400 Network Interface Unit (NIU) Family Description and Installation

Contents Page

Figures

Contents

1. Overview

1.01 This practice covers the description and installation of the 400 NIU family. This family consists of the 400 series NIU, B2-400 base, T3-400 adapter, and upgrade kit of parts.

1.02 This practice is reissued to convert measurements to metric units and to use the AT&T standard format.

1.03 The 400 series NIU enables the retrofit of a B customer service closure to an outside network interface unit.

1.04 The B2-400 base is used in conjunction with the 400 series NIU closure. These two products will retrofit existing installations where the protector block is mounted directly to the wall. These protectors, such as a 123- or 128-type, will be housed by a 150-type cover.

1.05 The T3-400 adapter is used in conjunction with the 400 series NIU closure. These two products will convert a TII* 325/326 protector to an NIU.

1.06 The upgrade kit of parts permits upgrading of the 400 series NIU from one to two lines.

1.07 The 400 NIU family provides the following features:

- Allows a quick and economical conversion from a B customer service closure to an NIU. No new mounting holes are required.
- Provisions for mounting 123-, 125-, or 128-type protectors.
- Provisions for terminating aerial or buried service wire.
- Provisions for terminating customer (inside) wiring.
- Equipped with wire retainers for good housekeeping.
- Equipped with or provisions for mounting two RJ11 network interface jacks for subscriber testing.
- Provisions for a single or double width electronic card module, such as a MTU, RF suppressor, half-ringer, or etc.
- Field upgrade to 2-line service.
- Provisions for lockable cover.

1.08 The NIU provides an enclosed, secure, and environmental-resistant housing for the above features.

---

* Registered trademark of TII Corporation.

1.09 AT&T welcomes your comments on this practice. Your comments will aid us in improving the quality and usefulness of AT&T documentation. Please use the Feedback Form provided at the back of this practice.

1.10 Additional copies of this practice and any associated appendixes may be ordered from the AT&T Customer Information Center as follows:

- Call 1-800-432-6600

  or

- Complete Form INDI-80.80 and mail to:

  AT&T Customer Information Center
  Attention: Order Entry Department
  2855 N. Franklin Road
  P. O. Box 19901
  Indianapolis, IN 46219-1999

1.11 This practice is issued by:

Document Development Organization
AT&T Network Systems
2400 Reynolda Road
Winston-Salem, NC 27106-4696

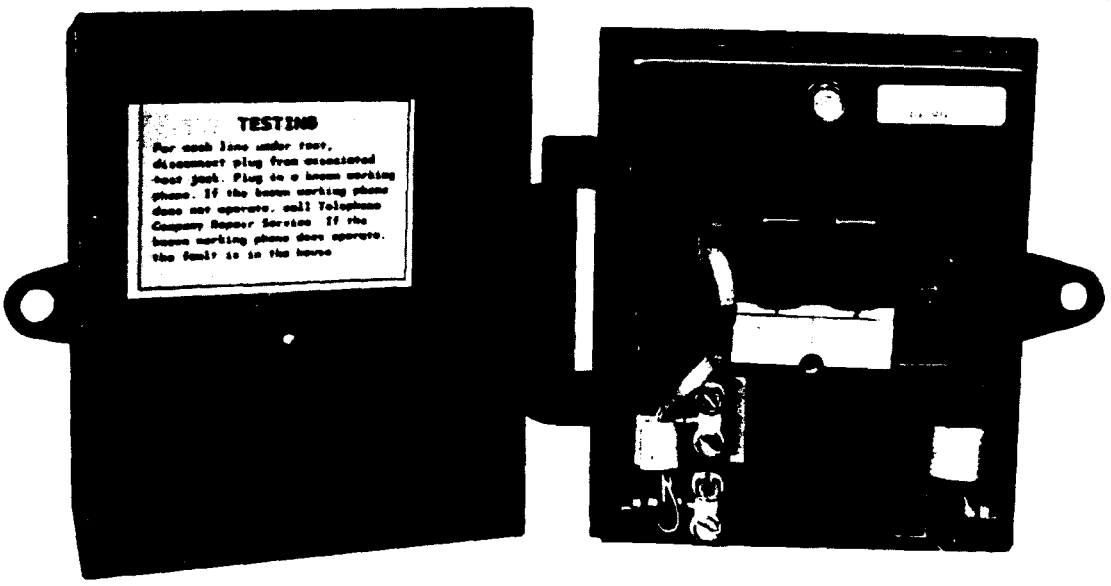
2. Precautions

DANGER:
Station protectors have the risk of electrical shock. Only trained telephone company craftpersons should open a swing plate or attempt to service protector units.

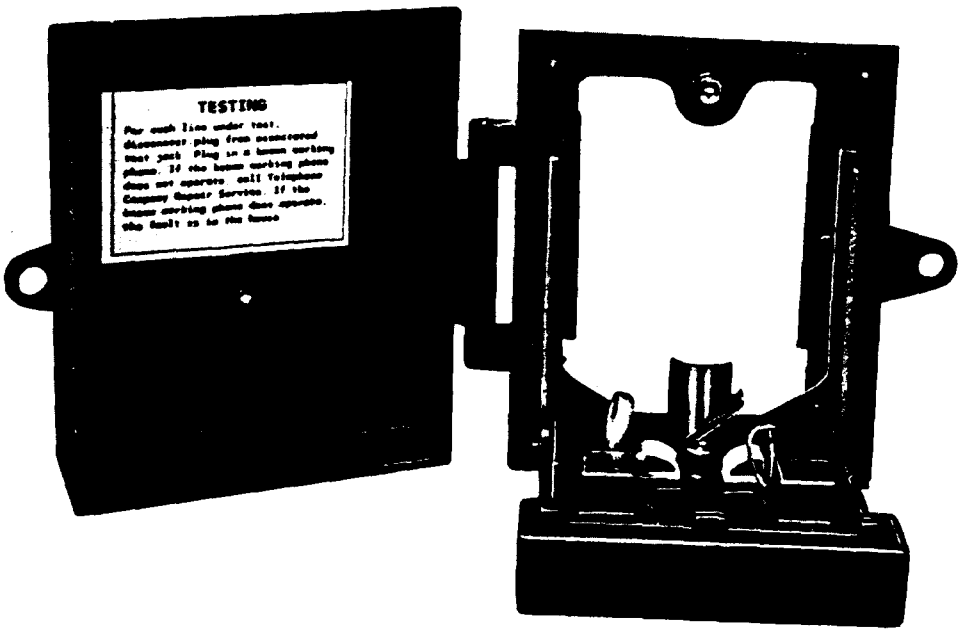
DANGER:
NIUs (especially those installed at an earlier time) may be mounted in close proximity to electrical wiring, outlets, or meters. Craftpersons should be alert for these electrical hazards and take the necessary actions to prevent accidental electrical shock.

3. Description

3.01 The 400 series NIU (Figure 1) consists of a housing with a hinged cover, provisions for two modular plugs and jacks, and termination of subscriber wiring.



OUTSIDE DOOR OPEN



OUTSIDE DOOR OPEN, SWING PLATE DOWN

Figure 1. 400 Series NIU

3.02 The 400 series NIU housing and cover are molded from polycarbonate. The outside hinged cover is equipped with a captive fastener having a screwdriver slot, which allows the customer access to the modular plug(s).

3.03 The swing plate (Figure 2) inside the NIU provides access to the network side of the box. This cover has a recessed security screw to safeguard against unauthorized entry.

