

eForce® 150 Keyless Entry Model 3090



Installation Instructions and User's Guide

Experience a safer
and more open world

INSTALLATION

Important Notes

The 3090-01 is designed exclusively for latching hardware including:

- Adams Rite 4500/4900 series deadlatches
- Adams Rite 8000 series exit devices

The 3090-02 is compatible with Adams Rite MS® Series Deadlocks only! These units are not interchangeable.

These instructions, and the fasteners supplied, apply to metal door applications. Other door types will need fasteners designed for the given medium.

IMPORTANT: This product must be installed according to all applicable building and life safety codes!

The following additional equipment is needed for installation:

- Mortise Cylinder — 1" to 1-1/2" in length range with MS cam
NOTE: 1-1/2" cylinders require a 1/8" trim ring.

Prepare the Door

1. Select proper template to match application and create holes according to template instructions.
2. Install Rivnuts in 1/4" mounting holes according to instructions supplied in Rivnut kit.
3. Install anchor plate, with lip up, on top holes with two (2) #10-32 x 5/8" pan head screws include in hardware kit (**Figure 1**).

Prepare the Spindle

Snap spindle to proper length for the application (**Figure 2**).

FIGURE 2: Prepare the Spindle

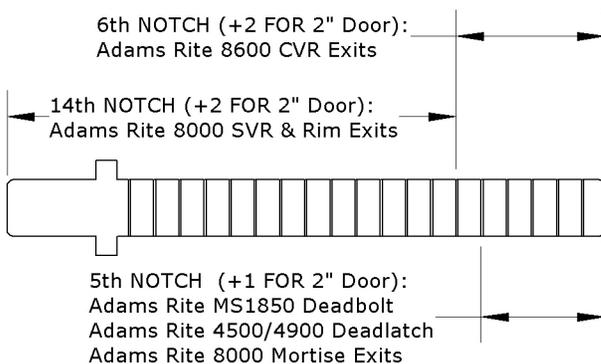
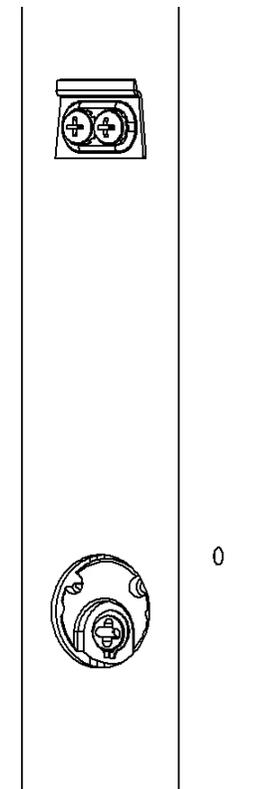


FIGURE 1: Prepare the Door



INSTALLATION

Configure for Lock Series

Model 3090-01 used with 4500/4900 Deadlatches (including 8300/8400 Exit Devices):

1. Configure supplied cam plug to match hand of door, see LHR (Figure 3) and RHR (Figure 4).
2. Insert cam plug into latch case with notch aligned to latch set screw.
3. Tighten set screw and secure with two brass cam plug screws (Figure 5).



FIGURE 3: Left Hand Reverse



FIGURE 4: Right Hand Reverse



FIGURE 5

Model 3090-01 for CVR application using 8500/8600 Exit Devices:

1. Install tailpiece adapter on vertical rod.
2. Fasten with Phillips screw (Figure 6).

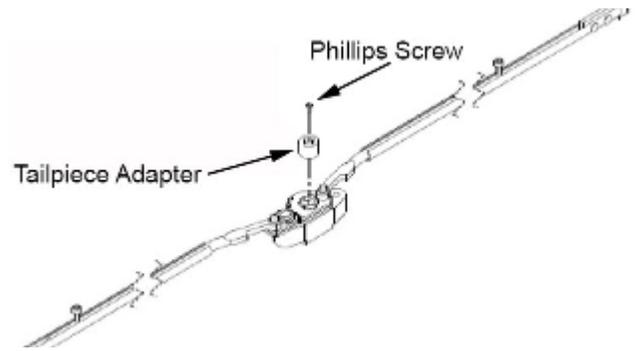


FIGURE 6: Fasten with Phillips Screw

Model 3090-01 for RIM application using 8700/8800 Exit Devices:

1. On back of exit device, remove lower screw only to free up cylinder actuator (Figure 7).

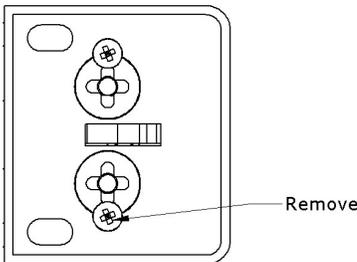


FIGURE 7

Model 3090-02 for MS® series Deadlocks:

1. Insert cam plug into lock case with notch aligned to case set screw.
NOTE: Cam Plug must be positioned below door surface.
2. Tighten set screw and secure with two brass cam plug screws (Figure 8).

