EXHIBIT D

INSTRUCTION MANUAL

**A. SERVICE MANUAL**

The service manual for this product have been included as Exhibit D.

FCC ID: NQ7HB60339

# V Series

## V Series
## Service Manual *Draft*
## *Do not Distribute!*

BEST ACCESS SYSTEMS™

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# TABLE OF CONTENTS



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# 1 ABOUT THIS GUIDE

## INTRODUCTION

The *V Series Service Manual* contains essential information to help you install and maintain your 8KV, 9KV, and 30HV stand-alone security devices.

## DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, start-up and maintenance of the system:

- The *V Series Service Manual* contains the instructions for installing and maintaining the 8KV, 9KV, and 30HV electronic locks.
- The installation instructions for the locks.

Depending on the programming method you choose for the S15 system, you will have one or both of the following user manuals:

- The *V Series Handheld Terminal User Manual* contains instructions on how to start up and maintain an S15 system with a handheld terminal.
- The *V Series Intelligent Programmer Software User Manual* contains instructions on how to start up and maintain an S15 system with the IPS software.

# 2 SECURITY DEVICE INSTALLATION

## 8KV & 9KV INSTALLATION INSTRUCTIONS

**Overview diagram**

The overview diagram should make installing the 8KV and 9KV cylindrical electronic lock simpler and quicker. Make sure you generally understand how the lock assembles before proceeding with the step-by-step instructions.

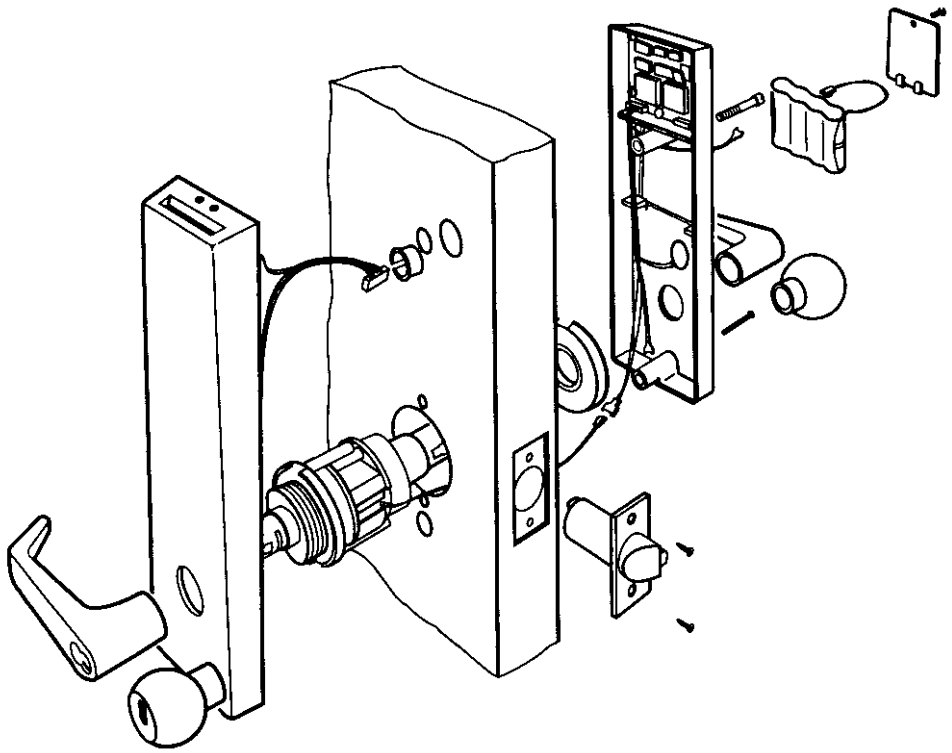

**Figure 2.1** 8KV & 9KV overview diagram

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## TASK 2: DRILL HOLES AND INSTALL LATCH

1. Bore the 2 1/8" diameter hole (if not already drilled).

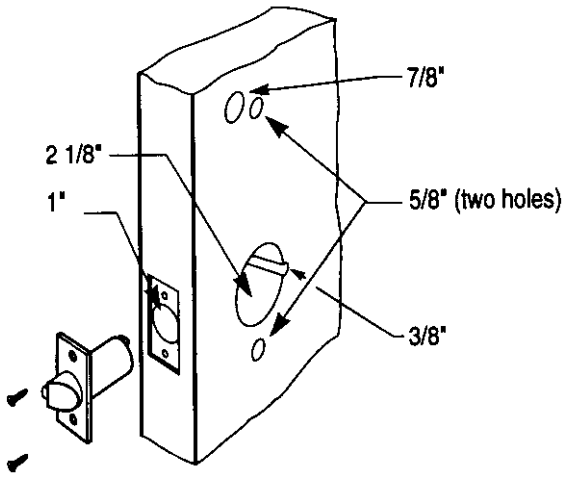


**Figure 2.3**

**Note:** To locate the centerpoint of a hole on the opposite side of the door, drill a pilot hole completely through the door. For through-holes, it is best to drill halfway from each side of the door to prevent the door from splintering.

2. Drill the 1" diameter hole into the edge of the door to meet the center of the 2 1/8" hole (if not already drilled).
3. Drill two 5/8" and one 7/8" diameter holes through the door.
4. From the inside of the door, drill 3/8" diameter hole through the door for motor wires. See Figure 2.3.
5. Mortise the door edge for the latch face.
6. Install the latch and check the door swing.

**Note:** Latch tube prongs should be centered and should project into the 2 1/8" hole as shown in Figure 2.7. Bevel of the latch must match the bevel of door.

## TASK 3: ATTACH BORING JIG AND DRILL HOLES

1. Attach the boring jig (KD303) onto the door and engage with latch tabs. *Make sure the front edge of the jig is parallel with door edge.*

## TASK 5: ADJUST THE LOCK FOR DOOR THICKNESS

1. Retract the rose locking pin and rotate the outside rose liner in or out until the proper groove on the through bolt stud, lines up with the hub face.

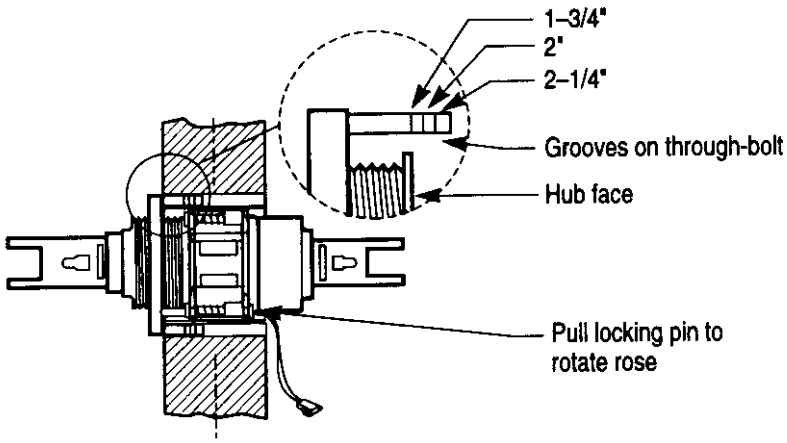


**Figure 2.6**

**Note:** Make sure the locking pin locks into the rose liner. Locks will fit doors 1 3/4" to 2 1/4" thick. See the enlarged view for the right rose adjustment for these thicknesses.

## TASK 6: ENGAGE RETRACTOR IN LATCH

- While feeding the motor wires through the 2 1/8" hole to the inside of the door, insert the lock chassis from the outside.

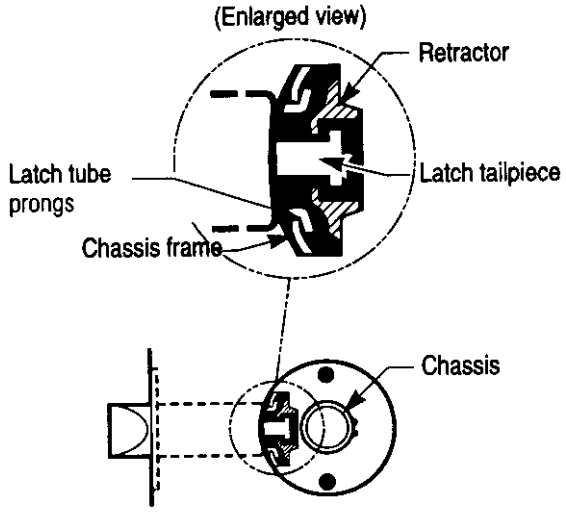


**Figure 2.7**

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## TASK 8: MAKE WIRE CONNECTIONS

1. Feed the outside wire harness connector through the top wire hole. See Figure 2.9.

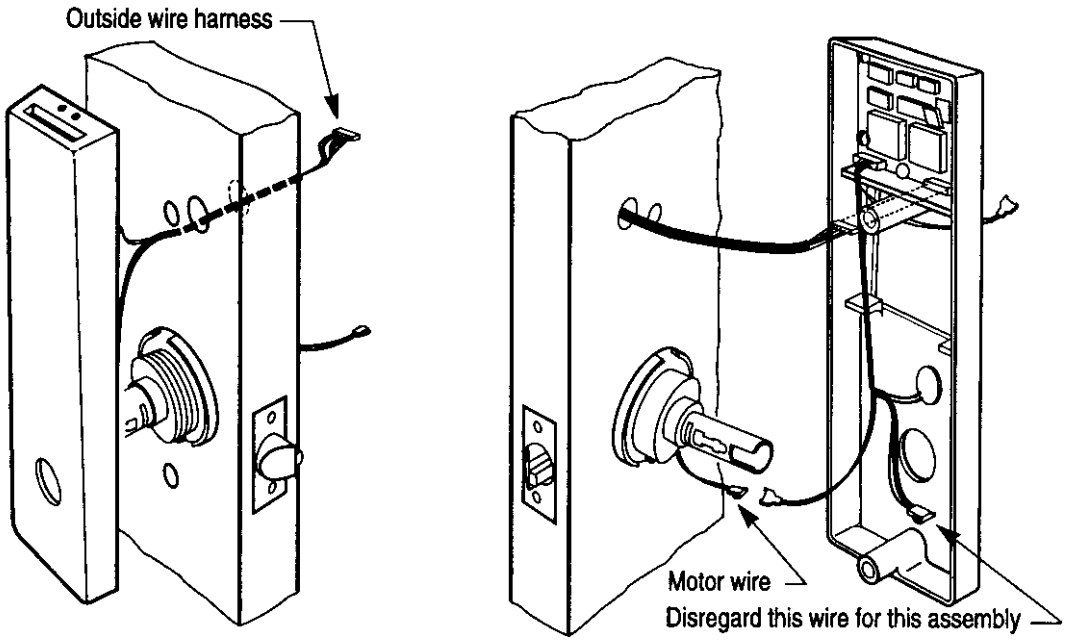


**Figure 2.9**

2. Temporarily rest the trim on the door by inserting the trim studs into the stud holes.
3. From the inside of the door, connect the motor connector to the mating connector from the circuit board. See Figure 2.9.

