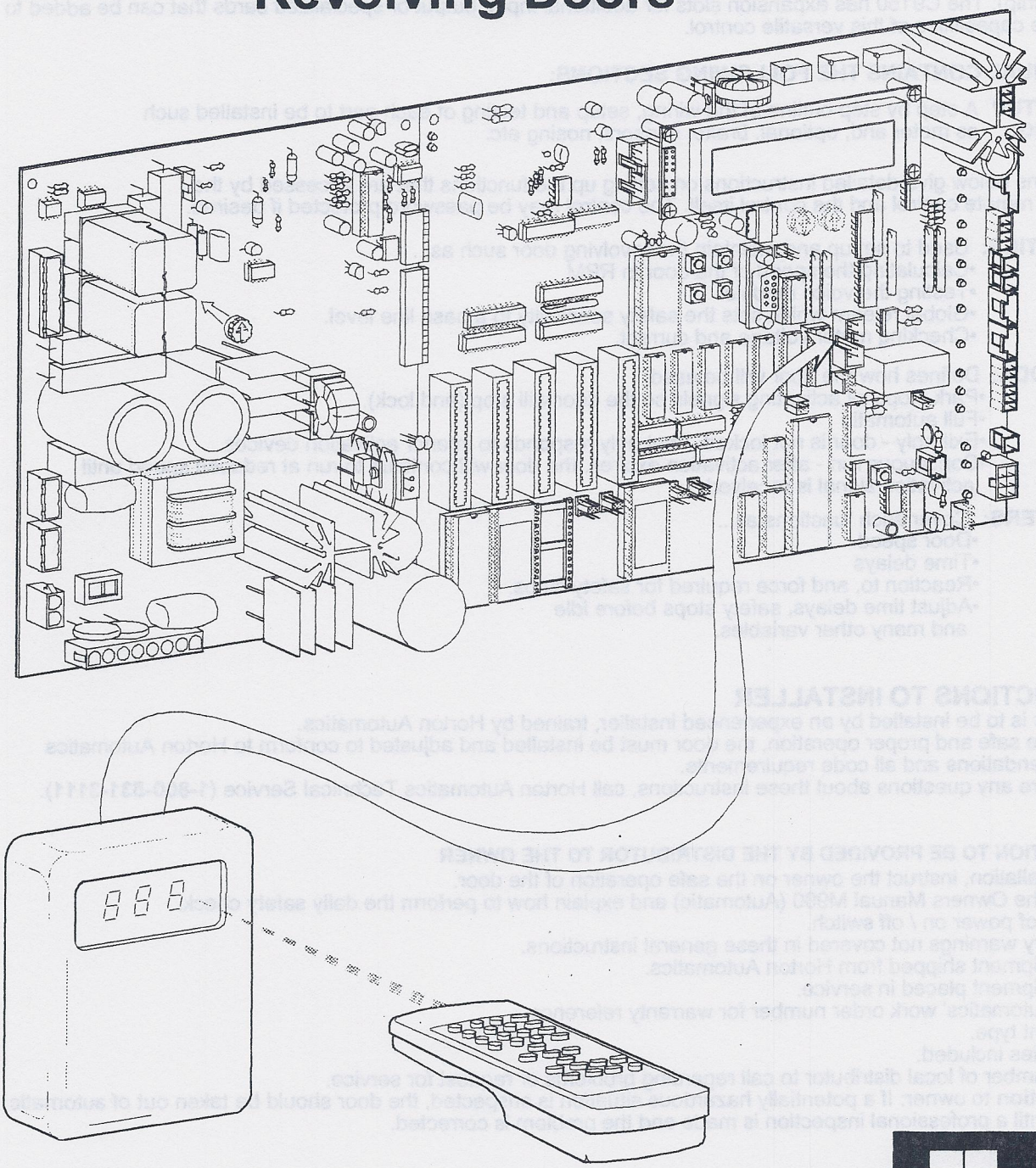
C9150-5
Setup Instructions
for Automatic and Grand Revolving Doors



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Horton
AUTOMATICS

H916, MARCH 2002

OVERVIEW OF H916 SETUP INSTRUCTIONS FOR C9150-5 CONTROL

This manual contains very detailed instructions for successful setup and adjustment of the C9150 control. All wiring and initial run of the door can be accomplished by following the directions in sections 1 through 12. The remainder of the manual contains reference material for options and features that may not be required in all applications.

The concise table of contents will be useful to find the pertinent section of the instructions required for each application.

The C9150 control offers greater flexibility than any revolver control offered before.The operation of the door can now be changed with the keyswitch or remote control. Previously, these functions were changed by changing the firmware (EPROM chip). The C9150 has expansion slots for additional input, output or specialized cards that can be added to expand the capabilities of this versatile control.

THIS MANUAL CONTAINS THE FOLLOWING SECTIONS:

BASIC SETUP & TESTING: A step by step outline of the wiring, setup and testing of each part to be installed such as motor and, optional, brake, sensors, nosing etc.

The sections below give detailed instructions on setting up the functions that are accessed by the keyswitch, remote control and the control itself. The control may be password protected if desired.

DIAGNOSTICS: Used to set up and maintain the revolving door such as...
- •Calculating the speed of the door in RPM
- •Testing the voice module.
- •Global relearn which sets the safety sensitivity to a base line level.
- •Checking motor voltage and current.

MODE: Defines how the door will be used
- •Park stops all activating signals so the door will stop (and lock).
- •Full automatic
- •Exit only - door is not locked - but only responds to interior activation devices.
- •Continuous run - after activation expires, the door will continue to run at reduced speed until activation signal is received.

PARAMETERS: Cover such functions as...
- •Door speed
- •Time delays
- •Reaction to, and force required for safety stops.
- •Adjust time delays, safety stops before idle and many other variables.

INSTRUCTIONS TO INSTALLER

- •This door is to be installed by an experienced installer, trained by Horton Automatics.
- •To ensure safe and proper operation, the door must be installed and adjusted to conform to Horton Automatics recommendations and all code requirements.
- •If there are any questions about these instructions, call Horton Automatics Technical Service (**1-800-531-3111**).

INFORMATION TO BE PROVIDED BY THE DISTRIBUTOR TO THE OWNER

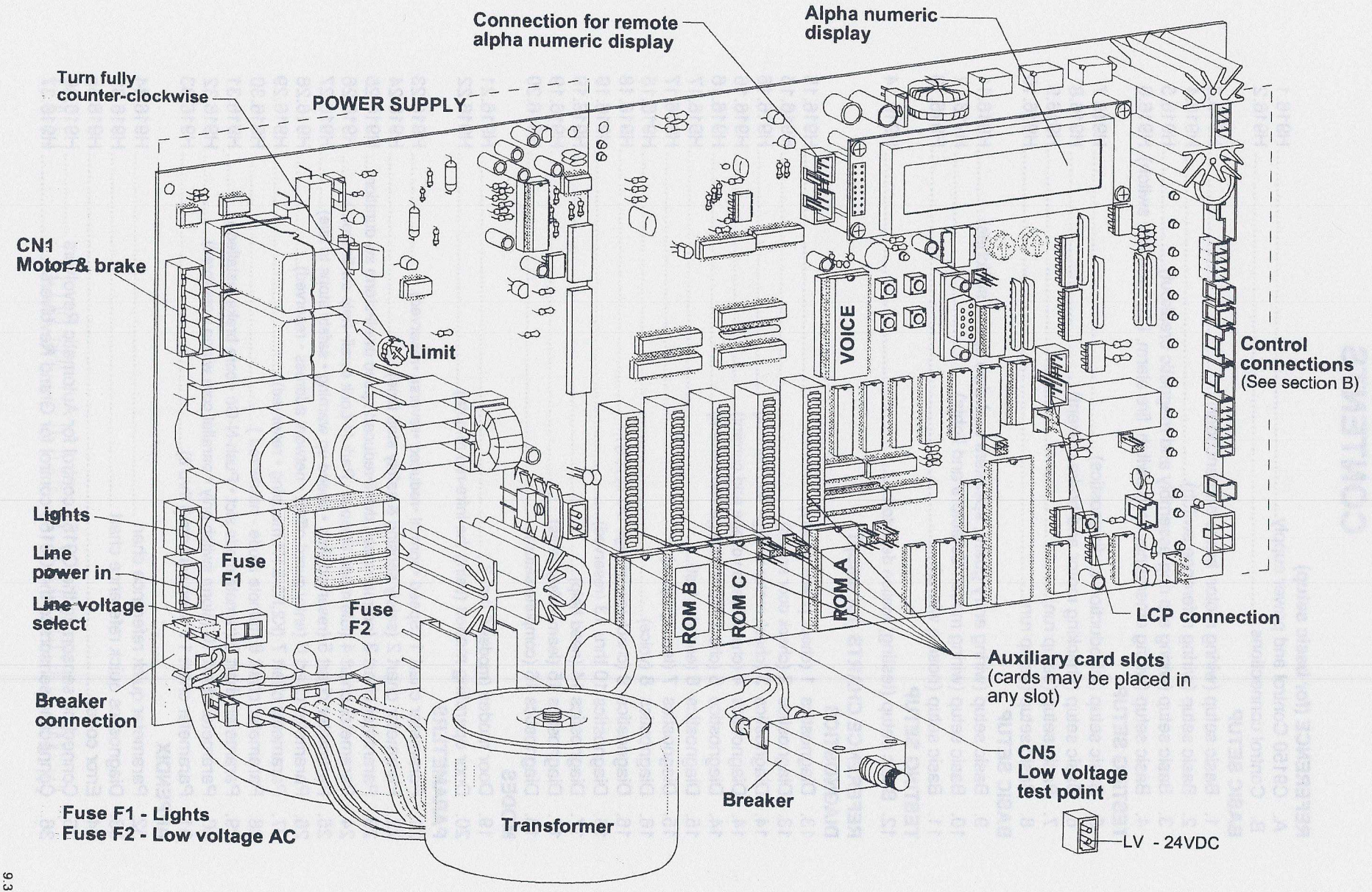
- •After installation, instruct the owner on the safe operation of the door.
- •Present the Owners Manual M900 (Automatic) and explain how to perform the daily safety check.
- •Location of power on / off switch.
- •Necessary warnings not covered in these general instructions.
- •Date equipment shipped from Horton Automatics.
- •Date equipment placed in service.
- •Horton Automatics' work order number for warranty reference.
- •Equipment type.
- •Accessories included.
- •Phone number of local distributor to call regarding problems or request for service.
- •**Give caution** to owner: If a potentially hazardous situation is suspected, the door should be taken out of automatic service until a professional inspection is made and the problem is corrected.

GENERAL REQUIREMENTS

- •Power:(Switchable on the control)120V or 240V, 50 / 60 Hz 15A service to each unit.
- •For remote switch locations, routing of low voltage class II wiring to the operator controls will be required.
- •Remote switch locations should be predetermined and wired before installation begins.

CONTENTS

A. C9150 CONTROL AND POWER SUPPLY



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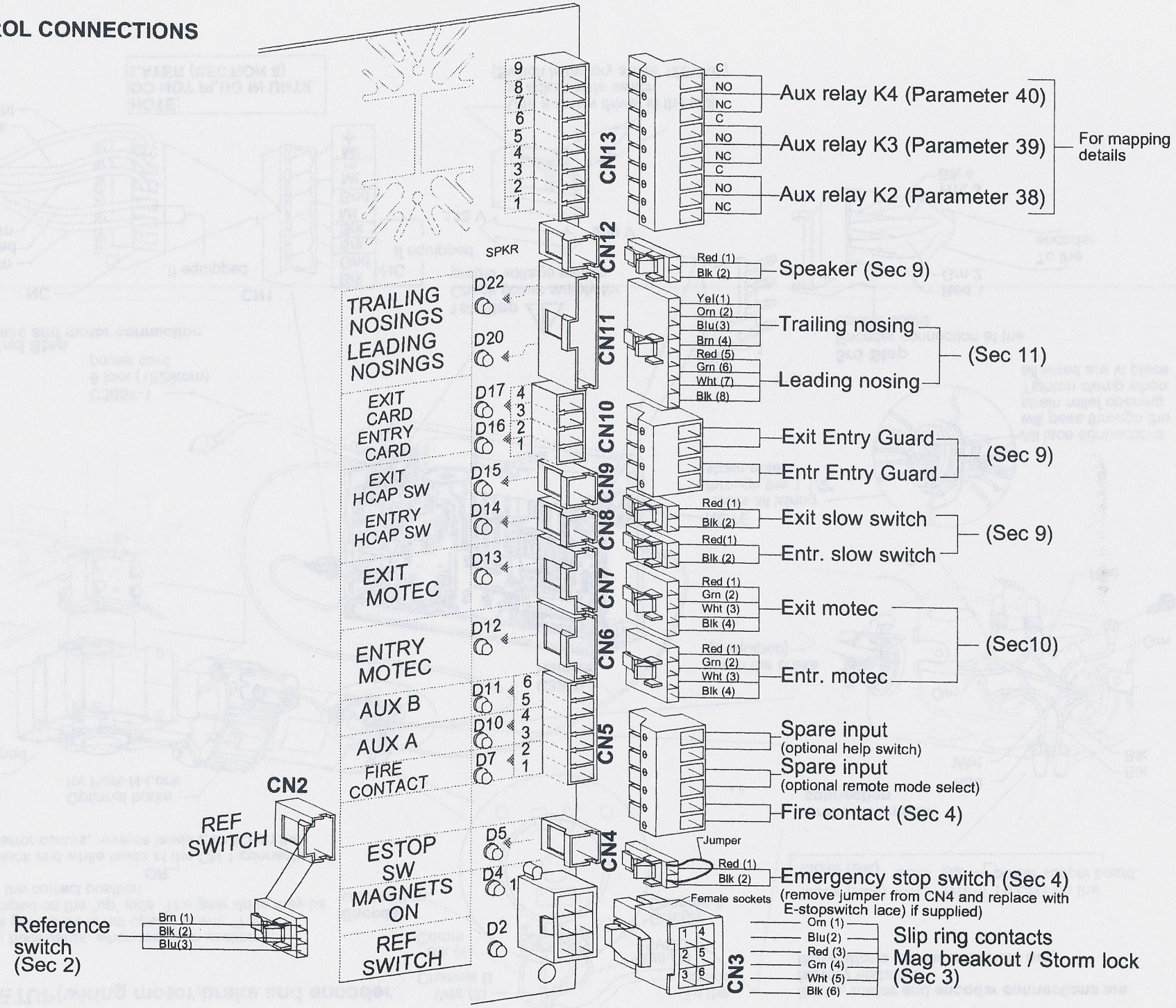
B. CONTROL CONNECTIONS



