POWERLIFT DUMBWAITERS CORPORATION
SINCE 1972
www.dumbwaiters.com

Mezzanine Lift Owner's Manual

(Vertical Reciprocating Conveyor or V.R.C.)

READ THIS MANUAL BEFORE OPERATING THE LIFT

It is important that you read and understand this manual prior to operating the lift. If there is anything in this manual that you do not clearly understand, contact Powerlift Dumbwaiters for clarification prior to operating the lift. Improper use could result in property damage and/or serious bodily injury, or death!

ASSUMPTION OF RISK

All persons who use this lift bear the responsibility for the proper and safe use of this product. Misuse, deliberate or otherwise, voids all warranties, expressed or implied. Powerlift Dumbwaiters, Inc. is not responsible for any damage, injury or death resulting from improper installation, misuse, product modification, additions or other changes which take place after the product has left the manufacturer's plant.

NO RIDERS

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Congratulations and thank you for purchasing a Powerlift Mezzanine Lift! We are a family owned company, in business for over 40 years, with a commitment to excellence and our customers. Should you have questions or concerns, please do not hesitate to contact us on our toll-free number in the USA or 1-530-333-1953 for international customers. We offer free technical support for your Mezzanine Lift and our staff will be happy to help you.

This owner's manual includes information for operating and maintaining most configurations of the Powerlift Mezzanine Lift **(V.R.C.)** and therefore not all information included will apply to your lift. If you are unclear what configuration you have, please call us.

Serial # _____

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Important Information You Should Know

Please Read

1. Anyone planning to use this lift should read the Owner's Manual prior to operating. If you do not have an Owner's Manual, please visit our website to download a copy or call us to have one sent to you.
2. **NEVER OPERATE LIFT if door interlocks or motor access panel safety switch are not working properly.** Every lift includes door interlocks and a motor access panel safety switch, which prevent the lift from operating if any door is not properly closed. The motor access panel safety switch will also stop the lift if the motor access panel is opened while the lift is in operation. If your door interlocks or motor access panel safety switch are not working properly, immediately turn off power to the lift and call Powerlift Dumbwaiters, Inc. to request replacement door interlocks or safety switches.
3. **NEVER USE THE LIFT if it is not operating properly.** Call your service technician, installation contractor, or Powerlift Dumbwaiters, Inc.
4. **NEVER USE THE LIFT when smoke and/or fire is present.**
5. **DO NOT REMOVE, BYPASS, OR ALTER any switches, controls, and/or restraining devices.** These are mandated by national and local codes and safety regulations. Any tampering will void your warranty and could result in serious injury and/or death!
6. **NEVER EXTEND YOUR HANDS, ARMS, LEGS, FEET, HEAD, OR BODY INTO OPEN HOISTWAY!** Doing so could cause serious injury and/or death! Never extend foreign objects of any kind into open hoistway. Doing so can cause damage to your lift and/or serious injury to you!
7. **NO RIDING IN LIFT CARRIER!** Your lift carrier is not intended to transport people and/or animals. Doing so could cause serious injury and/or death!
8. **NEVER OVERLOAD YOUR LIFT CARRIER!** Your lift is rated for a certain capacity. Please see data plate in carrier.
9. Your lift is not designed for continuous operation. Too many "starts" and "stops" could overheat the motor and trip the breaker.
10. The Mezz-100 & Mezz-200 lifts are designed to operate properly on a dedicated 20 amp circuit. Use 12 Ga wire for distances up to 25 feet and 10 Ga wire for distances up to 50 feet. Distances in excess of 50 feet or too many devices operating from the same power source reduces the available amperage and may cause the lift to malfunction. If your lift does not seem to be operating at its optimum, stop using it until a proper power source can be used.
11. The Mezz-300 & Mezz-500 single phase motor is designed to operate properly on a dedicated 230 volt circuit with a 20 amp breaker using 12 Ga wire for distances up to 50 feet and 10 Ga wire for distances up to 100 feet. The 208/230 volt 3 phase motor is designed to operate properly on a dedicated 10 amp breaker using 12 Ga wire for distances up to 150 feet. The 460 volt 3 phase motor is designed to operate properly on a dedicated 6 amp breaker using 12 Ga wire for distances up to 150 feet. In general distances in excess of 50 feet or too many devices operating from the same power source reduces the available amperage and may cause the lift to malfunction unless a larger gauge wire is used. If your lift does not seem to be operating at its optimum, stop using it until it can be inspected by a qualified technician.
12. To prevent unauthorized use, a keyed on/off switch can be obtained from Powerlift Dumbwaiters, Inc.
13. Observe, read, and obey the warning labels, tags, and symbols, as they are provided by the manufacturer for your safety and protection.
14. **DO NOT ATTEMPT TO REPAIR the lift yourself.** Immediately stop use, disconnect power supply and call Powerlift Dumbwaiters, Inc. to determine whether you need to contact your service technician or installation contractor.