**Caution**

*Make sure that the orientation of the wire harness connector is correct before connecting to the circuit board connector. It is possible to damage the circuit board by inserting the connector upside down. Before connecting make sure that the keying tabs on the sides of the wire harness connector slide into the mating slots on the circuit board connector.*

**Caution**

*This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, inlcuding interference that may cause undesired operation.*

*Changes or modifications to the V Series lockset not expressly approved by BEST may void the user's authority to operate the equipment.*

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top mounting hole and with the standard screw at the bottom mounting hole. Tighten firmly.

## TASK 10: INSTALL THE BATTERY

1. Connect the battery to the connector hanging inside the battery compartment.

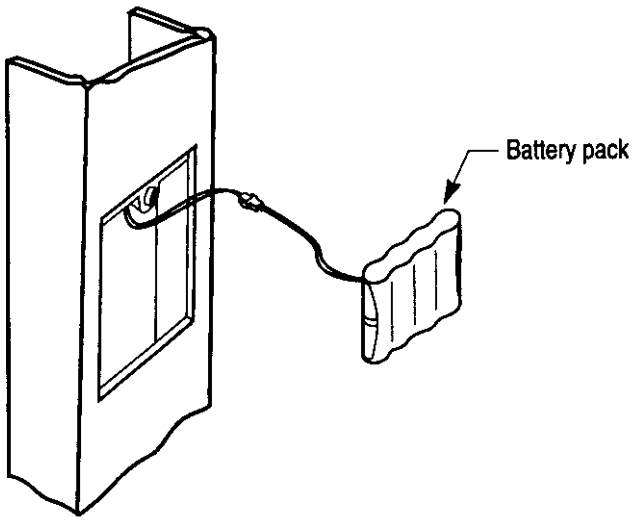


**Figure 2.11**

2. Insert the battery pack into the battery compartment as shown in Figure 2.11.
3. Insert the tabs of the battery compartment door into its mating slots and swing closed.

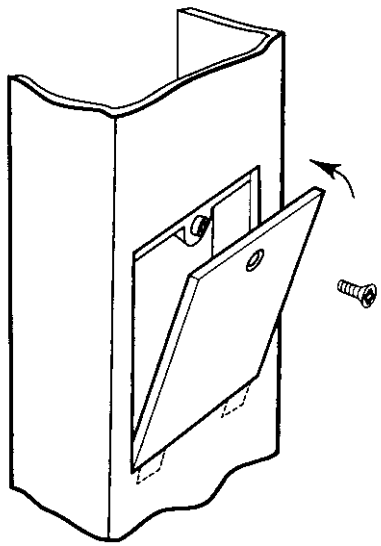

**Figure 2.12**

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**Caution**

*The deadlocking plunger of the latch bolt must not enter the strike plate. The plunger deadlocks the latch bolt and prevents forcing the latch when the door is closed.*

4. Insert the correct throw member into the core.

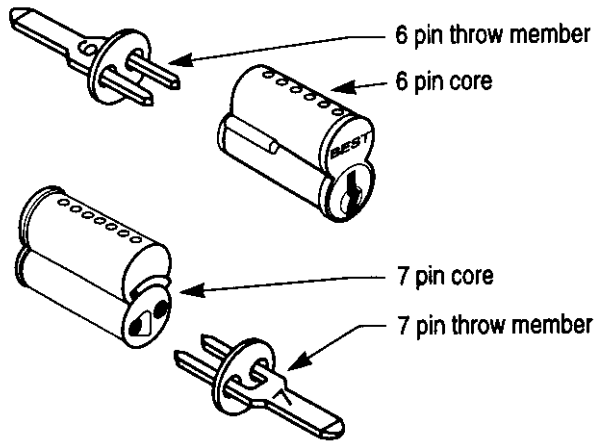


**Figure 2.15**

**Note:** Six-pin cores require the number "6" throw member; seven-pin cores require the number "7" throw member.

5. Insert the core and throw member into the lever with the control key.

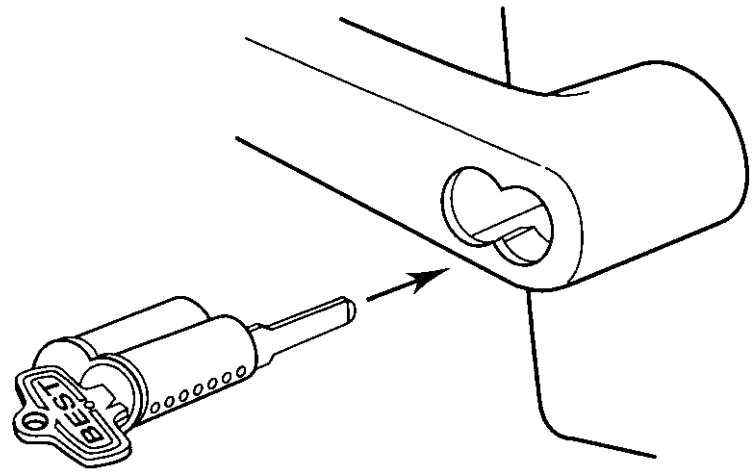

**Figure 2.16**

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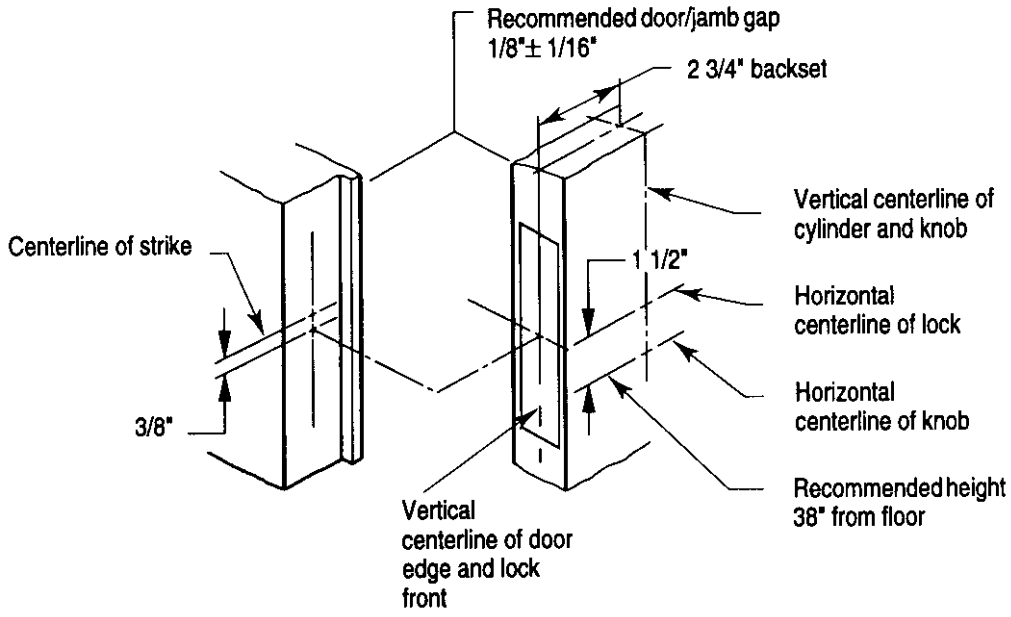


**Figure 2.18**

**Note:** The suggested height from floor to centerline of the knob is 38". The door thickness range for 30HV locks is 1 3/4" to 3"

2. Mark the vertical centerline of the lock on the door edge.
3. Mark the vertical centerline of the lock on both sides of the door as measured from the vertical centerline on the door's edge.
4. Mark the horizontal centerline of the strike on the door jamb 3/8" above the horizontal centerline of the lock.

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## TASK 3: MORTISE AND DRILL

1. Mortise the door for the lock case and faceplate.
2. Drill only those holes required for the function.

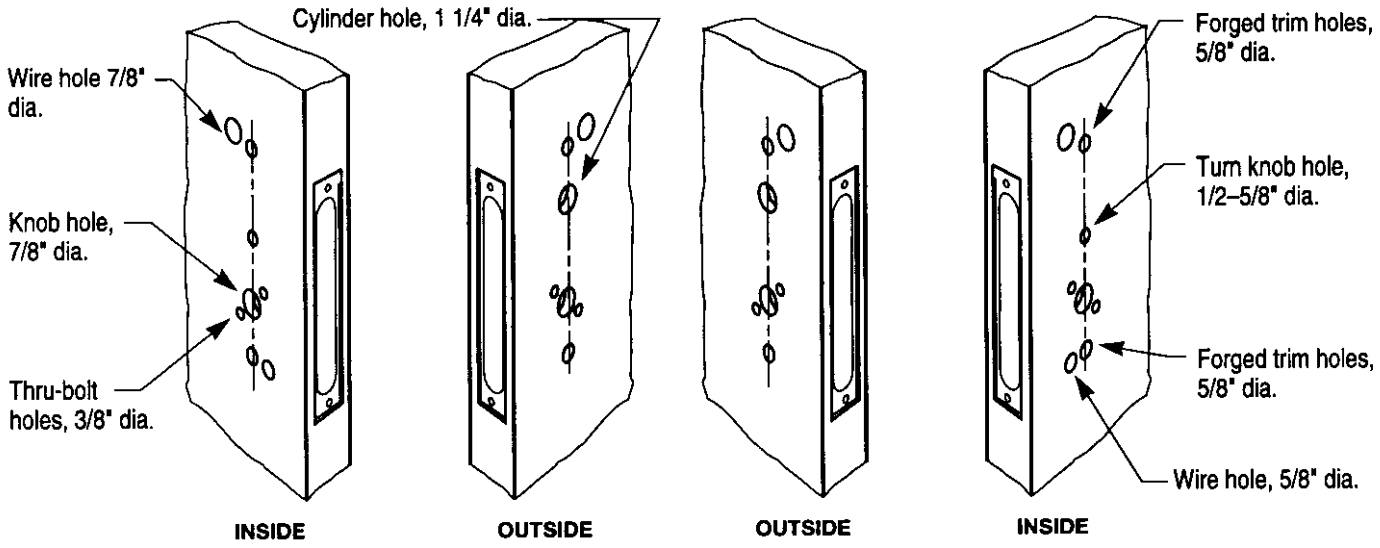


**Figure 2.20**

## TASK 4: INSTALL THE LOCK

1. Install the lock while feeding the motor wires and deadbolt sensing wire (deadbolt function only) into the mortise cavity and out through the inside hole.

