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eForce® Keyless Entry

Owner's Manual & Installation Instructions For Models 3090C & 3090P



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LIMITED WARRANTY

Adams Rite Manufacturing Co. (hereinafter ADAMS RITE) manufactures its products in a manner to be free of defects. Should any defect of manufacture (in material or workmanship) occur in its products, ADAMS RITE, upon prompt notification and proof to its satisfaction that the product was defective in manufacture for the use intended by ADAMS RITE, will at its option, exchange the product, repair the defect or refund the price charged by ADAMS RITE, FOB factory based on the following schedule:

All mechanical products for five (5) years from the date of manufacture;
All electrical products (including EL and ED exit devices) for three (3) years from the date of manufacture;
The RITE Door® for five (5) years from the date of manufacture;
UltraLine Electric Strikes for five (5) years from the date of manufacture.

Limitations and exclusions: This is a limited warranty and is in lieu of all other warranties including the implied warranties of merchantability and fitness for use) and under no circumstances shall ADAMS RITE be liable for any incidental or consequential damages or losses.

This warranty covers products as outlined above manufactured from May 1, 2003 forward.

This warranty does not cover damages from such causes as abuse, accident, neglect, fire or freight damage.

WARRANTY CONDITIONS

The selling dealer from who this exit device was purchased is responsible for advising the purchaser of the period of no charge warranty exchange, repair or refund. Replacement parts under the terms of the warranty must be furnished by the Adams Rite dealer or agency.

FACTORY ASSISTANCE

If the purchaser is unable to locate a service agency, or if the purchaser does not receive satisfaction from the source of which the exit device was purchased, or from local dealer, write or contact Adams Rite at the following address:

Adams Rite Manufacturing Co.
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GENERAL INFORMATION

The eForce® Prox (3090P) and eForce® iCLASS (3090C) lever operators have integrated contactless proximity readers that communicate with a Wiegand protocol access control system. Utilizing HID 125kHz Prox or HID 13.56MHz iCLASS technology, the eForce® offers reliable and secure access to your building or area.

The eForce® Prox or eForce® iCLASS will mechanically interface with: Adams Rite MS Series Deadbolts; Adams Rite 4500/4900 Deadlatches; Adams Rite 8000 Series Exit Devices; Yale 7200 Series Narrow Stile Exit Devices; Corbin Russwin ED4000 Series, and SARGENT 8500 Narrow Design Rim Exit Devices.

DEFINITIONS

- Prox – Class of contactless card credentials that operate on 125kHz.
- iCLASS – Class of contactless card credentials that operate on 13.56MHz.

  Note: iCLASS fundamental frequency allows use of card credentials with larger memory/application areas.
- Secured – State of eForce®: turning lever does not retract latching hardware.
- Unsecured – State of eForce®: turning lever retracts the latching hardware.
- Wiegand – Communication protocol utilized between the eForce® and access control system, which consists of two data lines, WG0, WG1.
- Access Control System – Third party system that manages contactless card credentials, and door opening states (secured/unsecured).

Cover installation for eForce®



FIG. 18

- Slide cover onto the eForce. (Fig. 18)



FIG. 19

- Insert 5/64” allen key (included) and turn clockwise two full turns to secure battery cover. (Fig. 19 & 20)



FIG. 20

Mounting the eForce®

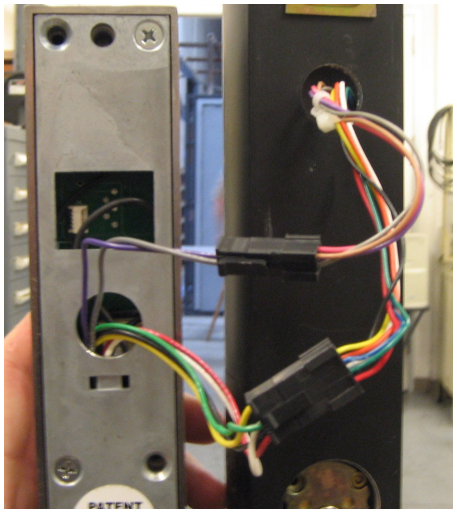


FIG. 16

- Insert the properly dimensioned spindle from Step 2 into the output hub horizontally.
- Mount eForce® onto top mounting bracket and guide spindle into Cam Plug.
- The eForce® must sit flush on the door surface.



FIG. 14

- Secure with two (2) #10-32 x 5/8" screws as shown. (FIG. 17)

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:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 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.

IC STATEMENT

This class [B] digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations. 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, including interference that may cause undesired operation.

