OPUS Retrofit Kit Installation Manual

P/N C-00185 Rev 5-28-21

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NABCO hours of Operation: Monday to Friday 8:00 a.m.- 4:30 p.m. (Central Time)

Associated Manuals Part Numbers:
GT400,8400,500,8500,600,8600 Conversion Unit Swing Door; P/N C-00174
GT300,8300,350,8350 Overhead Concealed Swing Door; P/N C-00175
GT710,8710 Low Energy Swing Door; P/N C-00178
GT1400 Bi-Fold Doors; P/N C-00176
GT1400 Single Fold Doors; P/N C-00177
GT1175 Opus Control Standard Slide Doors; P/N C-00370
GT1175 Opus Control Telescopic Slide Doors; P/N C-00372
GT1175 U30 Microprocessor Control Standard Slide Door; P/N C-00105
GT1175 U30 Microprocessor Telescopic Slide Doors; P/N C-00207
GT1175 U01 thru U-19 Microprocessor Control Units; P/N 15-9244
Opus Wiring and Programming Manual; C-00139
Analog Control Wiring & Adjustment; C-00288
Magnum 4A Wiring & Adjustment; C-00084
NABCO Price Book P/N 16-9244-30 (for Sensors, Switches, and Accessories)

WARNING

- **Turn OFF all power to the Automatic Door if a Safety System is not working.**
- **Instruct the Owner to keep all power turned OFF until corrective action can be achieved by a NABCO trained technician. Failure to follow these practices may result in serious consequences.**
- **NEVER leave a Door operating without all Safety detection systems operational.**

Table of Contents

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CHAPTER 1: WARNING LABELS

Warning labels are universal and used to alert an individual of potential harm to one's self or to others. The following warning labels are listed in a hierarchy order that defines the most potential danger first, and the least potential danger last. Please refer to this page in the event that a warning label is displayed within this manual and further definition needs to be explained.

DANGER **Indicates potentially dangerous situations. Danger is used when there is a hazardous situation where there is a *high* probability of severe injury or death. It should not be considered for property dama ge unless personal injury risk is present.**

WARNING **Indicates a hazardous situation which has *some* probability of severe injury. It should not be considered for property damage unless personal injury risk is present.**

CAUTION **Indicates a hazardous situation which *may result in a minor injury*. Caution should not be used when there is a possibility of serious injury. Caution should not be considered for property damage accidents unless a personal injury risk is present.**

Attention: A situation where material could be damaged or the function impaired.

Notice: Indicates a statement of company policy as the message relates to the personal safety or protection of property. Notice should not be used when there is a hazardous situation or personal risk.

Note: Indicates important information that provides further instruction.

CHAPTER 2: GENERAL SAFETY RECOMMENDATIONS

WARNING **Read, study and understand general safety recommendations, warning labels, installation and operating instructions contained in, or referenced in this manual before operating. If you do not understand the instruction, ask a qualified technician. Failure to do so may result in bodily injury, or property damage and will nullify all warranties.**

DANGER **Disconnect all power to the junction box prior to making any electrical connections. Failure to do so may result in serious personal or fatal injury. When uncertain whether power supply is disconnected, always verify using a voltmeter.**

CAUTION **All electrical troubleshooting or service must be performed by trained, qualified electrical technicians and comply with all applicable governing agency codes.**

DANGER **Do not place finger or uninsulated tools inside the electrical controller. Touching wires or other parts inside the enclosure may cause electrical shock, serious injury or death.**

CAUTION **The Ground wire from the Opus Control 120 VAC Harness, and the Incoming 120 VAC Ground wire must be connected to the Ground screw located within the Swing door Header.**

CAUTION **Do Not touch other parts of the Opus Control board with a screwdriver or anything else metal. Damage to electrical circuitry may occur.**

CAUTION **If the door appears broken or does not seem to work correctly, it should be immediately removed from service until repairs can be carried out or a qualified service technician is contacted for corrective action.**

Notice: Wiring must meet all local, state, federal or other governing agency codes.

Note: All Adjustments must be made with a small screwdriver. Do Not use a pencil.

Note: Final installation must conform to current versions of ANSI 156.19 for Low Energy Swingers or ANSI 156.10 for Full Automatic Swingers.

CHAPTER 3: SCOPE

SECTION 3.1: To the Installer

The purpose of this manual is to familiarize the installer and purchaser with the proper installation of Retrofit Kits and operation of this system. It is essential that this equipment be properly installed and operational before the door is used by the public. It is the installer's responsibility to inspect the operation of the entrance system to be sure it complies with any applicable standards. In the United States, 156.10 is applicable for Slide automatic systems, Fold automatic systems, and Full Energy Swing automatic systems. ANSI Standard 156.19 is applicable for Low Energy Swing automatic systems. Other local standards or codes may also apply. Use them in addition to the ANSI standards. The owner should determine the door is operating properly and should immediately call for service if there is any malfunction. All installation changes and adjustments must be made by qualified, NABCO trained technicians.

SECTION 3.2: Objective

The Opus Control is designed to be installed within the Header of: Swing Door automatic systems, Fold Door automatic systems, Slide Door automatic systems. Retrofit Kits are sold for automatic systems that currently utilize older Controls, such as Magnum, Analog and Microprocessor. Retrofit kits can be purchased by contacting Customer Service at 1-888-679-3319.

CHAPTER 4: GETTING STARTED

SECTION 4.1: Request a User Name/Password to gain access into the "myNABCO" portal

To gain access into the "myNABCO" portal, the User must first have an assigned User Name and Password. To request a User Name and Password, the following must be done:

1. Open the NABCO Website: www.nabcoentrances.com
2. Enter the "myNABCO" portal → Request Access → Fill out the Request Access Form → Click onto Register
   a. A User Name and Password will be emailed back to the requestor.

SECTION 4.2: QR Code Links

Associated Manual/Videos	QR Code	Associated Manual/Videos	QR Code
Video (1 of 6) Retrofitting the GT1175 Standard Slide Door with Opus Control		Video (5 of 6) Retrofitting the GT1175 Standard Slide Door with Opus Control	
Video (2 of 6) Retrofitting the GT1175 Standard Slide Door with Opus Control		Video (6 of 6) Retrofitting the GT1175 Standard Slide Door with Opus Control	
Video (3of 6) Retrofitting the GT1175 Standard Slide Door with Opus Control		How to locate Service Parts Pages on the NABCO website	
Video (4 of 6) Retrofitting the GT1175 Standard Slide Door with Opus Control			

Android Phone Instruction to Scan QR Code	I-Phone Instruction to Scan QR Code
Note: Scanning QR Links using an Android Phone may vary.	
1. Google to download QR Scanner. Install. 2. Place phone in front of QR Code. Scan.	1. Click on Camera icon. 2. Place phone in front of QR Code. Scan.

SECTION 4.3: Request a User Name/Password to gain access into the "myNABCO" portal

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2. Enter the "myNABCO" portal → Request Access → Fill out the Request Access Form → Click onto Register
   a. A User Name and Password will be emailed back to the requestor.

CHAPTER 5: OPUS CONTROL

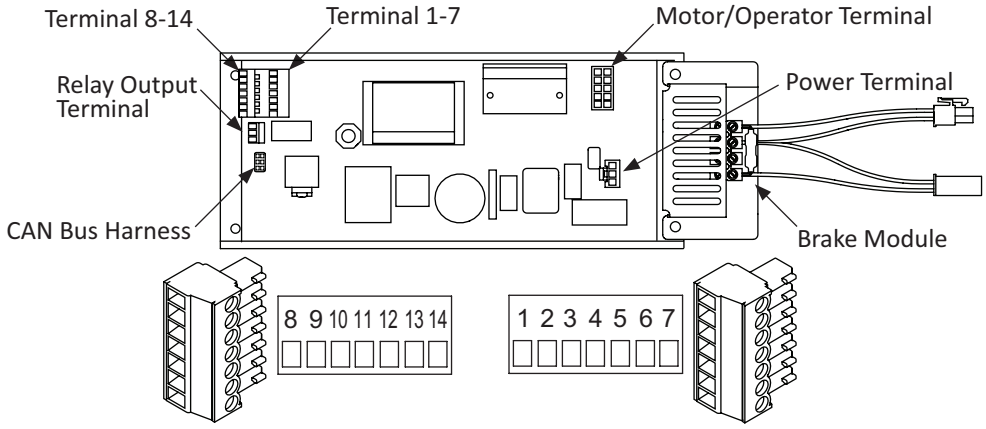
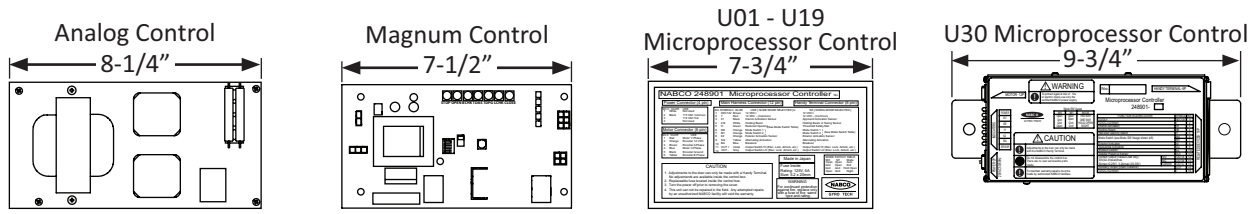


Figure 1 Opus Control Terminal Strips

Table 1 Opus Control Terminal Strips 1 thru 14

#	ID	Description		
1	12VDC	Sensor Power Source; 750mA capacity		
2	GND	Common for 12V and Signals		
3	61	Interior Activation		
4	62	Exterior Activation/Programmable Input		
5	6B	Swing Door	Continuous Safety (door mounted, swing side Safety Sensor)	
		Slide Door	Holding Beam (Beam Sensor)	
6	SWL	Swing Door	Safety with Lockout (overhead, swing side safety sensor)	Rev 27 and Later: Input is programmable (Slide or Swing)
		Slide Door	Sidelite Safety	
7	Out1	Sensor Monitoring (Programmable Output) closes to Common		
8	BA	Breakout Input: ▶ Used mainly for Slide doors ▶ Can be used for ON/OFF with Swing doors		
9	SQ	Sequential Activation Input: ▶ Signal to Open ▶ Signal to Close		
10	H	Reduce Open (Programmable Input)		
11	M0	Mode 0 Input:		"Hold Open" when both M0 and M1 are connected to Common
		▶ When connected to Common puts door into "One-Way" Mode		
12	M1	Mode 1:		
		▶ When connected to Common, puts into "Night" Mode		
13	Out2	Aux. Output: Selectable output, closes to GND		
14	GND	Common for 12V and Signals		

CHAPTER 6: HOW TO IDENTIFY EXISTING CONTROLS



Unit	Pre-existing Controls		
GT (8)710	Magnum 1 - 4A		
GT (8)300, (8)400, (8)500, (8)600	▶ Magnum 1 - 4A	▶ Analog Control	▶ U00 - U19 Microprocessor Control
GT1175	▶ U30 Microprocessor Control	▶ U00 - U19 U30 Microprocessor Control	
GT1400	▶ Magnum 4 and 4A	▶ U00 thru U19 Microprocessor Control	

CHAPTER 7: SHUT OFF CIRCUIT BREAKER

WARNING **Shut the installation site branch Circuit Breaker OFF. Failure to do so may result in serious personal or fatal injury. When uncertain whether power supply is disconnected, always verify using a voltmeter.**

WARNING **All high voltage electrical connections must be made by licensed electricians according to National and Local electrical codes/regulations.**

CAUTION **Permanent wiring shall be employed as required by local codes.**

CAUTION **Electrical circuit to Nabco operator must not be not shared with other equipment such as lighting, cash registers, or any device that might cause electrical interference on the circuit.**

CAUTION **Keep sufficient spacing between high-voltage and low-voltage wiring. 120 VAC Power wires must be routed (separate from other wiring) located near the top of inside Header.**

CAUTION **Ensure that incomming electrical ground is properly secured to the grounding screw or grounding wire, whichever is provided.**

Attention: Insert all Incoming 120 VAC Power wires into the pre drilled Electric Service Access Hole located at the left or right side of Header End Cap.

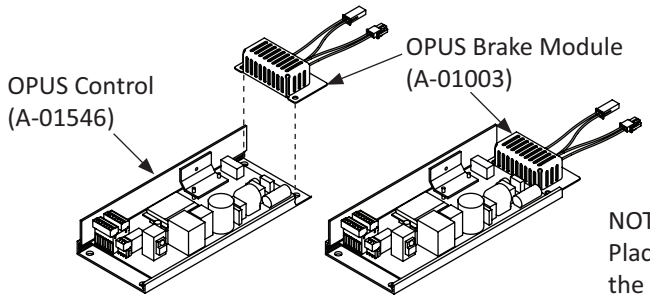
Attention: Electrical circuit to Nabco operator must not be not shared with other equipment such as lighting, cash registers, or any device that might cause electrical interference on the circuit.

Attention: Any non-factory low voltage wiring added inside the Header must be Type CL2 wire or the equivalent in accordance with Article 725 of the NEC.

Note: It is recommended for the Installer to house all Incoming 120 VAC wires within an Electrical Conduit.

CHAPTER 8: RETROFIT MAGNUM CONTROLS FOR SWING DOORS

SECTION 8.1: Proper Installation of the Brake Module



NOTE:
Place the Brake Module on TOP of the OPUS Control. NOT underneath.

Figure 2 Install the Brake Module

1. Place the retrofit Brake Module on TOP of the Opus Control so the screw holes are aligned to each other.
   a. The Brake Module is secured to the Opus Control at the same time the Opus Control is secured to the Header.

SECTION 8.2: Remove Components and Wiring

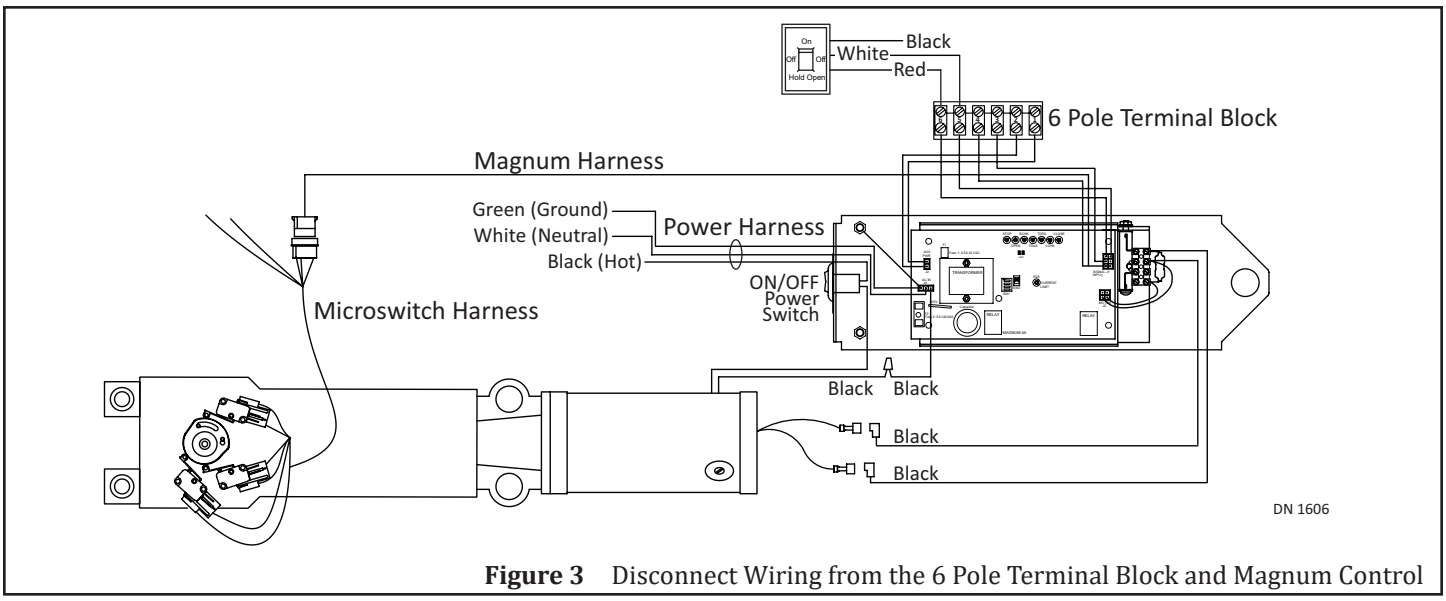


Figure 3 Disconnect Wiring from the 6 Pole Terminal Block and Magnum Control

1. Shut OFF Circuit Breaker.
2. Remove the Rocker Switch.
3. Disconnect wiring between the Magnum Control and the 6 Pole Terminal Block; and the Main Harness.
4. Disconnect all other Harnesses and Wiring between the Magnum Control, and the VS-150 Operator; plus Accessories.

SECTION 8.3: Side Load Header with Magnum Control for (8)300,(8)400,(8)500 & 600 Swing Door

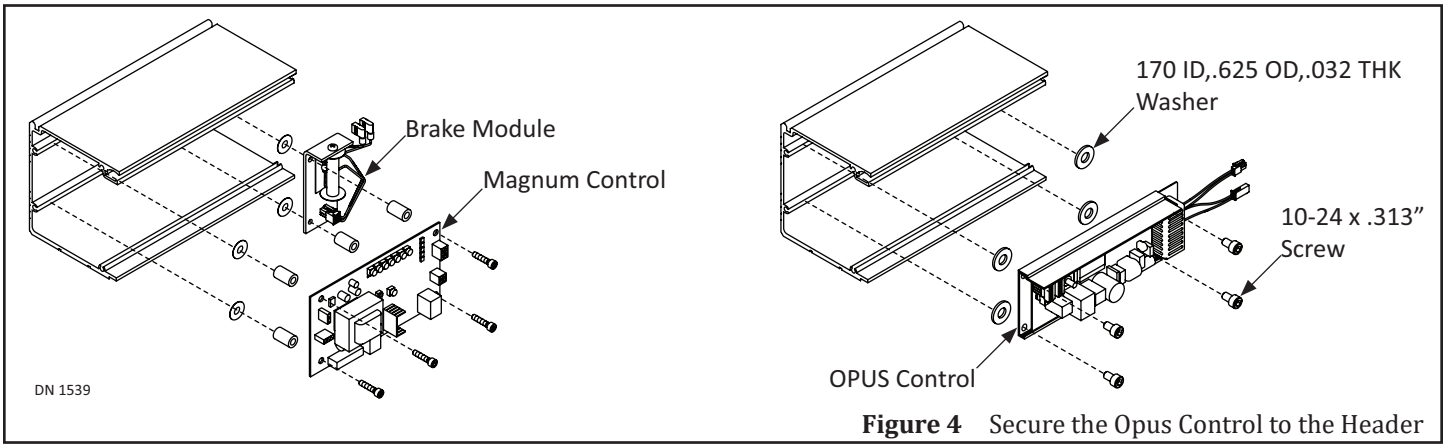


Figure 4 Secure the Opus Control to the Header

1. Remove the Magnum Control and Brake Module.
2. Place the retrofit Brake Module on TOP of the Opus Control so the screw holes are aligned to each other.
3. Insert (4) 10-24 x .313L Screws through the screw holes located on the Brake Module and Opus Control.
4. Go behind the Opus Control, slide (4) Washers onto the Screws.
5. Secure the Opus Control Assembly to the Header by tightening (4) 10-24 x .313L Screws.

SECTION 8.4: Bottom Load Header with Magnum Control for (8)300,(8)400,(8)500 & 600 Swing Door

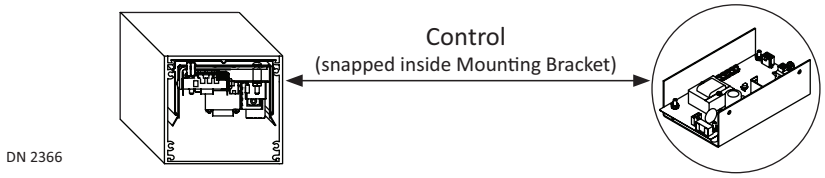


Figure 5 Remove Magnum Control from Mounting Bracket

1. Remove the Magnum Control and Brake Module from the Mounting Bracket.
2. (1) Flathead screwdriver may be used to help pull out the Magnum Control from the Mounting Bracket. Remove the Mounting Bracket from Header by squeezing each side of Mounting Bracket together (at the bottom).

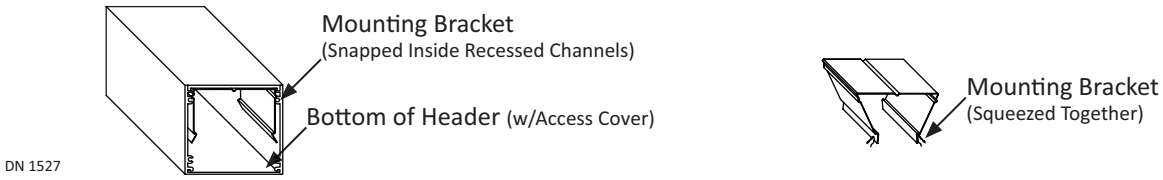


Figure 6 Snap Bracket Clip inside Header

3. Secure the Brake Module on TOP of the Opus Control with (2) 10-24 x .313L Screws.
4. Insert the Opus Control into the Header (Control will approximately be at a 4 degree angle).
5. Rotate the Opus Control until each side of the Mounting Bracket slides into the Channels located at the top; inside Header.
6. Tighten (2) 10-24 x .875 inch Socket Head Cap screw until the tip butts against the inside wall of the Header.

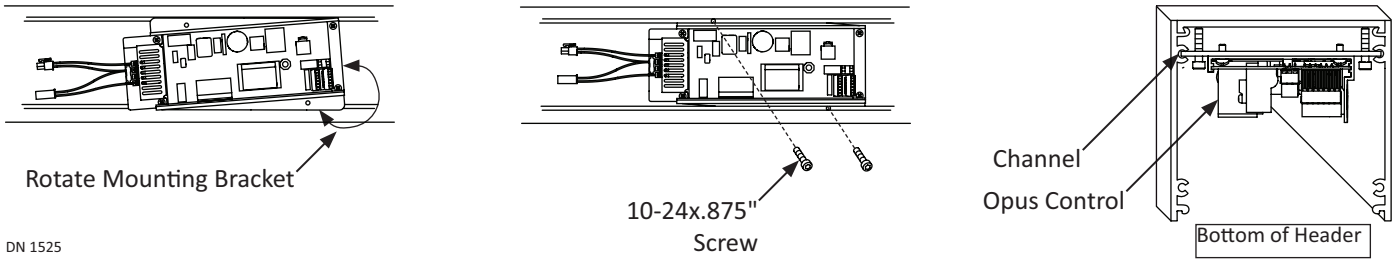


Figure 7 Snap Bracket Clip inside Header

SECTION 8.5: Side Load Header with Magnum Control for GT(8)710 Swing Door

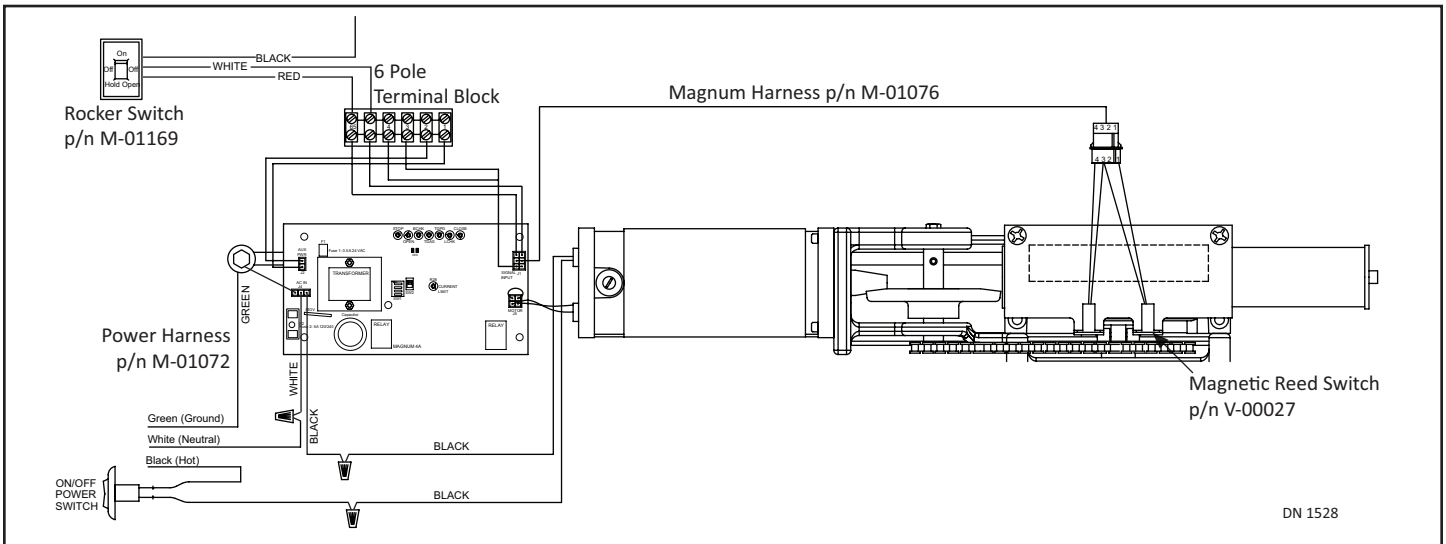


Figure 8 Remove Harnesses and Wires from the Magnum Control

1. Shut OFF Circuit Breaker.
2. Remove the Rocker Switch.
3. Disconnect all Harnesses and Wiring between the Magnum Control, and the VS-150 Operator; plus Accessories.
4. Remove the Magnum Control.

