Attention:

Please read this manual
Prior to
Installing and operating
Your door.

Recheck your work
Before operation.

Notice to Installer: This manual must be left with the End User. Personally deliver to the End User’s attention.
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1 Introduction

Addressee/Applicability

This manual and the information therein is the sole property of Chase Industries Inc., and is given solely to individuals who purchase the 1900–RLS operator. Its intent is to instruct the purchaser on the operation of the 1900–RLS operator. Use of this information without purchasing the 1900–RLS operator product or the consent of Chase Industries Inc. is strictly forbidden. Copying of this manual in any way is forbidden without the express consent of Chase Industries Inc.

Training in the use of this door product is ultimately the responsibility of the end user. Chase Industry approved installers will instruct and provide the end user’s supervisor with the manual. It will then become the responsibility of the end user to further instruct each individual in his company using this door with the specifics of its operations.

Explanation of Symbols

⚠️ In these instructions, we have denoted all positions that concern your safety with this symbol.

⚡ This symbol warns of electrical voltage.

🛠️ This symbol marks all positions that are significant for proper operation of the system. Non-adherence can cause material damage.

◆ This symbol denotes optional components. Check order to see what components have been ordered for your particular door system.
2 Safety

2.1 General Safety and Accident Prevention Instruction

Prior to commissioning of the door system or before doing any repair or maintenance work, the operating instructions of the door system, operator, and the following safety directions should be studied with great care and followed closely.

In any case, please pay attention to the specially marked notes within this document (see chapter 1 for an explanation of symbols).

Use for Intended Purpose

The 1900-RLS operator has been designed and constructed according to the current state of technology and the recognized safety related rules. Any other use, or any use exceeding this aim, is determined to be not for its intended purpose and may cause personal injuries to the user or a third party. The manufacturer will not be liable for damages resulting from such uses; the risk will be borne entirely by the operator of the door system.

Relevant Regulations

All wiring and electrical work shall conform with the NEC (National Electrical Code) and any other applicable local, state, and federal codes.

The operating, maintenance and service conditions are to be maintained as directed by the manufacturer. The persons performing maintenance and service must be acquainted with the system and must have been informed of any possible danger.

Unauthorized modifications to the system exempt the manufacturer from any liability.

Requirements Concerning Installation Personnel

The installation on site may only be performed by professionals who have adequate knowledge in the discipline of power operated doors based on their vocational training and experience and who are acquainted with the applicable national worker’s protection rules, accident prevention instructions, guidelines and generally recognized rules of the technology to such an extent that they can appraise the safe working condition of power operated doors.

It is a prerequisite that these people should be trained/experienced in metal working and fastening techniques.
2 Safety - continued

2.2 Safety Considerations

Use system only in a technically sound condition. Ensure that faults, which could diminish safety, are eliminated at once.

⚠️ Keep fingers away from any moving components. Special caution is required in the region of the sprockets or pulleys.

Use tools suitable for the respective work sequence. Ensure that the tools are in a sound condition.

⚠️ WARNING: No work should be undertaken of any sort while the power supply is on. Always remove power from the control box while working on the control panel or connecting cables.

⚠️ HIGH VOLTAGE: Electric shock can cause serious injury or death. Always check the external Disconnect Switch to be sure it is in the OFF position during wiring or mechanical work on the door. When uncertain if power is disconnected, always check with a voltmeter.

All electrical wiring must be done by qualified electricians. Wiring must meet all local, state, and federal codes.

Before powering door system please perform the following steps:

1. Turn open and close speed potentiometers (See page 11 for location) to full counter–clockwise positions. Then turn both 1/4 turn clockwise. This initial setting will avoid runaway operation.

2. Insure door "stops" have been installed to avoid over travel.

3. If supplied, install the gearbox vent plug, shipped in the motor conduit box. To install, replace a non-vented gearbox plug located on the top of the gearbox as it is mounted, with the vent plug. If not supplied, a gearbox vent plug is not required.
3 1900-RLS Control Installation

3.1 Installation/Field Connections

Please refer to diagram on page 14 for illustration of connections.