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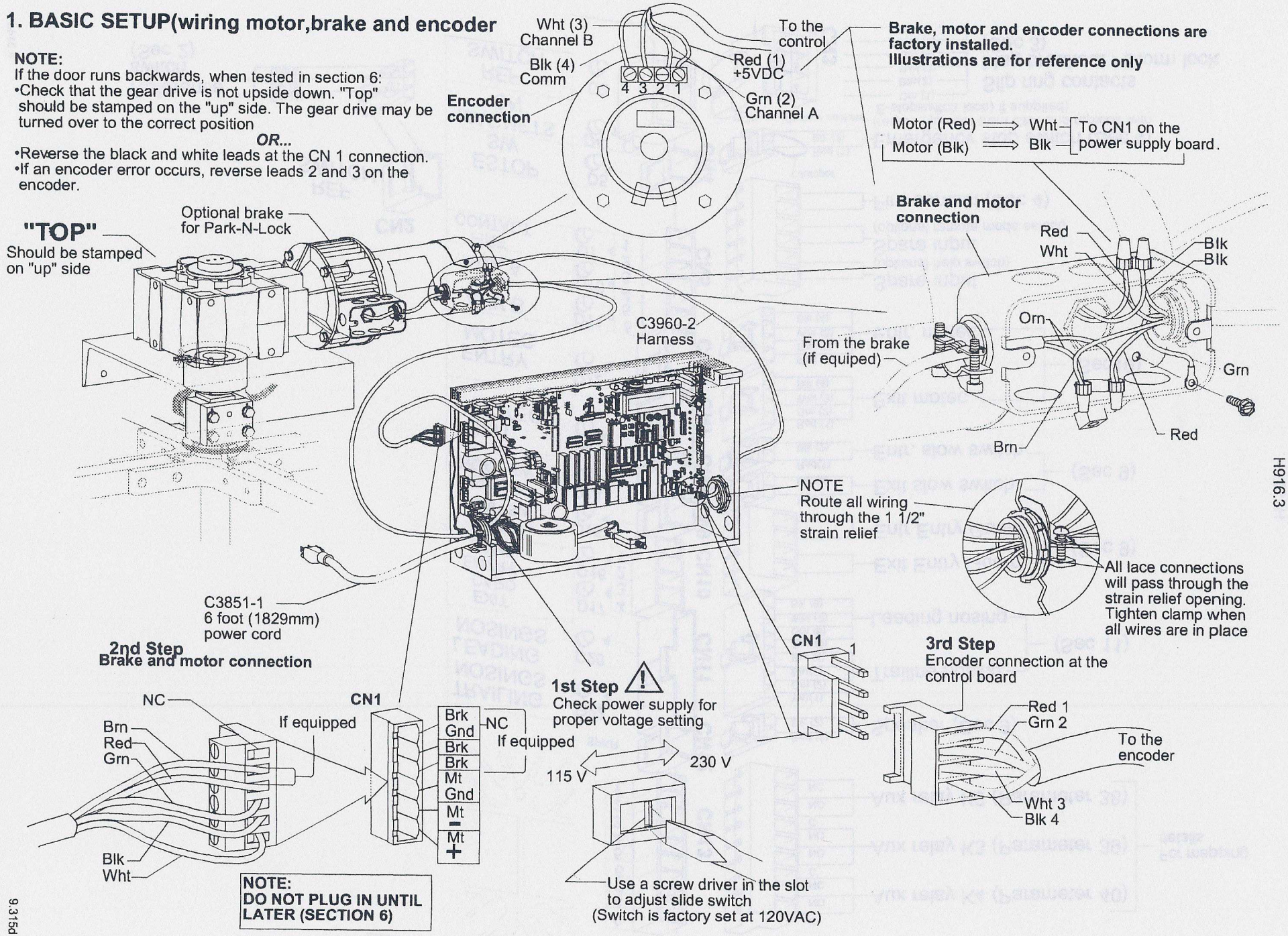
1. BASIC SETUP(wiring motor,brake and encoder

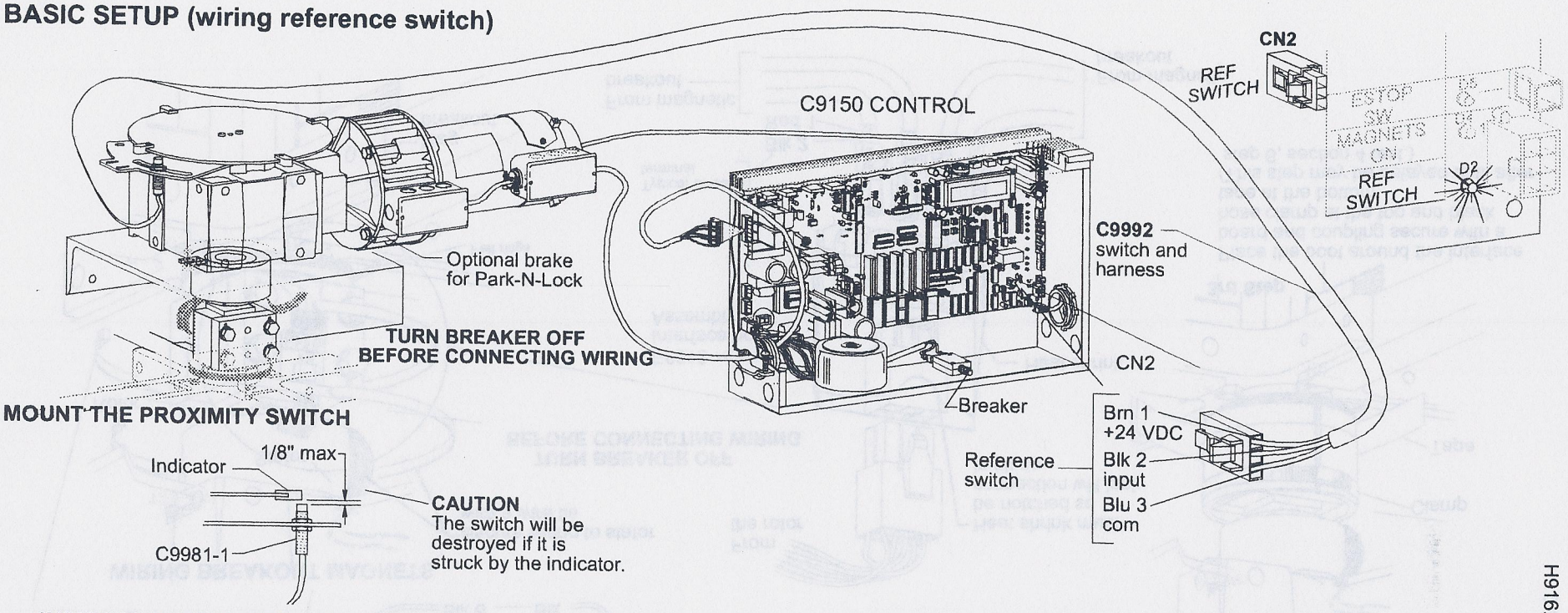
NOTE:
If the door runs backwards, when tested in section 6:
- Check that the gear drive is not upside down. "Top" should be stamped on the "up" side. The gear drive may be turned over to the correct position

OR...

- Reverse the black and white leads at the CN 1 connection.
- If an encoder error occurs, reverse leads 2 and 3 on the encoder.



2. BASIC SETUP (wiring reference switch)



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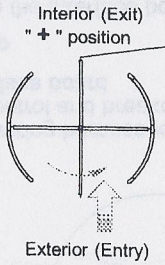
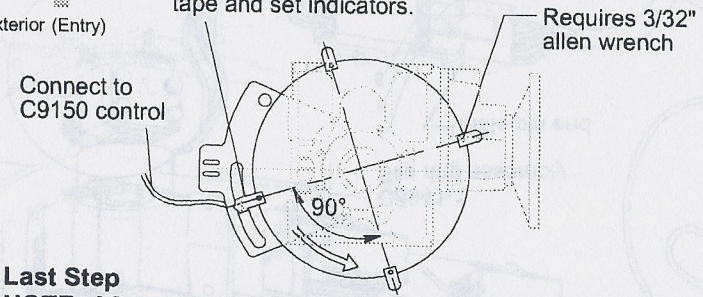
INDICATOR SETUP FOR 4-WING (Door will stop in "X " position)

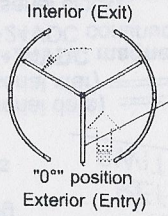


1st Step
Place the first door at the center line ("+"position). Mark that position on the ceiling with tape.

2nd Step
Place the first indicator in line with the switch as shown. Install switch in the mid position. Rotate each door to the tape and set indicators.

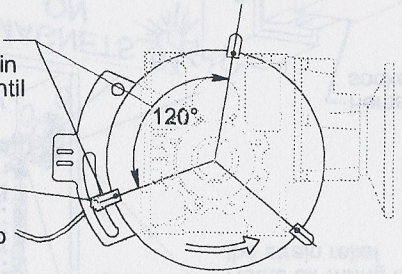


INDICATOR SETUP FOR 3-WING (Door will stop in "Y" position)



1st Step
Place door in "0°" position. Place indicator in line with the switch as shown. Use tape on the ceiling to mark the first wing position.

2nd Step
Rotate 120° (to the tape on the ceiling)and place next indicator in line with the switch - continue until all indicators are set.



Last Step

NOTE: After setup,SLOWLY rotate door and watch for proper alignment and no contact at all indicators.
Turn breaker on and watch for the LED, D2, (see above) to light at each quarter point position

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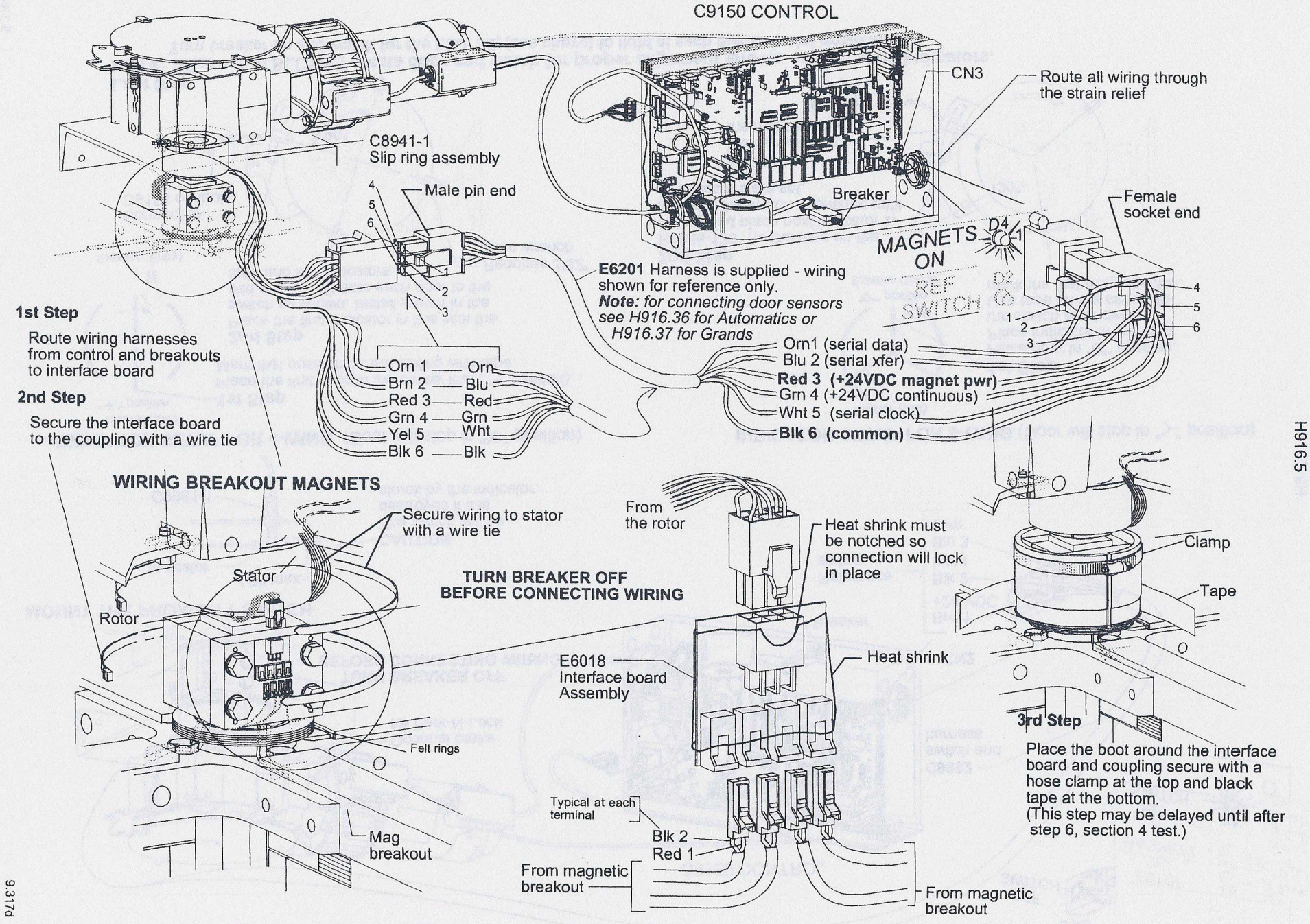
3. BASIC SETUP (wiring the slip ring assembly and magnetic breakout or storm lock)