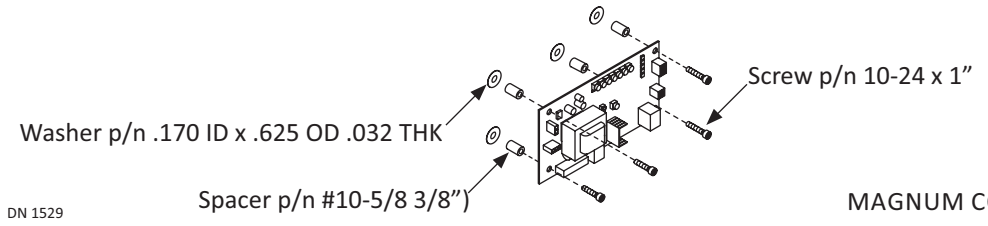


Figure 9 Insert Magnet underneath Door Closed Switch

5. Secure the Opus Control with (4) 10-24 x .313L Screws and (4) Washers to the (back) inside wall of Header.

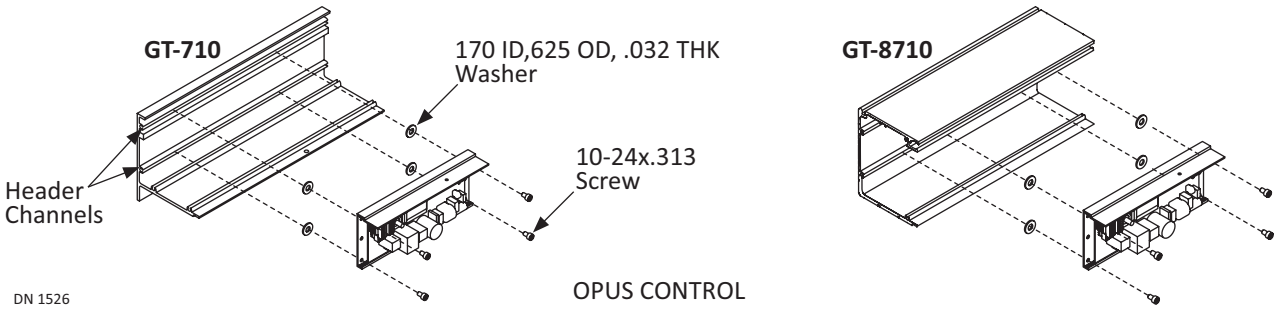


Figure 10 Secure the Opus Control to the Header

CHAPTER 9: RETROFIT MAGNUM CONTROLS FOR FOLD DOOR

1. Shut OFF Circuit Breaker.
2. Remove the Rocker Switch.
3. Disconnect all Harnesses and Wiring between the Magnum Control, and the VS-150 Operator; plus Accessories.

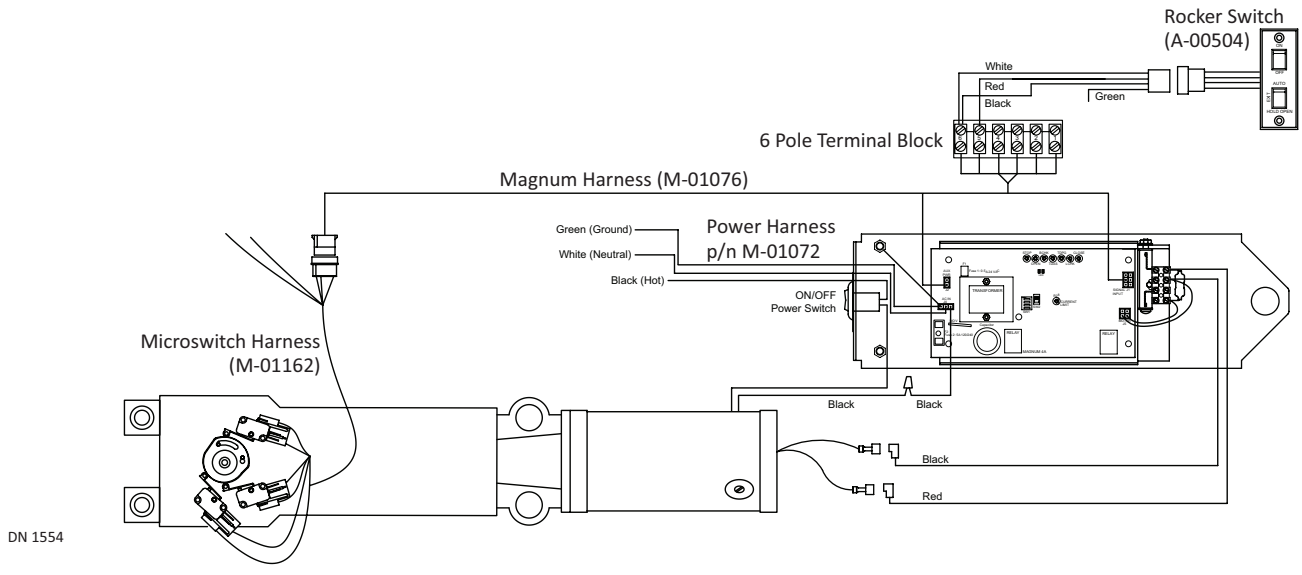


Figure 11 Remove Harnesses and Wires from the Magnum Control

4. Remove the Magnum Control. Save (2) 3/8-16 whizlock nuts for reuse.

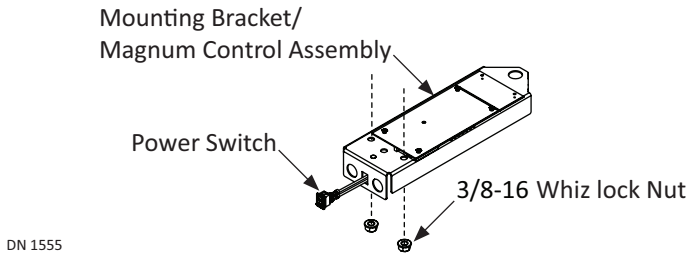


Figure 12 Remove the Magnum Control

5. Secure the Opus Control to the Operator with (2) 3/8-16 whizlock nuts that were saved for reuse.

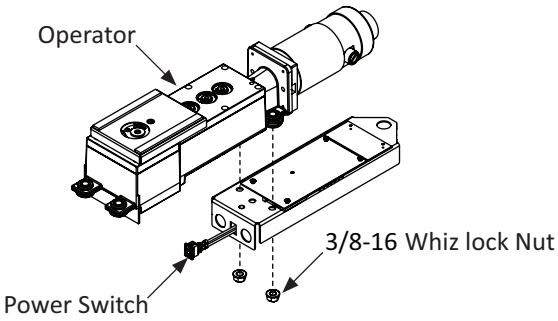


Figure 13 Secure the Opus Control to the Header

CHAPTER 10: RETROFIT U30 MICROPROCESSOR FOR STANDARD SLIDE DOOR

SECTION 10.1: Remove Existing Components and Wiring from Header

Attention: Do Not remove the Sensor Harness or the Optex Holding Beam Controller.

1. Shut OFF Circuit Breaker.

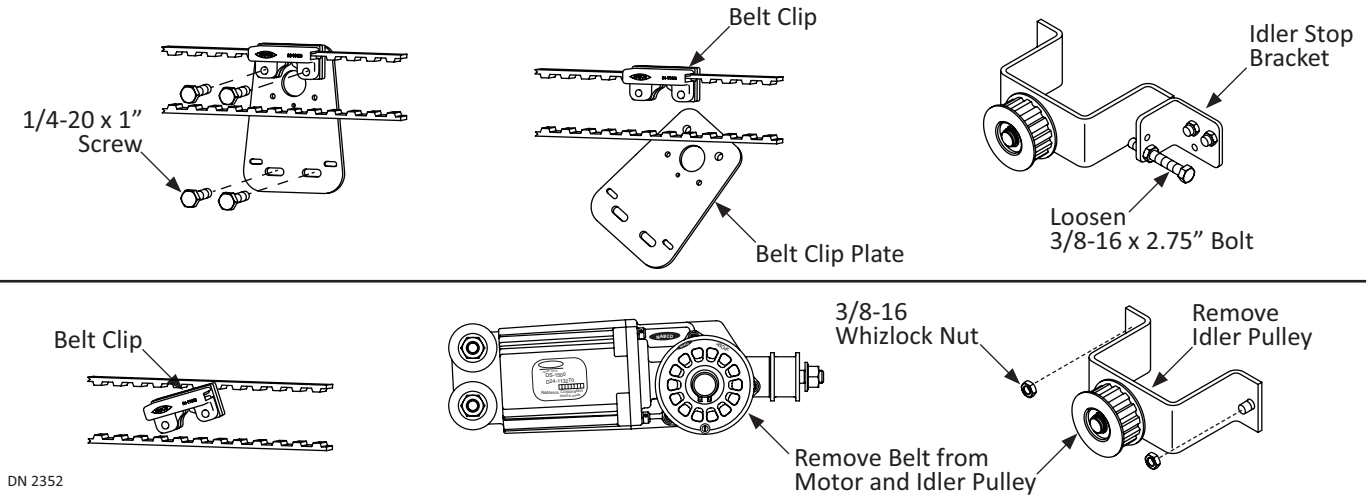


Figure 14 Remove the Belt Clip

2. Go to the Belt Clip Plate. Remove (4) 1/4-20 x 1” screws from the Belt Clip and Carrier.
3. Remove the Belt Clip Plate.
4. Go to the Idler Stop Bracket. Loosen the 3/8-16 x 2-3/4 inch Bolt.
5. Go to the Idler Pulley. Remove (1) 3/8-16 Whizlock Nut from each mounting bolt.
6. Slide the Idler Bracket towards the Idler Stop Bracket to slacken the Belt.
7. Remove the Belt Clip from Belt.

8. Remove the Belt from the Idler Pulley and DS-150 VS-150 Operator.
9. Remove the Idler Pulley.
   a. Do Not remove the Idler Stop Bracket, or the Adjustment Bolt. The Idler Stop assembly found in the new Retrofit Kit is for Stanley Units only.
10. Disconnect all Harnesses and Wiring between the Microprocessor Control, and the DS-150 Operator; plus Accessories.
11. Remove the U30 Microprocessor Control. Save 5/16-18 Whizlock nuts for reuse.
12. Remove the DS-150 Operator. Save 5/16-18 Whizlock nuts for reuse.
13. Remove the Power Supply. Save 5/16-18 Whizlock nuts for reuse.
14. Remove Harnesses and Ground Wires from Header.
    a. Do Not remove Sensor Harness.
15. If installed, remove the Handy Terminal Bracket.

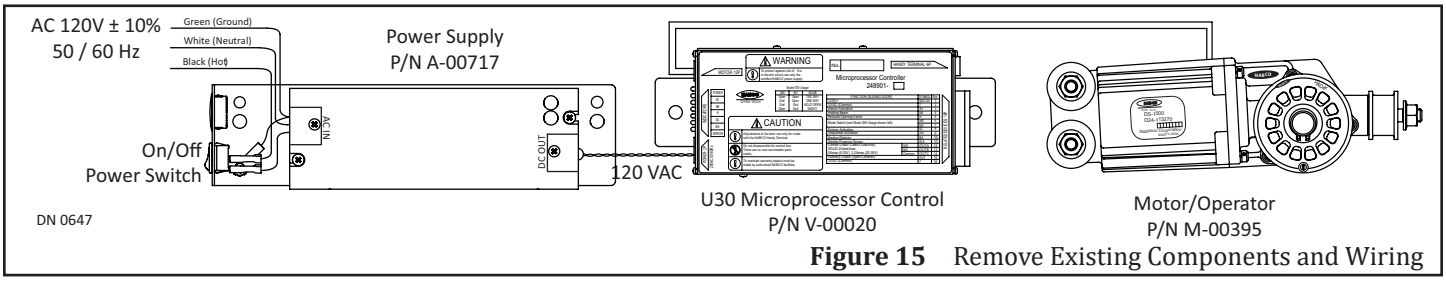


Figure 15 Remove Existing Components and Wiring

SECTION 10.2: Install New Components

Attention: The new Idler Pully is installed after the Rocker Switch Harness is connected to the Rocker Switch.

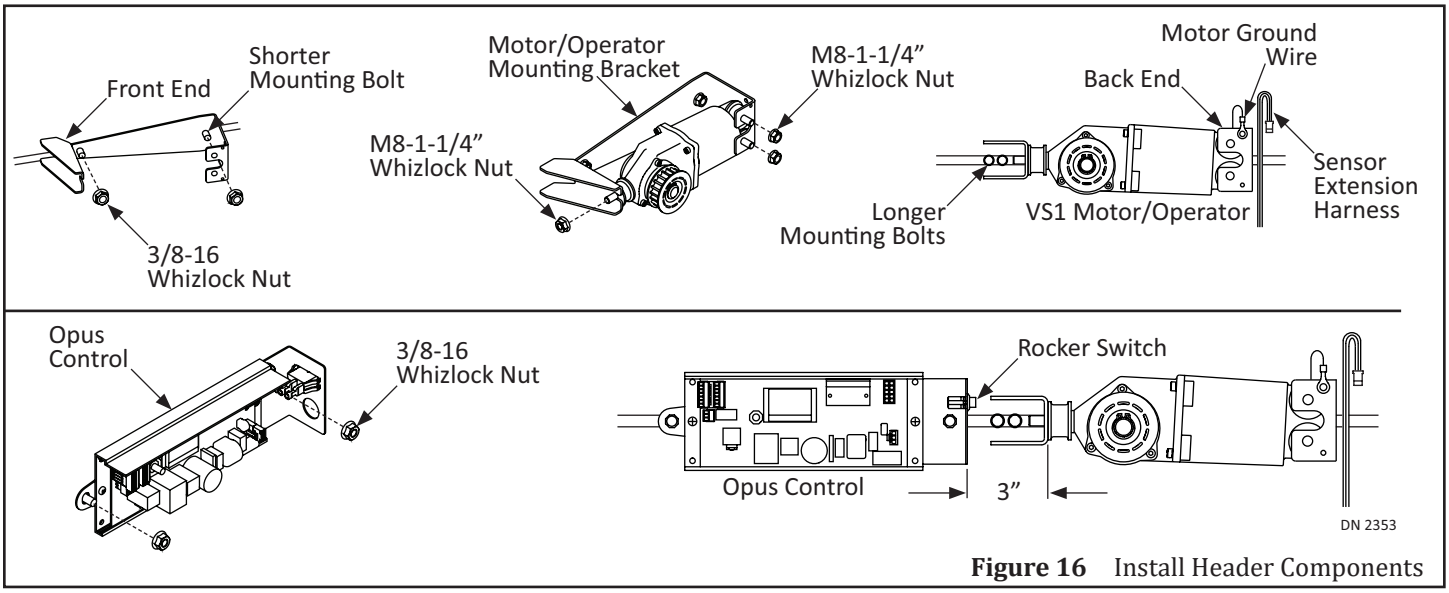


Figure 16 Install Header Components

1. Shut OFF Circuit Breaker.
2. Obtain the Retrofit Kit (Provided by NABCO).
3. Obtain (1) Extension Power Harness. Connect the Extension Power Harness to the 120 VAC Power Lines.
4. Locate (2) shorter mounting bolts closest to the Pivot Jamb Tube. Slide the VS-150 Operator Mounting Bracket onto the shorter bolts with the front end of Bracket pointing towards the middle of Header.
   a. The front end of Mounting Bracket has (1) mounting hole. The back end of Mounting Bracket has (2) mounting holes.
5. Slide the VS-150 Operator Mounting Bracket so the back end is aligned to the Sensor Harness Wiring.
6. Secure the Mounting Bracket to the mounting bolts with (2) 3/8-16 whizlock nuts (that were saved).
7. The new VS-150 Operator is high voltage. Screw the attached Ground Wire to the top predrilled screw hole on the Back Bracket with (1) #8-32 x .375" screw.

8. The (2) longer bolts inside the Header Channel will not be used. Slide the (2) longer bolts into the front end of the Mounting Bracket. Secure with (2) 3/8-16 whizlock nuts (that were saved). Doing so, will keep the (2) longer bolts out of the way.
9. Slide the Opus Control Assembly onto (2) shorter bolts inside the Header Channel.
10. Position the Opus Control so the Rocker Switch is about (3) inches away from the the Front End of VS-150 Operator.
    a. Ensure to leave enough room so the Rocker Switch (located on the Mounting Bracket) can be turned ON/OFF.
11. Secure the Opus Mounting Bracket to the bolts with (2) 3/8-16 whizlock nuts (that were saved).

SECTION 10.3: Install New Wiring

1. Shut OFF Circuit Breaker.

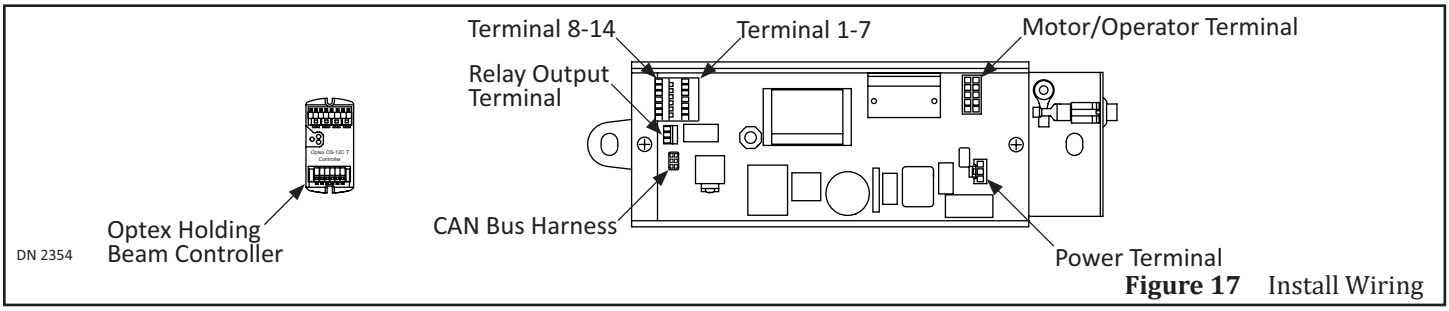
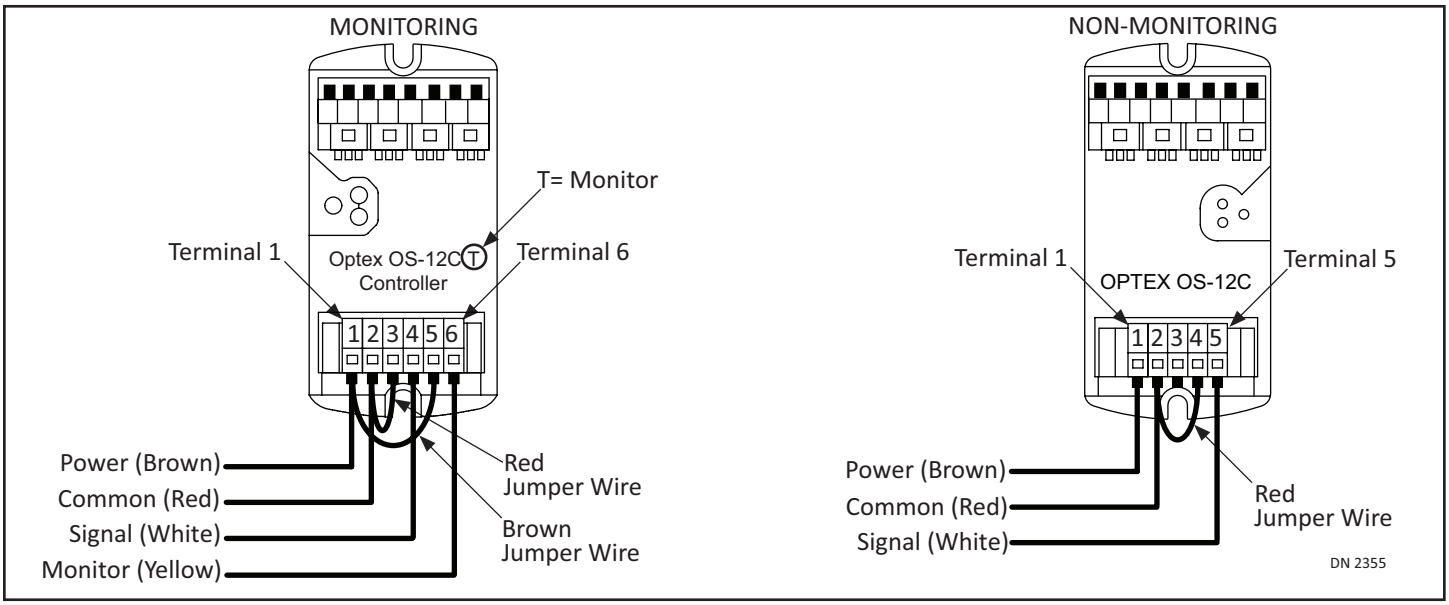


Figure 17 Install Wiring

2. Obtain the 1175 Opus Main Harness from the Harness Bag located inside the Retrofit Kit. Locate (2) Connectors numbered (1-7) and (8-14).
3. Go to (2) Terminal Strips (1-7 and 8-14) located at the upper, left side of the Opus Control. Remove the existing Connectors.
4. Match up the numbers on the Opus Harness Connectors to the Terminal Strips on the Opus Controller. Plug in Connectors.
5. Plug in (1) Interior and (1) Exterior, Sensor Connector to Connectors labeled (INT and EXT) on the 1175 Opus Main Harness (INT = Interior; and EXT = Exterior).
6. Plug the VS-150 Operator Power Harness into the Power Terminal located on the upper right corner of the Opus Control.
    a. This must be done before 120 VAC Power is Turned ON.
7. Obtain a Connector Harness with (1) Green, (1) White, and (1) Black wire. Plug the Connector into the Power Terminal located to the bottom right of the Opus Control.
8. Route, and then connect, the Green, White and Black wires to the matching Green, White and Black 120 VAC wires coming from the Extension Power Harness.
9. Secure the Power Wires to the Header Channel with a Cable Wire.



10. Locate the Optex Holding Beam Controller. If necessary, move the Optex Holding Beam Controller closer to the Opus Control so the wires on the 1175 Opus Main Harness can reach.

11. Obtain (2) small Jumper Wires (Brown and Red) from the Harness Bag located inside the Retrofit Kit.
12. Go to the front face of the Optex Beam Controller. Read the Model Number. If the Model Number is:
    - ▶ OS-12C = Monitoring is not enabled = DO NOT use **the** Jumper Brown Wire or the Yellow Wire
    - ▶ OS-12CT = Monitoring is enabled
13. Wire the Optex Holding Beam Controller. Please refer to P/N C-00139 "Opus Wiring and Programming" manual for more detailed information.
14. Obtain and run the new Rocker Switch Harness down the Strike Jamb Tube and out the Rocker Switch, Cut Out.
15. Go to the Back of the Rocker Switch. Locate the (5) colored wire Connector. Plug the Rocker Switch Harness to the Connector by matching the colored wires (orange to orange, green to green, etc).

SECTION 10.4: Install New Idler Pulley

1. Go to the Strike Side of the Idler Stop Assembly. Slide the new Idler Pulley onto (2) shorter mounting bolts inside the Header Channel. Secure with (2) 3/8-16 whizlock nuts (that were saved).

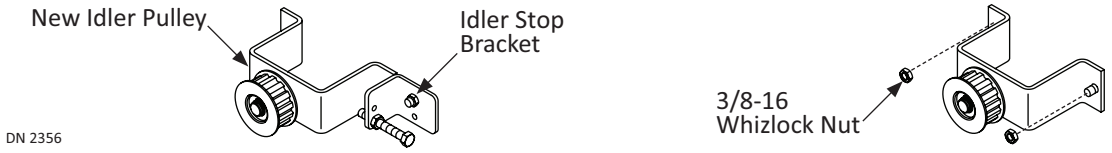


Figure 18 Install New Idler Pulley

SECTION 10.5: Install New Timing Belt

1. Wrap Timing Belt around the Idler Pulley and VS-150 Operator Pulley.
2. Insert each loose end of the Timing Belt inside the Belt Clip until both ends butt up against each other.
3. Assemble the Belt Clip Bracket and Spacer to the Belt Clip. Secure with (2) 1/4-20 x .75 inch Whizlock Screws.
4. Secure the Belt Clip Assembly to the Carrier with (2) 1/4-20 x .75 inch Whizlock Screws.
5. Go to the Idler Stop Bracket. Tighten the Timing Belt with (1) 3/8-16 x 2.75 inch Bolt.

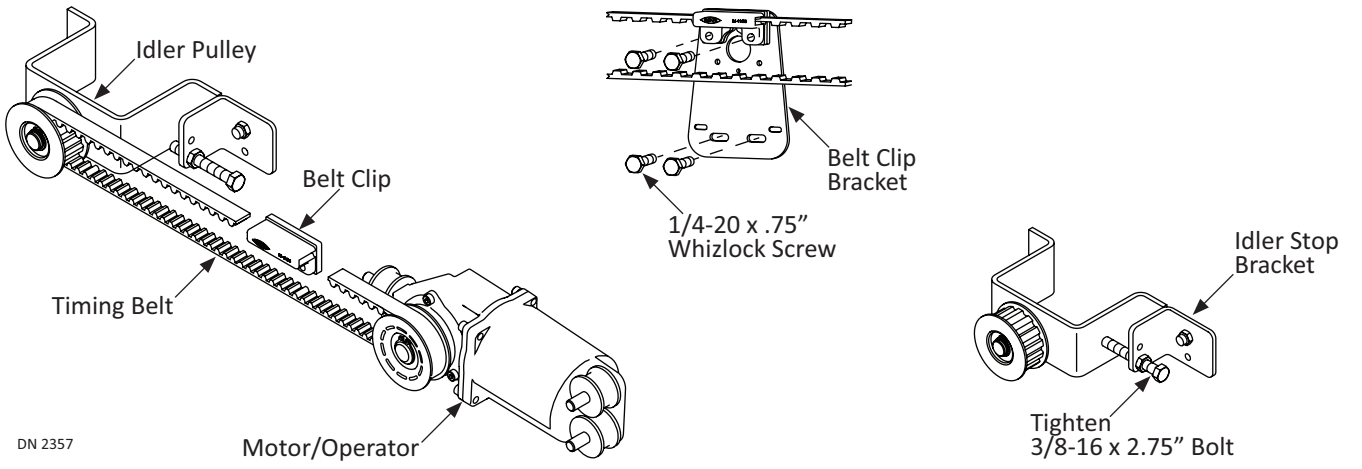


Figure 19 Install New Belt

CHAPTER 11: RETROFIT U30 MICROPROCESSOR FOR TELESCOPIC SLIDE DOOR

SECTION 11.1: Remove Existing Components and Wiring from Header

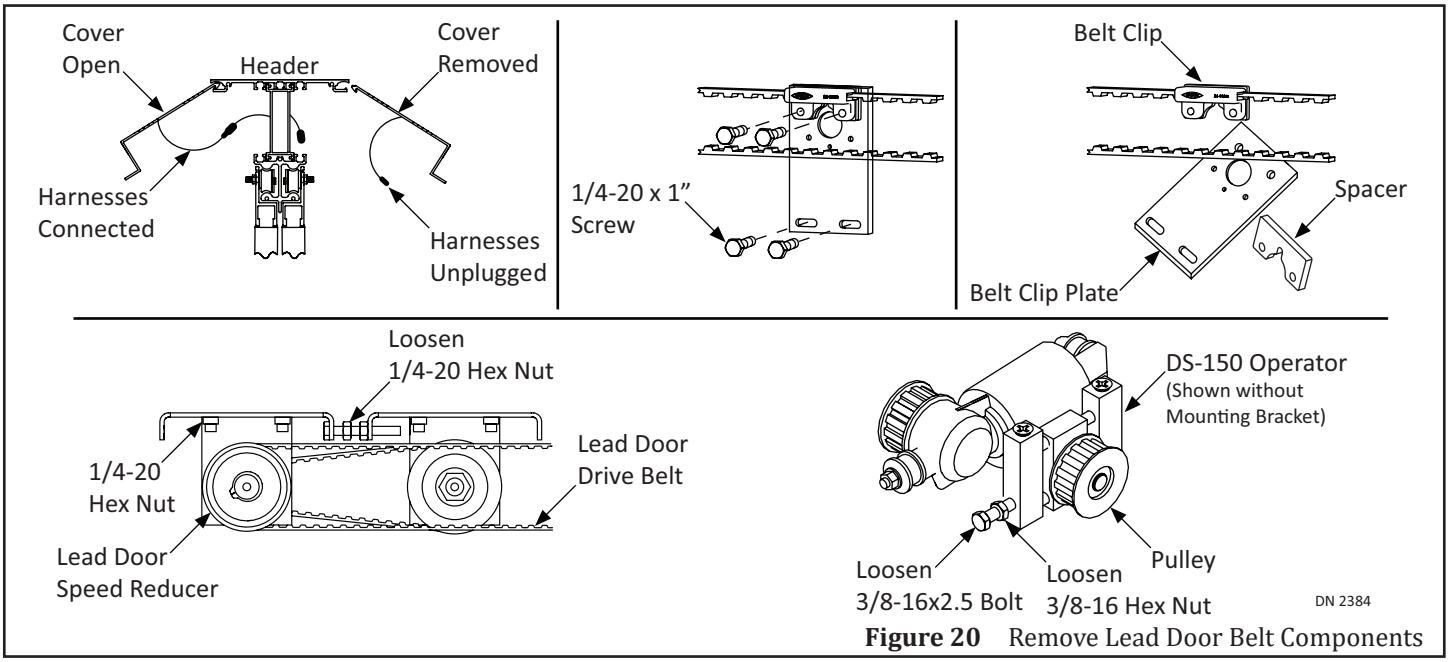


Figure 20 Remove Lead Door Belt Components

11.1.1. Remove Header Cover (Lead side of Door)

1. Shut OFF Circuit Breaker.
2. Go to Lead Door Side of door. Remove (2) 10-24 x .625" screws from Bottom Lip of Header Cover. Save for reuse.
3. Open Header Cover. Unplug the Sensor Harness and the Breakout Harness (if applicable) from extension Harness(s).
4. Remove Cover.