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Caution

*Do not overtighten the mounting plate screws. Overtightening will compress the mortise cavity and bind the locking mechanism.*

Caution

*This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, inlcuding interference that may cause undesired operation.*

*Changes or modifications to the V Series lockset not expressly approved by BEST may void the user's authority to operate the equipment.*

5. Thread the concealed cylinder into the lock so that the groove around cylinder head is even with the door surface. Using the outside trim and core, adjust the cylinder depth plus or minus one (1) turn as necessary so that the core, when installed in the cylinder, is flush with the outer surface of the trim.

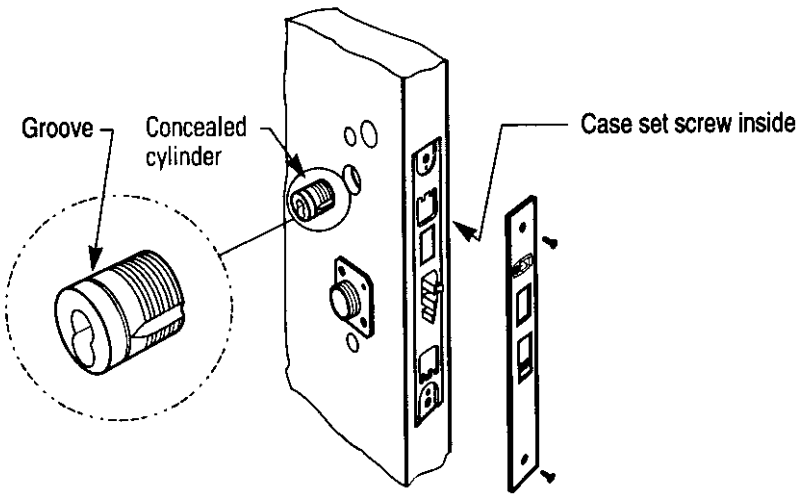


**Figure 2.23**

Caution

*A malfunction can occur if the cylinder is threaded in too far.*

6. Secure the cylinder into the case with the case set screws.
7. Secure the faceplate.
8. Check the cylinder and lock for proper operation.

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Tip

Before tightening the trim to the door, install the levers of knobs to align the trim holes in the door. This will help ensure that the levers or knobs don't bind when they are installed.

Caution

*Make sure no wires are pinched between trim and door.*

7. Making sure the trim does not pinch the wires, secure trim to the door from the inside with the combination mounting screw at the top mounting hole and with the standard screw at the bottom mounting hole. Do not tighten until the knobs or levers are installed in task 6.

## TASK 5: INSTALL THE BATTERY

1. Connect the battery to the connector hanging inside the battery compartment.

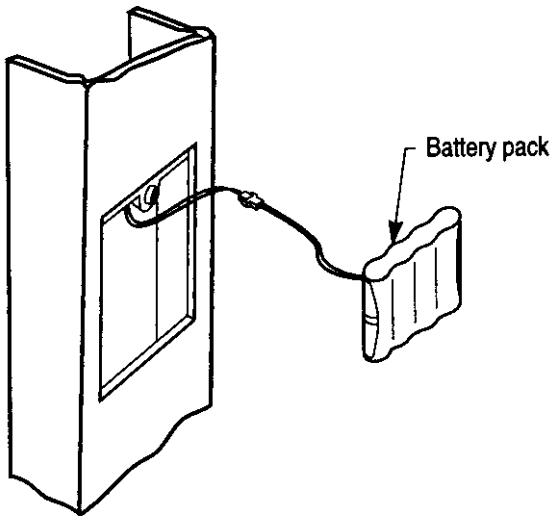


**Figure 2.25**

2. Insert the battery pack into the battery compartment.

**Note:** The battery pack should be inserted with the jumper wire facing down and the connector routed up between the two holders.

3. Insert the tabs of the battery compartment door into its mating slots and close.

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**Note:** 35 to 40 inch-pounds of torque are required to properly tighten the set screw.

### To install knobs:

1. From the outside of the door, put the outside knob and spindles into the lockset.
2. Slide the inside knob onto the inside spindle and secure with the set screw.
3. Push the set screw cap into the set screw hole.

### For both levers and knobs:

- Check the lock for smooth operation.

## TASK 7: INSTALL THE STRIKE

1. Mortise the door jamb for the strike box and strike plate. (See Installation Specifications for dimensions, Template V03 and H11.)

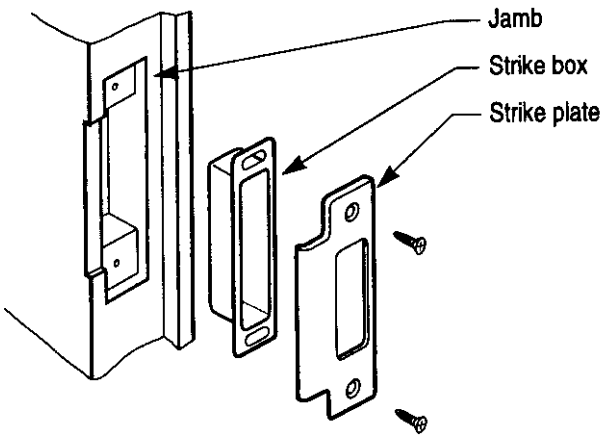


**Figure 2.28**

2. Insert the strike box and secure the strike with screws provided. When the strike box is not installed, mortise the jamb deep enough to allow the latch bolt and dead bolt to fully extend.

**Caution**

*The auxiliary bolt must not enter the strike plate. The auxiliary bolt deadlocks the latch bolt and prevents forcing the latch when the door is closed. If the incorrect strike is installed, or the strike is not installed in the correct position, a lock-in can occur.*

The controller can accept a request-to-exit signal from a lock or a separate request-to-exit device, such as a button, can be connected to the controller. When someone turns a door knob with a request-to-exit feature, or presses a request-to-exit button, the controller does not trigger an alarm when the door is opened. If the controller is programmed for the RQE unlock feature, the controller also unlocks the door.

A remote unlock device, such as a button, can be connected to a controller. This device can be located away from the door. When someone, such as a receptionist, presses the remote unlock button, the controller unlocks the door if programmed for the remote unlock feature.

The controller can monitor the door's status. If the door is opened without use of a valid access method, the controller can trigger a door forced alarm. The controller can monitor whether the door has been open too long. The controller also can supervise a tamper switch, which can be used to protect the controller enclosure or another device. The controller's alarm output can trigger an external alerting device, such as a siren or strobe light, or a security system.

**Caution**

*To prevent damage, always wear a properly grounded electrostatic discharge (ESD) wrist strap when installing the controller.*

**Installation overview**

## TASK 1: PREPARE TO MOUNT THE ENCLOSURE

1. Unpackage the controller.
2. Check that you have the following components, in addition to these instructions:
   - ▲ enclosure with circuit boards and battery pack installed
   - ▲ magnetic stripe reader (optional)
   - ▲ keypad reader with *V Series Keypad Security Device Programming Guide* (optional)
   - ▲ remote RS-232 connector (optional)
   - ▲ temporary access cards (for magnetic stripe reader only)
   - ▲ *V Series Controller Enclosure Drilling Template* (V05).
3. Read these instructions carefully before you begin installation.

**Note:** Wire gauge and length requirements for each device to be connected to the controller are included in Figure 2.30.

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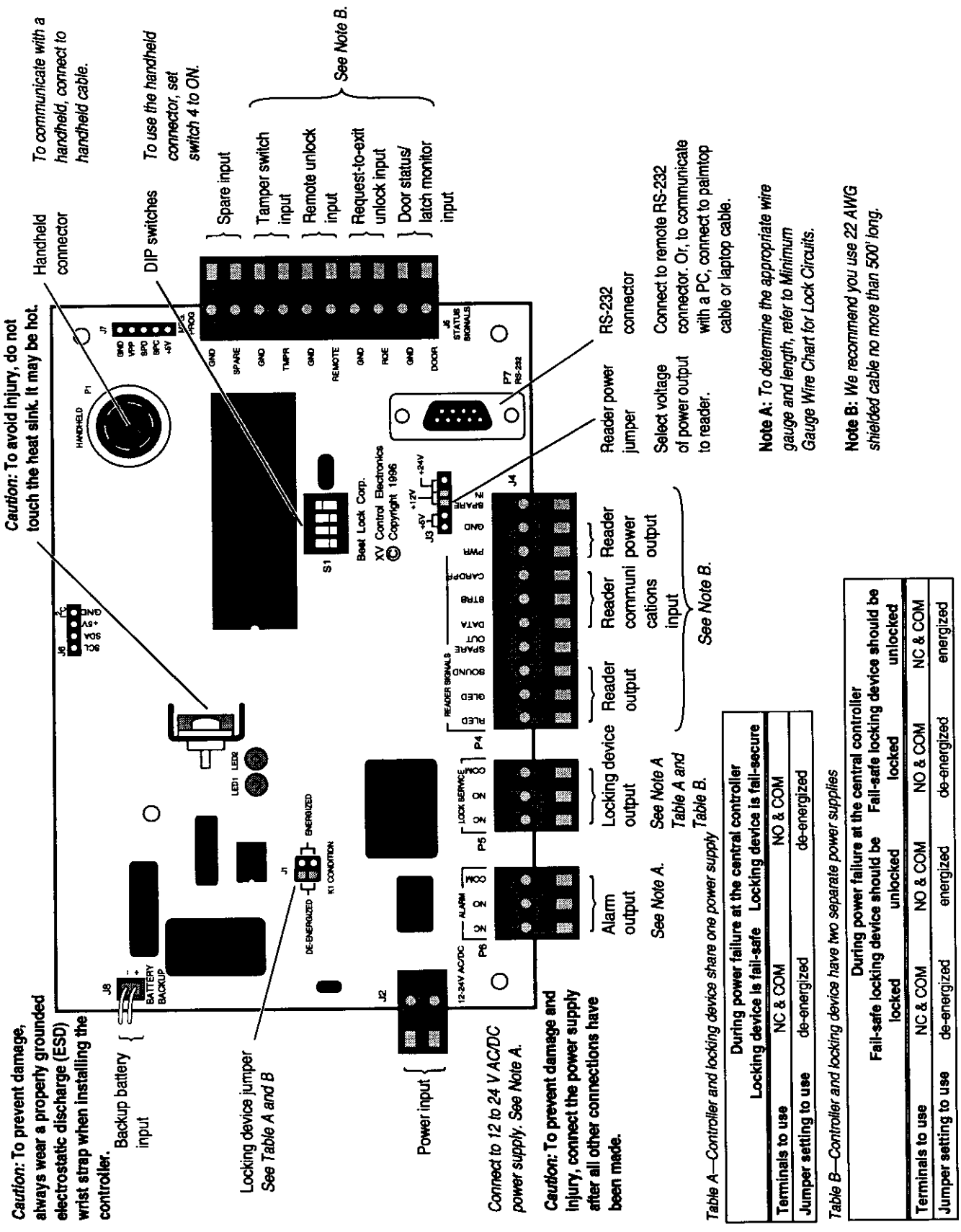