OPERATIONAL DESCRIPTION

Manual Operation – Key Cylinder

1. Insert key into lock cylinder.
2. Turn the key 180° to the detent position and hold.
3. Rotate the lever until latch or deadbolt clear the strike and open the door.
4. Return the key to the 12 o'clock position and remove the key.

Credential Card Operation

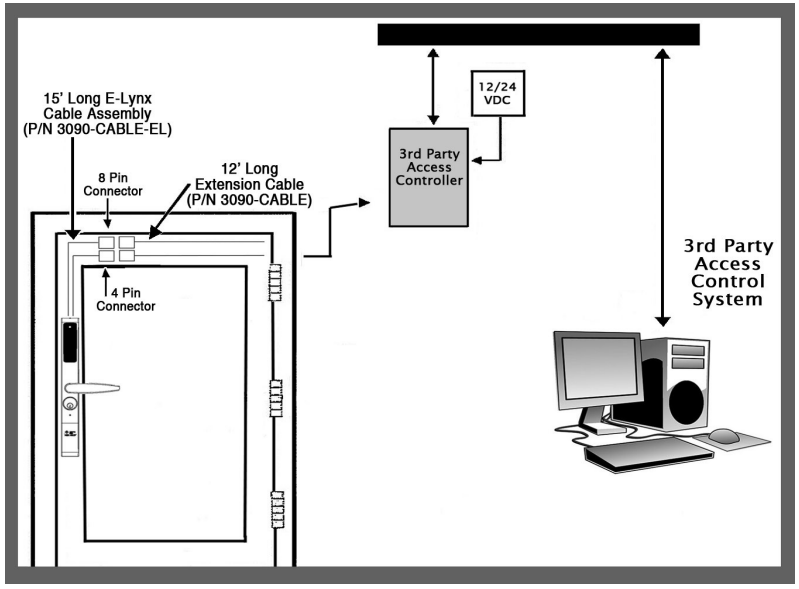
When the eForce® is in a secured state, the LED in the front plastic faceplate will be red, and the lever will not operate the locking mechanism.

To gain entry using the eForce® Prox or eForce® iCLASS:

- Place Prox/iCLASS card in front of the eForce® LED, at a **distance no greater than one inch**.
- The access control system will receive the card credential information, and will send an unlock signal to the eForce® if the credentials are valid.
- The LED will change states from red to green, and a short audible tone will be heard to indicate a valid unlock status.
- Rotate the lever to gain entry into the building.
- The lock will return to a secured (locked state) (**does not apply to deadbolt**) after the access control system unlock period has expired. NOTE: the access control system will determine the unlock period. There are no adjustments in the eForce® for unlock period.

Adding Card Credentials

Consult the access control system manual or the system administrator to manage your credential database. The eForce® does not store card credentials; it simply extracts the information from the card and sends it to the access control system for verification.



STEP 5 MORTISE CYLINDER INSTALLATION



FIG. 14

- Using a Philips Head Screwdriver, remove the eight (8) #10-32 x 5/8" screws on the back of the eForce® and gently lift the back plate off the housing.
- **CAUTION!** There are wires connecting the housing and back plate assembly. Handle with care.
- **Do not over-tighten!**



FIG. 15

- Install Cylinder into housing. Secure and fasten with supplied locking ring using locking ring spanner tool. (FIG. 14)
- Gently place back plate back on housing and secure with eight (8) #10-32 x 5/8" screws.
- **CAUTION!** There are wires connecting the housing and back plate assembly. Handle with care.
- **Do not over-tighten!**
- **Do not use Dummy Cylinder!**

STEP 4 HANDING THE eForce® Prox & iClass



- The eForce® is shipped in a non-handed neutral position with the access cover off as shown.
- To hand the eForce®, rotate the handle until it clicks into the horizontal position.
- **Proceed to step 5 if installing the 3090P-02 & 3090C-02!**

FIG. 13



The output hub, located on the back of the eForce®, is shipped with a clockwise rotation as viewed from rear. In some instances, this rotation must be changed to match the device and/or hand of the door (refer to Handing Setup Chart).

To change rotation, insert a flat screwdriver into the output hub (FIG. 13) located on the back of the eForce® and turn approximately 270° Clockwise or Counter-Clockwise.

This will reconfigure the unit to the opposite rotation.