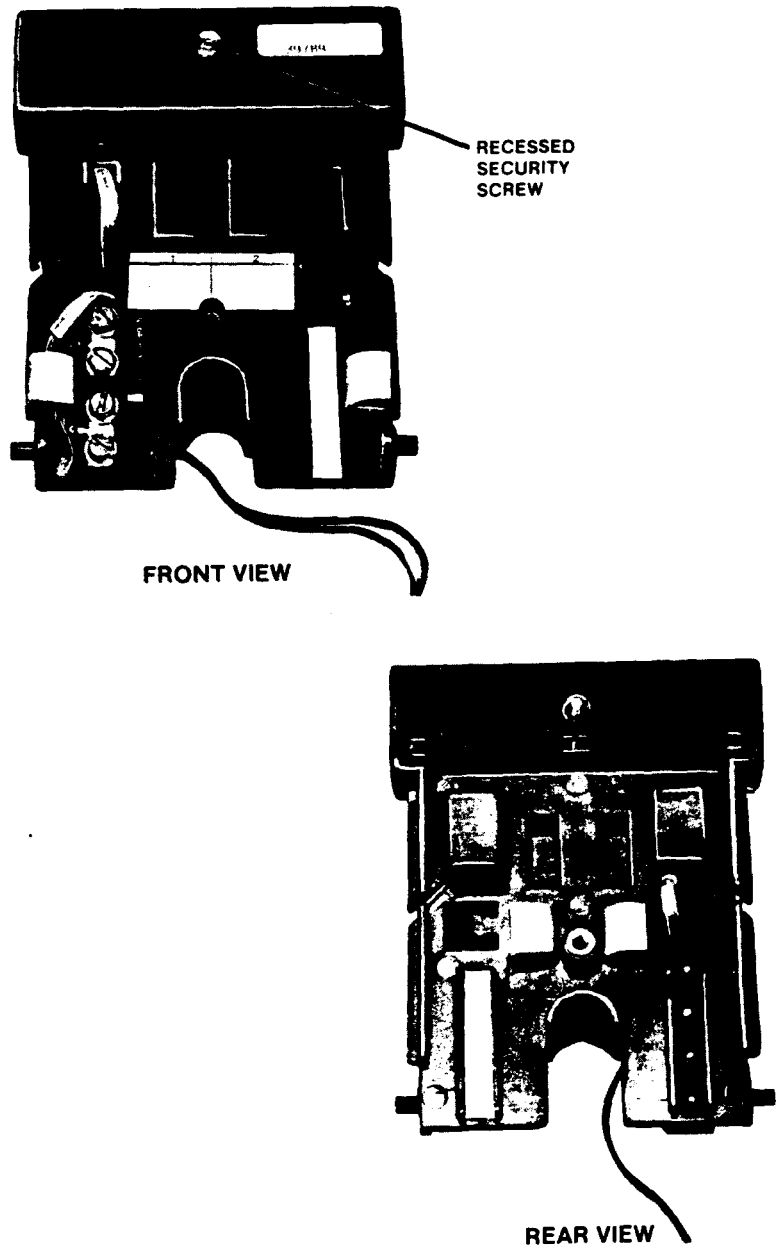


Figure 2. Swing Plate

3.04 The swing plate is designed with two electronic card slots for either a 6A or 7A termination unit. The 7A termination unit provides a half-ringer equivalent (dummy ringer) for loop testing. The 6A maintenance termination unit (MTU) allows mechanized loop testing (MLT) or the local test desk (LTD), to automatically sectionalize premises faults from faults in the network. Faults, which may be sectionalized with the 6A MTU, include tip-to-ring shorts or opens and conductor-to-ground resistive faults.

3.05 The 400 series NIU (Figure 3) is equipped with lockout features, providing a hasp for a customer-provided lock (to inhibit unauthorized entry), and has provisions for Telco personnel to override the lock (to gain entry).

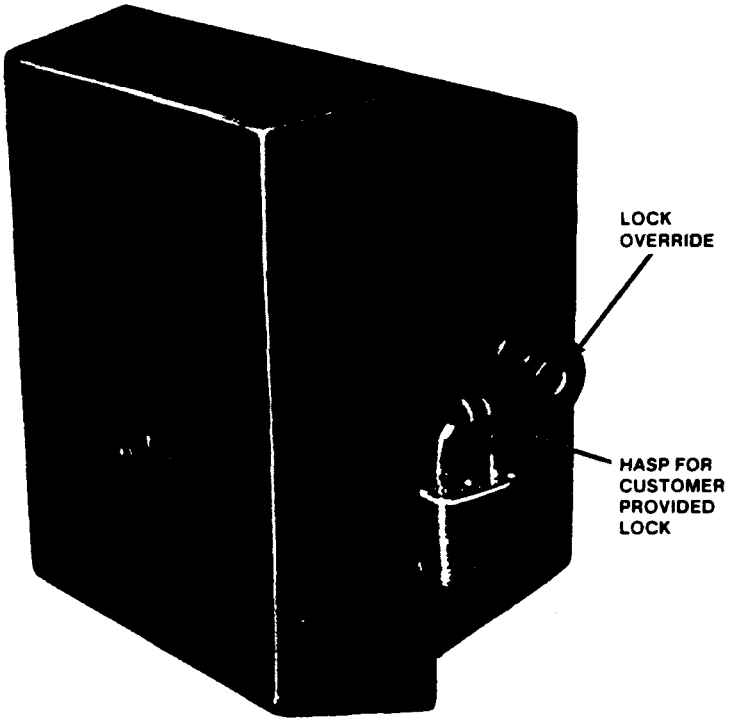


Figure 3. 400 Series NIU Protectors Showing Customer-Provided Lock and Telco Override Feature

3.06 The B2-400 base (Figure 4) is an injection molded part with mounting provisions for protectors. It is also equipped with a horseshoe grommet for easy entry of the service wire, customer wire, and ground wire.

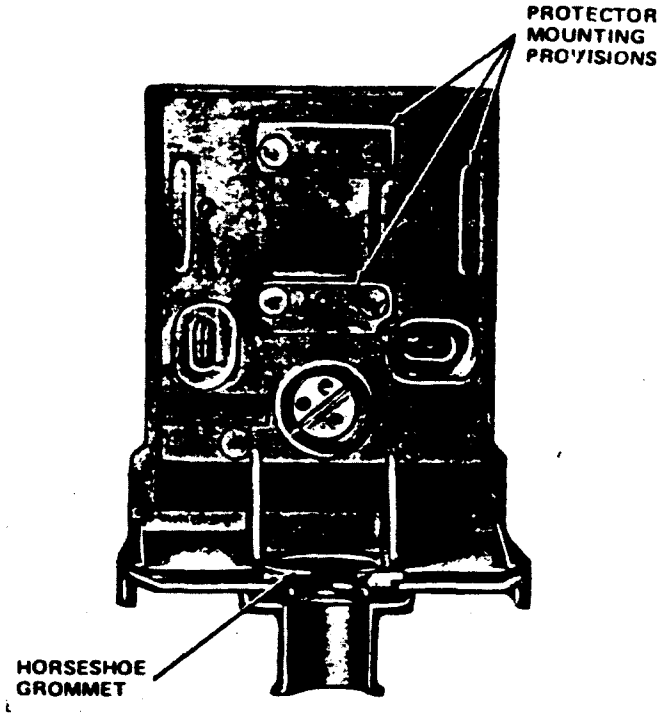


Figure 4. B2-400 Base

3.07 The T3-400 adapter (Figure 5) is an injection molded part, utilized to retrofit a TII 325/326 protector. It is equipped with adapter snaps and lower grooved details for easy installation onto the TII base.

