



Excellence in Compliance Testing

Certification Exhibit

**FCC ID: U4A-SCYPROX2
IC: 6982A-SCYPROX2**

**FCC Rule Part: 15.225
IC Radio Standards Specification: RSS-210**

ACS Report Number: 09-0176 - 15C

Manufacturer: Assa Abloy, Inc.
Model: Bored/Exits, Mortise

Manual – Mortise

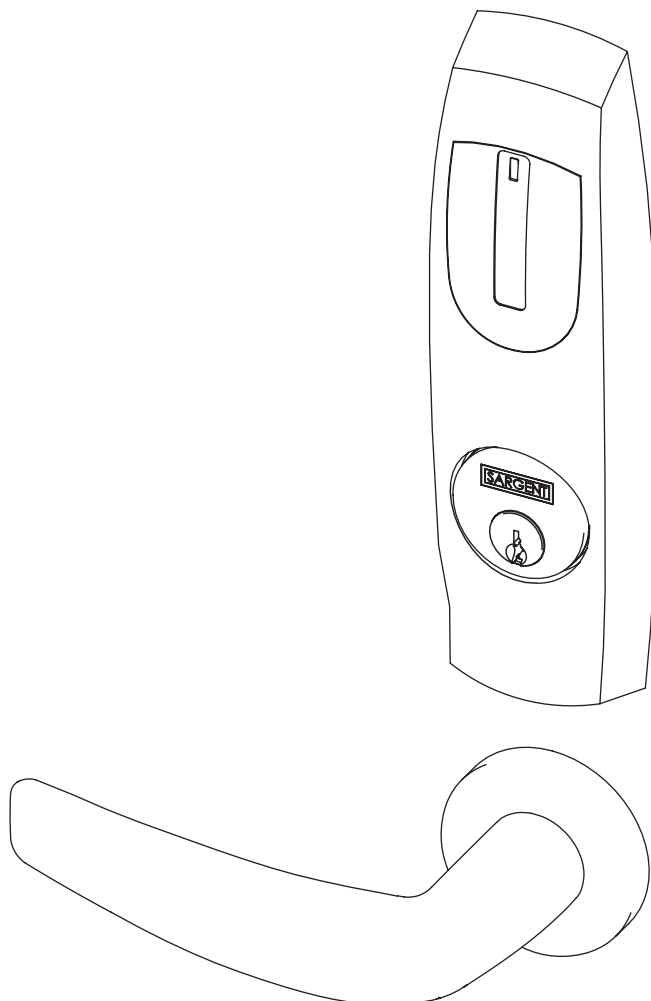
Installation Instructions

Harmony Series H2

Mortise Lock

SARGENT[®]

ASSA ABLOY



A8027A
06/09

Table of Contents

1	Warning	2
2	General Description	3
3	Hardware Specifications	3
4	Electronics Specifications	3
5	Features	3
6	Parts Breakdown	4
7	Installation Instructions	6
8	Wiring Diagrams	14
9	Mechanical Operational Check	18
10	Electrical Operational Check	18

1 Warning

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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, including interference that may cause undesired operation.

Note: 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 the 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 technician for help

The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met. 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.

Cet appareillage numérique de la classe B répond à toutes les exigences de l'interférence canadienne causant des règlements d'équipement. L'opération est sujette aux deux conditions suivantes: (1) ce dispositif peut ne pas causer l'interférence nocive, et (2) ce dispositif doit accepter n'importe quelle interférence reçue, y compris l'interférence qui peut causer l'opération peu désirée.



Observe precautions for handling electrostatic sensitive devices.

2 General Description

The SARGENT Harmony series H2 mortise lock is designed to interface with existing Wiegand Electronic Access Control (EAC) panels. The reader requires 12 or 24VDC for power and is compatible with HID iCLASS® 13.56MHz technology. Harmony series technology is backed by SARGENT's Grade 1 hardware. The mortise lock monitors Request to Exit and door position monitoring all inside the lock body and is available in 12 or 24VDC. Weatherseal gaskets are also included for exterior door applications. The Harmony H2 iCLASS reader provides visual (LED) and audible indicators of lock state (locked/unlocked).

3 Hardware Specifications

- Latch: Stainless steel, 3/4" projection, one-piece
- Deadbolt: One-piece hardened stainless steel
- Guardbolt: Stainless steel, non-handed
- Handed: Easily field reversible without opening case
- Case: 12 gauge heavy duty wrought steel
- Outside lever controlled by any 13.56MHz HID iCLASS Wiegand credential
- Inside lever provides RX signal and retracts latch and deadbolt
- Door position switch within lock body
- Locks furnished for 1-3/4" doors. Other door thicknesses require confirmation with factory.
- U.L. Listed (3 hr)
- Wire from EAC Panel to door must be shielded with drain terminated at EAC Panel controller

4 Electronics Specifications

12VDC System

- Reader Draw = 125mA
- 12VDC Solenoid Draw = 500mA
- Total Current Draw = 625mA

24VDC System

- Reader Draw = 125mA
- 24VDC Solenoid Draw = 250mA
- Total Current Draw = 375mA

Wire Gauge Charts

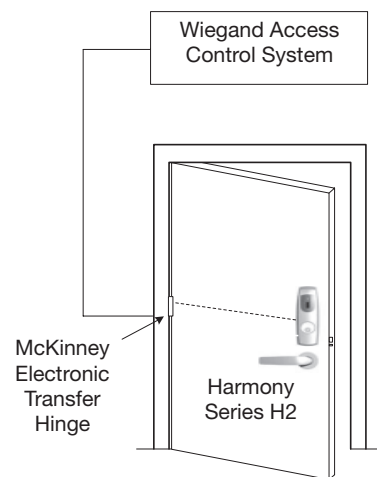
Total One-Way Length of Wire Run (ft)	Load Current @ 12VDC							
	1/4A	1/2A	3/4A	1A	1-1/4A	1-1/2A	2A	3A
100	20	18	16	14	14	12	12	10
150	18	16	14	12	12	12	10	—
200	16	14	12	12	10	10	—	—
250	16	14	12	10	10	10	—	—
300	16	12	12	10	10	—	—	—
400	14	12	10	—	—	—	—	—
500	14	10	10	—	—	—	—	—
750	12	10	—	—	—	—	—	—
1,000	10	—	—	—	—	—	—	—
1,500	10	—	—	—	—	—	—	—

Total One-Way Length of Wire Run (ft)	Load Current @ 24VDC							
	1/4A	1/2A	3/4A	1A	1-1/4A	1-1/2A	2A	3A
100	24	20	18	18	16	16	14	12
150	22	18	16	16	14	14	12	10
200	20	18	16	14	14	12	12	10
250	18	16	14	14	12	12	12	10
300	18	16	14	12	12	12	10	—
400	18	14	12	12	10	10	—	—
500	16	14	12	10	10	—	—	—
750	14	12	10	10	—	—	—	—
1,000	14	10	10	—	—	—	—	—
1,500	12	10	—	—	—	—	—	—

