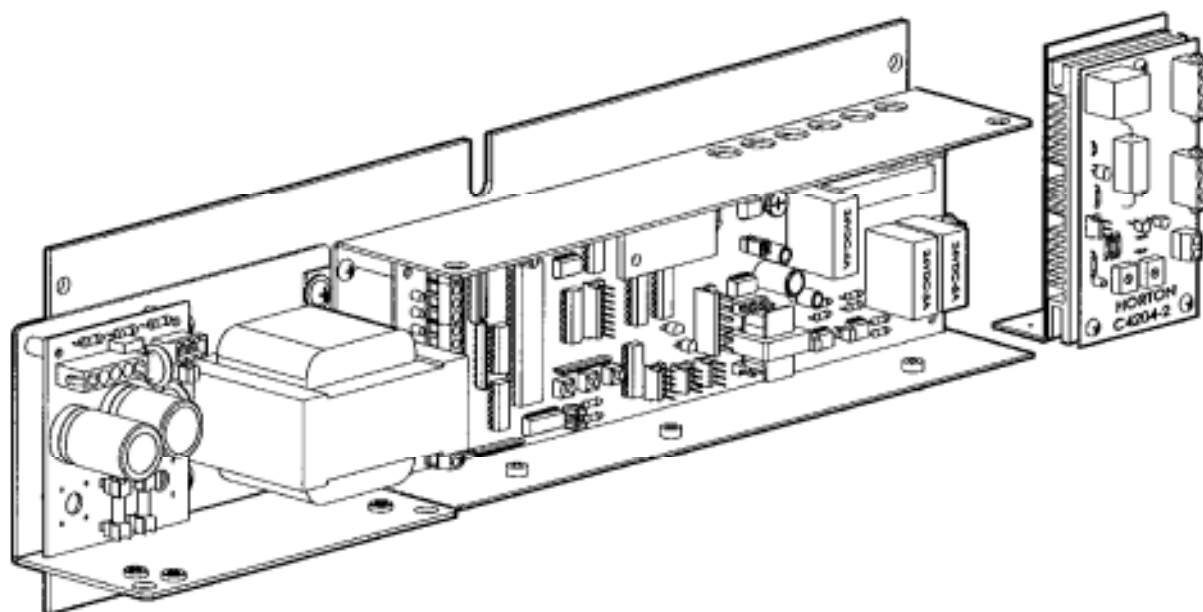


Series 4700HD Power Swing Electric Swing Door Operators with **C2150 Control** with Version 8.25.03 Software

SETUP INSTRUCTIONS & TROUBLESHOOTING

To be used with G410 Installation Instructions



4 00460

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1. SERIES 4700 SWING OPERATOR QUICK START INSTRUCTIONS (SWING CLOSE)

C2150 Control with version 8.25.03 software (Revision E or later hardware) To get the operator up and running, check the items outlined below.

Do NOT wire any motion detectors or any other accessories at this time. Factory pre-wired beams (pins 6, 5 & 7) may be left in place.

7th Step
Verify jumpers JB1A & JB1B are NOT installed on rev. E and later controls.

6th Step
Set the opening sensitivity fully counter-clockwise.

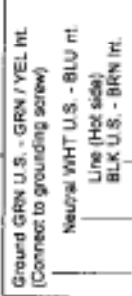
5th Step
Check incoming voltages from power supply