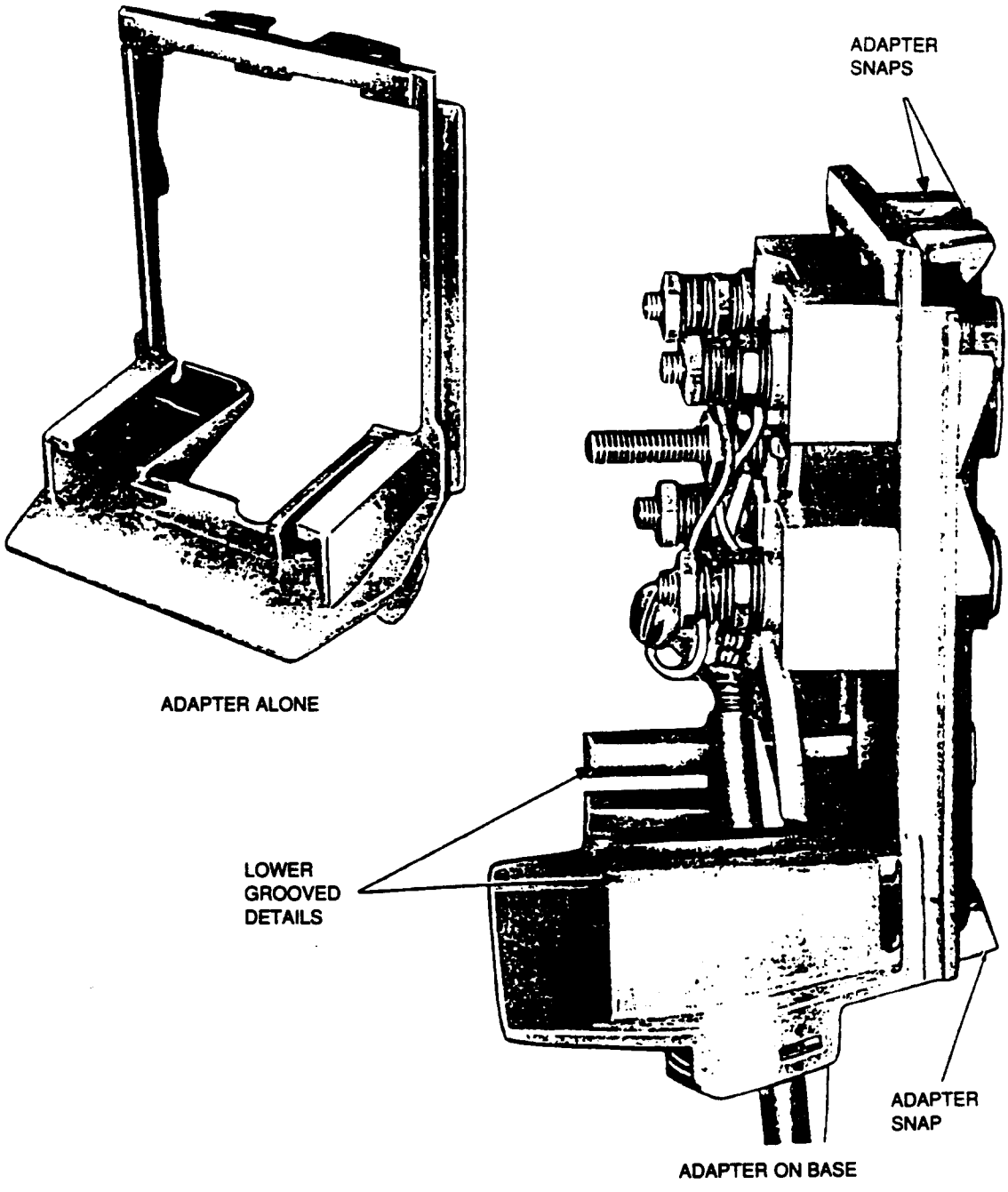


Figure 5. T3-400 Adapter

3.08 The upgrade kit of parts consists of the components needed to upgrade a 400 series NIU from one to two lines. These parts are factory preassembled for easy field installation. Kit 400 D7L (Figure 6) will be discussed in this practice.

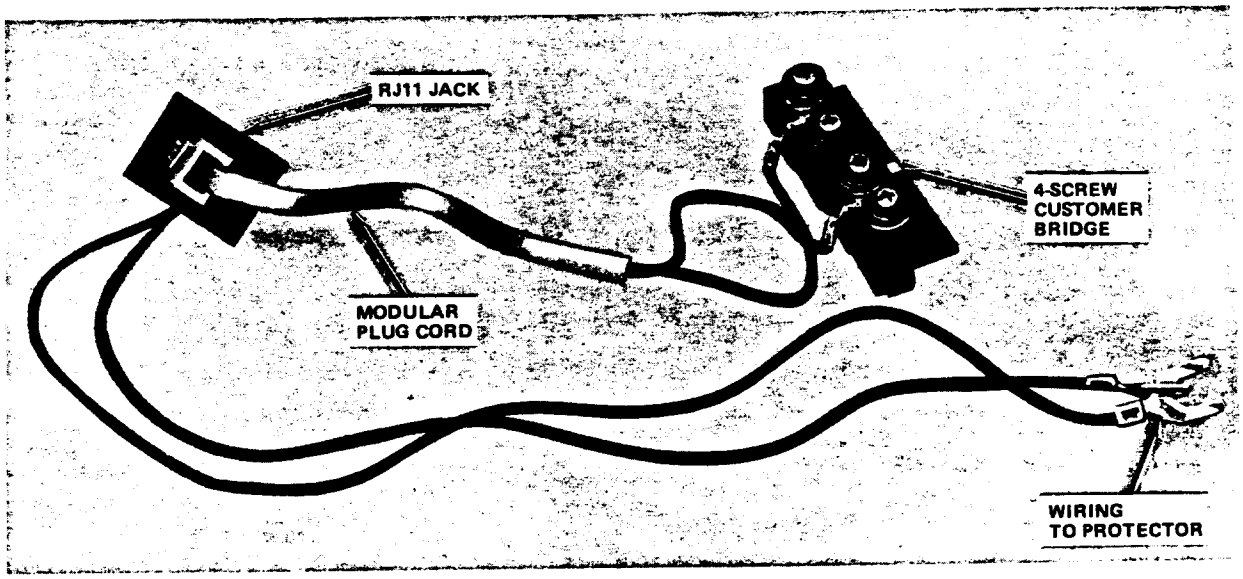
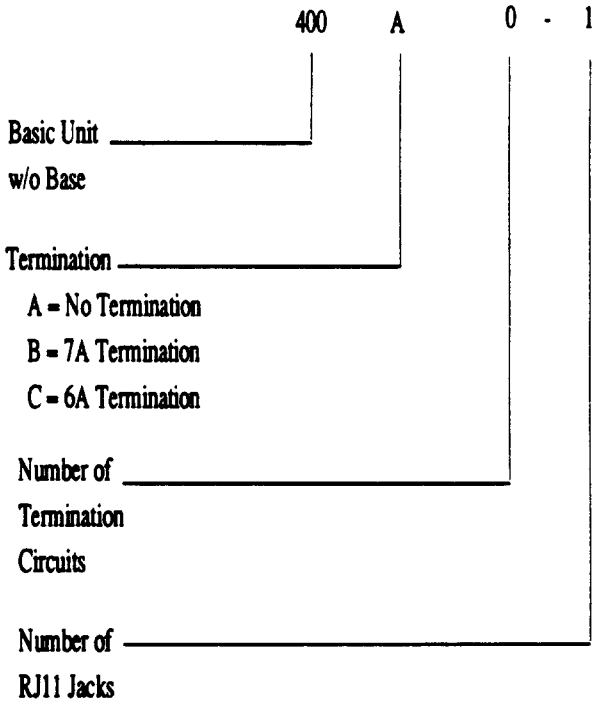


Figure 6. Upgrade Kit of Parts (Kit 400 D7L)

4. Ordering Information

4.01 The coding schemes for the 400 series NIU is as follows:



4.02 NIU feature requirements are satisfied through ordering the products of the 400 NIU family by apparatus code and comcode.