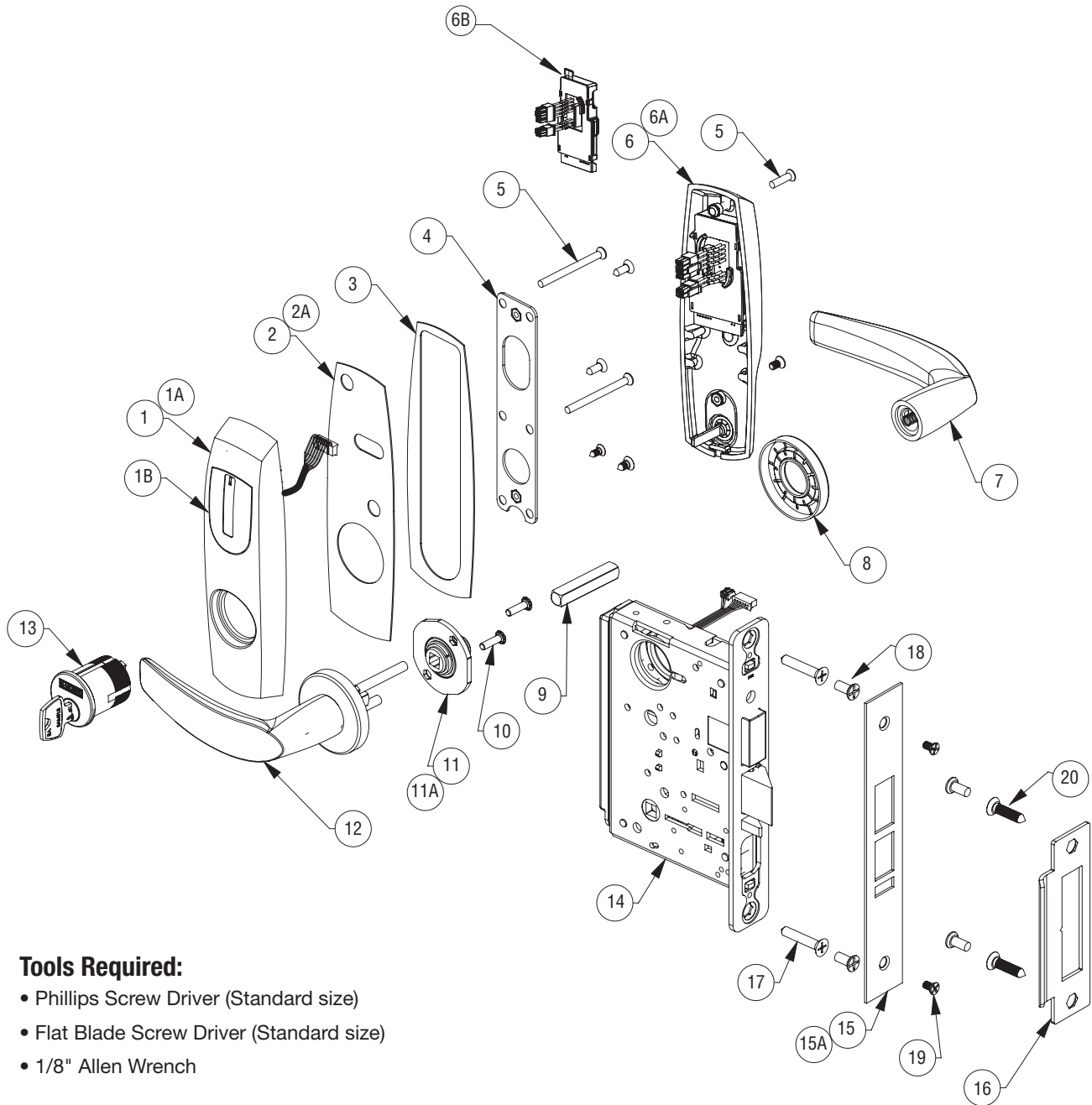
5 Features

- Complete monitoring of door via locks
 - RX Setting (Dip-Switch Configurable for N/O, N/C and handing)
 - Door Position (Integrated Secured/Unsecured)
- 24VDC System is available
- Fail Safe or Fail Secure solenoid version (must specify)
- Accepts all HID iCLASS 13.56MHz standard Wiegand bit formats

Hardwiring Made Easy®



5 Parts Breakdown Left Hand Reverse Door



Tools Required:

- Phillips Screw Driver (Standard size)
- Flat Blade Screw Driver (Standard size)
- 1/8" Allen Wrench

Parts Breakdown (Continued) Left Hand Reverse Door

Item	Part #	Description	Req.
1	52-4039	Outside Harmony Escutcheon With Cylinder Prep	1
1A	52-4040	Outside Harmony Escutcheon Without Cylinder Prep	1
1B	52-0732	Reader Gasket (Factory Installed)	1
2	52-0796	Outside Weather Gasket	1
3	52-0795	Inside Weather Gasket	1
4	52-5218	Mounting Plate	1
5	52-5236	Screw Pack (5A; 5B; 5C; 5D)	1
5A	77-1467	8 x 32 x 2" Phillips Head Flat Head Machine Screw	2
5B	01-9242	8 x 32 x 5/8" Phillips Head Flat Head Undercut Machine Screw	2
5C	01-1028	8 x 32 x 1/4" Phillips Head Flat Head Undercut Machine Screw	1
5D	01-1176	8 x 32 x 3/8" Phillips Head Flat Head Undercut Tapping Screw	4
6	52-5196	Inside Escutcheon W/ Turn Assembly	1
6A	82-0706	Inside Escutcheon W/O Turn Prep	1
6B	52-4036	H2 Controller Assembly	1
7		Reference Harmony Series Catalog For Available Lever Styles	1
8		Reference Harmony Series Catalog For Available Rose Styles	1
9	82-0368	Inside Spindle	1
10	01-1495	8-32 x 5/8" SCREWS	2
11	82-3088	Inside Adapter Plate And Bushing Assembly	1
11A	82-4577	Inside Adapter Plate And Bushing Assembly (DI)	1
12		Reference Harmony Series Catalog For Available Lever Styles	1
13		Reference Harmony Series Catalog For Available Cylinders (Size 43)	1
14	Lock Body	"H2-82270-12/24 VDC x Finish" W/O Deadbolt, Fail Safe	1
		"H2-82271-12/24 VDC x Finish" W/O Deadbolt, Fail Secure	1
		"H2-82272-12/24 VDC x Finish" W/O Deadbolt, Fail Safe, Both Levers Lock	1
		"H2-82273-12/24 VDC x Finish" W/O Deadbolt, Fail Secure, Both Levers Lock	1
		"H2-82280-12/24 VDC x Finish" W/ Deadbolt, Fail Safe	1
		"H2-82281-12/24 VDC x Finish" W/ Deadbolt, Fail Secure	1
		"H2-82282-12/24 VDC x Finish" W/ Deadbolt, Fail Safe, Both Levers Lock	1
		"H2-82283-12/24 VDC x Finish" W/ Deadbolt, Fail Secure, Both Levers Lock	1
15	82-0579	Electrical Outside Faceplate W/ Deadbolt	1
15A	82-0578	Electrical Outside Faceplate W/O Deadbolt	1
16	82-0110	Strike Plate	1
17	01-2299	#12 X 1 1/4" Phillips Flat Head Wood Screw	2
18	01-1019	12-24 X 1/2" Phillips Flat Head Undercut Machine Screw	4
19	01-1028	8-32 X 1/4" Phillips Flat Head Undercut Machine Screw	2
20	01-2298	#12 X 1" Phillips Flat Head Wood Screw	2
21	A7944	Field Prep Template	
21B	4590	Door Manufacturer Template	
22	A8027	Installation Instructions (Not Shown)	

Copyright © 2009 Sargent Manufacturing Company, an ASSA ABLOY Group company. All rights reserved. Reproductions in whole or in part without express written permission of Sargent Manufacturing Company is prohibited.

06/30/09

6 Installation Instructions

Step #1 – Door Preparation

A. Verify Hand and Bevel of Door

Stand on outside of locked door when determining door hand.

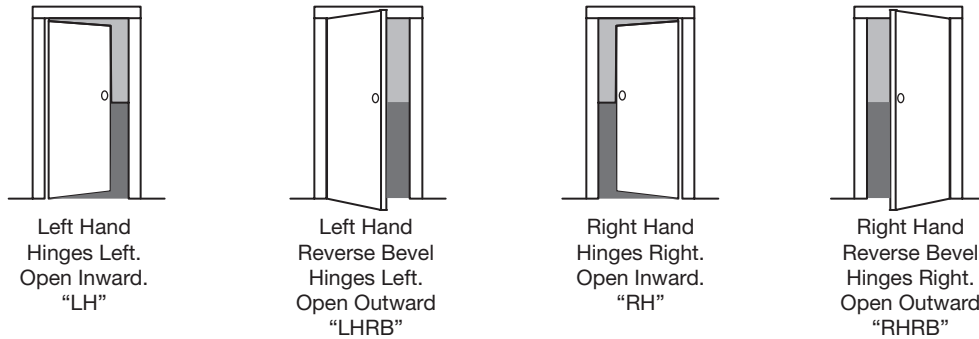


Fig. 1A

B. Door Preparation

Prepare door according to appropriate template. If necessary, refer to website, www.intelligentopenings.com:

- Prior to installation, make sure all holes are free of burrs, debris and sharp edges.
- If doors are not properly reinforced per ANSI115.2, commercially available reinforcements should be installed.
- Templates:
 - o Field prep: A7944 template ships with product.
 - o Manufacturer: 4590 wood and metal door template.

