OPUS Retrofit Kit Installation Manual

P/N C-00185 Rev 6-14-17

Nabco Entrances Inc. S82 W18717 Gemini Drive Muskego, Wisconsin 53150
Phone: (877) 622-2694 Fax: (888) 679-3319 www.nabcoentrances.com
NABCO hours of Operation: Monday to Friday 8:00 a.m.- 4:30 p.m. (Central Time)

Associated Manuals Part Numbers:
Model GT400,8400,500,8500,600,8600 Concealed Unit Swing Door; P/N C-00174
Model GT300,8300,350,8350 Overhead Concealed Swing Door; P/N C-00175
Model GT710,8710 Low Energy Swing Door; P/N C-00178
Model GT1400 Bi-Fold Doors; P/N C-00176
Model GT1400 Single Fold Doors; P/N C-00177
Model GT1175 U-0 thru U-19 Microprocessor Control Units; P/N 15-9244
Opus Control Wiring and Programming; P/N 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

CHAPTER 1: WARNING LABELS 3
CHAPTER 2: GENERAL SAFETY RECOMMENDATIONS 3
CHAPTER 3: TO THE INSTALLER 4
SECTION 3.1: Objective 4
CHAPTER 4: CONTROL COMPARISONS 4
SECTION 4.1: Control Types 4
SECTION 4.2: Control Programming Compatiblity 5
SECTION 4.3: Control Terminals 9
CHAPTER 5: TURN POWER OFF 11
CHAPTER 6: RETROFIT MAGNUM CONTROL UNITS 11
SECTION 6.1: GT (8)710 Units 11
SECTION 6.2: GT (8)300, (8)350, (8)400, (8)500, and (8)600 Units 12
SECTION 6.3: Fold Door Units 14
CHAPTER 7: RETROFIT (U0 - U19) MICROPROCESSOR CONTROL UNITS 15
CHAPTER 8: RETROFIT ANALOG CONTROL UNITS 16
CHAPTER 9: 120 VAC WIRING 18
CHAPTER 10: GENERAL WIRING 19
SERVICE PARTS: GT710/8710, SINGLE SWING DOOR 22
SERVICE PARTS: GT710/8710, SIMULTANEOUS PAIR SWING DOORS 23

SERVICE PARTS: SIDELOAD, SINGLE SWING DOOR 24
SERVICE PARTS: SIDELOAD, SIMULTANEOUS PAIR SWING DOORS. 25
SERVICE PARTS: BOTTOM LOAD, SINGLE SWING DOOR 26
SERVICE PARTS: BOTTOM LOAD, SIMULTANEOUS PAIR SWING DOORS 27
SERVICE PARTS: FOLD DOOR, SINGLE 28
SERVICE PARTS: BI-FOLD DOOR 29

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 damage 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 seriouc personal or fatal injury. When uncertain whether power supply is disconnected, always verify using a voltmeter.**

CAUTION **All electrical troublshooting 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.

Note: Study and understand both ANSI Standard Codes A156.10 and A156.19.

Note: Do Not take shortcuts.

CHAPTER 3: TO THE INSTALLER

The purpose of this manual is to familiarize the installer and purchaser with the proper installation 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, Standard 156.10 (Used to cover Full Energy doors) and ANSI Standard 156.19 (Used to cover Low Energy doors) apply. Other local standards or codes may 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.

The Opus Control can be sold as a Retrofit Kit to replace Magnum Controls, Analog Controls, and U-01 to U-19 Controls. Retrofit kits can be purchased by contacting Customer Service at 1-888-679-3319.

SECTION 3.1: Objective

The Opus Control is designed to be installed within the Header of:

- New or Existing Swing Door systems.
- New or Existing Fold Door systems
- Existing Slide Door systems to replace Magnum Controls, Analog Controls, and U-01 to U-19 Controls. Sold as a Retrofit Kit only. Retrofit kits can be purchased by contacting Customer Service at 1-888-679-3319.

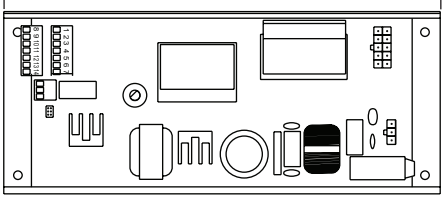
This manual offers step by step instructions.

CHAPTER 4: CONTROL COMPARISONS

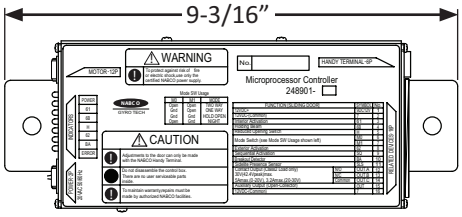
SECTION 4.1: Control Types

Unit	Prexisting Controls
GT (8)710	Magnum 1 - 4A (Gemini board replacement requires encoder motor)
GT (8)300, (8)400, (8)500, (8)600	► Magnum 1 - 4A ► Analog Control ► U - 00 thru U - 19 Microprocessor
GT1175	U - 00 thru U - 19 Microprocessor (U30 not compatible)
GT1400	► U - 00 thru U - 19 Microprocessor ► Magnum 4 and 4A

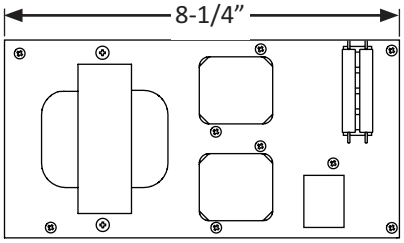
OPUS Control
9”



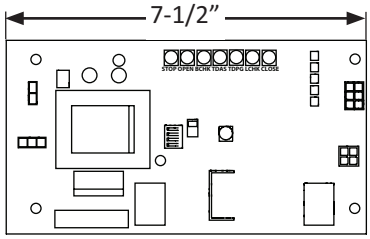
U-Series Microprocessor Control
9-3/16”



Analog Control
8-1/4”



Magnum Control
7-1/2”



DN 1516

SECTION 4.2: Control Programming Compatiblity

GT710 AND 8710				
Available Functions	**OPUS with Encoder Motor**	**Magnum 2, 3, 4 No Encoder Motor Magnetic Check Switches**	**Magnum 1 No Encoder Motor Magnetic Check Switches**	**Gemini Control No Encoder Motor No Check Switches**
Functionality	**Full**	**Limited**	**Limited**	
Push n Go?	X	X 4	X 4	NOT COMPATIBLE
Recycle on Opening?	X	X	X	
Recycle on Closing?	X			
Power Close?	X	X	X	
Hold Close?	X	X	X	
Electric Lock Relay Output?	X	X	X	
12VDC 750mA for external devices	X	X	X	
LCD display.	X	X	X	
Power Assist?	X	X	X	
Astragal function?	X	X	X	
Two programmable inputs?	X	X	X	
Two programmable outputs?	X	X	X	
Simultaneous Pair?	X 1, 3	X 1, 3	X 1, 3	
Adjust only one master control in a pair?	X	X	X	
Door Status Signaling Capability?	X	X	X	
Sensor Error Monitoring?	X 2	X 2	X 2	
Software ignores swing side door sensor at BC?	X	X	X	
Software adjustable check positions?	X			
Internal lockout for header mounted safety sensor?	X	X	X	
Optional jamb switch to turn off Hold Close?	X	X	X	
Lockout for push side door mounted sensor?	X	X	X	

GT (8)300, (8)350, (8)400				
Available Functions	**OPUS Clutchless Operator with Encoder Motor**	**Magnum Clutched Operator with Cam & Switches**	**U19 or Earlier Clutchless Operator with Encoder Motor**	**Analog Control Clutched Operator with Cam & Switches**
Functionality	**Full**	**Limited**	**Full**	**Limited**
Push n Go?	X	X 4	X	X 4
Recycle on Opening?	X	X	X	X
Recycle on Closing?	X		X	
Power Close?	X		X	
Hold Close?	X		X	
Electric Lock Relay Output?	X	X	X	X
12VDC 750mA for external devices	X	X	X	X
LCD display	X	X	X	X
Power Assist?	X	X	X	X

GT (8)300, (8)350, (8)400				
Available Functions	**OPUS Clutchless Operator with Encoder Motor**	**Magnum Clutched Operator with Cam & Switches**	**U19 or Earlier Clutchless Operator with Encoder Motor**	**Analog Clutched Operator with Cam & Switches**
Functionality	**Full**	**Limited**	**Full**	**Limited**
Astragal function?	X	X	X	X
Two programmable inputs?	X	X	X	X
Two programmable outputs?	X	X	X	X 1, 3
Simultaneous Pair?	X 1, 3	X 1, 3	X 1, 3	X 1, 3
Adjust only one master control in a pair?	X	X	X	X
Door Status Signaling Capability?	X	X	X	X
Sensor Error Monitoring?	X 2	X 2	X 2	X 2
Software ignores swing side door sensor at BC?	X	X	X	X
Software adjustable check positions?	X		X	
Internal lockout for header mounted safety sensor?	X	X	X	X
Optional jamb switch to turn off Hold Close?	X	X	X	X
Lockout for push side door mounted sensor?	X	X	X	X

GT (8)500			
Available Functions	**OPUS Clutchless *(ROF) Operator with Encoder Motor**	**Magnum Clutched Operator with Cam & Switches**	**Analog Clutched Operator with Cam & Switches**
Functionality	**Full**	**Limited**	**Limited**
Push n Go?	X	X 4	X 4
Recycle on Opening?	X	X	X
Recycle on Closing?	X		
Power Close?	X		
Hold Close?	X		
Electric Lock Relay Output?	X	X	X
12VDC 750mA for external devices	X	X	X
LCD display	X	X	X
Power Assist?	X	X	X
Astragal function?	X	X	X
Two programmable inputs?	X	X	X
Two programmable outputs?	X	X	X
Simultaneous Pair?	X 1, 3	X 1, 3	X 1, 3
Adjust only one master control in a pair?	X	X	X
Door Status Signaling Capability?	X	X	X
Sensor Error Monitoring?	X 2	X 2	X 2
Software ignores swing side door sensor at BC?	X	X	X
Software adjustable check positions?	X		
Internal lockout for header mounted safety sensor?	X	X	X

GT (8)500			
Available Functions	**OPUS Clutchless *(ROF) Operator with Encoder Motor**	**Magnum Clutched Operator with Cam & Switches**	**Analog Clutched Operator with Cam & Switches**
Functionality	**Full**	**Limited**	**Limited**
Optional jamb switch to turn off Hold Close?	X	X	X
Lockout for push side door mounted sensor?	X	X	X

GT 600				
Available Functions	**OPUS Clutchless Operator with Encoder Motor**	**Magnum Clutched Operator with Cam & Switches**	**U19 or earlier Clutchless Operator with Encoder Motor**	**Analog Clutched Operator with Cam & Switches**
Functionality	**Full**	**Limited**	**Full**	**Limited**
Push n Go?	X	X 4	X	X 4
Recycle on Opening?	X	X	X	X
Recycle on Closing?	X		X	
Power Close?	X		X	
Hold Close?	X		X	
Electric Lock Relay Output?	X	X	X	X
12VDC 750mA for external devices	X	X	X	X
LCD display	X	X	X	X
Power Assist?	X	X	X	X
Astragal function?	X	X	X	X
Two programmable inputs?	X	X	X	X
Two programmable outputs?	X	X	X	X
Simultaneous Pair?	X 1, 3	X 1, 3	X 1, 3	X 1, 3
Adjust only one master control in a pair?	X	X	X	X
Door Status Signaling Capability?	X	X	X	X
Sensor Error Monitoring?	X 2	X 2	X 2	X 2
Software ignores swing side door sensor at BC?	X	X	X	X
Software adjustable check positions?	X		X	
Internal lockout for header mounted safety sensor?	X	X	X	X
Optional jamb switch to turn off Hold Close?	X	X	X	X
Lockout for push side door mounted sensor?	X	X	X	X

GT 1400			
Available Functions	**OPUS Clutchless Operator with Encoder Motor**	**Magnum Clutchless Operator with Cam & Switches**	**U19 or earlier Clutchless Operator with Encoder Motor**
Functionality	**Limited**	**Full**	**Limited**
Recycle on Closing?	X	X	X
Power Close?	X	X	X
Hold Close?	X	X	X
Electric Lock Relay Output?	X	X	X
12VDC 750mA for external devices	X	X	X
LCD display	X	X	X
Two programmable inputs?	X	X	X
Two programmable outputs?	X	X	X
Bifold?	X, 1, 3	X, 1, 3	X, 1, 3
Adjust only one master control in a pair?	X	X	X
Door Status Signalling Capability?	X	X	X
Sensor Error Monitoring?	X, 2	X, 2	X, 2
Software adjustable check positions?	X		X
Optional jamb switch to turn off Hold Close?	X	X	X
Internal lockout for header mounted safety sensor?	X	X	X

GT 1175		
Available Functions	**U30 Control with DS150 Operator**	**U19 or Earlier with Encoder Motor**
Functionality		**Full**
Recycle on Closing?	NOT COMPATIBLE	X
Hold Close?		X
Electric Lock Relay Output?		X
12VDC 750mA for external devices		X
LCD display		X
Two programmable inputs?		X
Two programmable outputs?		X
Door Status Signaling Capability?		X
Sensor Error Monitoring?		X 1
Software adjustable check positions?		X

GT 100, 200, 1100	
Available Functions	**Model 2600 Control**
Functionality	
Recycle on Closing?	NOT COMPATIBLE
Hold Close?	
Electric Lock Relay Output?	
12VDC 750mA for external devices	
LCD display	
Two programmable inputs?	