NOTE: The PLC+ (+24 VDC) terminals are jumpered so that they are the same terminal.

1. Connect the Single Phase AC supply per order to terminals L1 and L2. Connect the ground wire to terminal GND. Please note: If the motor is 1/2 HP, a 10 amp circuit is required. If the motor is 3/4 HP, a 15 amp circuit is required.

2. The motor leads are factory pre-wired to terminals A1 and A2.

NOTES: Reversing the motor leads will change motor rotation direction. The green wire is the ground wire that needs to be attached to the ground terminal (GND).

3. The Electric Reversing Edge Switch is factory pre-wired and the connection is made when the door panels are plugged into the header junction boxes. Electric Reversing Edge Switches are non-adjustable. The switch connects to terminal I/9 and one of the PLC+ (+24 VDC) terminals in the control panel. The switch is “on” when activated. Do not operate the door without the Reversing Edge Switches connected and operational. If activated the switch will stop a closing door and reverse the direction until fully opened. The door will not close as long as the switch remains activated.

4. For doors with Thru-Beams, connect the Thru-Beam cables directly to the Thru-Beam module in the main control box. Connection of cables are indicated on the module. Also see the connection diagram on page 19.

It is best to disconnect the Thru-Beam module contact to the PLC input (terminal #5 on blue and white Thru-Beam modules) prior to initial start up. After setup is complete, calibrate the Thru-Beams and test their operation.
3 1900-RLS Control Installation - continued

3.1 Installation/Field Connections - continued

Rotary Limit Switch

5. The Rotary Limit Switch is mounted to the Gearbox with adjustable chain tension brackets. Check chain tension yearly.
   DO NOT OVERTIGHTEN THE LIMIT SWITCH CHAIN!
   The switch is factory pre-wired, panel connections are as follows:
   - Full Opened Limit switch connects to terminals I/0 & PLC+
   - Slow Open Limit switch connects to terminals I/6 & PLC+
   - Full Closed Limit switch connects to terminals I/7 & PLC+
   - Slow Close Limit switch connects to terminals I/6 & PLC+
   Refer to diagram on page 14 for illustration of connections.

Setting Limit Switches

6. Even though a "starting" position is set at the factory the limit switches must be individually adjusted by the installer to set the final door positions. Manually set the limit switches as explained in section 4 on page 8.

Partial Open

7. A Partial open switch cannot be added in the field. It must be specified at time of order.

Test Motor Rotation and Limit Switch Settings

8. Put door in mid position and turn power on. Confirm that ALL Limit switches are in the off position. This can be done by looking at the PLC input indicators, see page 17. If any are not in the off position return to the "Setting Rotary Limit Switch" instruction. On the terminal strip, touch a jumper wire between terminals I/4 and PLC+ (+24 VDC). The door should then begin to move to the open position. If the door begins to close, turn off the power and reverse the motor leads as described in item 3.1.2. Retest to verify that motor rotation is correct. Cycle the door open and let the timer close it several times to confirm that the door opens and closes to the correct positions.

Periodically check and adjust the Limit Switches as required.
4 1900-RLS Rotary Limit Switch

4.1 Rotary Limit Switch Adjustment

**Rotary Limit Switch Adjustments**

**Always turn the power switch to the off position whenever manually moving the door panel(s) while they are connected to the drive chain.**

*See Rotary Limit Switch adjustment example on page 9*

**Do not make any limit switch adjustments unless the door panels are connected to the drive chain.**

**Turn both open and close speed pots (see page 13) 1/4 turn clockwise from full counter clockwise (off) to start limit switch adjustments.**

*If your door has a jumper on terminal 1/8 for timer to close, disconnect it while setting the door limit switches.*

**Slow Close**

With power off, manually close the door until it is 8 inches from full closed position. While moving the door, confirm the direction of the Limit Switch rotation. Adjust the Slow Close Limit Switch Cam in the same direction as the Limit Switch is rotating until it trips. Turn power on and confirm that PLC Input 1/6 is "on", indicating slow close position.