Identifying Parts of the Lift

Mezz-300 & Mezz-500

Motor on the Bottom Configuration

1 Motor access panel safety switch

2 RDI door lock

3 RDI door lock catch

4 Hoistway door

5 Lift carrier

6 Data plate

7 Call / send push buttons

8 Motor controller

9 Motor access panel

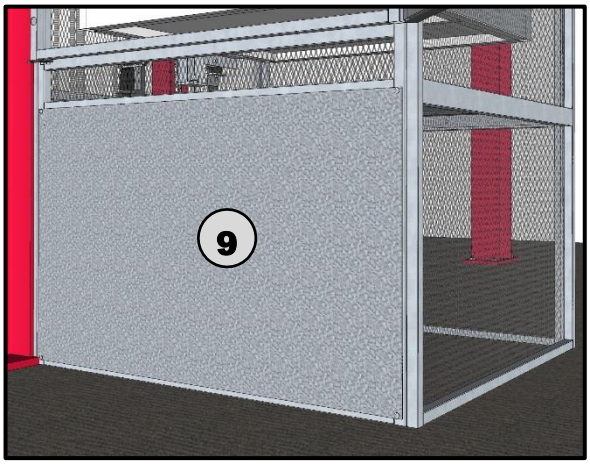

Figure 2

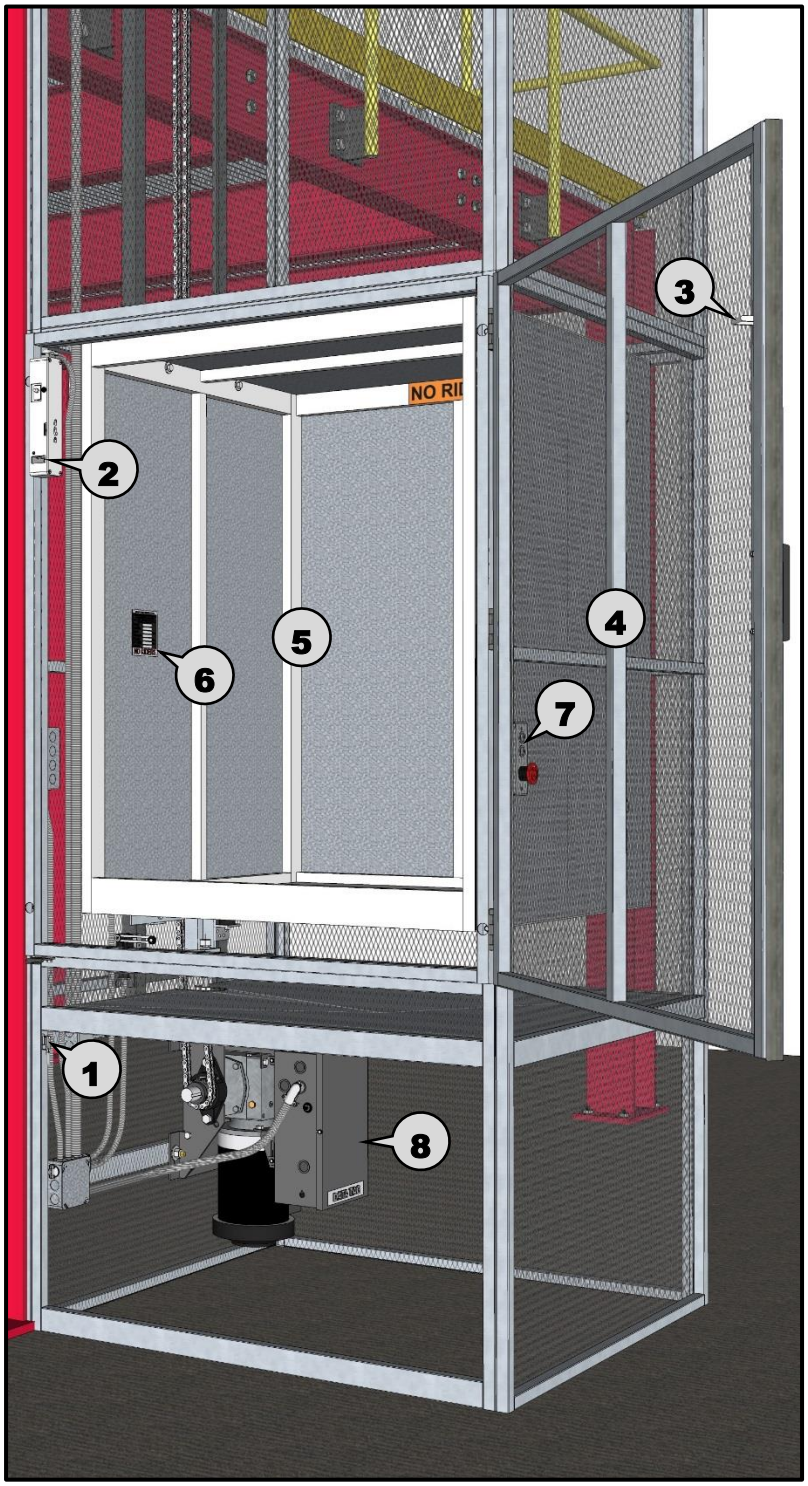

Figure 1

Identifying Parts of the Lift

Mezz-100 & Mezz-200

Motor on the Top Configuration

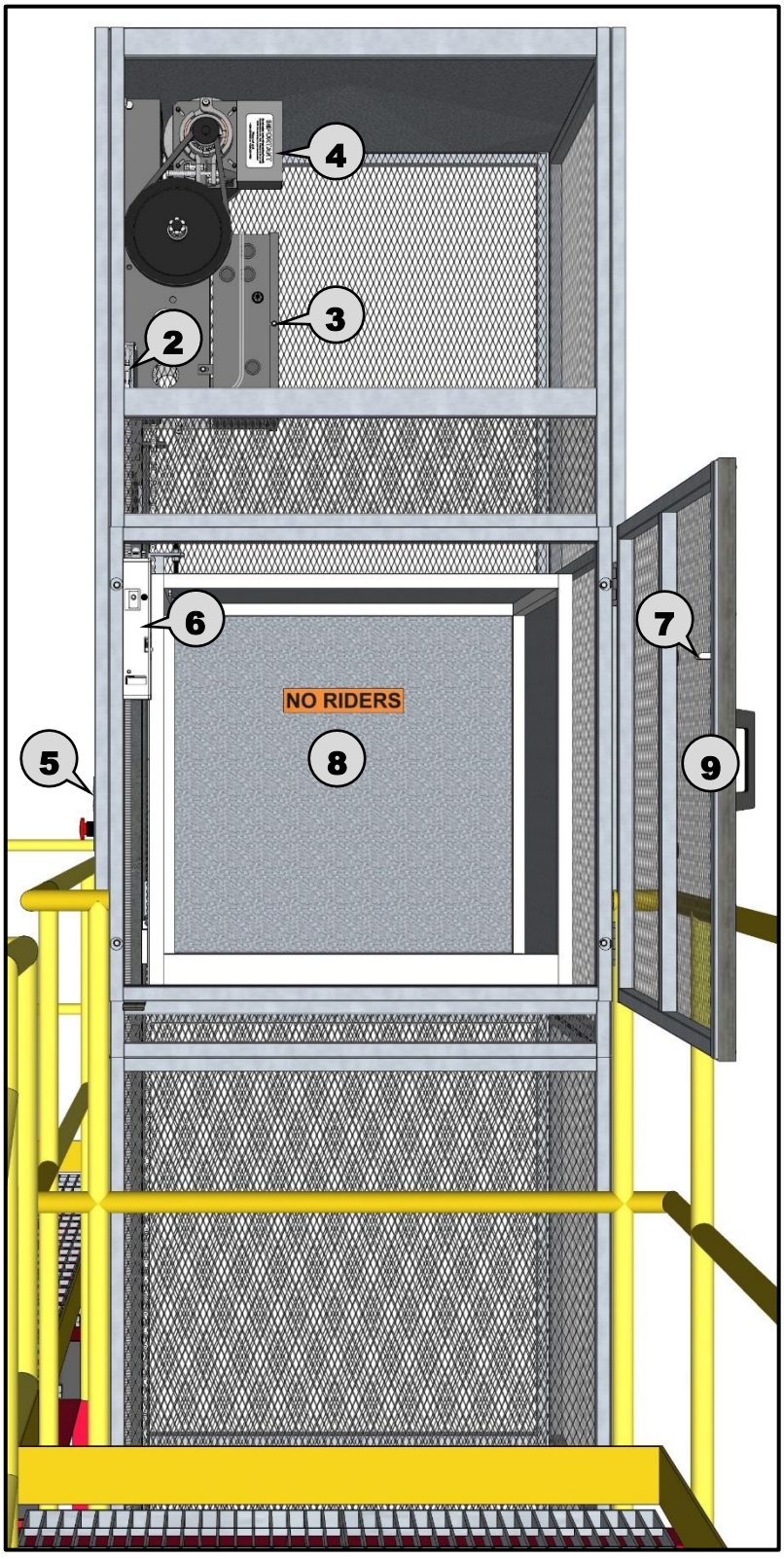

Figure 3

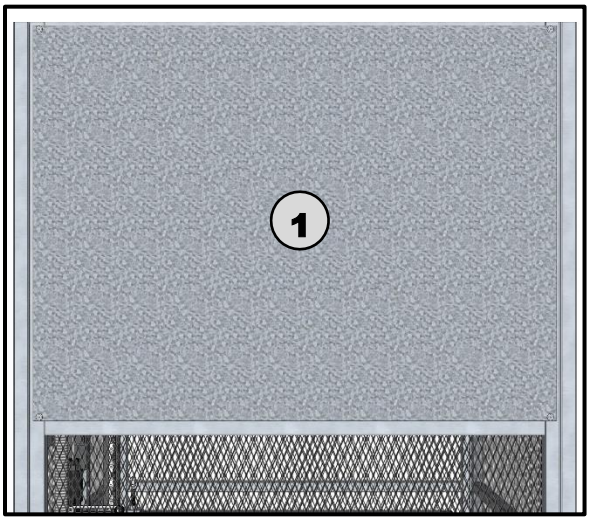

Figure 4

1 Motor access panel

2 Motor access panel safety switch

3 Motor controller

4 Brake solenoid cover

5 Call / send push buttons