HANDING SETUP CHART		
DEVICE TYPE	LEFT HAND REVERSE ROTATION	RIGHT HAND REVERSE ROTATION
SVR	CLOCKWISE	CLOCKWISE
Mortise Latch	COUNTER-CLOCKWISE	CLOCKWISE
CVR	CLOCKWISE	CLOCKWISE
Rim	COUNTER-CLOCKWISE	COUNTER-CLOCKWISE

NOTE:
- Hubs that have (+) shape are for use with deadlatches & exits only.
- Hubs that have (-) shape are for use with deadbolts only.

OPERATIONAL SPECIFICATIONS

Card Compatibility:

Prox: All HID (125kHz) Prox credentials
iCLASS: All iCLASS (13.56MHz) credentials

Electrical Specifications (Prox/iCLASS):

Power Requirements Voltage In: 12Vdc (Range: 10.8Vdc – 16Vdc)
Current Consumption: 150mA average, 300mA peak

Transmit Frequencies:

Prox 125kHz
iCLASS 13.56MHz

Environmental Specifications (Prox/iCLASS):

Operating Temperature -31° to 150°F (-35° to 65°C)
Operating Humidity 5% to 95% relative humidity non-condensing

Wiring Connections (Prox/iCLASS):

E-Lynx Cable Pin Out

8 – PIN E-Lynx Connector		
Molex Pin #	Color	Description
1	Black	System Ground
2	Red	Reader/Motor Controller Power (+12Vdc, 300mA Max)
3	White	Wiegand Data 1
4	Green	Wiegand Data 0
5	Orange	RX (NO/NC)
6	Blue	RX Com
7	Brown	EGND
8	Yellow	Green Led Control

4– PIN E-Lynx Connector		
Molex Pin #	Color	Description
1 (9)	Violet	System Ground
2 (10)	Gray	Lock Activate (+12 Vdc, 10mA Max)
3	Pink	DPS (NC)
4	Tan	DPS Com

Lock Activate Signal – (+12Vdc, 10mA Max)
N.O. relay (or other isolated source) output from access control system that applies +12Vdc to this pin when valid credentials were accepted by the access control system.

NOTE: As long as this signal is active (+12Vdc) the lock will remain in an unsecured state, which will allow the lever to retract the latch/bolt. This line needs to return to **0**Vdc in order for the eForce® to return to a secured state.

Recommended Cable Information

1. Cable Size – 28 AWG minimum, stranded 7/36
2. Cable Distance – 500 feet maximum
3. Cable Type – 300V minimum, PVC insulation or better (non-shielded is acceptable).

TROUBLESHOOTING

Green light comes on, but lever will not retract latch or deadbolt:

- Check the eForce® body connection with lock/latch mechanism.
- Check the spindle length (see installation instructions).
- Check for proper door preparation (refer to door templates).

No lights come on and Operator stays unlocked (unsecured):

- Check the eForce® body connection.

LED not lit in secured state:

- Check that power and Wiegand lines are properly connected.

Credentials not activating lock:

- Check for lock power (LED should be lit, and red when secured).
- Trigger access control system lock activate input.
- If this unlocks the lock:
  - Ensure that credentials are in system database.
  - Ensure Wiegand lines are connected properly.
  - Place card in front of eForce®:
    - If the eForce® emits one short tone, but lock does not activate, check Wiegand data lines for connectivity and proper connection.

RIM Exit Device Application: 3090P-01 & 3090C-01 for 8700/8800

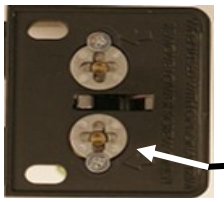


FIG. 10

- On the back side of the exit device, remove only the lower Phillips head screw, depending on hand of door, to free up the cylinder actuator for use. (FIG. 10)

MS 1850 Application: 3090P-02 & 3090C-02 for MS® Series Deadbolt



FIG. 11

- Two (2) brass hex head screws and the set screw from the MS1850 will fasten the cam plug to the MS1850. (FIG. 11)
- For MS® Deadbolt, insert Cam Plug (FIG. 12) into lock case with notch on the cam plug aligned with lock case setscrew.
- Tighten setscrew and secure with the two (2) brass cam plug screws. Cam Plug must be positioned below door surface.

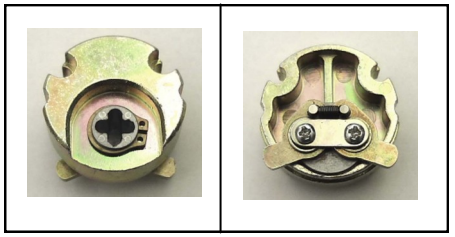


FIG. 12

STEP 3 CONFIGURE FOR LOCK SERIES

Mortise Latch Application: 3090P-01 & 3090C-01 for 4500/4900 (including 8300/8400 Exit Devices)

Configure the supplied cam plug to match the hand of door. Insert into latch case with notch on the cam plug aligned with latch case set screw. Tighten set screw and secure with the two brass cam plug screws.