**Full Closed**

With power off, manually move the door to the full closed position. Adjust the Full Closed Limit Switch Cam in the same direction as the Limit Switch is rotating until it trips. Turn power on and confirm that PLC Input 1/7 is "on", indicating full closed position.

**Slow Open**

With power off, manually open the door until it is 8 inches from full open position. While moving the door, confirm the direction of the Limit Switch rotation, it will be the opposite direction than while closing. Adjust the Slow Open Limit Switch Cam in the same direction as the Limit Switch is rotating until it trips. Turn power on and confirm that PLC Input 1/6 is "on", indicating slow open position.

**Full Opened**

With power off, manually move the door to the full opened position. Adjust the Full Opened Limit Switch Cam in the same direction as the Limit Switch is rotating until it trips. Turn power on and confirm that PLC Input 1/0 is "on", indicating full opened position.

*If your door had a jumper on terminal 1/8 for timer to close, re-connect it after setting the door limit switches.*

*It is the installer's responsibility to confirm that the final door positions are correctly set during installation.*

Return to section 3.1.8 and continue the installation procedure.
4. 1900-RLS Rotary Limit Switch

4.2 Rotary Limit Switch Adjustment

The Rotary Limit Switch adjustment example as seen above shows the following:

The cams in this example are rotating to the left as the door is Closing

The Slow Close Cam is approaching the Slow Close Limit Switch

The Full Closed Cam is a little behind it as the Slow Close limit switch would trip first

The white adjustment screw will rotate the cam in either direction. By observing the cam switch rotation as the door moves it should be clear which way to turn the limit switch adjustment screw to rotate the cam to the correct position

**NOTES:**

The rotation must be noted as door handing would reverse cam switch rotation

The Open Limit Switch cams in the above example would of course be rotating in the opposite direction of the Close Limit Switch cams
5 1900-RLS Control Installation - continued

5.1 Time Delay to Close

1. If TIME DELAY TO CLOSE is required, there should be a factory jumper in terminals I/8 and PLC+ (+24 VDC) on the terminal strip. Replace if it has been removed.

2. ADJUSTING TIME DELAY TO CLOSE:

SPECIAL NOTE: The I/8 jumper must be installed. Only buttons connected to I/2 OR I/4 may be used to adjust the time delay.

- Push the button to open the door.
- When the door reaches the full open position and stops, push the open button in for a MINIMUM of 5 seconds. The length of time the button is held in will then be the new time delay.

Example:
- Button held in 5 seconds = 5 second delay
- Button held in 10 seconds = 10 second delay
- Button held in 30 seconds = 30 second delay

3. DOOR OPERATION WITH THE I/8 TIMER TO CLOSE JUMPER:

WITH THE I/8 JUMPER INSTALLED –

I/2 will open the door and the timer will close the door
I/4 will open the door and the timer will close the door

NOTE – do not use I/3 to activate with the I/8 jumper installed

WITH THE I/8 JUMPER REMOVED –

I/2 will CLOSE the door
I/3 will be in "STEP CONTROL", push to open and push to close
I/4 will OPEN the door
6.1 Installation of Actuators and Interlocks

CAUTION TO INSTALLER!

Connecting and confirming operation of each activator one at a time will greatly reduce connection errors and minimize chances of equipment damage. Damage caused by incorrect connection is not covered by the manufacturer warranty.

Non-Powered Actuators such as Buttons or Pull Cords

Special note: Non-powered actuators such as push buttons, push plates, pull cords, etc., must be far enough from the door, or positioned such that the user is prevented from coming in contact with the door while operating the controls.