6 RDI door interlock

7 RDI door interlock catch

8 Lift carrier

9 Hoistway door

Basic Operation of the Lift

Please Read

⚠ WARNING ⚠

NEVER EXTEND YOUR HANDS, ARMS, LEGS, FEET, HEAD OR BODY INTO THE OPEN HOISTWAY. DOING SO COULD DAMAGE THE LIFT AND/OR CAUSE SERIOUS BODILY INJURY, LOSS OF LIMB, OR DEATH!

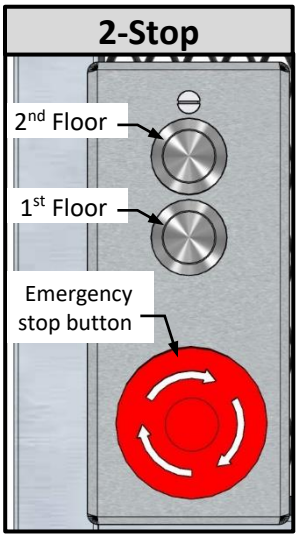

Figure 5

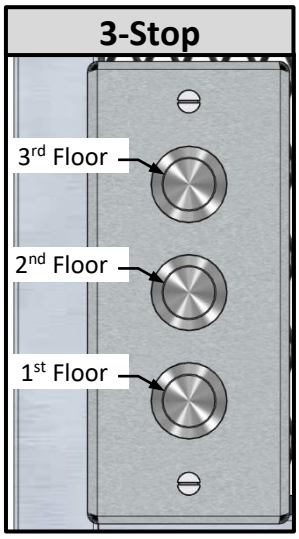

Figure 6

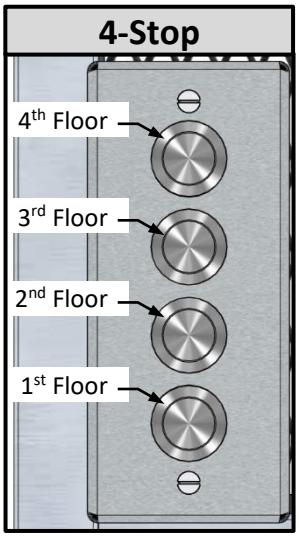

Figure 7

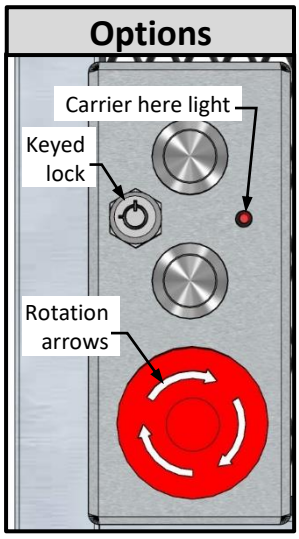

Figure 8

1 Press the call/send button that corresponds with the floor you are standing on to call the lift carrier to you. **(see Figures 5, 6, & 7)**

If you have a "keyed on/off lock" you have to unlock it or the lift will not operate. (see Figure 8)

If you have an "emergency stop button" it must be popped out or the lift will not operate. (for "emergency stop" operation, see step #9.)

2 Do not try to open the hoistway door until the lift carrier has arrived.

3 When the lift carrier has arrived, the hoistway door will automatically unlock and you can now open the hoistway door.

If you have a "carrier here light" you will see the light turn on when the carrier arrives and the door unlocks. (see Figure 8)

4 Load or unload the lift carrier and close the hoistway door completely.

If the hoistway door is not completely closed the lift will not operate.