4.03 See Table A for ordering the 400 series NIU.

Table A

400 Series NIUs

NIU Code	Comcode	No. of RJ11 Jacks	Protector	7A Term Ringer Equivalent	6A-1 Termination (Remote Testing)
400A0-1	105562839	1	—	—	—
400A0-2	105562847	2	—	—	—
400B1-1	104403068	1	—	1	—
400B2-2	104403076	2	—	2	—
400C1-1	104403084	1	—	—	1
400C2-2	104403092	2	—	—	2

4.04 See Table B for ordering the B-400 base or T3-400 adapter.

Table B Base/Adapter Unit	
B2-400 Base (without protector)	405731118
T3-400 Adapter	405770595

4.05 See Table C for ordering the upgrade kit of parts.

Table C
400 Series NIU Upgrade Kit of Parts

Contents	400J3B	400J6B	400D7L	400A2T	400A3T	400A6T
Customer Wiring Bridge Assembly	X	X	X	X	X	X
Modular Plug and Cord	X	X	X	X	X	X
Back Plate	X	X	X	X	X	X
Rubber Boot	X	X	X	X	X	X
645A Jack	X	X	X	X	X	X
Network Bridge Assembly	X	X	X	X	X	X
125EW Protector				X	X	X
6A Termination		X				X
7A Termination	X				X	
Lead Assembly Wires (Red and Green)	X		X	X	X	
Comcodes	105459838	105459846	105459796	105459804	105459812	105459820

5. Installation

5.01 The following instructions will cover in detail the installation of the 400 series NIU, B2-400 base, T3-400 adapter, and 400 D7L upgrade kit of parts.

A. 400-Series NIU Installation and Wiring

NOTE:
The procedure in paragraph 5.02 is to be used for customers having a B customer service closure base presently installed.

5.02 Install and wire the 400 series NIU as follows:

(1) Remove the cover of the B customer service closure by cutting the cable ties, spreading the lower-rear corners of the cover, and lifting upward (Figure 7). Verify that the B base is securely mounted to the wall.

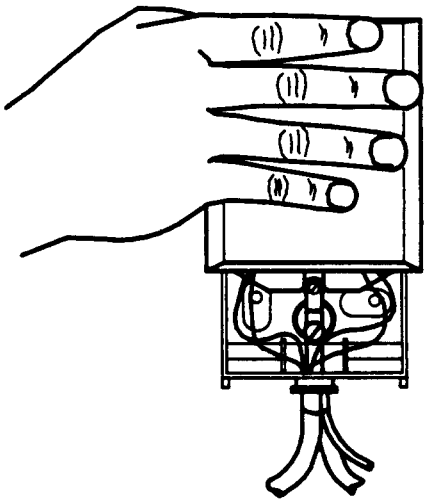


Figure 7. Removing Cover of B Customer Service Closure

(2) Install the 400 series NIU by mounting the NIU onto the base in the same way as the B customer service closure cover. Secure the NIU to the base with a cable tie on each side. Open the outside door of the NIU, using the 216 tool (Figure 8).

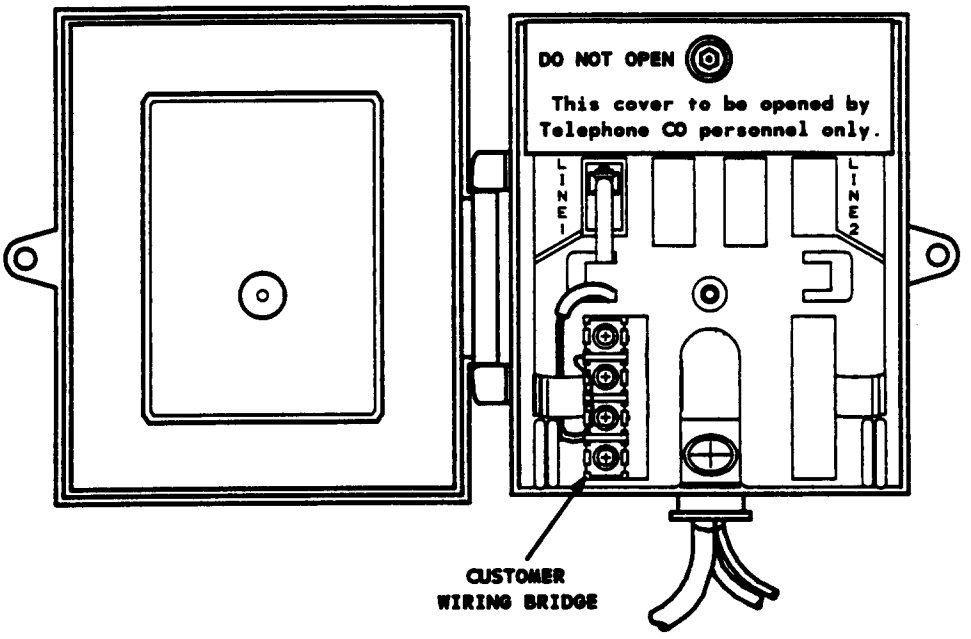


Figure 8. Mounting Unit onto Base

(3) Open the inside swing plate of the NIU, using the KS-19192 L1 security tool. Disconnect the customer inside wiring from the protector block and insert the wires into the curved opening located at the bottom-center of the swing plate (Figure 9).

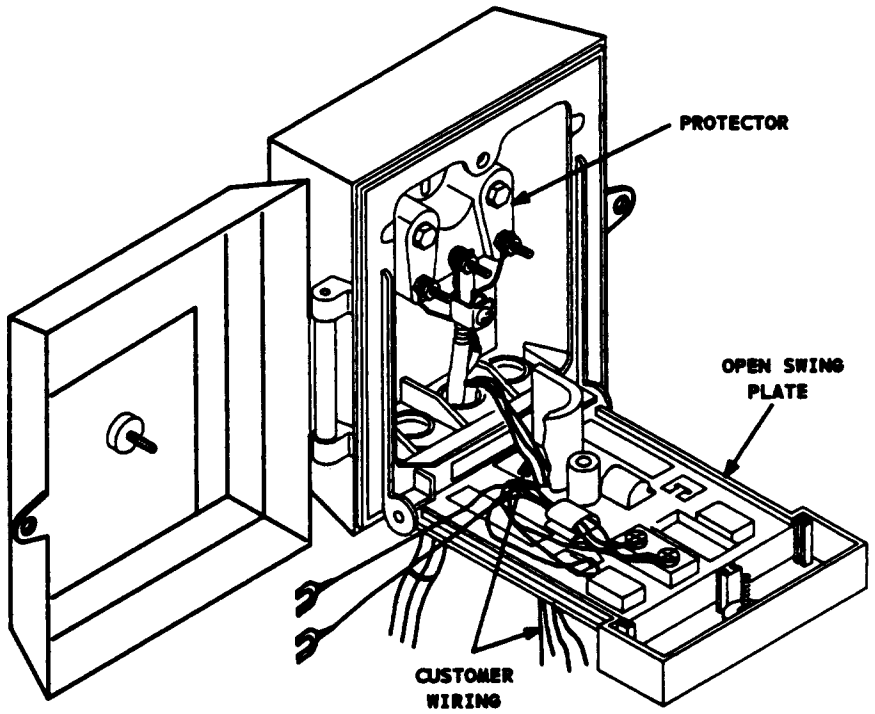


Figure 9. Opening Swing Plate

NOTE:
If an additional line is required, install it now, using the upgrade kit of parts. Refer to paragraph 5.07, Steps (3) through (6) for installation instructions.

(4) If the unit is equipped with a 7A half-ringer or no electronics, attach the red and green leads coming from the network bridge to the tip and ring of the protector (Figure 10). If the unit is equipped with a 6A MTU, attach the leads coming from the MTU to the corresponding terminals on the protector block. Close and secure the swing plate of the NIU using the KS-19192 L2 security tool.

