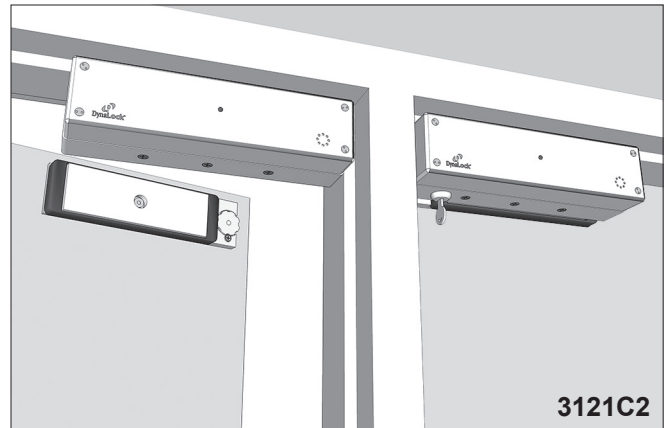
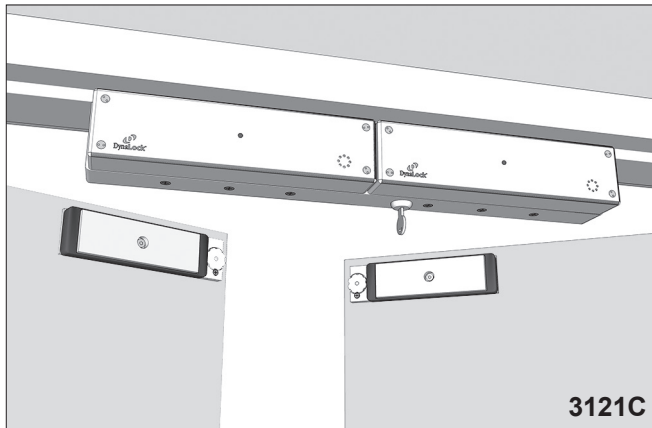


### INSTALLATION DESCRIPTION

The 3121C and 3121C2 Delay Egress Systems are 1500 pound holding force (holding force not evaluated by UL) per leaf electromagnetic locks, electronically controlled to provide a 15 or 30 second delay in unlocking. The 3121C is one piece, for use on openings without a center mullion. The 3121C2 is two pieces, with a ribbon cable connecting the two, for use on openings with a center mullion. All models have a master/slave configuration, meaning both leaves lock, unlock, and alarm in tandem.

Both models require mechanical and electrical installation procedures as described herein. When completed, a simple adjustment procedure to set door movement will finalize the installation.



### HANDLING

The electromagnetic lock and armatures are ruggedly constructed and designed to provide years of trouble-free service. Care must be taken during installation and use, so that the lock faces and armature faces are kept free of dirt, rust, paint, or any other obstruction which may interfere with the lock and armatures making good contact.

### MECHANICAL INSTALLATION

Familiarize yourself with the door and frame conditions. Both models must mount rigidly to the underside of the door frame header. The 3121C should be centered on the frame. For the 3121C2, both locks should mount against the center mullion. The door mounted armatures are supplied with hardware that allows them to pivot slightly and pull away from the door as part of the delayed egress function.

**NOTES: This lock does not change hands to match the hand of the door. Do not remove the coil assembly from the lock housing. For locks ordered with the DSM2 option, please verify that two magnets are installed inside each of the armature housings.**

### ELECTRICAL INSTALLATION

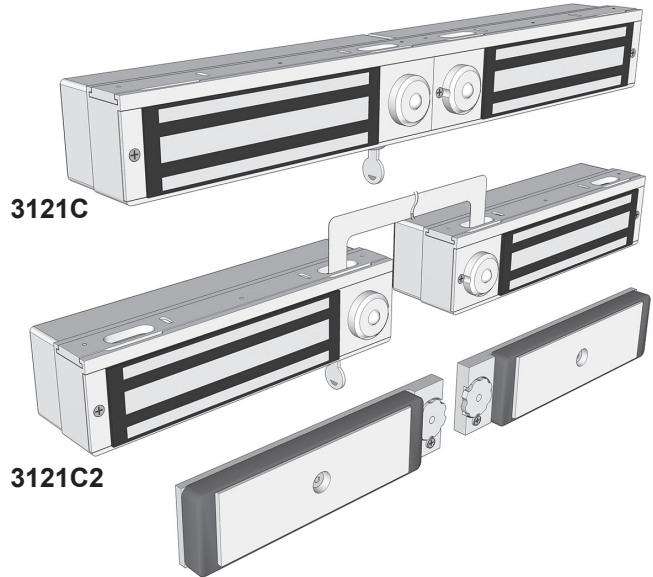
After mechanical installation is complete, the lock needs to be wired and adjusted. A continuous power source, 12 or 24 VDC or VAC is required. Once low voltage power is supplied the unit is fully operational. Delay egress systems also normally require fire panel tie-in. All other wiring is for selected options.

**NOTE: Please see Egress Sensor Adjustment (page 8) before applying power.**

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### BILL OF MATERIALS



- (1) LOCK ASSEMBLY
- (2) ARMATURE
- (2) ARMATURE HOUSING
- (2) ARMATURE MOUNTING PLATE ASSEMBLY
- (2) HARDWARE KIT
- (2) DOOR SIGN - "15 SECONDS" \*
- (1) TEMPLATE
- (1) INSTALLATION MANUAL

\* "30 SECONDS" SIGNS AVAILABLE

### REQUIRED TOOLS

- (1) Electric Drill
- (1) #2 Phillips Screwdriver
- (1) Soft Faced Mallet
- (1) Hammer
- (1) Center Punch
- (1) Pencil & Tape
- Drill Bits: 1/8", 5/16", 3/8", 9/16"

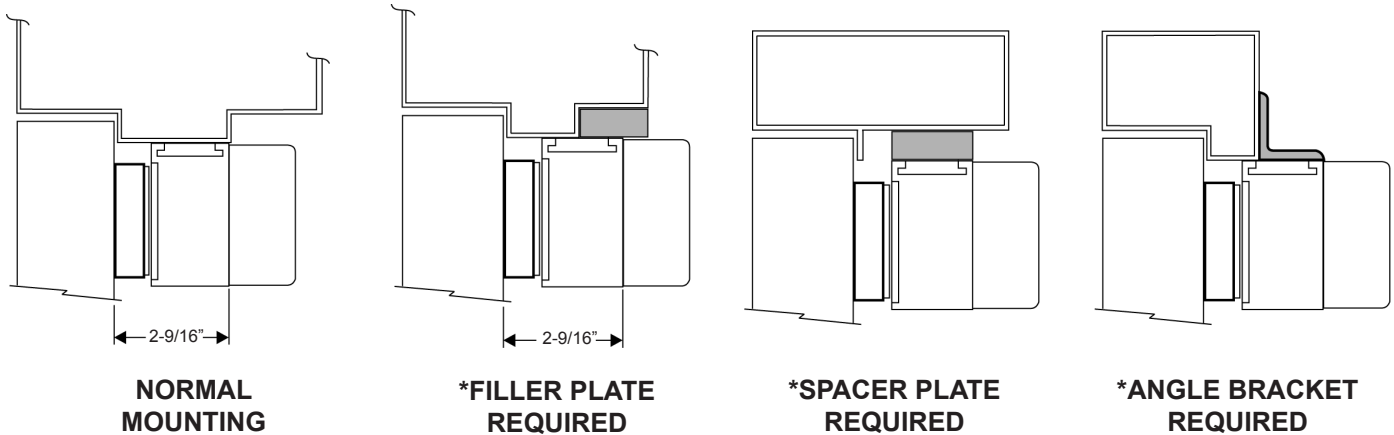
### HARDWARE KIT CONTENTS - (2) Part #301325