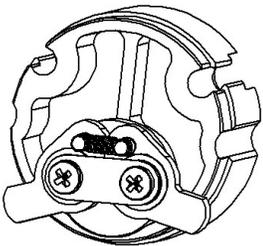


FIGURE 8

INSTALLATION

Hand the eForce 150

1. Install handle in desired direction & secure with Set Screw from parts kit (Figure 9).
2. For Model 3090-02, skip to “Install Mortise Cylinder” section.
3. Check rotation direction in Table 1 and change as needed. Unit is shipped in the clockwise configuration, viewed from the rear.

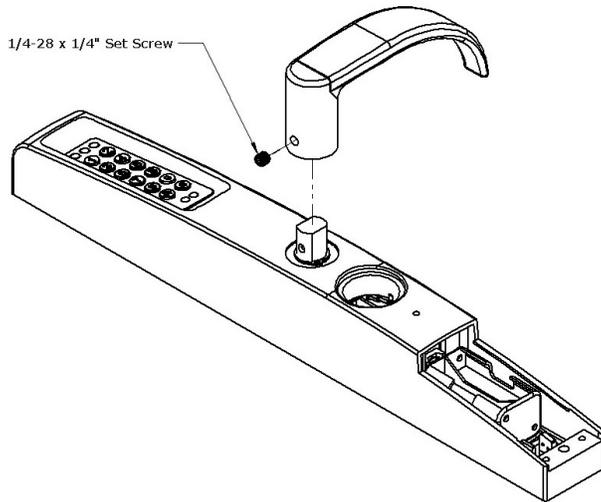


FIGURE 9

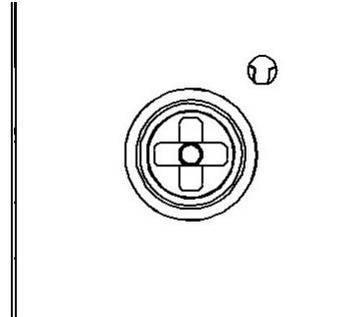


FIGURE 10

Table 1. Handing Setup for 3090-01 Version*

Device Type	Left Hand Reverse	Right Hand Reverse
SVR	Clockwise	Clockwise
Mortise Latch	Counter-Clockwise	Clockwise
CVR	Clockwise	Clockwise
RIM	Counter-Clockwise	Counter-Clockwise

*3090-02 cannot change rotation direction. To change rotation, use a flat screwdriver to adjust the output hub located on the back of the 3090-01 (Figure 10). Turn approximately 270° opposite the direction you want it to actuate.

Example: If the hub is rotating clockwise, turn the hub with a screwdriver 270° clockwise; the hub will then rotate counterclockwise.

Install Mortise Cylinder

See “Mortise Cylinder Replacement” section (page 7), Steps 4-6, for detailed instruction.

Install Optional RSK-3090 Kit

For applications that require a remote activation switch, plug the RSK-3090 connector into the back of the eForce 150 (Figure 11).

NOTE: Device will unlock when wires make contact through a normally open dry contact.



FIGURE 11

INSTALLATION

Mount the eForce 150

1. Insert the proper length spindle into the output hub.
2. Slide the eForce150 onto the anchor plate; ensure spindle engages with cam plug (Figure 12, MS 1850 configuration shown).

NOTE: The eForce 150 must sit flush on the door surface.

3. Secure with two (2) #10-32 x 5/8" pan head screws (Figure 13).



FIGURE 12



FIGURE 13

Install Batteries

See "Battery Replacement" section (page 6) for detailed instructions.

SETTING UP AND USING THE eFORCE 150

User Codes

NOTES

- In user mode, entries must be followed by the * key.
- Following 5 successive invalid code entries, the red LED flashes once and a tone indicates that the eForce 150 will not accept entries for 15 seconds. One tone per second sounds during this time. Refer to "Programming Information" to change default settings.