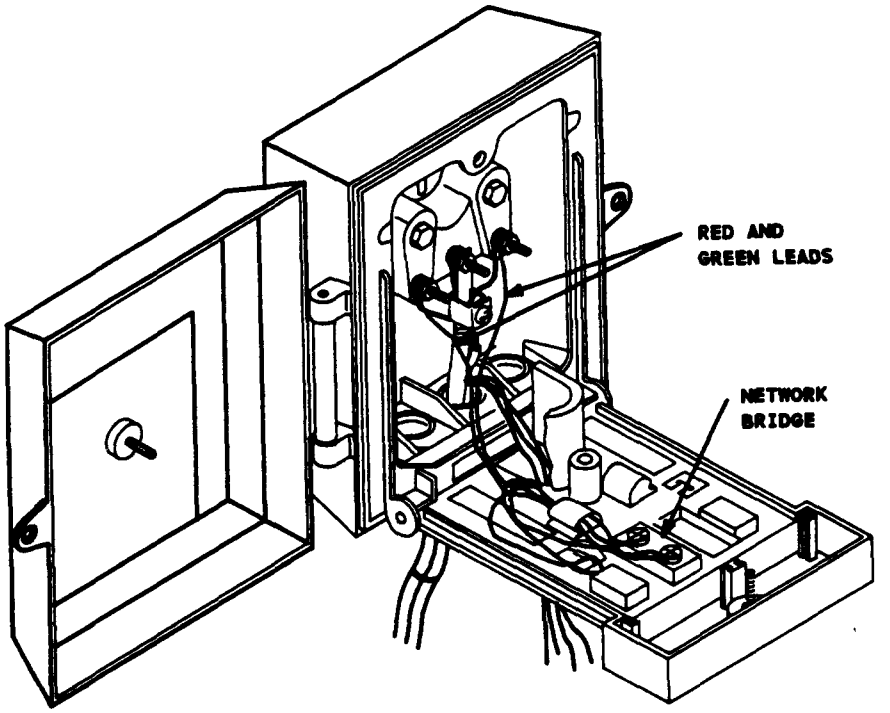


Figure 10. Attaching Leads from Network Bridge to Protector

(5) Attach customer wiring in accordance with the procedure of (a) or (b).

(a) To restore service to Line 1, identify and terminate the tip and ring of the customer wire(s) to the customer bridge Red-Green screw terminals of Line 1 (Figure 11).

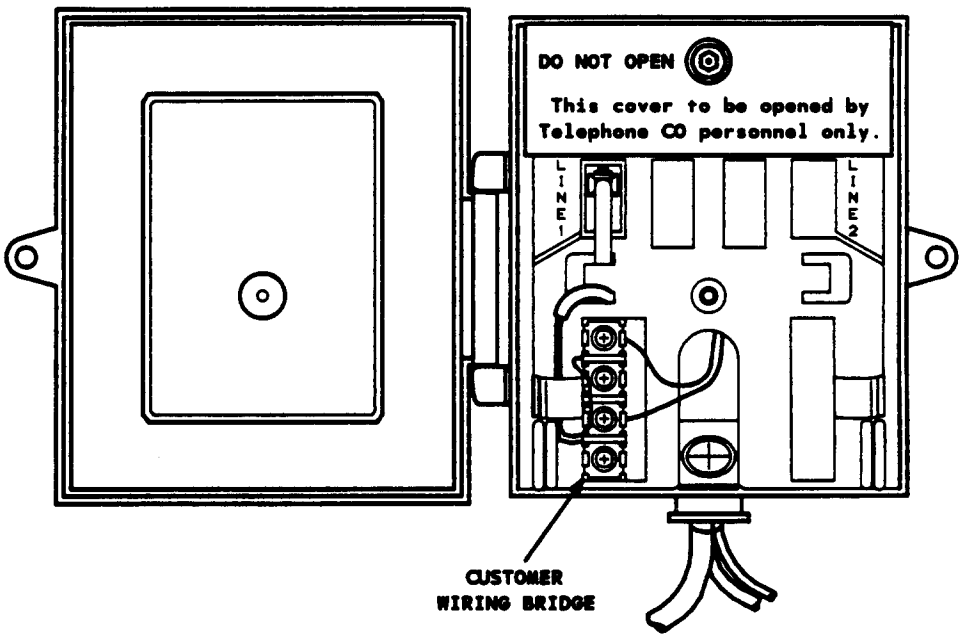


Figure 11. Attaching Customer Wiring to Customer Bridge

(b) To restore service to Line 2, identify and terminate the tip and ring of the customer wire(s) to the customer bridge Red-Green screw terminals of Line 2.

NOTE:
If the customer needs to add the inside wire to the NIU, the wires are brought through the oval grommet and the conductors are terminated (by the customer) on the customer bridge, by following the color code.

(6) Secure the cover by closing the door and using the 216 tool to tighten the retaining screw.

(7) Contact the customer and explain the functions of the outside 400 series NIU. If the customer is not at home, fill out the orange card enclosed in the 400 NIU packing bag and leave it on the customer's doorknob.

(8) A customer-provided lock may be installed on the hasp of the 400 series NIU housing (to inhibit unauthorized entry).

(9) To bypass the customer-provided lock, unscrew the security screw on the hasp bracket located on the side of the 400 series NIU housing (Figure 3), using security tool KS-19192 L1. Then, open the outside door of the NIU, using the 216 tool.

B. B2-400 Base Installation

5.03 Identify the protector configuration to be retrofitted (Figure 12).

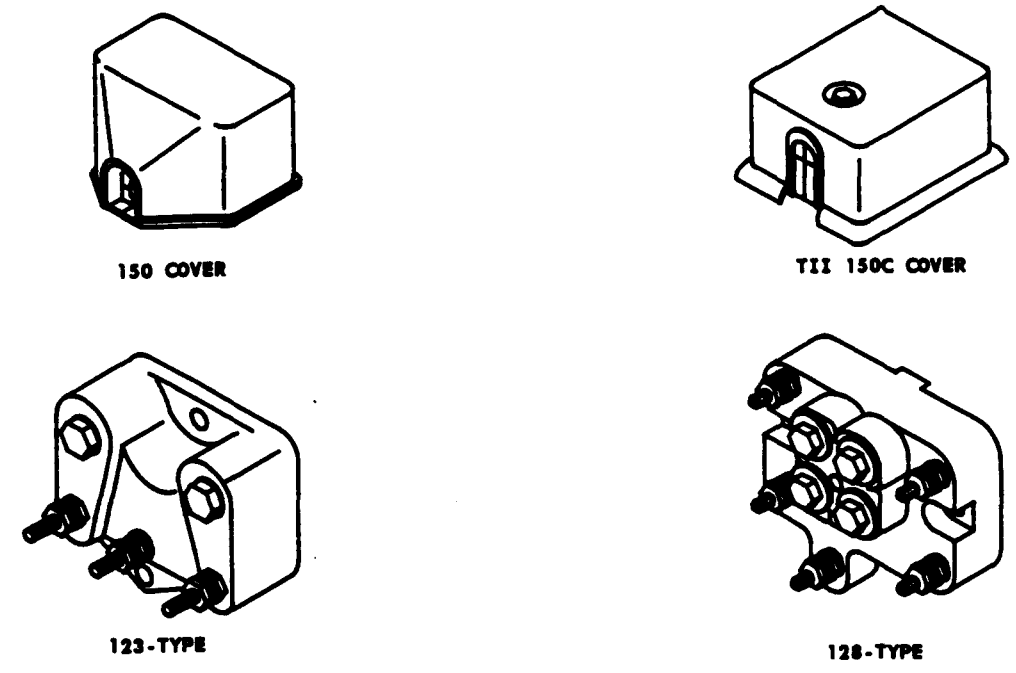


Figure 12. Identification of Protector Cover and Protector Type

5.04 Installation of B2-400 Base with 123-Type Protector: Install the B2-400 base as follows:

(1) Remove the outside cover of the protector. Remove all of the ground connections and bend the wires, coming out of the local provided ground connector, away from the wall. Then, remove the screws mounting the 123-type protector block onto the wall (Figure 13).