1. Refer to page 15 and connect actuator for desired operation.

Powered Actuators such as Sensors or Floor Loops

Note: Powered actuators (24VDC) can be connected to terminals ACC+ and ACC-. Max total load 500mA. External fusing is required.

2. For FULL OPEN, timer close, connect sensor or floor loop activator contact to terminals I/4 and PLC+ (+24 VDC).

Interlocks (If Applicable)

3. The interlock input is located on terminal I/1. The contact for the interlock input should be normally closed. A factory jumper is present on I/1 and PLC+ (+24 VDC). If interlock is used, remove the jumper and connect the interlock input.

4. The interlock output is located on terminals I/12 and I/13. This output is a dry contact and is closed only when the door is in full closed position.

Thru Beam Sensitivity

5. Make sure no person or object is blocking the Thru-Beam transmitter and receiver. Press and hold the blue button on the Thru-Beam module until the lights stop blinking. When the lights stop blinking, release the button. The green light should then come on and should not blink unless there is an obstruction. If the light does not come on, go to Section 9.2, troubleshooting, page 19.

Special Note: If the shielded wire on the Thru-Beams is not long enough, the Thru-Beam module may be relocated by the installer remotely from the main control panel in an enclosure, where the Thru-Beam cables will be long enough, and then wired back to the main control panel. See 9.2.3 for connections.

Do not use standard wire for the Thru-Beams. Consult factory with questions.
6 1900-RLS Activation and Door Speed

6.2 Opening and Closing Speed Adjustment

1. Adjust the opening and closing speeds for the operator to the desired speed using the OPEN and CLOSE potentiometers. See component layout on page 13 to locate these potentiometers. These potentiometers are clearly marked in the control panel. Turn the potentiometers clockwise to increase speed and counter-clockwise to decrease speed.

2. It is the installer's responsibility to confirm that the door operating speed meets the following velocity instructions.

**Velocity for Pedestrian Doors**

If the door is considered to be a pedestrian door, the maximum speed of the door must comply with UL 325, 5th Edition, section 29.4.1 which says "The door shall not develop kinetic energy in excess of 7 ft-lbf". To determine the maximum speed of the door use the following formula.

\[ \sqrt{\frac{448}{\text{weight (lbs)}}} = \text{Velocity (ft/sec)} \]
7 1900-RLS Control Diagrams

7.1 Control Component Layout
7.2 Terminal Strip Connection Diagram

- **PLC INPUT POWER** - DO NOT USE TO POWER ACTIVATORS!
- **+24VDC**

**Limit Switches**
- Limit Switch 4 - Full Opened
- Interlock Input: Remove Factory Jumper to Connect
- Full Open Timer to Close: 1/8 Jumper Installed to Enable
- Step Open and Close: 1/8 Jumper Removed to Enable
- Full Open Timer to Close: 1/8 Jumper Installed to Enable (Optional)
- Partial Open Timer to Close: 1/8 Jumper Installed to Enable (Optional)

**Limit Switches**
- Limit Switch 3 - Slow Open
- Limit Switch 2 - Slow Close
- Limit Switch 1 - Full Closed

**Full Open Timer to Close Select**
See description on page 8

**Reversing Devices**
- Partial Open Limit Switch (Optional Switch)

**24 VDC 500mA ACTIVATOR POWER**
Must be externally fused for use

**Interlock Output**

**90 V DC 1/2 or 3/4 HP MOTOR**

**Specified Single Phase Voltage**
- Hot Vac
- Neut. Vac
- Ground

**NOTE:**
When connecting any activator switch, it is important to understand the switch operation before connecting to the terminals of the device.
7.3 Field Connection Diagram