USER CODE DESCRIPTIONS

- **Master Code.** Used to program any code or unlock the device in any condition. The default Master code setting (1234) must be changed before programming additional user codes.
- **Emergency Code.** Unlocks the device in all conditions, including low battery or "blackout". The default Emergency code setting (4321) must be changed prior to programming features and codes.
- **Supervisor Code.** Will unlock the eForce 150, including low battery conditions. Allows for programming every code except the Master code.
- **Lockout Code.** Enter to restrict Normal User codes (6-152) from gaining access (green LED flash + two tones + two additional tones). Enter again to cancel Lockout Mode and allow normal access (green LED flash + two tones).
- **Passage Code.** Will cause the device to allow free ingress entry (green LED flash + 3 tones). Enter a second time to return to Normal User Mode (green LED flash + 2 tones). Passage Mode operates when the battery is low and can be overridden by the Lockout code.
- **Normal User Codes.** Used to briefly unlock the device. A correct code entry is indicated by a green LED flashing once per second. An incorrect code entry is indicated by red LED flash and 3 tones. Up to 144 different Normal User codes may be programmed. These codes may not be programmed until after the default Master and Emergency codes have been reprogrammed.
- **One-Time User Codes.** Will unlock the device one time only. A correct code entry is indicated by a green LED flashing once per second. An incorrect code entry is indicated by red LED flash and 3 tones. One-Time user codes may be programmed into locations 151 and 152. These codes may not be programmed until after the default Master and Emergency codes have been reprogrammed.

SETTING UP AND USING THE eFORCE 150

Programming Information

NOTES

- **Master and Emergency Codes (default 1234 & 4321) must be reprogrammed from the factory pre-sets before user codes may be entered.**
- If the Master Code is lost, the controller's Master and Emergency Codes may be reset to factory defaults by pressing Reset and # for 10 seconds.
 - Reset Button is on the top back of the unit, remove from door to access.
- The programming mode will exit automatically if it times out or an invalid code is entered during programming (indicated by a red LED flash and a tone).
- All codes need to be entered twice for validation during programming. If the two entered codes do not match, the eForce 150 will exit programming mode and the previous code will remain active.
- Emergency, Lockout, and Passage codes may be singly deleted, rendering these functions completely un-operational (they will not return to default once deleted).
- LED's can be disabled in User Mode (PCC32) but will remain enabled in programming mode. Yellow = programming mode. Green = successful entry. Red = input error or programming mode exited.
- Program Command Codes (PCC) are designated codes for programming specific features. **See Tables 2, 3 & 4.**

PROGRAMMING PROCESS

1. Hold # key until yellow LED flashes three times.
2. Release # key and the yellow LED will begin to flash continually.
3. Program as required. a)-d). **See Tables 2, 3 & 4.**
4. To continue programming, press # within 2 seconds and return to step 3b.
5. When programming sequence is complete, wait for the device to time out and return to normal operating mode, OR press the * key to exit programming mode.
6. Wait 2 seconds before entering any code

Example: Re-program Master Code-

Hold # →1234# →51# →1# →New Master # →New Master #

Table 2. Code to Set

Code to Set	(a) Enter Authorization Code then #.	(b) Enter PCC then #.	(c) Enter Location then #.	(d) Enter New Code then #. Repeat
Master	Master	51	1	4 to 7 digits
Emergency	Master		2	4 to 7 digits
Supervisor	Master		3	4 to 7 digits
Lockout	Master / Supervisor		4	4 to 7 digits
Passage	Master / Supervisor		5	4 to 7 digits
Normal User	Master / Supervisor		6 to 150	2 to 7 digits
One-Time User	Master / Supervisor		151 to 152	2 to 7 digits

SETTING UP AND USING THE eFORCE 150

Table 3. Function to Set

Function to Set	(a) Enter Authorization Code then #.	(b) Enter PCC then #.	(c) Enter Selection or Confirmation then #. (Bold is default)
Audible Feedback	Master / Supervisor	31	1 (enable) ; 2 (disable)
Visual Feedback (LEDs)	Master / Supervisor	32	1 (enable) ; 2 (disable)
Attempts Before Lockout	Master / Supervisor	33	1 to 255 (5 attempts)
Lockout Time	Master / Supervisor	34	1 to 255 (15 seconds)
Hold Open Time	Master / Supervisor	44	1 to 9 (5 seconds)
Emergency Hold Open Time	Master / Supervisor	46	1 to 9 (5 seconds)
Delete All User Codes	Master / Supervisor	60	60
Reset All Features	Master / Supervisor	72	72