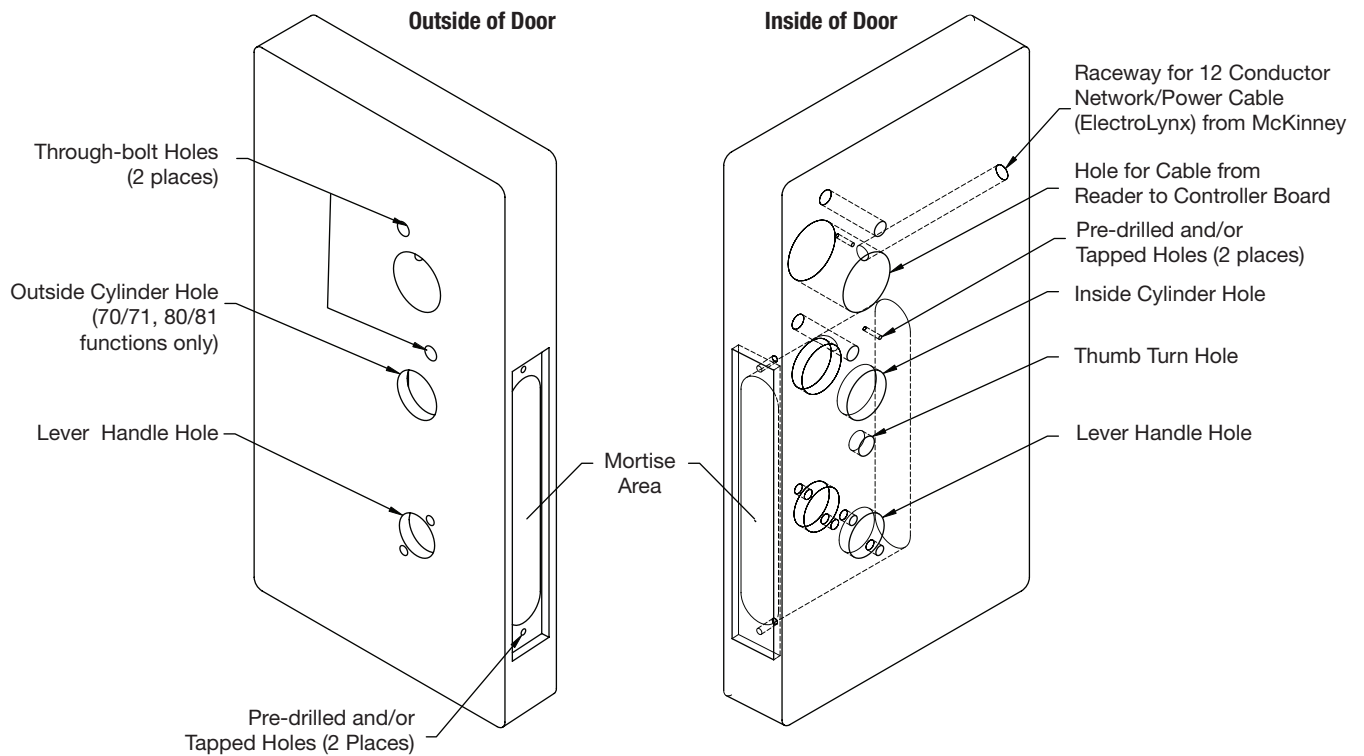


Fig. 1B Wood Door

Installation Instructions (Continued) Step #2 – How to Reverse Lock Hand/Latch

A. Reverse Lock Hand

Red surface of locking piece must face the outside/locked side of door. To rotate locking piece (Fig. 2A1):

1. Position lock body with red surface of locking piece visible.
2. Insert blade type screwdriver into locking piece slot to rotate locking piece toward back of lock body.
3. Rotate the locking piece 180° until RED surface is on opposite side.

Note: Red indicates locked side (outside).
Wire harness MUST exit through non-cylinder side.

Make sure the plastic retaining ring is seated correctly (Fig. 2A2):

1. The wires and the plastic retaining ring must be located on the non-cylinder side.
2. The orientation should place the word **Bottom** on the opposite side from the wires.
3. Place the retaining ring under the wires with the wires in the slot opposite the side marked **Bottom**.
4. The wires should be located in the slot on the side - not through or under the retaining ring.

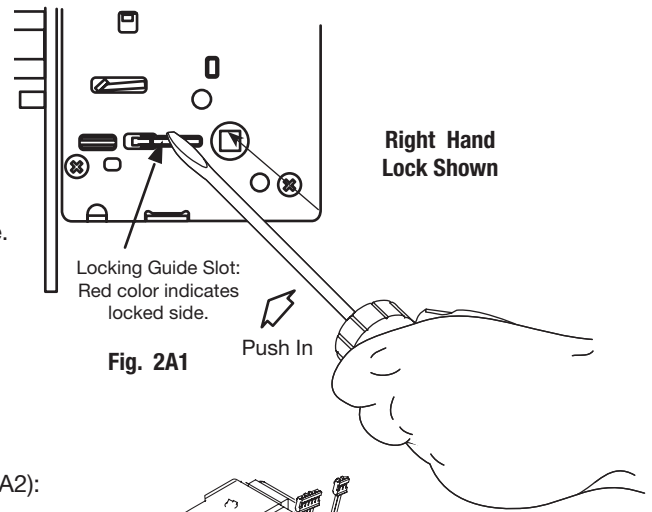


Fig. 2A1

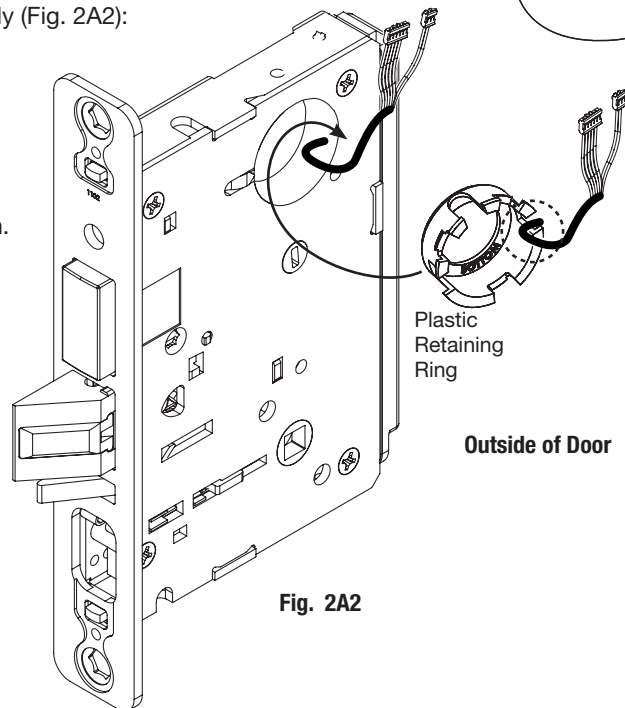


Fig. 2A2

B. Reverse Latch Hand

Beveled surface of latch must face strike (Fig. 2B1).

The deadlatch is self adjusting.

To change hand of latchbolt:

1. Insert screwdriver blade into the spade shaped slot.
2. Rotate screwdriver 90° to push latch out until back of latch clears lock front; then rotate latch 180°.

Latch will then re-enter lock body.

Note: Latch cannot be unscrewed.

IMPORTANT: Must set the 4 position dip-switch RX settings located on the rear of the mortise lock body prior to lock installation (Step 3).

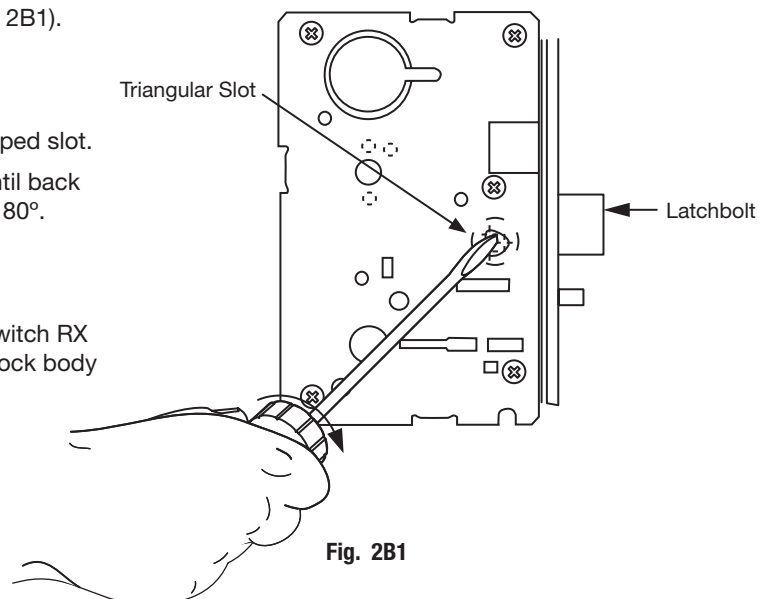


Fig. 2B1

Step #3 – Mortise Lock Body RX Switch Settings

Four Position DIP Switch

Use four-position dip switch settings for appropriate door application.

Be sure to follow the directions on the RX Dip Switch sticker exactly.

Failure to follow sticker directions will cause inaccurate RX activity to be reported to the access control panel.