5 Press the call/send button that corresponds with the floor you want to send the lift carrier to.

6 Once the lift carrier stops at the specified floor, the hoistway door will automatically unlock.

7 Load or unload the lift carrier and close the hoistway door completely.

If the hoistway door is not completely closed the lift will not operate.

8 The lift is now ready to be called or sent to another floor.

9 The emergency stop button shuts down the lift when pressed. **(see Figures 5 & 8)** The lift will not function until the emergency stop button is popped back out by rotating the red button a quarter turn clockwise (the same direction the arrows point). **(see Figure 8)**

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1-800-409-5438

Recommended Maintenance Schedule

Please Read

⚠ WARNING ⚠

MAKE SURE A.C. POWER IS DISCONNECTED FROM LIFT WHILE SERVICING!! FAILURE TO DO SO COULD DAMAGE THE LIFT AND/OR CAUSE SERIOUS BODILY INJURY, LOSS OF LIMB, OR DEATH!

Description of Required Maintenance	Light Use (0-49 times per week)	Heavy Use (50 or more times per week)
Grease pillow blocks with heavy duty bearing grease. **(see Figure 9)**	Every 6 months	Every 3 months
Check chain tension and tighten as needed. **(see Page 10 for motor bottom models)** **(see Page 11 for motor top models)**	Every 6 months	Every 3 months
Lubricate brake solenoid with a lightweight lubricant. **(see Page 12 for Mezz-100 & Mezz-200 models)** **(see Page 13 for Mezz-300 & Mezz-500 models)**	Every 6 months	Every 3 months

Lubricating the pillow block assembly:

Using a grease gun, apply a few pumps of heavy duty bearing grease to both lube points on the pillow block assembly. **(see Figure 9)**

The pillow block assembly is located at the end of the track & rail opposite the motor. Where the motor is at the bottom, the pillow block assembly is just above the top floor opening. Where the motor is at the top, the pillow block assembly is just above the bottom floor.

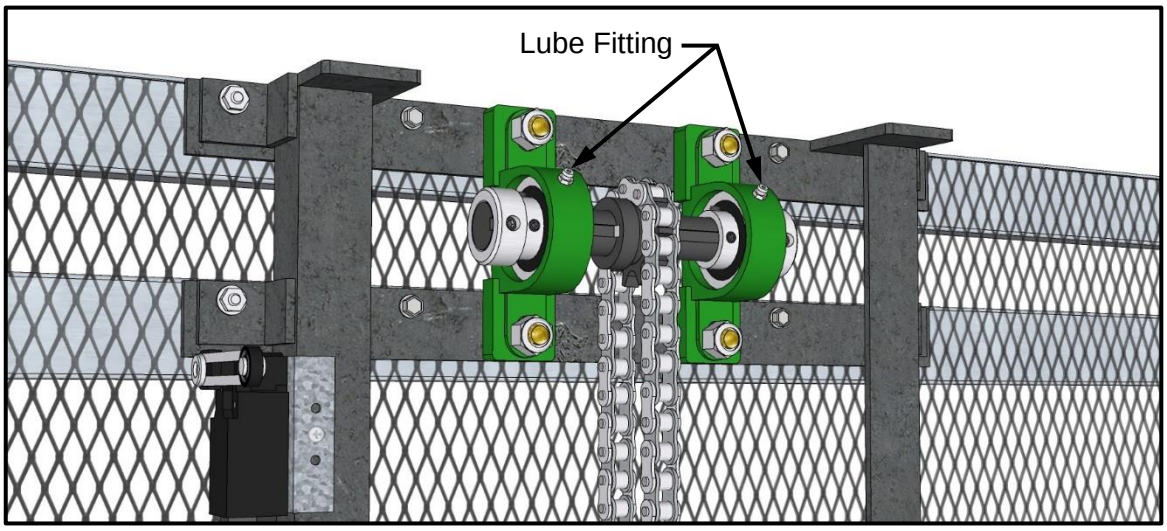


Figure 9

Maintenance

Checking & Adjusting Chain Tension

Motor on the Bottom Models

⚠ WARNING ⚠

MAKE SURE A.C. POWER IS DISCONNECTED FROM LIFT WHILE SERVICING!! YOU MUST ACCESS THE CONTROLLER THROUGH THE MOTOR ACCESS PANEL!! FAILURE TO DO SO COULD DAMAGE THE LIFT AND/OR CAUSE SERIOUS BODILY INJURY, LOSS OF LIMB, OR DEATH!