- 1 White
- 2 Brown
- 3 Red
- 4 Black
- 5 Green

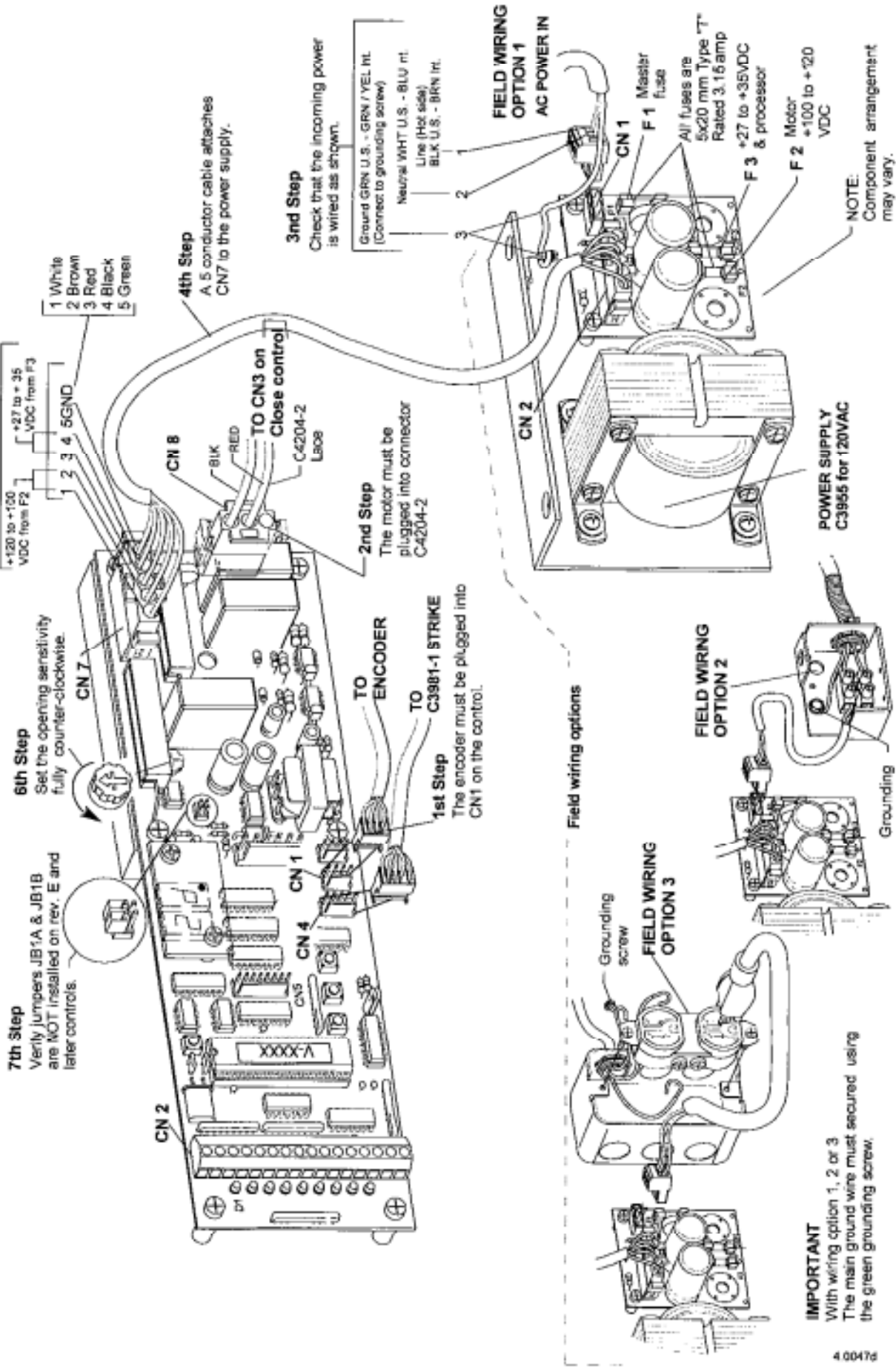
4th Step
A 5 conductor cable attaches CN7 to the power supply.

3rd Step
Check that the incoming power is wired as shown.



2nd Step
The motor must be plugged into connector C4204-2

1st Step
The encoder must be plugged into CN1 on the control.



IMPORTANT
With wiring option 1, 2 or 3 The main ground wire must be secured using the green grounding screw.

NOTE:
Component arrangement may vary.

2. LOADING THE ARM

Power up

Be sure the toggle circuit is complete and apply AC power to the unit.

To load the arm on the operator

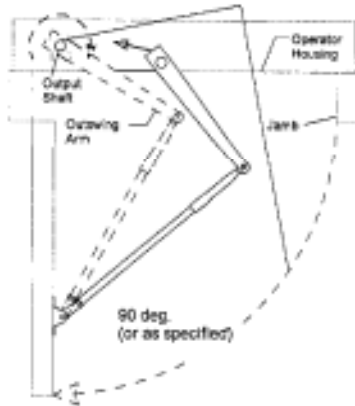
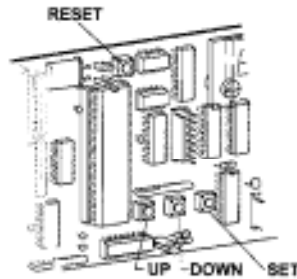
-Press and hold the UP and the DOWN buttons following power up or reset.

-The control will display FS (Find Stop) and slowly open the door to stop.

-After a brief rudge sequence, the motor voltage will be stepped down to the hold level and the display will switch to alternating boxes.

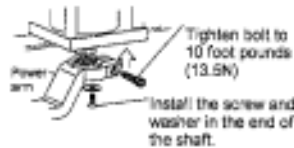
-At this point, the arm may be positioned on the output shaft.

-If close monitor switch is already adjusted - press set to finish set up. If not go to next step.



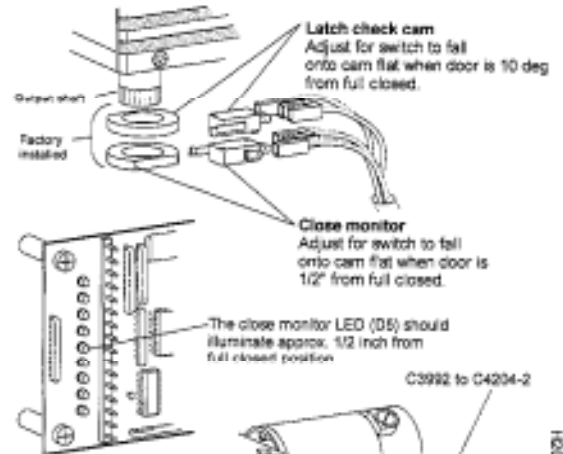
With the operator powered open against the internal stop

-manually move the door to its full open position (normally 90 deg from closed) and install the arm on the operator shaft and door. (See G410)



With the power off

Push door open slowly and allow it to close while observing the operation of the close monitor and close check cams (see below). Use a 3/32" ball end hex wrench to adjust the cams.w



-Due to the LH parameter, it is no longer necessary to mechanically reverse the encoder phasing.

-However, the motor leads must still be reversed manually depending on whether the operator is LWRHR or RHLHR. The leads must be reversed between the motor and the C4204-2, not between the C4204-2 and the control.