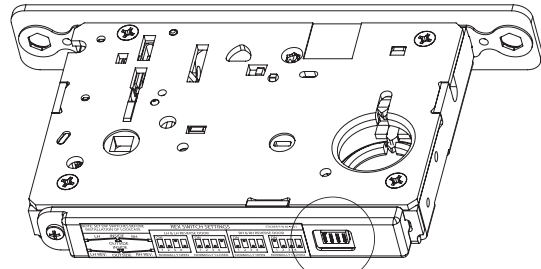


Fig. 3A

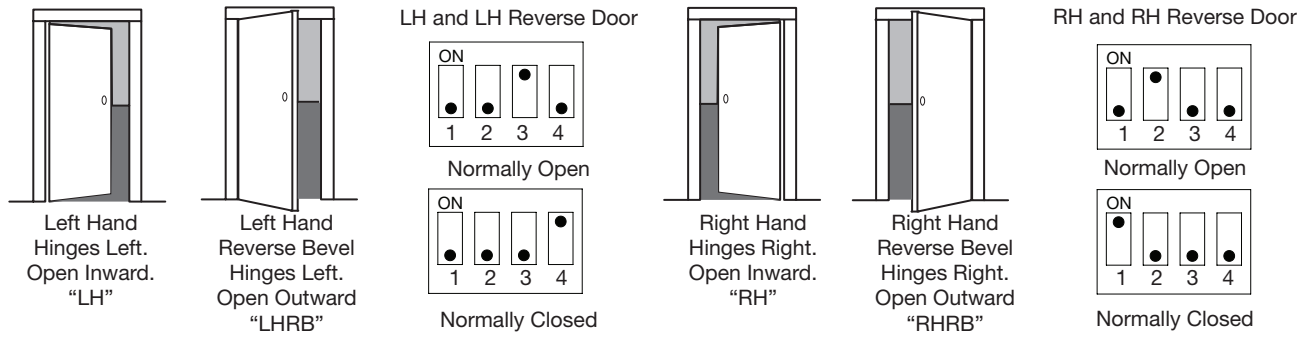


Fig. 3B Black circles indicate position of DIP switch

Step #4 – Lock body Installation

Wires and connectors go into the mortised area and out of the inside cylinder hole.

1. Insert mortise lock body into mortise door preparation.
2. Carefully feed wires from mortise lock through the non-cylinder side hole of the door preparation.
3. Install appropriate hardware lock body screws.

Do not tighten at this time

NOTE: Do not tighten screws completely.

Cylinder should be installed prior to tightening.

(2) #12-24 x 1/2" Long Flat Head Screws (Metal Doors)

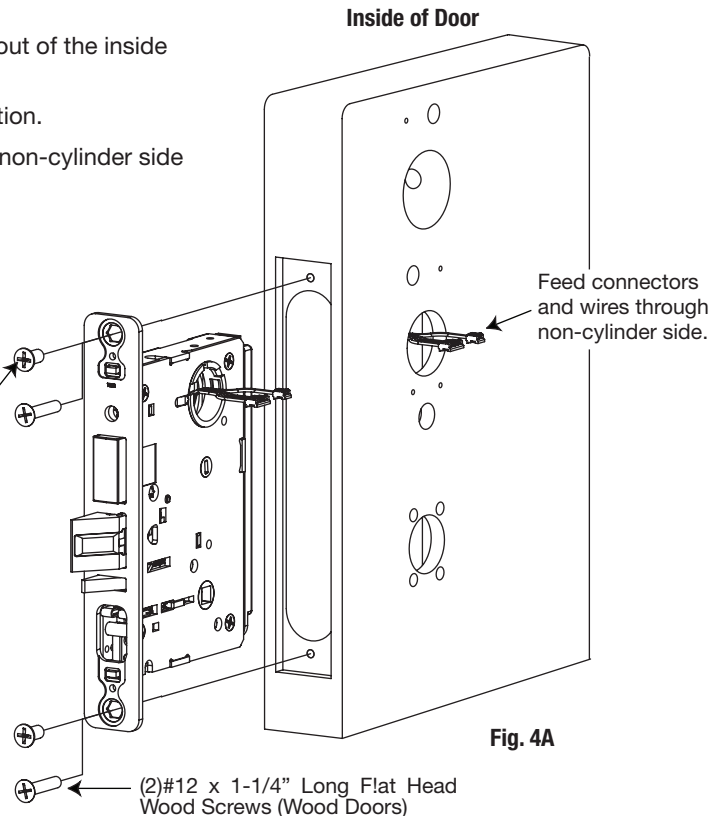


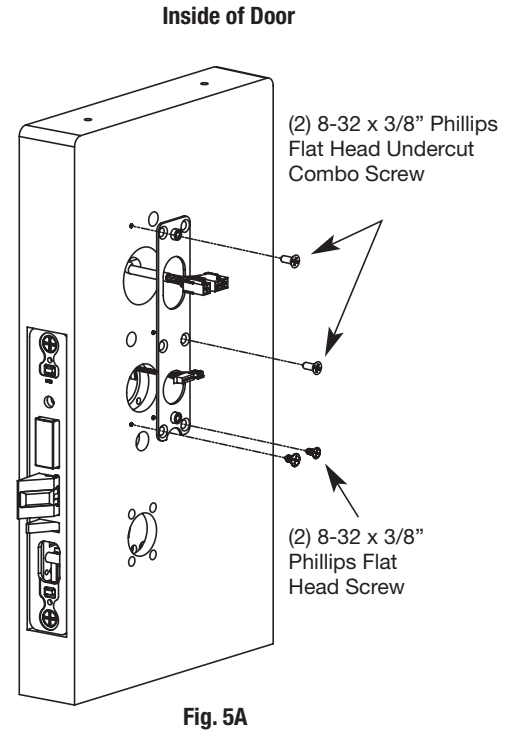
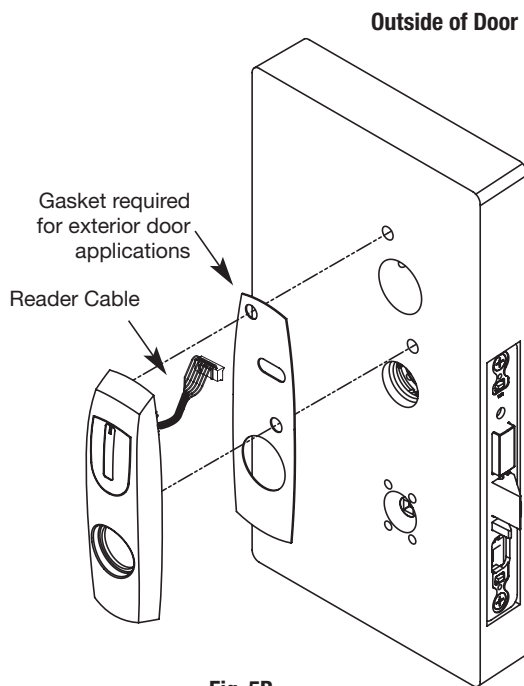
Fig. 4A

(2) #12 x 1-1/4" Long Flat Head Wood Screws (Wood Doors)

Step #5 – Outside Escutcheon and Inside Mounting Plate Installation

NOTE: Feed mortise connectors through the corresponding hole on the mounting plate.

1. Attach the mounting plate using (2) 8-32 x 3/8" Phillips flat head undercut combo screws in the upper left and middle right positions of the mounting plate and (2) 8-32 x 3/8" Phillips flat head screws in the bottom positions (Fig 5A).
2. Feed the reader cable located on the back of the outside escutcheon through the door prep. Remember, the outside gasket must be used when installing Harmony in an outdoor application (Fig 5B).
3. Secure the mounting plate to the outside escutcheon with (2) #8-32 x 2" flat head machine screws (Fig 5C).



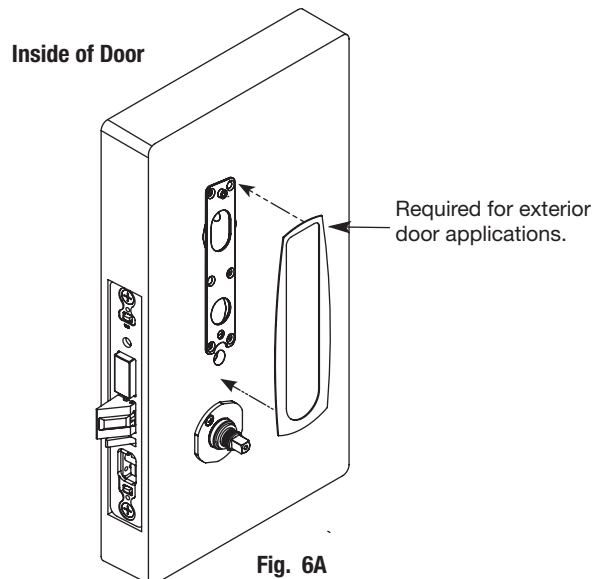
Step #6 – Install Gasket

Add Gasket (if necessary):

Remember to place the inside gasket when installing in an outdoor application.