1. From the first floor, open the hoistway door and motor access panel. **(see Figure 10)**
2. **Through the motor access panel** open the controller and use the "Up" contactor to move the lift carrier up until the bottom of the carrier is approximately 6 feet above the floor. **(see Figures 10, 12 & 13)** **(see Page 14 for Contactor Operation)**
3. Disconnect A.C. power from lift.
4. Verify that both the front and back chains are taught at chest height. **(see Figure 10)** If there is any slop in the chain continue on to the next step. If the chains are both taught go on to **Step 6**.
5. Using two 9/16" wrenches (15/16" for Mezz-500 model), back lock nut off and then tighten down adjustment nut until chain is taught and then tighten lock nut up to adjustment nut securely using a blade screwdriver or needle nose pliers to hold the chain from twisting. **(see Figure 11)**

   NOTE: Do not overtighten the chain. If the chain slaps during operation of the lift, the chain is too tight.
6. Reconnect A.C. power to the lift.
7. Close hoistway door and motor access panel and use the push buttons to send the lift carrier to a floor.

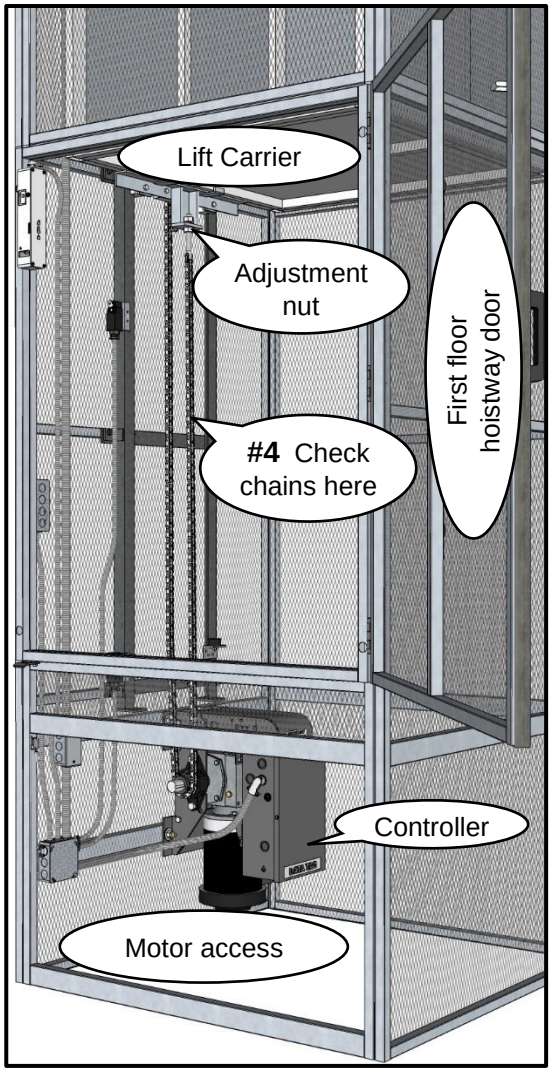


Figure 10

If you have any questions, concerns, or problems please do not hesitate to call us.

