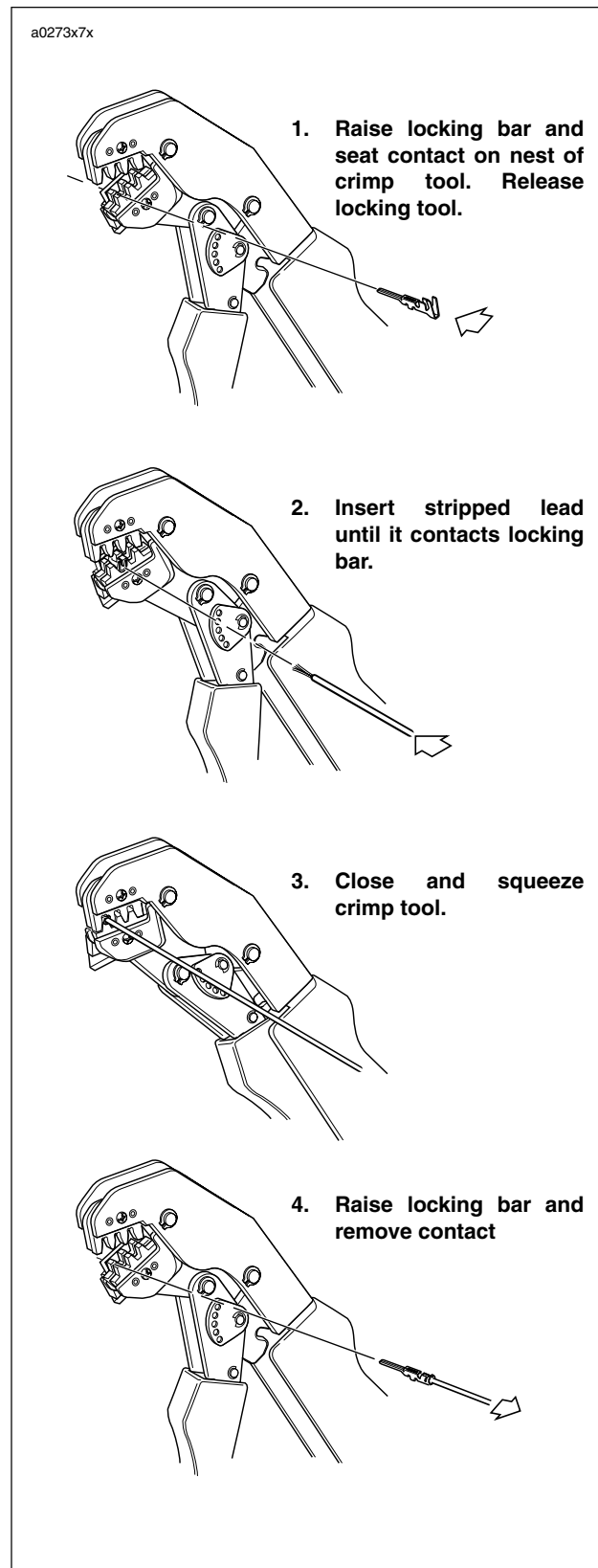


Figure B-9. Amp Multilock Crimping Procedure