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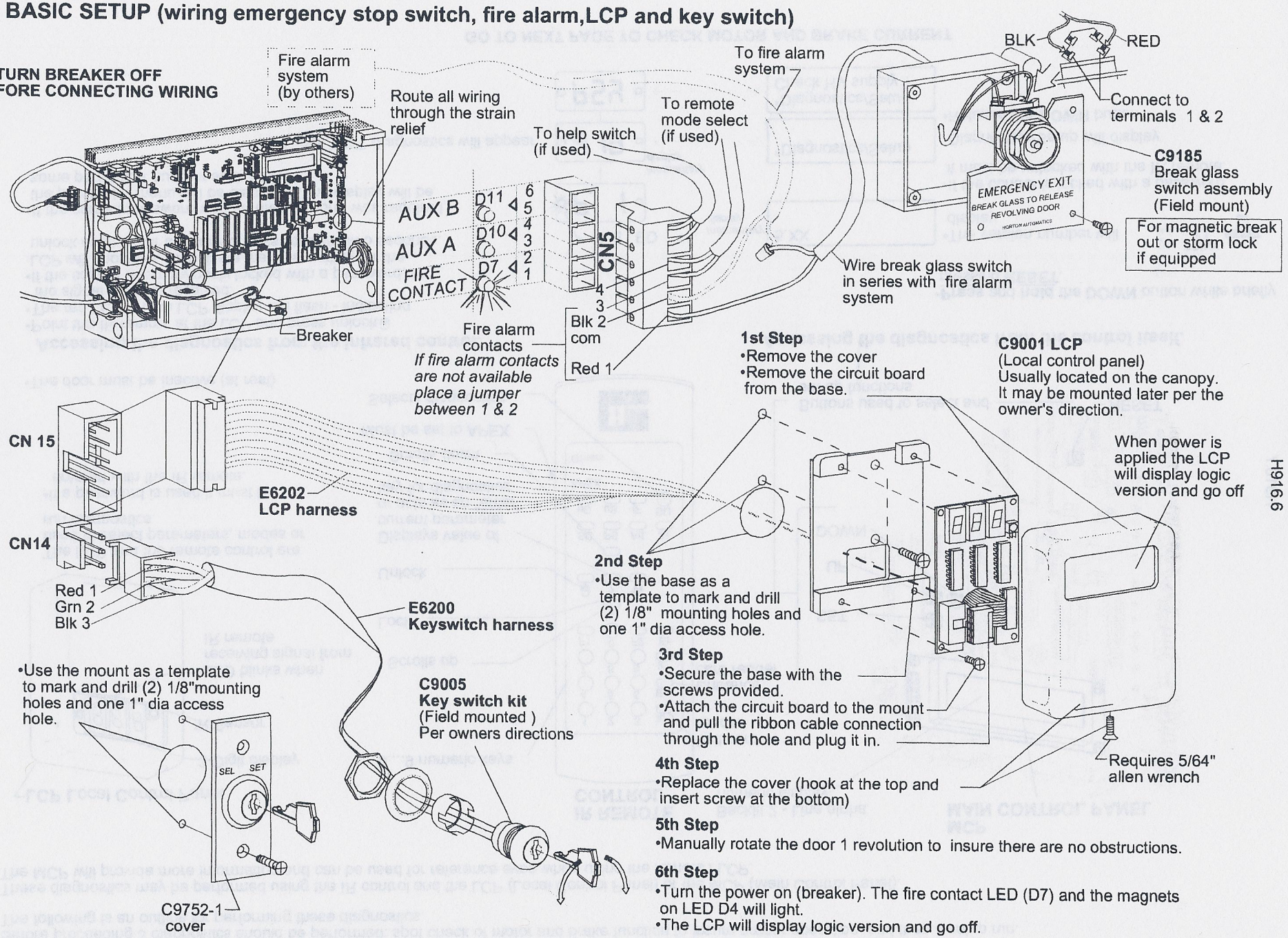
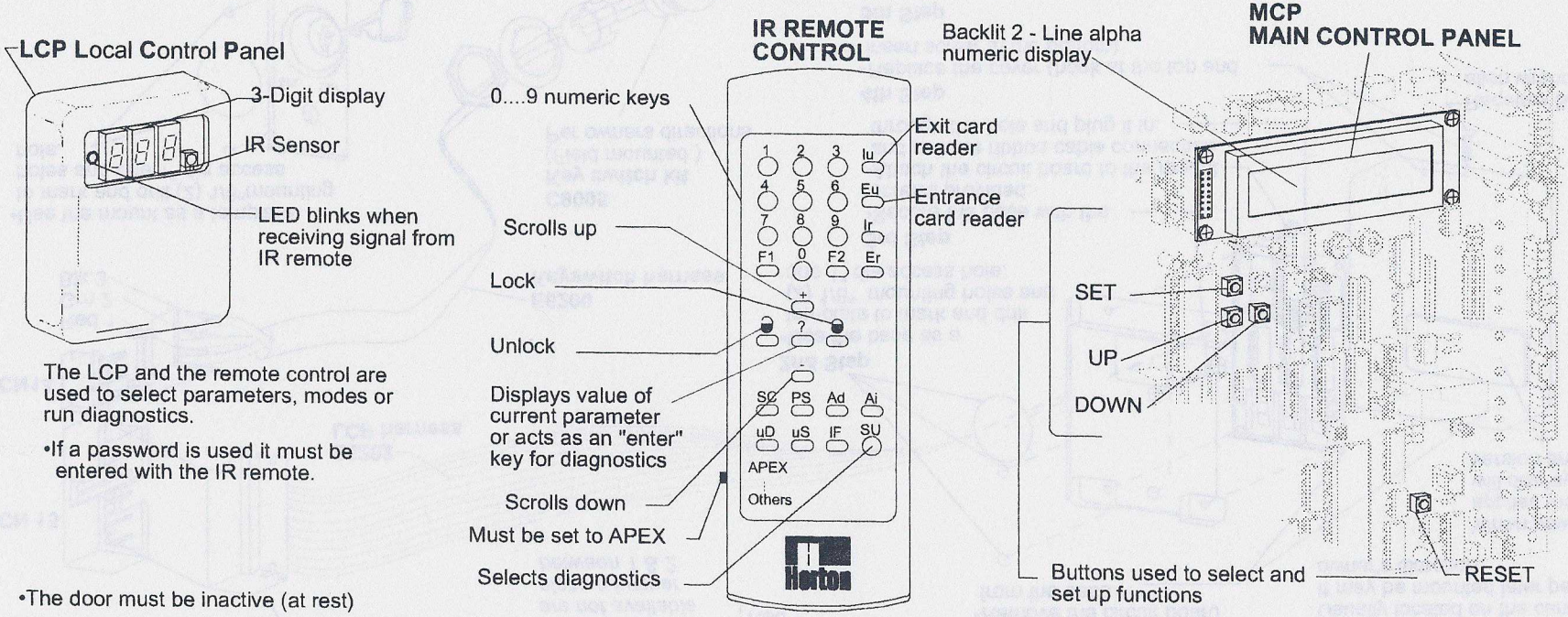
4. BASIC SETUP (wiring emergency stop switch, fire alarm,LCP and key switch)



5. BASIC SETUP (introduction to diagnostics)

Before proceeding 3 diagnostics should be performed: spot check of motor and brake function to insure proper operation, and then a setup run.
The following is an outline for performing these diagnostics.

These diagnostics may be performed using the IR control and the LCP (Local Control Panel) or the MCP (Main Control Panel).
The MCP will provide more information and can be used for reference even when using the remote / LCP.

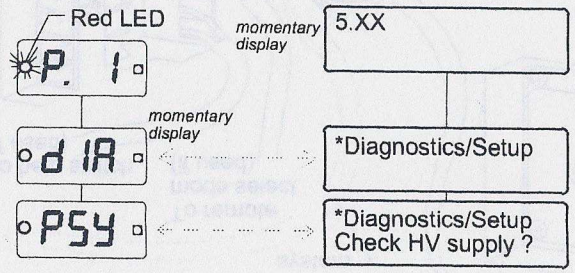


The LCP and the remote control are used to select parameters, modes or run diagnostics.

- If a password is used it must be entered with the IR remote.
- The door must be inactive (at rest)

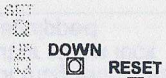
Accessing the diagnostics from the infrared control.

- Point the IR remote at the LCP and press unlock
- The red LED on the LCP display will flash - indicating the signal is being received.
- If the control was previously locked with a password,the LCP will show **UnL** to indicate that it is waiting for the unlock code.Enter the correct password within 5 seconds.
- If the correct password was entered or none was required, the parameter menu will be displayed.The display will be some parameter number such as **P. 1**
- Press **"SU" dia**gnostics will appear



Accessing the diagnostics from the control itself.

- **Press** and **hold** the **DOWN** button while briefly pressing **RESET**.
- The version number will display
- If the control is locked with a password it must be unlocked with the IR remote.
- Diagnostics/Setup will display
- Release the **DOWN** button



GO TO NEXT PAGE TO CHECK MOTOR AND BRAKE CURRENT

6. BASIC SETUP (checking motor and brake current)

PLUG IN CN1(motor and brake connection) as shown in basic setup 1.
If the door runs backwards see section 1.

Accessing the diagnostics from the infrared control. **Accessing the diagnostics from the control itself.**

CAUTION: DOOR WILL MOVE AT SPEED SET IN PARAMETER 1 (default 60 volts)

The order in which the diagnostics are arranged

1 PSY
2 SPd
3 drU
4 br 1
5 br2
6 EnC
7 inP
8 Uo 1
9 24u
10 ---
thru
13 ---
14 FSS
15 SSL
16 SEt

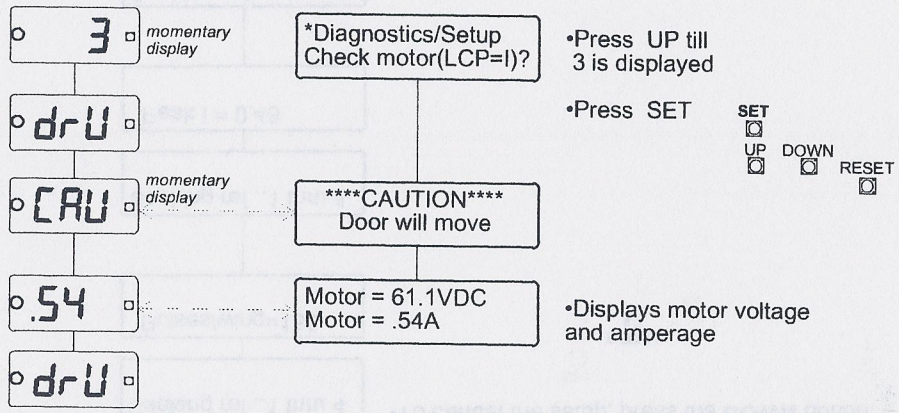
CHECK MOTOR CURRENT

3 —

- Press 3 or "+" up "-" down until 3 is displayed
- Press "?"
- Displays motor amperage
- Useful for detecting mechanical binds
- checking overall performance of the doors mechanics.

MOTOR CURRENT SHOULD BE .50A TO 1.0A.
Higher than normal current suggests a mechanical bind or "rarely" an electrical problem

- Press **SU** again to exit



CHECK BRAKE CURRENT (This test checks the brake (lock) mechanically and electrically)

(Used only for Park-N-Lock)

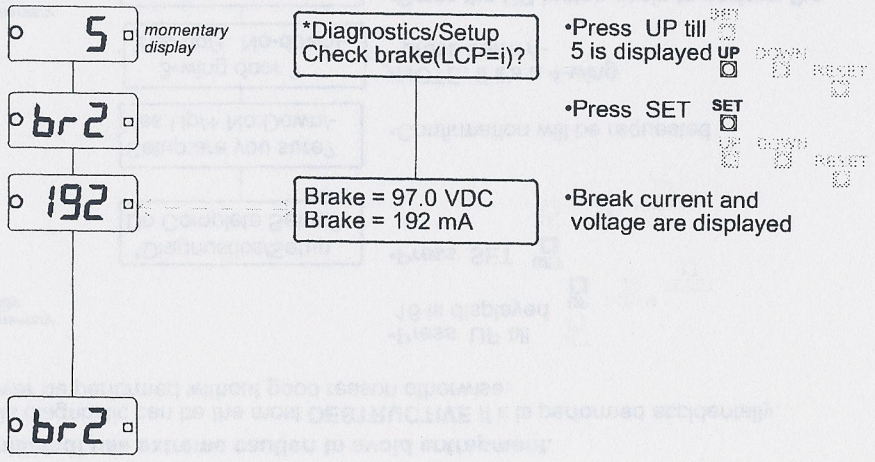
5 —

- Press 5 or "+" up "-" down until 5 is displayed
- Press "?"
- Brake current is displayed.

BRAKE CURRENT SHOULD BE 180ma TO 200ma.
Low brake current indicates an open connection. Check motor / brake connection at CN1 section 1 basic setup.

Push the door to make sure the brake is physically locked.

- Press **SU** again to exit



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7. BASIC SETUP (setup run)

Before installing any additional devices, a setup run should be performed. The setup run sets factory default settings to all parameters, zeros all counters and sets safety sensitivity settings.

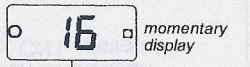
Accessing the diagnostics from the infrared control. **Accessing the diagnostics from the main control panel.**

COMPLETE SETUP

CAUTION: The door will move on its own when this routine is initiated! use extreme caution to avoid entrapment.

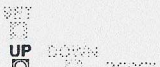
This diagnostic allows a complete control setup to be performed. This diagnostic can be the most **DESTRUCTIVE** if it is performed accidentally. It should always be performed when initially installing a door and **never** be performed without good reason otherwise.

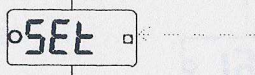
- Press 16 or "+" up "-" down Untill 16 is displayed
- Press "?"



momentary display

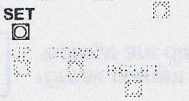
- Press UP till 16 is displayed



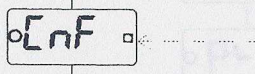


*Diagnostics/Setup
Do Complete Setup?

- Press SET



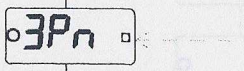
- ConFirmation will be requested.
- To **cancel** the setup, press the "-" key.



Setup:are you sure?
Yes:Up/+ No:Down/-

- Confirmation will be requested

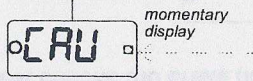
- If door is a 3 wing press +
- If door is a 4 wing press -



3-wing door ?
Yes-up/+ No-down/-

- NOTE: If it's a 4-wing press down / -

- Press the "+" key again to perform the diagnostic.



momentary display

****CAUTION****
Door will move

- Press the **UP** button again to perform the diagnostic.

16

Seeking ref ..1 thru 4

- To **cancel** the setup, press the **DOWN** button.

PULSES PER QUADRANT

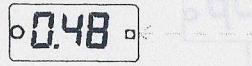
- The door rotates through 3 or 4 quarterpoints and counts the total encoder pulses to determine how many pulses are present in each quadrant.

Pulses/wing=155

Seeking ref ..1 thru 4

NORMAL SPEED CURRENT

- The door rotates through f3 or 4 quarterpoints at normal speed to determine the maximum current



Peak I = 0.48

Seeking ref ..1 thru 4

REDUCED SPEED CURRENT

- The door rotates through 3 or 4 quarterpoints at reduced speed to determine the maximum current

Peak I = 0.48

GO TO THE NEXT PAGE

8. BASIC SETUP (setup run)

Accessing the diagnostics from the infrared control.

Accessing the diagnostics from the main control panel.

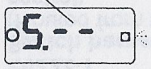
COMPLETE SETUP (CON'T)

16 CON'T

STARTUP CURRENT
•The door rotates through one quadrant

•After the door stops rotating, press the lock key

Version number is displayed



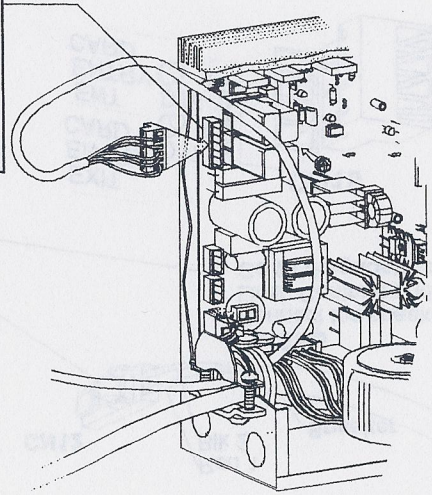
Peak I = 0.98

Mode 1 ready
Full Auto

•After the door stops rotating press the **RESET** button.