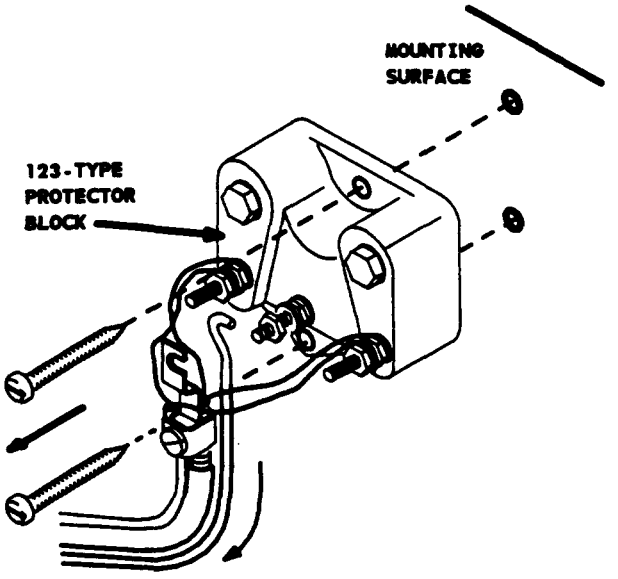


Figure 13. Removing Protector Block from Mounting Surface

(2) Slit the horseshoe grommet located on the B2-400 base. Align the base mounting holes with the existing mounting holes in the wall. Align the 123-type protector block mounting holes with the corresponding base mounting holes. Using No. six, 5.08 centimeters (2-inch) screws furnished in the B2-400 base packing bag, mount the entire protector/base assembly to the wall (Figure 14). Ensure that 2.54 centimeters (1-inch) minimum vertical clearance is left between the top of the base and any obstruction for cover removal.

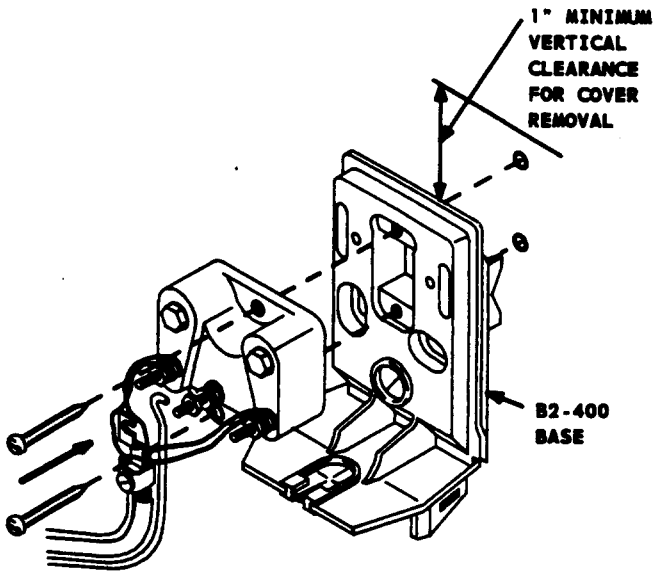


Figure 14. Mounting Protector Block and Base to Mounting Surface

(3) Insert and secure all of the ground connection wires into the slit of the horseshoe grommet. Reconnect all of the ground connections (Figure 15).

(4) Follow paragraph 5.02, Steps (2) through (9), for the installation and wiring of the 400 series NIU.

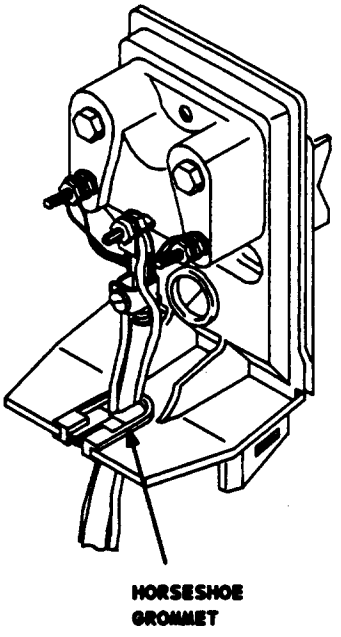


Figure 15. Securing Wires in Grommet

5.05 Installation of B2-400 Base with 128-Type Protector: Install the B2-400 base as follows:

(1) Remove the outside cover of the protector. DO NOT remove any wiring or ground connections from the 128-type protector block. Then, remove the screws mounting the protector block onto the wall (Figure 16).

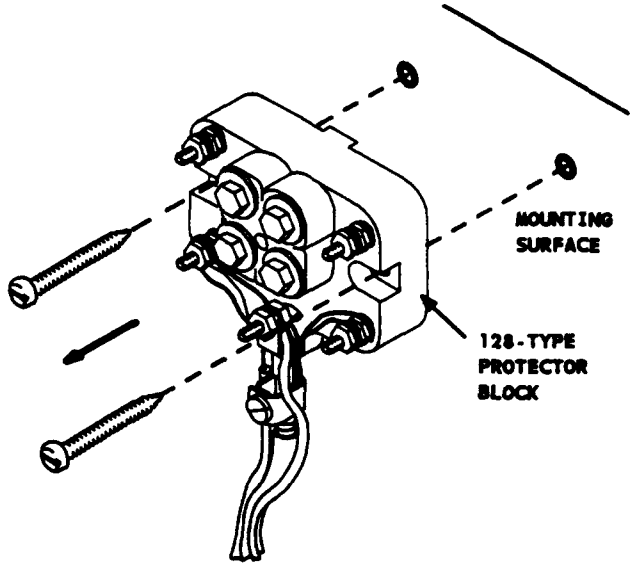


Figure 16. Removing Cover of TII Protector

(2) Slit the horseshoe grommet located on the B2-400 base. Insert all of the wiring into the slit of the horseshoe grommet. Align the base mounting holes with the existing mounting holes in the wall. Align the 128-type protector block mounting holes with the corresponding base mounting holes. Using No. six, 5.08 centimeters (2-inch) screws furnished in the B2-400 base packing bag, mount the entire protector/base assembly to the wall (Figure 17). Ensure that 2.54 centimeters (1-inch) minimum vertical clearance is left between the top of the base and any obstruction for cover removal.

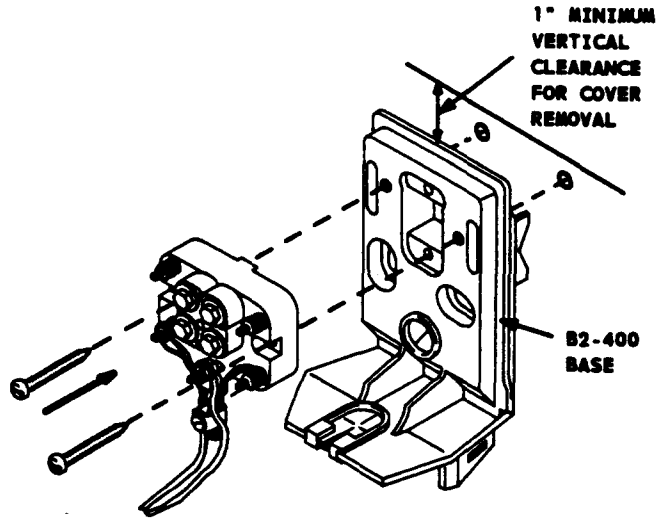


Figure 17. Mounting Protector/Base Assembly

(3) Secure all of the wires in the slit of the horseshoe grommet (Figure 18).

(4) Follow paragraph 5.02, Steps (2) through (9) for the installation and wiring of the 400 series NIU.