<u>QTY.</u>	<u>ITEM</u>	<u>DESCRIPTION</u>
(5)	Fas-Trak Mounting Screws	#10 x 1" phillips pan head tek screw
(5)	Fas-Trak Mounting Screws	10-24 x 1/2" phillips pan head machine screw
(1)	Armature Mounting Screw	5/16-18 x 1" hex flat head machine screw, turned
(1)	Armature Spacer	3/8"D x 0.360"L
(1)	Armature Spring	Compression spring
(4)	Armature Mounting Plate Screws	#10 x 1" phillips flat head sheet metal screw
(4)	Armature Housing Mounting Screws	8-32 x 3/8" phillips machine screw
(1)	Anti-Tamper Cover Screwdriver	#6 spanner key
(1)	Fas-Trak Set Screw Wrench	1/8" ball head hex wrench
(1)	Armature Bolt Wrench	3/16" hex wrench
(1)	Thread Locking Compound Liquid	
(2)	Bypass/Reset Key	
(1)	Mini Screwdriver	

**NOTE: For further parts clarification refer to the Exploded Parts View on page 15 or consult factory.**

#### MOUNTING CONSIDERATIONS

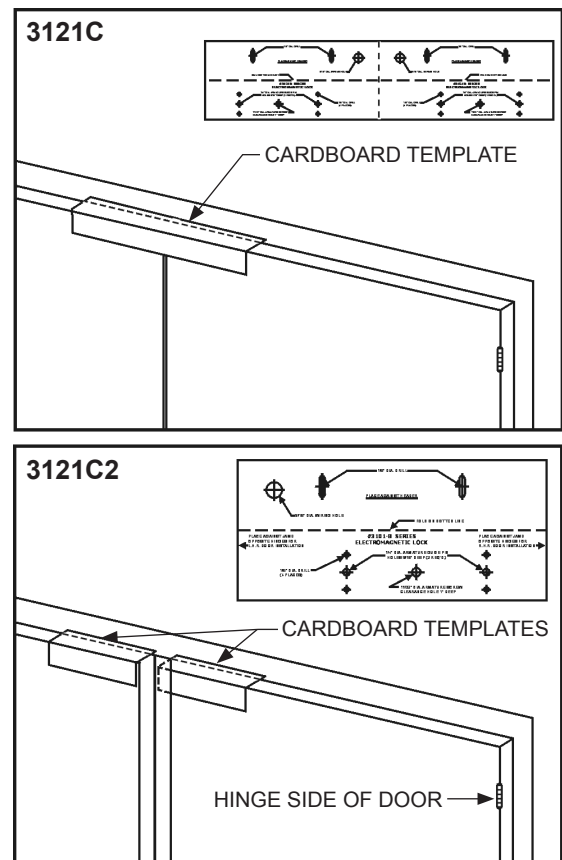
Inspect the door frame and determine if an angle bracket, spacer or filler plate will be required for installation. The lock will require a 2-9/16" wide header stop for a suitable mounting surface.



\*These items are available from DynaLock.

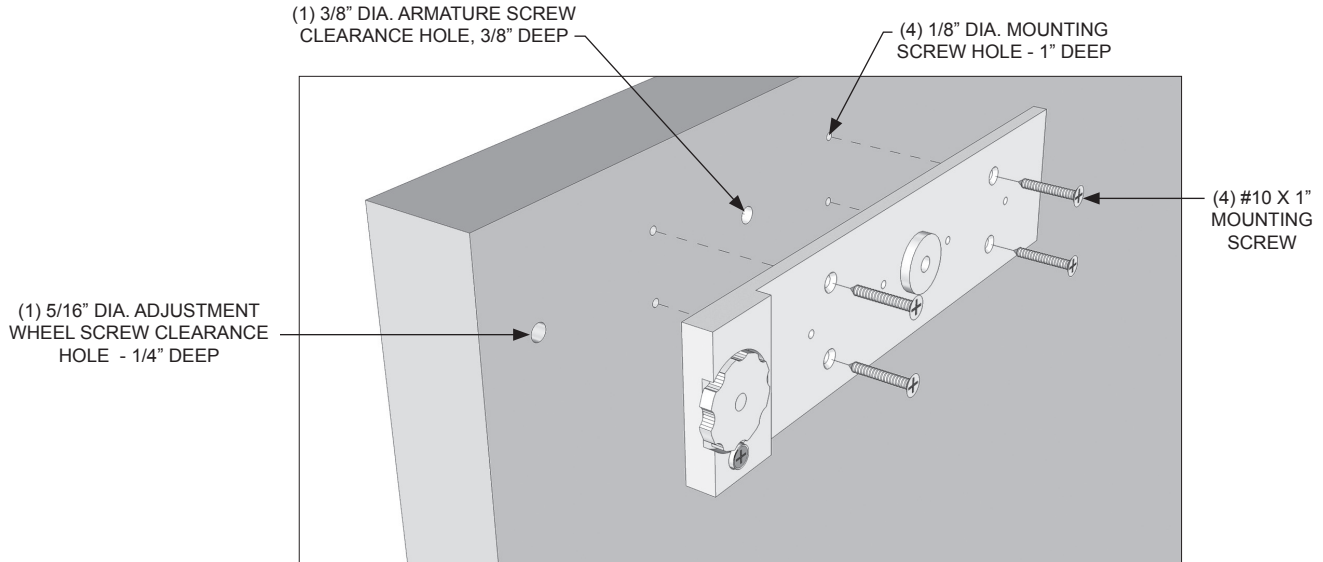
#### USING THE TEMPLATE

1. Fold the template(s) on the dotted line to form a 90 degree angle. Scoring the template(s) with a straight edge and a screwdriver will make it fold easier.
2. **3121C:** With the doors in the closed and latched positions, place the template against the header and doors, centered on the frame. Tape in place.  
**3121C2:** With the doors in the closed and latched positions, place the templates against the header and doors, with the edges against the center mullion. Be sure to use the correctly handed template for each door. Tape in place.
3. Transfer all hole locations to both the doors and header with a center punch, then remove the template(s) from the doors.
4. Referring to the template(s), drill four 1/8" dia. lock mounting holes and one or two 9/16" dia. wiring hole(s) in the top of the frame, at the transferred locations.
5. Drill the remaining transferred holes in the face of each door to accept the Armature Mounting Plate Assemblies:
  - a. Four 1/8" dia. mounting screw holes, 1" deep.
  - b. One 3/8" dia. armature screw clearance hole, 3/8" deep.
  - c. One 5/16" dia. adjustment wheel screw clearance hole, 1/4" deep.