11.1.2. Remove Header Cover (Trail Side of Door)

- Full Open Telescopic Slide Door
  1. Go to the Trail Door side of Door. Break open the Full Open Sidelite.
  2. Remove the Limit Arm from Header. Set inside top Rail of SIdelite.
  3. Remove (2) 10-24 X .625" screws Remove Open Header Cover. Unplug the Sensor Harness.
  4. Remove Cover. Set aside for reinstallation including
- Fixed Sidelite Telescopic Slide Door
  1. Go to the Trail Door side of Door. Remove (2) 10-24 X .625" screws from Bottom Lip of Header Cover. Save for reuse.
  2. Open Header Cover. Unplug the Sensor Harness.
  3. Remove Cover.

11.1.3. Remove Lead Door Timing Belt

1. Go to the Belt Clip located on the Lead Door side of Door.
2. Remove the Belt Clip Plate, plus Spacer, from the Carrier and Belt Clip.

11.1.3.1 For Lead Doors with Electric Lock.

1. Remove the Latchbolt and (2) screws from the Belt Clip Plate. Save the Latchbolt and (2) screws for reuse.
   a. If Latchbolt is damaged, please call customer service to order a new Latchbolt, at (877) 622-2694.

11.1.4. Remove Trail Door Timing Belt

1. Remove the Belt Clip Plate, plus Spacer, from the Carrier and Belt Clip.
2. Go between the (2) Speed Reducers to locate the Belt Tension Bracket assembly.
3. Loosen the 1/4-20 Hex Nut located on the 1/4-20 x 2 inch Bolt. Remove the Drive Belt.

11.1.5. Remove the Speed Reducer Assembly

1. Go to the Trail side of Header. Remove (8) 1/4-20 Hex Nuts, and (8) 5/16 ID Lock Washers used to secure the Speed Reducer Assembly to the (inside) top of Header.
2. Remove the Speed Reducer Assembly from the Header.

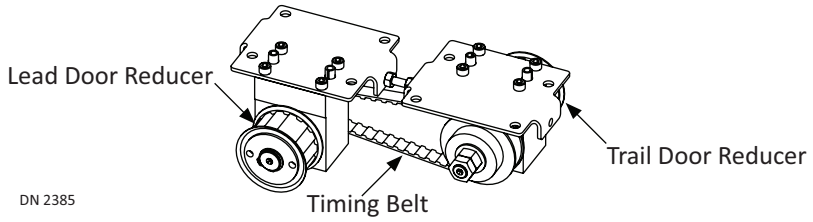


Figure 21 Remove Speed Reducer Assembly

11.1.6. Remove Components from Header

Attention: Do Not remove the Sensor Harness, or Optex Holding Beam Controller, or Electric Strike Assembly. Keep existing wires connected to the Beam Box. Cut the existing wires near the U30 Microprocessor Control before removing the old Telescopic Main Harness.

1. Disconnect Harnesses connected to the U30 Microprocessor Control. Set Harnesses aside, some (wires) might be reused.
2. Remove the Power Supply.
3. Remove the U30 Microprocessor Control.
4. Remove the DS-150 Operator.
5. Remove the DS-150 Operator Bracket.
6. Remove Belt Tension Bracket. Save (2) 5/16-18 Whizlock nuts and (2) 5/16 ID Lock Washers for reuse.
   a. The existing Belt Tension Bracket can be reused, but a new Belt Tension Bracket has been provided by NABCO.
7. If installed, remove the Handy Terminal Bracket.

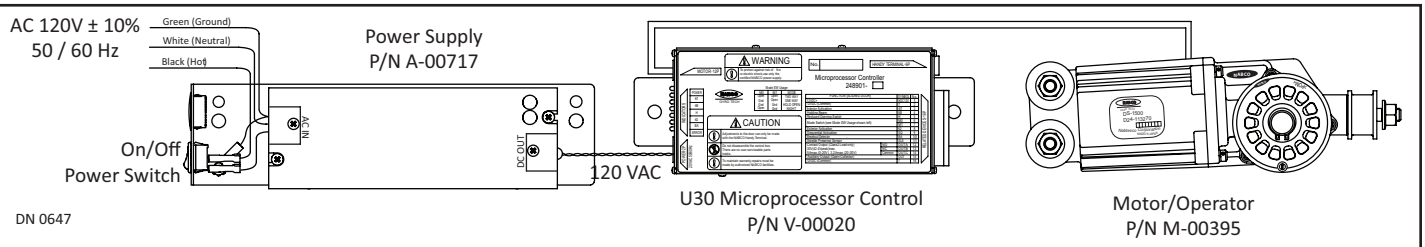


Figure 22 Remove Existing Components

SECTION 11.2: Install New Header Components

Attention: Header Components are installed from the Lead Side of Door.

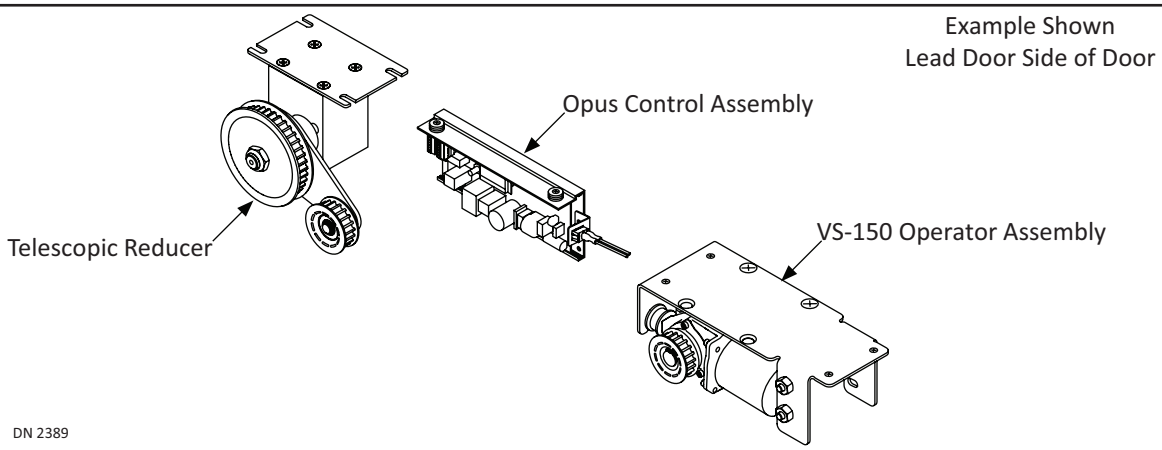


Figure 23 Telescopic Retrofit Header Components

Attention: All Wiring inside Header Channels (at the top) - must - be taped so the Wiring cannot hang down past the Channel opening.
Taping is done so newly installed components cannot pinch Wiring against the Header Frame.

11.2.1. Install the VS-150 Operator Bracket

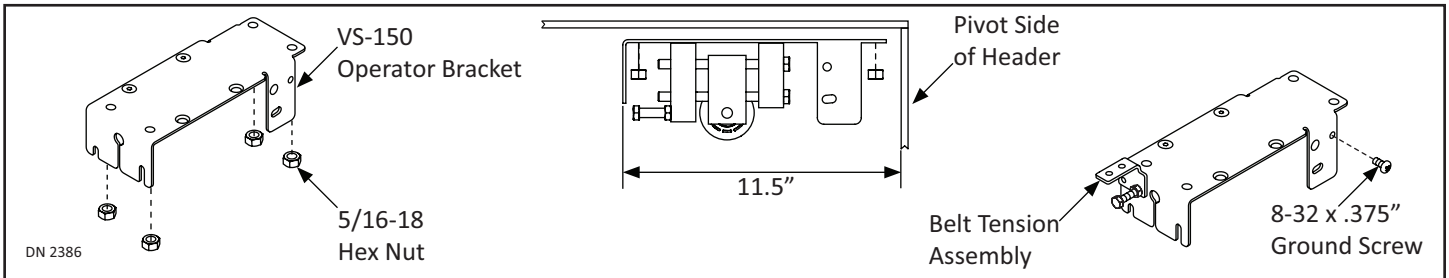


Figure 24 Install the VS-150 Operator Bracket

11.2.1.1 RH Full Open or LH Fixed Sidelite

1. Obtain the VS-150 Operator Bracket. Go to the Pivot side of Header where the DS-150 Bracket was previously removed.
2. Align (4) bolt holes located at the top of the VS-150 Operator Bracket to the Bolts hanging down from Header Channels. Slide the Bracket onto each mounting bolt.
3. Loosely secure the VS-150 Bracket with (4) 5/16-18 Whizlock nuts.
   a. Ensure the Trail Pulley is on the Trail Side of Slide Door.
4. Go to 11.2.1.3 to complete installation.

11.2.1.2 LH Full Open or RH Fixed Sidelite (Reverse Handing)

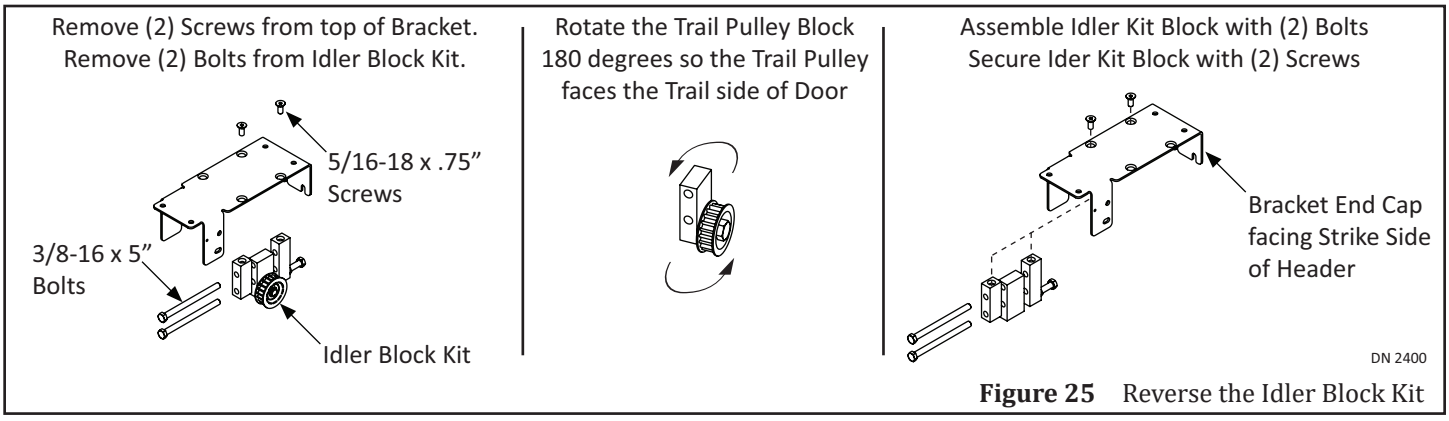


Figure 25 Reverse the Idler Block Kit

1. Go to the open end of Bracket. Remove (2) 3/8-16 x 5 inch Bolts used to secure the Idler Kit Blocks together. Put aside.
2. Locate the middle Block with the Idler attached to it. Turn the middle Block around so the Idler is facing towards the Header Cover on the Trail side of Door.
3. Slide (2) 3/8-16 x 5 inch Screws through the (3) Blocks to reassemble the Idler Kit. Tighten with a 9/16” Hex Socket.

11.2.1.3 Complete Installation for All Lead Door Types

1. Slide the VS-150 Operator Bracket through the Channels, towards the Pivot Side of Header, until the opposite end of the Bracket measures approximately 11-1/2 inches away from the Header End Cap.
   a. Do Not tighten the (4) 5/16-18 Whizlock nuts until the Timing Belt has been installed.
2. Obtain the Belt Tension Bracket. Slide the Belt Tension Bracket onto (2) bolts used to secure the old Belt Tension Bracket.
3. Secure with (2) 5/16-18 Whizlock nuts.
   a. The existing Belt Tension Bracket can be reused.
4. Slide the Belt Tension Bracket towards the Pivot side of Header until it butts up against the VS-150 Operator Bracket.

5. Tighten (2) 5/16-18 Whizlock nuts used to secure Belt Tension Bracket to top of Header.
6. The new VS-150 Operator is high voltage. Screw the attached Ground Wire to the predrilled screw hole on the side of Bracket with (1) #8-32 x .375" screw.

11.2.2. Secure the Power Switch onto the Opus Control

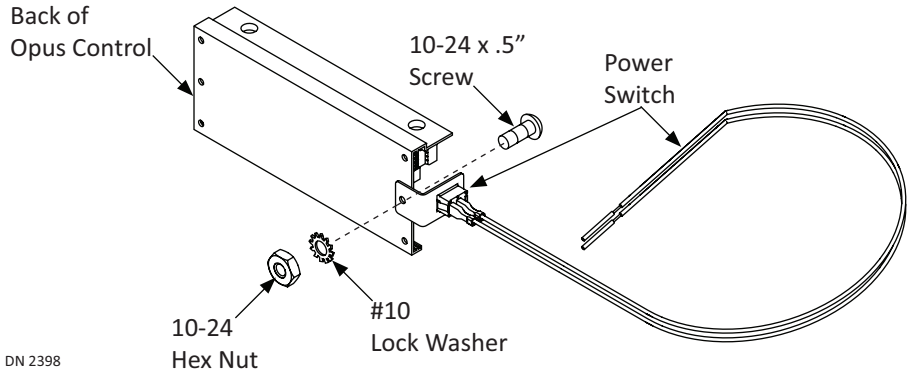


Figure 26 Install the VS-150 Operator Bracket

Attention: Power Switch can be installed anywhere within the Header.

1. Obtain the Power Switch. Place the Bracket on the Backside of the Opus Control.
2. Align the Screw Hole with the middle Screw Hole located on the side of Mounting Bracket.
3. Insert (1) 10-24 x .5 inch Screw through the front of Opus Control Bracket.
4. Slide (1) #10 Lock Washer onto the Screw. Slide (1) 10-24 Hex Nut onto the Screw. Tighten.

11.2.3. Install the Opus Control

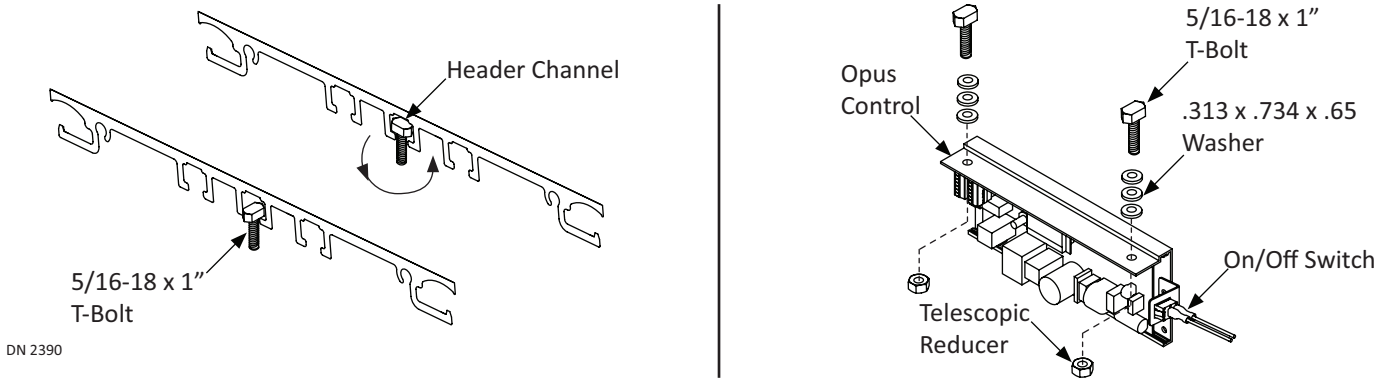


Figure 27 Install the Opus Control

1. Obtain the Opus Control, (6) 313. x 734. x .065 Washers, and (2) 5/16-18 x 1" T-Bolts.
2. Place (3) Washers onto the Top of Control Bracket. Slide (1) T-Bolt through Washers. Loosely secure each T-Bolt to the Control Bracket with (1) 5/16-18 Whizlock Nut.
3. Go (inside) the Header where the U30 Microproccesor was previously removed. Rotate each T-Bolt and slide them inside the middle Channel.
4. Slide the Opus Control through the Channels.
5. Turn the T-Bolts until they "lock" inside the Channel. Tighten with (2) 5/16-18 Whizlock nuts.
6. If the Power Switch is installed next to the VS-150 Operator, ensure the Power Switch is about (3) inches away.
   a. If the Power Switch is installed elsewhere, ensure to leave enough room so the Power can be turned ON/OFF.

11.2.4. Install the Reducer

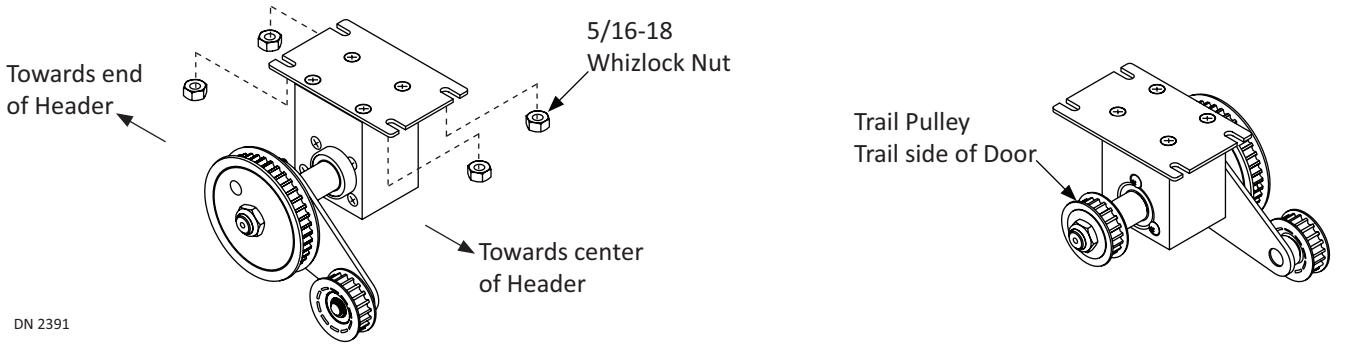


Figure 28 Install the Reducer

1. Go to top of Header where the Lead Reducer and Trail Reducer were removed. Run necessary wiring through the Header Channel. Tape so wiring does not hang down past the Channel opening.
2. RH Full Open or RH Fixed Sidelite go to 11.2.4.2 to finish installation.

11.2.4.1 LH Full Open or RH Fixed Sidelite (Reverse Handing)

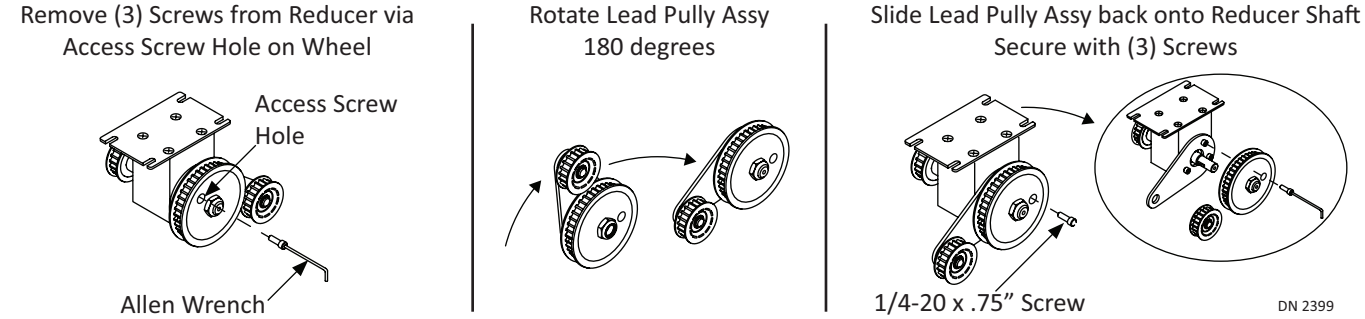


Figure 29 Reverse the Reducer

1. Obtain the Reducer. Go to the Lead Door Pulley and locate the screw hole on the side of wheel.
2. Turn the wheel until the access screw hole is aligned with (1) 1/4-20 x .75 inch screw.
3. Remove the screw with a 3/16” Allen Wrench.
4. Repeat steps for (3) more 1/4-20 x .75 inch screws. Put aside.
5. Rotate the Lead Door Pulley clockwise (180 degrees) so the Lead Pulley faces the Pivot Side of Header.
6. Use a 3/16” Allen Wrench to secure the Lead Door Pulley to the Reducer with (4) 1/4-20 x .75 inch screws.
   a. Turn the wheel to locate each Screw hole.
7. Go to “11.2.4.2 Complete Installation for all Lead Door Types” to complete installation.

11.2.4.2 Complete Installation for all Lead Door Types

1. Obtain the new Reducer.
2. Go to where the old Reducer was removed. Slide the existing (4) Bolts (hanging from the top of Header) into each Slot of the new Reducer.
   a. Ensure that the Trail pulley is on the Trail side of Slide Door.
3. Secure the new Reducer to the Bolts with (4) 5/16-18 Whizlock nuts.

11.2.5. Install the VS-150 Operator

1. Obtain the VS-150 Operator. Locate to the Access Hole located in the middle of the End of Bracket (on the Strike side of Header, at the top. Run the Power Harness through the hole.
   a. To get Power Harness through hole, slide one wire at a time through the slot, single file. This can be done right next to the plug before the Casing starts.

2. Connect the Power Harness to the Opus Control.
3. Secure the VS-150 Operator to the Bracket with (3) M8-1.25 Whizlock Nuts.

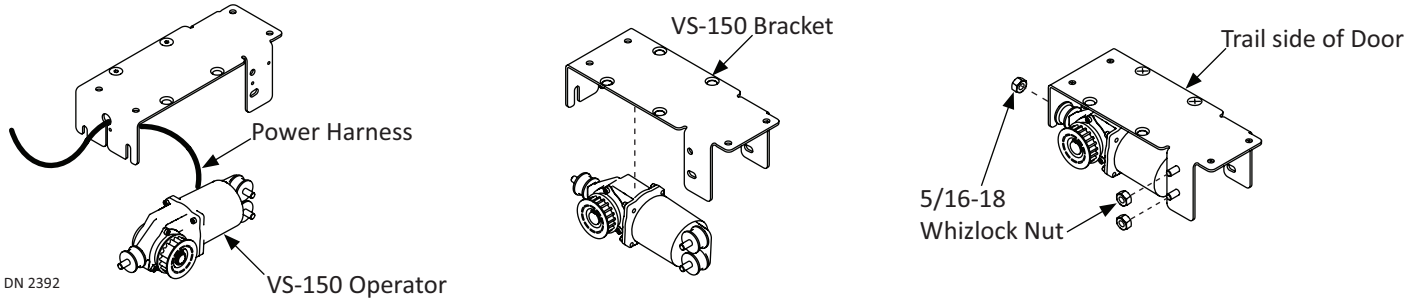


Figure 30 Install the VS-150 Operator

SECTION 11.3: Install New Wiring

1. Shut OFF Circuit Breaker.
2. Obtain the 1175 Opus Main Harness from the Harness Bag located inside the Retrofit Kit. Locate (2) Connectors numbered (1-7) and (8-14).
3. Go to (2) Terminal Strips (1-7 and 8-14) located at the upper, left side of the Opus Control. Remove the existing Connectors.
4. Match up the numbers on the Opus Harness Connectors to the Terminal Strips on the Opus Controller. Plug in Connectors.
5. Plug in (1) Interior and (1) Exterior, Sensor Connector to Connectors labeled (INT and EXT) on the 1175 Opus Main Harness (INT = Interior; and EXT = Exterior).
6. Plug the VS-150 Operator Power Harness into the Power Terminal located on the upper right corner of the Opus Control.
   a. This must be done before 120 VAC Power is Turned ON.
7. Obtain a Connector Harness with (1) Green, (1) White, and (1) Black wire. Plug the Connector into the Power Terminal located to the bottom right of the Opus Control.
8. Route, and then connect, the Green, White and Black wires to the matching Green, White and Black 120 VAC wires coming from the Extension Power Harness.
9. Secure the Power Wires to the Header Channel with a Cable Tie.