- SINGLE PHASE 10 OR 15 AMP
- CONTROL PANEL
- ROTARY LIMIT SWITCH
- MOTOR
- REVERSING EDGE
- 3-BUTTON STATION
- MANUAL OPEN AND CLOSE OPERATION ONLY
- PULL CORD PUSHBUTTON
- PASS DOOR LIMIT SWITCH
- HEADER
- SEE PAGE 8
- SEE PAGE 6, 14
- DOOR
- OPENING DEVICES
- CHASE NORMALLY OPEN REVERSING EDGE SWITCH
- THE PLC INPUT WILL BE "ON" WHILE THE EDGE IS HELD COMPRESSED
- THE PLC INPUT WILL BE "ON" WHILE THE BUTTON IS PRESSED
- THE DOOR WILL STOP MOTION WHILE THE BUTTON IS PRESSED
- * REMOVE PLC+ TO V8 JUMPER
- CHASE NORMALLY CLOSED HELD OPEN PULL CORD SWITCH
- THE PLC INPUT WILL BE "ON" WHILE THE SWITCH IS PULLED
- CHASE NORMALLY OPEN PUSHBUTTON
- THE PLC INPUT WILL BE "ON" WHILE THE BUTTON IS PRESSED
- CHASE NORMALLY OPEN HELD CLOSED PASS DOOR SWITCH
- THE PLC INPUT WILL BE "ON" WHILE THE DOOR IS CLOSED
8 1900-RLS Speed Control Board

8.1 Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Armature Current Range (ADC)</th>
<th>Armature Horsepower</th>
<th>Voltage Range (VDC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RG60U</td>
<td>5.0*</td>
<td>1/8 - 1/2</td>
<td>0 - 90</td>
</tr>
<tr>
<td></td>
<td>5.0**</td>
<td>1/4 - 1**</td>
<td>0 - 180</td>
</tr>
</tbody>
</table>

* Max. Armature Current = 10 ADC and Max. Horsepower = 1 when mounted to heat sink kit.
** Max. Armature Current = 10 ADC and Max. Horsepower = 2 when mounted to heat sink kit.

| AC Line Voltage                                      | 115 VAC/230 VAC, +10%, 50/60 Hz, single phase |
| Acceleration Time Range                               | 0.5 - 10 seconds                               |
| Deceleration Time Range                               | 0.5 - 10 seconds                               |
| Analog Input Voltage Range (signal must be isolated; S0 to S2) | 0-10 VDC                                     |

| Load Regulation                                       |                                           |
| with Armature Feedback                                | 2% base speed                              |
| with Tachogenerator Feedback                          | 0.5% base speed                            |

| Ambient Temperature Range                             | 10°C - 55°C                                |

8.2 Speed Control Board and Motor Troubleshooting

1. Check incoming drive voltage at L1-L2. Should be 120 OR 240 (JUMPER SELECTED) VAC =/- 10%. If not in range IMMEDIATELY shut off main power until corrected. DO NOT OPERATE A DRIVE SET UP FOR 120 VOLTS AT ANY OTHER VOLTAGE. DAMAGE WILL RESULT.

2. Check that the speed pots are open and closed are not turned off. (turned fully CCW), Turn pot CW to increase speed while door is energized. Refer to page 10 for direction on setting the speeds to comply with current regulations.

3. Check that the correct PLC output is on for desired direction. O4 will be on for open and O5 will be on for close. If not, it may be an input condition not allowing the drive to run. Review your inputs to be sure the door is being activated correctly.

4. If outputs are on correctly, check motor voltage at A1 and A2. Will be 1-90 VDC while running. If there is voltage without movement inspect the door for mechanical issues preventing movement and inspect the motor for improper connection, thermal switch (if so equipped), worn brushes or open armature windings.

5. Check ref. voltage on the drive. Check from S0-S1 and S0-S3. It should be VDC based on the enabled direction and pot setting. If not remove wires from those drive terminals and recheck. If no voltage is present the drive or pot is bad. Pots can be disconnected and checked with a meter.