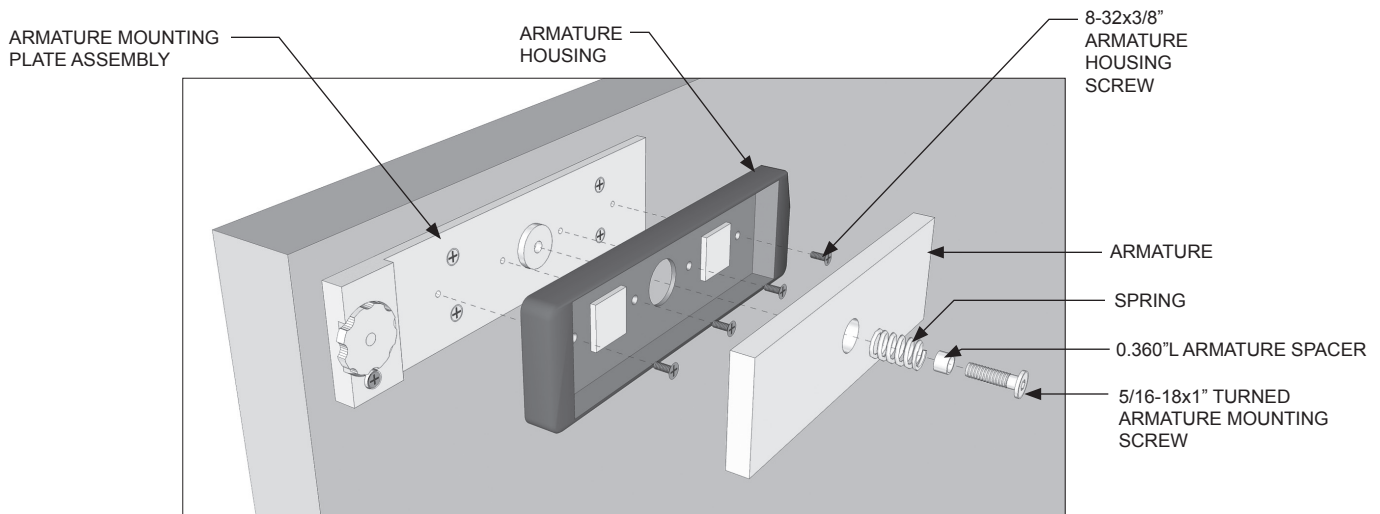
**MOUNTING THE ARMATURE ASSEMBLIES**

Using the four #10 x 1" flat head sheet metal screws attach the armature mounting plate to the door. Firmly tighten the screws with a #2 phillips screw driver.



Attach the Armature to the Mounting Plate Assembly using the hardware supplied. Apply the supplied thread locking compound to the threads of the Armature Mounting Screw and firmly tighten with a 3/16" hex wrench. The head of the armature mounting screw must not project beyond the face of the armature. **Failure to properly secure the Armature to the door could result in serious injury or possible security breach.**

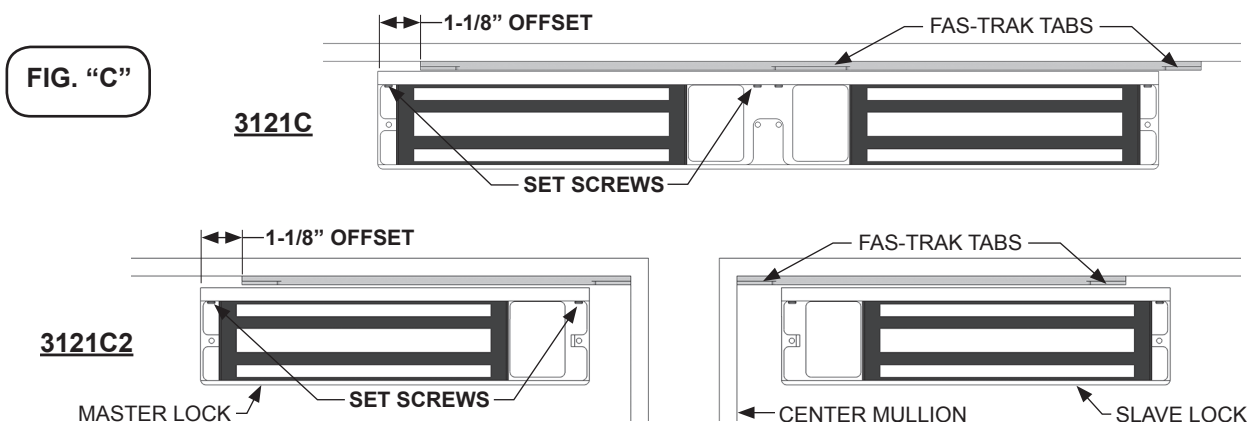
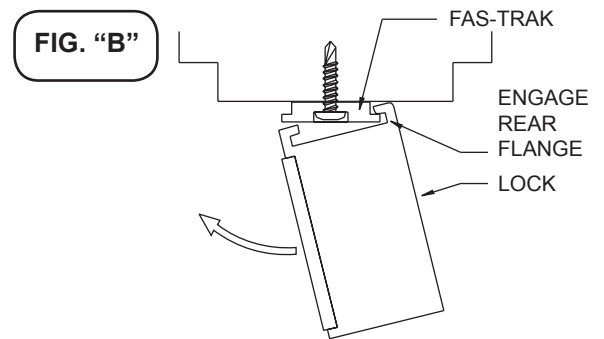
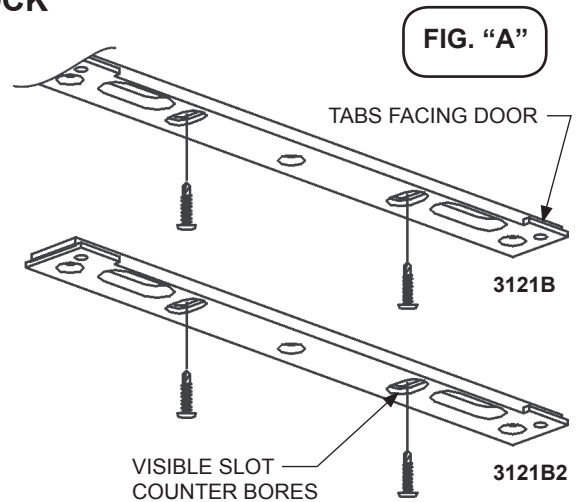
Check the installation by pushing in on a corner of the Armature - it should move. Although the mounting screw is tight the Armature should have approximately 1/4" of free play, under slight spring tension.