For LH & RHR operators connect Black - Red & Red - Black
For RH & LHR operators connect Red-Red & Black-Black

2A. ADJUSTING LATCH AND CLOSE SPEED

With the power still off, push door open slowly and adjust Close Speed (Door fully open until latch check switch actuates). Repeat with Latch Speed Pot for Latch Speed adjustment.



CAUTION: When installing the power arm or when servicing any swing door operator, be sure to keep your face, hands and arms clear of the power arm's swing path. **SERIOUS INJURY** could result should the operator be accidentally activated to an open position or should the operator return to a relaxed position.

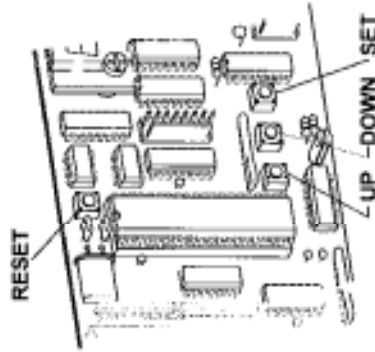
3. INITIALIZATION

1st Step - Power up

Be sure the toggle circuit is complete and apply AC power to the unit.
CAUTION: THE DOOR WILL MOVE

2nd Step - Learn cycle

Instruct the control to perform a full learn cycle by:
 -Holding down the SET button and the RESET button.
 -Release the RESET button.
 -Hold the SET button for an additional 5 seconds then release.



3rd Step -

-The display should "blink" the version number 8.25.03



-The display should show FC (Finding Closed)



-Close monitor light should come on

-The display should show FO (Finding Open)



-Close monitor light should come on

-The display should show TS in degrees



-The display should show DS (Data Saved)



-The display should show D1



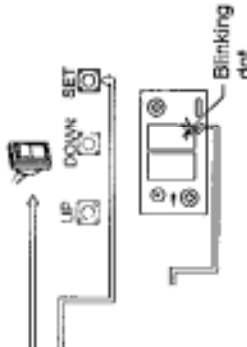
-The door should close when D1 expires

4. ADJUSTING PARAMETERS

4th Step - Changing parameter settings

A chart of preset values is shown to the following pages. If any speeds or other settings need to be changed, follow this procedure.

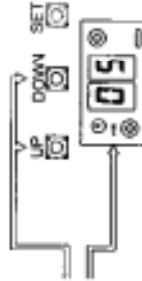
-Turn the toggle switch **OFF**
 Or **ON** and double click the **SET** button.



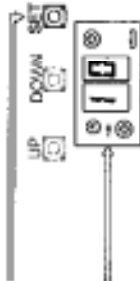
-The display will switch to the menu of adjustable parameters

-Refer to the chart in section 4 for a list of codes for adjustable parameters.

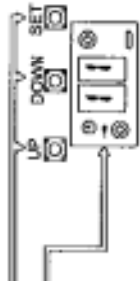
-Scroll through the parameter list using the **UP** and **DOWN** buttons until the parameter to be changed is found.



-When the parameter to be changed is found, press and hold the **SET** button.



-The display will show the current value or setting of the parameter.

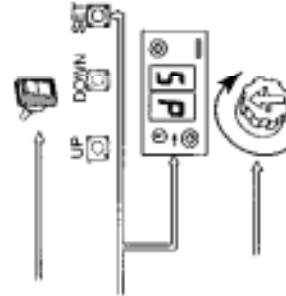


-While holding the **SET** button, press the **UP** or **DOWN** button to modify the setting.

-When the **SET** button is released, the display will show the parameter that was just changed. Another parameter may be changed, or the toggle circuit turned on to check the changes just made. The **SET** button may be double clicked to exit the menu (toggle must be on).

5th Step -Saving new settings

-When all adjustments have been made and checked, be sure the toggle circuit is **ON**.



-With the display reading **dS** (data save) is displayed. All of the changes are now stored in the control's memory. **This step must be performed** or the control will revert to the default settings after a power failure.

-Set the opening sensitivity as required using **R10**. **Do not** leave this adjustment at minimum. Horton recommends setting the sensitivity so the door will stall at **15 lb.** or less (measured 1" from the latch edge).

5. ADJUSTABLE PRESET PARAMETERS

The chart below shows all the adjustable parameters for version 8.25.03 software. Follow the procedure outlined in sect 3 to make any necessary changes.