GT 100, 200, 1100	
Available Functions	**Model 2600 Control**
Functionality	
Two programmable outputs?	NOT COMPATIBLE
Door Status Signaling Capability?	
Sensor Error Monitoring?	
Software adjustable check positions?	
Optional jamb switch to turn off Hold Close?	
Foot Notes	
1. Both controls must be Opus.	
2. Sensors must also be equipped with this capability.	
3. Requires two controls per sim pair.	
4. Push n Go only available when door is pushed out of latch.	
5. (ROF) Reduced Opening Force.	

SECTION 4.3: Control Terminals

4.3.1 Opus Control Terminal

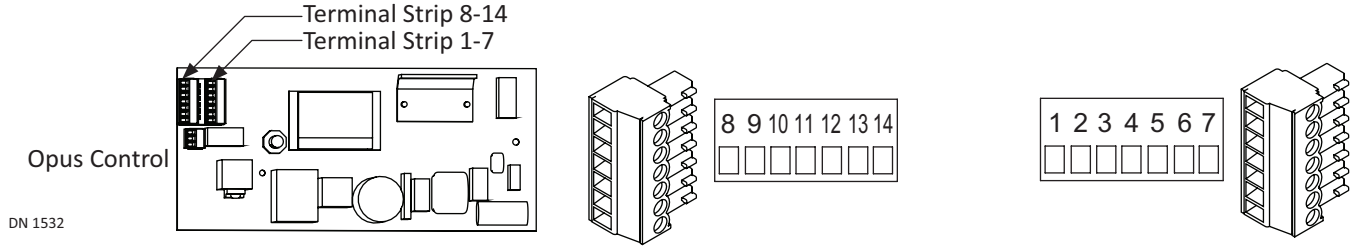


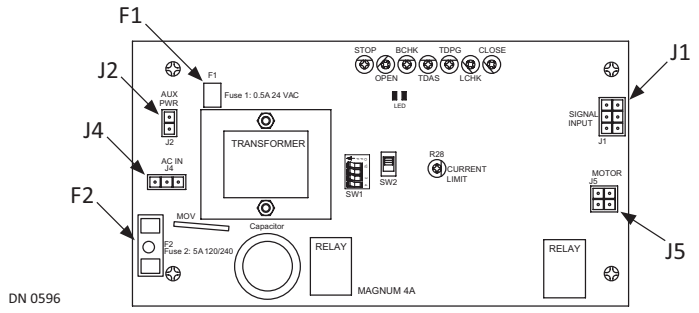
Figure 1 Opus Control Terminal Strips

Table 1 Opus Control Terminal Strips 1 thru 14

#	ID	Description	
1	12VDC	Sensor Power Source; 750mA capacity	
2	GND	Ground wire (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)
		Slide Door	Sidelite Sensor
7	Out1	Selectable Output	
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	Multi-Purpose Input	

#	ID	Description
11	M0	Mode 0 Input: ▶ When grounded, puts door into “One-Way” Mode ▶ “Hold Open” when grounded with M1
12	M1	Mode 1: ▶ When grounded, puts into “Night” Mode ▶ “Hold Open” when grounded with M0
13	Out2	Aux. Output: Selectable output, closes to GND
14	GND	Ground (common) for 12 VDC: For all above Signals

4.3.2 Magnum Control Terminal



Terminal	Connector	Harness
J1	Input Signal	Main
J2	Auxiliary Power	Main
J4	Incoming Power	Power
J5	Motor	Motor
F1	Resettable Fuse Non-Replaceable	N/A
F2	Not ResettableFuse	N/A

Figure 2 Magnum Control Terminals

4.3.3 Microprocessor Control Terminal

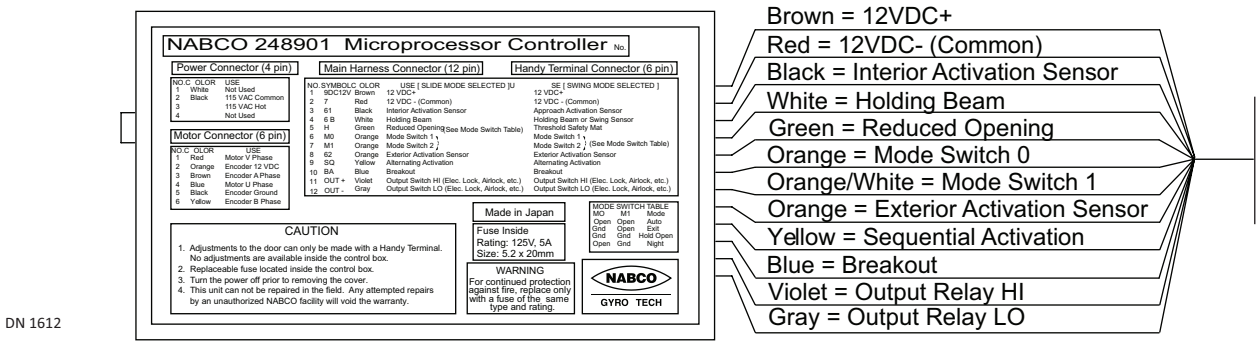
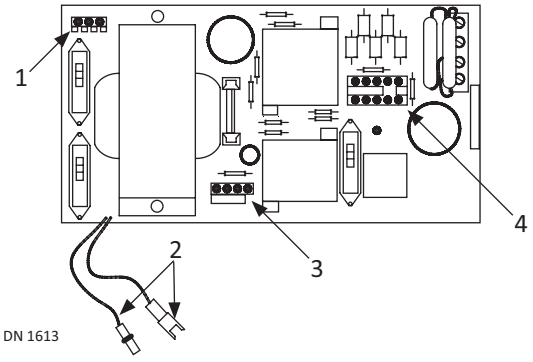


Figure 3 Microprocessor Control Terminals

4.3.4 Analog Control Terminals



Item	Harness	Use
1	120 VAC	Supplies 120 VAC to Control and Equipment
2	Soft Start Capacitor	Not used for GT500 (Standard Mode)
3	Matt	Interfaces the Activation, Safety and 24 VAC signals to the Control
4	Operator Switch	Connects the Motor and Operator Micro Switch Circuit to the Control

Analog Control does not use Terminal Connections

Figure 4 Analog Control Harness Connections

CHAPTER 5: TURN POWER OFF

WARNING **Shut OFF the installation site, branch Circuit Breaker. 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 **Keep all Incoming 120 VAC wiring separate from low voltage wiring within Header. 120 VAC Power wires must be routed (separate from other wiring) located near the top of inside Header.**

CAUTION **Ensure that the Grounding of the Electric Power Supply is installed/connected in a proper way (especially the PE Cable from the Building Side).**

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

Attention: **Insert all Incoming 120 VAC Power wires into pre-drilled Electric Service Access Holes located within Header. 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.**

CHAPTER 6: RETROFIT MAGNUM CONTROL UNITS

SECTION 6.1: GT (8)710 Units

1. Turn Power OFF.
2. Remove the Rocker Switch.
3. Disconnect all Harnesses and Wiring between the Magnum Control, and the Motor/Operator; plus Accessories.

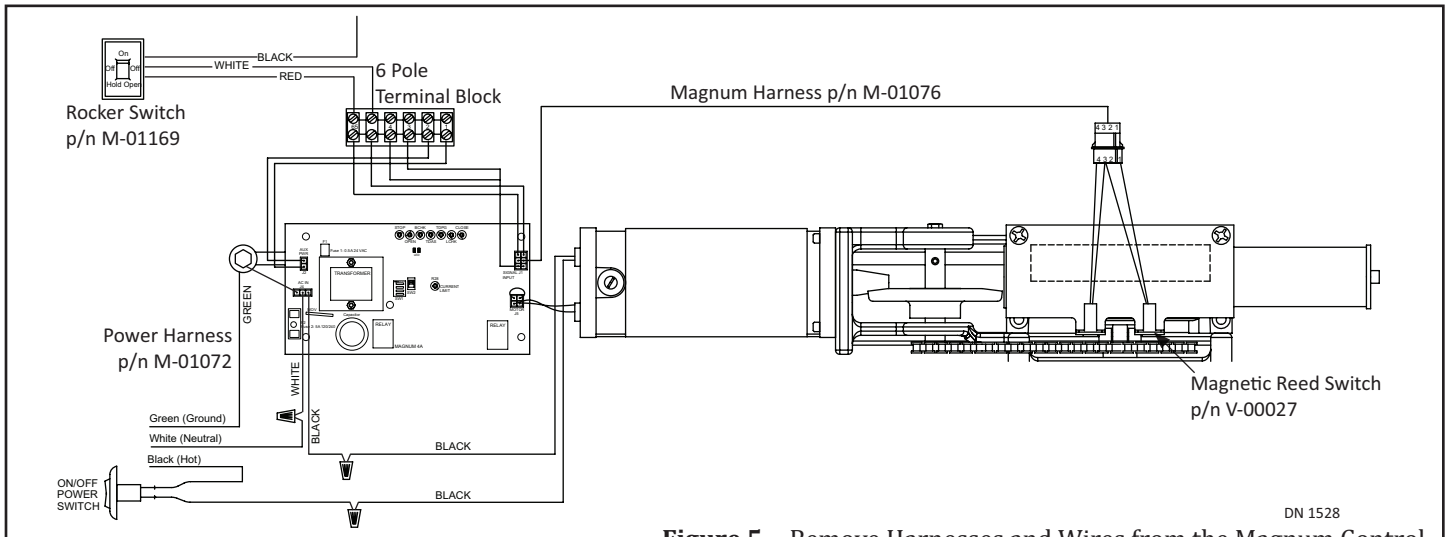


Figure 5 Remove Harnesses and Wires from the Magnum Control

4. Remove the Magnum Control.

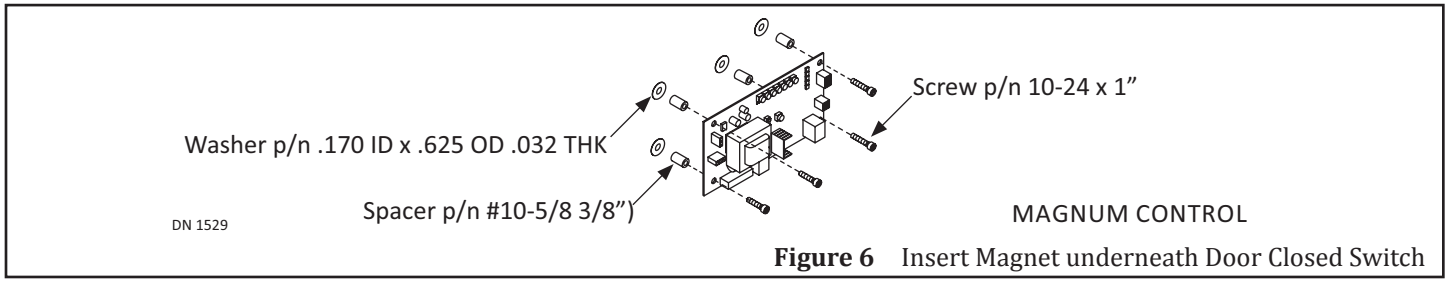


Figure 6 Insert Magnet underneath Door Closed Switch

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

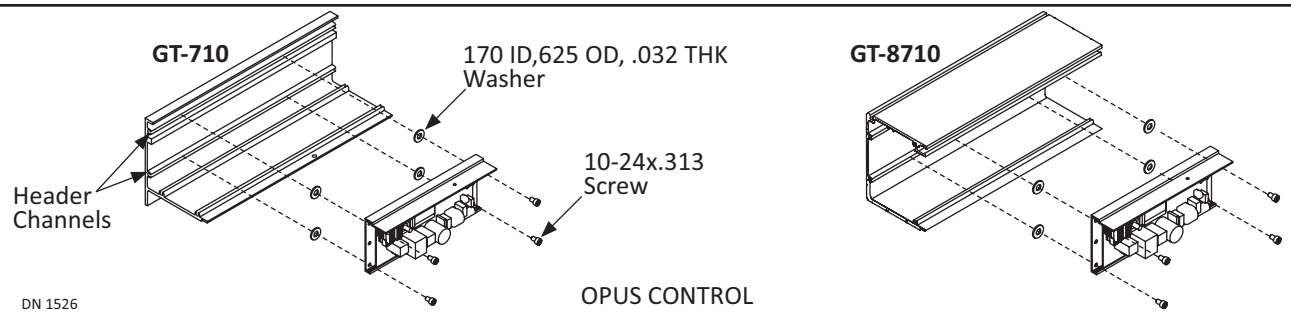


Figure 7 Secure the Opus Control to the Header

6. Connect wiring to the Opus Control according to SECTION 4.3, and the Opus Control Wiring and Programming Manual; P/N C-00139.
   a. It is recommended to remove (2) Terminal Blocks numbered 1-7 and 8-14 from the Opus Control before wiring the connections. Removing Terminal Blocks allows easier insertion of wires.