**REPEAT FOR OTHER DOOR**

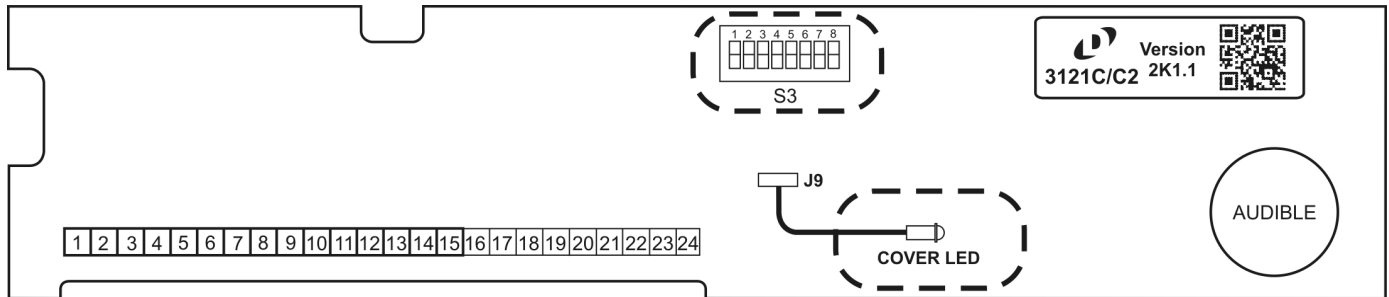
### MOUNTING THE LOCK

1. Before installation begins remove the rear Electronics Covers, End Covers and Sensor Cover Assemblies (see page 13-15 for parts locations). Carefully unplug the sensor harnesses from the circuit board connectors and detach the Sensor Cover Assemblies from the lock. For 3121C2, carefully remove the ribbon cable. In the upper inside corners of the lock housing(s) are located #1/4-28 set screws. Using the 1/8" ball head hex wrench loosen (**do not remove**) the set screws until the Fas-Trak Baseplate(s) is free (Fig. "C"). Remove the Fas-Trak(s).
2. Place the Fas-Trak(s) against the header with the slot counter bores visible and the tabs facing the doors (Fig. "A"). Attach the Fas-Trak(s) to the header at the slotted hole locations, with #10 x 1" tek screws or 10-24x1/2" machine screws. Tighten the screws just snug enough to allow for final adjustment.
3. Temporarily mount the lock(s) to the Fas-Trak(s) by offsetting the lock(s) 1-1/8" from the jamb (Fig. "C") and tipping the front of the lock(s) down engaging the rear flange of the Fas-Trak(s) (Fig. "B"). Rotate the lock(s) up allowing two tabs (one for 3121C2) to pass through the corresponding notch in the top of the lock housing. Slide the lock(s) into position. Close and latch the doors. Check that the armature and lock faces make full contact. If any adjustment is required gently tap the housing(s) with a soft mallet until full contact is achieved. Open the doors, remove the lock(s) from the Fas-Trak(s) and tighten the slot screws. Drive additional screws into the header using the Fas-Trak(s) as a physical template. Screw heads must not project above the Fas-Trak(s).
4. Any roughed-in wiring may be brought in at this time through the slotted wiring hole(s) (for 3121B2 include ribbon cable). Re-install the lock on the Fas-Trak(s). Firmly tighten the housing set screws with the 1/8" ball head hex wrench. Re-install the End Covers and Sensor Cover Assemblies. Carefully plug the Sensor harnesses back into the connectors on the circuit boards (see page 13&14). **If the lock wiring and set-up are not being done at this time, replace the Electronics Covers and see that these instructions (and ribbon cable for 3121C2) are left for the electrical installer.**



### BASIC SET-UP

1. Remove the Electronics Cover from the Master Lock (right side) to expose the master circuit board assembly.



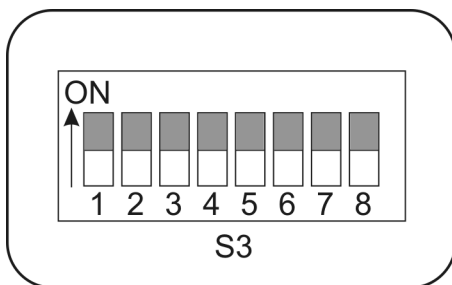
### 2. L - Cover LED

Bi-color LED, mounted to circuit board housing cover. Displays Red or Green, depending on lock mode (see page 9 for indicator modes). LED is tethered to the J9 circuit board connector, via a 30-wire harness. Should harness become unplugged, observe wire color polarity when re-connecting (see page 13 for further info).

### 3. C - System Selector Switches

The selector switches (S3) which control major system functions are factory set to the OFF position for basic lock operation. Switch 1 will be used during sensor adjustment (page 8). Switches 2 through 7 are only used for options described on page 10.

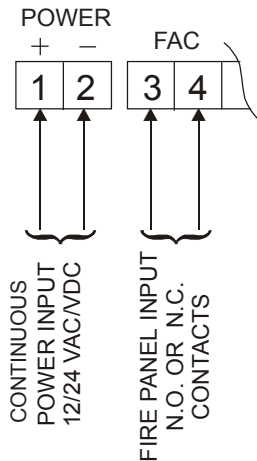
(Factory Setting)





### BASIC WIRING

Basic hook-up is shown below. For other system features hook-up see “Option Wiring” (page 11).



Terminals 1 & 2 - Auto-Sensing Power Input. May be 12 or 24 Volts, AC or DC, uninterrupted. Maximum current draw, by voltage, is as follows:

12V DC:	839mA
12V AC:	1.79A
24V DC:	470mA
24V AC:	1.27A

DO NOT INTERRUPT INPUT POWER (TERMINALS 1 & 2) FOR AUTHORIZED ACCESS/EGRESS. EXTERNAL ACCESS/EGRESS CONTROLS (EX. KEYPAD, CARD READER, ETC.) SHOULD USE DEDICATED BYPASS TERMINALS 7 & 8 or 9 & 10 (SEE PAGE 11).

Terminals 3 & 4 - Fire Panel Input. May be normally-open (N.O.) or normally-closed (N.C.) dry contacts from fire panel (check fire alarm control jumper “FA” - page 6). DO NOT APPLY POWER TO TERMINALS 3 & 4 OR CIRCUIT BOARD DAMAGE WILL OCCUR.

When the fire panel trips, the 3101B will release, the audible will sound a constant tone and the bi-color LED (LED1) will change to green. When the fire panel is reset, the 3101B will reset and lock.

#### NOTES:

1. A power limited, UL Listed power supply for security applications is required for UL294 installations.
2. When the 3121C/3121C2 is used with a fire alarm control panel, wiring must be done for fail-safe operation.
3. Suitability of all wiring leads is to be determined based on end-user product requirements.

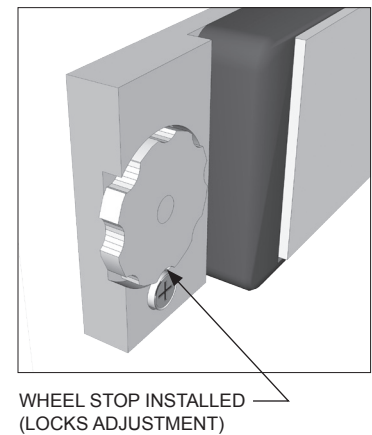
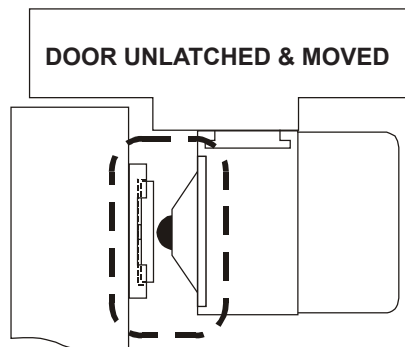
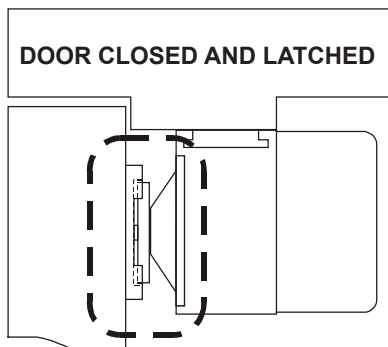
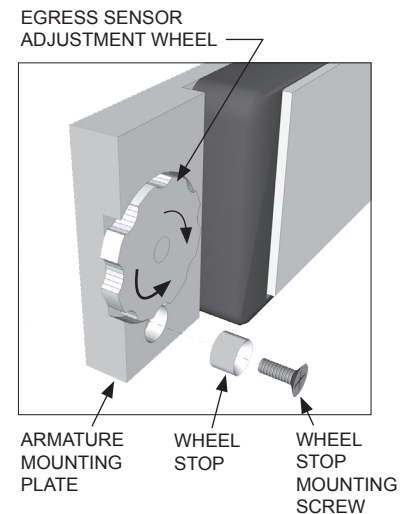
**PROPER OPERATION OF THE 3121C/C2 REQUIRES  
ADJUSTMENT OF THE EGRESS SENSORS  
PROCEED TO EGRESS SENSOR ADJUSTMENT**

#### EGRESS SENSOR ADJUSTMENT

The sensor and armature assemblies are designed for use on doors with existing mechanical latching hardware. If used on doors without latches, false alarms are possible. In these cases, we suggest using external triggers such as our 6451 Exit Sensor Bars - connect using terminals 11&12 and disable the internal sensors (see pages 10&11).