*Table A—Controller and locking device share one power supply*

| | During power failure at the central controller | |
|---|---|---|
| | Locking device is fail-safe | Locking device is fail-secure |
| Terminals to use | NC & COM | NO & COM |
| Jumper setting to use | de-energized | de-energized |

*Table B—Controller and locking device have two separate power supplies*

| | During power failure at the central controller | | | |
|---|---|---|---|---|
| | Fail-safe locking device should be locked | Fail-safe locking device should be unlocked | Fail-safe locking device should be locked | Fail-safe locking device should be unlocked |
| Terminals to use | NC & COM | NO & COM | NO & COM | NC & COM |
| Jumper setting to use | de-energized | energized | de-energized | energized |

**Figure 2.30**

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| Input/output | Description | Related DIP switches, jumpers, and programming tasks |
|---|---|---|

*Table A—Controller and locking device share one power supply*

| | During power failure at the central controller | |
|---|---|---|
| | Locking device is fail-safe | Locking device is fail-secure |
| Terminals to use | NC & COM | NO & COM |
| Jumper setting to use | de-energized | de-energized |

*Table B—Controller and locking device have two separate power supplies*

| | During power failure at the central controller | | | |
|---|---|---|---|---|
| | Fail-safe locking device should be | | Fail-secure locking device should be | |
| | locked | unlocked | locked | unlocked |
| Terminals to use | NC & COM | NO & COM | NO & COM | NC & COM |
| Jumper setting to use | de-energized | energized | de-energized | energized |

**Reader output**
RLED terminal
GLED terminal
SOUND terminal

Output that supplies 10 mA at 5 volts, and provides signals corresponding to the V Series Electronic Lock's green LED, red LED, and sounder. This output can be connected to the reader and used to provide visual and/or audio user feedback similar to the feedback provided by the electronic lock. For a description, see the *Troubleshooting section*.

The table below shows the recommended wiring connections for the standard readers—the Mercury Security, MR-5 (magnetic stripe card reader) and the Essex, KTP-71212XX (keypad reader).

| Terminal | Mercury Security | Essex |
|---|---|---|
| RLED | None | Blue wire |
| GLED | Brown wire | Brown wire |
| SOUND (sounder provides feedback only) | Orange wire | None |

Set controller DIP switches 1, 2, and 3.

Note: For readers with a single two-color LED, set DIP switch 1 ON. For readers with two separate LEDs, set DIP switch 1 OFF.

The table below shows the recommended controller DIP switch settings for the standard readers—the Mercury Security, MR-5 (magnetic stripe card reader) and the Essex, KTP-71212XX (keypad reader).

| Reader | S1 | S2 | S3 |
|---|---|---|---|
| Mercury Security | ON | OFF | OFF |
| Essex | OFF | OFF | OFF |

For the Mercury Security, MR-5 (magnetic stripe card reader), set DIP switch 2 *on the reader* to OFF.

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| Input/output | Description | Related DIP switches, jumpers, and programming tasks |
|---|---|---|
| **Door status/latch monitor input**<br>DOOR terminal<br>GND terminal | Input that signals the status (open or closed) of the door. To monitor door status, you can use a door contact and/or a latch switch. Use the door contact to monitor whether the door is closed. Use the latch switch to monitor whether the lock's latch is out (secure) or in (not secure).<br>When used in combination, the door contact and latch switch must be either both normally closed contacts or both normally open contacts. If both contacts are normally closed, wire the devices in series. If both contacts are normally open, wire the devices in parallel. | Program the controller to generate door forced alarms and/or door open too long alarms. For instructions, see the *V Series Intelligent Programmer Software User Manual* or *Handheld Terminal User Manual*. |
| **Request-to-exit input**<br>RQE terminal<br>GND terminal | Input for a switch contact that signals the controller to unlock the door and/or to not trigger an alarm while the door is unlocked or exited. If the lock has a built-in request-to-exit output, connect that output here. Or you can connect a separate request-to-exit device, such as a button. | Program the controller for request-to-exit operation. For instructions, see the *V Series Intelligent Programmer Software User Manual* or *Handheld Terminal User Manual*. |
| **Remote unlock input**<br>REMOTE terminal<br>GND terminal | Input for a switch contact that signals the controller to unlock the door. A remote unlock device, such as a button, can be connected to this input. This device can be located away from the door. When someone, such as a receptionist, presses the button, the input signals the controller to unlock the door. | Program the controller for remote unlock operation. For instructions, see the *V Series Intelligent Programmer Software User Manual* or *Handheld Terminal User Manual*. |
| **Tamper switch input**<br>TMPR terminal<br>GND terminal | Input for a switch contact that signals the controller when a tamper switch has been triggered. You can use a tamper switch to protect the controller enclosure or another device. | None |
| **Handheld connector** | Connector for programming the controller using a handheld terminal. Connect the handheld cable to this connector.<br>**Note:** This connector also can be used when programming using a PC. Connect the PC-to-lockset adapter cable to this connector. | When programming using the handheld connector, DIP switch 4 must be set to the ON position. After programming, set switch 4 back to the OFF position. |

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### To program the controller using a PC running the IPS:

1. Connect the palmtop cable or laptop cable to the controller's remote RS-232 connector or to the RS-232 connector on the controller board, shown in Figure 2.30.
2. Follow the instructions in the *V Series Intelligent Programmer Software User Manual*.

## Specifications

**Enclosure size:** 12″ x 12″ x 3″

**Normal operating temperature:** -40°F to +158°F (-40°C to +70°C)

**Storage temperature:** -58°F to +176°F (-50°C to +80°C)

**Relative humidity:** 10% to 90% non-condensing for indoor installations

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# 3 SECURITY DEVICE MAINTENANCE

The following pages contain exploded diagrams for all V Series security devices. These diagrams detail all field serviceable mechanical and electronic parts. Use the diagrams and parts lists on the following pages to find the part numbers you need.

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## 8KV/9KV magnetic stripe trim parts list

Refer to Figure 3.1 and the table below to find the part you need.

| Item | Part Number | Qty. | Description |
|---|---|---|---|
| 1 | C61405 | 1 | 8KV outside escutcheon |
| | C61403 | 1 | 9KV outside escutcheon |
| 2 | B61646 | 1 | Card reader |
| 3 | A61429 | 2 | Card reader screws |
| 4 | A61643 | 1 | Outside wire harness |
| 5 | A61503 | 2 | Wire clamp (1 inside, 1 outside) |
| 6 | A61642 | 1 | Inside wire harness |
| 7 | A61501 | 4 | Circuit board screws |
| 8 | B61664 | 1 | Circuit board |
| 9 | C61406 | 1 | 8KV inside escutcheon |
| | C61404 | 1 | 9KV inside escutcheon |
| 10 | B61412 | 1 | Upper escutcheon screw for 1 3/4" thick doors |
| | B61413 | 1 | Upper escutcheon screw or 2" thick doors |
| | B61414 | 1 | Upper escutcheon screw for 2 1/4" thick doors |
| 11 not shown | A61411 | 1 | Battery cover screw (torx with post head) or: |
| | A61428 | 1 | Battery cover screw (McGard head) |
| 12 | A61502 | 1 | Communications port retainer clip |
| 13 | D60464 | 1 | 9KV chassis assembly[a] |
| | D60419 | 1 | 8KV chassis assembly[b] |
| 14 | A61422 | 1 | Lower escutcheon screw for 1 3/4" thick doors |
| | A61423 | 1 | Lower escutcheon screw or 2" thick doors |
| | A61424 | 1 | Lower escutcheon screw for 2 1/4" thick doors |
| 15 | B61917 | 1 | Alkaline battery pack |
| 16 | C61410 | 1 | Battery cover |
| 17 | B62099 | 1 | Programmed PROM (VP_S15) |
| 18 | | 2 | |

a. For 9KV trim parts, see the *9K Varsity Service Manual.*
b. For 8KV trim parts, call your local representative.

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## 8KV/9KV keypad trim parts list

Refer to Figure 3.2 and the table below to find the part you need.

| Item | Part Number | Qty. | Description |
|---|---|---|---|
| 1 | C60448 | 1 | 8KV outside escutcheon |
| | C60449 | 1 | 9KV outside escutcheon |
| 2 | C60303 | 1 | Keypad reader |
| 3 | A61429 | 2 | Keypad electronics screws |
| 4 | B60305 | 1 | Outside wire harness for keypad |
| 5 | A61503 | 2 | Wire clamp (1 inside, 1 outside) |
| 6 | A61642 | 1 | Inside wire harness |
| 7 | A61501 | 4 | Circuit board screws |
| 8 | B61664 | 1 | Circuit board |
| 9 | C61406 | 1 | 8KV inside escutcheon |
| | C61404 | 1 | 9KV inside escutcheon |
| 10 | B61412 | 1 | Upper escutcheon screw for 1 3/4" thick doors |
| | B61413 | 1 | Upper escutcheon screw or 2" thick doors |
| | B61414 | 1 | Upper escutcheon screw for 2 1/4" thick doors |
| 11 not shown | A61411 | 1 | Battery cover screw (torx with post head) or: |
| | A61428 | 1 | Battery cover screw (McGard head) |
| 12 | A61502 | 1 | Communications port retainer clip |
| 13 | D60464 | 1 | 9KV chassis assembly[a] |
| | D60419 | 1 | 8KV chassis assembly[b] |
| 14 | A61422 | 1 | Lower escutcheon screw for 1 3/4" thick doors |
| | A61423 | 1 | Lower escutcheon screw or 2" thick doors |
| | A61424 | 1 | Lower escutcheon screw for 2 1/4" thick doors |
| 15 | B61917 | 1 | Alkaline battery pack |
| 16 | C61410 | 1 | Battery cover |
| 17 | B62099 | 1 | Programmed PROM (VP_S15) |
| 18 | B60321 | 1 | Keypad gasket |
| 19 | A60319 | 4 | Keypad mounting screws |
| 20 | A60316 | 1 | Escutcheon gasket |
| 21 | C60303 | 1 | Keypad reader electronics assembly |
| 22 | A60319 | 2 | Retaining ring |
| 23 | A60317 | 2 | Sealing lens cover |
| 24 | A60324 | 1 | Adhesive tape for sounder |

a. For 9KV trim parts, see the *9K Varsity Service Manual.*
b. For 8KV trim parts, call your local representative.