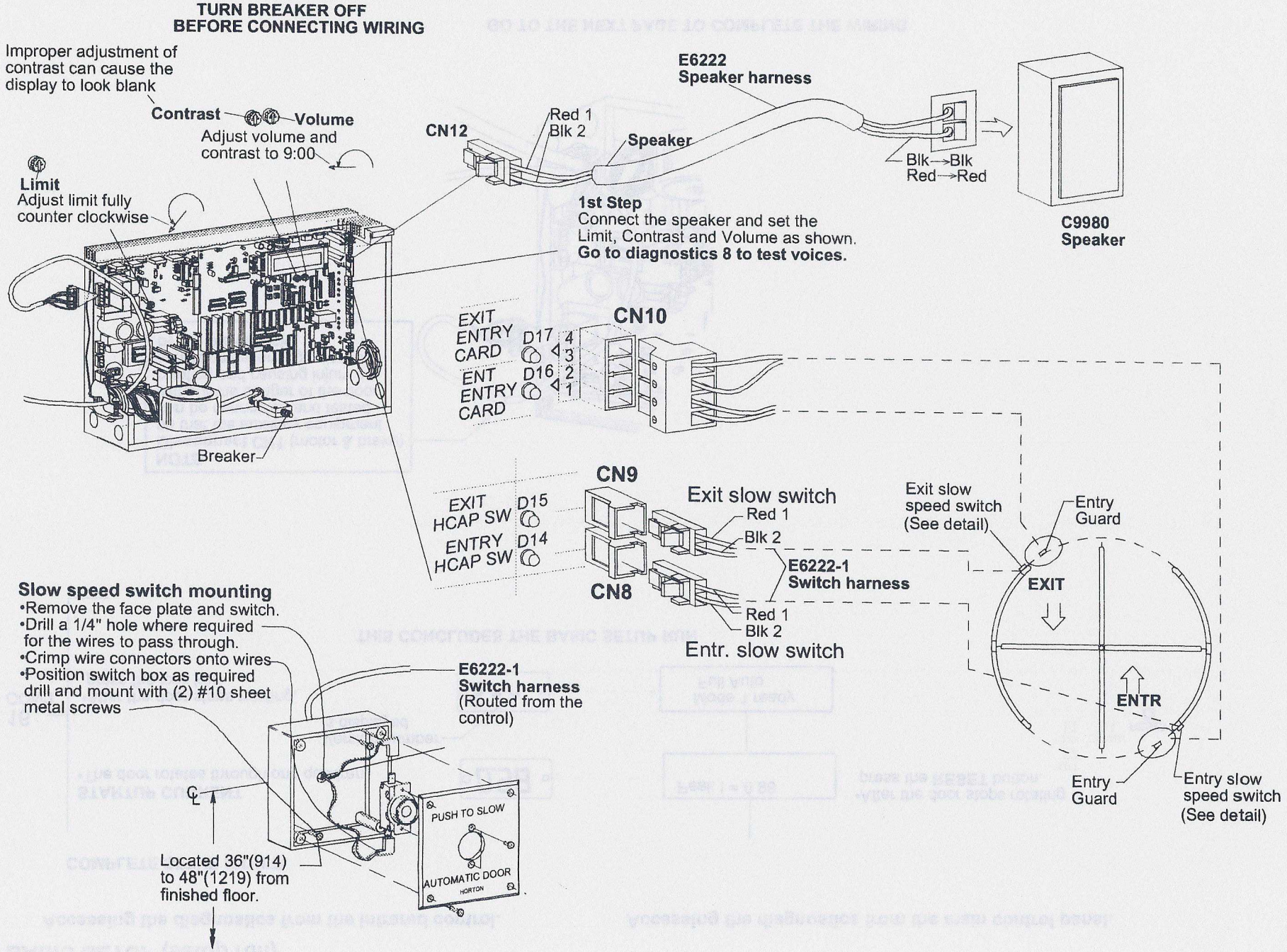
THIS CONCLUDES THE BASIC SETUP RUN

NOTE:
Disconnect CN1 (motor & brake) so that the auxillary equipment can be connected and tested without the danger of the door rotating and causing injury or someone becoming entrapped by the brake (lock).



GO TO THE NEXT PAGE TO COMPLETE THE WIRING

9. BASIC SETUP (wiring Entry Guard™, speakers and slow switches)



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10. BASIC SETUP (wiring motion detectors and lights)

TURN BREAKER OFF BEFORE CONNECTING WIRING

Route all wiring through the strain relief

C9150 control

Breaker

TEST THE MOTECS
Turn on the power.
Have someone pass through each of the detection zones.
D12 will light for the entry and
D13 will light for the exit

EXIT MOTEC D13

ENTRY MOTEC D12

CN7

CN6

Red (1)
Grn (2)
Wht (3)
Blk (4)

ADJUST THE MOTEC
with the remote as per EAGLE instructions.
NOTE: Place remote in "others" position to adjust the motec (see Sect. 5).
Move the switch back for control adjustments.

E6224
Motec harness

Grn
Wht
Red
Blk
5
1
N.C.
N.O.
Comm
12-24 VDC

CN4

Line (Blk)
Neut (Wht)
Gnd (Grn)

If lights are not to be controlled through the C9150, connect plug to external power supply.

OR

- Remove the plug
- Install the connector and plug into the power supply on the control

EXIT
Exit Motec
Light
Light
ENTR
Entry Motec

CONTROLLING LIGHTS FROM THE KEYSWITCH
(Turn the power on)

R
SEL
SET

Move the keyswitch to the right and **HOLD** to turn lights on. Return to center position.

L.on

R
SEL
SET

Move the keyswitch to the right again and **HOLD** to turn lights off. Return to center position.

L.oF

C9583
4-plex with cord and plug
Locate 4 plex plug in the canopy and plug lights into it.

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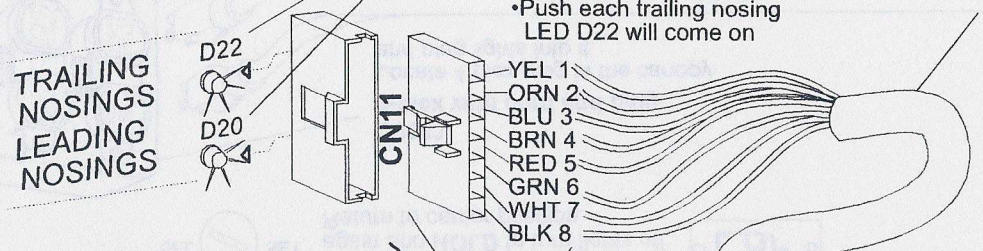
11. BASIC SETUP (nosing wiring)

TURN BREAKER OFF BEFORE CONNECTING WIRING

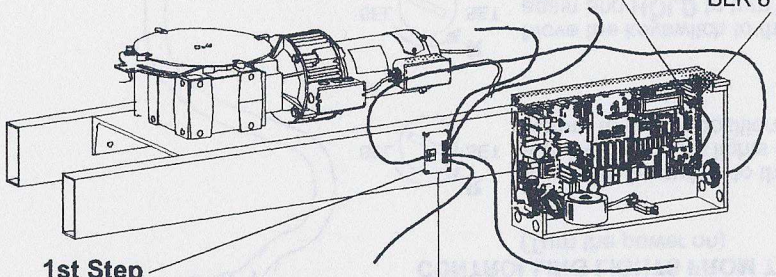
5thStep
TEST THE NOSINGS
- Turn the power on.
- Push each leading nosing LED D20 will come on.
- Push each trailing nosing LED D22 will come on



E6238 Nosing harness is supplied with the control accessories. Wiring color code is shown for reference only.

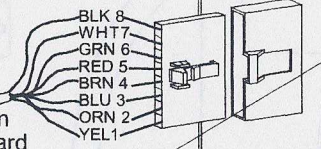
E6024 Nosing interface board is supplied with the control accessories.

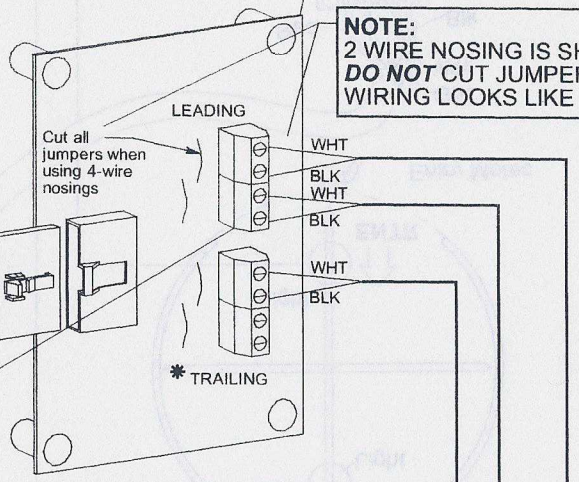
NOTE:
2 WIRE NOSING IS SHOWN
DO NOT CUT JUMPERS IF WIRING LOOKS LIKE THIS



1st Step
Interface board is supplied with the control accessories. Mount to the gear drive support tubes with #6 SMS (drill 3/32" pilot hole)

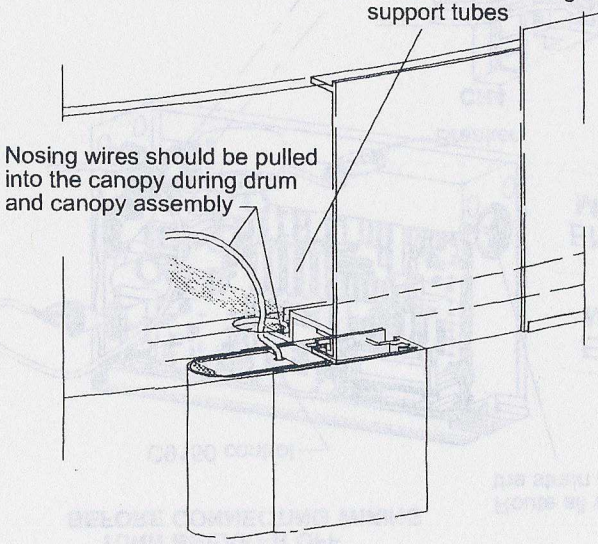
4thStep
Connect harness from CN11 to interface board



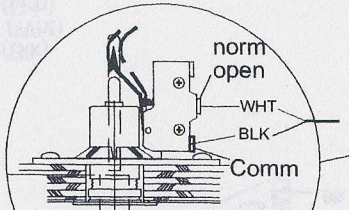


3rd Step
Make connections at nosing interface board.

2nd Step
Route safety edge wiring to control nosing interface board mounted on geartrain support tubes

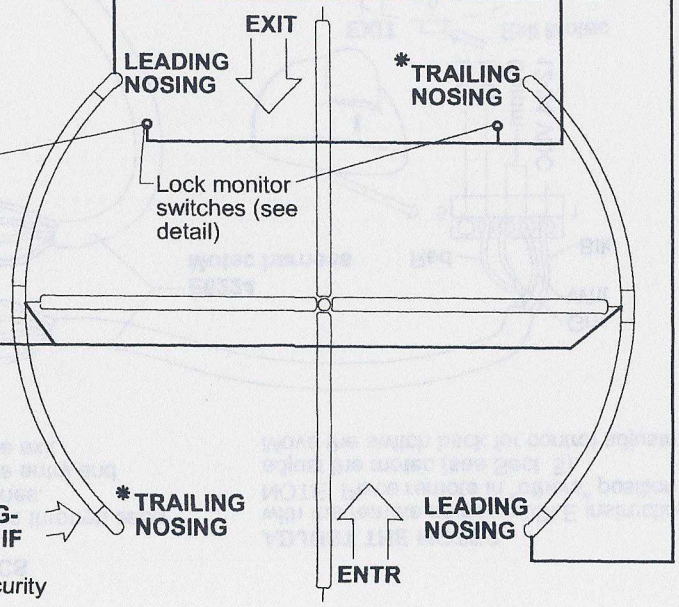


Nosing wires should be pulled into the canopy during drum and canopy assembly



LOCK MONITOR SWITCH (optional) **ONLY ON GRANDS**

HELP SWITCHES (optional) To CN5 see Sect 4



***NOTE:**
DO NOT CONNECT TRAILING NOSING-ONLY THE LOCK MONITOR SWITCH, IF EQUIPED.
(Trailing nosing is only connected on security doors.)

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12. BASIC SETUP (testing)

The following tests are designed to check all inputs and outputs. The tests are conducted in mode 1.

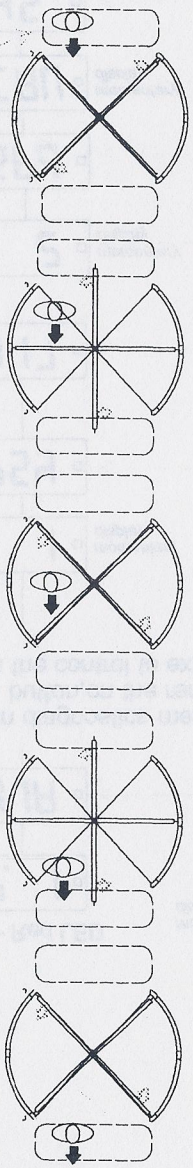
Plug in CN1 (motor and brake) and turn the **breaker on**.

MOTION DETECTOR ACTIVATION (mode 1)

(If MCP does not read mode 1 ready...
see SEC.19)

Move into the detection zone - the door will start to rotate

MCP
Mode 1 ready...
Full Auto



Run: normal speed
Passed Quaterpoint

This cycle will continue as long as the motec zone is activated.

Run: normal speed
Passed Reference

After activation, the will door rotate for 5 sec. (default) see parameter 23

Run: Qtr pnt Speed
Parking...

After the zones are clear the unit returns to inactive status

Mode 1 ready...
Full Auto

9.326d

H916.14

13. DIAGNOSTICS CHART 1

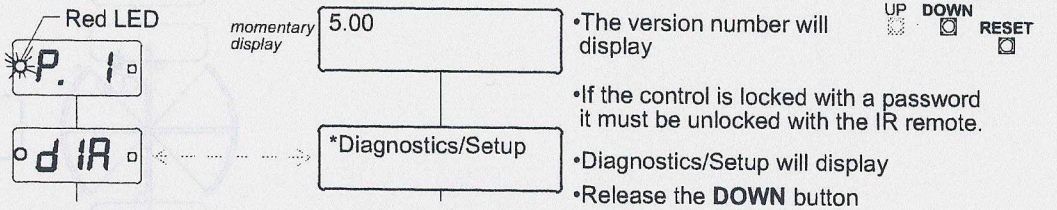
SEE SECTION 5 FOR INTRODUCTION TO CONTROL SETUP

Accessing the diagnostics from the infrared control.

- *The door must be inactive (in standby condition)*
- Point the IR remote at the LCP and press unlock
- The red LED on the LCP display will flash - indicating the signal is being received.
- If the control was previously locked with a password,the LCP will show **UnL** to indicate that it is waiting for the unlock code.Enter the correct password within 5 seconds.
- If the correct password was entered or none was required, the parameter menu will be displayed.The display will be some parameter number such as **P. 1**

Accessing the diagnostics from the control itself.

- Press and hold the **DOWN** button while briefly pressing **RESET**.
- The version number will display
- If the control is locked with a password it must be unlocked with the IR remote.
- Diagnostics/Setup will display
- Release the **DOWN** button



- Press **"SU" dia**gnostics will appear

To return to the main diagnostics menu, press the **"SU"** button on the remote . Press the **LOCK** button,on the remote, or hold the **DOWN** button and briefly push the **RESET** on the control to exit all diagnostics and restore normal door operation.

The order in which the diagnostics are arranged

1	PSY
2	SPd
3	drU
4	br 1
5	br2
6	EnC
7	InP
8	Uo 1
9	24u
10 thru 13	---
14	FSS
15	SSL
16	SEt

1 CHECK POWER SUPPLY

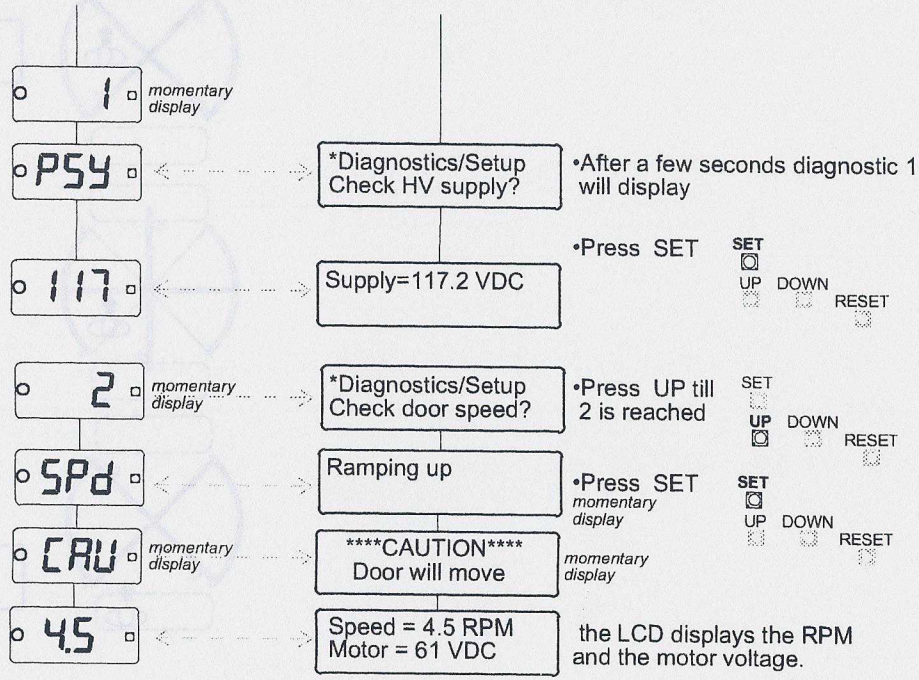
- After a few seconds diagnostic 1 will display *or...*
- Press **1** or "+" up "-" down
- Press "?"
- Displays DC voltage output of the power supply to operate the motor and the core brake. Voltage will fluctuate with changes in the incoming voltage.A typical value is 111 to 114 VDC

2 CHECK DOOR SPEED

- Press **2** or "+" up "-" down
- Press "?"
- Ramps the motor up to normal speed and displays it in RPM.
- Using the + and - keys on the IR remote the motor voltage may be changed in small steps (temporarliy) to determine the motor voltage required for a desired speed. The actual voltage is changed in parameters 1 and 2.