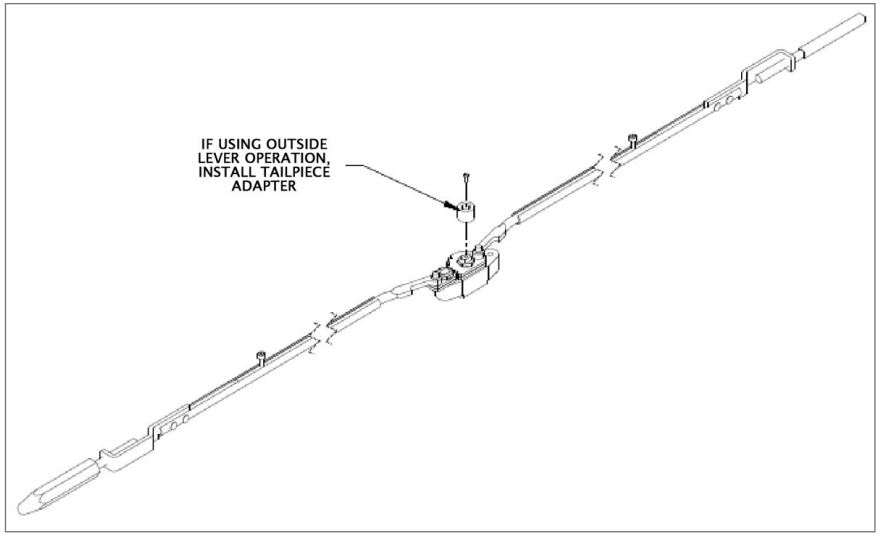
	
Left Hand Reverse (LHR) FIG. 7	Right Hand Reverse (RHR) FIG. 8



CVR Exit Device Application: 3090P-01 & 3090C-01 for 8500/8600

Install Tailpiece adapter on the vertical rod and fasten with Phillips screw as shown.

FIG. 9



INSTALLATION TOOLS & EQUIPMENT

IMPORTANT NOTES:

- *The 3090P-01 & 3090C-01 are designed exclusively for latching hardware including:*
  - *Adams Rite 4500/4900 Deadlatches;*
  - *Adams Rite 8000 Series Exit Devices;*
  - *Yale 7200 Series Narrow Stile Exit Devices;*
  - *Corbin Russwin ED4000 Series, and*
  - *SARGENT 8500 Narrow Design Rim Exit Devices.*
- *The 3090P-02 & 3090C-02 are compatible with Adams Rite MS® Series Deadbolts 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.*

TOOLS NEEDED:

Common hand tools such as center punch, drill gun, ¼" drill bit, Phillips screwdriver, pliers, flat tip screwdriver, pencil.

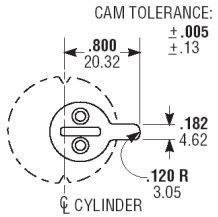


FIG. 1

ADDITIONAL EQUIPMENT NEEDED:

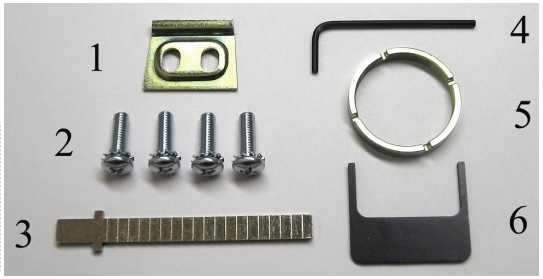
Mortise Cylinder - 1" to 1½" in length range with MS cam (Fig. 1). (Note: 1½" cylinders require a 1/8" trim ring).

SUPPLIED PARTS:

Item	Description	Qty.
1	Mounting Bracket (Part # 22-9076)	1
2	#10-32 X 5/8" Phillips Pan Head Screws w/Lockwasher	4
3	Spindle (Part # 22-9154)	1
4	5/64" Allen Key	1
5	Cylinder Locking Ring (Part # 24-0061)	1
6	Locking Ring Spanner Tool (Part # 22-0594)	1