TO COMPLETE INSTALLATION OF GT (8)710 UNITS SKIP TO CHAPTER 10

SECTION 6.2: GT (8)300, (8)350, (8)400, (8)500, and (8)600 Units

1. Turn Power OFF.
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 Motor/Operator; plus Accessories.

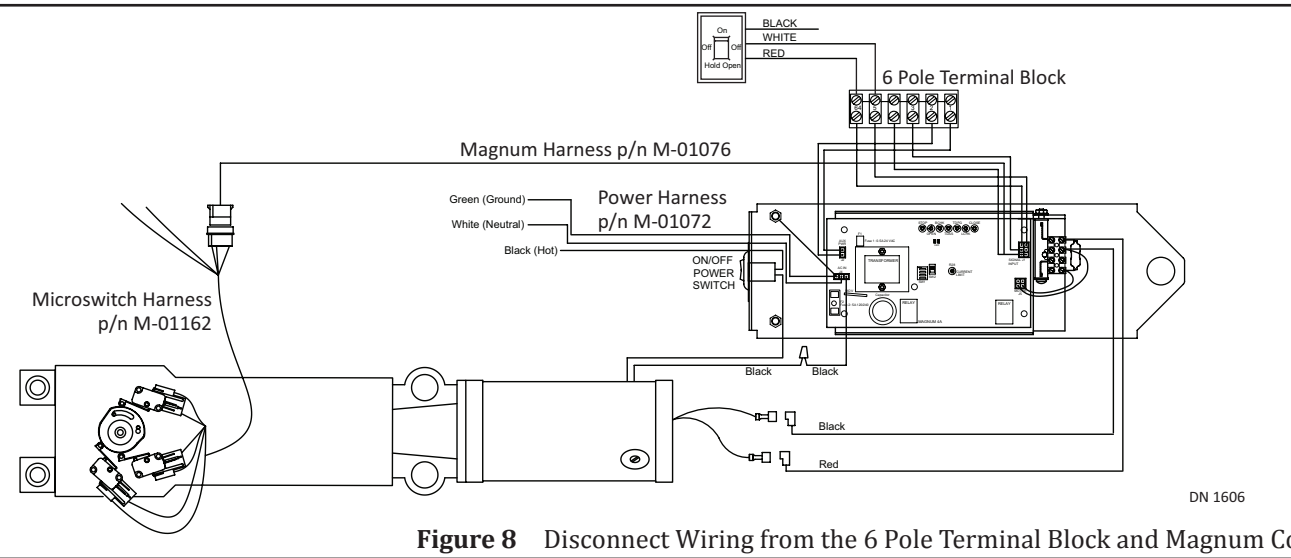


Figure 8 Disconnect Wiring from the 6 Pole Terminal Block and Magnum Control

6.2.1 Sideload Units

1. Remove the Magnum Control and Brake Module.

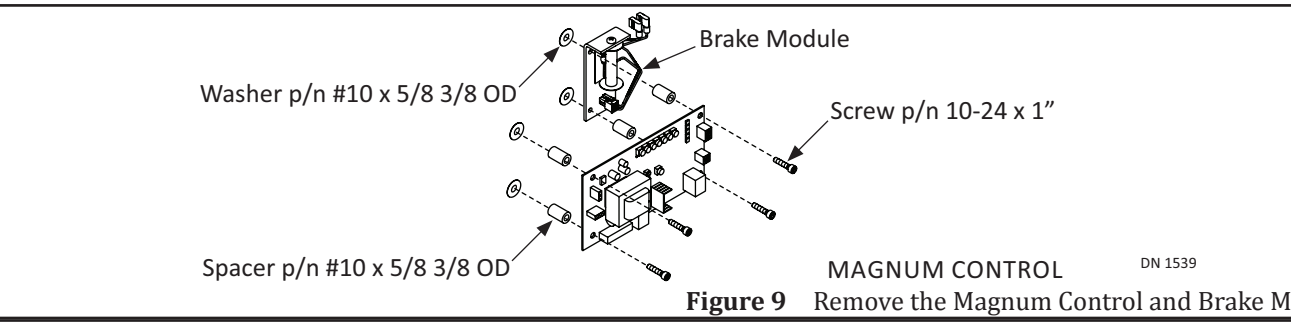


Figure 9 Remove the Magnum Control and Brake Module

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

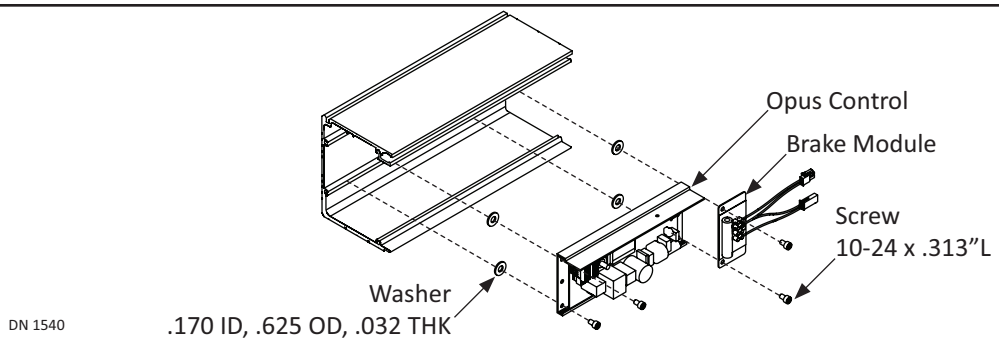


Figure 10 Secure the Opus Control to the Header

3. Connect wiring to the Opus Control according to SECTION 4.3, and the Opus Control Wiring and Programming Manual; P/N C-00139.
   a. It is recommended to remove (2) Terminal Blocks numbered 1-7 and 8-14 from the Opus Control before wiring the connections. Removing Terminal Blocks allows easier insertion of wires.

TO COMPLETE INSTALLATION OF SIDELOAD UNITS SKIP TO CHAPTER 10

6.2.2 Bottom Load Units

1. Remove the Magnum 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.

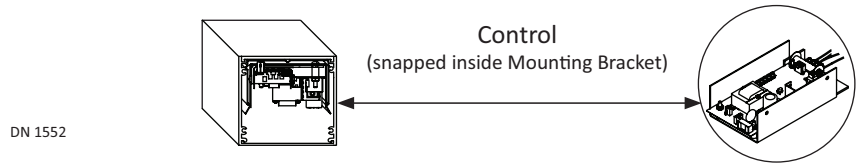


Figure 11 Remove Magnum Control from Mounting Bracket

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

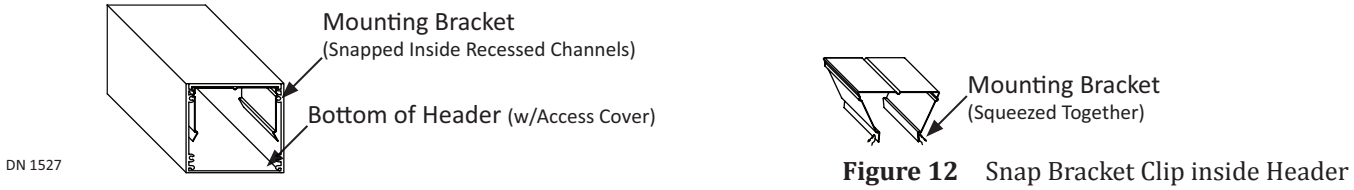


Figure 12 Snap Bracket Clip inside Header

3. Insert the Opus Control/Mounting Bracket into the Header (Control will approximately be at a 4 degree angle).
4. Rotate the Opus Control until each side of the Mounting Bracket slides into the Channels located at the top; inside Header.
5. Tighten (2) 10-24x.875 inch Socket Head Cap screws, until the tip butts against the inside wall of the Header.

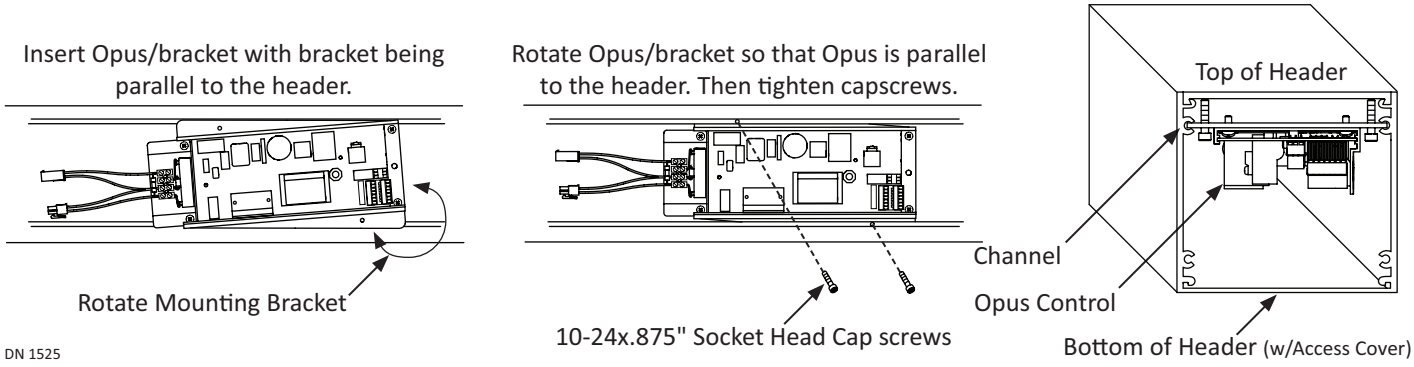


Figure 13 Snap Bracket Clip inside Header

6. 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.
   a. It is recommended to remove (2) Terminal Blocks numbered 1-7 and 8-14 from the Opus Control before wiring the connections. Removing Terminal Blocks allows easier insertion of wires.

TO COMPLETE INSTALLATION OF BOTTOM LOAD UNITS SKIP TO CHAPTER 10

SECTION 6.3: Fold Door Units

1. Turn Power OFF.
2. Remove the Rocker Switch.
3. Disconnect all Harnesses and Wiring between the Magnum Control, and the Motor/Operator; plus Accessories.

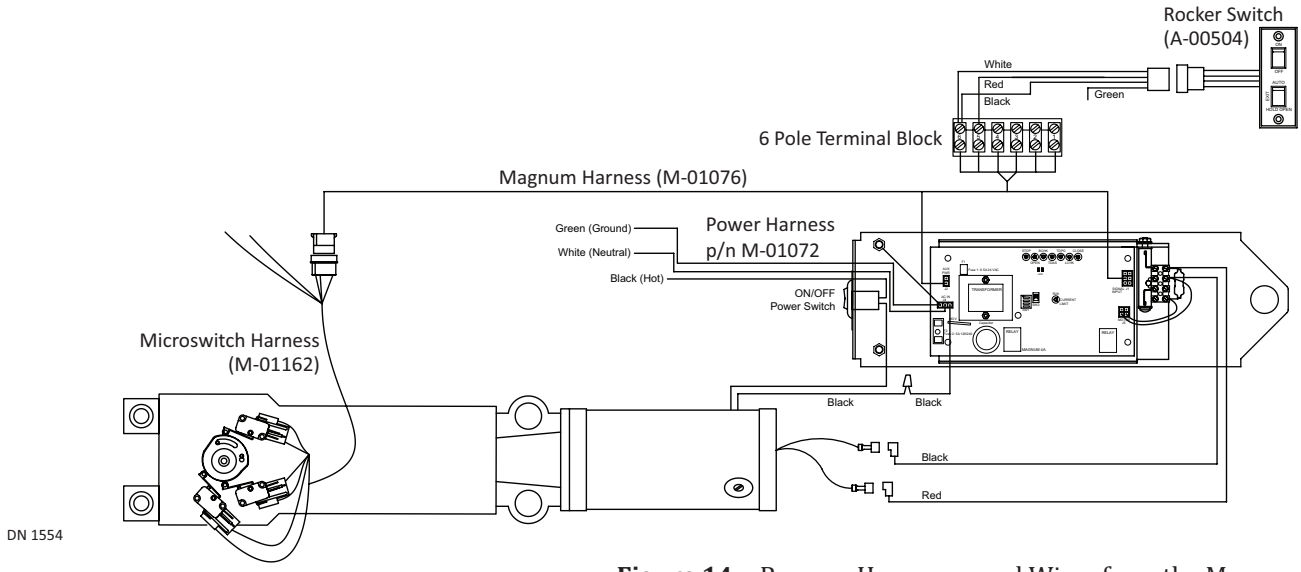


Figure 14 Remove Harnesses and Wires from the Magnum Control

4. Remove the Magnum Control.
   a. Save the (2) 3/8-16 Wizlock Nuts for reinstallation.

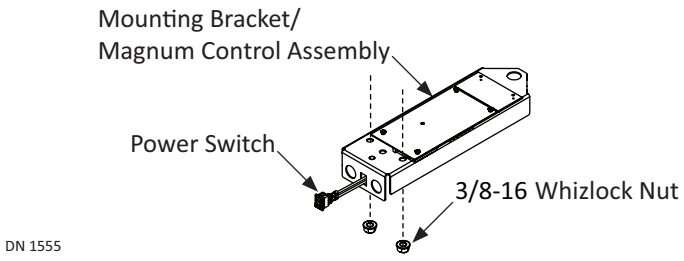


Figure 15 Remove the Magnum Control

5. Secure the Opus Control to the Operator with (2) 3/8-16 Wizlock Nuts that were saved for reinstallation.

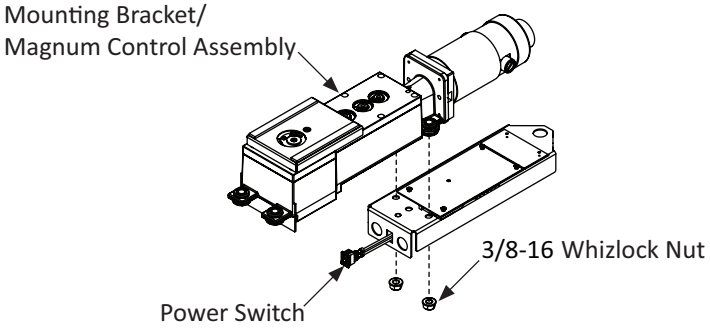


Figure 16 Secure the Opus Control to the Header

6. 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.
   a. It is recommended to remove (2) Terminal Blocks numbered 1-7 and 8-14 from the Opus Control before wiring the connections. Removing Terminal Blocks allows easier insertion of wires.