To choose this speed for Normal --- Press 1
Reduced - Press 2
Quarter point ------ Press 3

If the door speed is changed, re-do diagnostic 15 (Reset safety sensitivity levels)



- After a few seconds diagnostic 1 will display
- Press SET
- Press UP till 2 is reached
- Press SET

H916.15

9.327d

14. DIAGNOSTICS CHART 2

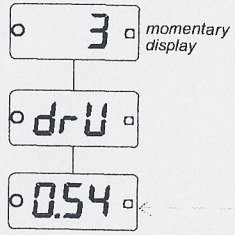
Accessing the diagnostics from the infrared control.

Accessing the diagnostics from the control itself.

CHECK MOTOR VOLTAGE AND CURRENT

3

- •Press 3 or "+" up "-" down
- •Press "?"
- •Displays motor amperage
- •Useful for hunting mechanical binds
- •checking overall performance of the doors mechanics.



*Diagnostics/Setup
Check motor(LCP=I)?

Motor = 61.1VDC
Motor = 0.54A

- •Press UP till 3 is reached
- •Press SET

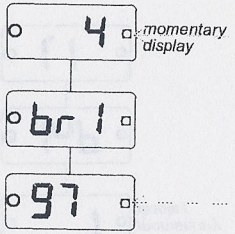
SET
UP DOWN RESET

- •Displays motor voltage and amperage

CHECK BRAKE VOLTAGE (If present)
(LCP displays voltage)

4

- •Press 4 or "+" up "-" down
- •Press "?"
- •Engages the core brake and displays the voltage.
- •Voltage will fluctuate with line voltage changes.
- •A value of 90 to 105VDC is typical.
- •Verify that the brake engages mechanically and properly locks the door.
- •Checks the brake control subsections of the control.



*Diagnostics/Setup
Check brake(LCP=V)?

Brake = 97.0 VDC
Brake = 192 mA

Press UP till 4 is reached

Press SET

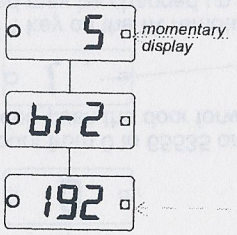
SET
UP DOWN RESET

- •Displays brake voltage and amperage

CHECK BRAKE VOLTAGE (If present)
(LCP displays current)

5

- •Press 5 or "+" up "-" down
- •Press "?"
- •Brake current is displayed. Current is typically in the 200ma range



*Diagnostics/Setup
Check brake(LCP=i)?

Brake = 97.0 VDC
Brake = 192 mA

- •Press UP till 5 is reached

SET
UP DOWN RESET

- •Press SET

SET
UP DOWN RESET

- •Brake current and voltage are displayed

H916.16

9.328d

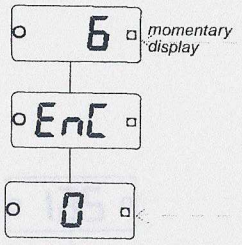
15. DIAGNOSTICS CHART 3

Accessing the diagnostics from the infrared control.

ENCODER TEST

6

- Press 6 or "+" up "-" down
- Press "?"
- Encoder count is displayed up to 999. If the count exceeds 999 the LCP displays ---
- The encoder count should increase smoothly as the door is **pushed.**

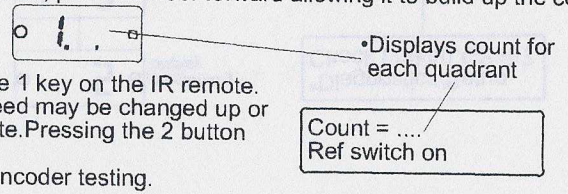


MANUAL ENCODER TEST

- If the door is pushed backwards the encoder will count from 0 to 65535 on the LCD and to "---" on the control.
- To manually test the reverse operation of the encoder, push the door forward allowing it to build up the count, then reverse the door to test the reverse operation of the encoder.

POWER ENCODER TEST

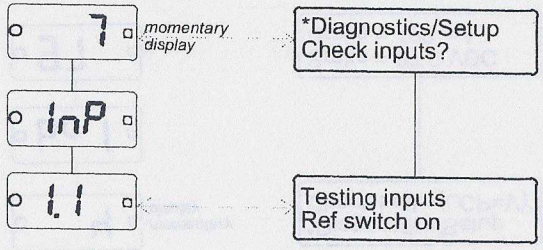
- The encoder may also be checked by pressing the 1 key on the IR remote. The door will run forward at a slow speed -the speed may be changed up or down by using the + and - buttons on the IR remote.Pressing the 2 button will run the door in reverse.
Press zero on the IR remote to return to manual encoder testing.



TESTING INPUTS

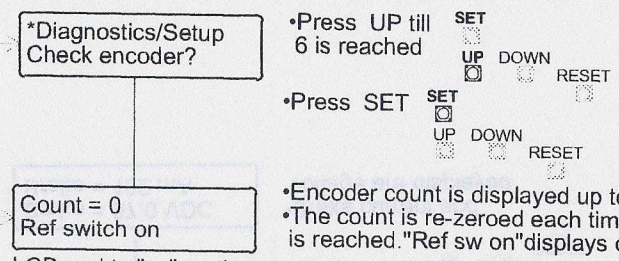
7

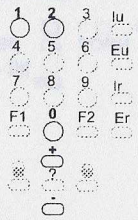
- Press 7 or "+" up "-" down
- Press "?"
- All the codes of all active inputs are displayed as they are polled.
- The input codes presented are as follows:

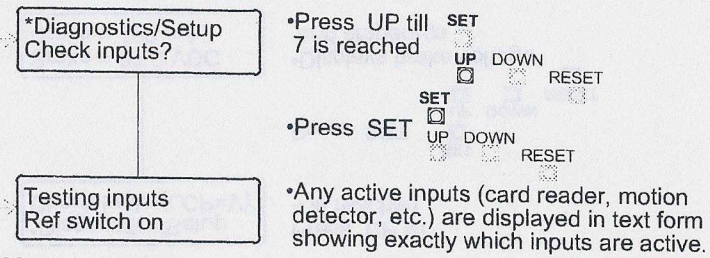


LCP	LCD
i.1	Reference switch on
i.2	Lock monitor switch on
i.3	Leading safety nosings on
i.4	Card contact on (Reserved)
i.5	Card contact on (Reserved)
i.6	Exit slow switch on
i.7	Entrance slow switch on
i.8	Exit motion detector on
i.9	Entrance motion detector on
i.10	Keyswitch SET on
i.11	Keyswitch SEL on
i.12	PY-3 reserve on
i.13	AUX B/ Help switch on
i.14	AUX A/ mode sel on
i.15	Fire contact on
i.16	Emergency stop contact on
i.17	PZ-7 reserved on
i.18	DIP1 on
i.19	DIP2 on
i.20	DIP3 on

Accessing the diagnostics from the control itself.







LCP	LCD
i.21	DIP4 on
i.22	UP pressed
i.23	DOWN pressed
i.24	SET pressed
i.25	E6010 AUX 4 on
i.26	E6010 AUX 3 on
i.27	E6010 AUX 2 on
i.28	E6010 AUX 1 on
i.29	Trailing exit mat on
i.30	Leading exit mat on
i.31	Trailing ent mat on
i.32	Leading ent mat on
i.33	E6008 Input 8 on
i.34	E6008 Input 7 on
i.35	E6008 Input 6 on
i.36	E6008 Input 5 on
i.37	Exit late entry on
i.38	Entry late entry on
i.39	Single wire slow on
i.40	Single wire stop on

NOTE: These codes may appear if card is NOT installed in the system. In this case the codes are meaningless.

H916.17

9.329d

16. DIAGNOSTICS CHART 4

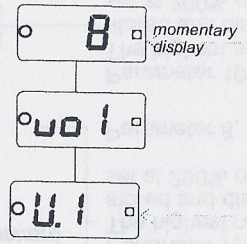
Accessing the diagnostics from the infrared control.

Accessing the diagnostics from the control itself.

VOICE

8

- •Press 8 or "+" up "-" down
- •Press "?"
- •Displays V.1, V.2, V.3 & V.4
  Use the "+" and "-" keys to select any of the voices stored in the control's speech memory.
  Use the "?" key to play the selection.
- •Voices may be played from the IR control but not recorded
- •To record a new message:
- •Select the message to be replaced
- •Hold the SET button until REC appears.Hold the REC botton and speak directly into the microphone. The total length of each message cannot exceed 5 seconds.
- •**CAUTION:** Pressing the REC button will completely erase the previous message.
- •The REC button is disabled at all times except when this setup routine is run.
- •The factory default messages are:
- •Voice 1 "Caution door speed will increase"
- •Voice 2 "Please step forward"
- •Voice 3 "Please exit - door will lock" (For Park-N-Lock)
- •Voice 4 Door in slow speed - Do not push



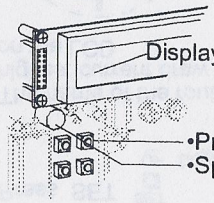
*Diagnostics/Setup
Play/Setup Voices?

Message 1?
Up/Down/Set

Message 1?
Up/Down/Set/Rec

Rec is displayed

- •Press UP till 6 is reached (SET, UP, DOWN, RESET)
- •Press SET (SET, UP, DOWN, RESET)
- •The message number will be displayed. Use the UP and DOWN keys to select a voice message. (UP, DOWN)
- •Use the SET key to play that message. (SET)

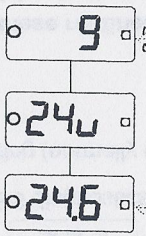


- •Press and hold the REC key
- •Speak directly into the microphone

CHECK LOW VOLTAGE DC SUPPLY

9

- •Press 9 or "+" up "-" down
- •Press "?"
- •Low voltage power supply value is displayed.
  A typical value is 24 to 25 volts.



*Diagnostics/Setup
Check 24 V supply

24 V supply = 24.6V

- •Press UP till 9 is reached (SET, UP, DOWN, RESET)
- •Press SET (SET, UP, DOWN, RESET)
- •Actual voltage is displayed

RESERVED

10
11
12
13

- •10 thru 13 are reserved diagnostics
- •Press 10 thru 13 or "+" up "-" down
  The number of each will display on the LCP

*Diagnostics/Setup
Reserved diagnostic10

- •Press UP till 10 is reached (SET, UP, DOWN, RESET)

H915.18

9.330d

17. DIAGNOSTICS CHART 5

Accessing the diagnostics from the infrared control. **Accessing the diagnostics from the control itself.**

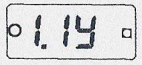
FINDING SAFETY SENSORS

When this diagnostic is requested, the control looks for wing sensors connected to the serial data port via the slip ring assembly.

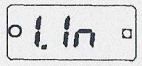
14

- •Press 14 or "+" up "-" down
- A list is generated showing if the sensor is present or not.
- •Use "+" up "-" down to view the entire list
- •When all sensors that are installed are properly shown on the display press ?

OR



OR



momentary display

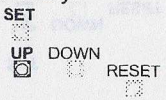
*Diagnostics/Setup
Finding safety sensors

Wing 1 sensor 1
Sensor presents

Wing 1 sensor 1
Sensor not presents

"Sensor list saved"

- •Press UP till 14 is reached



- •Use the UP / DOWN keys to view the entire list
- •Press set to save the list

From this point on, any sensors that were found FSS diagnostics will be acted on by the control and will either stop or slow the door depending on the setting s of Parameter 93 thru 99.
All sensors should be connected using fail-safe wiring (normally closed contacts, open contact = sensor active).

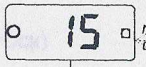
LEARN SAFETY LIMITS

CAUTION: The door will move on its own when these routines (diagnostic 15 &16) is initiated! Use extreme caution to avoid entrapment.

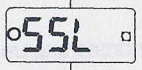
The C9150 control can measure the current draw of the door's motor and automatically set the "safety sensitivity" settings to the suggested values for the installation. These parameters are automatically set when a complete control setup is performed. An adjustment in motor speed will require changing these settings. Insted of hand adjusting them,this routine will force the control to update the settings. Adjust the safety limits to individual requirements.

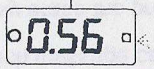
15

- •Press 15 or "+" up "-" down
- •Press "?"
- •This diagnostic will run 4 routines and store the highest current draw of each one.
- •The highest current value for each routine is displayed on the LCP



momentary display

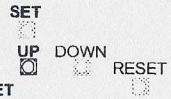




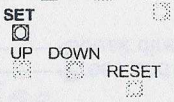
*Diagnostics/Setup
Learn Safety Limits?

Seeking ref = 4

- •Press UP till 15 is reached



- •Press SET

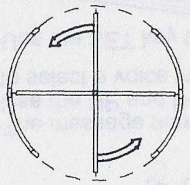


- •The name of the routine and the highest current draw will be displayed on the LCD

- •The door will proceed through 4 quarterpoints at:
  - Normal speed forward then Reduced speed forward

  Parameter 6 **S**afety **S**ens - Fwd
  and
  Parameter 7, **S**afety **S**ens - Reduced
  The highest running current will be stored and display and the parameter set at 200% of this value.

  Parameter 8, **S**afety **S**ens - QtPt



Forward at normal speed then reduced speed

- •The door will proceed forward to the:
  - Next quarterpoint

  Parameter 10 **S**afety **S**ens - Startup
  The highest startup current will be stored and displayed and the parameter set at 200% of this value.

- •The display will return to the main diagnostic menu.

If the door speed is changed, re-do diagnostic 15 (reset safety sensitivity levels)

NOTE:
Factory defaults are set for testing and may not be suitable for individual conditions.
See parameters 6 thru 10 for manual setup of safety sensitivity

H916.19

9.331d

18. DIAGNOSTICS CHART 6

Accessing the diagnostics from the infrared control. **Accessing the diagnostics from the main control panel.**

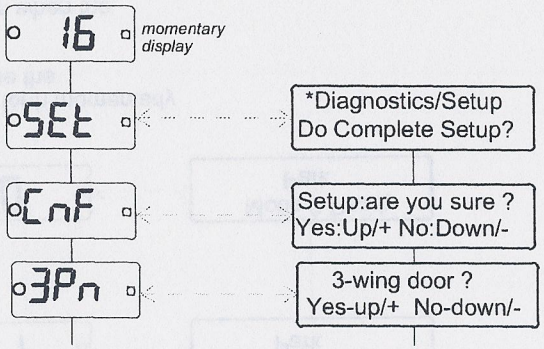
COMPLETE SETUP

CAUTION: The door will move on its own when this routine is initiated! use extreme caution to avoid entrapment.