**SEE PAGE 10 FOR LOCATION OF ELECTRONIC PARTS MENTIONED IN THIS SECTION**

1. With both doors closed and latched apply input power to terminals 1 & 2 on Master Lock. Slide selector switch (DS1) #1 to the ON position to activate the Set-Up mode. Rotate the on-board keyswitch counter-clockwise. The lock should now be unlocked (LED1-OFF).
2. Open both doors. Temporarily remove the Adjustment Wheel Stops from the Armature Mounting Plates and close the doors. Set aside for re-installation later.
3. With the doors closed observe the bi-color LED (LED1) on the circuit board. It should be lit red. If it is not lit, rotate the adjustment wheels counter-clockwise as necessary to ensure that they will contact and fully depress the ball plungers on the lock. Rattle the doors to ensure the LED remains lit.
4. With the doors closed and LED1 lit red, unlatch and slowly open either door. The LED will shut off as soon as the door opens far enough for the ball plunger to fully project. Check that the other door operates in the same manner.  
*NOTE: LEDs operate in tandem - both LEDs will go out when either door is opened.*



5. With adjustment completed, re-install the adjustment wheel stops to lock-in the adjustments. Close the doors, slide selector switch (DS1) #1 back to the OFF position and return the on-board keyswitch to the center position to re-lock the 3121B/B2.
6. Unlatch and push on either door until delay egress triggers (1-3 seconds). The audible will sound and LED1 will flash red. After 15 seconds, both sides of the lock will release. Turn the on-board keyswitch clockwise to reset the lock. If delayed egress triggers too soon, or fails to trigger, re-adjust the sensor adjustment wheel(s) for desired sensitivity. Check that the other door operates in the same manner.



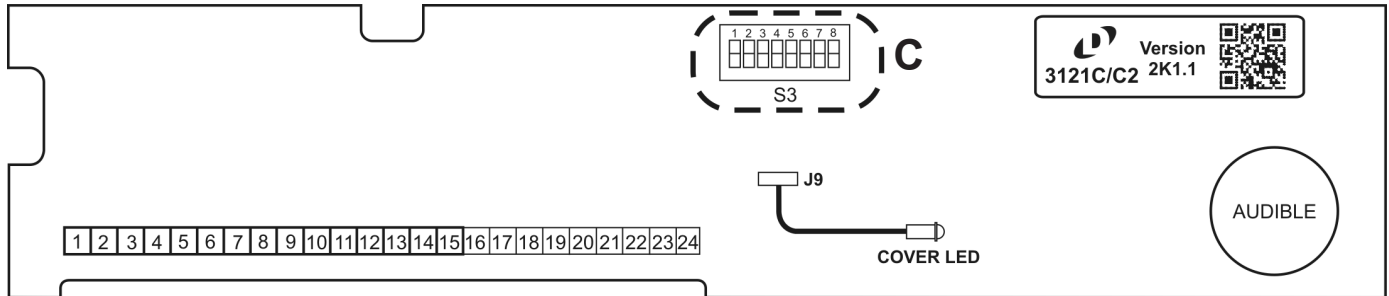
**BUILT-IN KEYSWITCH OPERATION**

POSITION	DESCRIPTION
CENTER	NORMAL / LOCKED
CLOCKWISE (SPRING LOADED)	RESET AFTER DELAY EGRESS ALARM
COUNTER-CLOCKWISE	BYPASS / UNLOCKED WITHOUT ALARM

**INDICATOR & AUDIBLE DESCRIPTIONS**

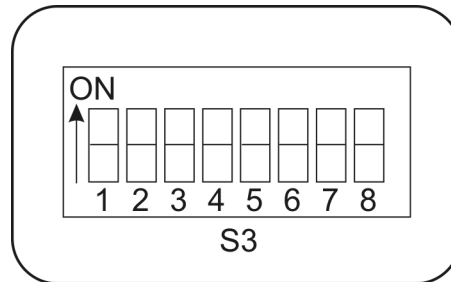
CONDITION	AUDIBLE SIGNAL	LOCK	COVER LEDS
DELAY EGRESS ALARM	One second pulse rate during delay cycle.	ON	BLINK RED
DELAY EGRESS ALARM	Steady tone after delay until reset.	OFF	GREEN
FIRE ALARM RELEASE	Steady tone until fire alarm contacts are reset.	OFF	GREEN
OPTIONAL REMOTE AUTHORIZED BYPASS (TERMINALS 7&8 / 9&10)	None, unless bypass audible is enabled (dip switch 2). If door is held open past relock time, goes into delay egress alarm & requires reset.	OFF	BLINK GREEN
POOR MAGNETIC BOND	Rapid pulse rate until problem is corrected (only functional with Dynastat Force Sensor option).	N/A	FAST BLINK RED

#### OPTIONAL SET-UP



#### 1. C- System Selector Switches

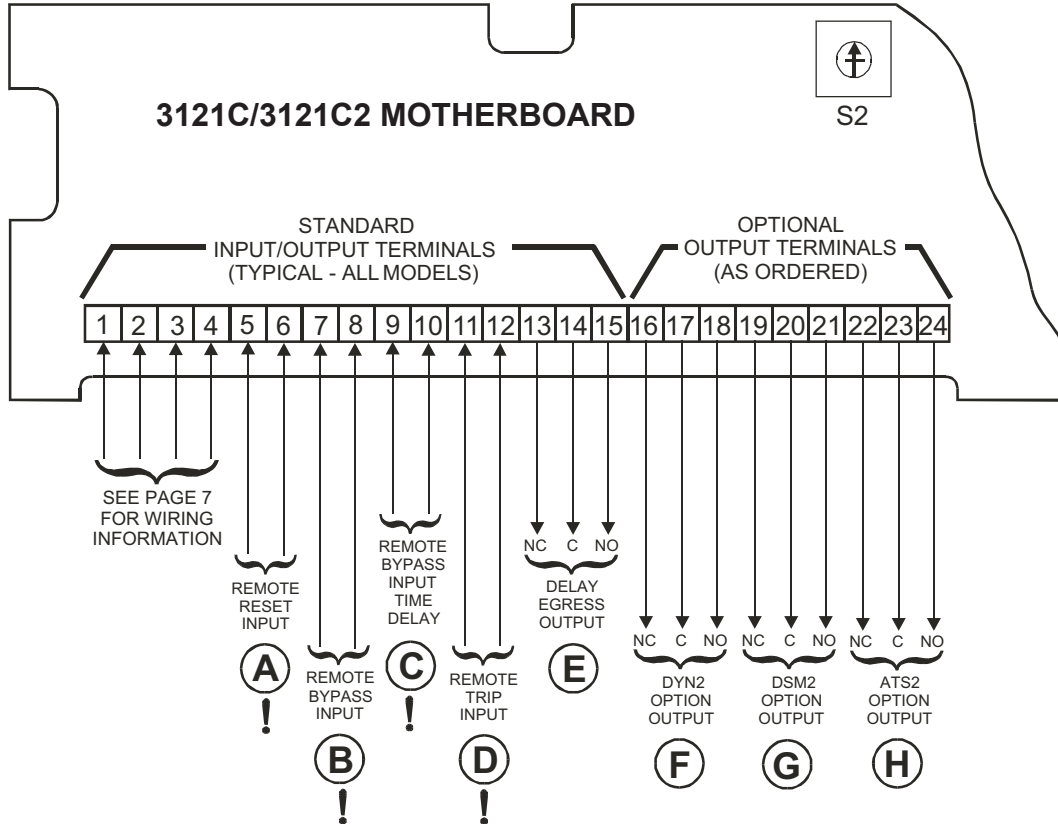
Set the System Selector Switches (S3) to address your specific system requirements. The normal factory setting is all switches off.