Gasket fits snug around plate at top and sides, leaving room for the hole at the bottom.

Remove backing and place gasket on door (Fig. 6A).



Step #7 – Connect Earth Ground

Connect pin-5 green/yellow ground wire ring terminal to top right screw.

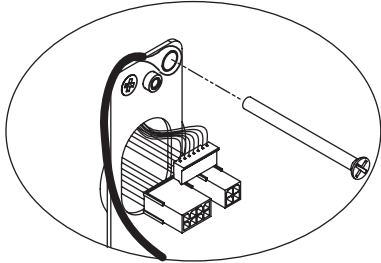


Fig. 7A2 Detail

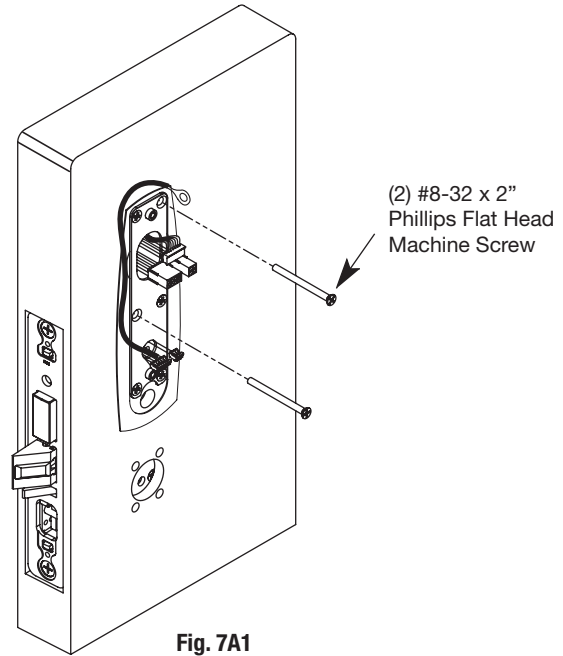


Fig. 7A1

Step #8 – Outside Cylinder Installation

1. Verify orientation of cylinder so that SARGENT logo is right-side up (Fig. 8A).
2. Withdraw the key about 25% out of the cylinder before inserting into the escutcheon (Fig 8B).
3. Use the key to rotate the cylinder clockwise until it is flush at the bottom and the SARGENT logo is right-side up.

Do not attempt to tighten all the way.

4. Tighten the cylinder clamp set screw to prevent unscrewing of the cylinder (Fig 8C).
5. Test cylinder function:

70/71 Function: Key retracts latch.

80/81 Function: Key retracts latch and projects and retracts deadbolt.

Ensure smooth operation of latchbolt and deadbolt.

NOTE: Use lever handle holes to manipulate mortise to ease thread engagement of cylinder.

Position cylinder so that the SARGENT logo is right-side up.

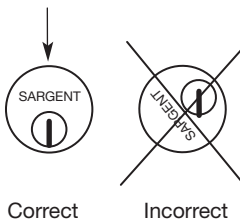


Fig. 8A

Outside of Door

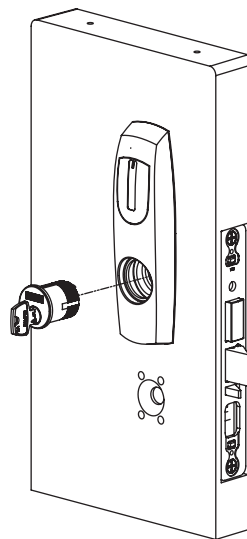


Fig. 8B

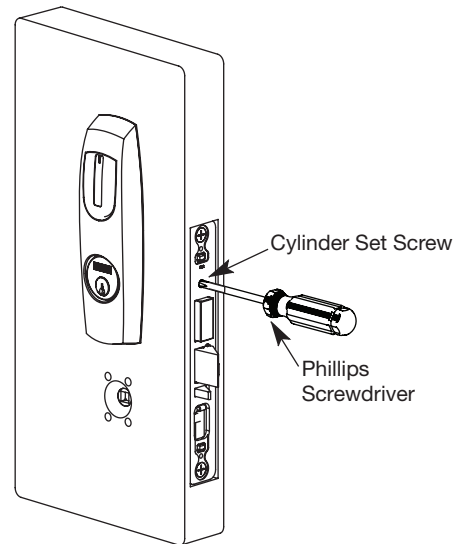


Fig. 8C

Step #9 – Outside Lever and Inside Adapter Plate Assembly Installation

1. With outside lever horizontal, insert the mounting post through outside of door and lock body.

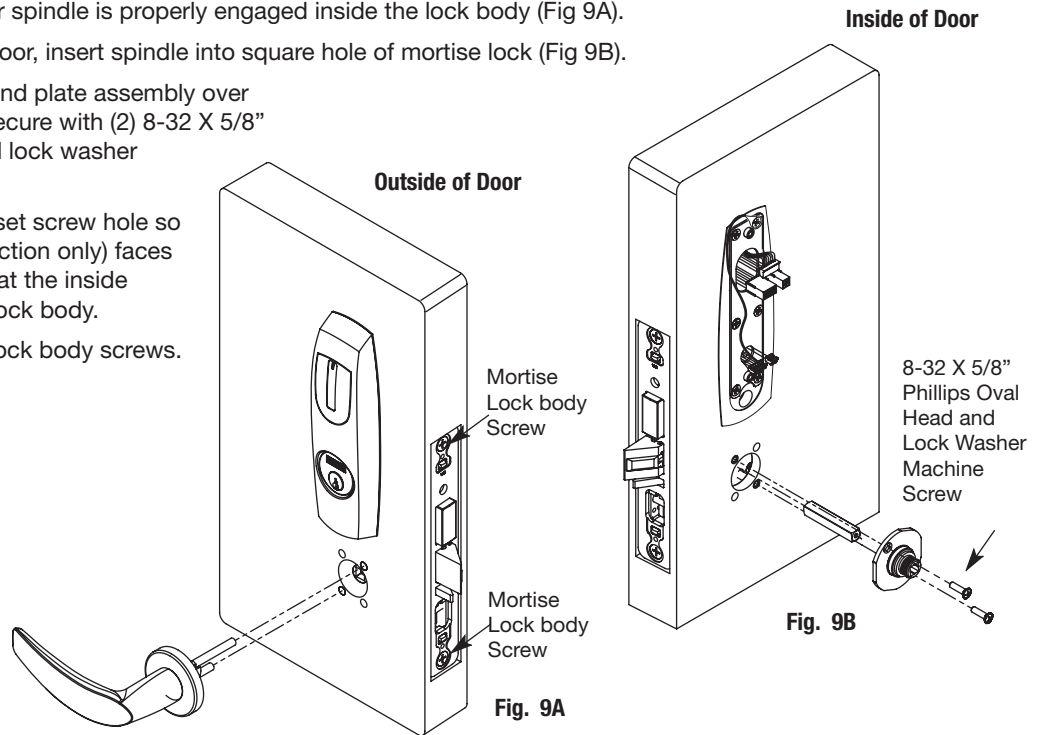
Make certain the lever spindle is properly engaged inside the lock body (Fig 9A).

2. On the inside of the door, insert spindle into square hole of mortise lock (Fig 9B).

3. Slide inside adapter and plate assembly over spindle and loosely secure with (2) 8-32 X 5/8" Phillips oval head and lock washer machine screws.

Be sure to rotate the set screw hole so the hole (Studio Collection only) faces the hinge side and seat the inside spindle fully into the lock body.

4. Securely tighten the lock body screws.



Step #10 – Connect ElectroLynx

1. Connect P5 (7 Pin Connector) from reader board to J5 on interior escutcheon PCB assembly (Fig. 10A).
2. Connect ElectroLynx harness (4 and 8-pin) from door harness to ElectroLynx harness on interior PCB assembly (Fig. 10A).

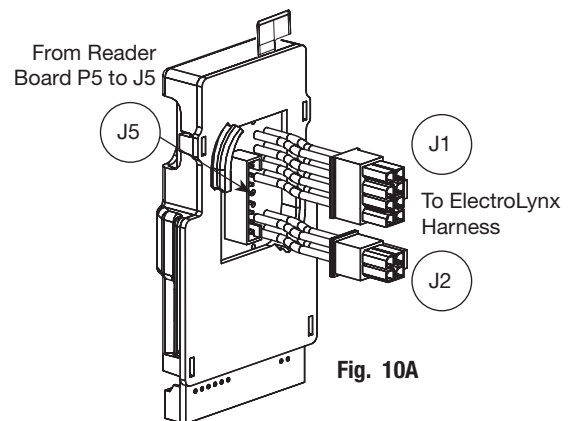
NOTES:

Neatly fold the wires onto themselves and into the remaining space to prevent pinching wires when mounting escutcheon.