This diagnostics allows a complete control setup to be performed. This diagnostic can be the most **DESTRUCTIVE** if it is performed accidentally.
All parameters will be set to factory default.
This diagnostic should always be performed when initially installing a door and **never** be performed without good reason otherwise.

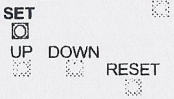
•Press 16 or "+" up "-" down

•Press "?"



•Press UP till 16 is reached

•Press SET



•ConFirmation will be requested.
•To **CANCEL** the setup, press the "-" key.
•Press the "+" key again to perform the diagnostic.
•If door is a 3 wing press +
•If door is a 4 wing press -

•Confirmation will be requested
•Press the **UP** button again to perform the diagnostic.

•To **NOT** do the setup, press the **DOWN** button.

16 •Press the "+" key again to perform the diagnostic.

Also see page H916.9

The setup restores factory default settings to all parameters.

•It rotates the door through 3 or 4 quarterpoints and counts the total encoder pulses to determine how many pulses are present in each door quadrant.

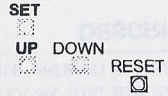
•Finally, the door is rotated through additional quadrants to automatically set safety limits (see diagnostic 15).

NOTE:
Factory defaults are set for testing and may not be suitable for individual conditions. Some parameters may require manual adjustment.

Once all the above is complete, the display is returned to the main diagnostic menu.

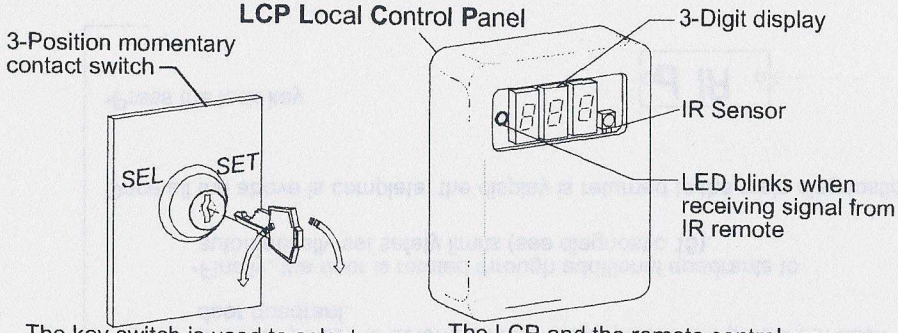
•Press the lock key

•Press the **RESET** button.



19. DOOR OPERATING MODES

KEY SWITCH MODE SELECTION



The key switch is used to select and change the mode.

The LCP and the remote control are used to select parameters or run diagnostics.

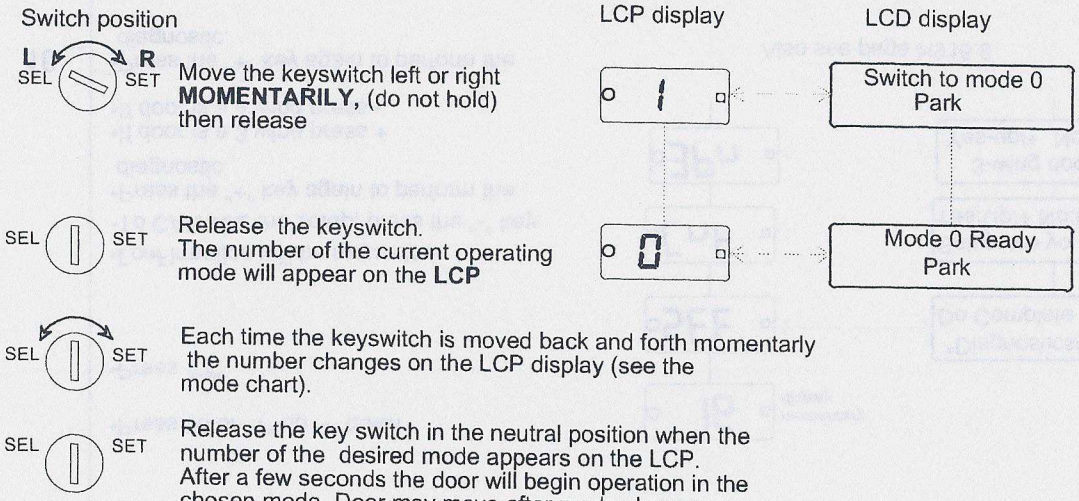
MODE CHART

The following chart shows the 4 modes that are always available regardless of the software version in use.

MODE	OPERATION	DESCRIPTION
0	**Park**	Door ignores all activation signals and looks for a quaterpoint. If a brake is supplied (para 62), the door will talk (para 16) for a set time and lock.
1	**Full auto**	Door operates normally with all activating devices.
2	**Exit only**	Door ignores entrance side activation. Door can be pushed.
3	**Continuous run**	Door rotates in slow speed until a motec is activated. After the normal speed cycle times out, the door goes to slow and continues to run.

SELECTING A MODE

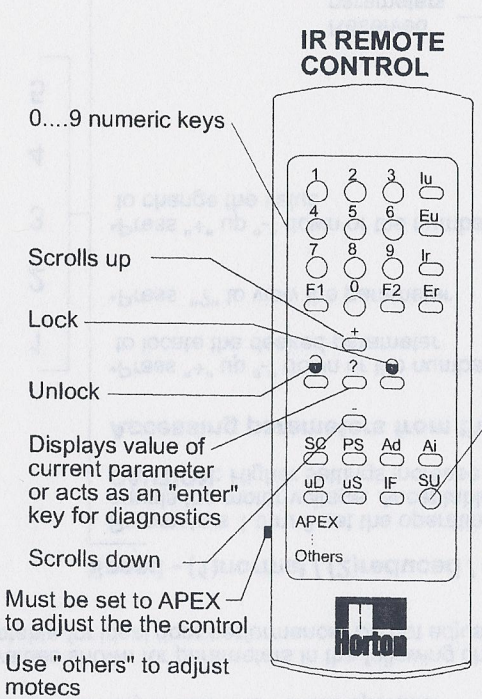
Note: Modes on Automatic and Grand doors can only be changed by the key switch, not with the IR remote.

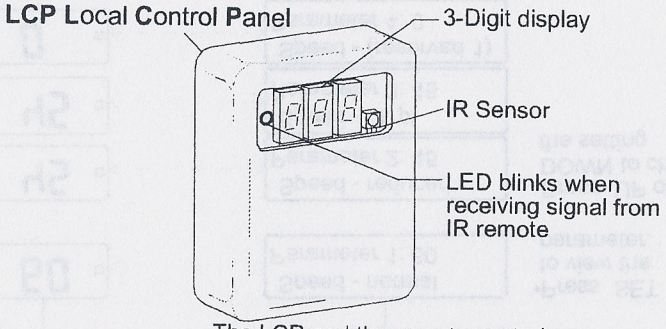


HARD WIRED MODE SELECTION

When parameter 60,remote mode select, is turned on, mode selection can NOT be made with the key switch or remote.
When remote select is in use,remote mode A selects the door mode to use when terminals 4 and 5 of CN5 are open. Remote (hard wired) mode B selects the mode to be used when terminals 4 and 5 are closed.
See parameters 60, 42 & 43.

20. USING THE IR REMOTE

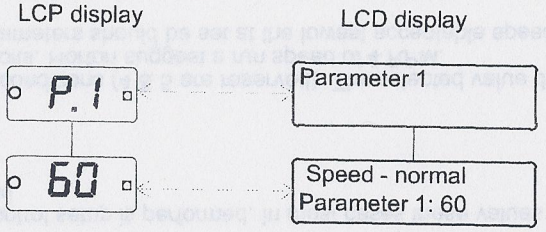




The LCP and the remote control are used to select parameters, modes or run diagnostics.

Selects diagnostics

- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value



Accessing from the infrared control.

- Point the IR remote at the LCP and press unlock

21. PARAMETER CHART 1

•The door must be inactive (in standby condition)

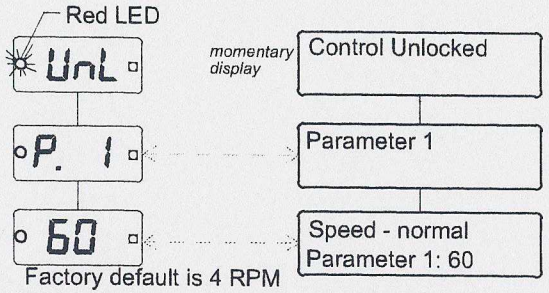
Accessing the parameters from the infrared control.

•Point the IR remote at the LCP and press unlock
•The red LED on the LCP display will flash - indicating the signal is being received.
•If the control was previously locked with a password,the LCP will show UnL to indicate that it is waiting for the unlock code.Enter the correct password within 5 seconds.

•If the correct password was entered or none was required, the parameter menu will be displayed.The display will be some parameter number such as P. 1
•Parameter will appear

•To view or adjust the setting of a parameter, briefly press the "?"
•Parameter value will appear

•Press the "+" or "-" key to change a yes or no or numeric parameter. Numeric values may be set with the number keys 0....9.
•Press the lock key to return to normal operation



Factory default is 4 RPM

NOTE:
After a few seconds with no entrys the display will switch back to the parameter number. The new value will be stored in memory

Accessing the parameters from the control itself.

•Press and hold the **SET** button while briefly pressing **UP.**
•Unlock will display
•Release the set button

•The parameter name, number and current setting will appear.

•The parameter value is changed with the **UP** and **DOWN** buttons.

•Press **RESET** to return to normal operation

The values shown for parameters in the following charts are default values that are set when the complete control setup is performed. In most cases these values will be acceptable for ideal door performance. Do not adjust control parameters without having a desired goal in mind.

Speed - (1)normal / (2)reduced / (3)Qt pt / (4&5) reserved

Parameters 1 thru 3 set the operating speed of the door during normal, reduced, and qpt run conditions (4 & 5 are reserved). The selected value directly equals the motor voltage. Acceptable values are 25 and up - the door will not turn below 25 volts. Horton suggest a run speed of 4 RPM.
CAUTION: Higher settings increase the possibility of serious injury to pedestrains. These parameters should be set at the lowest acceptable speed.

Accessing parameters from the infrared control.

1 •Press "+" up "-" down or the number keys to locate the desired parameter

2 •Press "?" to view the parameter

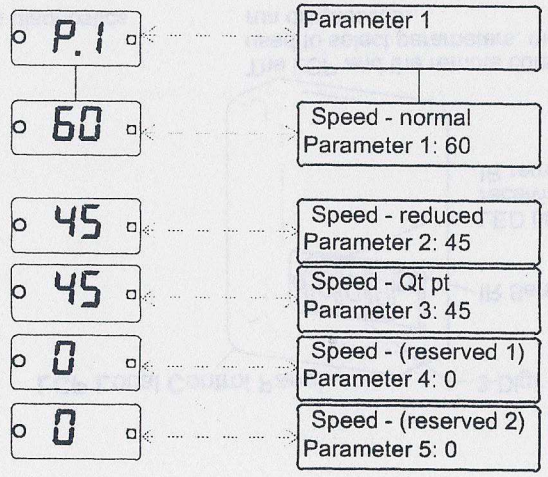
3 •Press "+" up "-" down or the number keys to change the value

4

5

Reserved parameters

Accessing parameters from the main control panel.



•Press UP or DOWN to scroll

•Press SET to view the parameter.

•Press UP or DOWN to change the setting

22. PARAMETER CHART 2

Safety sens - forward / reduced / Qt pt / startup

Parameters 6 thru 8 and 10 (parameter 9 is reserved) set the sensitivity to increased motor current caused by obstructions to the doors. The default values are set at 15 - this means that a safety stop will occur if the motor current exceeds 1.5amps During the control setup routine these values will be "tweaked" to 200% of the highest current found. For example: if during the forward run the maximum motor current detected was 1.2 amps, parameter 6 will be set at a value of 24 (2.4 amps).

Decreasing these values will provide greater safety at the risk of additional nusiance stops.

Accessing parameters from the infrared control.

Accessing parameters from the main control panel.

6 7 8 9 10

- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value

	P.6	15	Safety Sens - Normal Parameter 6: 15
		15	Safety Sens - Normal New Value? 15
	P.7	15	Safety Sens - Reduced Parameter 7: 15
	P.8	15	Safety Sens - Qpt Parameter 8: 15
Reserved parameter	P.9	15	Safety Sens - reserved Parameter 9: 15
	P.10	15	Safety Sens - Startup Parameter 10: 15

- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting

SET UP DOWN RESET

NOTE: If parameter 6, 7 or 8 is automatically set to 20 or more by the setup routine, or parameter 10 was set at 45 or more, execssive motor current is being drawn which may indicate a mechnical problem or a bind in the door.

- All time delay parameters are measured in 1/10 second intervals. Example: a parameter setting of 100 = 10.0 seconds. A setting of 20 = 2.0 seconds.

Safety stop time

Parameter 11 determines how long the door will remain stoped after a safety stop before it continues. Values below 20 (2.0 seconds) are NOT recommended.

Accessing parameters from the infrared control.

Accessing parameters from the main control panel.

11

- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value

P.11		Safety stop Time Parameter 11: 35
35		Safety stop time New Value ? 35
30		Safety stop time Parameter 11: 30

- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting

SET UP DOWN RESET

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23. PARAMETER CHART 3

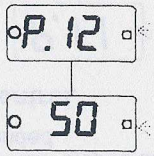
Normal Speed Dwell

Parameter 12
Sets the time in seconds

12

Accessing parameters from the infrared control.

- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value

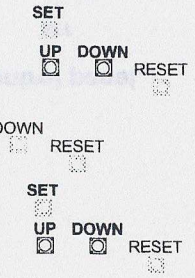


Accessing parameters from the main control panel.

Normal Speed Dwell
Parameter 12: 50

Normal Speed Dwell
New value ?

- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



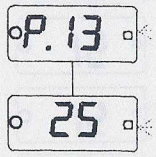
Reduced Speed Dwell

Parameter 13
Sets the time in seconds

13

Accessing parameters from the infrared control.

- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value

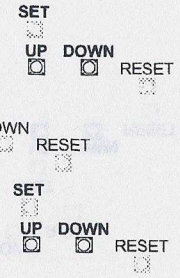


Accessing parameters from the main control panel.

Reduced Speed Dwell
Parameter 13: 25

Reduced Speed Dwell
New value? 25

- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



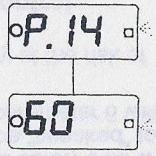
StormSwitch Duration

Parameter 14 sets the time in minutes. The breakout switches (Grand™ doors only) will be ignored following a keyswitch initated storm condition. Parameter 63 must be on for that to happen.

14

Accessing parameters from the infrared control.

- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value

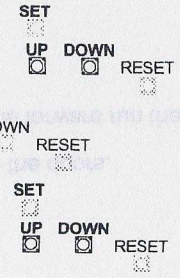


Accessing parameters from the main control panel.