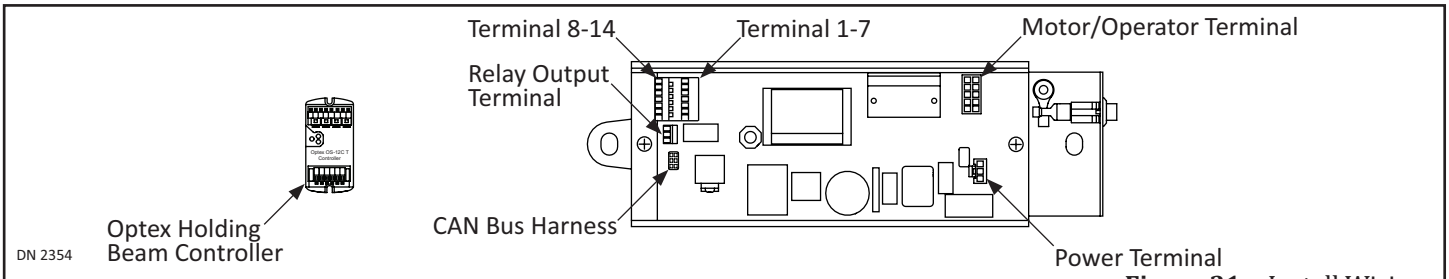
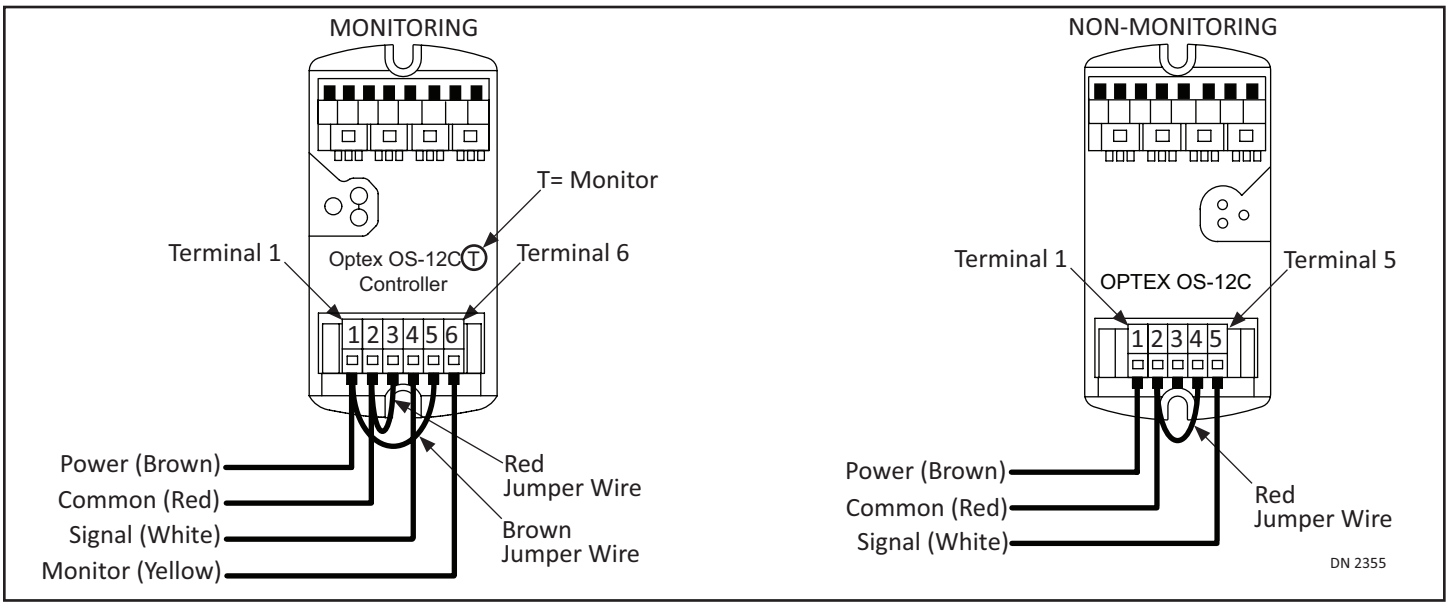


Figure 31 Install Wiring

Attention: New Telescopic Main Harnesses have very short beam wires.
Cut wires out of the old Telescopic Main Harness and then 'wire nut' the new Telescopic Main Harness to the extensions.
Keep existing wires connected to the Beam Box. Cut the existing wires near the U30 Microprocessor Control before removing the old Telescopic Main Harness.

10. Locate the Optex Holding Beam Controller. If necessary, move the Optex Holding Beam Controller closer to the Opus Control so the wires on the 1175 Opus Main Harness can reach.
11. Obtain (2) small Jumper Wires (Brown and Red) from the Harness Bag located inside the Retrofit Kit.
12. Go to the front face of the Optex Beam Controller. Read the Model Number. If the Model Number is:
    - ▶ OS-12C = Monitoring is not enabled = DO NOT use **the** Jumper Brown Wire or the Yellow Wire
    - ▶ OS-12CT = Monitoring is enabled
13. Wire the Optex Holding Beam Controller according to the Type shown in Figure 22. Please refer to P/N C-00139 "Opus Wiring and Programming" manual for more detailed information.

14. Obtain and run the new Rocker Switch Harness down the Strike Jamb Tube and out the Rocker Switch, Cut Out.
15. Go to the Back of the Rocker Switch. Locate the (5) colored wire Connector. Plug the Rocker Switch Harness to the Connector by matching the colored wires (orange to orange, green to green, etc).



SECTION 11.4: Install the Lead Door Timing Belt (With Electric Lock)

11.4.1. Secure Belt Clip Plate to Carrier

Attention: Orientation of Latchbolt when reinstalled is critical. If Latchbolt is backwards the Slide Door will not fully close.

1. Obtain the new Belt Clip Assembly.
2. Obtain (1) Latchbolt and (2) 8-32 x .375 inch screws that were saved for reinstallation. Insert the bolt end through the back of the new Belt Clip Plate. Ensure the Latch is facing the inside of Header. Secure the Latchbolt with (2) 8-32 x .375” screws.
3. Secure the Belt Clip Plate to the Carrier located on the Lead Door with (2) 1/4-20 x 3/4” screws.
4. Complete the Lead Door Belt Clip installation after the Timing Belt has been installed.

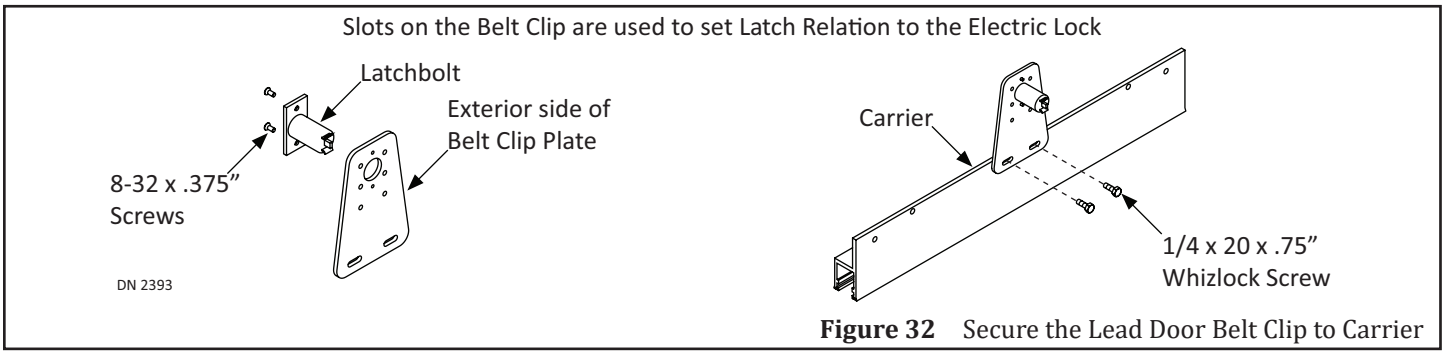


Figure 32 Secure the Lead Door Belt Clip to Carrier

11.4.2. Install the Timing Belt

1. Go to the Lead Door side of Door.
2. Obtain the Timing Belt. Wrap the Timing Belt around the Lead Door Pulleys located on the VS-150 Operator and the Reducer. Ensure the Timing Belt is placed on top of the Idler Pulley (not under, or wrapped around it).
3. Bring both ends of the Timing Belt together so the Timing Belt has some slack, but not too loose. Cut the Timing Belt accordingly. Save remaining portion of Timing Belt.
4. If deemed necessary, remove and rewrap the Timing Belt so both ends are at the top, next to the Belt Clip Bracket.
5. Slide each end of the Timing Belt inside the Belt Clip until both ends butt up against each other.

6. Place (1) Spacer behind the Belt Clip.
7. Secure the Spacer and Belt Clip to the front of the Belt Clip Plate with (2) 1/4-20 x 3/4" screws.

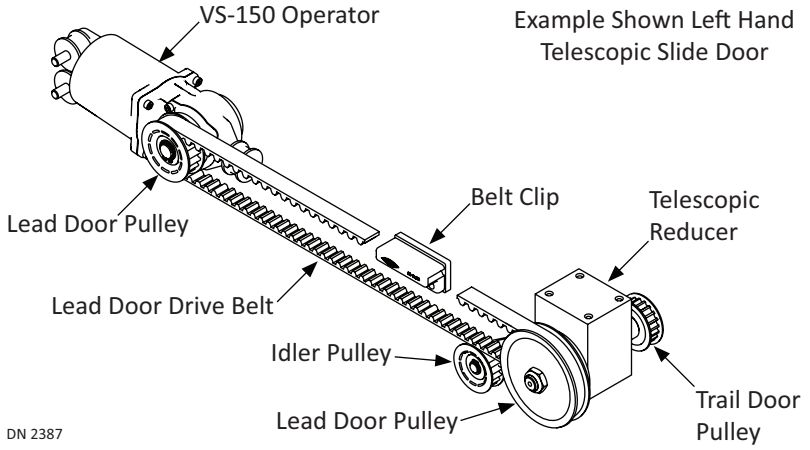


Figure 33 Install Lead Door Timing Belt

11.4.3. Install the Belt Clip to Belt Clip Plate

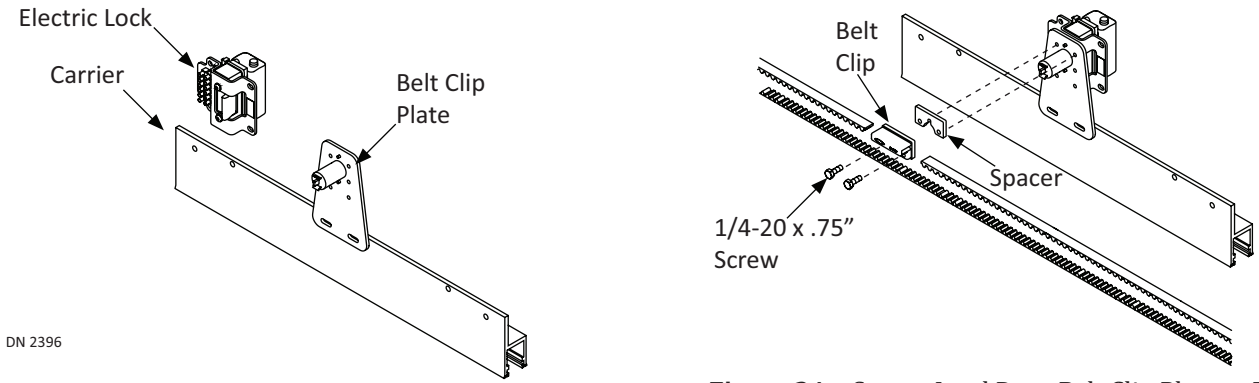


Figure 34 Secure Lead Door Belt Clip Plate to Belt Clip

1. Fully close the Lead Slide Door. Manually rotate the Drive Belt so the Belt Clip is next to the Electric Lock.
2. Place (1) Spacer behind the Belt Clip. Secure the Belt Clip and Spacer to the Belt Clip Plate with (2) 1/4-20 x .75" Screws.
3. Manually rotate the Drive Belt so the Latch portion of the Latch Bolt is seated inside the Electric Lock.

SECTION 11.5: Install the Lead Door Timing Belt (No Electric Lock)

11.5.1. Secure the Belt Clip Plate (No Electric Lock) to Carrier

1. Secure the Belt Clip Plate to the Carrier located on the Lead Door with (2) 1/4-20 x 3/4" screws.
   a. Complete the Lead Door Belt Clip installation after the Timing Belt has been installed.

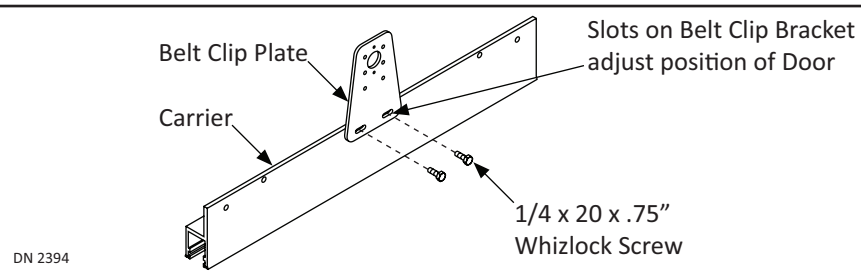


Figure 35 Install the Trail Door Belt Clip to Carrier

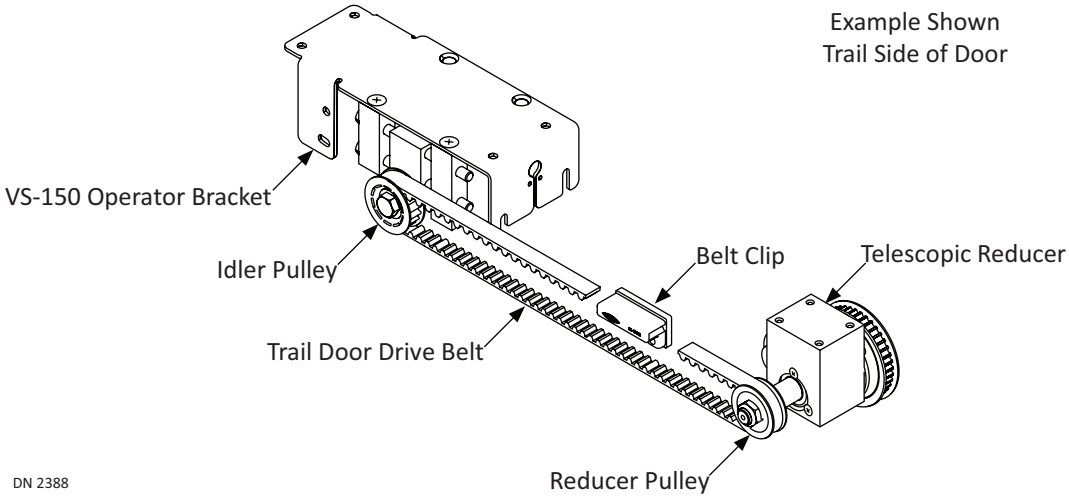


Figure 36 Install Timing Belt

2. Obtain the Timing Belt. Wrap the Timing Belt around the Lead Door Pulleys located on the VS-150 Operator and the Reducer.
3. Bring both ends of the Timing Belt together so the Timing Belt has some slack, but not too loose. If deemed necessary, remove and rewrap the Timing Belt so both ends are at the top, next to the Belt Clip Bracket.
4. Slide each end of the Timing Belt inside the Belt Clip until both ends butt up against each other.
5. Place (1) Spacer behind the Belt Clip.
6. Secure the Spacer and Belt Clip to the front of the Belt Clip Plate with (2) 1/4-20 x 3/4" screws
7. Go to the Lead side of Door. Place (1) Spacer behind the Belt Clip. Secure the Belt Clip and Spacer to the Belt Clip Plate with (2) 1/4-20 x .75" Screws.

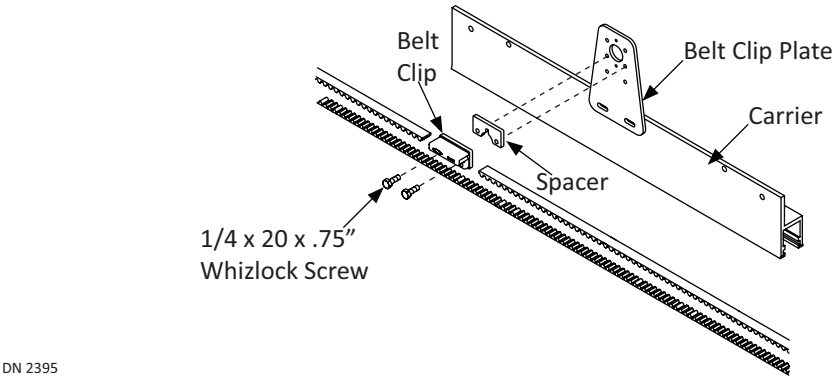


Figure 37 Secure Trail Door Belt Clip Plate to Belt Clip

SECTION 11.6: Tighten the Lead Door Timing Belt

1. Fully Close the Lead Door
2. Go to the Belt Tension Bracket Assembly located at the front of the DS-150 Operator.
3. Loosen the 3/8-16 Hex Nut from the 3/8-16 x 2-1/2 inch long Bolt.
4. Tighten the Lead Door Drive Belt by rotating the Bolt, clockwise. Retighten the 3/8-16 Hex Jam Nut.
5. Tighten (4) 5/16-18 Whizlock nuts to secure tbe VS-150 Operator Bracket to top of Header.

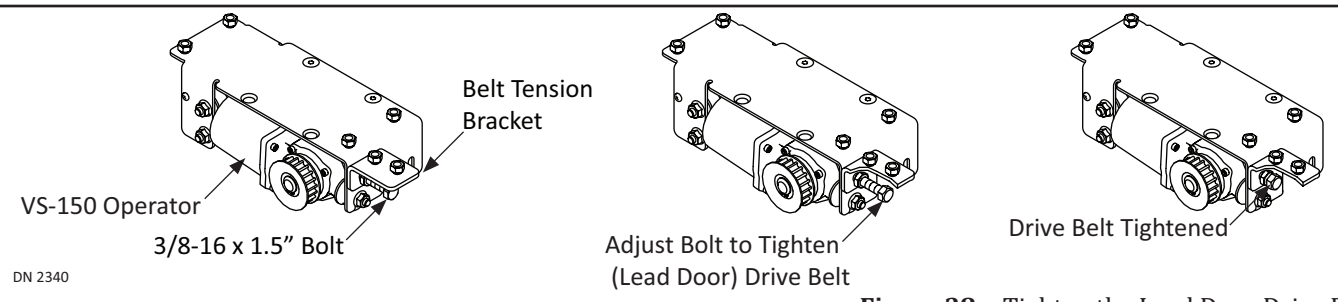


Figure 38 Tighten the Lead Door Drive Belt

SECTION 11.7: Install the Trail Door Timing Belt

11.7.1. Secure the Belt Clip Plate to Carrier

Attention: Because the Trail Door simultaneously moves the Lead Door, the position of Slots on the Belt Clip Bracket is very important. Slots on the Trail Door Bracket are used to adjust The Trail Door position.

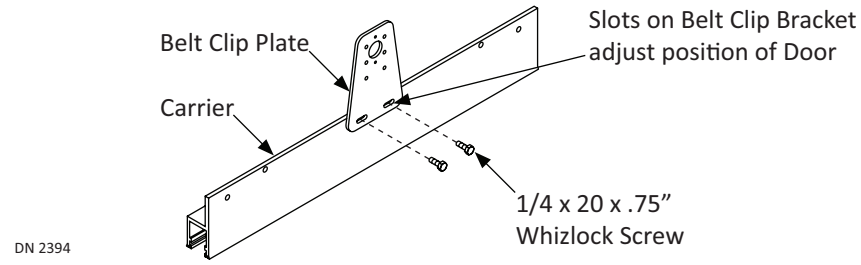


Figure 39 Install the Trail Door Belt Clip to Carrier

1. Secure the Belt Clip Plate to the Carrier located on the Trail Door with (2) 1/4-20 x 3/4” screws.
2. Complete the Trail Door Belt Clip installation after the Timing Belt has been installed.

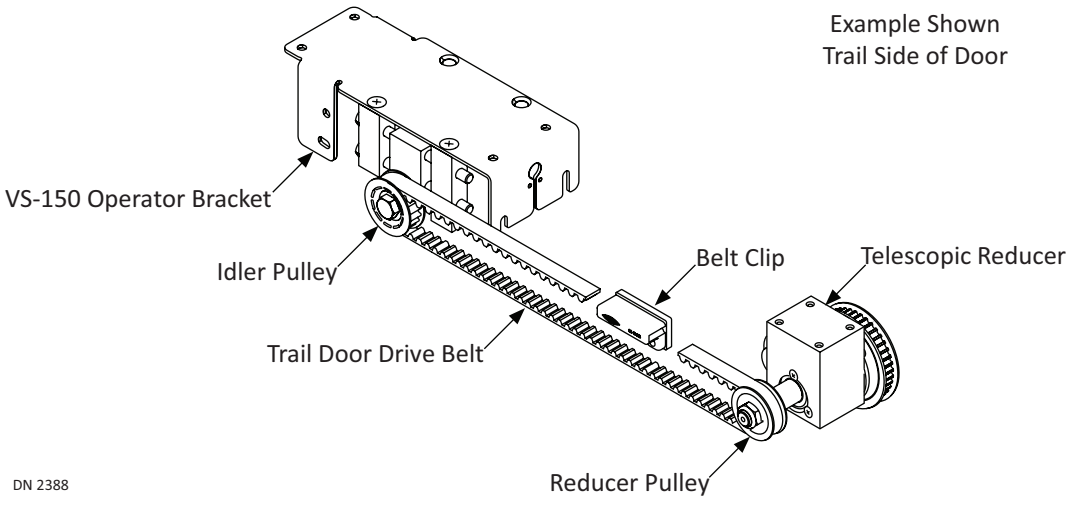


Figure 40 Install Timing Belt

3. Fully Close Lead Door.
4. Go to the Trail Door. Position Trail Door.
5. Obtain the Timing Belt. Wrap the Timing Belt around the Trail Door Pulleys located on the VS-150 Operator and the Reducer.
6. Bring both ends of the Timing Belt together so the Timing Belt has some slack, but not too loose. If deemed necessary, remove and rewrap the Timing Belt so both ends are at the top, next to the Belt Clip Bracket.
7. Slide each end of the Timing Belt inside the Belt Clip until both ends butt up against each other.
8. Place (1) Spacer behind the Belt Clip.

9. Run the Reducer Pully.
10. Route around the Idler Pulley.
11. Secure the Spacer and Belt Clip to the front of the Belt Clip Plate with (2) 1/4-20 x 3/4" screws.

SECTION 11.8: Tighten the (Trail Door) Timing Belt

1. Go to the backside of the DS-150 Operator. Locate the Idler Block.
2. Loosen the 3/8-16 Hex Nut from the 3/8-16 x 2-1/8 inch long Bolt.
3. Tighten the Trail Door Drive Belt by rotating the Bolt, clockwise.
4. Retighten the 3/8-16 Hex Jam Nut.

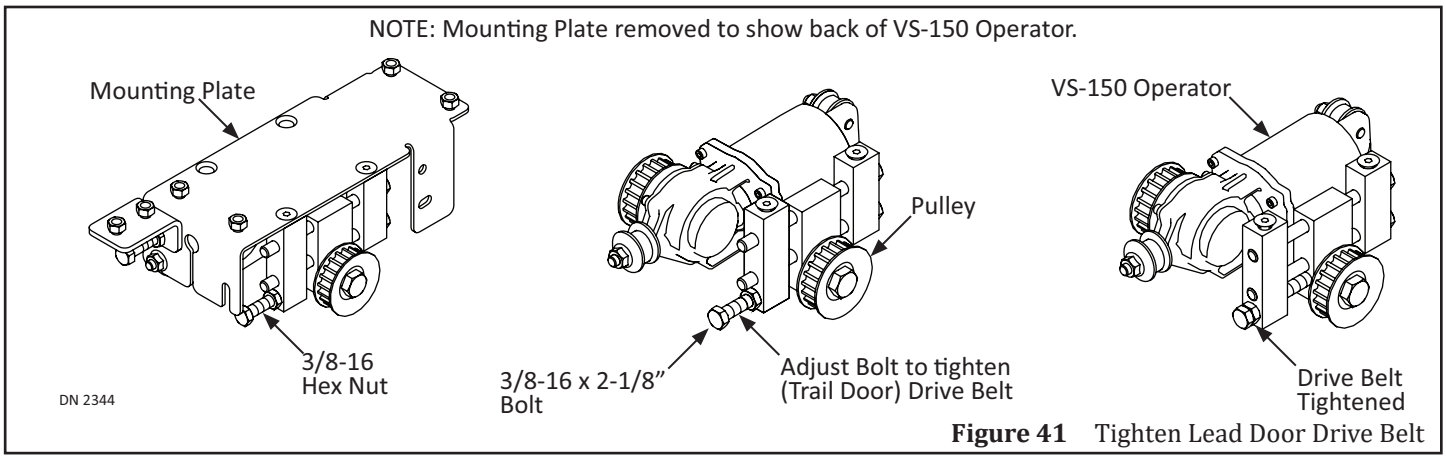


Figure 41 Tighten Lead Door Drive Belt

SECTION 11.9: Install Wiring Retainers

Attention: Retainers are used to protect wiring from being pinched by Timing Belts. Retainers may need to be trimmed to fit where deemed necessary.

1. Obtain (6) Retainers.
2. Bend (1) Retainer with hand. Align Retainer to top and bottom channels (where deemed necessary). Release.

CHAPTER 12: RETROFIT (U00-U19) MICROPROCESSOR FOR GT1175 SLIDE DOOR

Attention: Wire according to sections within this manual, and the "Opus Control Wiring and Programming Manual", P/N C-00139.

1. Shut OFF Circuit Breaker.
2. Disconnect all Harnesses and Wiring between the Microprocessor Control, and the VS-150 Operator; plus Accessories.
3. Remove the U00-U19 Microprocessor Control. Save the whizlock nuts for reuse.