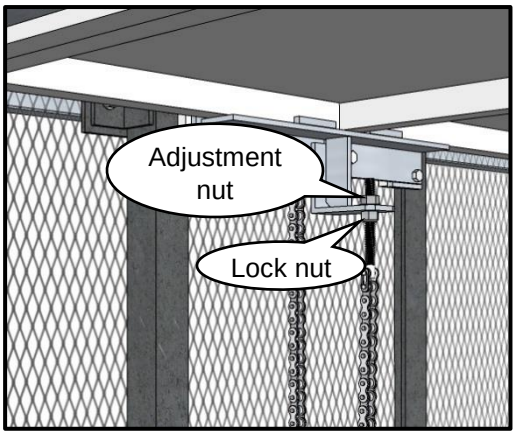


Figure 11

Standard Contactor

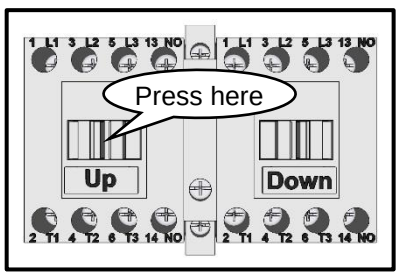


Figure 12

Dynamic Brake Contactor

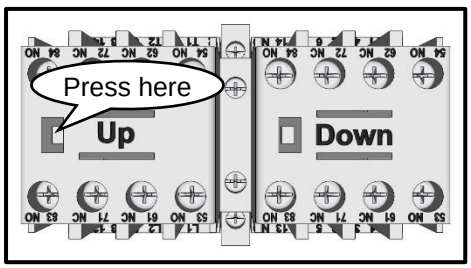


Figure 13

Maintenance

Checking & Adjusting Chain Tension

Motor on the Top Models

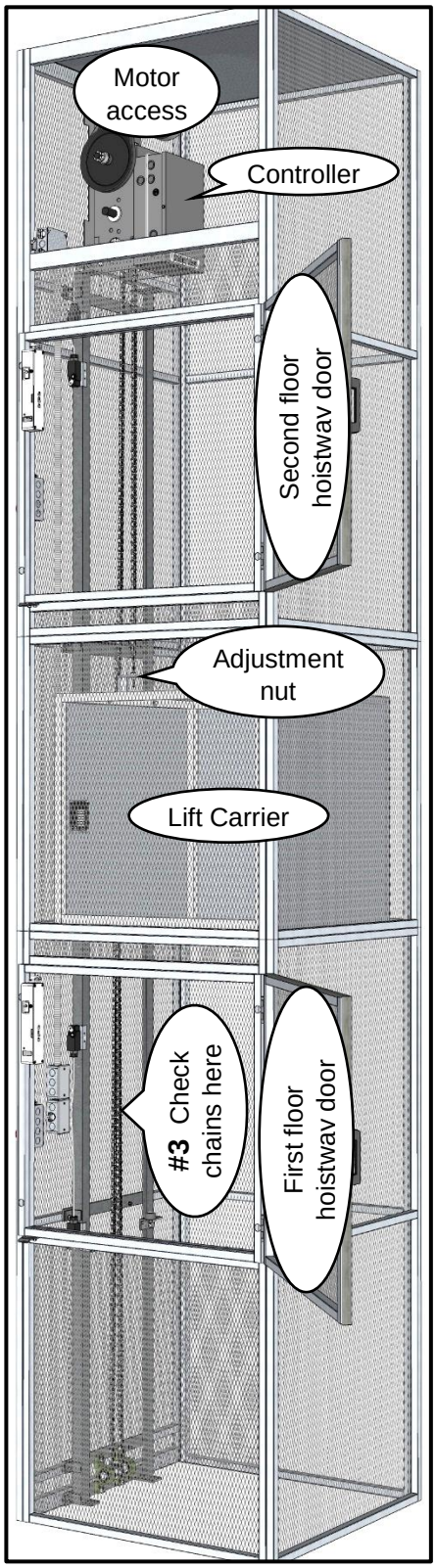


Figure 14

⚠ WARNING ⚠

**MAKE SURE A.C. POWER IS DISCONNECTED FROM LIFT WHILE SERVICING!!
YOU MUST ACCESS THE CONTROLLER THROUGH THE MOTOR ACCESS PANEL!!
FAILURE TO DO SO COULD DAMAGE THE LIFT AND/OR CAUSE SERIOUS BODILY INJURY, LOSS OF LIMB, OR DEATH!**

To check & adjust chain tension requires two people, one person will be at the top floor and one at the bottom floor.

1. With the lift carrier at the bottom floor open the hoistway door and have the person at the top floor open the motor access panel.
2. **Through the motor access panel** open the controller and use the "Up" contactor to move the lift carrier up until the bottom of the carrier is approximately 6 feet above the floor. **(see Figures 13, 14 & 16) (see Page 14 for Contactor Operation)**
3. Verify that both the front and back chains are taught. **(see Figure 14)** If there is any slop in the chain continue on to the next step. If the chains are both taught go on to **Step 8**.
4. Close the bottom floor hoistway door and motor access panel and use the push buttons to send the lift carrier up to the top floor and open the top floor hoistway door and motor access panel.
5. **Through the motor access panel** open the controller and use the "Down" contactor to move the lift carrier down until the top of the carrier is lined up with the bottom of the top hoistway door. **(see Figures 13, 14 & 16)**
6. Disconnect A.C. power.
7. Using two 9/16" wrenches (15/16" for Mezz-500 model), back lock nut off and then tighten down adjustment nut two revolutions and tighten lock nut up to adjustment nut securely using a blade screwdriver or needle nose pliers to hold the chain from twisting. **(see Figure 15)**

   NOTE: Do not overtighten the chain. If the chain slaps during operation of the lift, the chain is too tight.
8. Reconnect A.C. power, close hoistway doors and motor access panel and then use the push buttons to send the lift carrier to the 1st floor and go back to **Step 1** to verify chain tension.

If you have any questions, concerns, or problems please do not hesitate to call us.