TO COMPLETE INSTALLATION OF FOLD DOOR UNITS SKIP TO CHAPTER 10

CHAPTER 7: RETROFIT (U0 - U19) MICROPROCESSOR CONTROL UNITS

1. Turn Power OFF.
2. Disconnect all Harnesses and Wiring between the Microprocessor Control, and the Motor/Operator; plus Accessories.

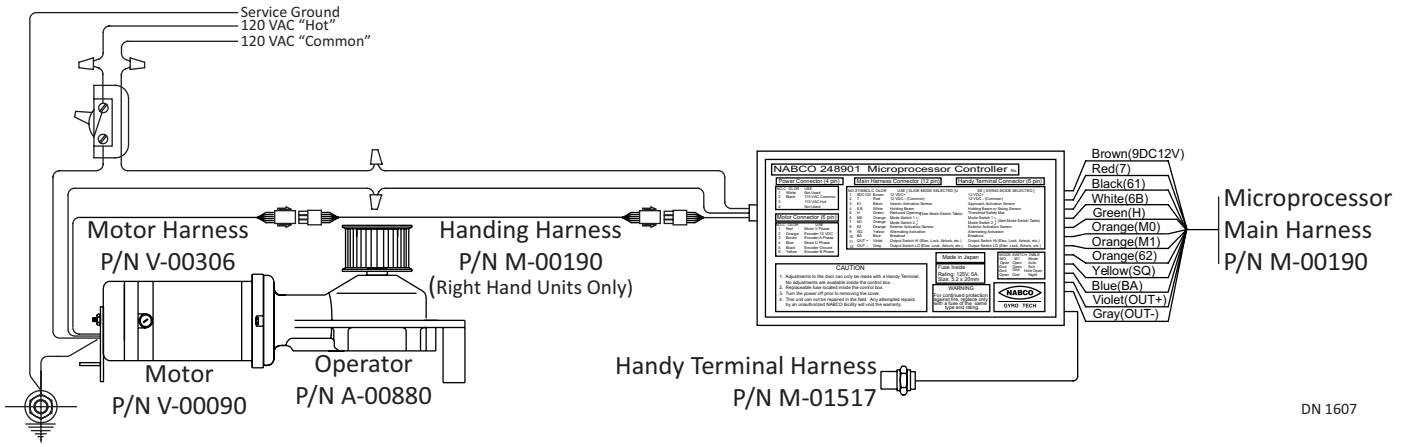


Figure 17 Remove Harnesses and Wiring from the Microprocessor Control

3. Remove the Microprocessor Control. Save the Whizlock Nuts for reinstallation.

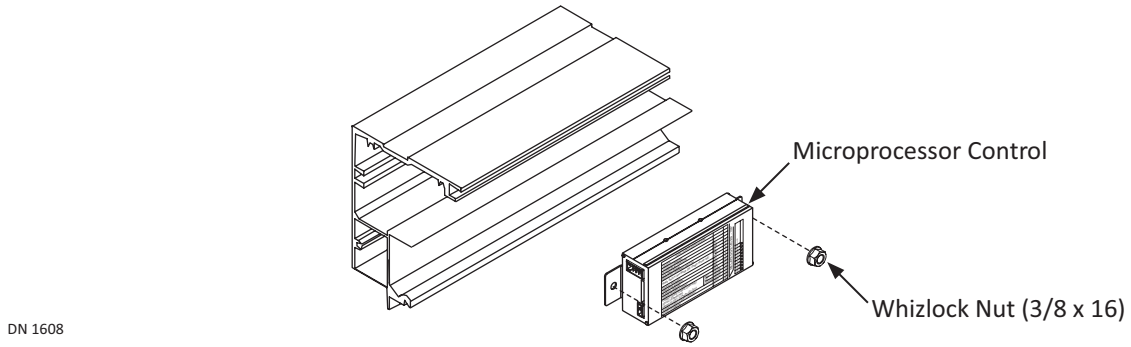


Figure 18 Remove the MicroprocessorControl

4. Secure the Opus Control with (2) 3/8" x 16 Whizlock Nuts that were saved for reinstallation.

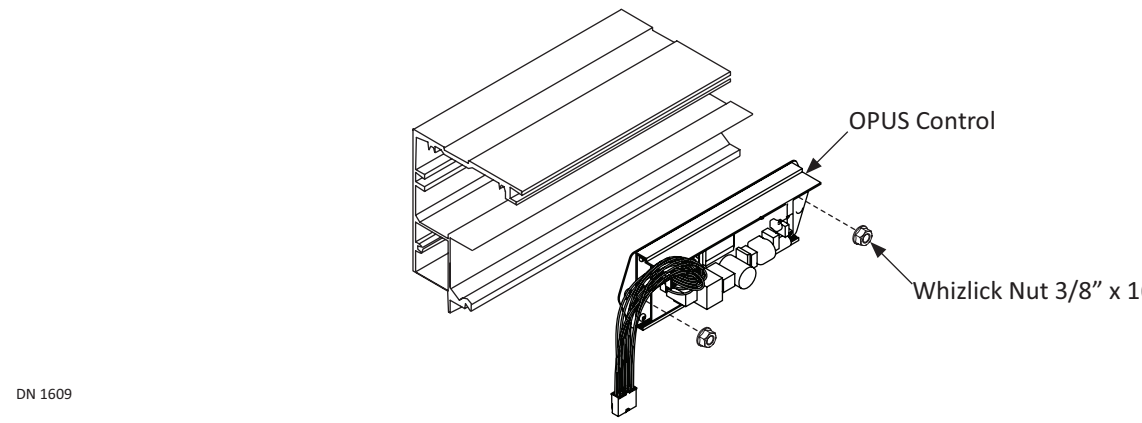


Figure 19 Secure the Opus Control to the Header

5. Connect wiring to the Opus Control according to SECTION 4.3, and the Opus Control Wiring and Programming Manual; P/N C-00139.
   a. It is recommended to remove (2) Terminal Blocks numbered 1-7 and 8-14 from the Opus Control before wiring the connections. Removing Terminal Blocks allows easier insertion of wires.

TO COMPLETE INSTALLATION OF SIDELOAD UNITS SKIP TO CHAPTER 10

CHAPTER 8: RETROFIT ANALOG CONTROL UNITS

1. Turn Power OFF.
2. Disconnect all Harnesses between the Analog Control, and Motor, plus Accessories.

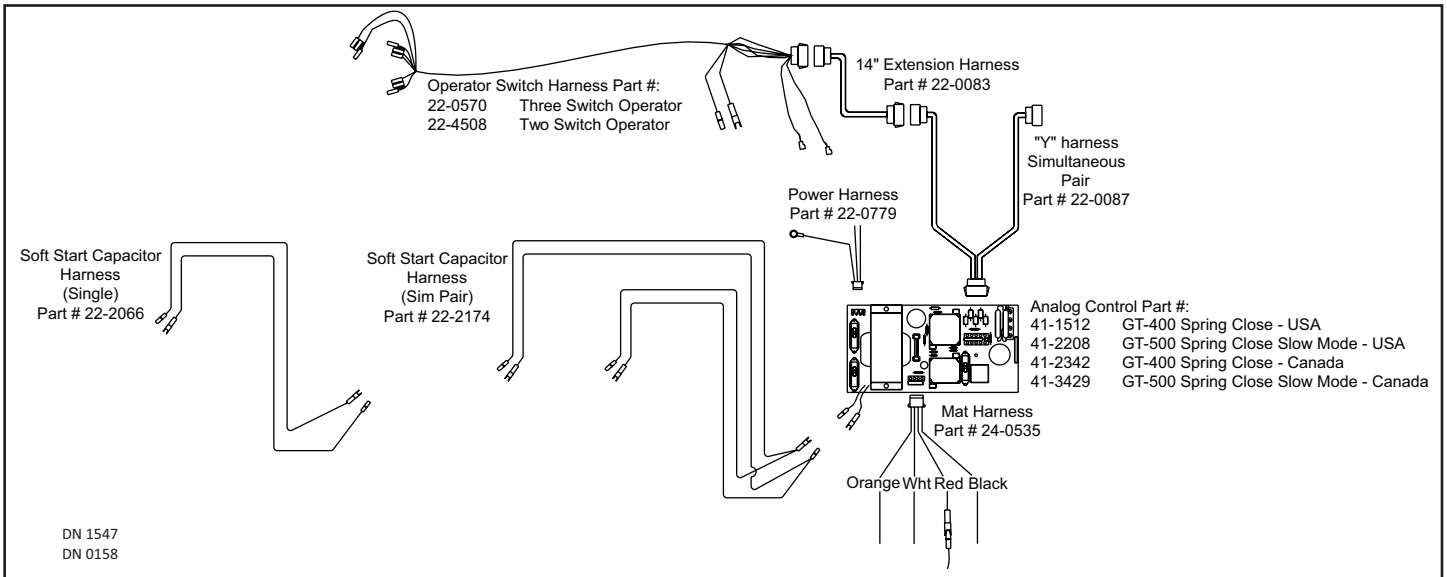


Figure 20 Remove Harnesses and Wires from the Magnum Control

SECTION 8.1: Sideload Units

1. Remove the Analog Control.

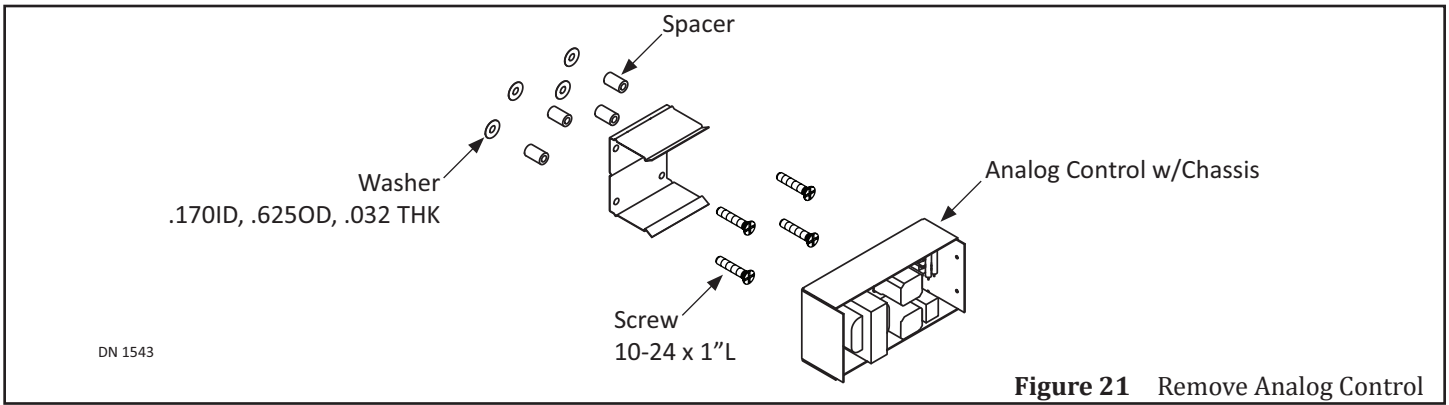


Figure 21 Remove Analog Control

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

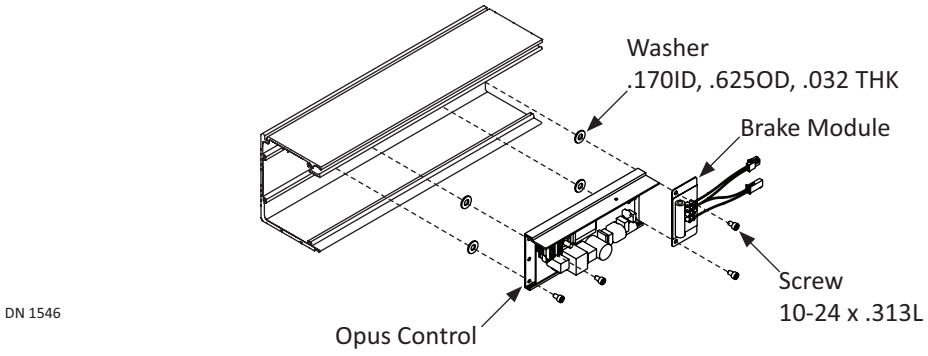


Figure 22 Secure the Opus Control to Header

3. Reconnect Terminal Strip(s) to the Opus Control.
4. Remove the Soft Start Capacitor and Time Delay. The Opus Control does not utilize these components.

SECTION 7.2: Bottom Load Units

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.

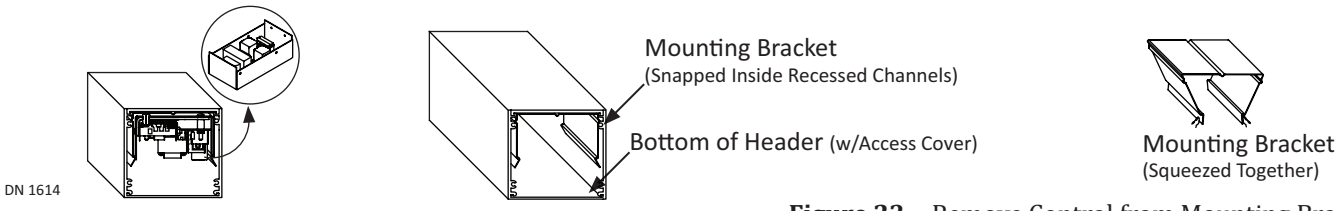


Figure 23 Remove Control from Mounting Bracket

3. Insert the Opus Control/Mounting Bracket assembly into the Header (Control will approximately be at a 4 degree angle).
4. Rotate the Opus Control until each side of the Mounting Bracket slides into each Channel located at the top; inside Header.
5. 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.