Storm Switch Duration
Parameter 14:60

Storm Switch Duration
New value? 60

- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



24. PARAMETER CHART 4

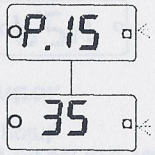
Idle Mode Timeout

Parameter 15 sets the amount of time the door remains at rest after the number of consecutive safety stops has been exceeded in parameter 24. This parameter is in 1/10 sec intervals (35 = 3.5 sec)

15

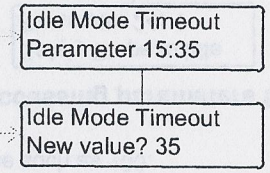
Accessing parameters from the infrared control.

- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value

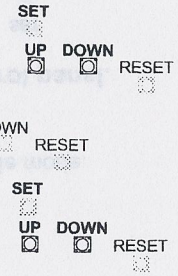


- All time delay parameters are measured in 1/10 second intervals. Example: a parameter setting of 100 = 10.0 seconds. A setting of 20 = 2.0 seconds.

Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



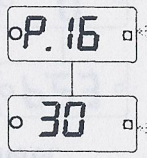
Park-N-Lock Dwell

Parameter 16 sets the amount of time (in seconds) the door will run in slow speed and annunciate before locking when mode 0 is activated. This paremeter is used only if a brake is installed.

16

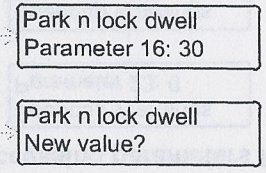
Accessing parameters from the infrared control.

- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value

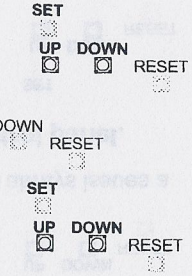


- All time delay parameters are measured in 1/10 second intervals. Example: a parameter setting of 100 = 10.0 seconds. A setting of 20 = 2.0 seconds.

Accessing peremeters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



Help Switch Timeout

Parameter 18 sets the length of time (in seconds) that the Help switches, mounted inside the drum, will re-activate the Park-N-Lock sequence. Once this timer expires, the door ignores the switch.

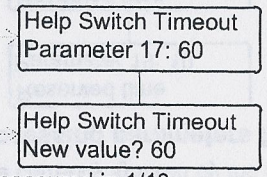
17

Accessing parameters from the infrared control.

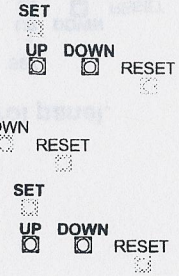
- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value

- All time delay parameters are measured in 1/10 second intervals. Example: a parameter setting of 100 = 10.0 seconds. A setting of 20 = 2.0 seconds.

Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



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25. PARAMETER CHART 5

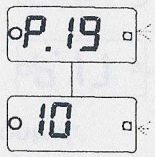
Reserved time

Parameter 19 thru 22 are reserved time delays for future use. These values are currently ignored by the software.

18 Thru 22

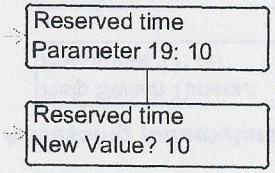
Accessing parameters from the infrared control.

- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value

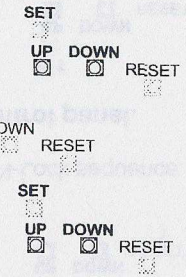


- All time delay parameters are measured in 1/10 second intervals. Example: a parameter setting of 100 = 10.0 seconds. A setting of 20 = 2.0 seconds.

Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



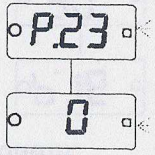
Speed Up Warning

Sets the number of times that the door warns of a speed increase. This is in addition to the reduced speed switch cycle which always issues a warning.

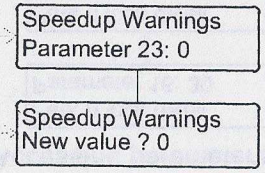
23

Accessing parameters from the infrared control.

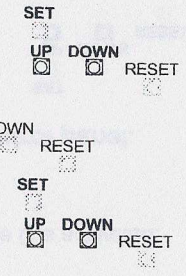
- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter



Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



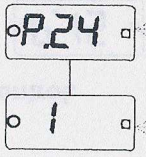
Safety Stops to Idle

Parameter 24 sets the number of safety stops that must be encountered befor the door switches to "idle" mode.
- With the default value of 1 in use, the first motor overcurrent or nosing encountered places the door in the idle mode.
- If a value of 2 is used, the first safety stop will stop the door for the duration of the time set in parameter 11. After this timer expires, the door will attempt to move forward again. A second motor overcurrent or nosing will place door in idle mode.
- If idle operation is never desired, parameter 24 may be set to a very high value such as 100.
- The safety stop counter is reset at every reference point.

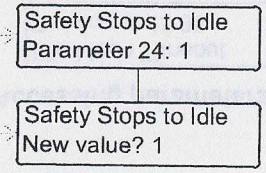
24

Accessing parameters from the infrared control.

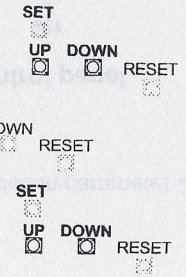
- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value



Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



26. PARAMETER CHART 6

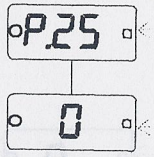
Entry Guard Offset

Parameter 25 sets the number of degrees from the throat post that a late entry signal is accepted. The larger the number the larger the protected area will be.

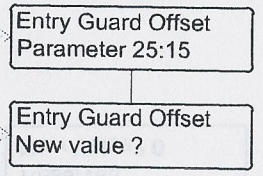
25

Accessing parameters from the infrared control.

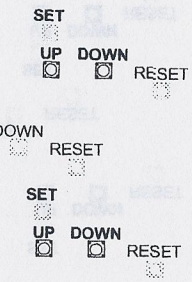
- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value



Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



NOTE: Setting the value to 0 disables the Entry Guard sensor.

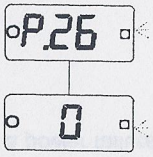
Reserved

Parameter 26 and 27 are reserved for use in future software

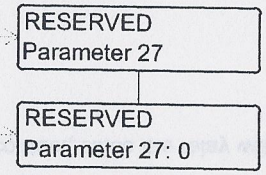
26
27

Accessing parameters from the infrared control.

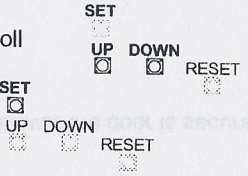
- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter



Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.



Network address

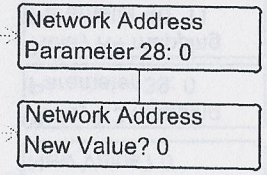
Parameter 28 sets the"address" of this particular door control. This parameter is used only when the door is part of a network of interconnected doors for building management, central control, etc. Setting the address to 0 disables all networked operations.

28

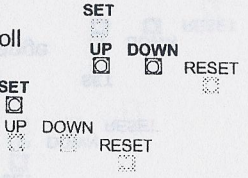
Accessing parameters from the infrared control.

- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter

Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.



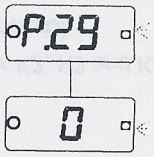
Reserved

Parameters 29 through 37 are reserved for use in future software

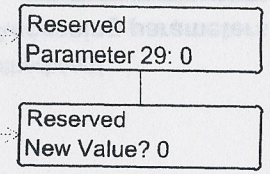
29
Thru
37

Accessing parameters from the infrared control.

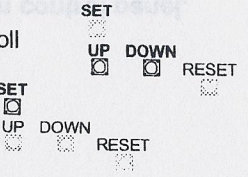
- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter



Accessing pareameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.



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27. PARAMETER CHART 7

Relay K2 (38), K3 (39) & K4 (40) mapping

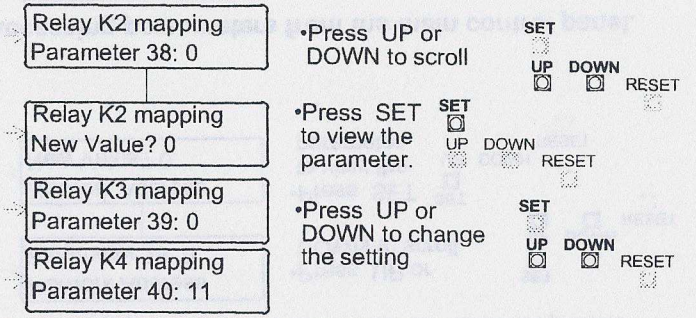
Parameters 38, 39 and 40 set the function of relays K2, K3 and K4 on the motherboard.

Accessing parameters from the infrared control.

38
39
40

- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value

Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting

When set to the following values, each relay may be used to perform either of the following functions.

0 Relay disabled - no function
11 Power fail (line, internal DC)

When mapped to function 11, the relay doubles as a power failure detection contact, since the relay will be held on whenever the door is secured.

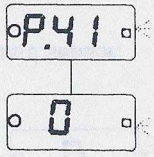
Reserved

Parameter 41 is reserved for use in future software

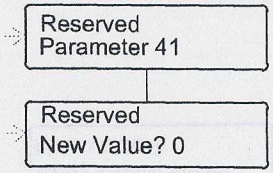
Accessing parameters from the infrared control.

41

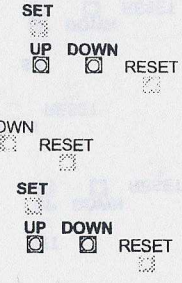
- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value



Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



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28. PARAMETER CHART 8

Remote Mode (Hardwired) (42) mode A / (43) mode B

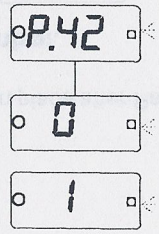
Parameters 42 and 43 are only active if parameter 60, Remote Mode (hard wired) select,is turned on.
When remote mode select is in use:
- Remote mode A selects the door mode to use when Aux A input is not active (terminals 3 & 4 of CN 5 are open).
- Remote mode B selects the door mode to use when Aux A input is active (terminals 3 & 4 of connector CN5 are shorted together)

- Parameters 42 and 43 and 60 are used when the door mode is remotely controlled by a building management system.
- If Parameter 60, remote mode select, is not in use the door mode is set with the LCP and parameters 42 and 43 are meaningless.
- The keyswitch can not change the mode when remote mode select is in use.

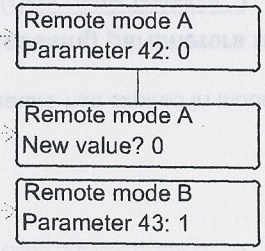
42
43

Accessing parameters from the infrared control.

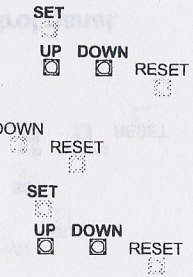
- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value



Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



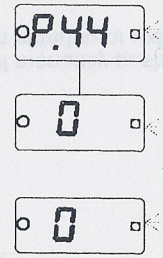
Reserved

Parameters 44 through 59 are reserved for use in future software

Accessing parameters from the infrared control.

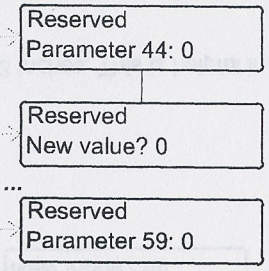
44
thru
43

- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value

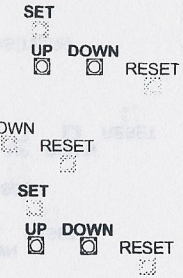


THROUGH ...

Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



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29. PARAMETER CHART 9

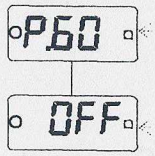
Remote Mode Select

60

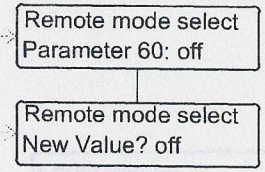
Parameters 60 determines whether the door's operating mode is set locally by the keyswitch (LCP) or remotely by a building management system. (See remote mode A, parameter 42, for additional information).

Accessing parameters from the infrared control.

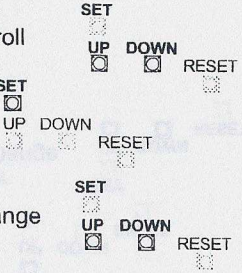
- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down to change the value



Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



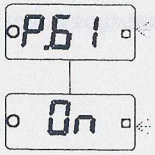
Push-N-Go

61

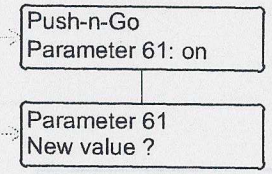
When parameter 61 is turned on, the door will start if manually pushed for 2 or 3 inches. This is helpful in situations where pedestrains may be able to avoid the motion detector zone when entering or exiting.

Accessing parameters from the infrared control.

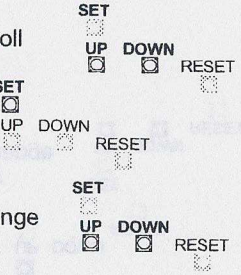
- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down to change the value



Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



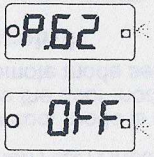
Shaft Brake Installed

62

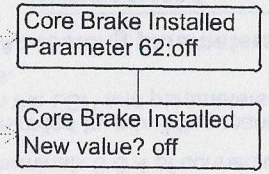
When parameter 62 is turned on, the door will lock in place after Park-n-Lock feature has expired in mode 0.
Off - No brake On - Brake installed

Accessing parameters from the infrared control.

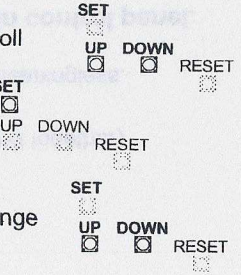
- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down to change the value



Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



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30. PARAMETER CHART 10

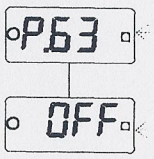
Storm Switch Only

63

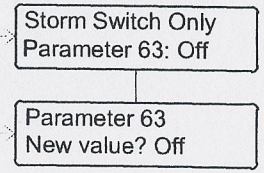
If parameters 63 is off,Storm Lock will activate by turning the key switch to the left and holding. Applies to Grand™ doors where storm lock magnets are installed.
If parameter 63 is on, Storm Switch feature is in effect (parameter 14 sets the time in minutes).

Accessing parameters from the infrared control.

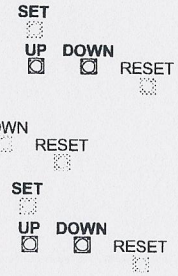
- Press "+" up "-" down to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down to change the value



Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



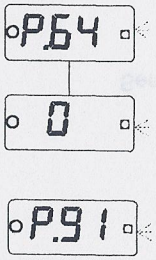
Reserved

64 Thru 91

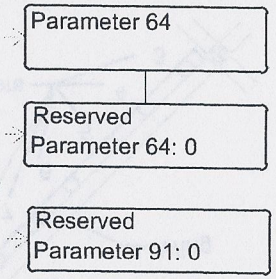
Parameters 64 through 91 are reserved for use in future software

Accessing parameters from the infrared control.

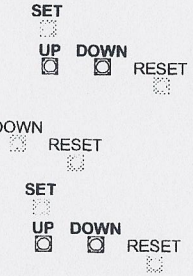
- Press "+" up "-" down to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down to change the value



Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



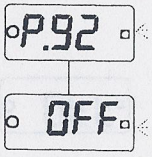
Parallel Shaft Wiring

92

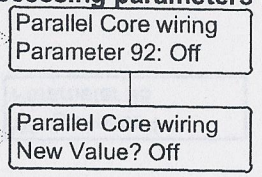
Parameters 92 is used if the door panels have safety sensors. Sensor inputs are wired to the E6008 card. Stop and slow inputs are available.
If this parameter is on the control will look for safety sensors on the E6008 card.