Do not tuck extra mortise lock body wires back inside the lock body cylinder hole.

Connectors go on only one way.

Do not offset connector and be sure they are completely seated.

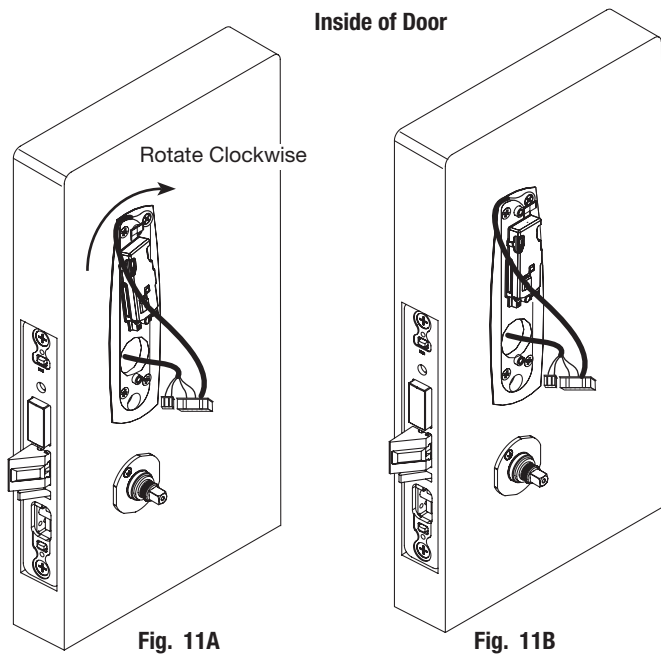


PCB Layout - Wire Assignments - ElectroLynx Assembly (Molex)			
J2		J1	
1-Violet Lock Neg (Solenoid, neg)	3-Pink DPS (NC)	1- Black PWR NEG	3-White DATA 1
2-Gray Lock Pos (Solenoid, pos)	4-Tan DPS (COM)	2-Red PWR POS	4-Green DATA 0
		5-Orange RX (NO/NC)	6-Blue RX (COM)
		7-Brown EGND	8-Yellow LED

Step #11 – Outside Wire Positioning

Please follow these steps prior to installing inside escutcheon to prevent any damage caused by pinching wires:

1. Once wires are arranged, position piece at a rotated angle against the door, under earth ground wire.
1. Press piece against door while turning clockwise (Fig. 11A).
2. Twist into place, perpendicular with door (Fig. 11B).



Step #12 – Connector Attachment (Exterior PCB Assembly)

1. Connect P3 (2-pin connector) from lock body to J3 on module (Fig. 12A).
2. Connect P4 (6-pin connector) from lock body to J4 on module (Fig. 12A).

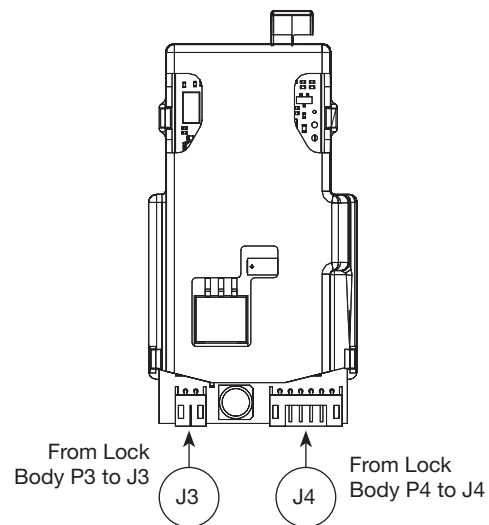
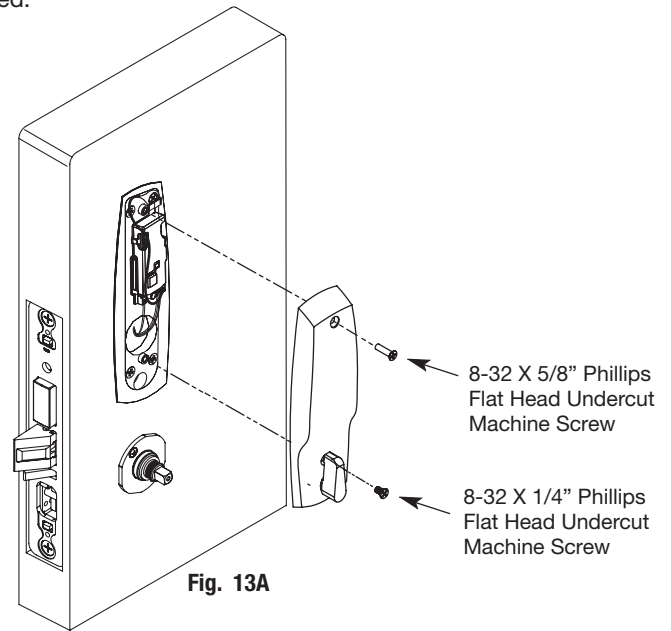


Fig. 12A

Step #13 – Inside Escutcheon Assembly Installation

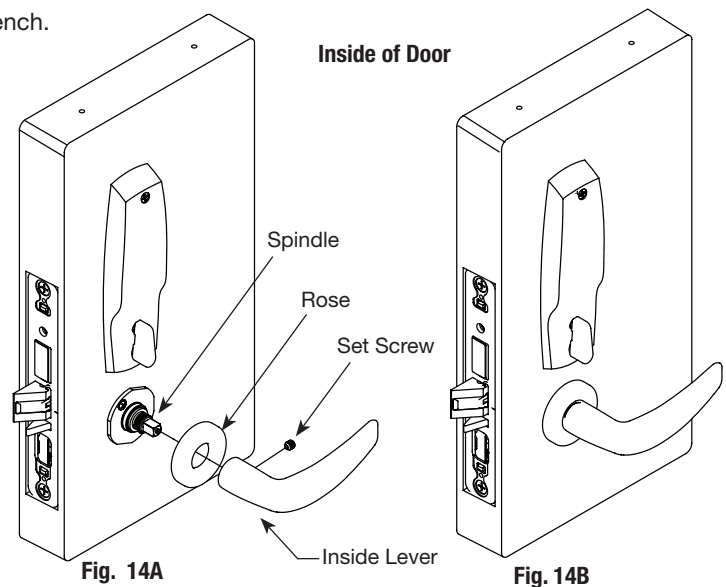
1. Tighten the inside escutcheon securely to the mounting plate with the Phillips flat head machine screws provided.
Use the 8-32 x 5/8" for the top of the escutcheon and the 8-32 x 1/4" screws for the bottom of the escutcheon located under the turn lever.
Remember the inside gasket must be used when installing Harmony in an outdoor application.
2. Be sure the turn assembly is functional and the deadbolt functions properly.

Inside of Door



Step #14 – Inside Rose and Inside Lever Assembly Instructions

1. Rotate the inside rose - first counter clockwise to seat the threads and then, clockwise to securely tighten.
2. Slide lever handle onto spindle until fully seated.
Be sure handle is horizontal and facing the hinge side of the door.
Push lever onto spindle so minimum gap is visible.
3. Tighten the set screw securely with 1/8" hex wrench.



Step #15 – Application of Front Plate

Attach front plate with (2) 8-32x1/4" flat head screws and tighten securely.

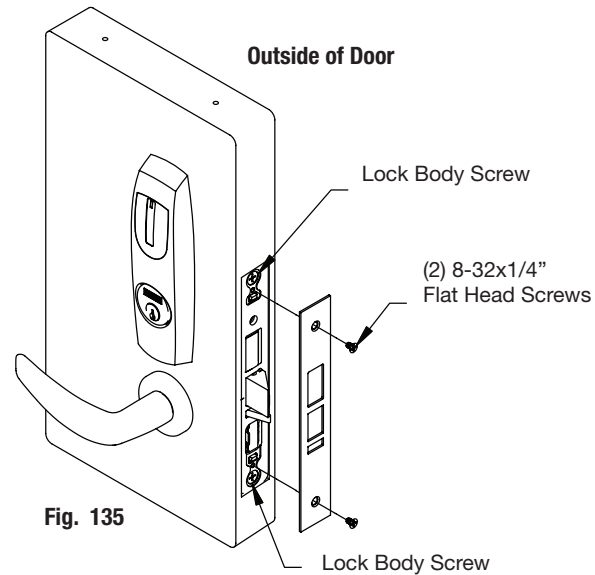


Fig. 135

8 Wiring Diagrams

Product	8 PIN CONNECTOR								4 PIN CONNECTOR			
	1-Black	2-Red	3-White	4-Green	5-Orange	6-Blue	7-Brown	8-Yellow	9-Violet	10-Gray	11-Pink	12-Tan
ACCESS CONTROL DEVICES: Harmony H2 Mortise, ElectroLynx wire Color / Function assignments												
	12/24VDC (Reader)		WIE-GAND	WIE-GAND	RX	RX	EGND	LED	12/24 VDC (LOCK RELAY)		DPS (NC)	DPS (COM)
SARGENT - HARMONY SERIES, H2 Mortise	NEG	POS	DATA_1	DATA_0	NO/NC	COM	REF. *DIA-GRAMS	REF. *DIA-GRAMS	NEG	POS	DPS	DPS

*Diagrams on following pages

Reader LED Configuration

The Harmony Series reader can be configured for (3) modes of LED operation. HID Programming cards are also supported to configure the behavior for LED color activity. Call 1-800-WIRE for details.