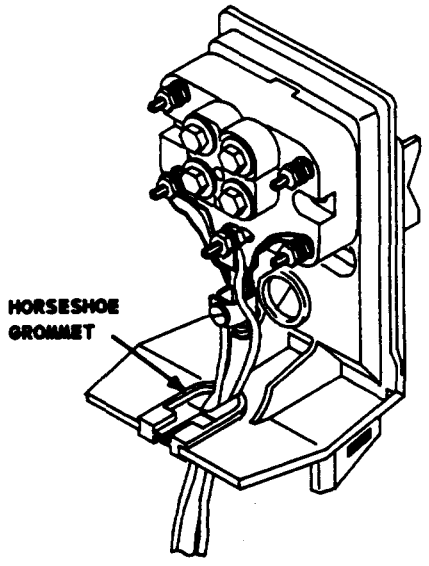


Figure 18. Securing Wires in Grommet

C. T3-400 ADAPTER Installation

5.06 Install the T3-400 Adapter as follows:

(1) Remove the cover of the TII 325/326 protector, using the 216 tool (Figure 19). Verify that the TII protector is securely mounted.

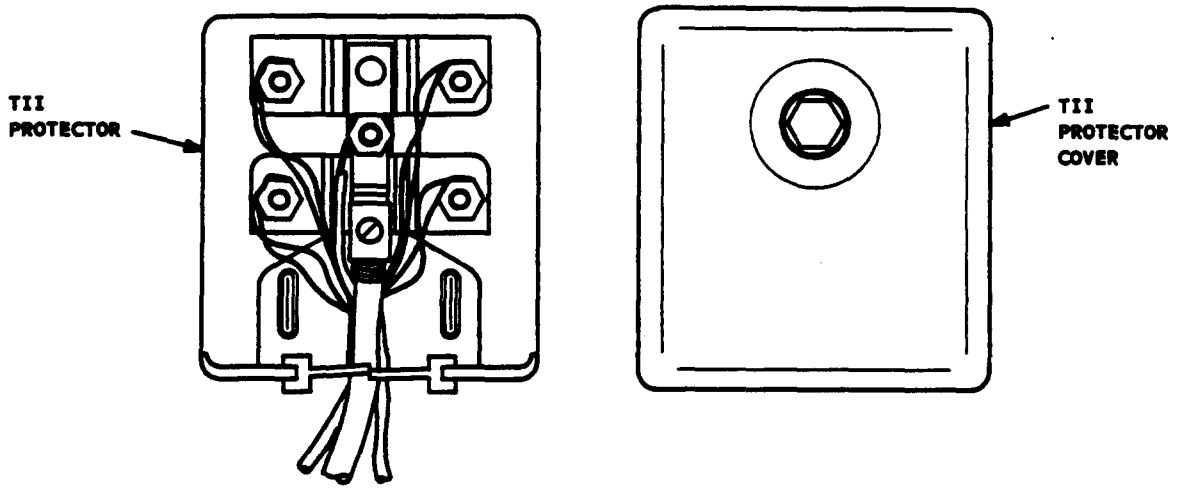


Figure 19. Removing Cover of TII Protector

(2) Align the lower grooved details of the T3-400 adapter with the TII 325/326 protector base rails. Slide the adapter along the TII protector base rails (Figure 20).

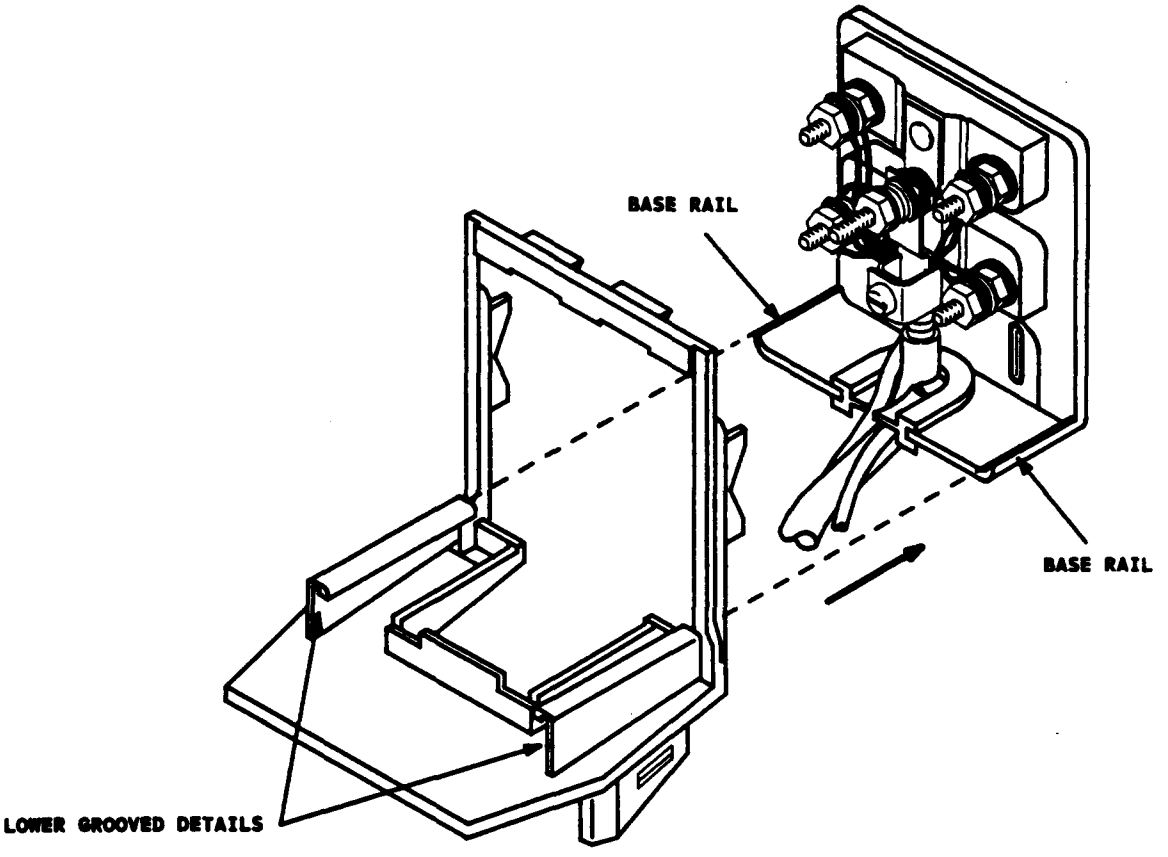


Figure 20. Sliding Adapter Along Base Rails

(3) Snap the T3-400 adapter onto the TII 325/326 protector base. First, push on the bottom of the adapter and then, push on the top of the adapter to secure the adapter onto the TII protector base (Figure 21).