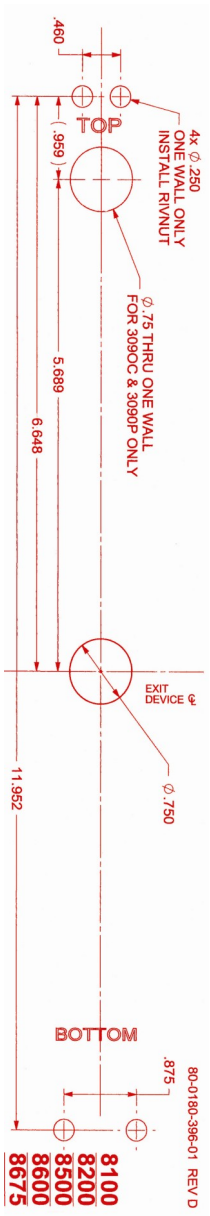
NOTE: A cam plug is supplied for either the 3090P-01 & 3090C-01 latch or 3090P-02 & 3090C-02 lock.

THIS PRODUCT MUST BE INSTALLED ACCORDING TO ALL APPLICABLE BUILDING AND LIFE SAFETY CODES



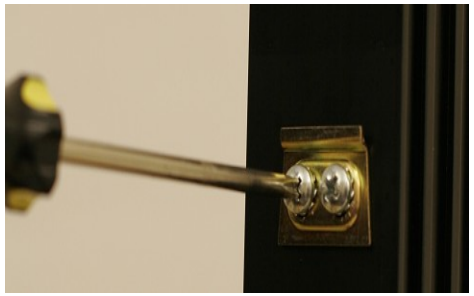
STEP 1 DOOR PREPARATION

FIG. 2



- Select the stick-on template to match the application.
- For Yale, Corbin Russwin and SARGENT exit devices, use template 80-0180-396-01.
- Mark the backset and horizontal centerlines.
- Apply clear template over the centerline marks (FIG. 2)
- Center-punch four (4) referenced mounting holes and remove template.
- Drill holes at center-punch locations using a ¼" drill bit.
- Install Rivnuts. Refer to instructions supplied in Rivnut kit.
- Install mounting bracket (Item 1) with two (2) each of #10-32 x 5/8" (Item 2) pan head screws. (FIG. 3)

FIG. 3



STEP 2 SPINDLE PREPARATION (For 1-3/4" doors)

For Adams Rite MS1850 Deadbolts, 4500/4900 Deadlatches, & 8000 Series Mortise Exit Devices:
Snap-off spindle at fifth (5th) notch as shown in FIG. 4. For 2" thick door add one notch.

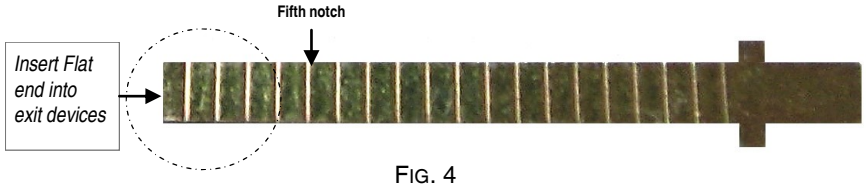


FIG. 4

For Adams Rite 8600 Concealed Vertical Rod Exit Devices:
Snap-off spindle at sixth (6th) notch as shown in FIG.5. For 2" thick doors add two notches.

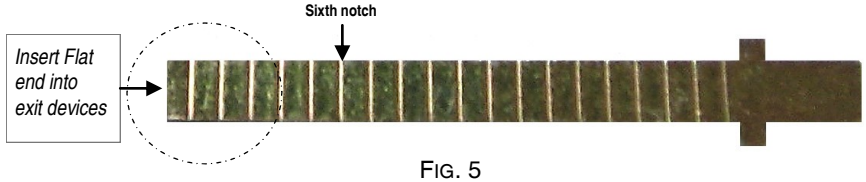


FIG. 5

For Adams Rite 8000 Series Surface Vertical Rod & Rim Exit Devices, Yale 7200 Series Narrow Stile Exit Devices, Corbin Russwin ED4000 Series, and SARGENT 8500 Narrow Design Rim Exit Devices:
Snap-off spindle at fourteenth (14th) notch as shown in FIG. 6. For 2" thick doors add two notches.

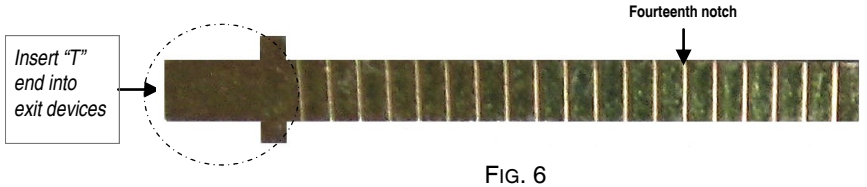


FIG. 6