SWITCH	FUNCTION	MODE SETTINGS	
		OFF	ON
1	SYSTEM SET-UP	<b>NORMAL</b>	SET-UP MODE
2	BYPASS AUDIBLE *	<b>DISABLED</b>	ENABLED
3	NUISANCE DELAY	<b>1 SEC.</b>	3 SEC.
4	EGRESS DELAY	<b>15 SEC.</b>	30 SEC.
5	MASTER AUDIBLE	<b>ENABLED</b>	DISABLED
6	FIRE ALARM INPUT SETTING	<b>NORMALLY OPEN</b>	NORMALLY CLOSED
7	EGRESS SENSOR	<b>ENABLED</b>	DISABLED
8	UNUSED SPARE		

\*Only applies to terminals 9&10 (see next page)

### OPTION WIRING



**! WARNING: Do not apply power to inputs marked "!" or damage will occur.**

**Per UL294 installations, all wiring must interconnect to equipment in the same room.**

### INPUT DESCRIPTIONS

#### **(A)! REMOTE RESET INPUT**

Momentarily closing a normally-open dry contact across terminals 5 & 6 will reset and re-lock the 3121C/C2 following delayed egress and re-closure of door.

#### **(C)! REMOTE BYPASS INPUT TIME DELAY**

Momentarily closing a normally-open dry contact across terminals 9 & 10 will immediately release the lock without alarm. The door will remain unlocked for a period of time controlled by on-board adjustable timer S2. To increase the delay rotate timer S2 clockwise. Range is 1 to 75 seconds (~5 sec. per click). **For NFPA101 applications, the remote bypass device time delay must be set for 0 seconds.**

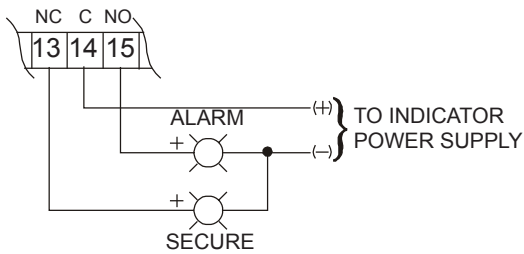
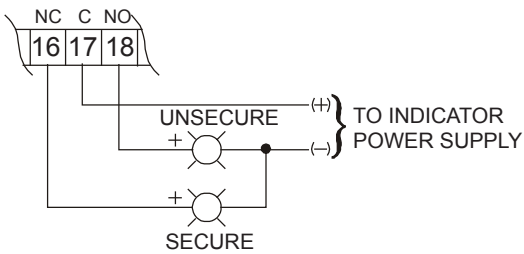
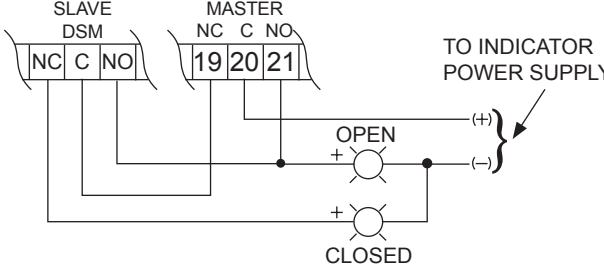
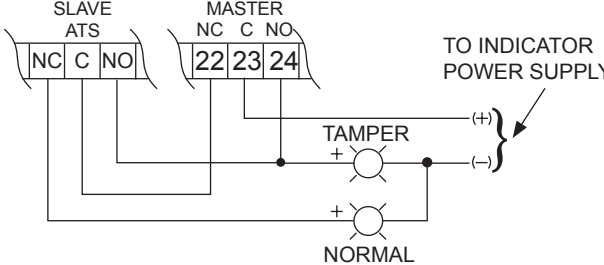
#### **(B)! REMOTE BYPASS INPUT**

Momentarily closing a normally-open dry contact across terminals 7 & 8 will immediately release the lock without alarm. The door will remain unlocked until the contact is opened. Connect authorized access/egress control(s) here (typical).