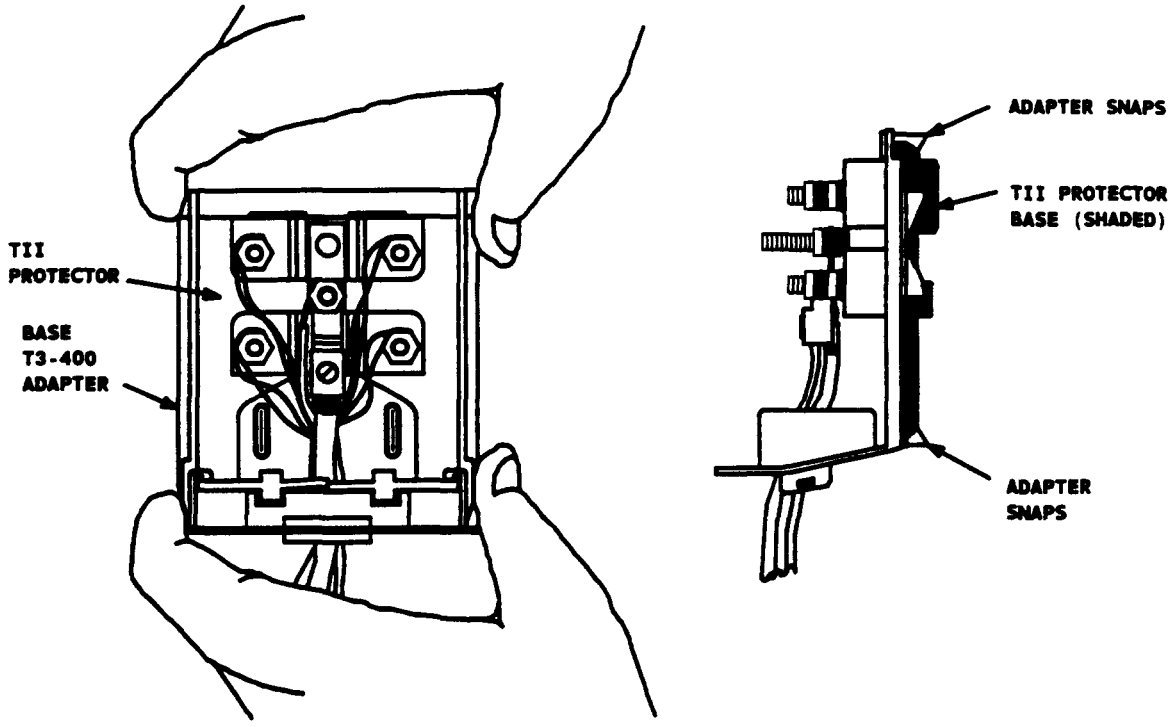


Figure 21. Snapping Adapter onto Base

(4) Install the 400 series NIU onto the T3-400 adapter. Hook the top of the 400 series NIU over the lip of the adapter. Then, push down and in on the 400 series NIU to snap it into place (Figure 22). Secure the NIU to the adapter with cable ties on each side.

(5) Open the outside door of the 400 series NIU, using the 216 tool. Follow paragraph 5.02, Steps (3) through (9), for the installation and wiring of the 400 series NIU.

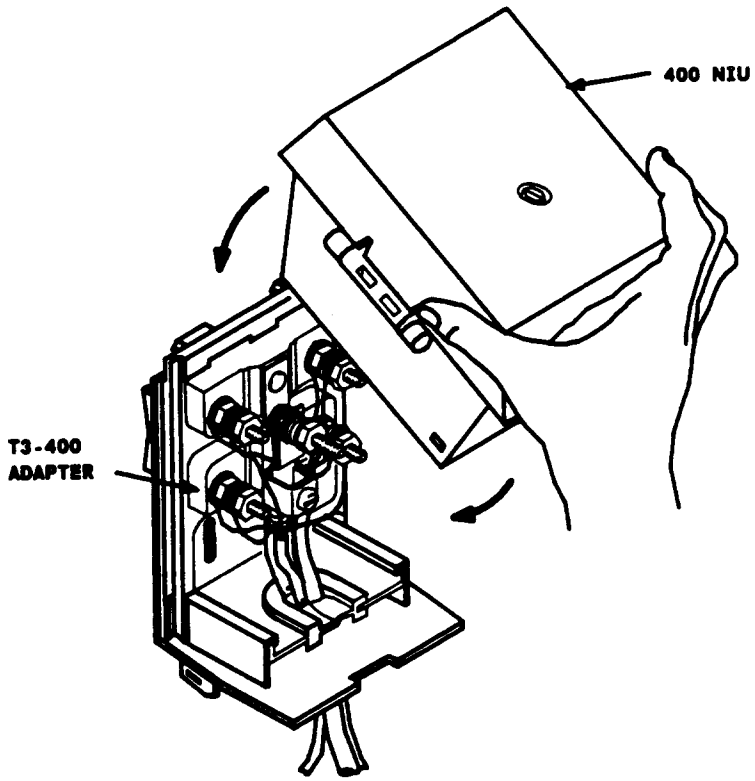


Figure 22. Installing 400 NIU onto Adapter

D. 400 D7L Upgrade Kit of Parts Installation

5.07 Install and wire the 400 D7L upgrade kit of parts as follows:

(1) Open the NIU cover, using the 216 tool.

(2) Open the swing plate, using the KS-19192 L1 tool.

(3) If there are no wiring connections from the swing plate to the protector block, remove the swing plate from the base for easier installation of the upgrade kit of parts (Figure 23).

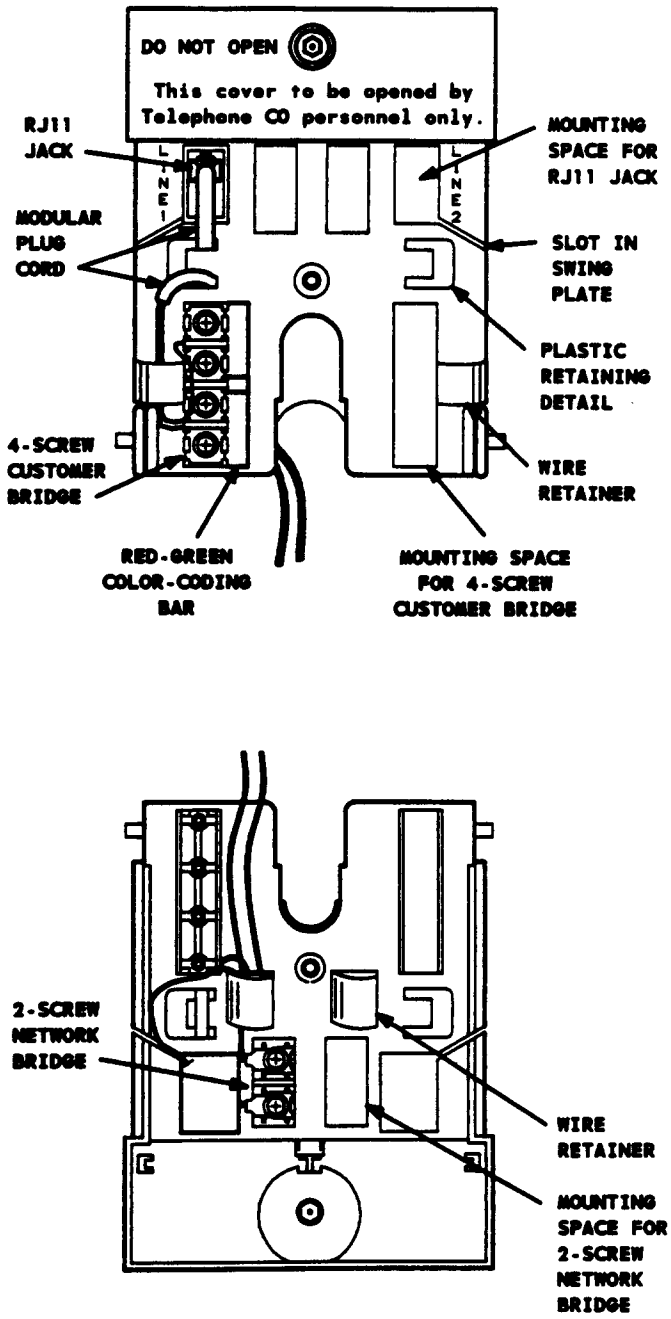


Figure 23. Installing Upgrade Kit of Parts

(4) **On the Front Side of the Swing Plate:**

(a) Insert the 4-screw customer bridge into its Line 2 mounting space. Ensure that the Red-Green color-coding bar is toward the inside (center of the swing plate).

(b) Dress the excess Red-Green wires into the wire retainer, located along side of the 4-screw customer bridge, in the same manner as Line 1.

(c) Insert the RJ11 jack assembly by placing the wire leads through the slot located in the side of the swing plate. Then, push the jack assembly into its Line 2 mounting space.

(d) Dress the modular plug cord in the plastic retaining detail located between the RJ11 jack assembly and the 4-screw customer bridge mounting spaces in the same manner as Line 1.

(5) **On the Back Side of the Swing Plate:**

(a) Dress all of the wires in the wire retainer, located along side of the plastic retaining detail (center of swing plate), in the same manner as Line 1.

(b) Insert the 2-screw network bridge into its Line 2 mounting space.

NOTE:
The proper installation of the 400 D7L kit of parts for Line 2 is a mirror-image of Line 1.

(6) To complete the installation of the 400 series NIU, follow paragraph 5.02, Steps (4) through (9).