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## 8KV/9KV proximity trim parts list

Refer to Figure 3.3 and the table below to find the part you need.

| Item | Part Number | Qty. | Description |
|---|---|---|---|
| 1 | C60448 | 1 | 8KV outside escutcheon |
| | C60449 | 1 | 9KV outside escutcheon |
| 2 | C60337 | 1 | Motorola proximity bezel w/ reader assembly |
| | C60342 | 1 | HID proximity bezel w/ antennae & IR assembly |
| 3 | A61429 | 2 | Keypad electronics screws |
| 4 | B60305 | 1 | Outside wire harness for keypad |
| 5 | A61503 | 2 | Wire clamp (1 inside, 1 outside) |
| 6 | A61642 | 1 | Inside wire harness |
| 7 | A61501 | 4 | Circuit board screws |
| 8 | B61664 | 1 | Circuit board |
| 9 | C61406 | 1 | 8KV inside escutcheon |
| | C61404 | 1 | 9KV inside escutcheon |
| 10 | B61412 | 1 | Upper escutcheon screw for 1 3/4" thick doors |
| | B61413 | 1 | Upper escutcheon screw or 2" thick doors |
| | B61414 | 1 | Upper escutcheon screw for 2 1/4" thick doors |
| 11 not shown | A61411 | 1 | Battery cover screw (torx with post head) or: |
| | A61428 | 1 | Battery cover screw (McGard head) |
| 12 | A61502 | 1 | Communications port retainer clip |
| 13 | D60464 | 1 | 9KV chassis assembly[a] |
| | D60419 | 1 | 8KV chassis assembly[b] |
| 14 | A61422 | 1 | Lower escutcheon screw for 1 3/4" thick doors |
| | A61423 | 1 | Lower escutcheon screw or 2" thick doors |
| | A61424 | 1 | Lower escutcheon screw for 2 1/4" thick doors |
| 15 | B61917 | 1 | Alkaline battery pack |
| 16 | C61410 | 1 | Battery cover |
| 17 | B62099 | 1 | Programmed PROM (VP_S15) |
| 18 | B60321 | 1 | Keypad gasket |
| 19 | A60319 | 4 | Keypad mounting screws |
| 20 | A60316 | 1 | Escutcheon gasket |
| 21 | B60338 | 1 | Motorola proximity wake-up electronics assembly |
| | B60339 | 1 | HID proximity reader w/ wake-up electronics assembly |
| 22 | A60319 | 2 | Retaining ring |
| 23 | A60317 | 2 | Sealing lens cover |
| 24 | A60324 | 1 | Adhesive tape for sounder |

a. For 9KV trim parts, see the *9K Varsity Service Manual.*
b. For 8KV trim parts, call your local representative.

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## 8KV/9KV chassis parts list

Refer to Figure 3.4 and the table below to find the part you need.

| Item | Part Number | Qty. | Description |
|---|---|---|---|
| 1 | A55557 | 2 | Through bolt mounting screws |
| 2 | C55556 | 1 | Inside rose liner |
| 3 | A55685 | 1 | Inside hub assembly |
| 4 | B60418 | 1 | Non-keyed sleeve assembly for 8KV |
| | B55610 | 1 | Non-keyed sleeve assembly for 9KV |
| 5 | A55517 | 1 | Spring guide |
| 6 | B60420 | 1 | Lever return spring for 8KV (outside only) |
| | B55518 | 2 | Lever return spring for 9KV |
| 7 | B60470 | 1 | Wire protection cap |
| 8 | B55504 | 2 | Thrust plate |
| 9 | A60461 | 1 | Key release cam assembly |
| 10 | C55515 | 1 | Spring drive plate |
| 11 | A54200 | 1 | Throw member |
| 12 | C54680 | 1 | Latch |
| 13 | B60416 | 1 | Chassis frame and retractor assembly for 8KV |
| | B60463 | 1 | Chassis frame and retractor assembly for 9KV |
| 14 | A25359 | 1 | Latch screw |
| 15 | A55687 | 1 | Keyed sleeve assembly |
| 16 | D55571 | 1 | Outside hub |
| 17 | A55505 | 2 | Chassis screw |
| 18 | A55603 | 1 | Outside liner and stud assembly |
| 19 | C60473 | 1 | Motor mount |
| 20 | A61012 | 1 | Motor |
| 21 | A61008 | 1 | Motor shaft set screw[a] |
| 22 | B60475 | 1 | Motor shaft spindle |
| 23 | A60411 | 1 | Washer |
| 24 | A61007 | 1 | Curved spring washer |
| 25 | B60474 | 1 | Threaded plunger |
| 26 | A61005 | 1 | Plunger shaft spring |

a. Uses 0.05 hexagonal driver.

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## 34–35HV magnetic stripe trim parts list

Refer to Figure 3.5 and the table below to find the part you need.

| Item | Part Number | Qty. | Description |
|---|---|---|---|
| 1 | C61400 | 1 | 35HV outside escutcheon w/ key, OR |
| not shown | C61402 | 1 | 35HV outside escutcheon without key, OR |
| not shown | C61420 | 1 | 34HV outside escutcheon with key, OR |
| not shown | C61405 | 1 | 34HV outside escutcheon without key |
| 2 | B61646 | 1 | Card reader |
| 3 | A61429 | 2 | Card reader screws |
| 4 | A61643 | 1 | Outside wire harness |
| 5 | B61307 | 1 | Concealed cylinder for 1 3/4"-2" thick doors |
| | B61308 | 1 | Concealed cylinder for 2 1/4"-2 1/2" thick doors |
| | B61309 | 1 | Concealed cylinder for 2 3/4"-3" thick doors |
| 6 | A61503 | 2 | Wire clamp (1 inside, 1 outside) |
| 7 | A61642 | 1 | Inside wire harness with deadbolt sensing |
| 8 | A61501 | 4 | Circuit board screws |
| 9 | B61664 | 1 | Circuit board |
| 10 | C61401 | 1 | 35HV inside escutcheon with turn knob |
| not shown | C61421 | 1 | 34HV inside escutcheon with turn knob |
| not shown | C61409 | 1 | 35HV inside escutcheon without turn knob |
| not shown | C61406 | 1 | 34HV inside escutcheon without turn knob |
| 11 | B61412 | 1 | Upper escutcheon screw for 1 3/4" thick doors |
| | B61413 | 1 | Upper escutcheon screw or 2" thick doors |
| | B61414 | 1 | Upper escutcheon screw for 2 1/4" thick doors |
| | B61415 | 1 | Upper escutcheon screw for 2 3/4" thick doors |
| | B61416 | 1 | Upper escutcheon screw for 3" thick doors |
| 12 | A61411 | 1 | Battery cover screw (torx with post head) or: |
| not shown | A61428 | 1 | Battery cover screw (McGard head) |
| 13 | A61502 | 1 | Communications port retainer clip |
| 14[a] | A60498 | 1 | 35HV case assembly with deadbolt |
| not shown | A60496 | 1 | 34HV case assembly with deadbolt |
| not shown | A60497 | 1 | 35HV case assembly without deadbolt |
| not shown | A60495 | 1 | 34HV case assembly without deadbolt |
| 15 | A61422 | 1 | Lower escutcheon screw for 1 3/4" thick doors |
| | A61423 | 1 | Lower escutcheon screw or 2" thick doors |
| | A61424 | 1 | Lower escutcheon screw for 2 1/4" thick doors |
| | A61425 | 1 | Lower escutcheon screw for 2 1/2" thick doors |
| | A61426 | 1 | Lower escutcheon screw for 2 3/4" thick doors |
| | A61427 | 1 | Lower escutcheon screw for 3" thick doors |
| 16 | B61917 | 1 | Alkaline battery packs |
| 17 | C61410 | 1 | Battery cover |
| 18 | B62099 | 1 | Programmed PROM (VP_S15) |

a. For 30HV trim parts, see the *H Service Manual.*

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## 34–35HV keypad trim parts list

Refer to Figure 3.6 and the table below to find the part you need.

| Item | Part Number | Qty. | Description |
|---|---|---|---|
| 1 | C61400 | 1 | 35HV outside escutcheon w/ key, OR |
| not shown | C61402 | 1 | 35HV outside escutcheon without key, OR |
| not shown | C61420 | 1 | 34HV outside escutcheon with key, OR |
| not shown | C61405 | 1 | 34HV outside escutcheon without key |
| 2 | C60303 | 1 | Keypad reader |
| 3 | A61429 | 2 | Keypad electronics screws |
| 4 | B60305 | 1 | Outside wire harness for keypad |
| 5 | A61503 | 2 | Wire clamp (1 inside, 1 outside) |
| 6 | A61642 | 1 | Inside wire harness |
| 7 | A61501 | 4 | Circuit board screws |
| 8 | B61664 | 1 | Circuit board |
| 9 | C61401 | 1 | 35HV inside escutcheon with turn knob |
| not shown | C61421 | 1 | 34HV inside escutcheon with turn knob |
| not shown | C61409 | 1 | 35HV inside escutcheon without turn knob |
| not shown | C61406 | 1 | 34HV inside escutcheon without turn knob |
| 10 | B61412 | 1 | Upper escutcheon screw for 1 3/4" thick doors |
| | B61413 | 1 | Upper escutcheon screw or 2" thick doors |
| | B61414 | 1 | Upper escutcheon screw for 2 1/4" thick doors |
| | B61415 | 1 | Upper escutcheon screw for 2 3/4" thick doors |
| | B61416 | 1 | Upper escutcheon screw for 3" thick doors |
| 11 | A61411 | 1 | Battery cover screw (torx with post head) or: |
| not shown | A61428 | 1 | Battery cover screw (McGard head) |
| 12 | A61502 | 1 | Communications port retainer clip |
| 13[a] | A60498 | 1 | 35HV case assembly with deadbolt |
| not shown | A60496 | 1 | 34HV case assembly with deadbolt |
| not shown | A60497 | 1 | 35HV case assembly without deadbolt |
| not shown | A60495 | 1 | 34HV case assembly without deadbolt |
| 14 | A61422 | 1 | Lower escutcheon screw for 1 3/4" thick doors |
| | A61423 | 1 | Lower escutcheon screw or 2" thick doors |
| | A61424 | 1 | Lower escutcheon screw for 2 1/4" thick doors |
| | A61425 | 1 | Lower escutcheon screw for 2 1/2" thick doors |
| | A61426 | 1 | Lower escutcheon screw for 2 3/4" thick doors |
| | A61427 | 1 | Lower escutcheon screw for 3" thick doors |
| 15 | B61917 | 1 | Alkaline battery pack |
| 16 | C61410 | 1 | Battery cover |
| 17 | B62099 | 1 | Programmed PROM (VP_S15) |
| 18 | B60321 | 1 | Keypad gasket |
| 19 | A60319 | 4 | Keypad mounting screws |
| 20 | A60316 | 1 | Escutcheon gasket |
| 21 | C60303 | 1 | Keypad reader electronics assembly |
| 22 | A60319 | 2 | Retaining ring |
| 23 | A60317 | 2 | Sealing lens cover |
| 24 | A60324 | 1 | Adhesive tape for sounder |