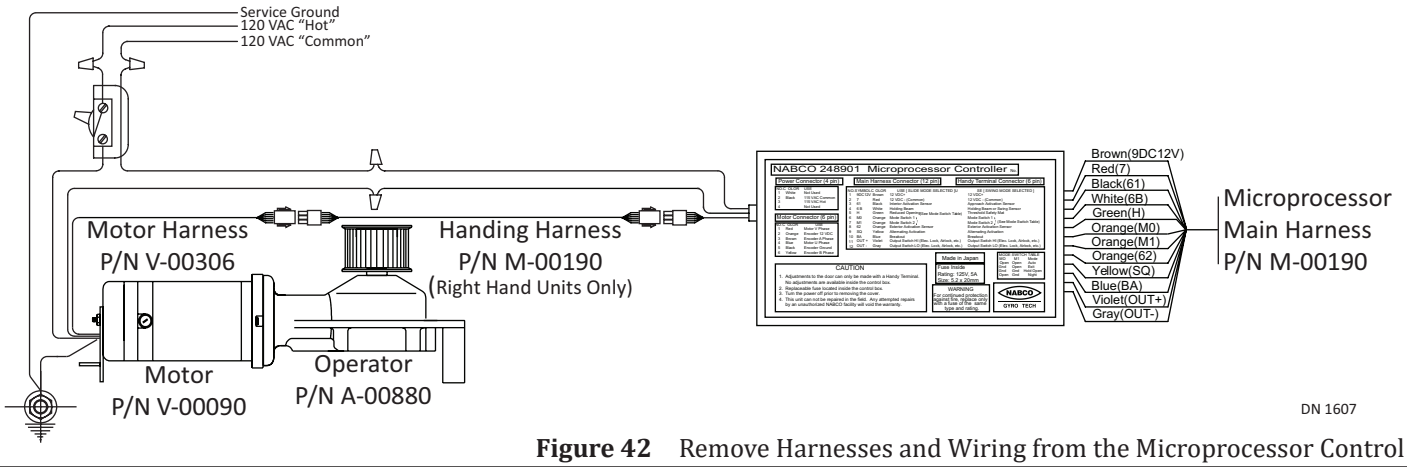


Figure 42 Remove Harnesses and Wiring from the Microprocessor Control

4. Secure the Mounting Plate to the Opus Control with (4) 8-32 x .375 inch screws.
5. Secure the Opus Control to the mounting bolts with (2) 3/8" x 16 whizlock nuts (that were saved).
6. Go to (2) Terminal Strips (1-7 and 8-14) located at the upper, left side of the Opus Control. Remove the existing Connectors.
   a. Removing existing Connectors allows easier insertion of wires.
7. Wire according to Wiring Diagrams within this manual and the "Opus Wiring and Programming Manual" P/N C-00139.

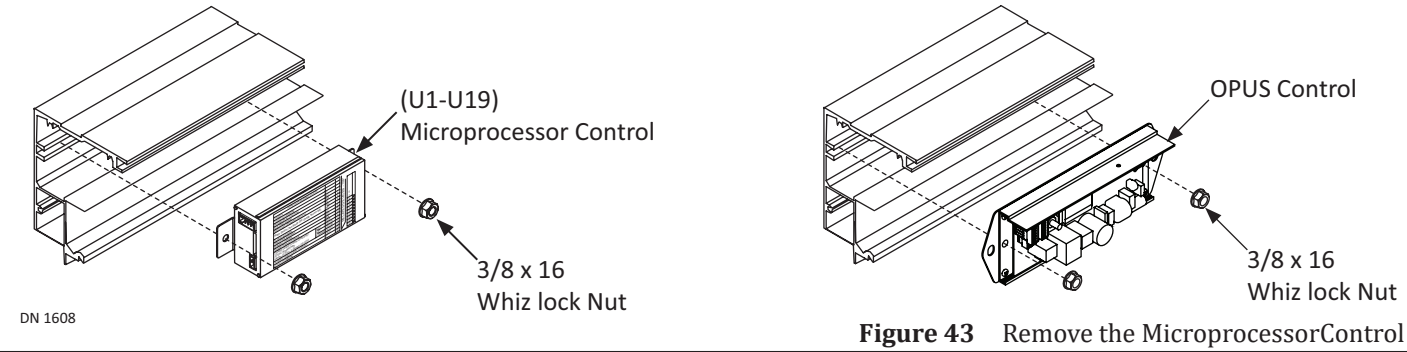


Figure 43 Remove the MicroprocessorControl

CHAPTER 13: RETROFIT (U00-U19) MICROPROCESSOR FOR GT300/400 SWING DOOR

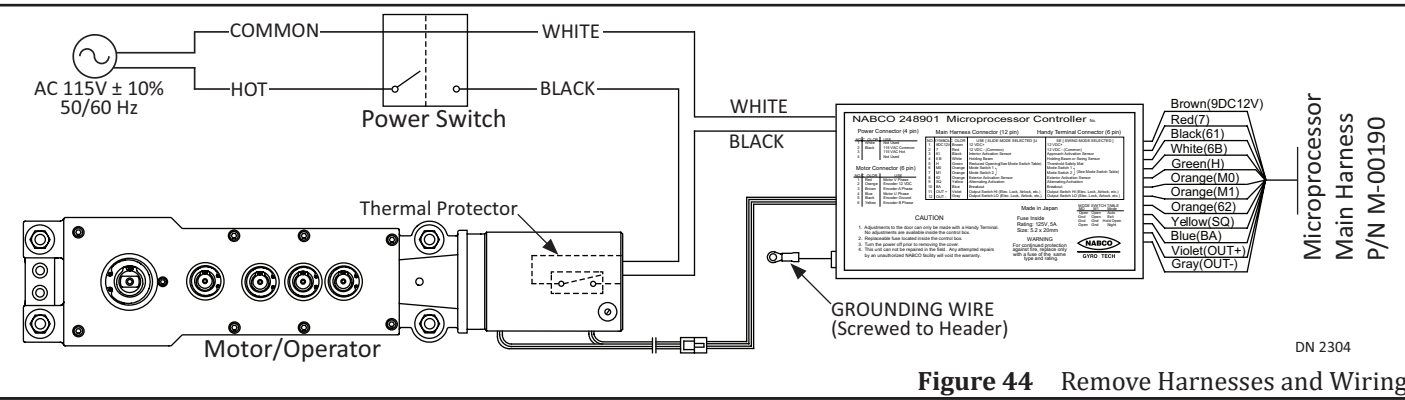


Figure 44 Remove Harnesses and Wiring

1. Shut OFF Circuit Breaker.
2. Disconnect all Harnesses and Wiring between the Microprocessor Control, and the VS-150 Operator; plus Accessories.

SECTION 13.1: Sideload Header

1. Remove the U00-U19 Microprocessor Control. Place the Brake Module on TOP of the Opus Control so the screw holes are aligned to each other.
2. Secure the Opus Control to Header Channels with (4) 170x.625x.032 inch thick Washers, and (4) 10-24 x .313 inch screws.

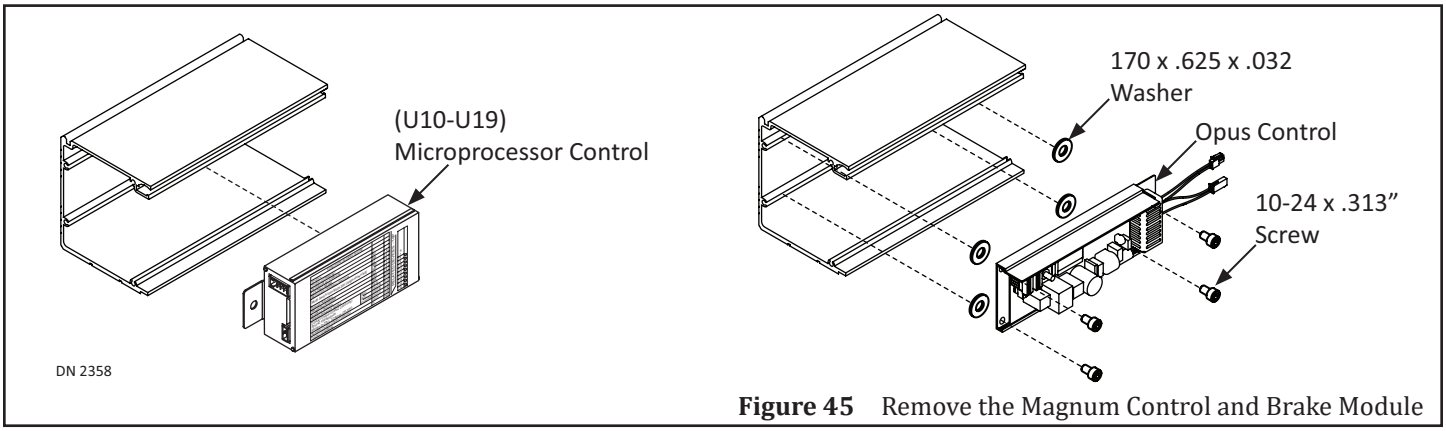


Figure 45 Remove the Magnum Control and Brake Module

3. Go to (2) Terminal Strips (1-7 and 8-14) located at the upper, left side of the Opus Control. Remove the existing Connectors.
   a. Removing existing Connectors allows easier insertion of wires.
4. Wire according to Wiring Diagrams within this manual and the "Opus Wiring and Programming Manual" P/N C-00139.

SECTION 13.2: Bottom Load Header

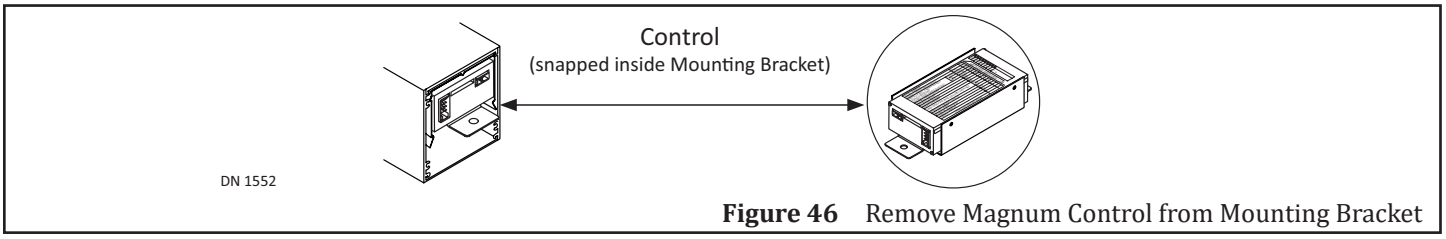


Figure 46 Remove Magnum Control from Mounting Bracket

1. Remove the U00-U19 Microprocessor Control and Brake Module from the Mounting Bracket.
   a. (1) Flathead screwdriver may be used to help pull out the Magnum Control from the Mounting Bracket.

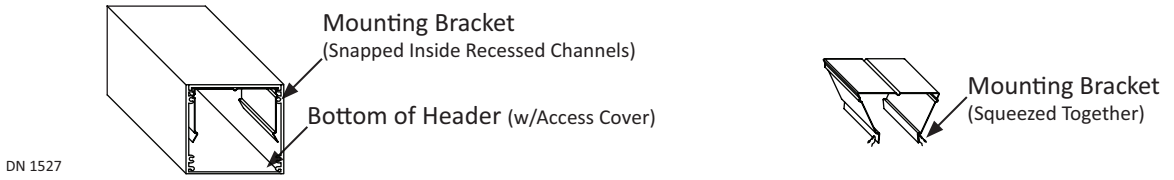


Figure 47 Snap Bracket Clip inside Header

2. Squeeze together each side of Mounting Bracket (at the bottom) to remove the Mounting Bracket from Header.

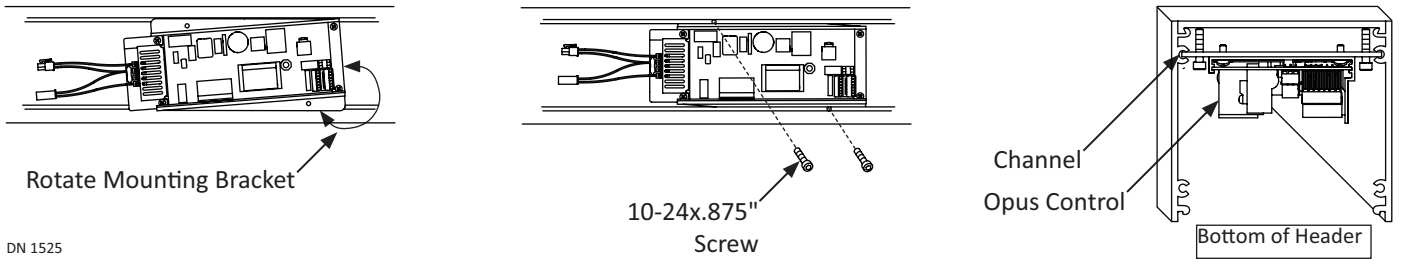


Figure 48 Snap Bracket Clip inside Header

3. Place the Brake Module on TOP of the Opus Control so the screw holes with the Mounting Plate are aligned to each other.
4. Secure the Brake Module to the Mounting Plate with (2) 8-32 x .375 inch screws.
5. Insert the Opus Control Assembly into the Header (Control will approximately be at a 4 degree angle).
6. Rotate the Opus Control until each side of the Mounting Bracket slides into the Channels located at the top.
7. Tighten (2) 10-24 x .875 inch Socket Head Cap screws, until the tip butts against the inside wall of the Header.
8. Go to (2) Terminal Strips (1-7 and 8-14) located at the upper, left side of the Opus Control. Remove the existing Connectors.
   a. Removing existing Connectors allows easier insertion of wires.
9. Wire according to Wiring Diagrams within this manual and the “Opus Wiring and Programming Manual” P/N C-00139.

CHAPTER 14: RETROFIT ANALOG CONTROLS FOR SWING DOORS

Note: Wire according to sections within this manual, and the “Opus Control Wiring and Programming Manual”, P/N C-00139.

1. Shut OFF Circuit Breaker.
2. Disconnect all Harnesses between the Analog Control, and Motor, plus Accessories.

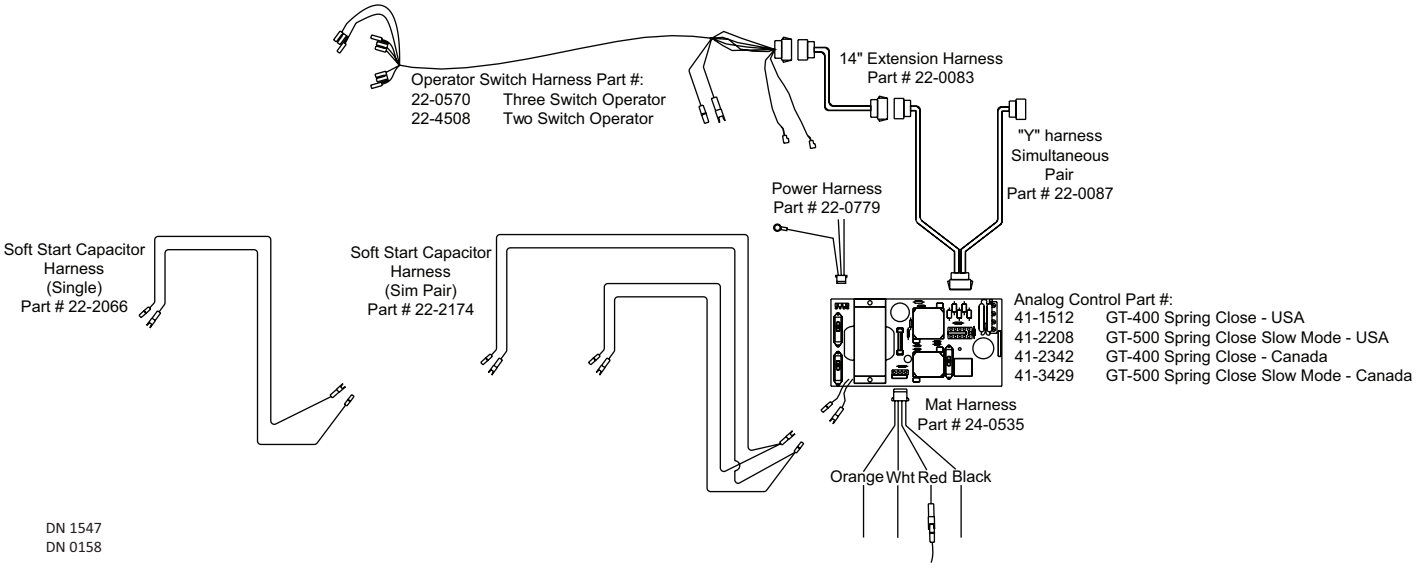


Figure 49 Remove Harnesses and Wires from the Magnum Control

SECTION 14.1: Sideload Header with Analog Control

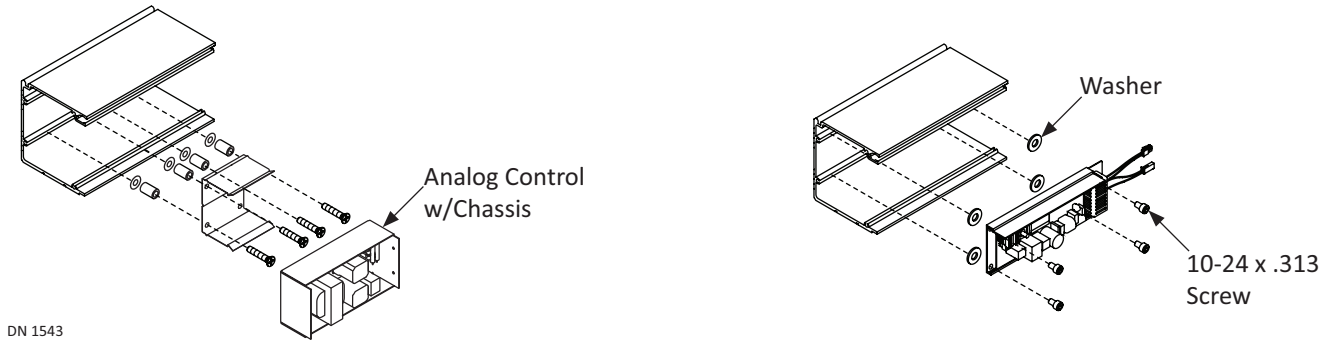


Figure 50 Remove Analog Control

3. Remove the Analog Control.
4. Place the Brake Module on TOP of the Opus Control so the screw holes are aligned to each other.
5. Secure the Opus Control to the Header Channels with (4) 170x.625x.032 inch thick Washers, and (4) 10-24 x .313 inch screws.
6. Secure the Opus Control to the Header with (4) 10-24 x .313L Screws and (4) Washers.
7. Reconnect Terminal Strip(s) to the Opus Control.
8. Remove the Soft Start Capacitor and Time Delay. The Opus Control does not utilize these components.

SECTION 14.2: Bottom Load Header with Analog Control

1. Remove the Analog Control from the Mounting Bracket.
   a. (1) Flathead screwdriver may be used to help pull out the Analog Control from the Mounting Bracket.
2. Squeeze together each side of Mounting Bracket (at the bottom) to remove the Mounting Bracket from Header.

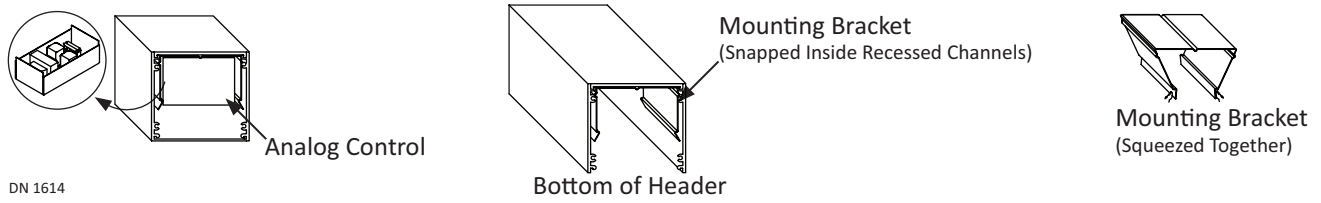


Figure 51 Remove Control from Mounting Bracket

3. Secure the Brake Module on TOP of the Opus Control with (2) 10-24 x .313 inch screws.
4. Insert the Opus Control Assembly into the Header (Control will approximately be at a 4 degree angle).
5. Rotate the Opus Control until each side of the Mounting Bracket slides into each Channel located at the top; inside Header.
6. Secure the Mounting Bracket to the Header by tightening (2) 10-24x.875 inch Socket Head Cap screws, until the tip butts against the inside wall of the Header.

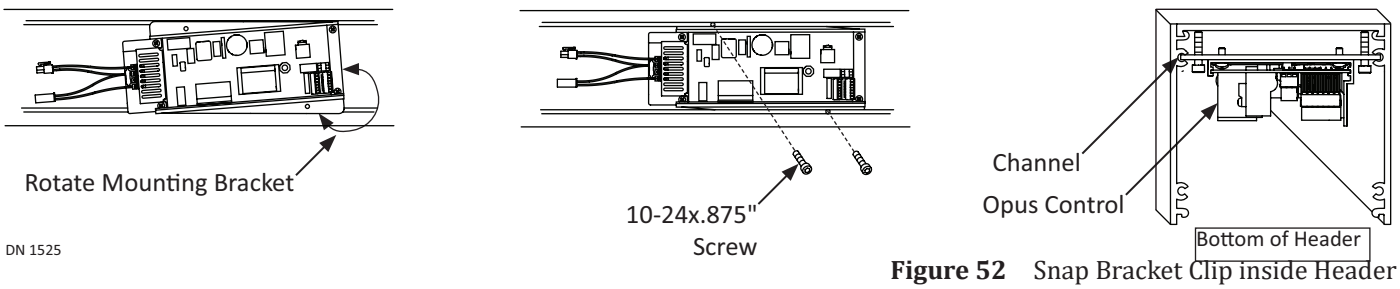


Figure 52 Snap Bracket Clip inside Header

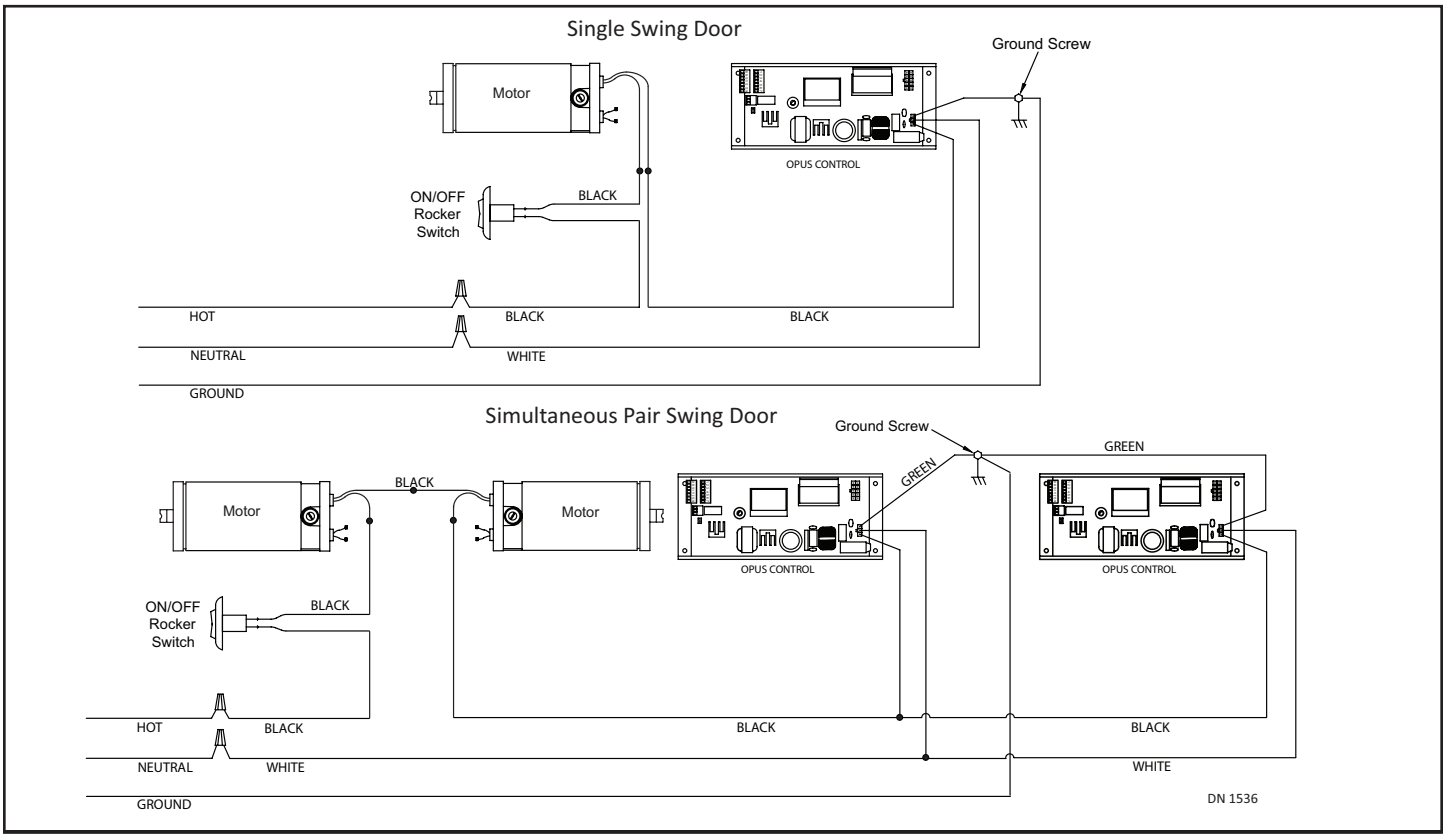
7. Reconnect Terminal Strip(s) to the Opus Control.
8. Remove the Soft Start Capacitor and Time Delay. The Opus Control does not utilize these components.
9. Connect wiring to the Opus Control and Brake Module according to SECTION 4.3, and the Opus Control Wiring and Programming Manual; P/N C-00139.