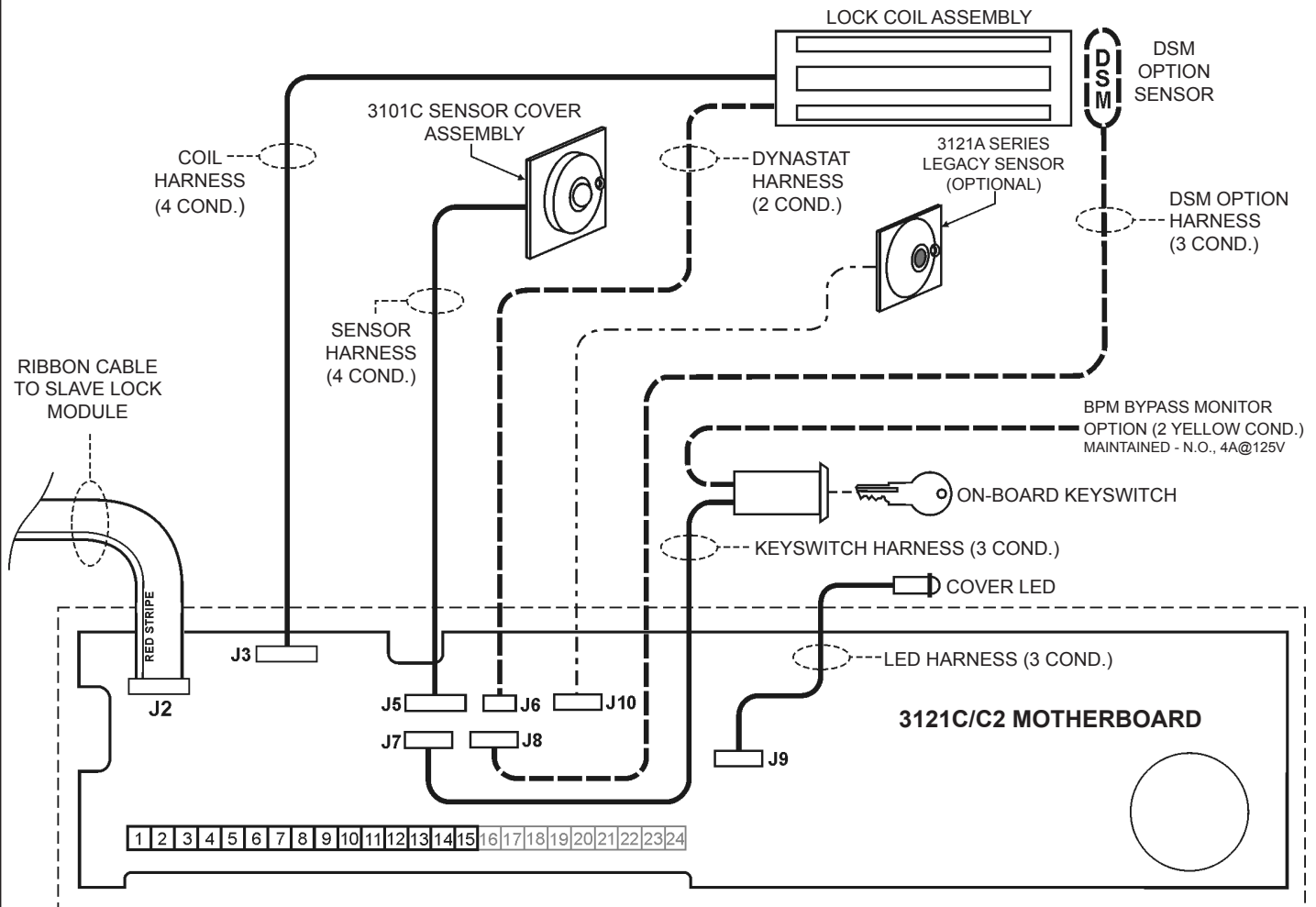
#### **(D)! REMOTE TRIP INPUT**

Momentarily closing a normally-open dry contact across terminals 11 & 12 will initiate delayed egress. This input may be used as a redundant or substitute means of triggering delayed egress if built-in sensor initiation is not desired (see page 10, note 3).

**OPTION WIRING**

MONITORING OUTPUT DESCRIPTIONS	TYPICAL WIRING
<p><b>(E) DELAY EGRESS OUTPUT</b> Delay egress alarm monitoring.</p> <p>SPDT dry relay contacts rated 1A @ 24VDC/24VAC</p> <p>Contacts change state upon initiation of delayed egress, after the nuisance delay has elapsed. They remain in that state until both doors are closed and reset.</p>	 <p>NOTE: INDICATORS ARE NOT INCLUDED</p>
<p><b>(F) DYN2 OPTION OUTPUT</b> Dynastat bond sensor monitoring.</p> <p>SPDT dry relay contacts rated 1A @ 24VDC/24VAC</p> <p>Contacts change state to signal lock status as either both secure or either door unsecure. Armature misalignment can also create an unsecure condition.</p>	 <p>NOTE: INDICATORS ARE NOT INCLUDED</p>
<p><b>(G) DSM2 OPTION OUTPUT</b> Door position sensor monitoring.</p> <p>(2) SPDT dry relay contacts rated 0.5A @ 24VDC</p> <p>Contacts change state to signal physical door position as either closed or open. Slave side has its own connection. Both are independent circuits that do not require lock power to operate.</p>	 <p>NOTE: INDICATORS ARE NOT INCLUDED</p>
<p><b>(H) ATS2 OPTION OUTPUT</b> Anti-Tamper Switch monitoring.</p> <p>(2) SPDT dry relay contacts rated 0.25A @ 24VDC</p> <p>Contacts change state to signal removal of lock module's electronics cover. Slave side has its own connection. Both are independent circuits that do not require lock power to operate.</p>	 <p>NOTE: INDICATORS ARE NOT INCLUDED</p>

### FACTORY WIRING - MASTER LOCK MODULE



#### NOTES:

1. 3121C2 Ribbon Cable must be routed through header jamb.
2. Harnesses J6 and J8 are only present if the lock is equipped with the DYN2 - Dynastat Force Sensor and/or DSM2 - Door Status Switch Options.
3. Observe polarity when re-connecting the J5, J7, J8 and J9 harness connectors. Orient these connectors with respect to harness wire colors as follows:

J5 

WHT	GRN	RED	BLK
-----	-----	-----	-----

\*\*J10 

WHT	BLK	BLU
-----	-----	-----

J7 

WHT	BLK	BLU
-----	-----	-----

J8 

GRN	WHT	RED
-----	-----	-----

J9 

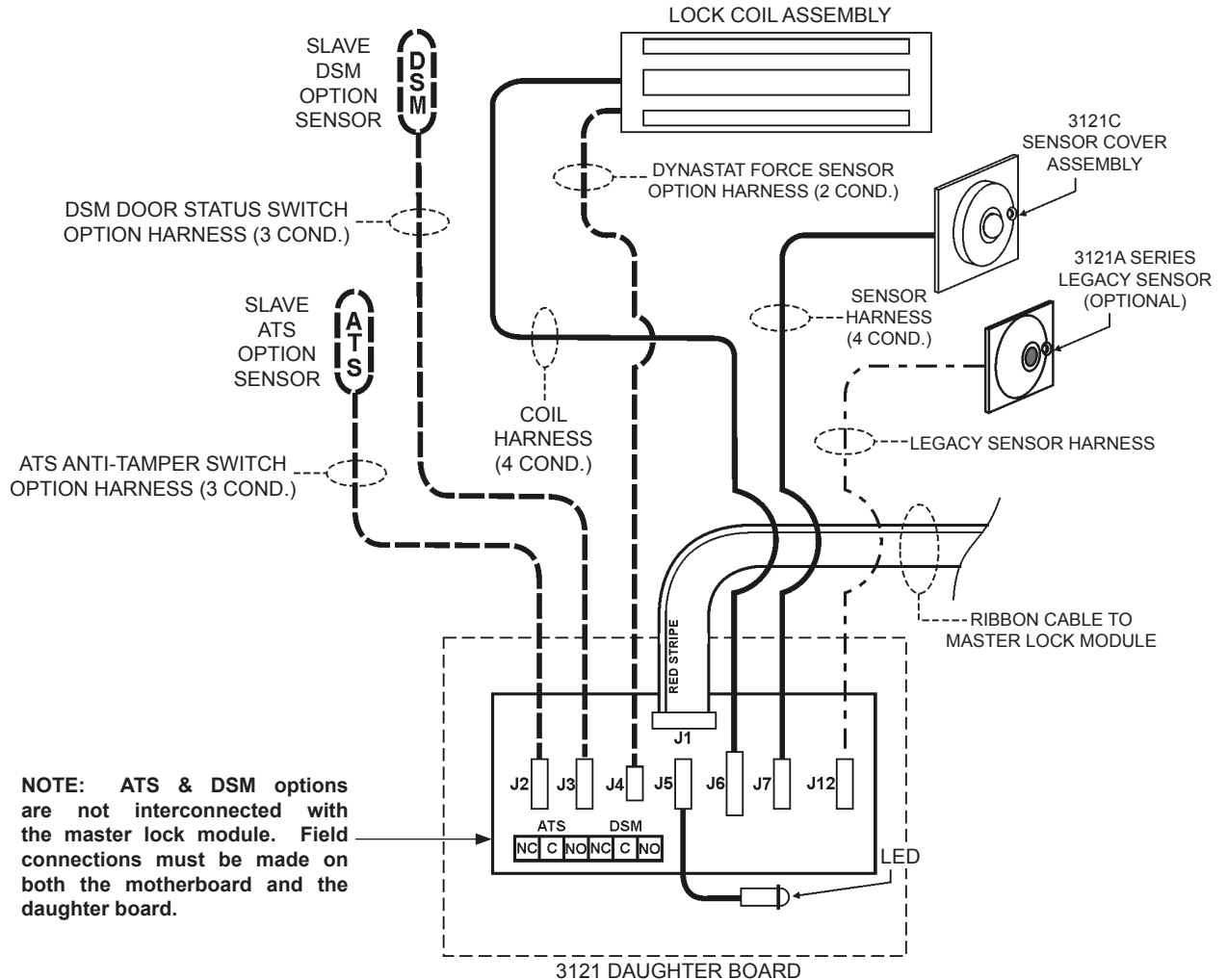
GRN	BLK	RED
-----	-----	-----

J2 ORIENT CABLE WITH RED STRIPE TO LEFT AS SHOWN ABOVE

4. Harness connectors J3 and J6 are not polarity sensitive.

**\*\*Note:** J10 is normally not-used. It is specifically intended to allow interfacing the 3121C/C2 Circuit Board to a 3121A Series legacy sensor cover assembly, when necessary.