CODE	PARAMETER		DEFAULT	ADJUSTS
OS	Open Speed	Speed during the first 50° of opening	6	0-15
OC	Open Check	Speed during the last 10° of opening	6	0-15
OU	Open cushion speed	Determines speed during the last 5° of opening	3	0-15
SS	Seek Speed	Determines "creep open" speed following a safety response	4	0-15
AC	Acceleration	Ramp up to open speed	10 (0= slowest ramp)	0-15 variable
dc	deceleration	Switch from open speed to open check	0 no ramp down	0-15, 1-15 ramp down
d1	time Delay for full open cycle	time delay for full open cycle	1	1-8, 10, 12, 14, 16, 20, 25, 30 or 60 sec
d2	time Delay for partial open cycle	time delay for partial open cycle	1	1-8, 10, 12, 14, 16, 20, 25, 30 or 60 sec
UD	Unmonitored lock unlock delay	display is in 1/10 sec intervals. Parameter has no effect unless both LL and UL are turned on	10 (1.0 sec)	0-1-0.6, 1.0, 1.2, 1.4, 1.6, 2.0, 2.5, 3.0, or 6.0
UP	Unjamb Power	Determines how much power will be applied in the closing direction during the unmonitored lock delay. UL, LL, UL and OU must all be turned on for UP to have any effect.	4 (factory set - do not change)	0-15
Pd	Pre-assist delay	Determines delay after door stalls before power assist close cycle begins.	1	1-8, 10, 12, 14, 16, 20, 25, 30 or 60 sec
PR	Power Assist close	Provides power assist during closing cycle	0 (no assist spring close only)	0-15
HC	Hold Close power	Determines how much power will be applied in the closing direction to hold the door closed following a successful close cycle.	0 use only spring to hold close	0-5-20 (5%-20% per sec)
Lt	Latch timeout delay	Determines delay after door latch fails to connect	0 (disables timeout)	1-7, 10, 15, 20, 25, 30, 45, 60 or 120 sec
CP	Check Point	Adjusts the position at which the door switches to open check. Parameter is shown in degrees of rotation from fully closed position.	Total stroke minus 20%	90% to 90% of total degrees of rotation
PO	Partial Open point	Adjusts the position at which the door stops when partial open mode is selected. Parameter is shown in degrees of rotation.	45%	45% to 90% of total degrees of rotation
ES	total Stroke	shown in degrees of rotation	Automatically established during setup	
ct	cycle test	Shortcut for servicing- press and hold UP, then press DOWN, this will automatically turn on ct. Turn off manually or reset control.	off	oF/on
Cr	Close recycle	selects whether door should recycle on loss of pulses. Cr takes priority over PA parameter.	off	oF/on
PS	Push-n-Go	When on, door will automatically complete a cycle if manually pushed open past approx. 20° from full closed position.	off	oF/on
SL	Slow speed bank	Allows selection of lower opening speed if desired	off	oF/on
EC	turbo Charge mode	Allows selection of higher opening speeds if desired	off	oF/on
LL	Lock is present	When LL is on by itself, the lock is assumed to have a monitor switch.	Setup during routine for monitored locks. For unmonitored locks, default is off & LL as well as UL must be turned on manually. default is off.	oF/on
SR	fail SAs lock present	Indicates Fail Safe lock is present	Setup during routine for monitored locks. For unmonitored locks, default is off.	oF/on
UL	Unmonitored Lock	(Also see UD)	off	oF/on
UU	Unjamb Unmonitored lock	When UU is on, door will apply power in the closing direction for a duration of UD delay prior to opening. This is useful in installations with heavy weatherstripping and multiple locks.	off (Also see UP)	oF/on
tr	threshold detector recycles	When tr is on, the threshold detector is treated as a recycle device during closing and is ignored when the door is idle. When tr is off, the threshold detector is treated as a manual operation device. In this mode, it will place the door in push-through (manual open mode) if triggered while the door is idle, or during closing, it will also cancel power assist close or hold closed. Using the detector in this mode also allows the operator to generate a power assist close following a manual open cycle. The threshold detector is always used as a hold open device regardless of the tr setting.	on	

6. ADJUSTABLE PRESET PARAMETERS

The chart below shows all the adjustable parameters for version 8.25 software. Follow the procedure outlined in sect. 3 to make any necessary changes.

CODE	PARAMETER		DEFAULT	ADJUSTS
bC	brake at Check point	When on, door brakes when it arrives at open check position. When bC is on dC has no effect. Reserved for special situations not needed or recommended for standard operation	off	oF/on
br	brake on recycle	Brakes door prior to reopening when open signal is received. Substantially improves smoothness and reliability, reducing excess forces on the operator during recycles.	on	oF/on
Sr	Stop-n-resume	When on, door will stop if either the safety beam input or the Stop-n-Seek / Stop-n-Resume input is active. It will ramp back up to normal speed after the safety inputs have cleared. Note that Sr has no effect on the safety response to an overcurrent (obstruction)-the door always uses Stop-n-Seek following this condition	off	oF/on
J5	Jam Sensing	Protects control & operator against inadvertent jams	on	oF/on
Pb	Power assist boost	Switches maximum permissible voltage used for power assist close mode from 30V to 45V.	off	oF/on
LH	Left Hand	Used to automatically determine and correct door hand during setup routine. This parameter may be examined, but cannot be changed manually	Display only	-
nR	no Access	Control is locked and adjustments are not available until unlocked. The default Horton Automatics unlock code applies	off	oF/on

7. CODE DURING NORMAL OPERATION

CODE	
Id	door is Idle
Sd	Swing side device (Body Guard) inhibiting door from opening*
Sb	Safety beam inhibiting door from opening*
Sn	(with door closed)-Stop-n-Seek / Stop-n-Resume input inhibiting door from opening*
OP	door is in Open Speed and is opening to full open
OC	door is in Open Check and is opening to full open
PO	door is in Partial Open
PC	door is in Partial open Check
CL	door is CLosing without power assist
PH	door is closing with Power Assist
d1	delay 1, used for full open position dwell time (time delay)
d2	delay 2, used for partial open position dwell time (time delay)
Ob	overcurrent Obstruction detection; will be followed by Sd
SS	door opening in Seek Speed following safety response
Sn	(while door opening) door switched to Stop-n-Seek / Stop-n-Resume by external contact
St	door Stopped following safety response; after brief delay seek mode will begin
Sr	Stop-n-Resume in use; door stopped, will resume normal speed when possible
UL	UnLock delay
L	Lock delay
td	threshold time delay input active
PE	Push-through (manual open) mode active
Sd	Swing side device (Body Guard) inhibiting door from opening
PG	door activated by Push & Go

*These codes will rotate sequentially if more than one signal is active.