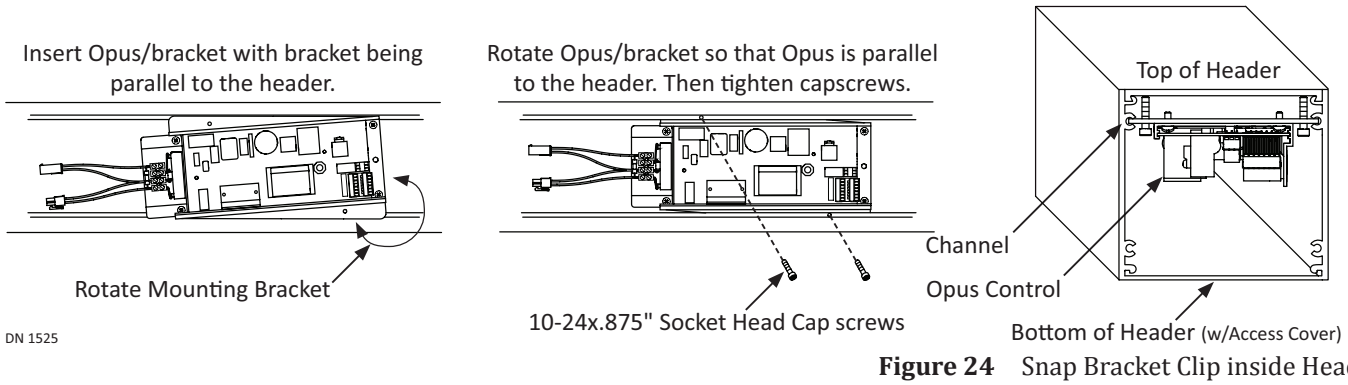
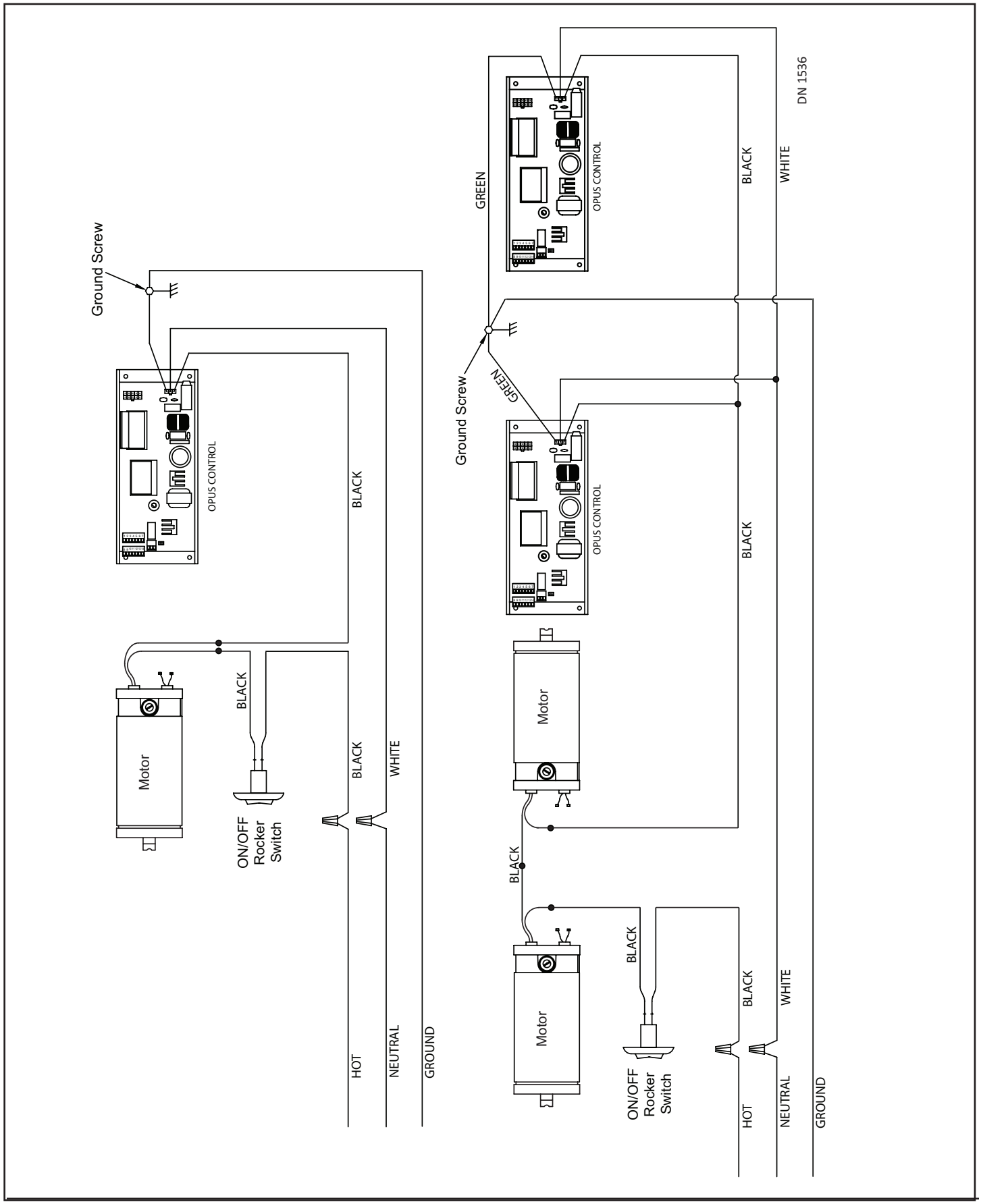


Figure 24 Snap Bracket Clip inside Header

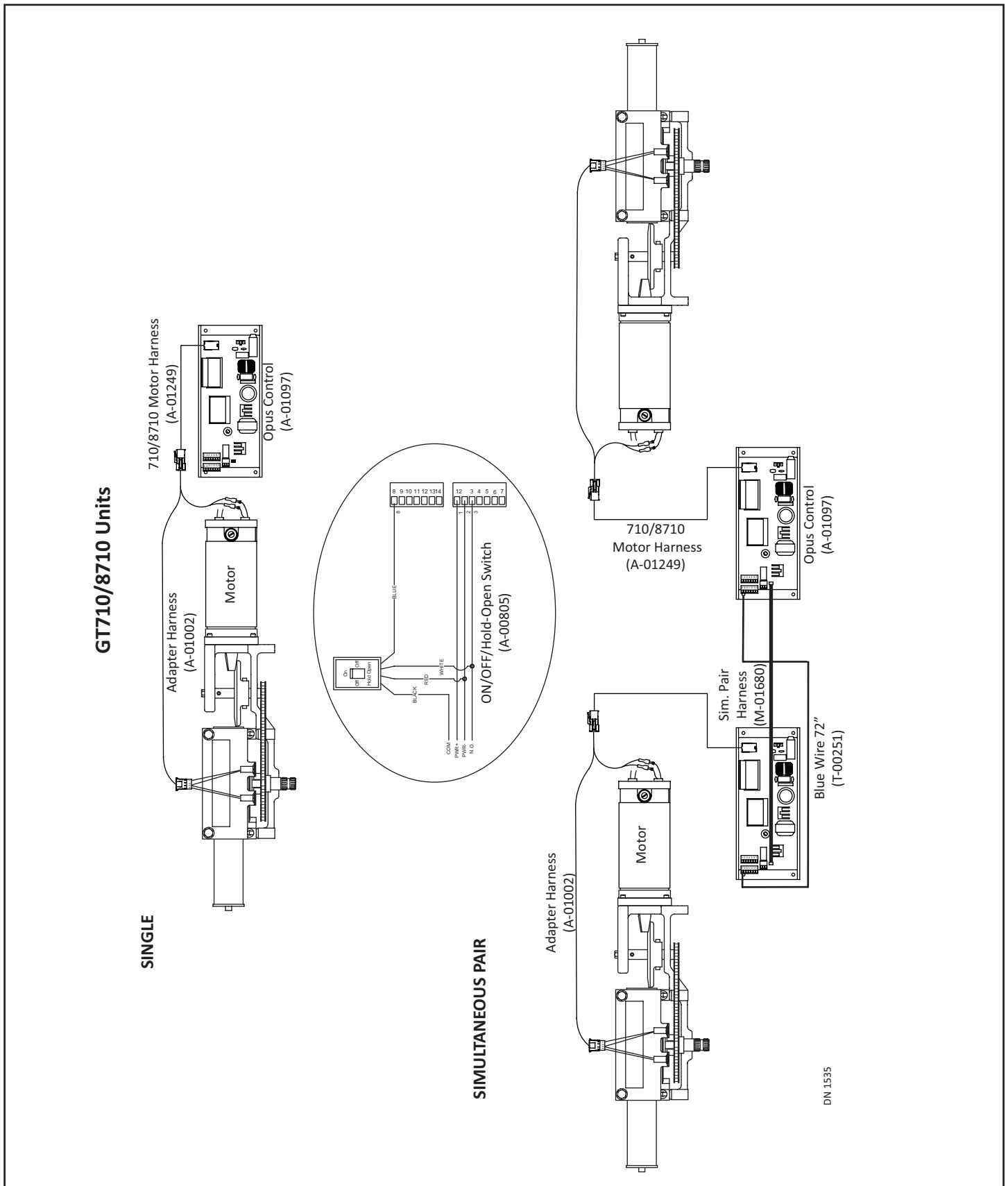
6. Reconnect Terminal Strip(s) to the Opus Control. Please see Figure 2.
7. Remove the Soft Start Capacitor and Time Delay. The Opus Control does not utilize these component.
8. Connect wiring to the Opus Control and Brake Module according to SECTION 4.3, and the Opus Control Wiring and Programming Manual; P/N C-00139.
   a. It is recommended to remove (2) Terminal Blocks numbered 1-7 and 8-14 from the Opus Control before wiring the connections. Removing Terminal Blocks allows easier insertion of wires.