CHAPTER 15: AUTOMATIC DOOR SAFETY CHECK

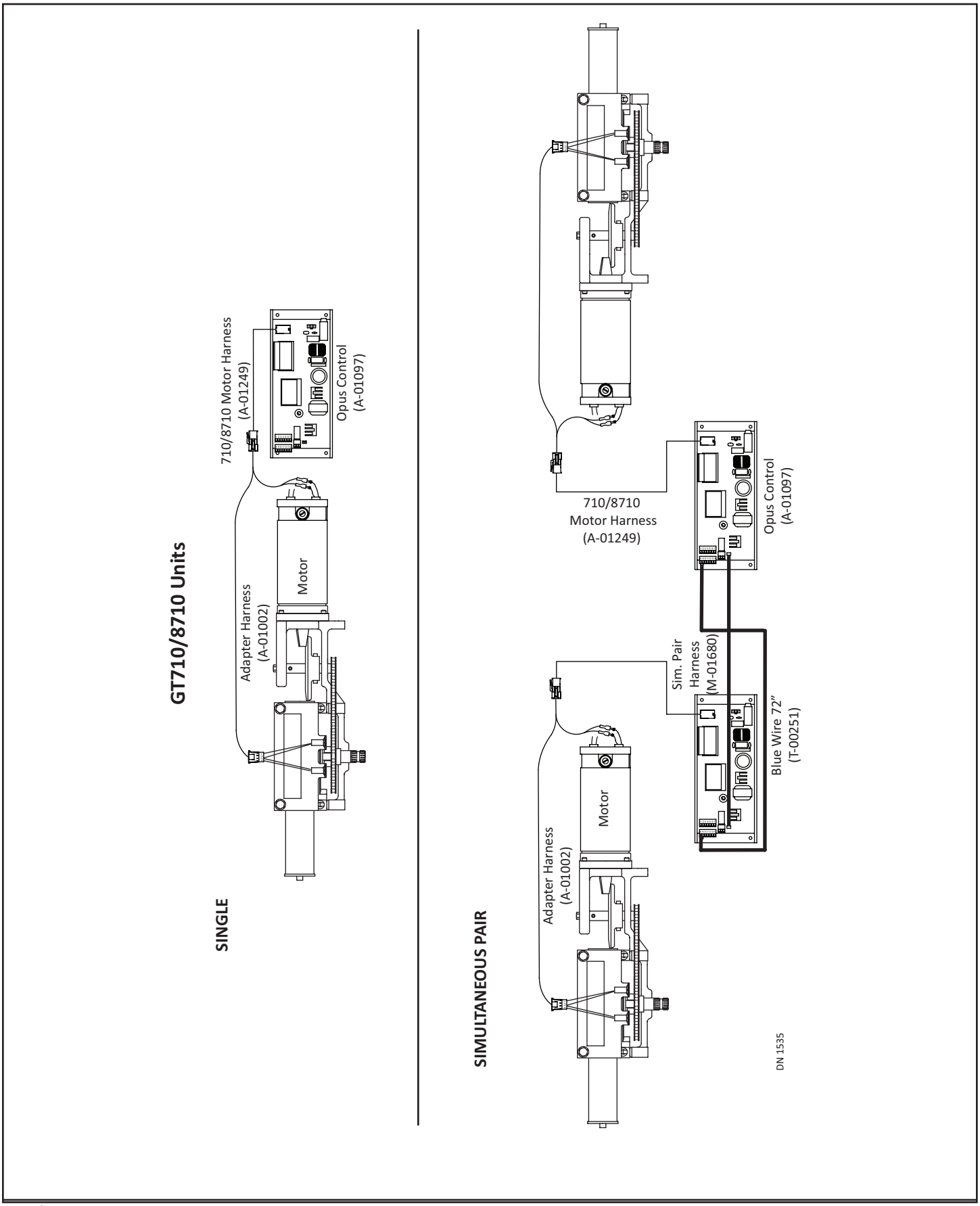
1. Ensure Header Cover has been replaced and properly secured.
2. Ensure all other hardware and/or components are properly secured.
3. Ensure the Power Breaker is switched ON. Do not switch Power Breaker ON and OFF too quickly.
4. Ensure the Rocker Switch or Key Switch is set to “ON”.
5. Check the motion of the door. The door should open/close freely.
6. If Equipped: Test Emergency Break Out. In Break Out mode, the door must not activate. Call supplier for details.
7. Ensure Full Open Sidelite doors are fully closed. Failure to do so, will disrupt proper door operation
   a. In the event a Sidelite is ajar, swing open the Sidelite about 2 feet, and then fully close it.
   b. This instruction only applies to Slide doors.
8. Check for proper door operation.
9. Test Detection Zone, and One-Way Traffic or Two-Way Traffic. Please refer to:
   - P/N C-00109 “GT1175 Slide Door Owners Manual” for Slide Doors.
   - P/N C-00110 “Full Automatic Swing Door Owners Manual” for Swing Doors.
   - P/N C-00125 “Low Energy Power Swing Door Owners Manual” for Swing Doors
   - P/N C-00111 “ Automatic Folding Door Owners Manual” for Fold Doors
10. Clean the doors, header, and frame. Also clean up the work area and floor area. Floor area should be clean with no loose parts that might cause user to trip or fall.

CHAPTER 16: RETROFIT WIRING FOR SWING DOORS

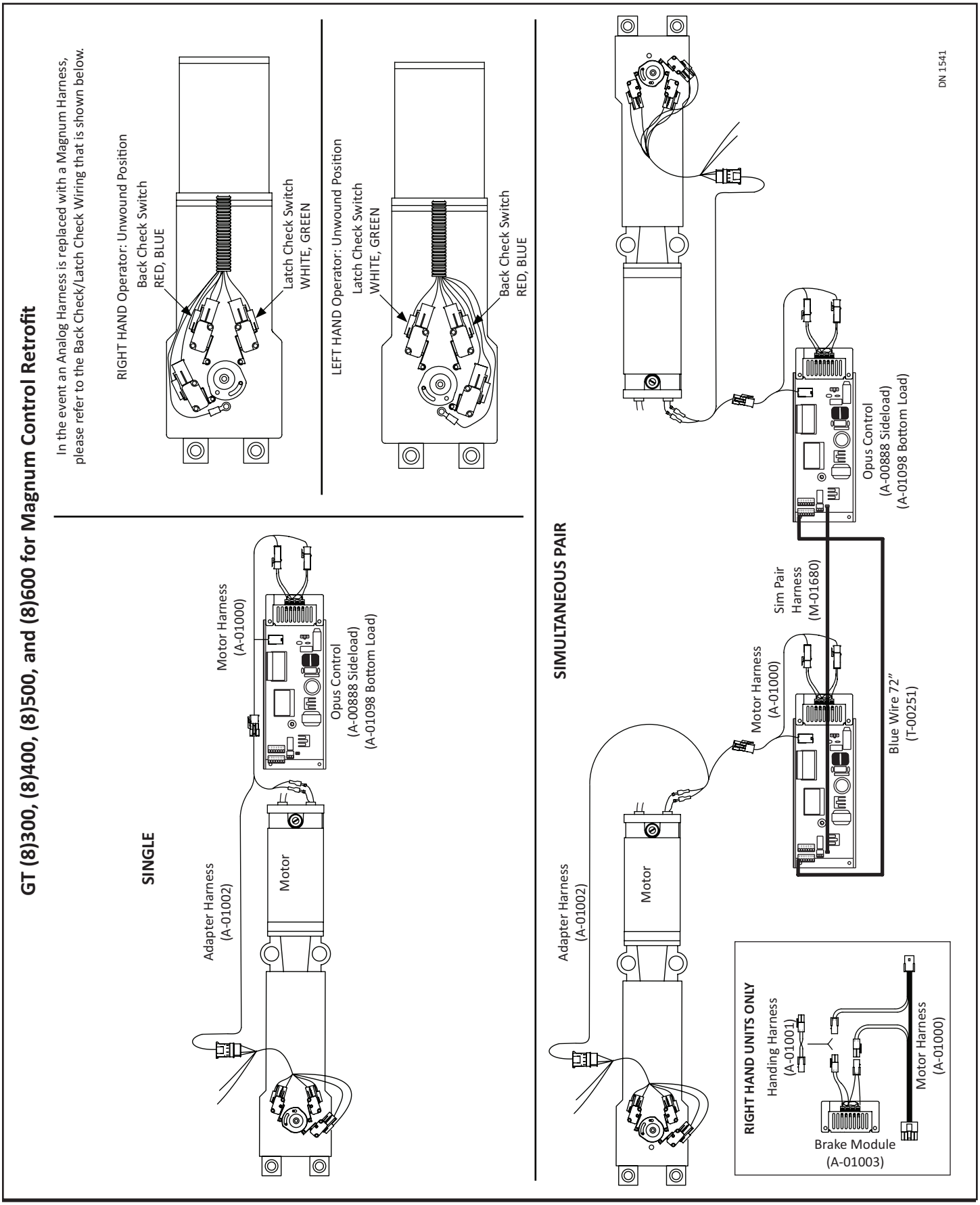
SECTION 16.1: 120 VAC Wiring for Swing Doors



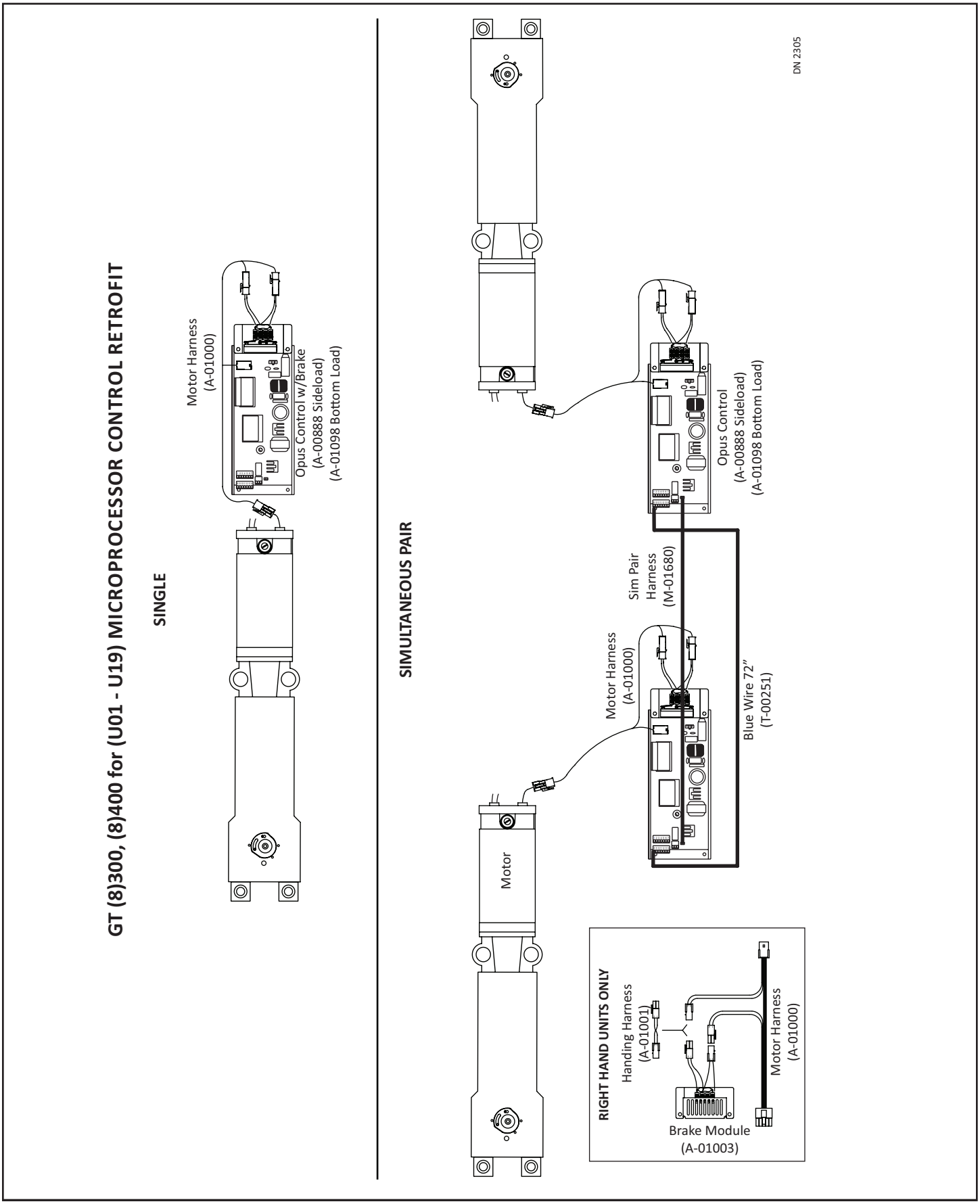
SECTION 16.2: GT710/8710 Wiring



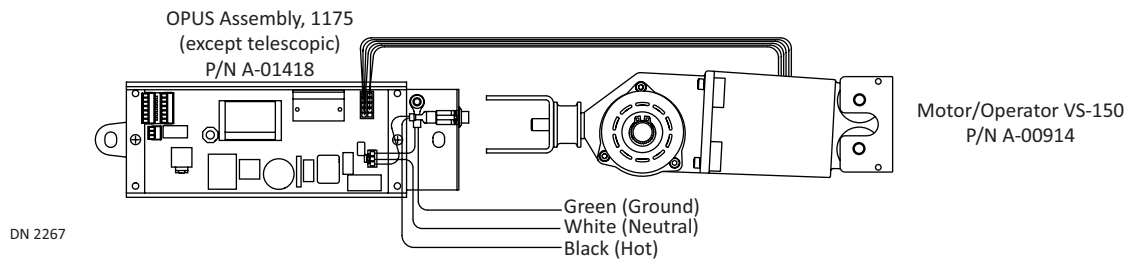
SECTION 16.3: GT(8)300, (8)400, (8)500, and (8)600 Wiring



SECTION 16.4: GT(8)300, (8)400 Wiring for (U00 - U19) Wiring

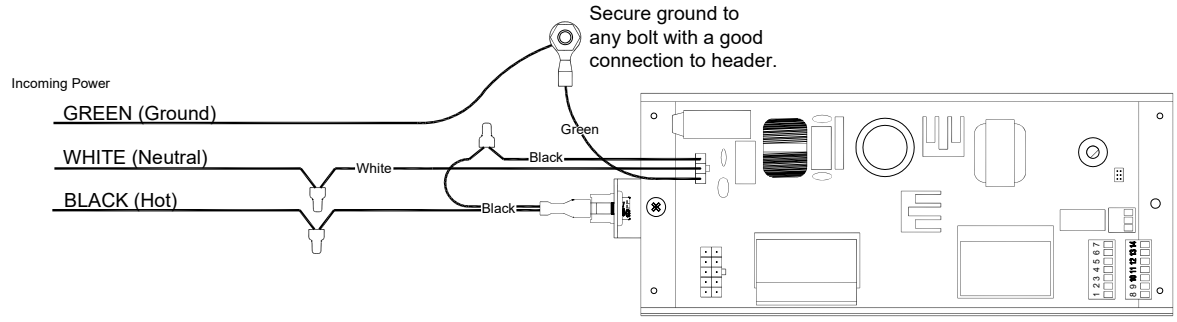


CHAPTER 17: 120 VAC WIRING FOR SINGLE SLIDE DOORS

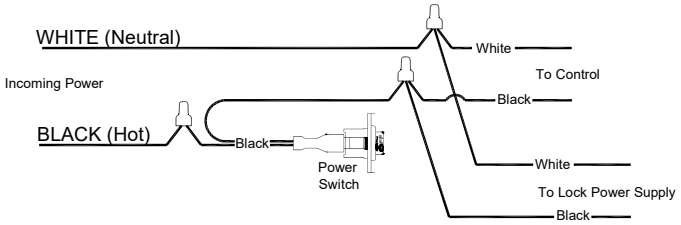


CHAPTER 18: RETROFIT WIRING FOR GT1175 TELESCOPIC SLIDE DOORS

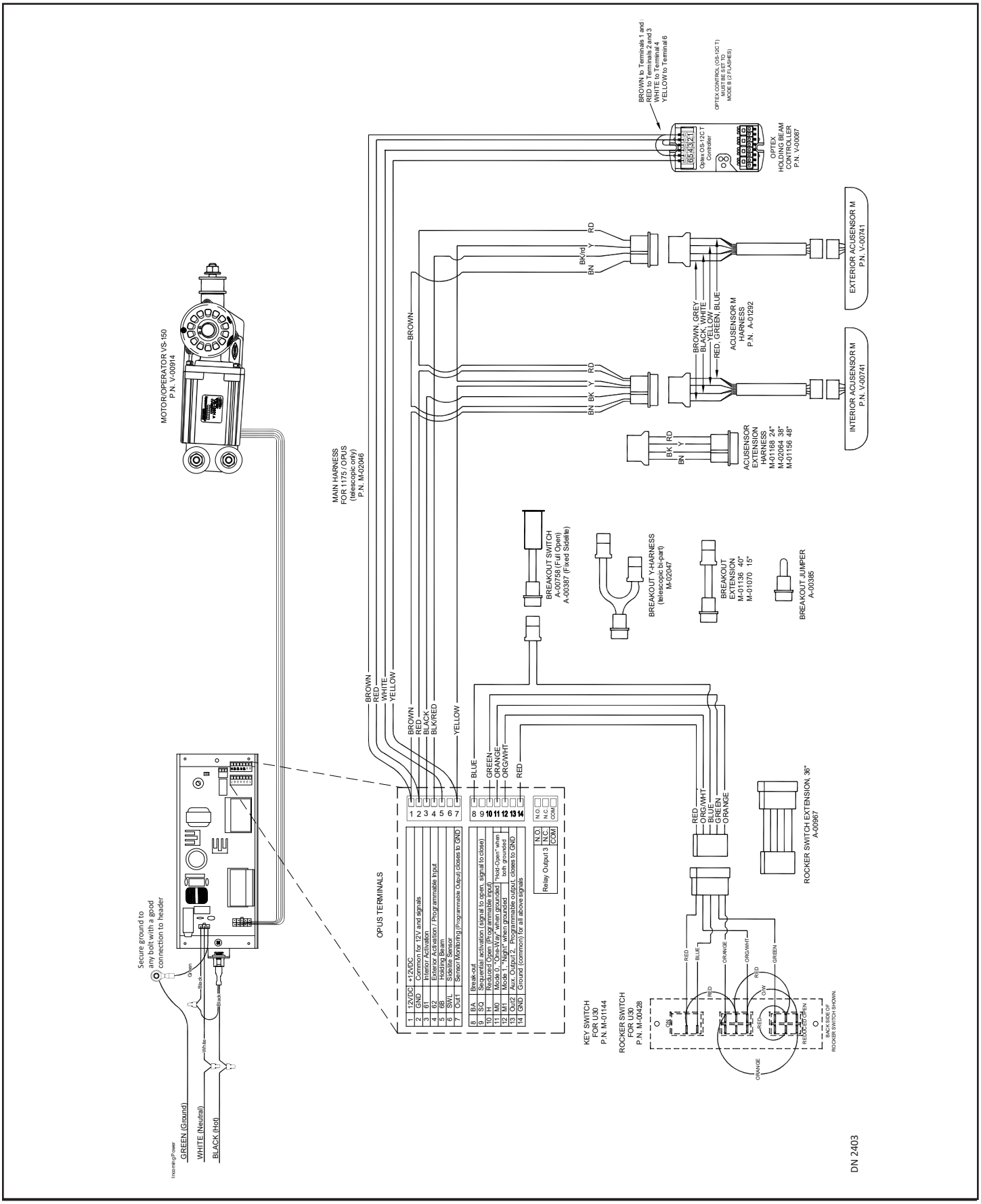
SECTION 18.1: 120 VAC Wiring for Telescopic Slide Doors



POWER WIRING WITH ELECTRIC LOCK



SECTION 18.2: Standard Wiring using New Opus Harness for Telescopic Slide Door

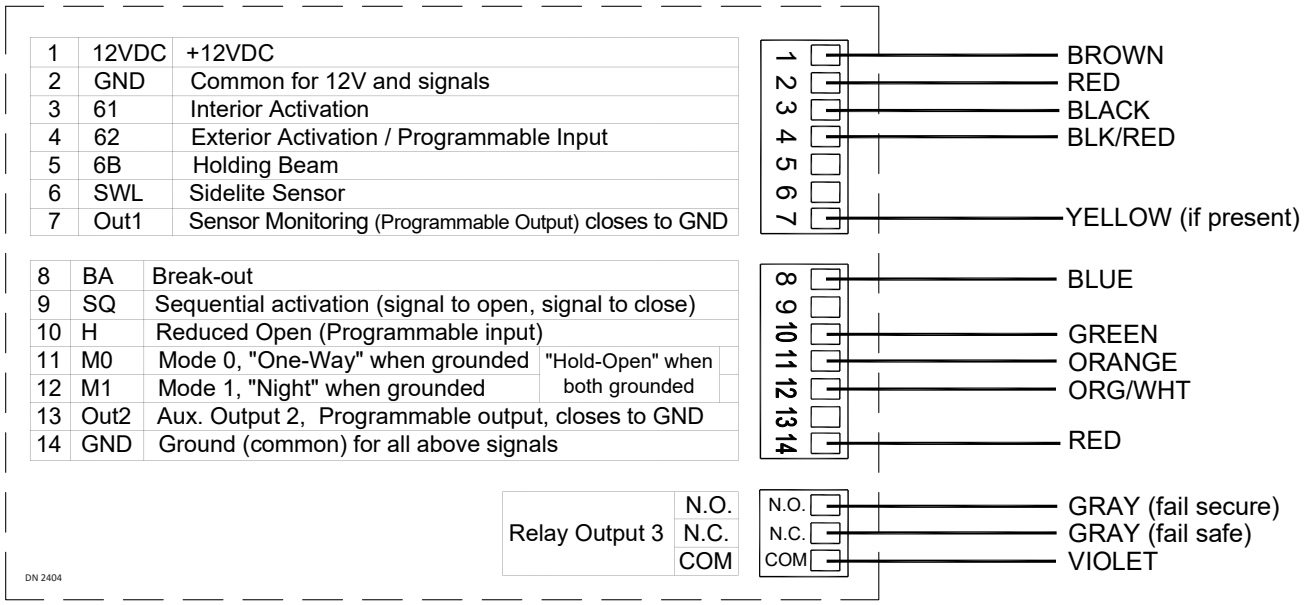


SECTION 18.3: Wiring using Old U30 Harness/Wiring for Telescopic Slide Door

U30 Main Harness can be retained by removing the
U30 Terminal Strip and installing Opus Terminal Strips

If using non-monitored sensors, wiring is still the same.
The yellow wire is not present on pre-monitored doors.
Also, monitoring functions must be disabled on the Control,
they are "on" by default.

OPUS TERMINALS



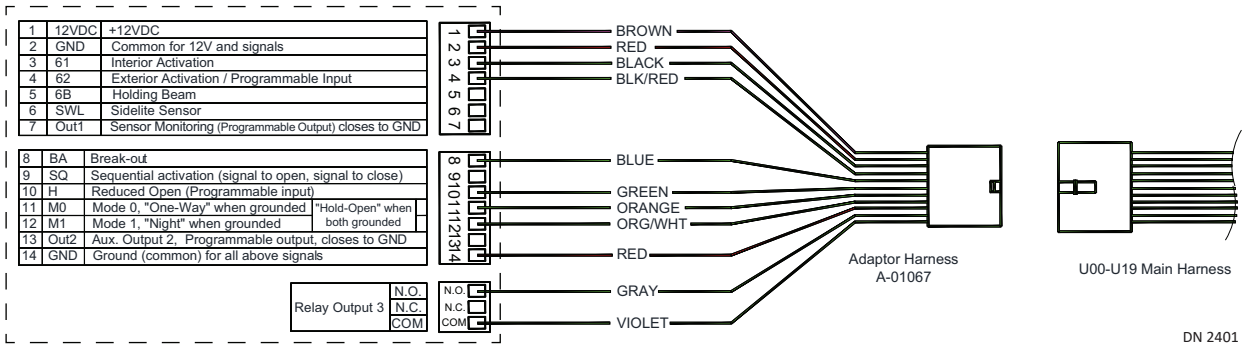
SECTION 18.4: GT1175 U00 - U19 Wiring for Telescopic Slide Door

U00 - U19 main harness can be retained by
using the included U19 adapter harness.

All U19 and earlier controls were non-monitoring.
Monitoring functions must be disabled on the Opus control,
they are "on" by default.

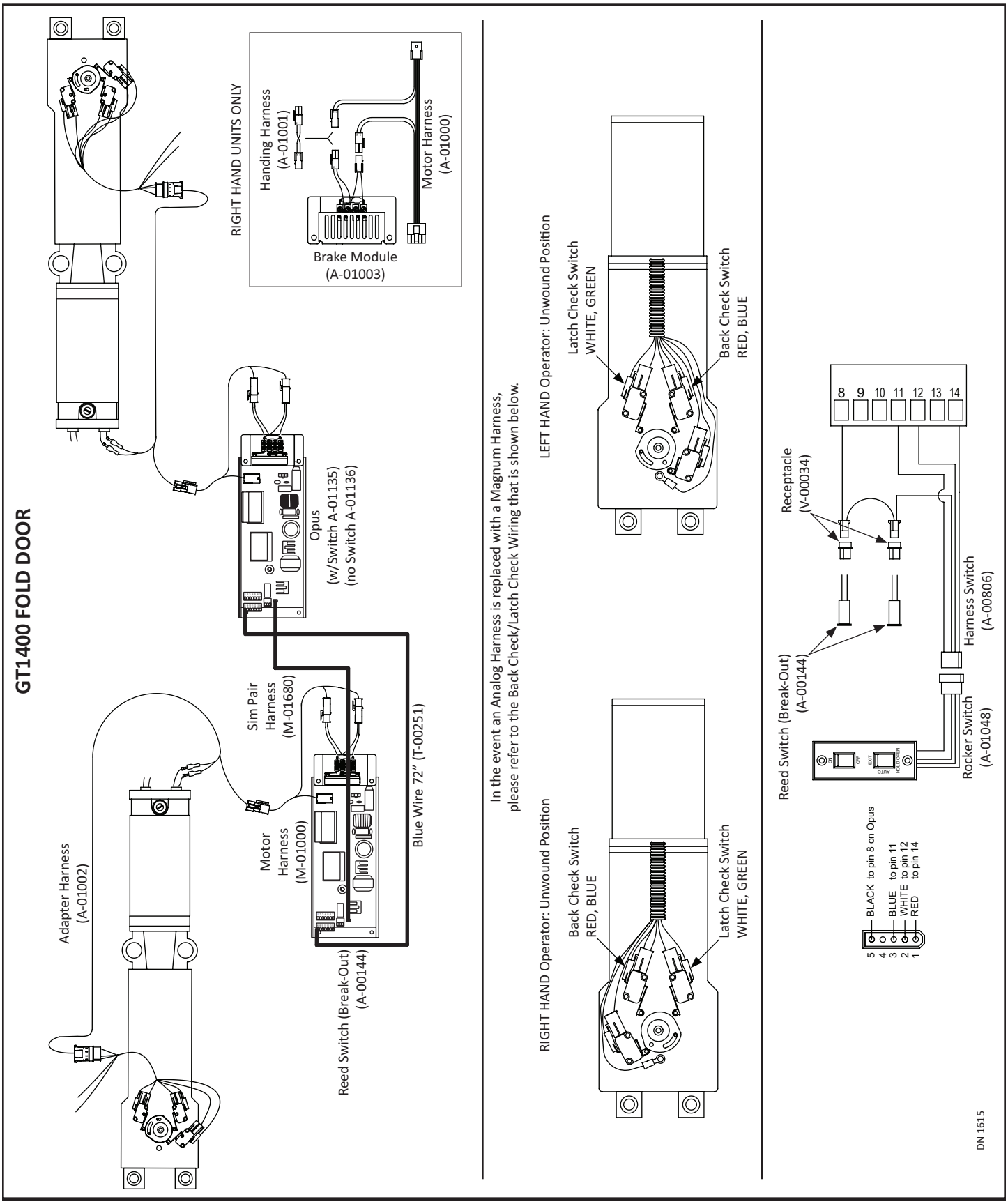
U00-U03 have normally-open break away circuits,
"BA circuit" on Opus must be set to "N.O."