8. HOLD CODES WHILE DOOR IS OPEN

IR	Interior Actuate device holding door open
RR	Auxiliary Actuate device holding door open
dn	down button holding door open
S	Swing side device (BodyGuard)
Sb	Safety beam device holding door open
td	Threshold side device input holding door open
LR	door is Latched open
Lt	door is latched open with Latch timeout in use

*These codes will rotate sequentially if more than one signal is active. After all hold open devices are clear, the display will switch to d1 or d2 as applicable and the dwell time will start counting down.

9. ENCODER ERROR CODES

Encoder error codes are displayed when the door is running. Normally codes will be displayed at the end of a stroke or when a door stops abruptly during an "open" command.

Types of failure codes that could be displayed:

- EF Encoder Failure - No pulses being received by the C2150.
-Check all connections to encoder and the control
- LP Loss of Pulses - All pulses required for proper operation were not received.
-See encoder test points Section 13
- ET Encoder Test - The beginning of an encoder test procedure.
-See section below

10. ENCODER DIAGNOSTICS

Encoder information is needed to provide consistent information on location, direction of travel, speed of door and door braking information to the C2150 control.

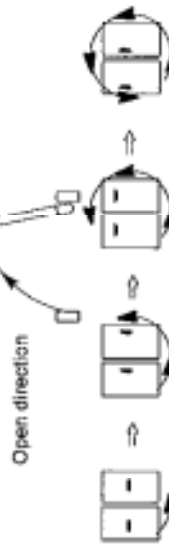
1st Step - Encoder test

- Press **RESET** and the **DOWN** button together
- Release **RESET** and continue to hold the **DOWN** button until **ET** briefly appears - release the **DOWN** button. Following **ET** 2 short lines will appear. The test is ready to be performed.

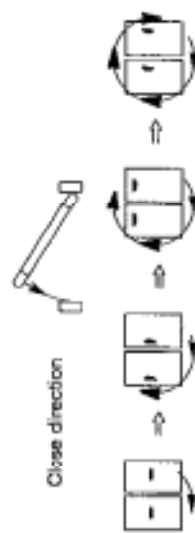


2nd Step - Performing test

View the display while manually moving the door slowly towards the open position. The display will show a counter clockwise rotation.



Manually move the door towards the closed position. The display will show a clockwise rotation.

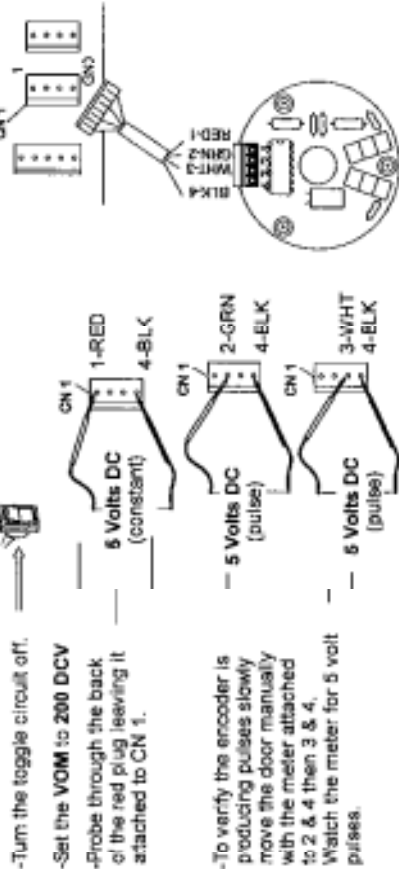


Each segment of 4 for a total of 8 segments should appear. No segment should be skipped. If anything occurs other than the description shown above the C2150 will get improper information and the door will not function properly.

11. ENCODER TEST POINTS

To test the encoder you will need a volt ohm meter (VOM) capable of reading DC Voltage.

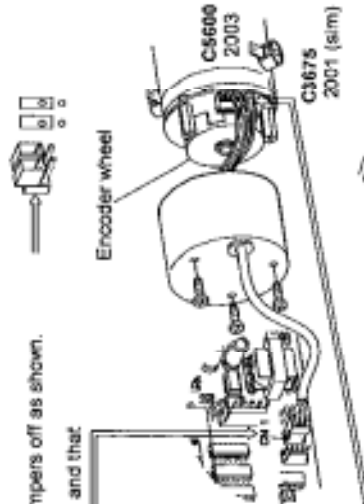
Checking power and pulses



-To vary the encoder is producing pulses slowly move the door manually with the meter attached to 2 & 4 then 3 & 4. Watch the meter for 5 volt pulses.

Checking connections

- If the above voltages check out and the display does not rotate as shown in section 12 then contact the technical services group or replace the encoder.
- Check JB 1. This circuit should be open - jumpers off as shown.
- Confirm that the encoder is plugged into CN1 and that the wires are connected to the plug.