6. The drive board has been been set up at the factory. There are no user adjustments on the drive board. ANY changes to ANY item on the drive board can result in unexpected operation and will void the warranty on the drive.
### STATUS INDICATORS

**POWER ON INDICATOR**
- If Off:
  1. Check POWER ON SELECTOR
  2. Check MAIN FUSES
  3. Check Transformer Fuses

**PLC RUN INDICATOR**
- If Off:
  1. Call CHASE DOORS REPRESENTATIVE

**PLC FAULT INDICATOR**
- If On / Flashing:
  1. Call CHASE DOORS REPRESENTATIVE

---

#### 1900-RLS Troubleshooting

### INPUTS

<table>
<thead>
<tr>
<th>INPUT</th>
<th>NORMAL INPUT STATE</th>
<th>TROUBLESHOOTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>I/0</td>
<td>FULL OPEN PROX. SWITCH</td>
<td><strong>ON</strong> IF DOOR IS FULLY OPENED</td>
</tr>
<tr>
<td>I/1</td>
<td>DOOR INTERLOCK INPUT</td>
<td><strong>ON</strong> TO ALLOW DOOR TO OPEN</td>
</tr>
<tr>
<td>I/2</td>
<td>FULL OPEN/CLOSE ACTUATORS</td>
<td><strong>OFF</strong> WHILE DOOR ACTIVATOR IS OFF</td>
</tr>
<tr>
<td>I/3</td>
<td>PARTIAL OPEN/CLOSE ACTUATORS</td>
<td><strong>OFF</strong> WHILE DOOR ACTIVATOR IS OFF</td>
</tr>
<tr>
<td>I/4</td>
<td>FULL OPEN ONLY ACTUATORS</td>
<td><strong>OFF</strong> WHILE DOOR ACTIVATOR IS OFF</td>
</tr>
<tr>
<td>I/5</td>
<td>PARTIAL OPEN ONLY ACTUATORS</td>
<td><strong>OFF</strong> WHILE DOOR ACTIVATOR IS OFF</td>
</tr>
<tr>
<td>I/6</td>
<td>SLOW SPEED PROX. SWITCHES</td>
<td><strong>ON</strong> FOR DOOR SLOW SPEED ACTIVE</td>
</tr>
<tr>
<td>I/7</td>
<td>FULL CLOSED PROX. SWITCH</td>
<td><strong>ON</strong> IF DOOR IS FULLY CLOSED</td>
</tr>
<tr>
<td>I/8</td>
<td>TIMER TO CLOSE SELECT</td>
<td><strong>ON</strong> IF TIMER TO CLOSE SELECTED</td>
</tr>
<tr>
<td>I/9</td>
<td>REVERSING DEVICES</td>
<td><strong>OFF</strong> IF REVERSING DEVICE IS NOT ACTIVE</td>
</tr>
</tbody>
</table>

### TROUBLESHOOTING
- If incorrect, check PROX. SWITCH ADJUSTMENT AND POLARITY
- If not interlocked, jumper from I1 to 24V+ must be in place
- If on-timer to close, I0 off-will close the door (see page 8)
- I0 off - step control only
- I0 on-timer to close, I0 off-will open the door (see page 8)
- Partial open timer, will close the door
- If incorrect, check PROX. SWITCH ADJUSTMENT AND POLARITY
- If not on, install jumper from I6 to 24V+ (see page 10)