OPUS TERMINALS



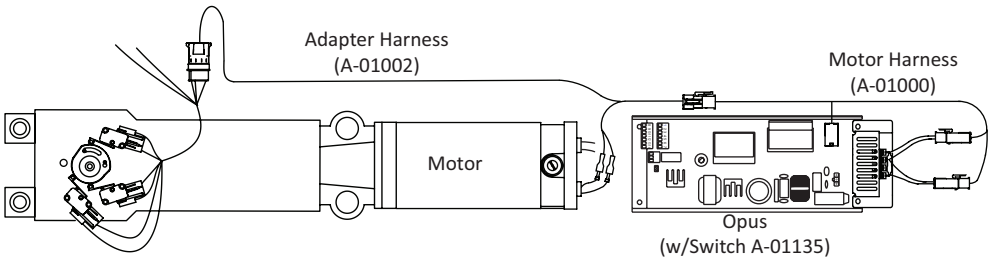
CHAPTER 19: RETROFIT WIRING FOR GT1400 FOLD DOORS

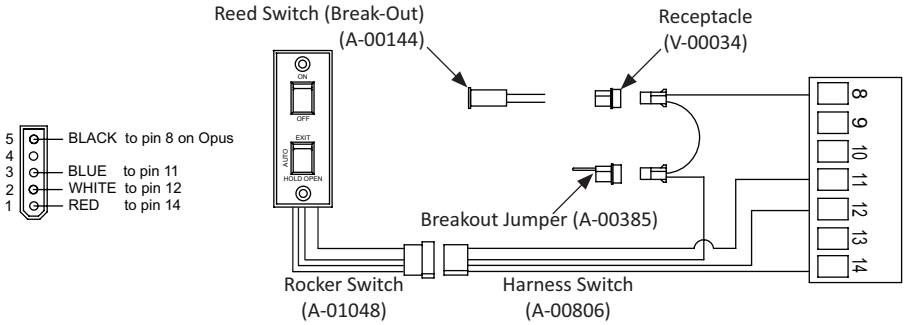
SECTION 19.1: GT1400 Wiring for Bi-Fold with (2) Operators



SECTION 19.2: GT1400 Wiring for Single Fold Door or Bi-Fold (1) Operator

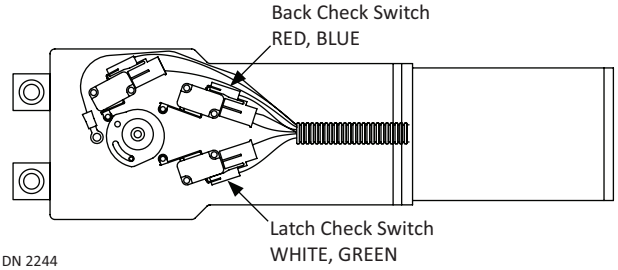
SINGLE GT1400 FOLD DOOR



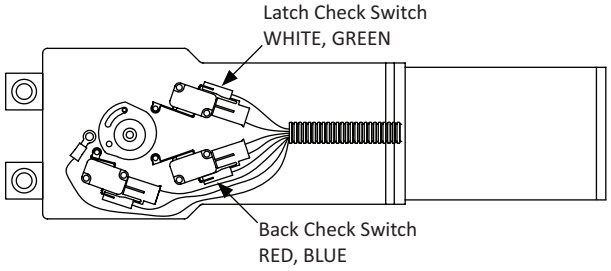


In the event an Analog Harness is replaced with a Magnum Harness, please refer to the Back Check/Latch Check Wiring that is shown below.

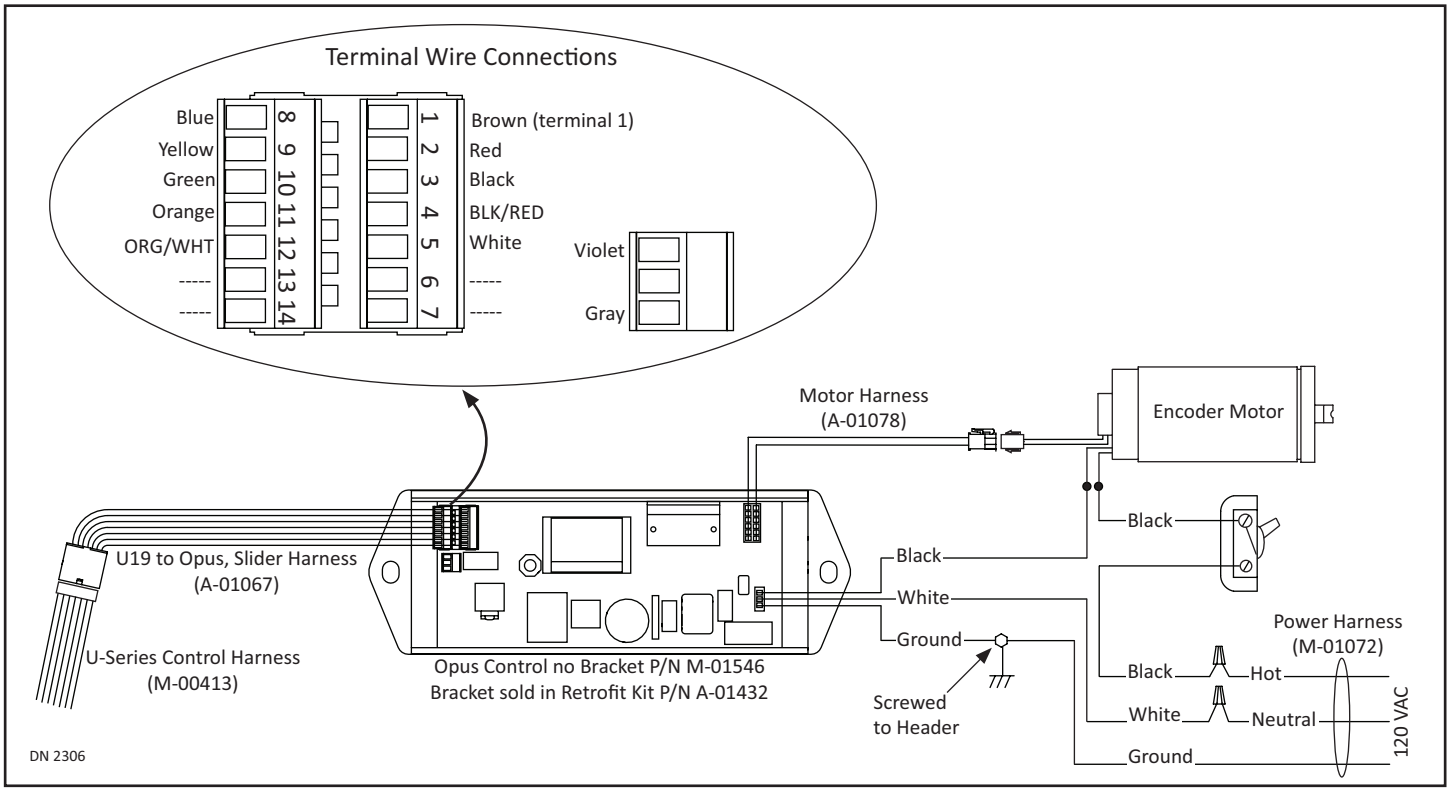
RIGHT HAND Operator: Unwound Position



LEFT HAND Operator: Unwound Position

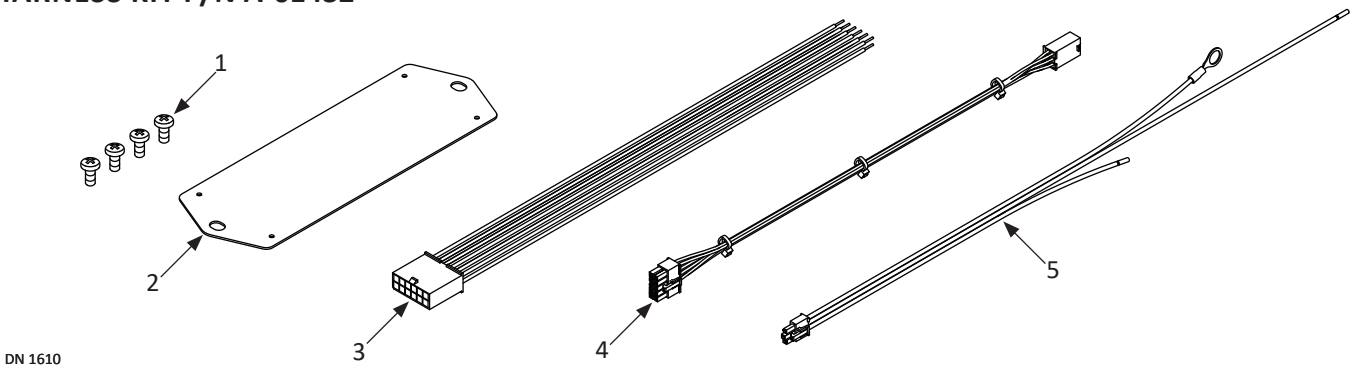


CHAPTER 20: RETROFIT WIRING FOR U00-U19 SLIDE DOORS



SERVICE PARTS: U01-U19 SLIDE DOOR

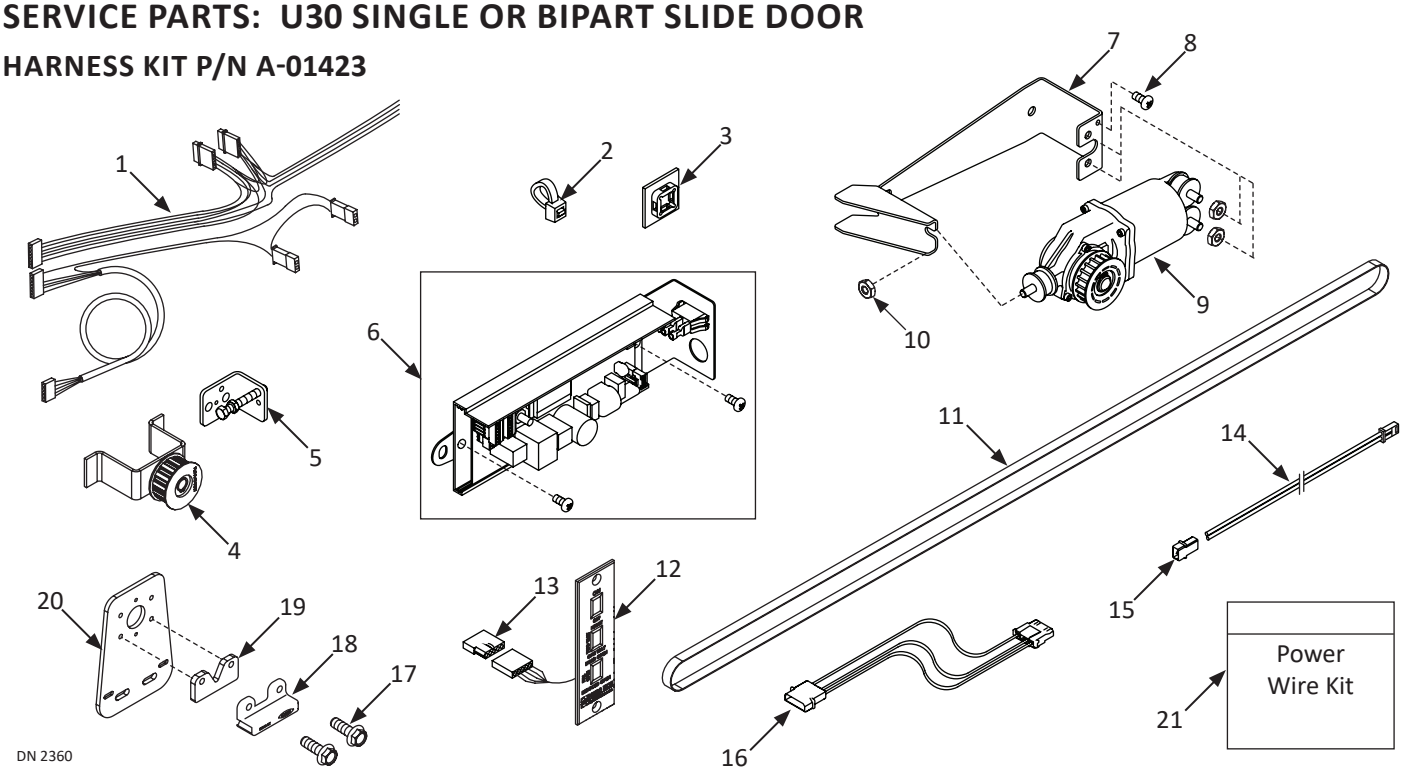
HARNESS KIT P/N A-01432



U01 - U19 Slide Door Retrofit				
Item	**Part**	**QTY**	**Description**	**Used To**
1	T-00420	4	PHMS,8-32x0.375L,PHIL,SWAGEFORM,ZINC	Secure Mounting hardware to Opus Control
2	M-01729	1	PLATE,SLIDER,OPUS RETROFIT	Secured to the Opus Control for mounting purposes
3	A-01067	1	HARNESS,SLIDER,U19 TO OPUS	Adapt Opus Control Harness to U-Series Control Harness
4	A-01078	1	HARNESS,MOTOR,OPUS,U19 SLIDER RETROFIT	Connect Motor to Opus Control
5	M-01072	1	HARNESS,POWER,MAGNUM/OPUS	Replaces Microprocessor Control Power Harness

SERVICE PARTS: U30 SINGLE OR BIPART SLIDE DOOR

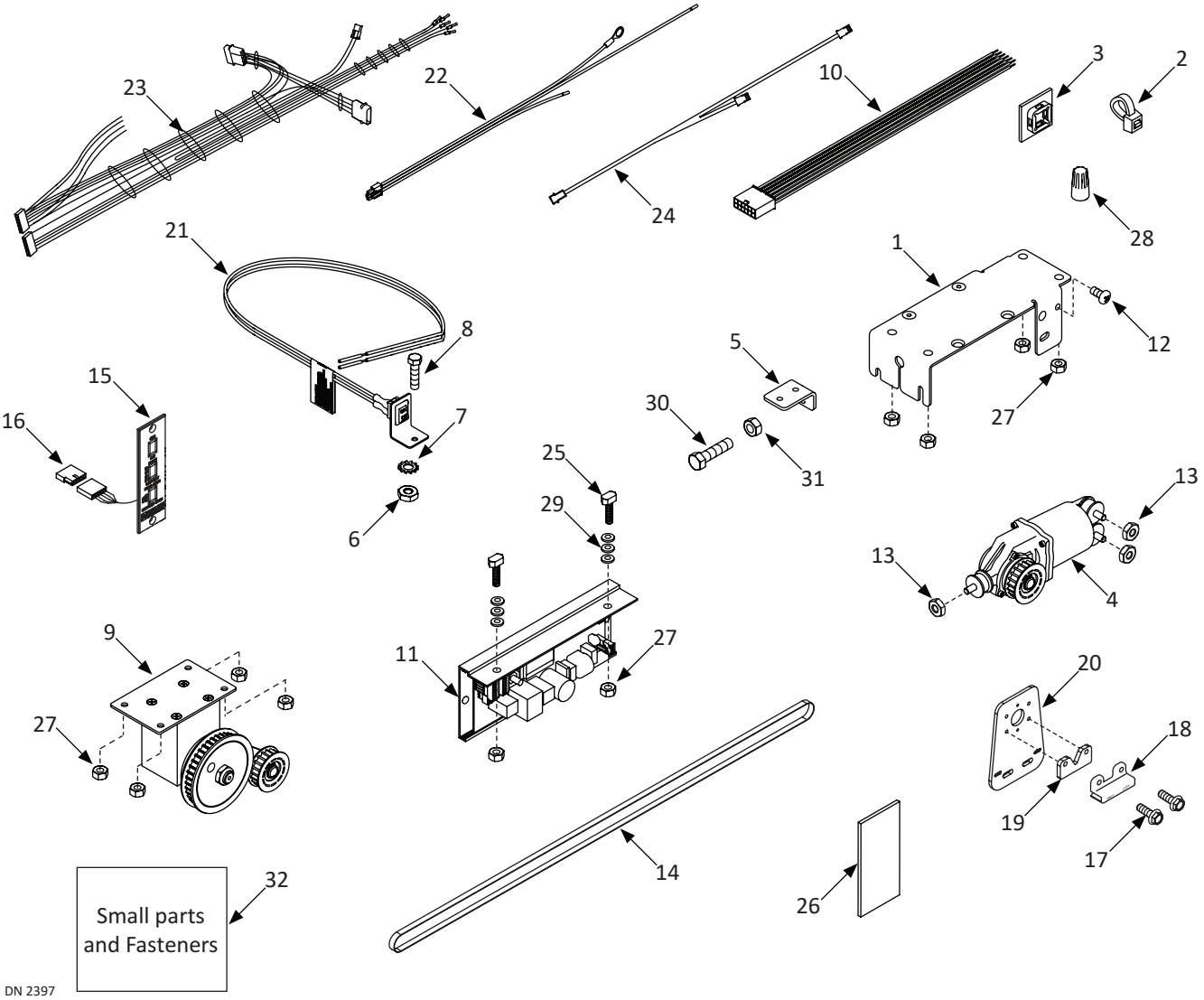
HARNESS KIT P/N A-01423



Item	Part	QTY	Description	Used To
			U30 Slide Door Retrofit	
1	M-02043	1	HARNESS,MAIN,1175,OPUS	Power Accessories
2	T-00195	4	CABLE TIE,.10 X 4.00 LG	Secure Cable to Header Channel
3	T-00165	2	MOUNT, WIRE TIE, 1X1	Secure Wiring to Header Channel
4	A-01419	1	ASM,IDLER,VS-150	Rotate Drive Belt
5	A-00078	1	BELT,DRIVE,IDLER SPROCKET,TENSIONER	Adjust tension on Drive Belt
6	A-01418	1	ASM,OPUS CONTROLLER,1175	Program operation of Slide Door
7	M-02035	1	BRACKET,MOUNTING,VS-150	Secure Motor/Operator to Header
8	T-00420	1	PHMS,8-32x0.375L,PHIL,SWAGEFORM,ZINC	Secure Ground Wire to Mounting Bracket
9	V-00914	1	OPERATOR,VS-150	Power the Control
10	T-00495	3	NUT,WHIZLOCK,M8-1.25,ZINC	Secure Mounting Bracket to Header
11	V-00917	276 IN	BELT,TIMING,S8M X 12mm WIDE	Open/Close door
12	M-00428	1	SWITCH MODULE,3 ROCKER,NABCO	Power the door
13	V-00004	1	RECEPTACLE,5 POS,MOLEX #03-06-1055	Connect Extension Harness wiring to Rocker Switch
14	M-01136	1	HARNESS,BREAK OUT SWITCH,35IN EXTENSION	Extends length of the Breakout Harness
15	V-00034	1	HOUSING,2 POS,FOR MATE-N-LOCK PINS	Connect Breakout Switch to Main Harness
16	M-01168	1	HARNESS,ACCUSENSOR EXTEN.24” INTERIOR	Extends length of the Sensor Harness
17	T-00010	4	HHCS,1/4-20x0.750L.,WHIZLOCK,ZINC	Secure Belt Bracket to Carrier on top of Slide Door
18	V-00916	2	CLIP,BELT,”S8M” PROFILE	Keep Drive Belt aligned during operation
19	M-02039	2	SPACER,BELT CLIP,VS-150	Adjust space between Belt Clip and Bracket
20	M-02038	2	BRACKET,BELT CLIP,VS-150	Secure Belt Clip to Slide Door
21	M-02068	1	KIT,WIRE,POWER	Connect power wiring from Control to Power Harness

SERVICE PARTS: U30 TELESCOPIC SLIDE DOOR

TELESCOPIC RETROFIT KIT P/N A-01454

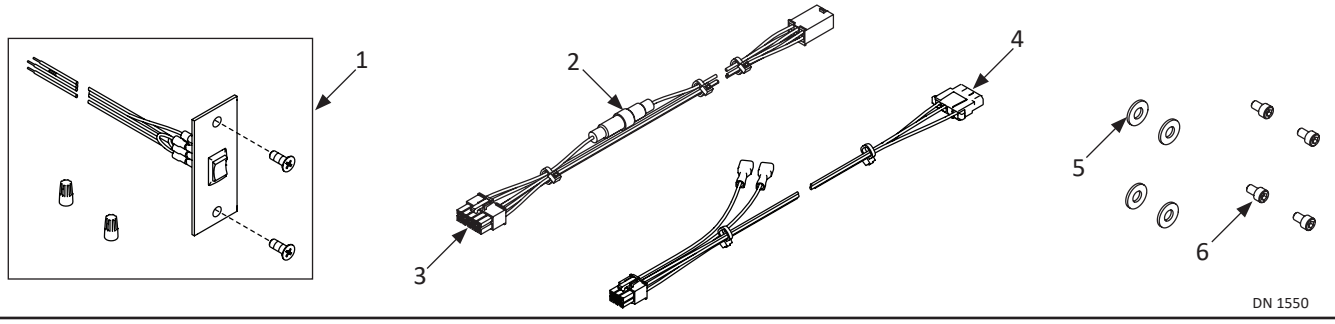


Item	Part	QTY	U30 Telescopic Slide Door Retrofit Description	Used To
1	A-01422-10	1	ASM,VS-150 BRACKET,RHFO/LHFS,TELESCOPIC	Secure Operator to Header
	A-01422-20		ASM,VS-150 BRACKET,LHFO/RHFS,TELESCOPIC	
2	T-00195	8	CABLE TIE,.10 X 4.00 LG	Where deemed necessary, for convenience
3	T-00165	4	MOUNT, WIRE TIE, 1X1	Where deemed necessary, for convenience
4	V-00914	1	OPERATOR,VS-150	Power the Control
5	M-00942	1	BRKT, BELT TENSIONING	Adjust tension on Timing Belt
6	T-00367	1	NUT:HEX:10-24:ZN	Secure Power Bracket to Opus Control from the back
7	T-00199	1	WASHER, LOCK, EXT, #10 ID, ZINC	Slide onto T-00369 at the back of M-00942
8	T-00369	1	PHMS:10-24x0.500L.:PHIL:ZINC	Secure Power Bracket to Opus Control
9	A-01421-10	1	SM,2:1 REDUCER,RHFO/LHFS,TELESCOPIC	Rotate Timing Belt to Open/Close Slide Doors
	A-01421-20		SM,2:1 REDUCER,LHFO/RHFS,TELESCOPIC	

U30 Telescopic Slide Door Retrofit				
Item	**Part**	**QTY**	**Description**	**Used To**
10	A-01067	1	HARNESS,SLIDER,U19 TO OPUS	Replace U01-U19 Microprocessor Power Harnesses
11	M-01546	1	CONTROLLER, OPUS	Program operation of Slide Door
12	T-00420	1	PHMS,8-32x0.375L,PHIL,SWAGEFORM,ZINC	Secure Ground Wire to Mounting Bracket
13	T-00495	3	NUT,WHIZLOCK,M8-1.25,ZINC	Secure Operator to VS-150 Bracket
14	V-00917	2300 Teeth	BELT,TIMING,S8M X 12mm WIDE	Open/Close door
15	M-00428	1	SWITCH MODULE,3 ROCKER,NABCO	Power the door
16	V-00004	1	RECEPTACLE,5 POS,MOLEX #03-06-1055	Connect Extension Harness wiring to Rocker Switch
17	T-00010	16	HHCS,1/4-20x0.750L.,WHIZLOCK,ZINC	Secure Belt Clip to Belt Clip Bracket
18	V-00916	4	CLIP,BELT,"S8M" PROFILE	Keep Drive Belt aligned during operation
19	M-02039	4	SPACER,BELT CLIP,VS-150	Adjust space between Belt Clip and Bracket
20	M-02037	4	BRACKET,BELT CLIP,VS-150,TELESCOPIC	Secure Belt Clip to Slide Door
21	M-01085	1	HARNESS, POWER SWITCH - SWINGERS/710	Supply power to the Opus Control
22	M-01072	1	HARNESS,POWER,MAGNUM/OPUS	Replaces Analog Control Power Harness
23	M-02046	1	HARNESS,MAIN,1175,OPUS,TELESCOPIC	Connect Components within Header to Opus Control
24	M-02047	1	HARNESS, "Y",BREAKOUT	Connects Components with Breakout capabilities
25	M-02131	10	T-BOLT,HHCS,5/16-18X1.00L.,GRADE 2,ZINC	Used to secure Opus Control to Header
26	M-02040	6	RETAINER,WIRING	Protect wiring from being pinched by Timing Belt
27	T-00090	10	NUT,WHIZLOCK,5/16-18,ZINC	Secure components to Header
28	T-00047	8	NUT,WIRE,72B,2-18AWG-3-16AWG	Make various electrical connections
29	T-00084	8	WASHER,.313 ID,.734 OD,.065 THK,ZINC	Make space between the Opus Control and Header
30	T-00161	1	HHCS,3/8-16x1.500L.,FULL THREAD,ZINC	Tighten the Timing Belt
31	T-00067	3	NUT,HEX,JAM,3/8-16,ZINC	Tighten T-00161, and "Lock" Tension
32	T-00215	1	BAG,ZIPLOC,6X9X4MIL	Hold small parts and fasteners