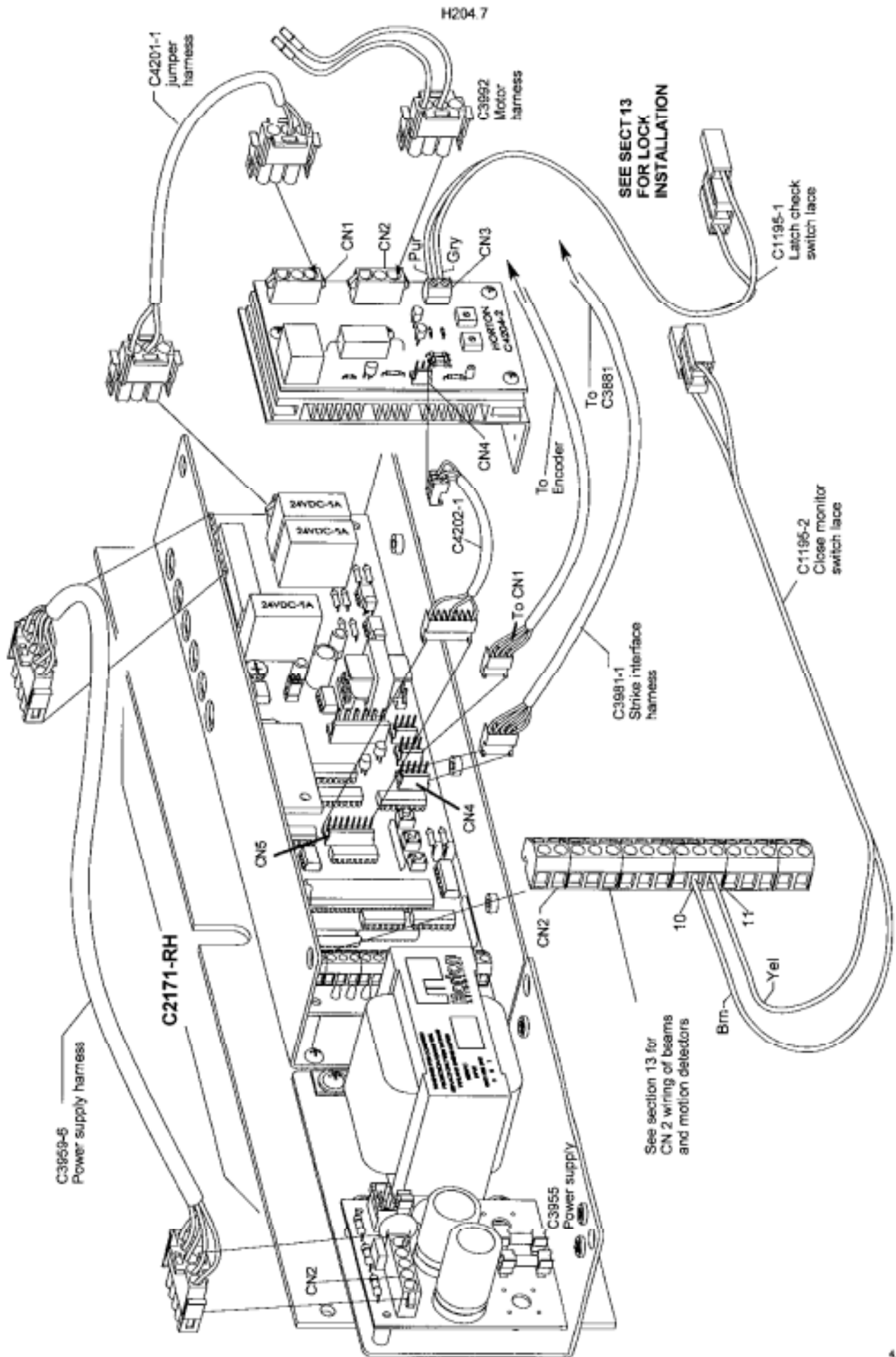
Power but no pulse

There is power between pins 1 & 4 but there is no pulse between 2 & 4 or 3 & 4.