CHAPTER 9: 120 VAC WIRING

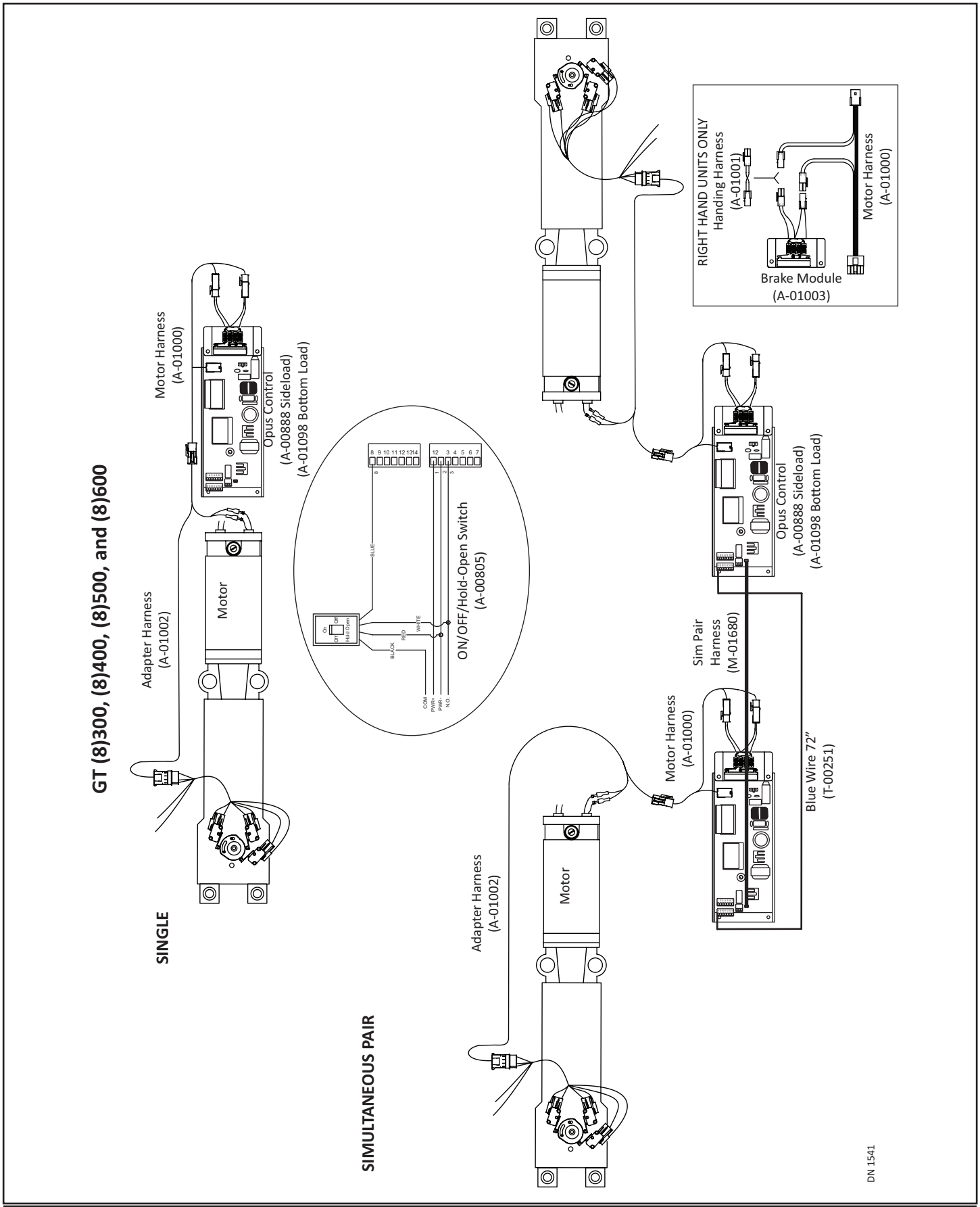


CHAPTER 10: GENERAL WIRING

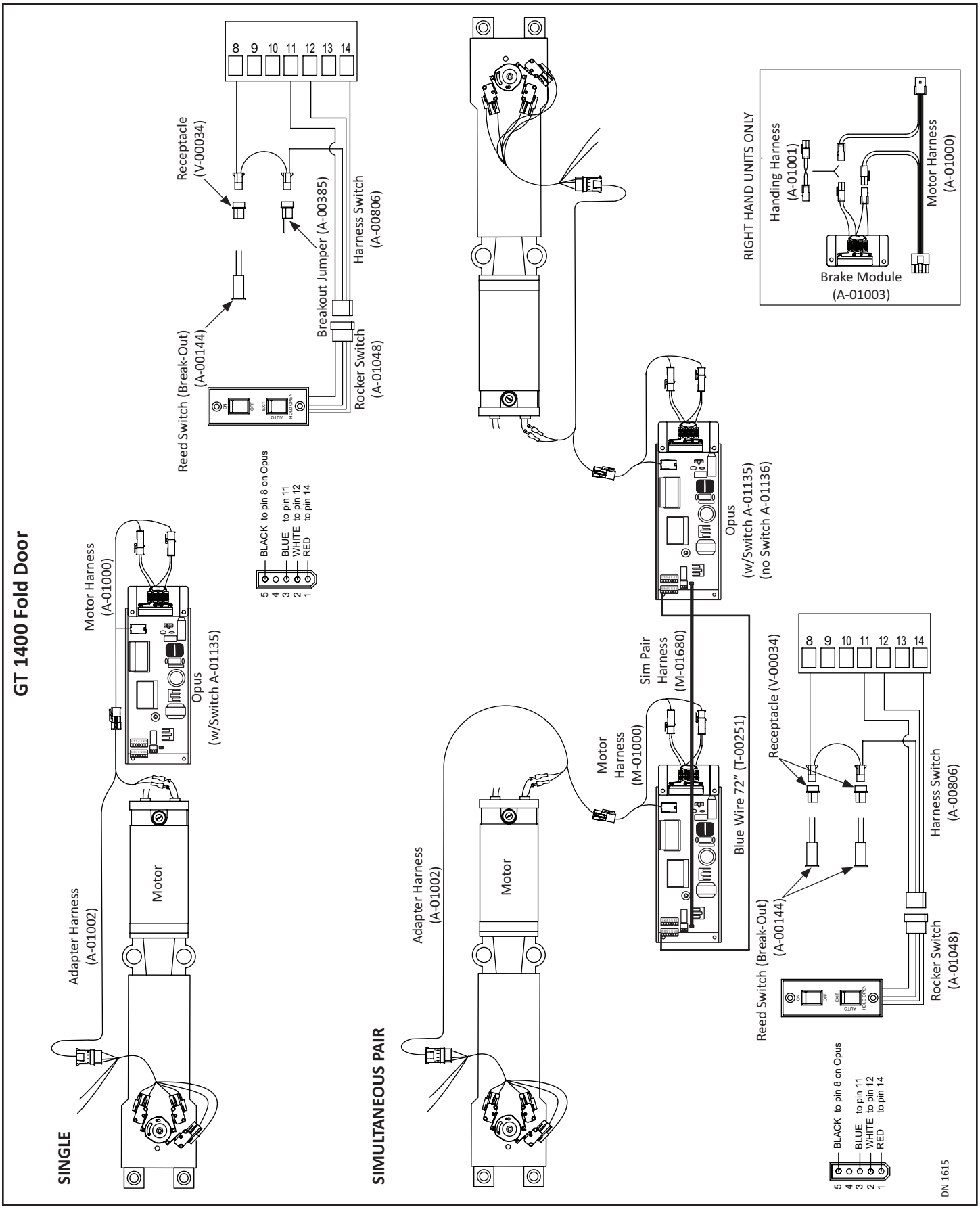
SECTION 11.1: GT710/8710 Wiring



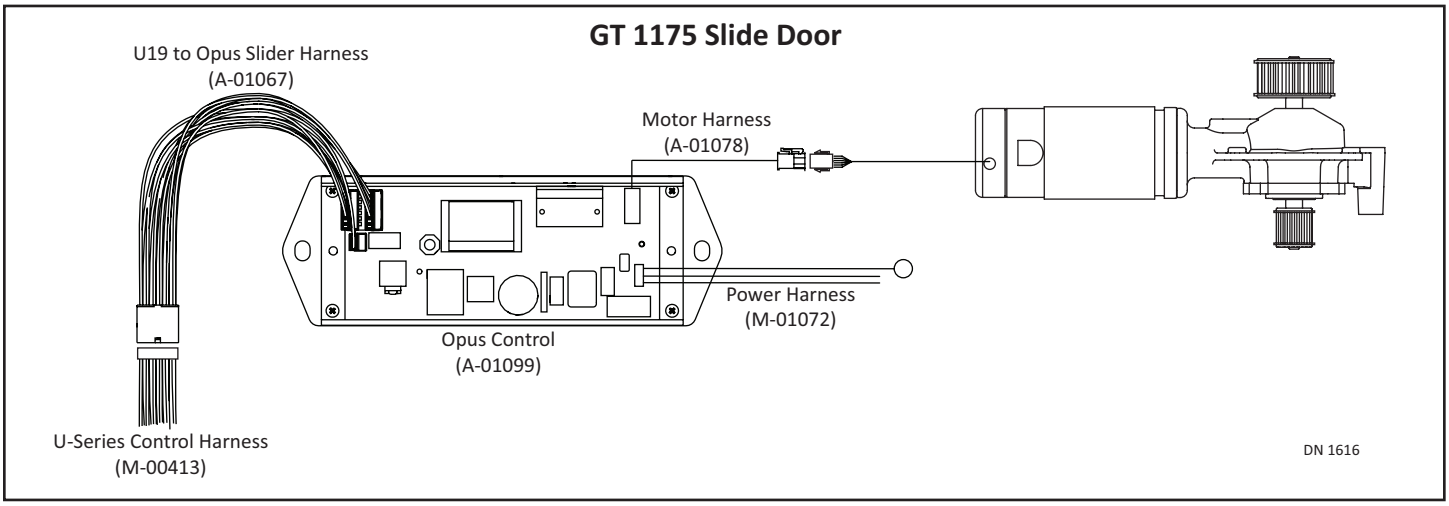
SECTION 11.2: GT(8)300, (8)400, (8)500, and (8)600 Wiring



SECTION 11.3: GT 1400 Wiring

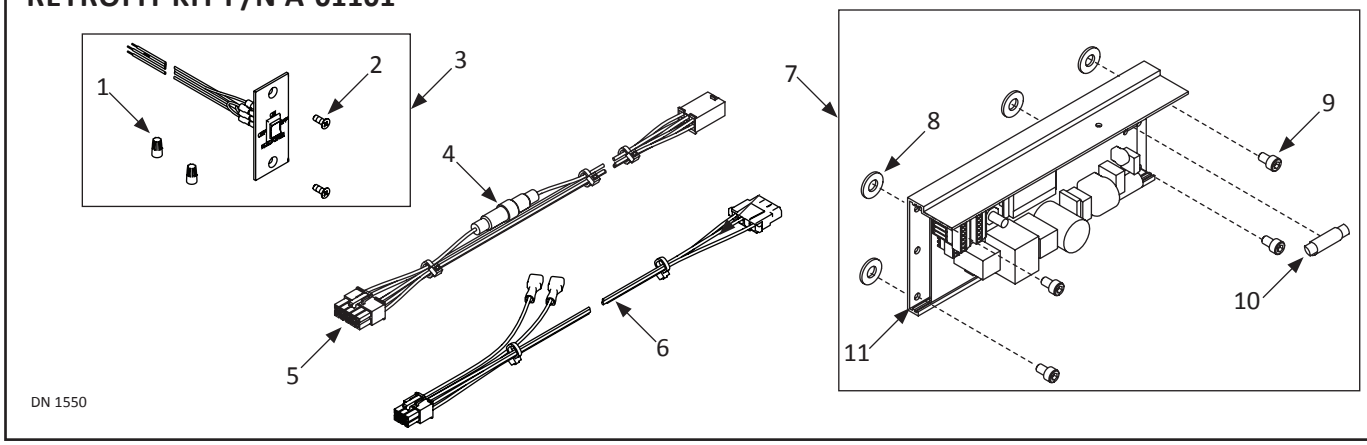


SECTION 11.4: GT 1175 Wiring



SERVICE PARTS: GT710/8710, SINGLE SWING DOOR

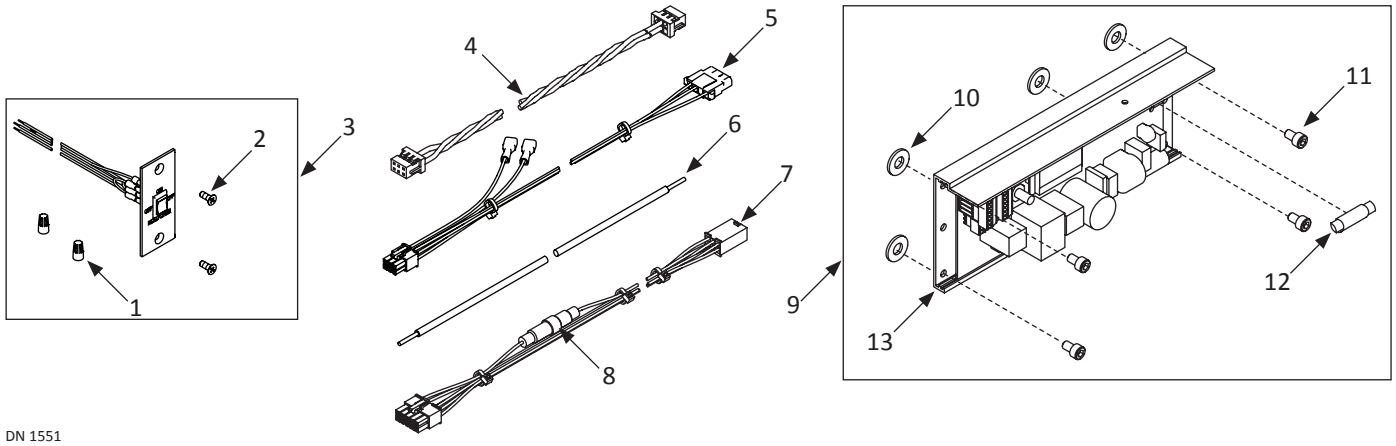
RETROFIT KIT P/N A-01101



GT710, 8710 Single Swing Door				
Item	Part	QTY	Description	Used To
1	T-00197	1	NUT,WIRE,RANGE 22-14AWG,GREY	Connect wires
2	T-00031	1	FHMS,10-32x0.500L.,PHIL,UCUT,T-LOBE,BKZN	Secure Rocker Switch to Door Jamb
3	A-00805	1	SWITCH,ROCKER,SWINGER,ON/OFF/HOLD OPEN	Power the Slide Door
4	V-00713	1	FUSE,2 AMP,5X20mm,250V,FAST ACTING	Protect Motor (Located on Harness A-01249)
5	A-01249	1	HARNESS,MOTOR,OPUS,710	Connect Motor to Opus Control
6	A-01002	1	HARNESS,ADAPTER,NON-ENCODER,OPUS	Adapt Opus Control Harness to Non-Encoder Operator
7	A-01097	1	CONTROLLER,710,OPUS	Assembly of Opus Control
8	T-00365	4	WASHER,.170 ID,.625 OD,.032 THK,NYLON	Secures Mounting Hardware to Swing Door
9	T-00335	4	SHCS,10-24x0.313L.,ZINC	Secure Opus Control to Header
10	V-00552	1	FUSE;5A;GMA;5X20mm	Protect Opus Control (Located on Control)
11	M-01546	1	CONTROLLER,OPUS	Control the Swing Door