Accessing parameters from the infrared control.

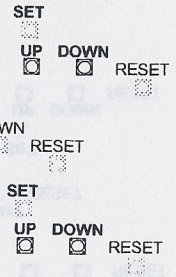
- Press "+" up "-" down to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down to change the value



Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



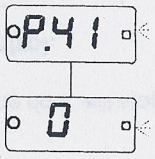
Reserved

93

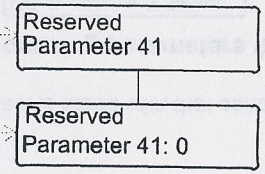
Parameter 93 is reserved for use in future software

Accessing parameters from the infrared control.

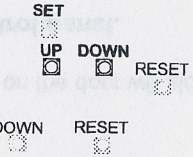
- Press "+" up "-" down to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down to locate the desired parameter



Accessing parameters from the main control panel.



- Press UP or DOWN to scroll
- Press SET to view the parameter.



31.PARAMETER CHART 11

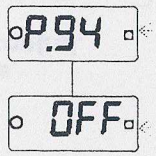
Wing sensors 3 thru 8

If any of the parameters (94 thru 99) are turned off the door will stop when contact is made with that sensor. If they are turned on the door will slow .

Parameter	Sensor
94	3
95	4
96	5
97	6
98	7
99	8

Accessing parameters from the infrared control.

- Press "+" up "-" down or the number keys to locate the desired parameter
- Press "?" to view the parameter
- Press "+" up "-" down or the number keys to change the value



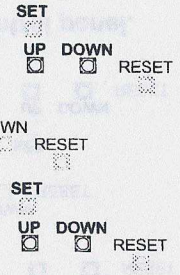
Accessing parameters from the main control panel.

Wing sensor 3 Slows
Parameter 94: Off

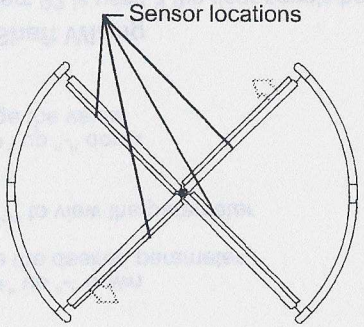
Parameter 94
Set new value?

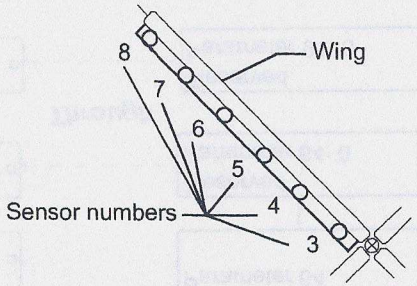
Wing sensor 4
Parameter 95

- Press UP or DOWN to scroll
- Press SET to view the parameter.
- Press UP or DOWN to change the setting



Sensor locations





NOTE:

- Sensor 3 will be the innermost sensor on each wing
- Wing sensors 1(toe guard) & 2 (wing breakout switch) will always stop the door when activated.
- Different door diameters will have different numbers of sensors.

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32. PARAMETER QUICK REFERENCE CHART

PARAMETER	FUNCTION	DEFAULT	Comments	SECTION
1	Speed - Normal	60	The selected value = the motor voltage (see diagnostics 2 for run speed)	21
2	Speed - Reduced	40		
3	Speed Qpt.	40		
4	Reserved	0		
5	Reserved	0		
6	Safety sens - Normal	15	Sensitivity of the door's safety circuit to obstructions	21
7	Safety sens - Reduced	15		22
8	Safety sens - Qpt	15		
9	Safety sens - Reserved	15		
10	Safety sens - Startup	4		
11	Safety stop time	35	Measured in 1/10 seconds	22
12	Normal speed dwell	50	Measured in seconds	23
13	Reduced speed dwell	25	Measured in seconds	23
14	Storm switch duration	60	Measured in minutes	23
15	Idle mode time out	35	Measured in 1/10 seconds	24
16	Park-n-lock dwell	30	The time the door turns in slow speed and announces before locking in mode 0 (in sec)	
17	Help sw time out	60	The amount of time after lockup when the door can be re-started by the help switch (in sec)	24
18	Reserved	10		25
19	Reserved	10		25
Thru				
22	Reserved	10		
23	Speed up warning	0	Number of warnings door will when changing from reduced speed to normal speed	
24	Safety stops to idle	1	The number of stops allowed before Idle Mode is active	25
25	Entry Guard Offset	15	Determines the entry guard zone size	26
26	Reserved	1		
27	Reserved	1		
28	Network Address	0	Address of door in building mgmt. network	
29	Reserved	0		
Thru				
37	Reserved	0		
38	Relay K2 mapping	0	Sets individual relay output signals (Limited selection in this control)	26
39	Relay K3 mapping	0		27
40	Relay K4 mapping	11		
41	Reserved	0		
42	Remote mode A	0	Parameter 60 must be turned on - Sets mode with Remote switch open	27
43	Remote mode B	1	Parameter 60 must be turned on - Sets mode with Remote switch closed	28
44	Reserved	No		
Thru				
59	Reserved	No		
60	Remote mode select	Off	When turned on, the door is controlled by the Aux A CN5 input - See parameter 42 & 43	28
61	Push-N-Go	On	Determines whether the door can be manually pushed to start	29
62	Core brake installed	Off	Turn On if brake is installed	29
63	Storm switch only	Off	Off - Storm Lock On - Storm Switch	29
64	Reserved	Off		30
65	Reserved	Off		
Thru				
91	Reserved	Off		
92	Parallel core wiring	Off	Off - Ignores 6008 card On - looks for sensor signals - 1 stop - 1 slow	30
93	Reserved	Off		31
94	Wing sensor 3 slows	Off	Off - Stops door On - Slows door	
95	4 slows			
96	5 slows			
97	6 slows			
98	7 slows			
99	8 slows	Off		31

33. DIAGNOSTICS QUICK REFERENCE CHART

DIAG	FUNCTION	Comments	SECTION
1	Check power supply	Displays DCV output of the power supply to operate the motor & brake	13
2	Check door speed	LCP displays door speed, MCP displays motor voltage & RPM	13
3	Check motor current	LCP displays motor current, MCP displays motor current & voltage	14
4	Check brake voltage	LCP displays brake voltage, MCP displays brake current & voltage	14
5	Check brake current	LCP displays brake current, MCP displays brake current & voltage	14
6	Encoder test	LCP and MCP display encoder count in each quadrant	15
7	Check inputs	LCP displays codes of active inputs, MCP displays text of active inputs	15
8	Play / set up voices		16
9	Check 24 V supply	Displays low voltage DC value	16
10	Reserved	Reserved for future use	17
11	↕	↕	17
12			17
13	Reserved	Reserved for future use	17
14	Find safety sensors	Finds the door wing sensors and programs the software to respond to them	17
15	Learn safety limits	Sets the safety limits by current sensing	17
16	Complete setup	Restores factory default settings to all parameters	18

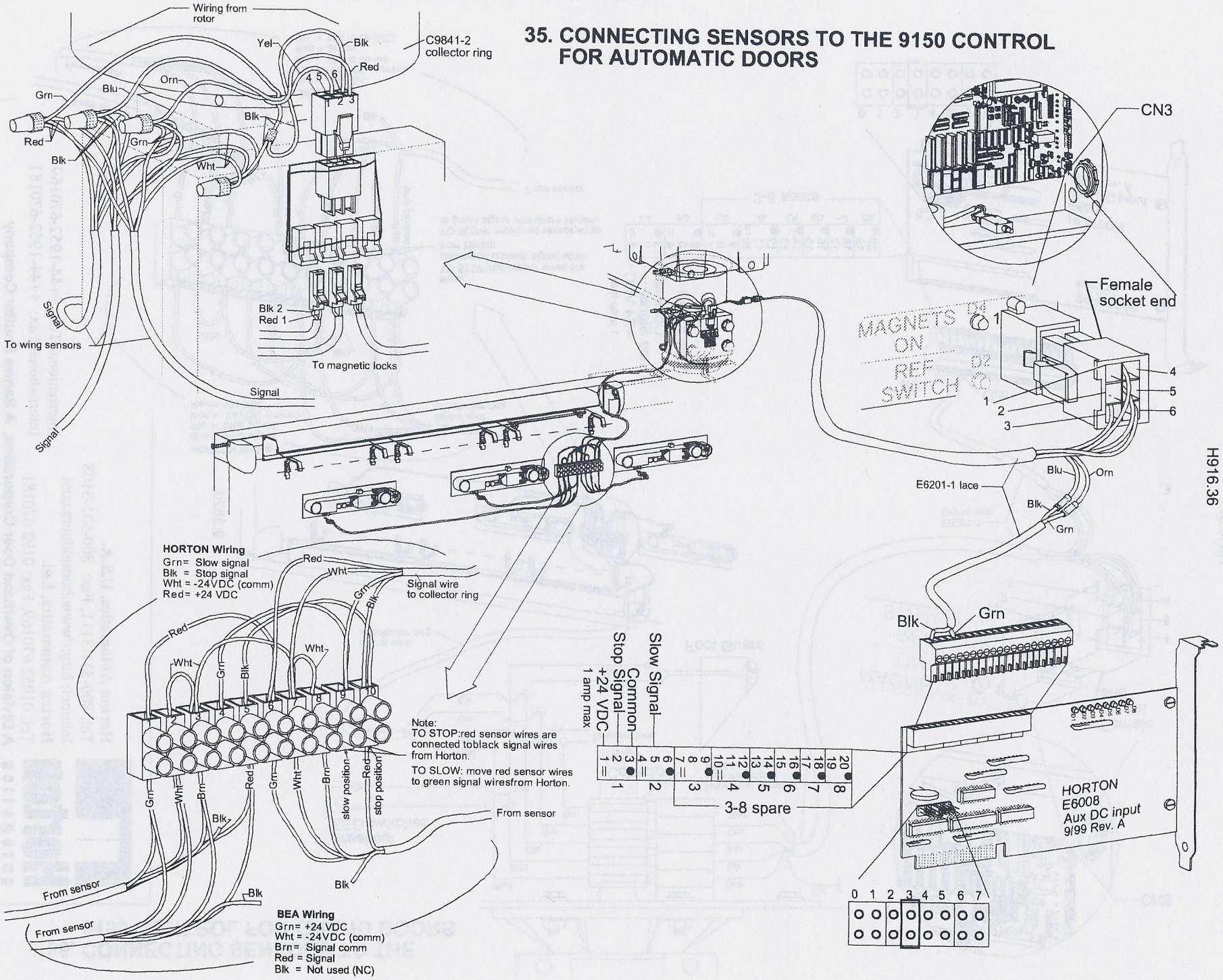
34. ERROR CODES

All errors except 7 are considered major and require a keyswitch reset to clear them and restart the door.

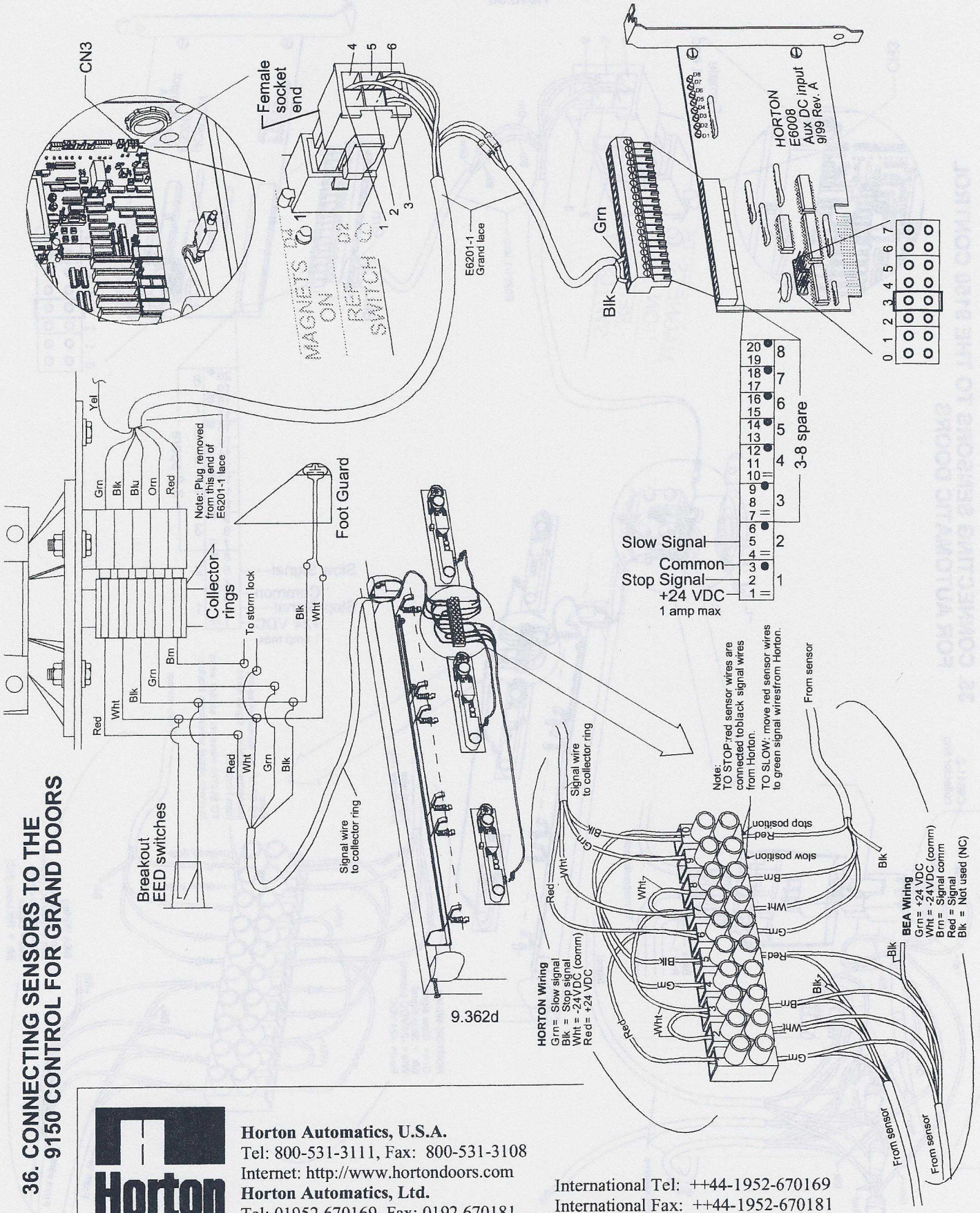
LCP display

- Er3 **Motor current excessive** - only occurs during setup phase
- Er4 **No reference switch** - only occurs during setup phase
- Er5 **Encoder phasing incorrect** - only occurs during setup phase
- Er6 **No encoder pulses received** - only occurs during setup phase
- Er7 **Brake failure** - A run time error that is displayed if insufficient brake voltage and / or current are detected when the door is supposed to be secure. It is self-clearing when proper voltage is restored.
- Er8 **High voltage DC failure**
- Er9 **Drive system failure**

35. CONNECTING SENSORS TO THE 9150 CONTROL FOR AUTOMATIC DOORS



9.361d



36. CONNECTING SENSORS TO THE 9150 CONTROL FOR GRAND DOORS

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Form H916, MARCH 2002, Horton Automatics reserves the right to improve the product & change its specifications without notice.