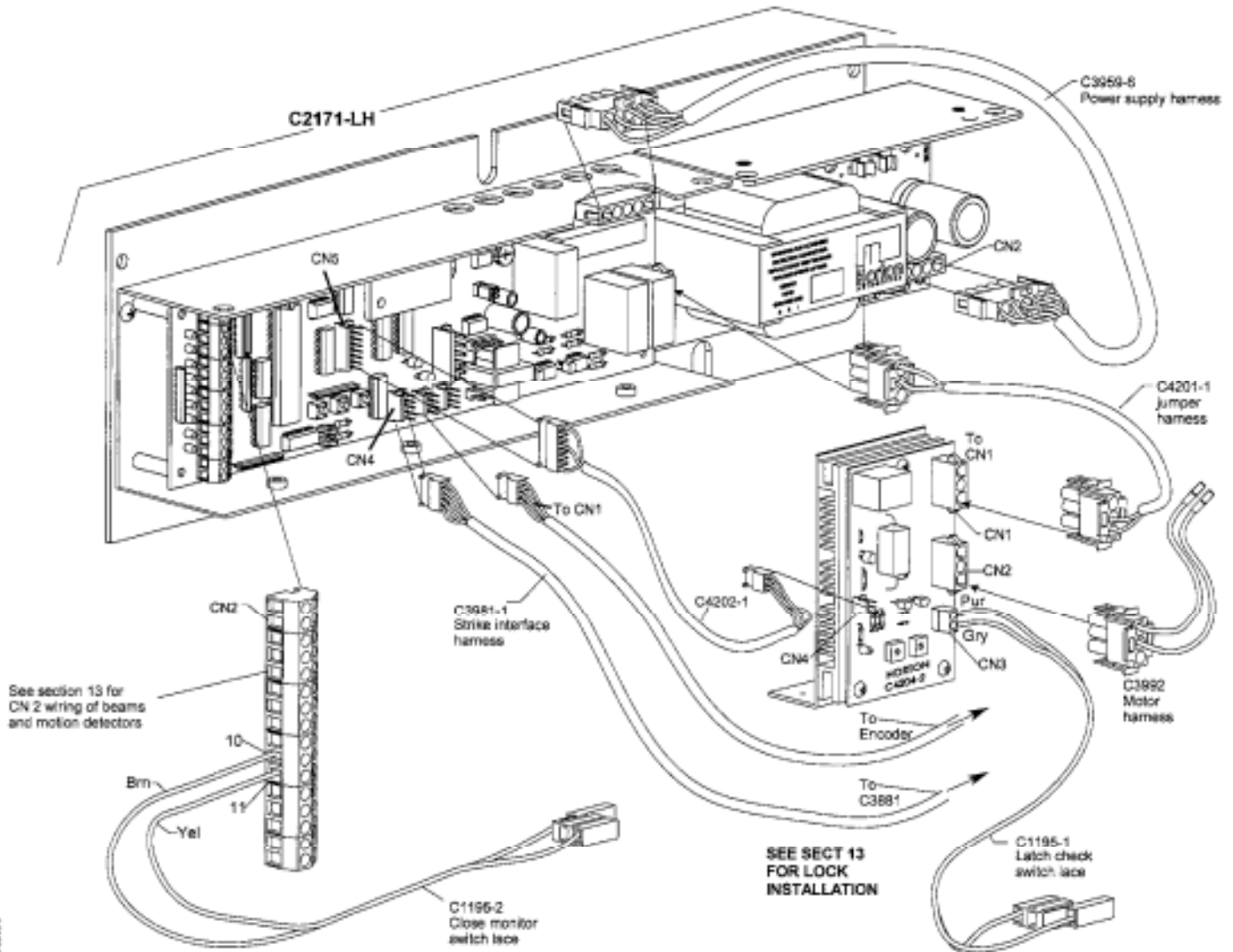


There are no serviceable elements on the C4011-3. If the encoder fails replace the entire unit. **DO NOT REMOVE COVER**