a. For 30HV trim parts, see the *H Service Manual.*

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## 34–35HV proximity trim parts list

Refer to Figure 3.7 and the table below to find the part you need.

| Item | Part Number | Qty. | Description |
|---|---|---|---|
| 1 | C61400 | 1 | 35HV outside escutcheon w/ key, OR |
| not shown | C61402 | 1 | 35HV outside escutcheon without key, OR |
| not shown | C61420 | 1 | 34HV outside escutcheon with key, OR |
| not shown | C61405 | 1 | 34HV outside escutcheon without key |
| 2 | C60337 | 1 | Motorola proximity bezel w/ reader assembly |
| | C60342 | 1 | HID proximity bezel w/ antennae & IR assembly |
| 3 | A61429 | 2 | Keypad electronics screws |
| 4 | B60305 | 1 | Outside wire harness for keypad |
| 5 | A61503 | 2 | Wire clamp (1 inside, 1 outside) |
| 6 | A61642 | 1 | Inside wire harness |
| 7 | A61501 | 4 | Circuit board screws |
| 8 | B61664 | 1 | Circuit board |
| 9 | C61401 | 1 | 35HV inside escutcheon with turn knob |
| not shown | C61421 | 1 | 34HV inside escutcheon with turn knob |
| not shown | C61409 | 1 | 35HV inside escutcheon without turn knob |
| not shown | C61406 | 1 | 34HV inside escutcheon without turn knob |
| 10 | B61412 | 1 | Upper escutcheon screw for 1 3/4" thick doors |
| | B61413 | 1 | Upper escutcheon screw or 2" thick doors |
| | B61414 | 1 | Upper escutcheon screw for 2 1/4" thick doors |
| | B61415 | 1 | Upper escutcheon screw for 2 3/4" thick doors |
| | B61416 | 1 | Upper escutcheon screw for 3" thick doors |
| 11 | A61411 | 1 | Battery cover screw (torx with post head) or: |
| not shown | A61428 | 1 | Battery cover screw (McGard head) |
| 12 | A61502 | 1 | Communications port retainer clip |
| 13[a] | A60498 | 1 | 35HV case assembly with deadbolt |
| not shown | A60496 | 1 | 34HV case assembly with deadbolt |
| not shown | A60497 | 1 | 35HV case assembly without deadbolt |
| not shown | A60495 | 1 | 34HV case assembly without deadbolt |
| 14 | A61422 | 1 | Lower escutcheon screw for 1 3/4" thick doors |
| | A61423 | 1 | Lower escutcheon screw or 2" thick doors |
| | A61424 | 1 | Lower escutcheon screw for 2 1/4" thick doors |
| | A61425 | 1 | Lower escutcheon screw for 2 1/2" thick doors |
| | A61426 | 1 | Lower escutcheon screw for 2 3/4" thick doors |
| | A61427 | 1 | Lower escutcheon screw for 3" thick doors |
| 15 | B61917 | 1 | Alkaline battery pack |
| 16 | C61410 | 1 | Battery cover |
| 17 | B62099 | 1 | Programmed PROM (VP_S15) |
| 18 | B60321 | 1 | Keypad gasket |
| 19 | A60319 | 4 | Keypad mounting screws |
| 20 | A60316 | 1 | Escutcheon gasket |
| 21 | B60338 | 1 | Motorola proximity wake-up electronics assembly |
| | B60339 | 1 | HID proximity reader w/ wake-up electronics assembly |
| 22 | A60319 | 2 | Retaining ring |
| 23 | A60317 | 2 | Sealing lens cover |
| 24 | A60324 | 1 | Adhesive tape for sounder |

a. For 30HV trim parts, see the *H Service Manual.*

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## 34–35HV chassis parts list

Refer to Figure 3.8 and the table below to find the part you need.

| Item | Part Number | Qty. | Description |
|---|---|---|---|
| 1 | A34087 | 5 | Case cover mounting screws |
| 2 | B60481 | 1 | Case cover |
| 3 | A34395 | 1 | Roller bearing |
| 4 | A34236 | 2 | Wire strain relief |
| 5 | A34066 | 1 | Upper auxiliary spring |
| 6 | B34020 | 2 | Auxiliary return lever |
| 7 | A34065 | 1 | Lower auxiliary spring |
| 8 | B60493 | 1 | Motor module |
| 9 | A34018 | 1 | Deadlocking spring |
| 10 | A61210 | 1 | Auxiliary bolt spring |
| 11 | A34315 | 1 | Retaining ring |
| 12 | A35002 | 1 | Deadlocking lever |
| 13 | A34450 | 1 | Case mounting screw |
| 14 | B60467 | 1 | Locking bar |
| 15 | B34092 | 1 | Auxiliary bolt |
| 16 | D34095 | 1 | Faceplate for deadbolt function |
| | B34515 | 1 | Faceplate for non-deadbolt function |
| 17 | A18722 | 2 | Standard faceplate screws |
| | A34454 | 2 | Security faceplate screws |
| 18 | A34081 | 1 | Hub lever spring |
| 19 | A34006 | 1 | Pivot pin for roller bearing |
| 20 | B35490 | 1 | Long hub lever |
| 21 | B34003 | 1 | Outside hub |
| 22 | B34043 | 1 | Inside lever hub for 35HV |
| | B34004 | 1 | Inside knob hub for 34HV |
| 23 | B35019 | 1 | Latch bolt (lever) |
| | B35018 | 1 | Latch bolt (knob) |
| 24 | A34048 | 1 | Stop pin |
| 25 | B35035 | 1 | Deadbolt |
| 26 | A35004 | 1 | Latch lever |
| 27 | A35000 | 1 | Turn knob hub |
| 28 | A61250 | 2 | Screw M2 0.4 × 10 m |
| 29 | A61607 | 1 | Deadbolt sensing switch & wire assembly |
| 30 | A61503 | 2 | Wire clamp |
| 31 | A35257 | 1 | Clamp plate |
| 32 | B61302 | 1 | Case sub-assembly |
| 33 | A34045 | 2 | Screw #8–32 × 1/4" |
| 34 | C34053 | 1 | Armored front |

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## XV Controller parts list

Refer to Figure 3.9 and the table below to find the part you need.

| Item | Part Number | Qty. | Description |
|---|---|---|---|
| 1 | B80220 | 1 | XV Enclosure cover |
| 2 | 1765873 | 2 | #6 X 3/8" long sheet metal screw |
| 3 | B61546 | 1 | External supply battery pack |
| 4 | A34510 | 1 | Adhesive strip for battery pack |
| 5 | B80224 | 1 | XV Control electronics |
| 6 | 1765915 | 4 | #6-32 X 5/8" long. phil. pan head screw |
| 7 | A61501 | 4 | #4-40 X 5/16" long. phil-pan head screw |
| 8 | B61664 | 1 | Micro-controller circuit board |
| 9 | B62098 | 1 | Programmed PROM (VP__XV) |
| 10 | C80221 | 1 | XV Enclosure box |
| 11 | 1770030 | 1 | XV Wiring diagram instruction sticker |
| not shown | 1767179 | 1 | Keypad reader (Lexan illuminated) |
| | 1767210 | 1 | Keypad reader (Stainless steel finish) |
| | TBD | 1 | Proximity reader |
| not shown | 1767252 | 1 | Magnetic stripe card reader (off-white finish) |
| | 1767294 | 1 | Magnetic stripe card reader (black finish) |
| | TBD | 1 | Proximity reader |

## External communications parts list

Refer to Figure 3.9 and the table below to find the part you need.

| Item | Part Number | Qty. | Description |
|---|---|---|---|
| not shown | 1767493 | 1 | Nine (9) pin male connector |
| | 1768015 | 1 | Nine (9) pin female connector |
| not shown | 1767451 | 1 | Wall plate |
| not shown | A10055 | 2 | Screw #6-32 X 3/8" |

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8. Reassemble the inside and outside trim to the door.

## Emergency opening

If you were not able to replace the batteries before they expired, don't worry! One simple procedure can unlock the door (if no key override exists) and give you access to the lock's battery compartment. So if you are unable to use a key or token to unlock the door, connect the handheld device cable with an external battery pack connected. This enables temporary power to the lock until access can be granted.

**Note:** The low battery alarm may have to be cancelled. To do this, connect the handheld terminal, or use the terminal mode in the IPS software and follow the prompts.

### To open a lock after complete battery failure:

1. Connect the handheld cable with an external battery pack connected. Although the handheld itself does not need to be connected, it will cause no problem if it is connected.