Mode 1:

- Red LED 'ON' when powered.
- Presenting a 13.56MHz credential causes LED to 'FLICKER' green and return to red state.
- Reference *Diagram #1 as a function of power requirement (12VDC or 24VDC).

Note: LED wire is unconnected.

Mode 2:

- Green LED "ON" when powered.
- No Flicker after presenting valid 13.56MHz credential.
- Reference *Diagram #2 as a function of power requirement (12VDC or 24VDC).

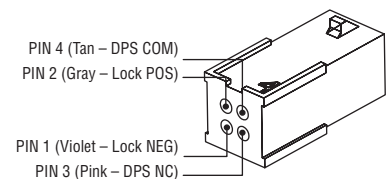
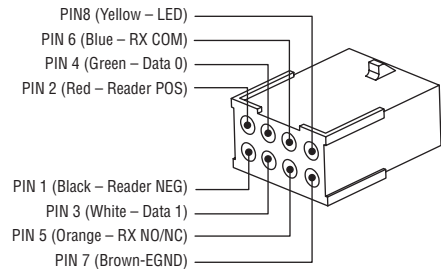
Note: LED wire must be connected to circuit GROUND of the system's power supply.

Mode 3:

- EAC Panel controls LED operation.
- Reference *Diagram #3 as a function of power requirement (12VDC or 24VDC).

Note: Control of LED is a function of the EAC panel equipment (ie. relay) to toggle between green and red.

Note: When LED wire is tied directly into EAC panel relay, no AC signals should be applied on wire or door reader performance will be interfered (*Diagram #3).

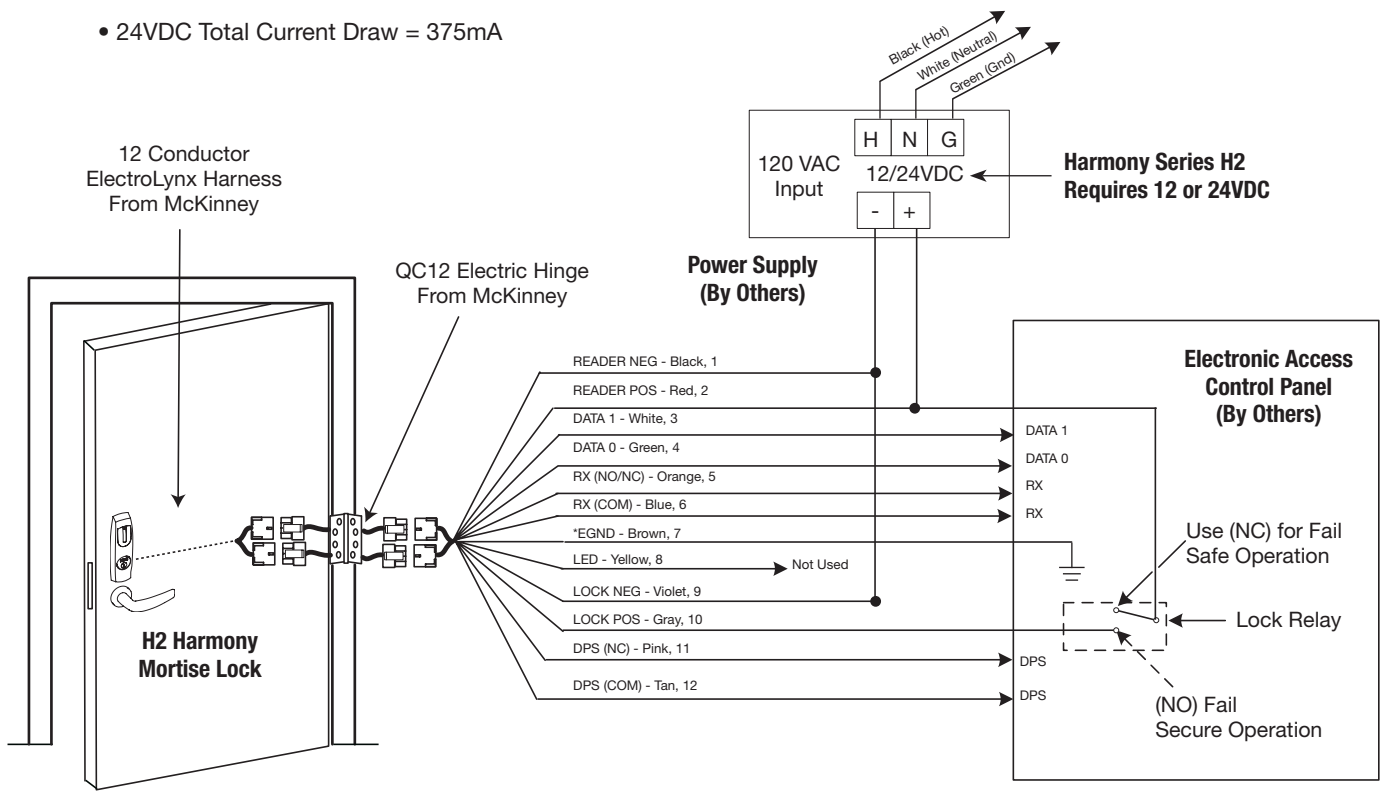


Typical Harmony Mortise Lock Application Diagram (12/24VDC Lock)

DIAGRAM #1 – MODE 1: RED LED ‘ON’ WHEN POWERED

12/24VDC SYSTEM

- Reader Draw = 125mA
- 12VDC Solenoid Draw = 500mA
- 12VDC Total Current Draw = 625mA
- 24VDC Solenoid Draw = 250mA
- 24VDC Total Current Draw = 375mA



***IMPORTANT:** Pin 7 must be tied to earth ground in the access control panel.
Failure to follow proper ESD safe grounding procedures could lead to equipment failure.

Copyright © 2009 Sargent Manufacturing Company, an ASSA ABLOY Group company. All rights reserved. Reproductions in whole or in part without express written permission of Sargent Manufacturing Company is prohibited.