12. SERIES 4100, 4500, 4800 WIRING INSTRUCTIONS FOR POWER CLOSE SWING OPERATORS RIGHT HAND

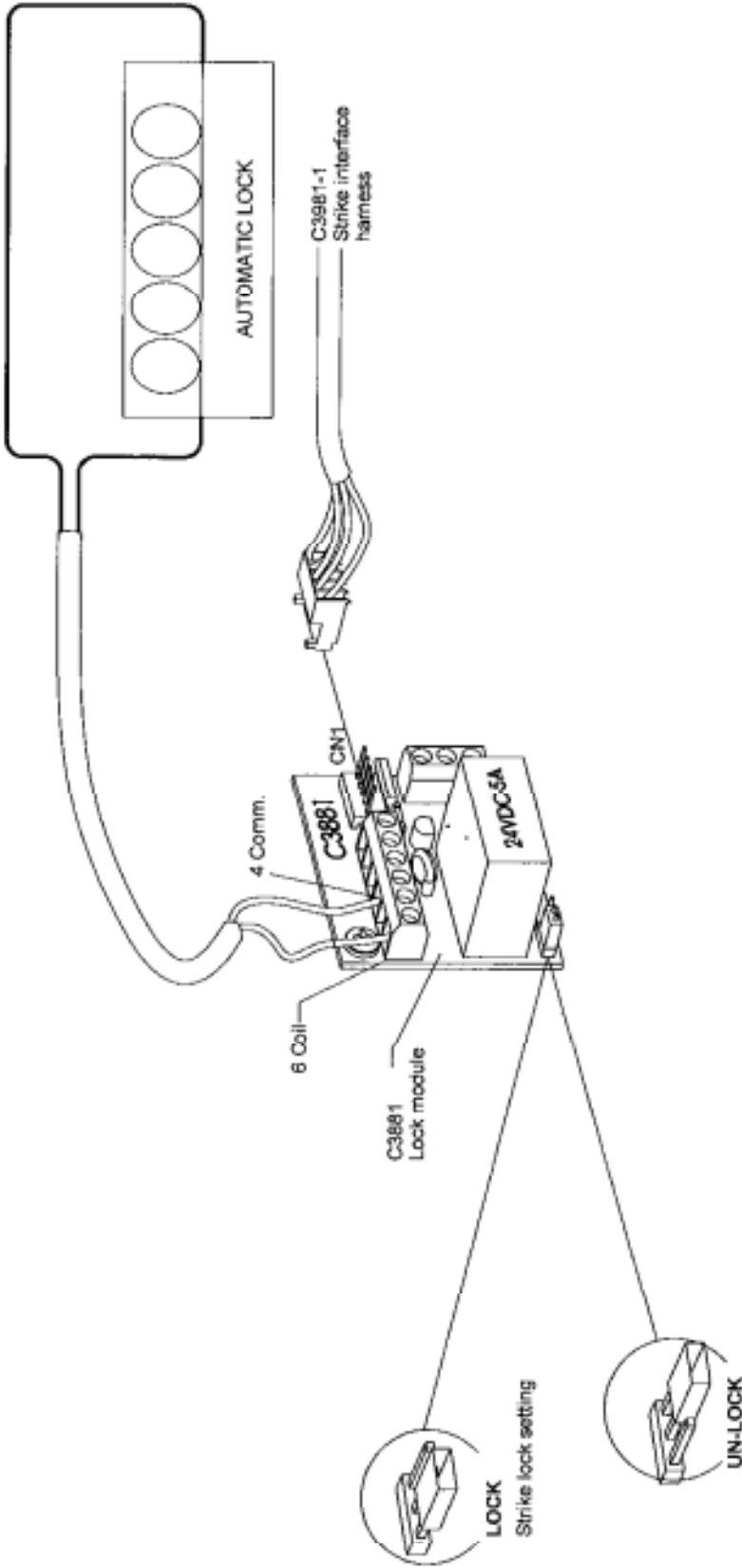


12A. SERIES 4100, 4500, 4800 WIRING INSTRUCTIONS FOR SPRING CLOSE SWING OPERATORS LEFT HAND

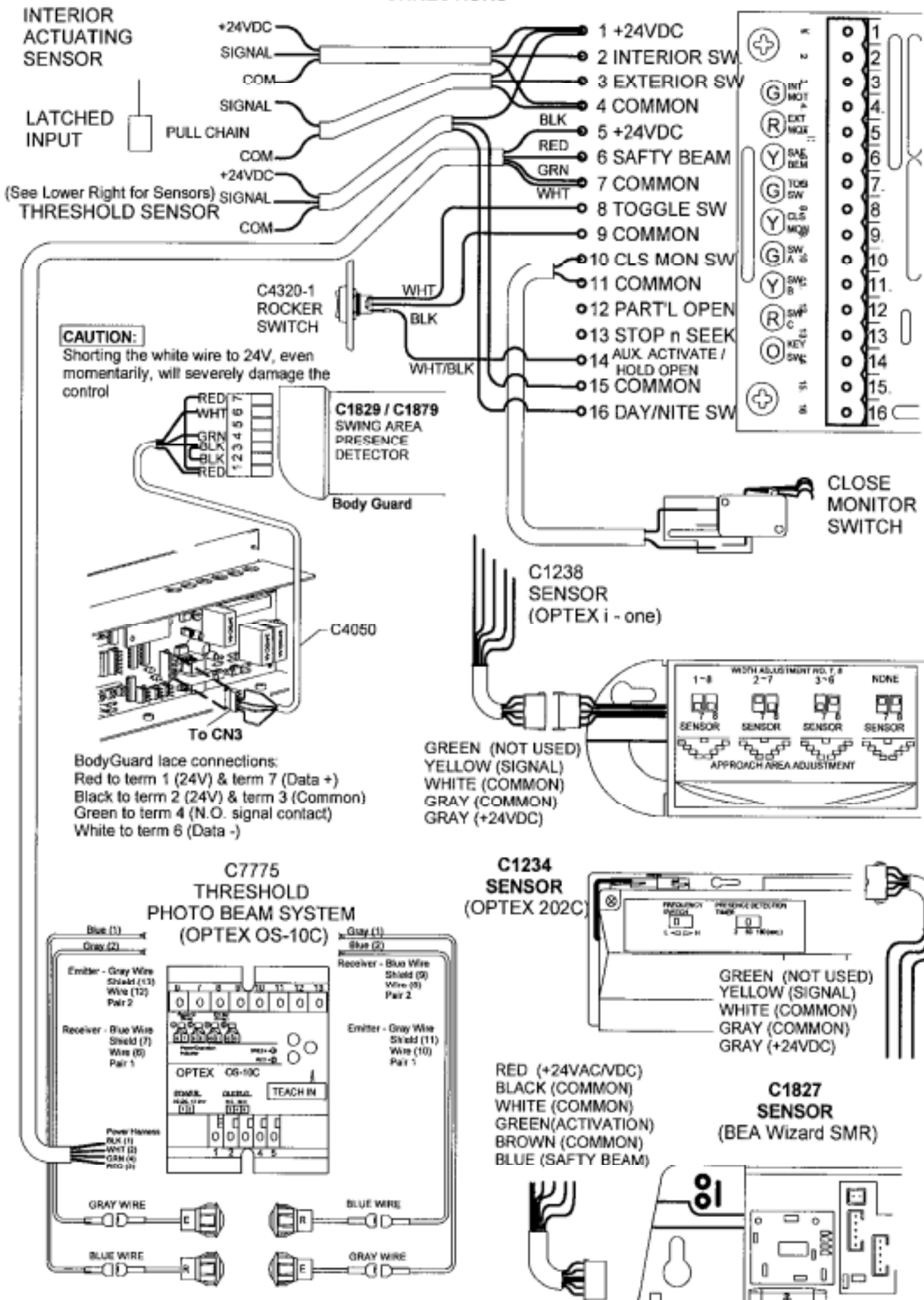


13. SERIES 4100, 4500, 4800 WIRING INSTRUCTIONS FOR AUTOMATIC LOCK

H204.8



14. ACTUATING and CONTROL SWITCH CONNECTIONS





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