### OUTPUTS

<table>
<thead>
<tr>
<th>OUTPUT</th>
<th>NORMAL OUTPUT STATE</th>
<th>TROUBLESHOOTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>O/0</td>
<td>DRIVE INHIBIT</td>
<td><strong>ON</strong> IF DRIVE STOPPED</td>
</tr>
<tr>
<td>O/1</td>
<td>DOOR INTERLOCK OUTPUT</td>
<td><strong>ON</strong> IF DOOR CLOSED, CONTACT IS N.O.</td>
</tr>
<tr>
<td>O/2</td>
<td>DRIVE SLOW SPEED SELECT</td>
<td><strong>ON</strong> IF DOOR SLOWING TO CLOSE</td>
</tr>
<tr>
<td>O/3</td>
<td>PARTIAL OPEN PROX. ENABLE</td>
<td><strong>ON</strong> ENABLES PARTIAL OPEN PROX. SWITCH</td>
</tr>
<tr>
<td>O/4</td>
<td>DOOR OPEN TO DRIVE</td>
<td><strong>ON</strong> WHILE DOOR OPENING</td>
</tr>
<tr>
<td>O/5</td>
<td>DOOR CLOSE TO DRIVE</td>
<td><strong>ON</strong> WHILE DOOR CLOSING</td>
</tr>
</tbody>
</table>

- If on and door not stopped, check drive voltage and speed pot adj
- If incorrect, check closed PROX. SWITCH ADJUSTMENT AND POLARITY
- If incorrect, check PROX. SWITCH ADJUSTMENT AND POLARITY
- If the correct output is active and the door is not moving

See page 17 for drive/motor troubleshooting.
9.2 Troubleshooting

1. Refer to PLC input/output drawing on page 17. Familiarization of the input and output LED indicators and the functions of connected devices will make troubleshooting of most operational issues possible. By comparing the indicator state, on or off, with the normal state as indicated in the drawing and the current state required by door position or operation it should be just an issue of identification and then troubleshooting of the suspected faulty device.

Disconnect any suspected device(s) and after inspection re-connect devices one at a time to confirm proper operation.

2. OBSTRUCTION OPERATION

   The door must be free to move unobstructed in the path of travel while opening or closing. An obstruction to door travel can cause damage to the door control. The door attempts to recover from an obstruction as follows:

   **Obstruction while opening:** The door will stop, reverse direction, fully close and stop
   
   **Activate the door to open in any mode**

   **Obstruction while closing:** The door will stop, reverse direction, fully open and stop
   
   If the door operation is in Timer to Close Mode the door will close after the close time delay is complete. Activate the door to close in Step Mode

   **REPEATED OBSTRUCTION:** If the door is obstructed four times without completing an opening and closing cycle the door will shut off to keep from damaging control components. Obstruction can be caused by something caught under the door panel keeping it from moving, a damaged under door floor guide or this could also indicate that a limit switch has failed. Anything blocking opening or closing of the door will cause an obstruction fault.

   **OBSTRUCTION FAULT RECOVERY:** If faulted for an obstruction first shut off power to the door control panel either with the external disconnect switch or the internal power toggle switch. Remove any obstruction and insure that the door is free to move through the entire opening and closing cycle. If nothing is found blocking the door inspect the end of travel limit switches for proper operation. Re-apply power to reset the obstruction fault condition and resume normal operation.

   **INTENTIONAL MIS–USE OF THE DOOR BY REPEATED OBSTRUCTION CAN CAUSE DAMAGE TO CONTROL COMPONENTS AND IS NOT COVERED BY THE NORMAL WARRANTY**
9 1900-RLS Troubleshooting - continued

9.3 Troubleshooting - continued

3. If the Thru-Beams are not operating correctly possible causes include dirty lenses, an obstruction in the door opening, mis-aligned sensors, damaged wiring, or incorrect wiring to the Thru-Beam module in the control panel.

Check wiring to eyes and make sure the wiring is not damaged. If any insulation is damaged, replace the damaged wire. Also check connections of wires to the module in the control box. Make sure wires are connected per the diagram below.

Clean lenses on transmitter and receiver. Make sure no dirt is clouding the lenses. A scratched face of the sensor may result in no operation and replacement would be required.

Make sure there are no obstructions blocking the path of the Thru-Beams

Check alignment of eyes. When eyes are aligned, the green light on the Thru-Beam module should come on. See 3.1.12 for details.