### FACTORY WIRING - SLAVE LOCK MODULE



#### NOTES:

1. 3121C2 Ribbon Cable must be routed through header jamb.
2. Harnesses J2, J3 and J4 are only present if the 3121C/C2 is equipped with the DYN2 - Dynastat Force Sensor, DSM2 - Door Status Switch, and/or ATS2 - Anti-Tamper Switch Options.
3. Observe polarity when re-connecting the J1, J2, J3, J5 and J7 harness connectors. Orient these connectors with respect to harness wire colors as follows (J1 - ORIENT CABLE WITH RED STRIPE TO LEFT AS SHOWN ABOVE):

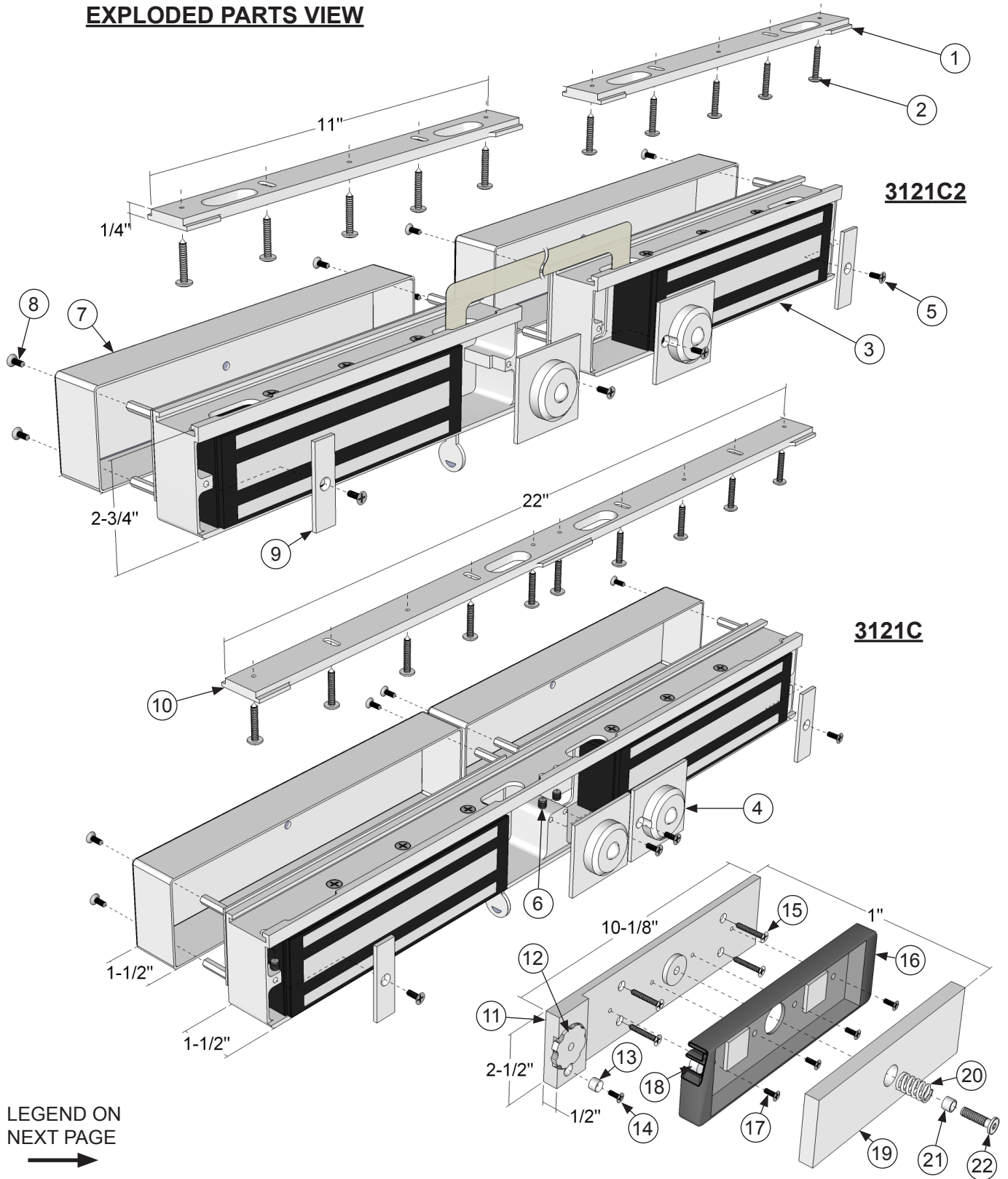
J2	J3	J5	J7	**J12
RED	RED	GRN	WHT	BLU
WHT	WHT	BLK	GRN	BLK
GRN	GRN	RED	RED	WHT
			BLK	

4. Harness connectors J4 and J6 are not polarity sensitive.

**\*\*Note:** J12 is normally not-used. It is specifically intended to allow interfacing the 3121C/C2 Daughter Board to a 3121A Series legacy sensor cover assembly, when necessary.



### EXPLODED PARTS VIEW



## EXPLODED PARTS VIEW LEGEND

ITEM	DESCRIPTION	PART #
1	Fas-Trak Baseplate	300011
2	#10x1" Self-Tapping Screw	*
2	10-24x1/2" Machine Screw	*
3	Lock Housing	
4	Access Cover & Sensor Assembly	301037
5	8-32x3/8" Machine Screw	300608
6	1/4-28x1/4" Set Screw	300604
7	Electronics Cover	300353
8	6-32x1/2" Spanner Security Screw	700058
9	End Cover	300010
10	Double Fas-Trak Baseplate	300015

ITEM	DESCRIPTION	PART #
11	Armature Mounting Plate Assy.	301038
12	Sensor Adjustment Wheel & Stud	301383
13	Wheel Stop	301003
14	8-32x1/2" Wheel Stop Screw	301005
15	#10x1" FHS Mtg. Plate Screw	*
16	Armature Housing w/ pads	301334
17	8-32x3/8" Armature Mtg. Screw	*
18	Disc Magnet (DSM only)	301289
19	Armature	300373
20	Compression Spring	*
21	0.360"L Armature Spacer	*
22	5/16-18x1" Armature Bolt (turned)	*

\* Part of Hardware Kit 301325  
(the lock comes with *two* hardware kits)

**Refer to Page 15 for parts locations.**

## PLEASE DELIVER THIS MANUAL AND THE KEYS TO THE END USER UPON COMPLETION OF THE INSTALLATION



AUXILIARY LOCK  
CATEGORY GWXT



SPECIAL LOCKING ARRANGEMENTS  
CATEGORY FWAX



### FOR PRODUCT SUPPORT AND PARTS ORDERING INFORMATION CONTACT:

DynaLock Corp.  
705 Emmett Street  
Bristol, CT 06010  
Bus: (877) 396-2562 Toll-Free USA  
(860) 582-4761  
Fax: (860) 585-0338

### DYNALOCK ON THE INTERNET:

E-mail: [info@dynalock.com](mailto:info@dynalock.com)  
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