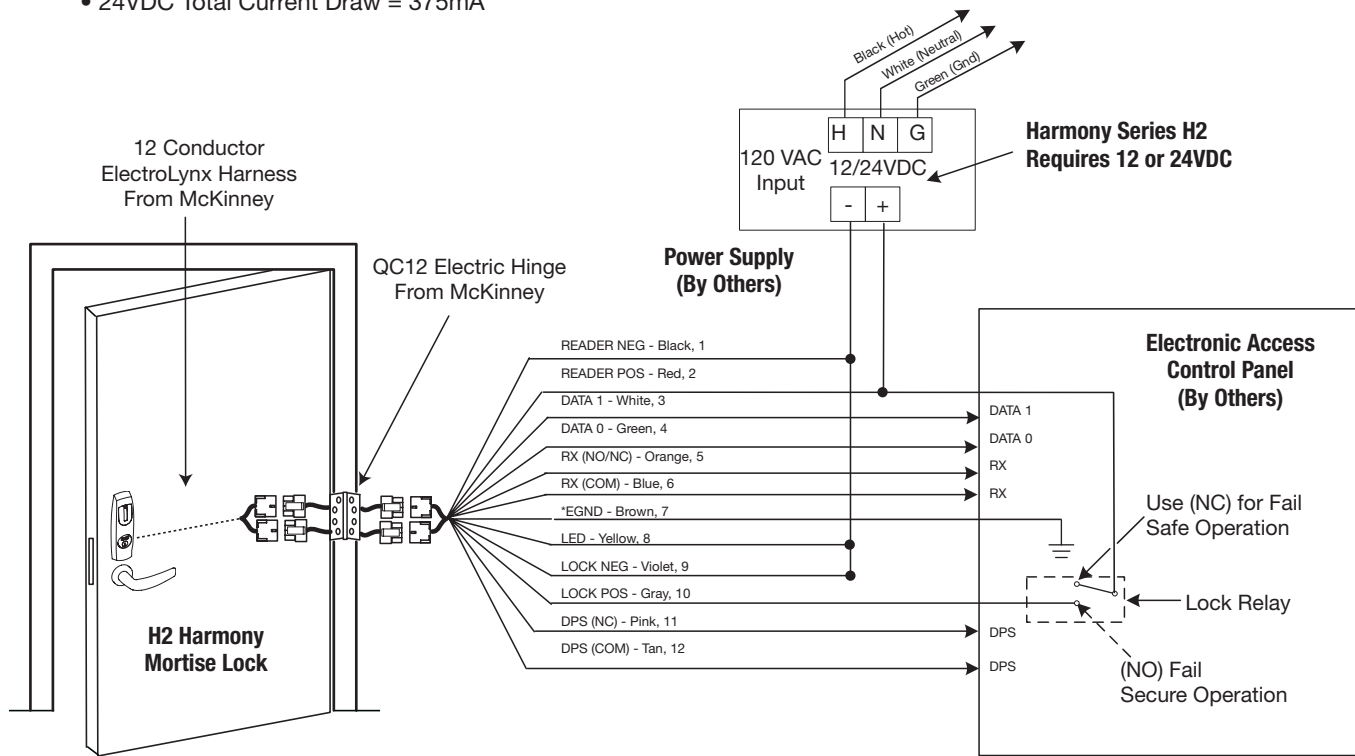
06/30/09

Typical Harmony Mortise Lock Application Diagram (12/24VDC Lock)

DIAGRAM #2 – MODE 2: GREEN LED 'ON' WHEN POWERED

12/24VDC SYSTEM

- Reader Draw = 125mA
- 12VDC Solenoid Draw = 500mA
- 12VDC Total Current Draw = 625mA
- 24VDC Solenoid Draw = 250mA
- 24VDC Total Current Draw = 375mA



*IMPORTANT: Pin 7 must be tied to earth ground in the access control panel.

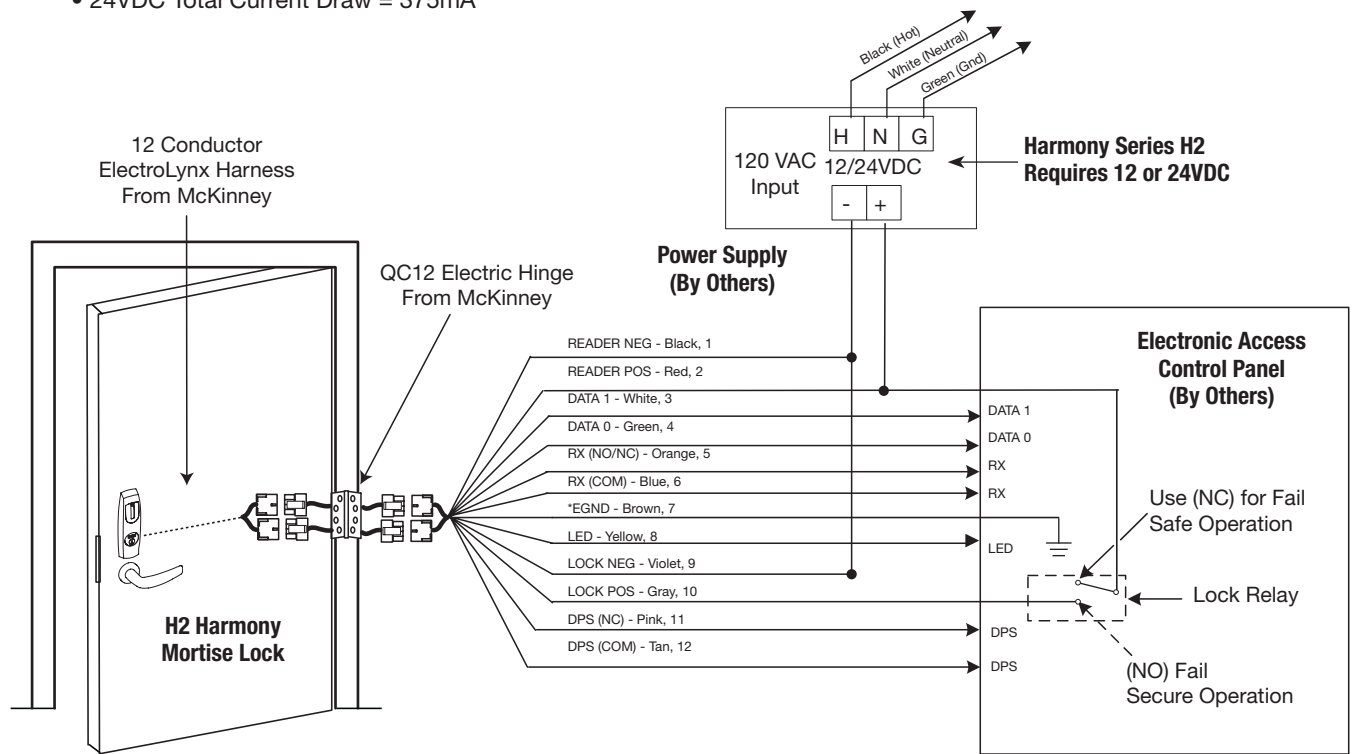
Failure to follow proper ESD safe grounding procedures could lead to equipment failure.

Typical Harmony Mortise Lock Application Diagram (12/24VDC Lock)

DIAGRAM #3 – MODE 3: EAC PANEL CONFIGURABLE

12/24VDC SYSTEM

- Reader Draw = 125mA
- 12VDC Solenoid Draw = 500mA
- 12VDC Total Current Draw = 625mA
- 24VDC Solenoid Draw = 250mA
- 24VDC Total Current Draw = 375mA



***IMPORTANT:** Pin 7 must be tied to earth ground in the access control panel.

Failure to follow proper ESD safe grounding procedures could lead to equipment failure.

Copyright © 2009 Sargent Manufacturing Company, an ASSA ABLOY Group company. All rights reserved. Reproductions in whole or in part without express written permission of Sargent Manufacturing Company is prohibited.

06/30/09

9 Mechanical Operational Check

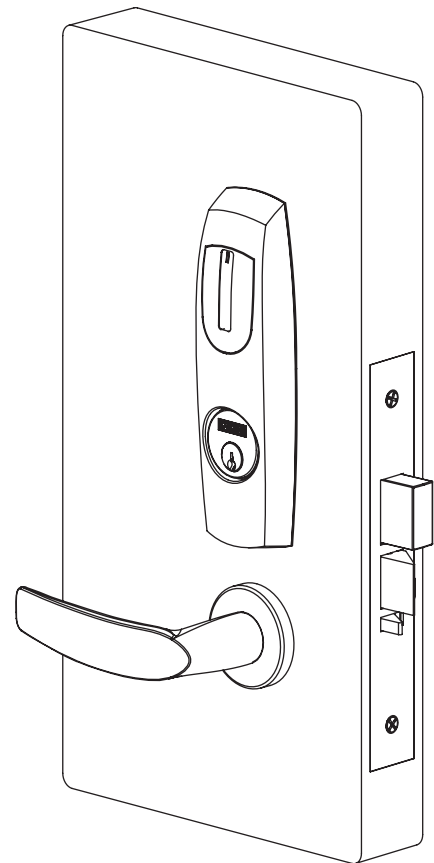
For 82280-82283 & 82270-82273 Function mortise locks with cylinders:

1. Insert key into cylinder and rotate: There should be no friction against lock case, wire harness or any other obstructions.
2. The key will retract the latch: Key should rotate freely.
3. When the deadbolt is thrown: Ensure that the key retracts both the deadbolt and the latch.
4. Inside lever: When used, ensure it retracts both the latch and deadbolt (if provided).
5. Close door: Ensure latch and deadbolt fully extend and do not bind.

10 Electrical Operational Check

Note: Once electrical wiring has been successfully completed according to proper application, follow the following step:

1. Turn power ON.
2. Verify LED located on reader is ON - red or green, depending on reader configuration (see reader LED configuration).
3. Present credential and verify LED and sounder activity.
4. Verify valid card read at EAC Panel.
5. Verify system operation functions; i.e., when credential is presented to reader that the door unlocks.



SARGENT
100 Sargent Drive
New Haven, CT 06511 USA
800-481-8464 • www.sargentlock.com

Founded in the early 1800s, SARGENT® is a market leader in locksets, cylinders, door closers, exit devices, electro-mechanical products and access control systems for new construction, renovation, and replacement applications. The company's customer base includes commercial construction, institutional, and industrial markets.

Copyright © 2009, Sargent Manufacturing Company, an ASSA ABLOY Group company. All rights reserved. Reproduction in whole or in part without the express written permission of Sargent Manufacturing Company is prohibited.

ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.