SERVICE PARTS: GT710/8710, SIMULTANEOUS PAIR SWING DOORS

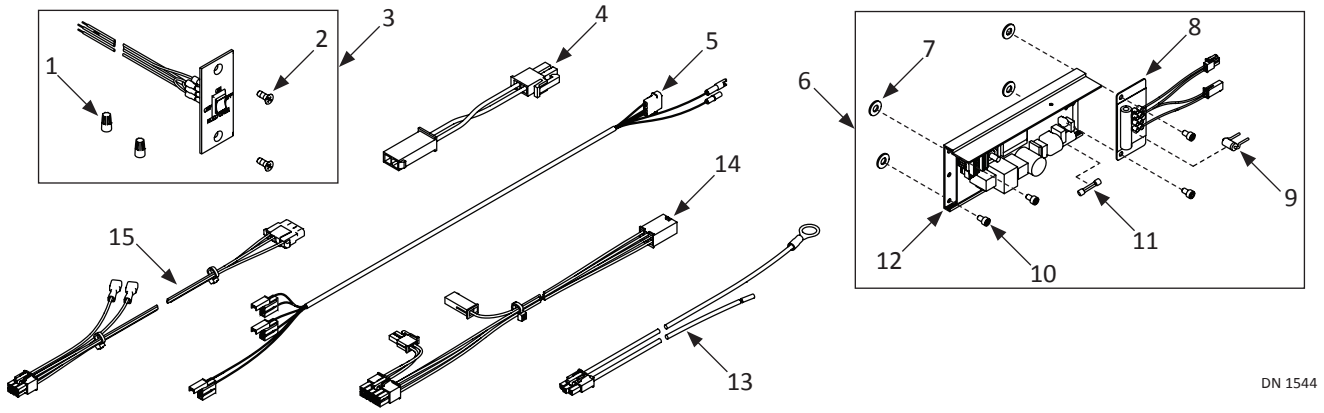
RETROFIT KIT P/N A-01102



GT710, 8710 Simultaneous Swing Door				
Item	Part	QTY	Description	Used To
1	T-00197	1	NUT,WIRE,RANGE 22-14AWG,GREY	Connect wires
2	T-00031	1	FHMS,10-32x0.500L.,PHIL,UCUT,T-LOBE,BKZN	Secure Rocker Switch to Door Jamb
3	A-00805	1	SWITCH,ROCKER,SWINGER,ON/OFF/HOLD OPEN	Power the Slide Door
4	M-01680	1	HARNESS,SIM PAIR,OPUS	Allow Opus Controls to communicate with each other
5	A-01002	2	HARNESS,ADAPTER,NON-ENCODER,OPUS	Connect Motor to Opus Control
6	T-00251	1	WIRE,20 AWG,300V,UL 1007,BLUE	Connect Breakout Circuit between both Opus Controls
7	A-01249	2	HARNESS,MOTOR,OPUS,710	Adapt Opus Control Harness to Non-Encoder Operator
8	V-00713	2	FUSE,2 AMP,5X20mm,250V,FAST ACTING	Protect Motor (Located on Harness A-01249)
9	A-01097	2	CONTROLLER,710,OPUS	Assembly of Opus Control
10	T-00365	8	WASHER,.170 ID,.625 OD,.032 THK,NYLON	Secures Mounting Hardware to Swing Door
11	T-00335	8	SHCS,10-24x0.313L.,ZINC	Secure Opus Control to Header
12	V-00552	2	FUSE;5A;GMA;5X20mm	Protect Opus Control (Located on Control)
13	M-01546	2	CONTROLLER,OPUS	Control the Swing Door

SERVICE PARTS: SIDELOAD, SINGLE SWING DOOR

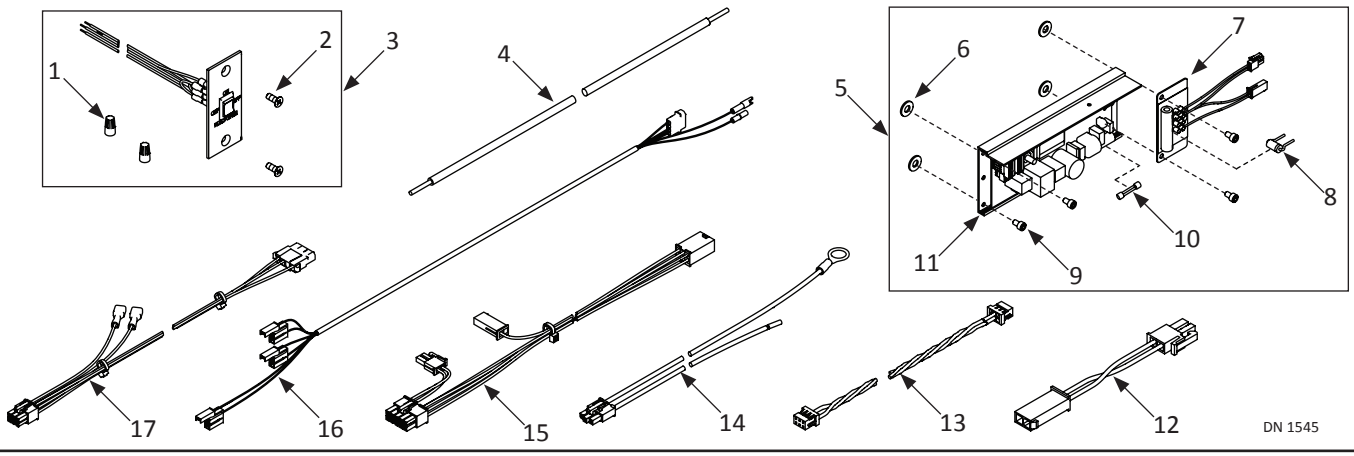
RETROFIT KIT P/N A-01103



Sideload Single Swing Door				
Item	**Part**	**QTY**	**Description**	**Used To**
1	T-00197	1	NUT,WIRE,RANGE 22-14AWG,GREY	Connect wires
2	T-00031	1	FHMS,10-32x0.500L.,PHIL,UCUT,T-LOBE,BKZN	Secure Rocker Switch to Door Jamb
3	A-00805	1	SWITCH,ROCKER,SWINGER,ON/OFF/HOLD OPEN	Power the Slide Door
4	A-01001	1	“HARNESS,HANDING,NGT-10”	Retrofit Handing for Right Hand Units
5	M-01162	1	HARNESS,MICROSWITCH,MAGNUM	Retrofit Analog Operator for Back Check/Latch Check
6	A-00888	1	CONTROLLER,W/ BRAKE,SIDELOAD,OPUS	Assembly of Opus Control and Brake Module
7	T-00365	4	WASHER,.170 ID,.625 OD,.032 THK,NYLON	Secures Mounting Hardware to Opus Control
8	M-01175	1	HARNESS,MOTOR,BRAKE MODULE,SWINGER	Provides braking when Opus Control is not powered
9	A-00453	1	FUSE,3AMP,W/HEAT SHRINK	Protect Motor (Located on Brake Module)
10	T-00335	4	SHCS,10-24x0.313L.,ZINC	Secure Opus Control to Header
11	V-00552	1	FUSE;5A;GMA;5X20mm	Protect Opus Control (Located on Control)
12	M-01546	1	CONTROLLER,OPUS	Control the Swing Door
13	M-01072	1	HARNESS,POWER,MAGNUM/OPUS	Replaces Analog Control Power Harness
14	A-01000	1	HARNESS,MOTOR,OPUS	Adapt Opus Motor Harness to Non-Encoder Operator
15	A-01002	1	“HARNESS,ADAPTER,NON-ENCOD,OPUS CONTROL	Connect Motor to Opus Control

SERVICE PARTS: SIDELOAD, SIMULTANEOUS PAIR SWING DOORS

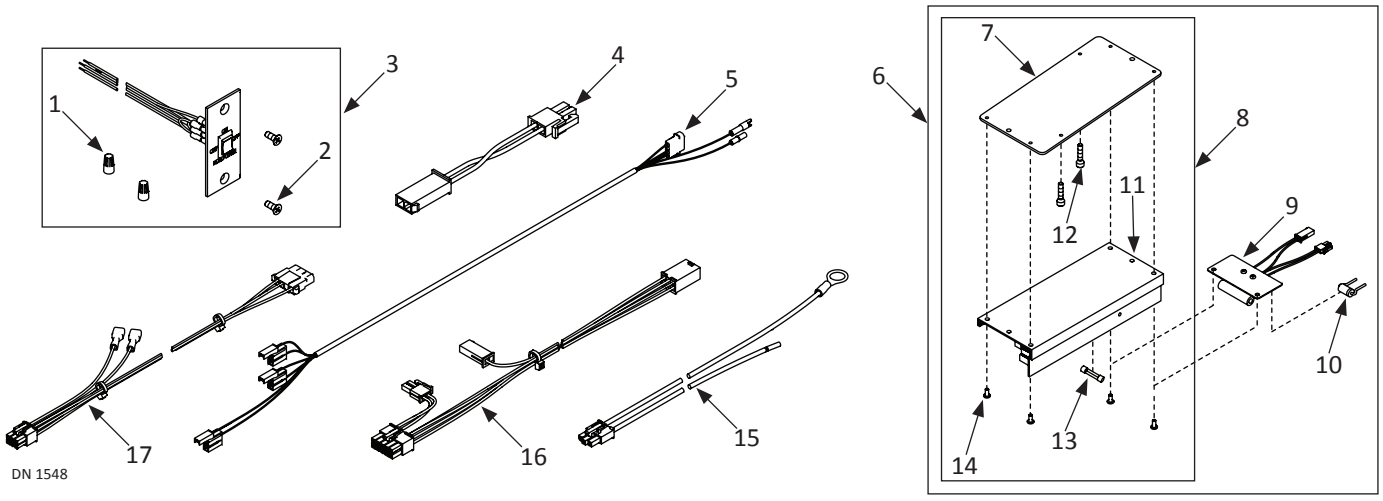
RETROFIT KIT P/N A-01104



Sideload Simultaneous Swing Door				
Item	**Part**	**QTY**	**Description**	**Used To**
1	T-00197	1	NUT,WIRE,RANGE 22-14AWG,GREY	Connect wires
2	T-00031	1	FHMS,10-32x0.500L.,PHIL,UCUT,T-LOBE,BKZN	Secure Rocker Switch to Door Jamb
3	A-00805	1	SWITCH,ROCKER,SWINGER,ON/OFF/HOLD OPEN	Power the Slide Door
4	T-00251	1	WIRE,20 AWG,300V,UL 1007,BLUE	Connect Breakout Circuit between both Opus Controls
5	A-00888	2	CONTROLLER,W/ BRAKE,SIDELOAD,OPUS	Assembly of Opus Control and Brake Module
6	T-00365	8	WASHER,.170 ID,.625 OD,.032 THK,NYLON	Secures Mounting hardware to Opus Control
7	M-01175	2	HARNESS,MOTOR,BRAKE MODULE,SWINGER	Provide braking when Opus Control is not powered
8	A-00453	2	FUSE,3AMP,W/HEAT SHRINK	Protect Motor (Located on Brake Module)
9	T-00335	8	SHCS,10-24x0.313L.,ZINC	Secure Opus Control to Header
10	V-00552	2	FUSE;5A;GMA;5X20mm	Protect Opus Control (Located on Control)
11	M-01546	2	CONTROLLER,OPUS	Control the Swing Door
12	A-01001	2	HARNESS,HANDING,OPUS	Retrofit Handing for Right Hand Units
13	M-01680	1	HARNESS,SIM PAIR,OPUS	Allow Opus Controls to communicate with each other
14	M-01072	2	HARNESS,POWER,MAGNUM/OPUS	Replaces Analog Control Power Harness
15	A-01000	2	HARNESS,MOTOR,OPUS	Connect Motor to Opus Control
16	M-01162	2	HARNESS,MICROSWITCH,MAGNUM	Retrofit Analog Operatore for Back Check/Latch Check
17	A-01002	2	HARNESS,ADAPTER,NON-ENCODER,OPUS	Adapt Opus Motor Harness to Non-Encoder Operator