Table 4. Code(s) to Delete

Code(s) to Delete	(a) Enter Authorization Code then #.	(b) Enter PCC then #.	(c) Enter Start of Range then #.	(d) Enter End of Range then #.
Delete Individual Code	Master	61	3 to 150	—
Delete Range of Codes	Master	62	3 to 150	4 to 150
	Supervisor		6 to 150	7 to 150

Battery Replacement

NOTE: When the batteries start to get low, the eForce 150 will emit a 4 tone warning before allowing entry; if batteries are not changed and become very low, unit will enter blackout mode. If this happens, users 6-152 will be locked out; only Master, Emergency, and Supervisor Codes will allow access in this mode. No codes are lost during low power conditions or battery replacement.

1. Insert key into cylinder and turn 180° clockwise to release blocking plate.

CAUTION: Once loose, the battery cover is free to slide down and can fall; support with free hand to prevent this.

2. Insert included 5/64" Allen key in hole below cylinder then loosen screw two (2) full turns to release battery cover (Figure 14).
3. Unplug battery holder (Figure 15) and replace four (4) Size AA Alkaline batteries, ensuring proper polarity.

NOTE: Lithium batteries are recommended in climates reaching 20°F and below.

4. Plug battery pack into mating connector (Figure 16) then slide cover into place (Figure 16).
 - If the cover gets stuck halfway up, you may need to rotate the battery holder 90°.
5. Insert included 5/64" Allen key in hole below cylinder to tighten screw and secure battery cover (Figure 14).
6. Enter a known user code to ensure the eForce 150 is functioning correctly, if not refer to “Troubleshooting” section.



FIGURE 14

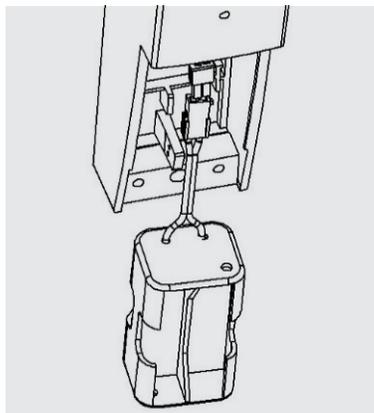


FIGURE 15



FIGURE 16

SETTING UP AND USING THE eFORCE 150

Mortise Cylinder Replacement

1. Remove battery cover and battery pack; see “Battery Replacement” section for details.
2. Remove the two (2) #10-32 x 5/8 screws from the inside bottom of trim (**Figure 17**).
3. Lift the eForce 150 up and off the mounting bracket, being careful not to lose spindle located in output hub on back of the unit.

CAUTION: There are wires connecting the housing and back plate assembly. These must be handled with care to not cause damage.

4. Remove eight (8) #10-32 x 5/8" screws on the back of the eForce 150 (**Figure 18**), and gently lift back plate off housing.
5. Remove cylinder using included Cylinder Nut Tool; fit new mortise cylinder into housing and secure with supplied Cylinder Retaining Ring and tighten using Cylinder Nut Tool (**Figure 19**).

NOTE: Dummy cylinders cannot be used.

6. Carefully replace back plate and screws. Do not overtighten.
7. Place eForce 150 back on door in reverse order of removal.
8. Enter a known user code to ensure the eForce 150 is functioning correctly, if not refer to “Troubleshooting” section.



FIGURE 17



FIGURE 18



FIGURE 19

TROUBLESHOOTING

Green light comes on, but lever will not retract latch-bolt.

1. Check the eForce 150 body connection with lock/latch mechanism.
2. Check cylinder tailpiece length & alignment (see installation instructions).
3. Check for proper door preparation (refer to door templates).

No lights come on when pushbuttons are depressed.

1. Ensure Visual Keypad Feedback is set to Enable (PCC 32).
2. Check battery polarity.
3. Check battery pack voltage (6V nominal).
4. Check battery pack terminal connection.

No tones sound when pushbuttons are depressed.