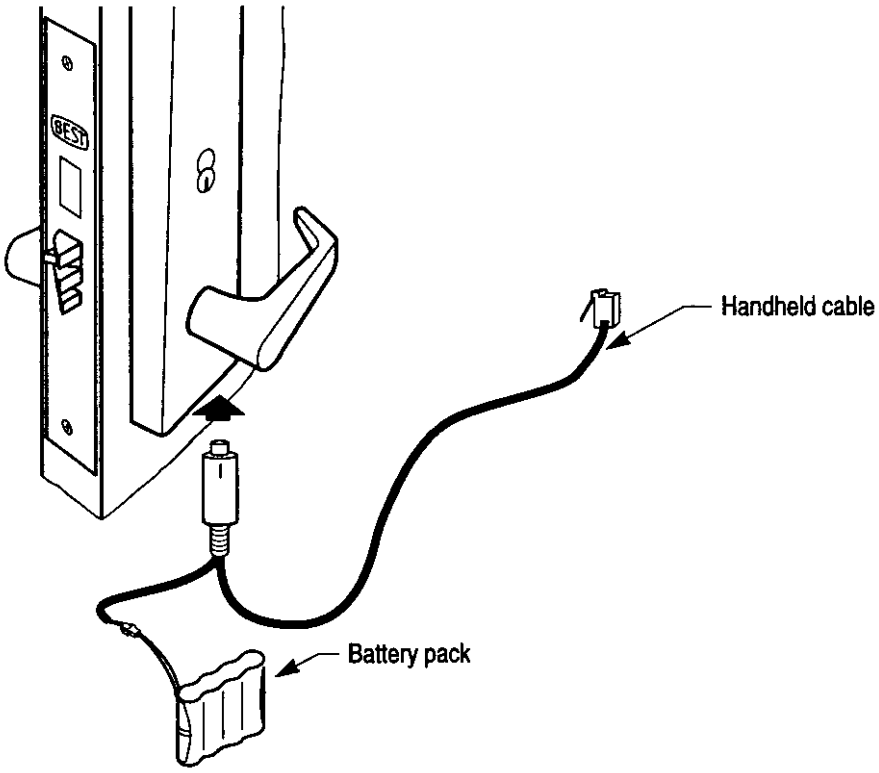


**Figure 3.11**

2. Use a valid operating token.
3. Open the door and replace the battery pack.
4. Disconnect the handheld cable.

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The backup battery is simply for memory backup only, that is, it only is needed if the main batteries fail, or become depleted. After the main batteries fail, the backup battery can maintain the clock and memory for several years.

### To replace the main batteries:

1. Open the battery compartment.

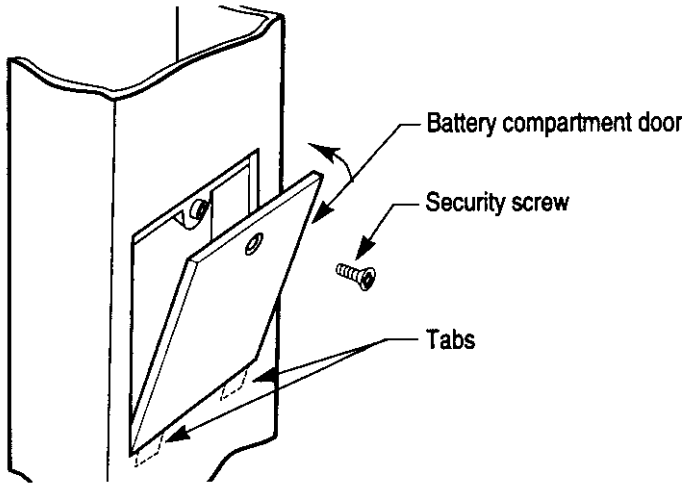


**Figure 3.12**

2. Disconnect the battery pack and replace it with a new one.

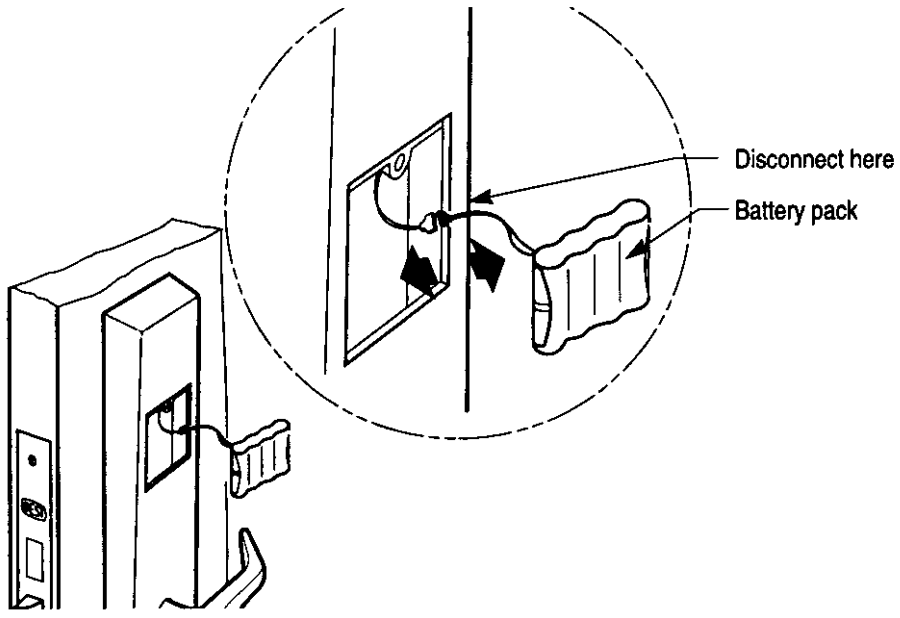


**Figure 3.13**

3. Connect the battery pack connector to the mating connector.
4. Secure the battery compartment door.

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4. Making sure the trim does not pinch the wires, secure the trim to the door from the inside with the combination mounting screw at the top mounting hole and with the standard screw at the bottom mounting hole. Tighten firmly.
5. Reconnect the battery pack.
6. Insert the battery pack into the battery compartment.
7. Position the battery compartment door and secure.
8. Reinstall the inside and outside knob or lever.

## Replacing the cable harnesses

**To replace the inside cable harness:**

1. Disconnect the battery pack.
2. Remove the inside trim.

**Caution**

*Disconnecting the inside cable harness will cause all security device information to be lost and revert the security device to its factory default state. You will have to reprogram the security device after disconnecting the inside cable harness.*

3. Disconnect the inside cable harness.
4. Connect the new inside cable harness to the circuit board and reconnect motor, and deadbolt sensing (30HV only) terminals. Make sure all connectors are oriented correctly before connecting.
5. Reinstall the inside trim.
6. Reconnect the battery pack.
7. Use the temporary communication token to enter the programming mode.
8. Reprogram the security device. See the *V Series Handheld Terminal User Manual* or the *V Series Intelligent Programmer Software User Manual* for more information.

## Protect the circuit board from static damage!!

Before you handle the circuit board or any component on the circuit board, make sure that you are properly grounded by properly using an electronic static discharge (ESD) protection kit! You can get an ESD protection kit from your local representative by ordering VPD-ESD. Touching the circuit board without proper grounding can damage sensitive electronic components—even if you don't notice any static discharge!

## Replacing the circuit board and card or keypad reader

**To replace the circuit board:**

1. Remove the inside and outside trim.
2. Ground yourself to prevent ESD damage to the circuit board.

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## Replacing the PROM

The Programmable Read-Only Memory (PROM) stores the program that controls the operation of the V Series security device. From time to time Best Lock will upgrade the PROM to either add new features and functions or fix unforeseen problems. Upgrading the security device requires you to replace the PROM. Follow these instructions to upgrade the security device by replacing the PROM.

If you are replacing the circuit board, you will likely need to remove the PROM from the existing circuit board and install it into the new circuit board. Circuit board parts are shipped without PROM.

**Note:** To remove the PROM properly without damaging the PROM socket, use a tool specifically made for this purpose. You can find a PROM removal tool at most electronics supply stores, or contact your local Best representative.

### To replace the PROM:

1. For the V Series electronic lock, remove the inside and outside trim; for the V Series controller, remove the enclosure cover.
2. Ground yourself to prevent ESD damage to the circuit board.
3. Disconnect the wire harness.

**Caution**

*Do not force the PROM out. Prying too far or too forcefully may damage the PROM socket.*

4. Using a PROM removal tool, pry one corner of the PROM as shown in Figure 3.15. Make sure that you put the PROM removal tool hook in one of the two notched corners of the PROM socket.

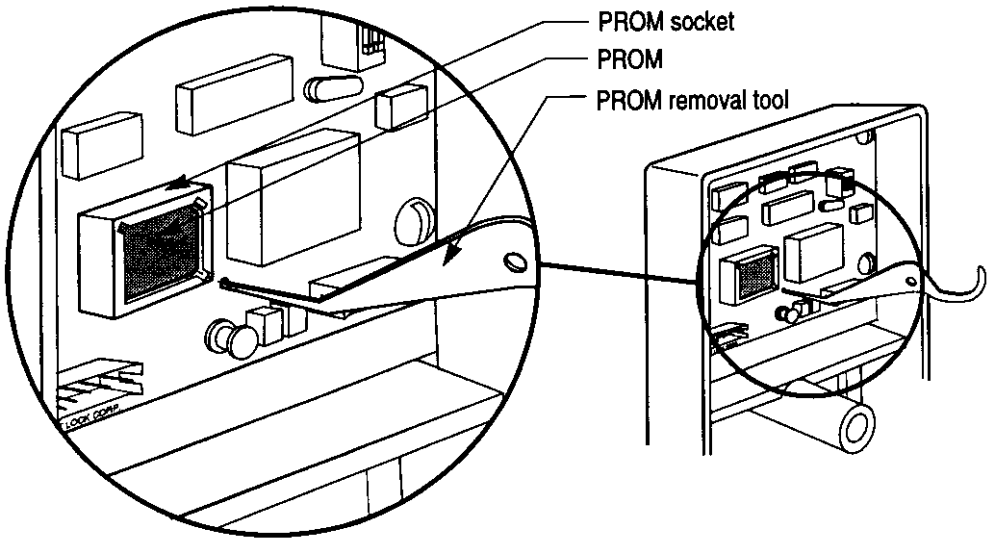


**Figure 3.15** Prying on one corner of the PROM [V Series electronic lock shown]

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10. Reinstall the inside and outside trim.

### To replace the outside cable harness:

**Note:** Disconnecting the outside cable harness will not cause any security device information to be lost.

1. Remove the inside and outside trim.
2. Disconnect the wire harness from the card or keypad reader.
3. Remove the communication port retainer clip.
4. Release the wires from the wire clamp.
5. Remove the outside wire harness.
6. Connect the new wire harness to the card or keypad reader.
7. Slide the wires into the wire clamp.
8. Position the communications port and secure with the retainer clip. Note the direction of the communication port. When the trim is lying down on a flat surface the keyed hole should be down as shown in Figure 3.18 .