SERVICE PARTS: BOTTOM LOAD, SINGLE SWING DOOR

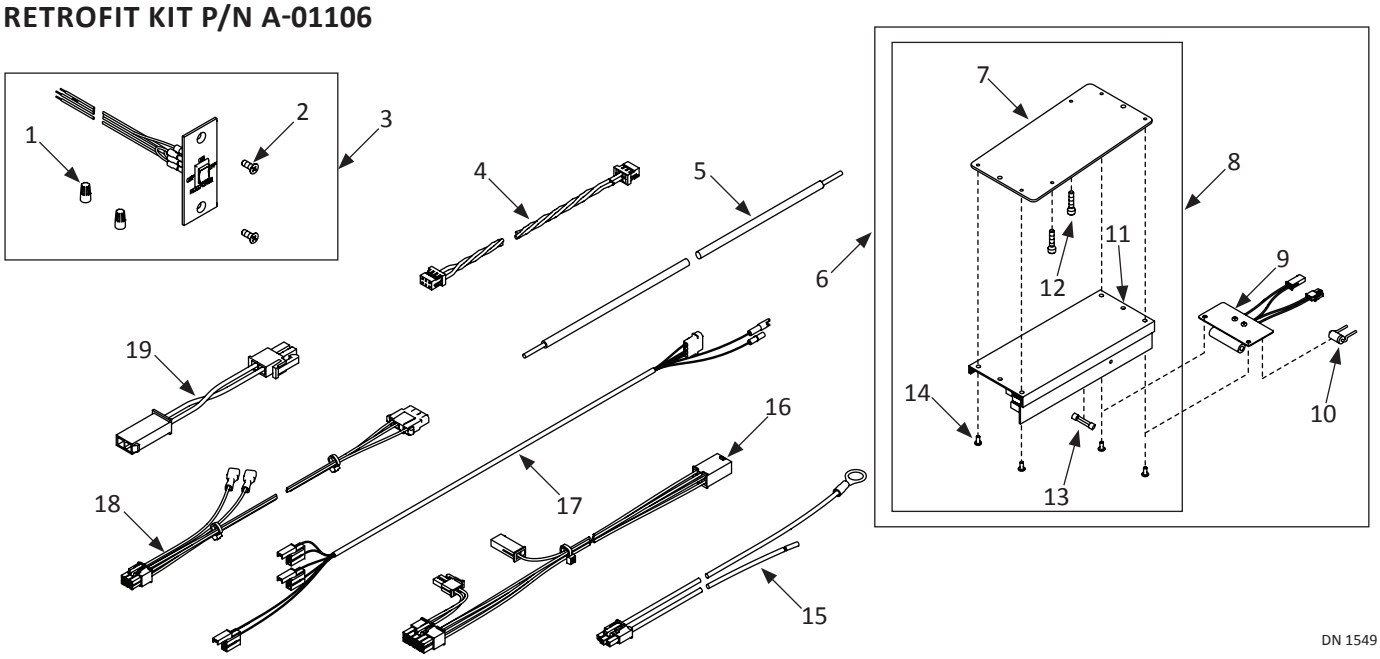
RETROFIT KIT P/N A-01105



Bottom Load Single Swing Door				
Item	**Part**	**QTY**	**Description**	**Used To**
1	T-00197	1	NUT,WIRE,RANGE 22-14AWG,GREY	Connect wires
2	T-00031	1	FHMS,10-32x0.500L.,PHIL,UCUT,T-LOBE,BKZN	Secure Rocker Switch to Door Jamb
3	A-00805	1	SWITCH,ROCKER,SWINGER,ON/OFF/HOLD OPEN	Power the Slide Door
4	A-01001	1	HARNESS,HANDING,OPUS	Retrofit Handing for Right Hand Units
5	M-01162	1	HARNESS,MICROSWITCH,MAGNUM	Retrofit Analog Operator for Back Check/Latch Check
6	A-01098	1	CONTROLLER,W/ BRAKE,BOTTOM LOAD,OPUS	Assembly of Opus Control and Brake Module
7	M-01735	1	PLATE,BOTTOM LOAD,OPUS	Secure Mounting hardware to Opus Control
8	A-01143	1	CONTROLLER,W/O BRAKE,BOTTOM LOAD,OPUS	Assembly of Opus Control
9	A-01003	1	MODULE,BRAKE,OPUS	Provde braking when Opus Control is not powered
10	A-00453	1	FUSE,3AMP,W/HEAT SHRINK	Protect Motor (Located on Brake Module)
11	M-01546	1	CONTROLLER,OPUS	Control the Swing Door
12	T-00232	2	SHCS,10-24x0.875L.,ZINC	Secure Opus Control to Header
13	V-00552	1	FUSE;5A;GMA;5X20mm	Protect Opus Control (Located on Control)
14	T-00420	4	PHMS,8-32x0.375L,PHIL,SWAGEFORM,ZINC	Secure Mounting hardware to Opus Control
15	M-01072	1	HARNESS,POWER,MAGNUM/OPUS	Replaces Analog Control Power Harness
16	A-01000	1	HARNESS,MOTOR,OPUS	Connect Motor to Opus Control
17	A-01002	1	HARNESS,ADAPTER,NON-ENCODER,OPUS	Adapt Opus Motor Harness to Non-Encoder Operator

SERVICE PARTS: BOTTOM LOAD, SIMULTANEOUS PAIR SWING DOORS

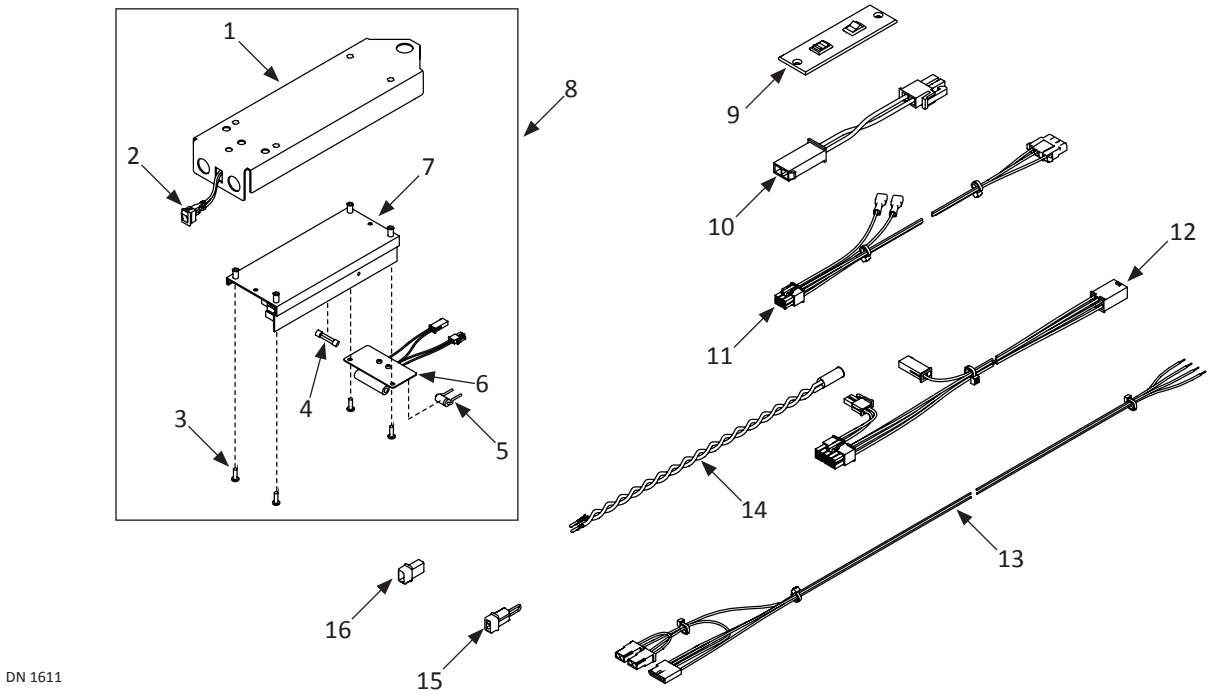
RETROFIT KIT P/N A-01106



Bottom Load Simultaneous Pair Swing Door				
Item	Part	QTY	Description	Used To
1	T-00197	1	NUT,WIRE,RANGE 22-14AWG,GREY	Connect wires
2	T-00031	1	FHMS,10-32x0.500L.,PHIL,UCUT,T-LOBE,BKZN	Secure Rocker Switch to Door Jamb
3	A-00805	1	SWITCH,ROCKER,SWINGER,ON/OFF/HOLD OPEN	Power the Slide Door
4	M-01680	1	HARNESS,SIM PAIR,OPUS	Allow Opus Controls to communicate with each other
5	T-00251	1	WIRE,20 AWG,300V,UL 1007,BLUE	Connect breakout Circuit between both Opus Controls
6	A-01098	2	CONTROLLER,W/ BRAKE,BOTTOM LOAD,OPUS	Assembly of Opus Control and Brake Module
7	M-01735	2	PLATE,BOTTOM LOAD,OPUS	Secure Mounting hardware to Opus Control
8	A-01143	2	CONTROLLER,W/O BRAKE,BOTTOM LOAD,OPUS	Assembly of Opus Control
9	A-01003	2	MODULE,BRAKE,OPUS	Provide braking when Opus Control is not powered
10	A-00453	2	FUSE,3AMP,W/HEAT SHRINK	Protect Motor (Located on Brake Module)
11	M-01546	2	CONTROLLER,OPUS	Control the Swing Door
12	T-00232	4	SHCS,10-24x0.875L.,ZINC	Secure Opus Control to Header
13	V-00552	2	FUSE;5A;GMA;5X20mm	Protect Opus Control (Located on Control)
14	T-00420	8	PHMS,8-32x0.375L,PHIL,SWAGEFORM,ZINC	Secure Mounting hardware to Opus Control
15	M-01072	2	HARNESS,POWER,MAGNUM/OPUS	Replace Analog Control Power Harness
16	A-01000	2	HARNESS,MOTOR,OPUS	Connect Motor to Opus Control
17	M-01162	2	HARNESS,MICROSWITCH,MAGNUM	Retrofit Analog Operator for back Check/Latch Check
18	A-01002	2	HARNESS,ADAPTER,NON-ENCODER,OPUS	Adapt Opus Motor harness to Non-Encoder Operator
19	A-01001	2	HARNESS,HANDING,OPUS	Retrofit Handing for Right Hand Units

SERVICE PARTS: FOLD DOOR, SINGLE

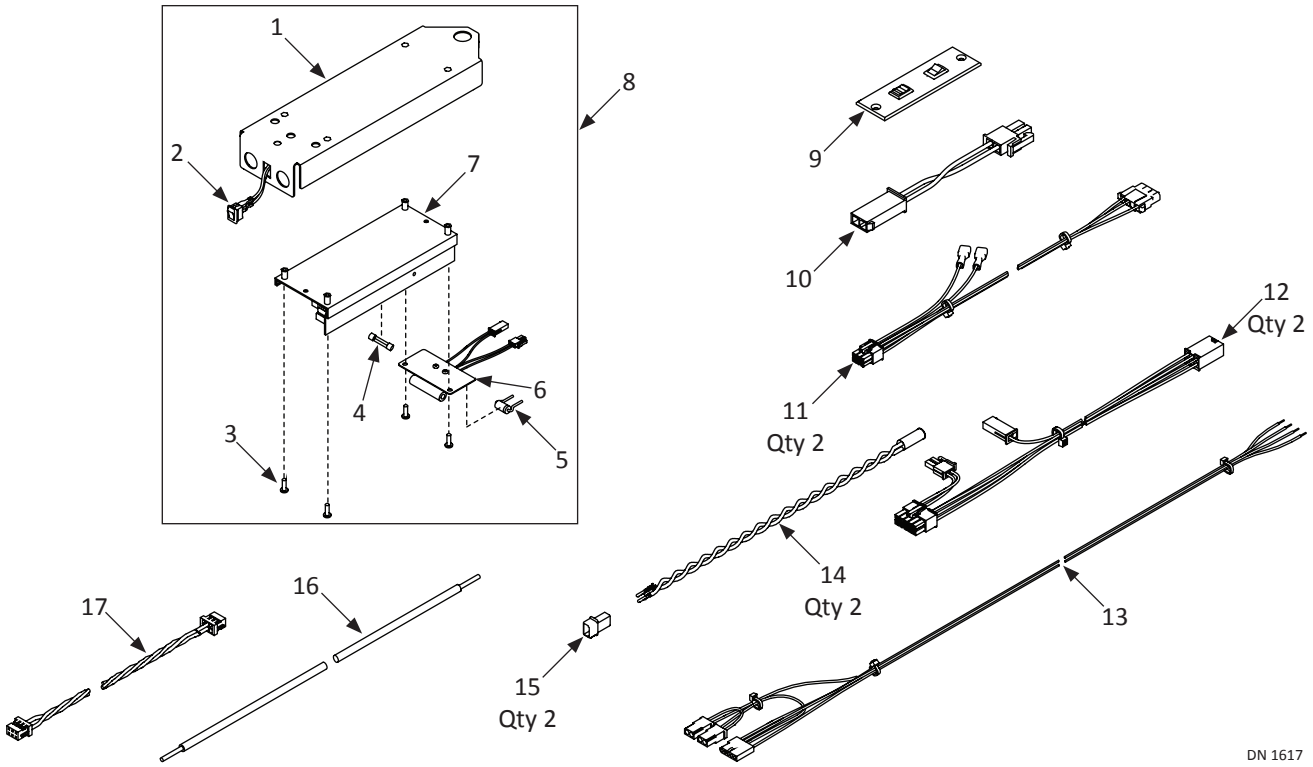
RETROFIT KIT P/N A-01107



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	A-00453	1	FUSE,3AMP,W/HEAT SHRINK	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	Turns Unit power ON/OFF
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

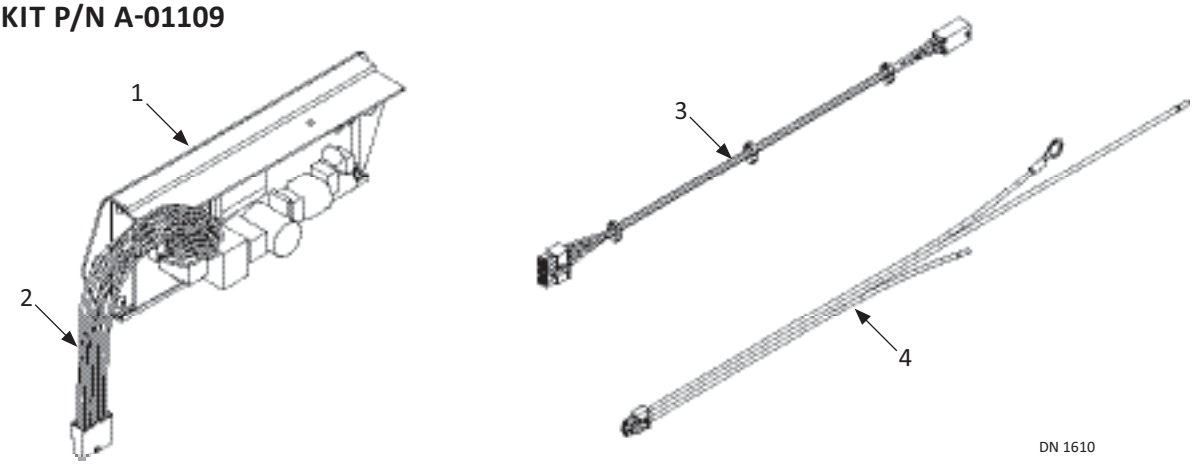
RETROFIT KIT P/N A-01108



Item	Part	QTY	Description	Used To
			Bi-Fold Door	
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	A-00453	2	FUSE,3AMP,W/HEAT SHRINK	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	T-00251	72”	WIRE,20 AWG,300V,UL 1007,BLUE	Connect Breakout Circuit between both Opus Controls
17	M-01680	1	HARNESS,SIM PAIR,OPUS	Allow Opus Controls to communicate with each other

SERVICE PARTS: SINGLE SLIDE DOOR

RETROFIT KIT P/N A-01109



Slide Door				
Item	Part	QTY	Description	Used To
1	A-01099	1	CONTROLLER,SLIDER,OPUS RETROFIT	Control the Fold Door
2	A-01067	1	HARNESS,SLIDER,U19 TO OPUS	Adapt Opus Control Harness to U-Series Control Harness
3	A-01078	1	HARNESS,MOTOR,OPUS,U19 SLIDER RETROFIT	Connect Motor to Opus Control
4	M-01072	1	HARNESS,POWER,MAGNUM/OPUS	Replaces Microprocessor Control Power Harness