1. Ensure Audible Keypad Feedback is set to Enable (PCC 31).
2. Check battery polarity.
3. Check battery pack voltage (6V nominal).
4. Check battery pack terminal connection.

Factory default codes not working.

1. Perform a Reset to return all values to default; see “Programming Information” section.
2. Reprogram Master and Emergency codes, followed by User codes.

User codes not working.

1. Ensure Lockout Code has not been entered.
2. Check battery power (operator may be in blackout mode). See “Battery Replacement” section.
3. Check cylinder tailpiece length & alignment (see installation instructions).

Operator stays unlocked.

1. Ensure Passage Code has not been entered.
2. Check cylinder tailpiece length & alignment (see installation instructions).
3. Check eForce battery and connection.
4. Ensure battery cover is on, hex screw is tight and mortise cylinder key is removed.

eFORCE 150 USER LOG			
Installation Date		Door Description	
Location	User Name	Code	Notes
1	MASTER		
2	EMERGENCY		
3	SUPERVISOR		
4	LOCKOUT		
5	PASSAGE		
6			
7			
8			

Product Specifications

Approvals

CE, FCC, IC

Wireless Frequency

2.4GHz, IEEE 802.15.4, using AES 128-bit encryption

AA Lithium

Energizer L91 Rated 1.5 VDC, 3 Ah

NOTE: Replace Battery With Energizer L91 batteries only. Use of another battery may present a risk of fire or explosion.



CAUTION: Risk of fire and burns. Do not recharge, disassemble, heat above operating temperature or incinerate. Keep battery out of reach of children and in original package until ready to use. Dispose of used batteries promptly.

Battery Life

2+ years (45,000 cycles)*

*All battery life claims are approximate and based on a set configuration profile. Battery performance is based on pre-defined system settings such as battery chemistry and battery model used, credential presentation settings (LED/buzzer), UHF polling period, UHF status intervals, and operations per day. Actual battery performance will vary and depends on the factors above.

Environmental

Operating Temperature *(both products)*

- 14° to 140° F [-10° to 60° C]

Operating Humidity *(both products)*

- 0 to 93% relative humidity non-condensing

Certifications

- UL 294 Listed – Indoor Rated
- UL 294 Salt Spray Test Compliant
- Tested to IP65 (Reader Only)
- FCC Part 15 & Industry Canada Compliant
- CE RED – Radio Equipment Directive – 2014/53/EU

UL294 Performance Levels

- **Destructive Attack:** Level I (No Attack Test)
- **Line Security:** Level I (No Line Security)
- **Endurance:** Level IV (100,000 Cycles)
- **Standby Power:** Level I (No Secondary Power)

Safety and Emissions

- FCC 47CFR Part 15, subpart C
- IC RSS-102
- RSS-210
- RSS-247
- RE Directive 2014/53/EU, EN 301489-1, EN 301489-3, EN 300440, EN 300330, EN 300328, EN 62368-1, EN 62479

WARNING

FCC Statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

Operation with non-approved equipment is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment. To comply with FCC and Industry Canada RF radiation exposure limits for general population, the module must be installed to provide a separation distance of at least 20cm from all persons and must not be colocated or operating in conjunction with any other antenna or transmitter.

This module is labeled with its own FCC ID and IC Certification Number. If the FCC ID and IC Certification Number are not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final end product must be labeled in a visible area with the following:

Contains FCC ID: VC3-R100V3

Contains IC: 7160A-R100V3

IC Statement

This device complies with Industry Canada license-exempt RSS standards(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation.

Conformité aux normes IC

Cet appareil est conforme avec Industrie Canada exempt de licence RSS standard(s). Son fonctionnement est soumise aux deux conditions suivantes:

- (1) cet appareil ne peut causer d'interférences, et
- (2) cet appareil doit accepter toute interférence, y compris des interférences qui peuvent provoquer un fonctionnement indésirable du périphérique.

CE Declaration of Conformity

content.assaabloyusa.com/doc/AADSS1179512&.pdf



adamsrite.com | 800 626 7590
techsupport.adamsrite@assaabloy.com

Printed in the U.S.A.

Patent pending and/or patent www.assaabloyds.com/patents
Copyright © 2022, Hanchett Entry Systems, Inc., an ASSA ABLOY Group company.
All rights reserved. Reproduction in whole or in part without the express written permission of Hanchett Entry Systems, Inc. is prohibited. 80-0180-307_2

Approved 2023-11-13