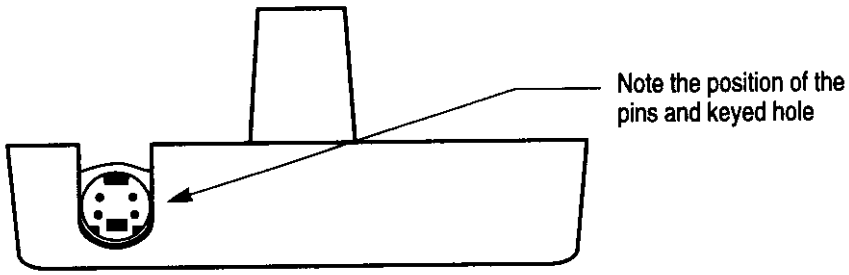


**Figure 3.18** Orienting the communication port

9. Reinstall the inside and outside trim.

# 4 TROUBLESHOOTING

## TROUBLESHOOTING THE V SERIES ELECTRONIC LOCK

This table summarizes the possible causes for certain lock problems based on visible and audible signals (LEDs, sounder, and whether access is granted or denied). Causes of failure are listed in order of likelihood. (Most likely is first, etc.)

Another helpful tool to use in troubleshooting the V Series Electronic Lock and the V Series Controller is the history of events record. Appendix A lists the history of event types and their meaning. For information about retrieving, viewing, and printing history records, see the *IPS User Manual* or the *Handheld Terminal User Manual.*

| Token used? | Red LED | Green LED | Sounder | Access | Caused by... | You should... |
|---|---|---|---|---|---|---|
| Yes | | ✔ | | Yes | Normal condition for valid token. | |
| Yes | | | One long tone | No | Token reader cannot read token correctly. | Use the token at a moderate speed. |
| Yes | | | One short tone | No | Card was used, but not removed soon enough. | |
| Yes | ✔ | | Two short tones | No | Invalid token number. | Check access privileges. |
| | | | | | Invalid time zone. | Check access privileges. |
| | | | | | Damaged card. | Re-encode operating card. It may be possible to re-encode a damaged card. If not, issue a new operating card. |

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| Token used? | Red LED | Green LED | Sounder | Access | Caused by... | You should... |
|---|---|---|---|---|---|---|
| Yes | | ✔ | | No | Damaged or disconnected wire harness to motor. | Check wire harness between motor and logic circuit board. Disconnect motor's harness from circuit board and apply 6V battery to verify operation. Replace if motor fails to operate. |
| | | | | | Motor mechanism has failed. | Check motor mechanism while the battery is connected to harness. Each time power is applied to motor mechanism the unit should lock or unlock. |
| | | | | | Self-aligning trim is overtightened | Loosen the self-aligning trim. |
| Yes | | Stays on | | No | Communication token was used. | Lock communications will automatically expire in five minutes or use any token again to turn off communications. |
| | | | | | Circuit board switches are left on. | Remove the trim to verify that the switches are off. For more information, see *To remove the inside and outside trim:* on page 3-24. |
| Yes | ✔ | | | No | Damaged sounder. | Replace the card or keypad reader. |
| | | | | | Circuit board malfunction. | Replace circuit board. |
| Yes | | | | Yes | Damaged LEDs. | Replace card or keypad reader. |
| | | | | | Circuit board malfunction. | Replace circuit board. |
| Lock is always unlocked. | | | | | Lock may be in a door unlock mode or passage mode. Setting the door mode to "Door unlock" means that anyone can access the door in this condition. | Check to see if a lock open condition exists by using the handheld device to view door mode. To reverse this condition change the door mode. |
| | | | | | Lock may be in a door unlock time zone. | Check to see if a door unlock time zone exists by using the handheld device to view door mode and time zone settings. |
| Lock is always unlocked. | | | | | Motor mechanism has failed. | Check motor mechanism while the battery is connected to harness. Each time power is applied to motor mechanism the unit should lock or unlock. |

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| Token used? | Red LED | Green LED | Access | Caused by... | You should... |
|---|---|---|---|---|---|
| Yes | ✔ | | No | Controller may be in a lock down mode. | Check to see if a door lock mode exists by using the handheld device to review the door mode. To reverse this condition, set the door mode to TZ Control. |
| Yes | | | No | Card reader needs cleaning. | Clean card reader head by using a cleaning card for magstripe card readers. |
| | | | | Bad connection to card or keypad reader. | Check all connections. |
| | | | | Foreign object inserted into card reader. | Remove object or replace the card reader. |
| Yes | | Stays on | No | Communication token was used. | Controller communications will automatically expire in five minutes. |
| | | | | Micro-controller circuit board switches are left on. | Verify that the switches are off. |
| | | | | Micro-controller circuit board malfunction. | Replace circuit board. |
| | | | | XV Controller electronics circuit board malfunction. | Replace circuit board. |
| Yes | | | Yes | Damaged LEDs. | Replace card or keypad reader. |
| Door is always unlocked. | | | | Controller may be in a door unlock mode or passage mode. Setting the door mode to "Door unlock" means that anyone can access the door in this condition. | Check to see if a lock open condition exists by using the handheld device to view door mode. To reverse this condition change the door mode. |
| | | | | Controller may be in a door unlock time zone. | Check to see if a door unlock time zone exists by using the handheld device to view door mode and time zone settings. |
| | | | | Locking device may not be connected properly. | Check connections. |
| Cannot access controller's communications port with handheld connector. | | | | Foreign object jammed into communications port. | Clear object from controller's communications port. |

**For controllers accessed by readers with a dual red/green LED and sounder**

This table summarizes the possible causes for certain controller problems based on visible and audible signals (LEDs, sounder, and whether access is granted or denied). Causes of failure are listed in order of likelihood. (Most likely is first, etc.)

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| Token used? | Red/green LED | Sounder | Access | Caused by... | You should... |
|---|---|---|---|---|---|
| Door is always unlocked. | | | | Controller may be in a door unlock mode or passage mode. Setting the door mode to "Door unlock" means that anyone can access the door in this condition. | Check to see if a lock open condition exists by using the handheld device to view door mode. To reverse this condition change the door mode. |
| | | | | Controller may be in a door unlock time zone. | Check to see if a door unlock time zone exists by using the handheld device to view door mode and time zone settings. |
| | | | | Locking device may not be connected properly. | Check connections. |
| Cannot access controller's communications port with handheld connector. | | | | Foreign object jammed into communications port. | Clear object from controller's communications port. |

| You notice | Caused by... | You should... |
|---|---|---|
| No alarm (when expected) | Alarm wiring being disconnected, loose, or cut. | Secure all alarm wiring. |
| | Bad alarm device. | Replace the alarm device. |

# A GLOSSARY

**Battery pack** The set of alkaline batteries powering the electronic lockset.

**Card reader** A device that reads the information encoded on magnetic stripe cards.

**Chassis type** Type of mechanical locking mechanism—cylindrical or mortise—used in an electronic lock.

**Communication token** Token generally used for all security devices in a facility to access locks at any time for programming.

**Communications port** A security device's communication interface used to transmit and receive data to and from a handheld device.

**Deadbolt override privilege** Privilege that can be granted to a token so the token can access a lock even when the lock's deadbolt is thrown.

**Door** The location of an installed security device.

**Door lock door mode** Door mode that locks down a security device, denying all cards access.

**Door lock time zone** Time zone when a security device automatically locks down, denying all tokens access, and then later resumes normal operation.

**Door mode** One of five types of security device operation that determines what access is currently provided.

**Door unlock door mode** Door mode that sets the security device to unlock and remain unlocked.

**Request-to-exit (RQE) device** — Device, such as a button, that can be connected to a V Series Controller. When someone activates the request-to-exit device, the controller does not trigger an alarm. If the controller is programmed for the RQE unlock feature, the controller also unlocks the door.

**Security device** — A V Series Electronic Lock or a V Series Controller.

**Sounder** — A device in the lock that produces sound. The sounder annunciates when access is denied.

**Temporary communication token** — Token for temporary use that lets you communicate with a V Series Security Device programmed with factory default settings.

**Temporary operator token** — Token that gives people temporary access to locks before the devices in a V Series System is permanently programmed.

**Token** — Access card or V Series personal identification number (PIN) used to access a door.

**User database** — All user tokens—up to 1000—defined for a lockset configuration.

**Wire harness** — A group of wires bundled together and terminated to their input and output connectors.

# B SECURITY DEVICE HISTORY EVENT TYPES

The table on the following pages describes in alphabetical order each history event that can be recorded at a V Series Security Device. For information about retrieving, viewing, printing, and deleting device history records, see the *IPS User Manual.*

| | |
|---|---|
| **INVALID F-CODE** | The device denied access to the indicated token because the token's facility code was not valid. |
| **INVALID ISSUE** | The device denied access to the indicated token because the token's issue number was not valid. |
| **INVALID T-ZONE** | The device denied access to the indicated token because the token's time zone was not in effect. |
| **MOD DOOR STATUS** | Using the handheld terminal, the controller's programmed door status settings were changed. |
| **MODIFY CARD** | Using the handheld terminal, the information in the device's user database for the indicated token was modified. |
| **MODIFY CHASSIS** | Using the handheld terminal, the electronic lock's programmed chassis type was changed. |
| **MODIFY DATE/TIME** | Using the handheld terminal, the device's date and/or time were changed. |
| **MODIFY DOOR MODE** | Using the handheld terminal, the device's door mode was changed. |
| **MODIFY F-CODE** | Using the handheld terminal, the device's valid facility codes were changed. |
| **MODIFY HOLIDAY** | Using the handheld terminal, the holidays defined for the device were changed. |
| **MODIFY READER** | Using the handheld terminal, the device's timed access features were changed. |
| **MODIFY SYSTEM** | Using the handheld terminal, the electronic lock's system settings were changed. |
| **MODIFY TIME ZONE** | Using the handheld terminal, the device's time zones were changed. |
| **MODIFY VAR FORM** | Using the handheld terminal, the device's card format was changed. |
| **PASSAGE CLOSE** | The passage mode feature was used to lock the door. |
| **PASSAGE OPEN** | The passage mode feature was used to unlock the door. |
| **PC DEVICE CONFIG** | Using the IPS, programming settings were transferred from the PC to the device. |
| **PC DEVICE USERDB** | Using the IPS, a user database was transferred from the PC to the device. |

# C

# INDEX



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## T



## U



## V



## W



## X



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