SERVICE PARTS: GT710/8710, SINGLE SWING DOOR

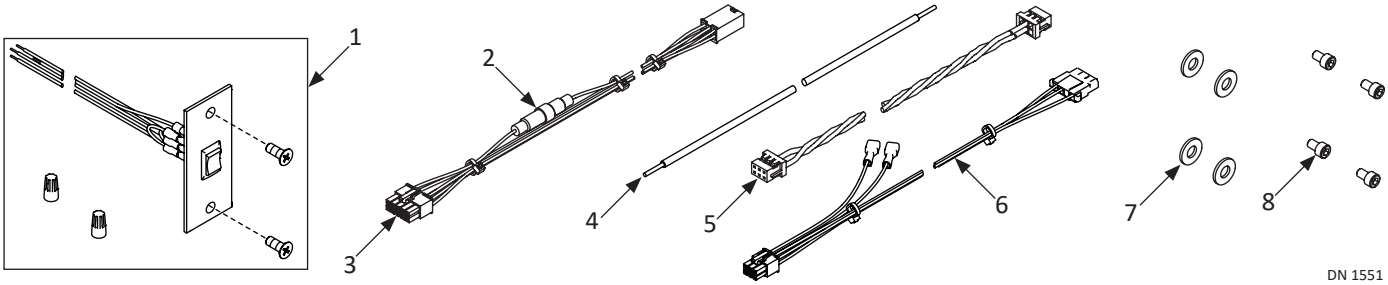
HARNESS KIT P/N A-01424



GT710, 8710 Single Swing Door				
Item	Part	QTY	Description	Used To
1	A-00805	1	SWITCH,ROCKER,SWINGER,ON/OFF/HOLD OPEN	Power the Slide Door
2	V-00713	1	FUSE,2 AMP,5X20mm,250V,FAST ACTING	Protect Motor (Located on Harness A-01249)
3	A-01249	1	HARNESS,MOTOR,OPUS,710	Connect Motor to Opus Control
4	A-01002	1	HARNESS,ADAPTER,NON-ENCODER,OPUS	Adapt Opus Control Harness to Non-Encoder Operator
5	T-00365	4	WASHER,.170 ID,.625 OD,.032 THK,NYLON	Secures Mounting Hardware to Control
6	T-00335	4	SHCS,10-24x0.313L.,ZINC	Secure Opus Control to Header

SERVICE PARTS: GT710/8710, SIMULTANEOUS PAIR SWING DOORS

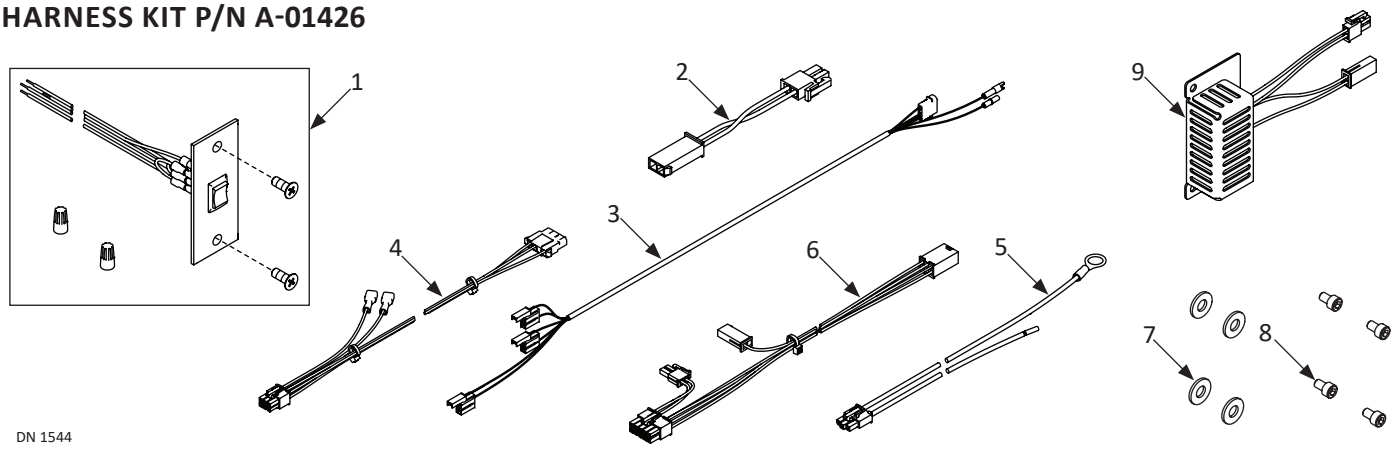
HARNESS KIT P/N A-01425



GT710, 8710 Simultaneous Swing Door				
Item	Part	QTY	Description	Used To
1	A-00805	1	SWITCH,ROCKER,SWINGER,ON/OFF/HOLD OPEN	For user control of door functions
2	V-00713	2	FUSE,2 AMP,5X20mm,250V,FAST ACTING	Protect Motor (Located on Harness A-01249)
3	A-01249	2	HARNESS,MOTOR,OPUS,710	Adapt Opus Control Harness to Non-Encoder Operator
4	T-00251	72”	WIRE,20 AWG,300V,UL 1007,BLUE	Connect Breakout Circuit between both Opus Controls
5	M-01680	1	HARNESS,SIM PAIR,OPUS	Allow Opus Controls to communicate with each other
6	A-01002	2	HARNESS,ADAPTER,NON-ENCODER,OPUS	Connect Motor to Opus Control
7	T-00365	8	WASHER,.170 ID,.625 OD,.032 THK,NYLON	Secures Mounting Hardware to Swing Door
8	T-00335	8	SHCS,10-24x0.313L.,ZINC	Secure Opus Control to Header

SERVICE PARTS: SIDELOAD, SINGLE SWING DOORS

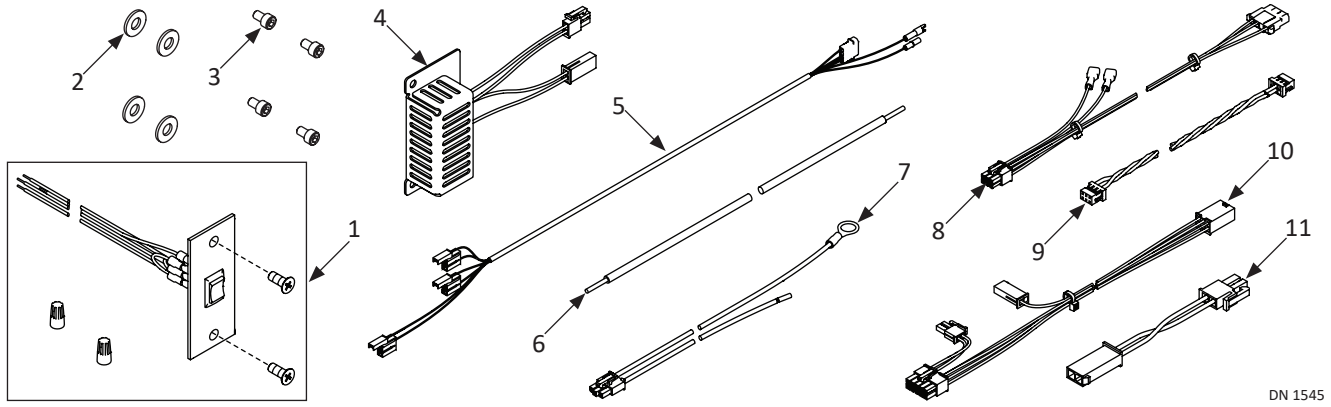
HARNESS KIT P/N A-01426



Sideload Single Swing Door				
Item	**Part**	**QTY**	**Description**	**Used To**
1	A-00805	1	SWITCH,ROCKER,SWINGER,ON/OFF/HOLD OPEN	For user control of door functions
2	A-01001	1	“HARNESS,HANDING,NGT-10”	Retrofit Handing for Right Hand Units
3	M-01162	1	HARNESS,MICROSWITCH,MAGNUM	Retrofit Analog Operator for Back Check/Latch Check
4	A-01002	1	HARNESS,ADAPTER,NON-ENCODER,OPUS	Connect Motor to Opus Control
5	M-01072	1	HARNESS,POWER,MAGNUM/OPUS	Replaces Analog Control Power Harness
6	A-01000	1	HARNESS,MOTOR,OPUS	Adapt Opus Motor Harness to Non-Encoder Operator
7	T-00365	4	WASHER,.170 ID,.625 OD,.032 THK,NYLON	Secures Mounting Hardware to Opus Control
8	T-00335	4	SHCS,10-24x0.313L.,ZINC	Secure Opus Control to Header
9	A-01003	1	MODULE,BRAKE,OPUS	Provides braking when Opus Control is not powered

SERVICE PARTS: SIDELOAD, SIMULTANEOUS PAIR SWING DOORS

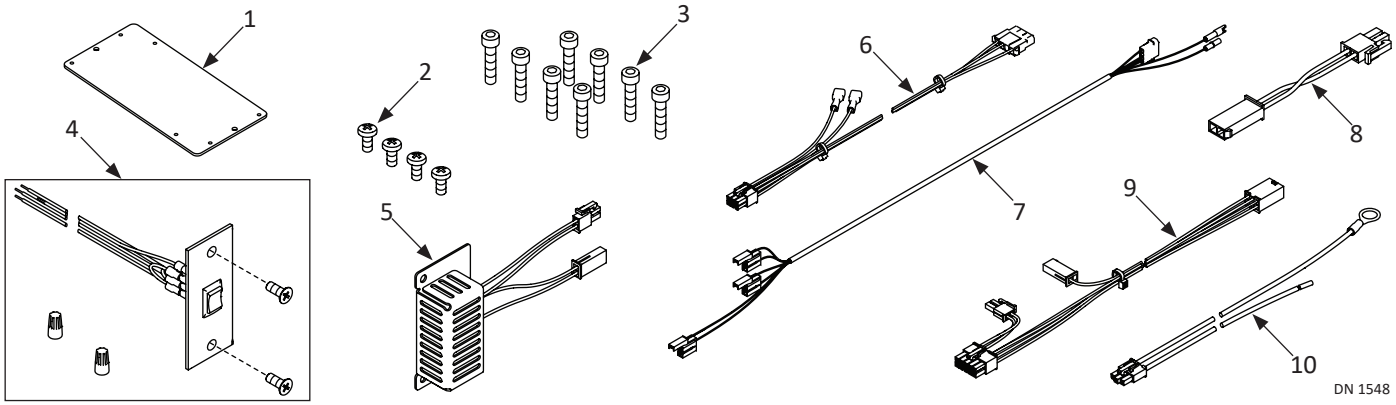
HARNESS KIT P/N A-01427



Sideload Simultaneous Swing Door				
Item	**Part**	**QTY**	**Description**	**Used To**
1	A-00805	1	SWITCH,ROCKER,SWINGER,ON/OFF/HOLD OPEN	For user control of door functions
2	T-00365	8	WASHER,.170 ID,.625 OD,.032 THK,NYLON	Secures Mounting hardware to Opus Control
3	T-00335	8	SHCS,10-24x0.313L.,ZINC	Secure Opus Control to Header
4	A-01003	2	MODULE,BRAKE,OPUS	Provide braking when Opus Control is not powered
5	M-01162	2	HARNESS,MICROSWITCH,MAGNUM	Retrofit Analog Operatore for Back Check/Latch Check
6	T-00251	72”	WIRE,20 AWG,300V,UL 1007,BLUE	Connect Breakout Circuit between both Opus Controls
7	M-01072	2	HARNESS,POWER,MAGNUM/OPUS	Replaces Analog Control Power Harness
8	A-01002	2	HARNESS,ADAPTER,NON-ENCODER,OPUS	Adapt Opus Motor Harness to Non-Encoder Operator
9	M-01680	1	HARNESS,SIM PAIR,OPUS	Allow Opus Controls to communicate with each other
10	A-01000	2	HARNESS,MOTOR,OPUS	Connect Motor to Opus Control
11	A-01001	1	HARNESS,HANDING,OPUS	Retrofit Handing for Right Hand Units

SERVICE PARTS: BOTTOM LOAD, SINGLE SWING DOORS

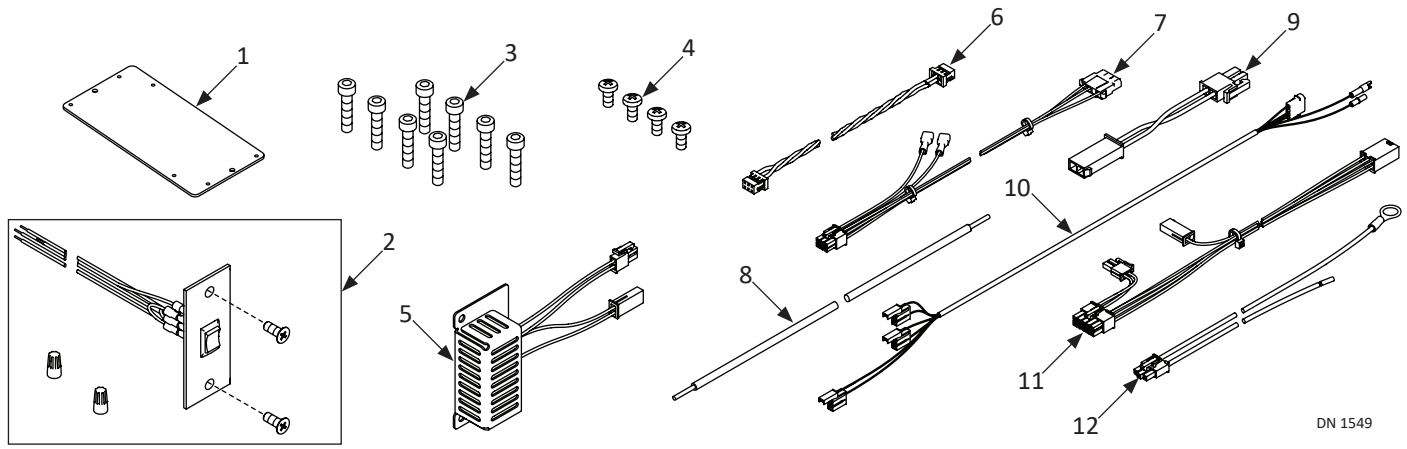
RETROFIT KIT P/N A-01428



Bottom Load Single Swing Door				
Item	**Part**	**QTY**	**Description**	**Used To**
1	M-01735	1	PLATE,BOTTOM LOAD,OPUS	Secured to the Opus Control for mounting purposes
2	T-00420	4	PHMS,8-32x0.375L,PHIL,SWAGEFORM,ZINC	Secure Mounting hardware to Opus Control
3	T-00232	2	SHCS,10-24x0.875L.,ZINC	Secure Opus Control to Header
4	A-00805	1	SWITCH,ROCKER,SWINGER,ON/OFF/HOLD OPEN	For user control of door functions
5	A-01003	1	MODULE,BRAKE,OPUS	Provide braking when Opus Control is not powered
6	A-01002	1	HARNESS,ADAPTER,NON-ENCODER,OPUS	Adapt Opus Motor Harness to Non-Encoder Operator
7	M-01162	1	HARNESS,MICROSWITCH,MAGNUM	Retrofit Analog Operator for Back Check/Latch Check
8	A-01001	1	HARNESS,HANDING,OPUS	Retrofit Handing for Right Hand Units
9	A-01000	1	HARNESS,MOTOR,OPUS	Connect Motor to Opus Control
10	M-01072	1	HARNESS,POWER,MAGNUM/OPUS	Replaces Analog Control Power Harness

SERVICE PARTS: BOTTOM LOAD, SIMULTANEOUS PAIR SWING DOORS

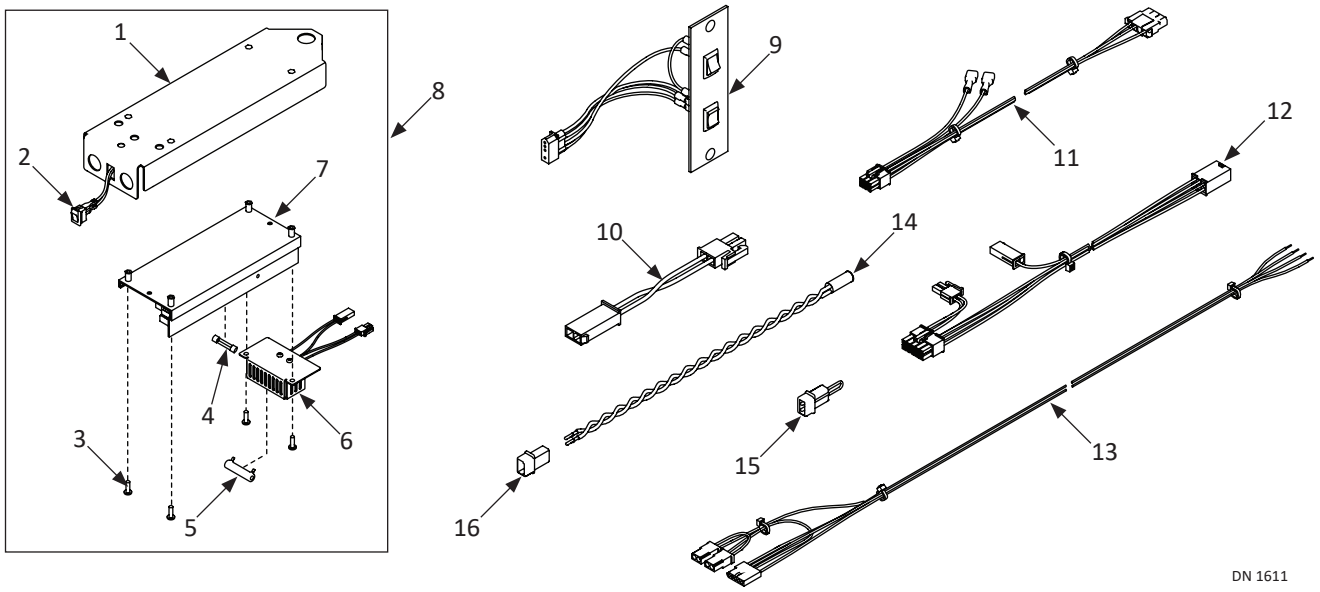
HARNESS KIT P/N A-01429



Bottom Load Simultaneous Pair Swing Door				
Item	**Part**	**QTY**	**Description**	**Used To**
1	M-01735	2	PLATE,BOTTOM LOAD,OPUS	Secured to the Opus Control for mounting purposes
2	A-00805	1	SWITCH,ROCKER,SWINGER,ON/OFF/HOLD OPEN	For user control of door functions
3	T-00232	4	SHCS,10-24x0.875L.,ZINC	Secure Opus Control to Header
4	T-00420	8	PHMS,8-32x0.375L,PHIL,SWAGEFORM,ZINC	Secure Mounting hardware to Opus Control
5	A-01003	2	MODULE,BRAKE,OPUS	Provide braking when Opus Control is not powered
6	M-01680	1	HARNESS,SIM PAIR,OPUS	Allow Opus Controls to communicate with each other
7	A-01002	2	HARNESS,ADAPTER,NON-ENCODER,OPUS	Adapt Opus Motor harness to Non-Encoder Operator
8	T-00251	72”	WIRE,20 AWG,300V,UL 1007,BLUE	Connect breakout Circuit between both Opus Controls
9	A-01001	1	HARNESS,HANDING,OPUS	Retrofit Handing for Right Hand Units
10	M-01162	2	HARNESS,MICROSWITCH,MAGNUM	Retrofit Analog Operator for back Check/Latch Check
11	A-01000	2	HARNESS,MOTOR,OPUS	Connect Motor to Opus Control
12	M-01072	2	HARNESS,POWER,MAGNUM/OPUS	Replace Analog Control Power Harness

SERVICE PARTS: FOLD DOOR, SINGLE

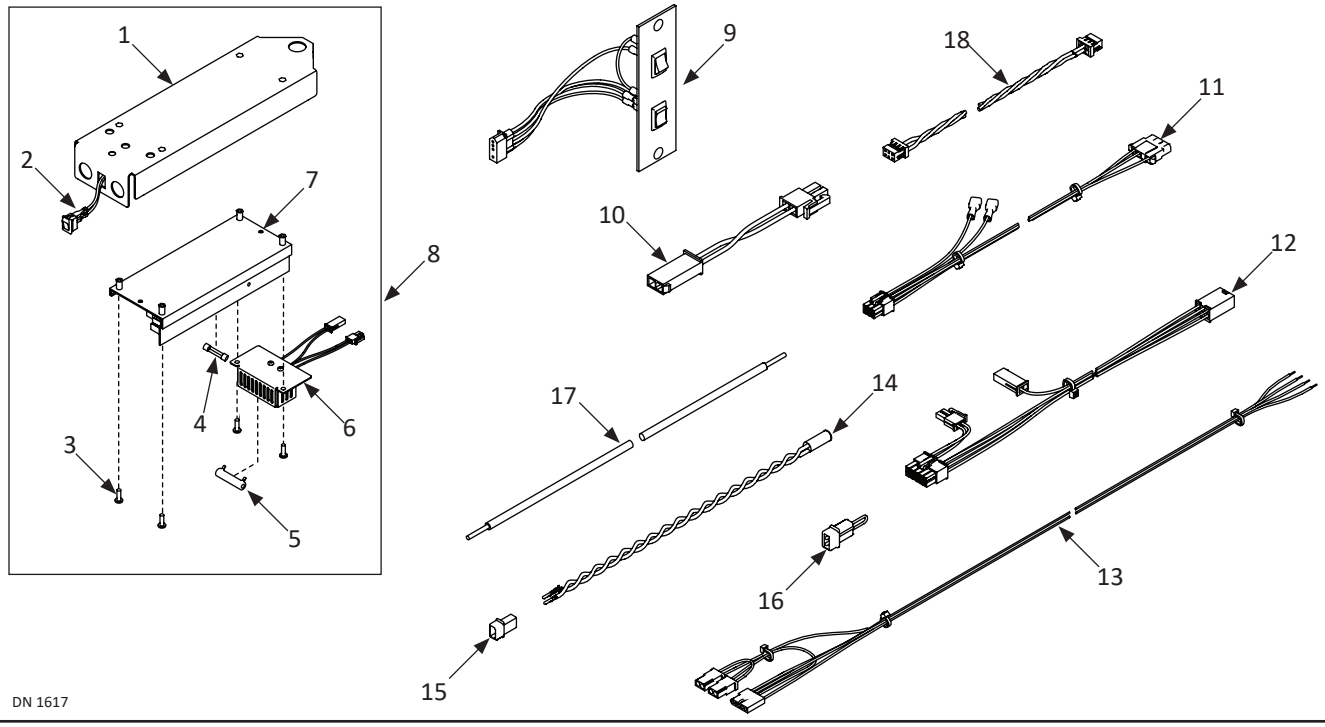
HARNESS KIT P/N A-01107



Fold Door				
Item	Part	QTY	Description	Used To
1	M-01736	1	BRACKET,BIFOLD,OPUS	Secure Mounting hardware to Opus Control
2	M-01182	1	HARNESS,POWER,ROCKER SWITCH	Turns Control power ON/OFF
3	T-00078	4	PHMS,10-32x0.625L.,PHIL,ZINC	Secure Mounting hardware to Opus Control
4	V-00552	1	FUSE;5A;GMA;5X20mm	Protect Opus Control (Located on Control)
5	V-00411	1	RESISTOR,200 OHM,20 WATT	Protect Motor (Located on Brake Module)
6	A-01003	1	MODULE,BRAKE,OPUS	Provides braking when Opus Control is not powered
7	M-01546	1	CONTROLLER, OPUS	Control the Swing Door
8	A-01135	1	CONTROLLER,BI-FOLD,W/ SWITCH,OPUS	Assembly of Opus Control and Brake Module
9	A-01048	1	SWITCH,ROCKER,BIFOLD,OPUS	Secures Mounting Hardware to Control
10	A-01001	1	HARNESS,HANDING,OPUS	Retrofit Handing for Right Hand Units
11	A-01002	1	HARNESS,ADAPTER,NON-ENCODER,OPUS	Adapt Opus Motor Harness to Non-Encoder Operator
12	A-01000	1	HARNESS,MOTOR,OPUS	Connect Motor to Opus Control
13	A-00806	1	HARNESS,SWITCH,BIFOLD,OPUS	Connects to Accessories and Rocker Switch
14	A-00144	1	REED SWITCH ASSEMBLY 12in TWISTED	Allows Door to Break Out
15	A-00385	1	BREAKOUT JUMPER	Used to Signal Door to Break Out
16	V-00034	1	HOUSING,2 POS,FOR MATE-N-LOCK PINS	Used to Signal Door to Break Out

SERVICE PARTS: BI-FOLD DOOR

HARNESS KIT P/N A-01108



BiFold Door				
Item	Part	QTY	Description	Used To
1	M-01736	2	BRACKET,BIFOLD,OPUS	Secure Mounting hardware to Opus Control
2	M-01182	1	HARNESS,POWER,ROCKER SWITCH	Turns Control power ON/OFF
3	T-00078	8	PHMS,10-32x0.625L.,PHIL,ZINC	Secure Mounting hardware to Opus Control
4	V-00552	2	FUSE;5A;GMA;5X20mm	Protect Opus Control (Located on Control)
5	V-00411	2	RESISTOR,200 OHM,20 WATT	Protect Motor (Located on Brake Module)
6	A-01003	2	MODULE,BRAKE,OPUS	Provides braking when Opus Control is not powered
7	M-01546	2	CONTROLLER, OPUS	Control the Swing Door
8	A-01135	1	CONTROLLER,BI-FOLD,W/ SWITCH,OPUS	Assembly of Opus Control and Brake Module
	A-01136	1	CONTROLLER,BI-FOLD,W/O SWITCH,OPUS	Assembly of Opus Control and Brake Module; no Switch
9	A-01048	1	SWITCH,ROCKER,BIFOLD,OPUS	Turns Unit power ON/OFF
10	A-01001	1	HARNESS,HANDING,OPUS	Retrofit Handing for Right Hand Units
11	A-01002	2	HARNESS,ADAPTER,NON-ENCODER,OPUS	Adapt Opus Motor Harness to Non-Encoder Operator
12	A-01000	2	HARNESS,MOTOR,OPUS	Connect Motor to Opus Control
13	A-00806	1	HARNESS,SWITCH,BIFOLD,OPUS	Connects to Accessories and Rocker Switch
14	A-00144	2	REED SWITCH ASSEMBLY 12in TWISTED	Allows Door to Break Out
15	V-00034	2	HOUSING,2 POS,FOR MATE-N-LOCK PINS	Used to Signal Door to Break Out
16	A-00385	2	BREAKOUT JUMPER	Used to Signal Door to Break Out
17	T-00251	72”	WIRE,20 AWG,300V,UL 1007,BLUE	Connect Breakout Circuit between both Opus Controls
18	M-01680	1	HARNESS,SIM PAIR,OPUS	Allow Opus Controls to communicate with each other

NOTES