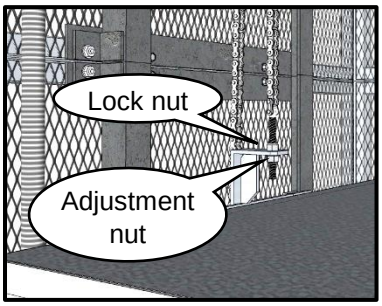


Figure 15

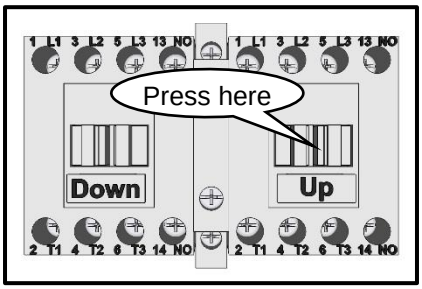


Figure 16

Maintenance

Lubricating Brake Solenoid

Mezz-100 & Mezz-200

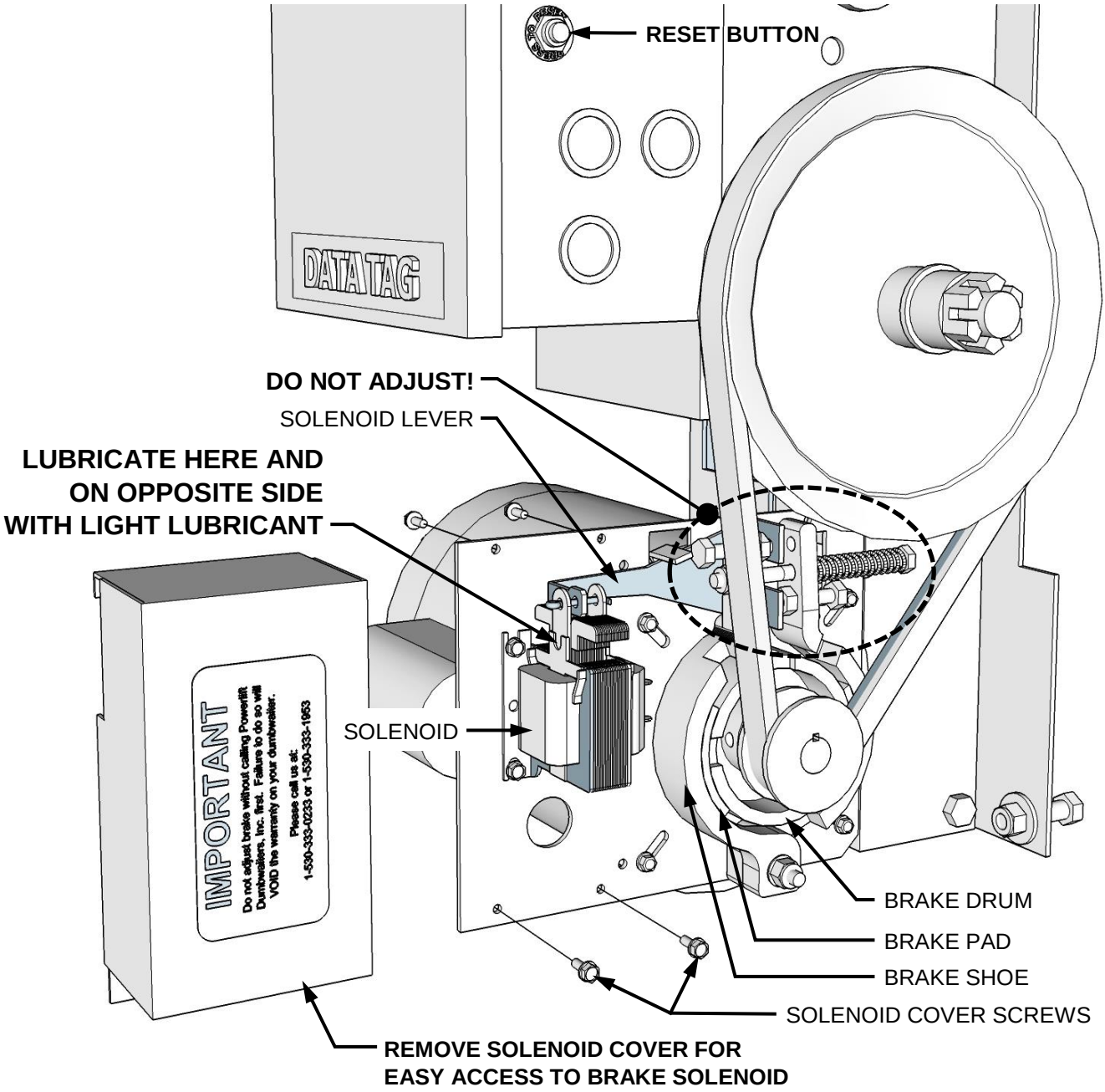
⚠ WARNING ⚠

**YOU MUST ACCESS THE BRAKE SOLENOID THROUGH THE MOTOR ACCESS PANEL!!
FAILURE TO DO SO COULD DAMAGE THE LIFT AND/OR CAUSE SERIOUS BODILY INJURY,
LOSS OF LIMB, OR DEATH!**

Acceptable types of lubricant for use on the brake solenoid:

Spray silicone, spray graphite, garage door lubricant, lightweight oils such as olive oil or machine oil.

DO NOT USE WD-40!



Maintenance

Lubricating Brake Solenoid

Mezz-300 & Mezz-500

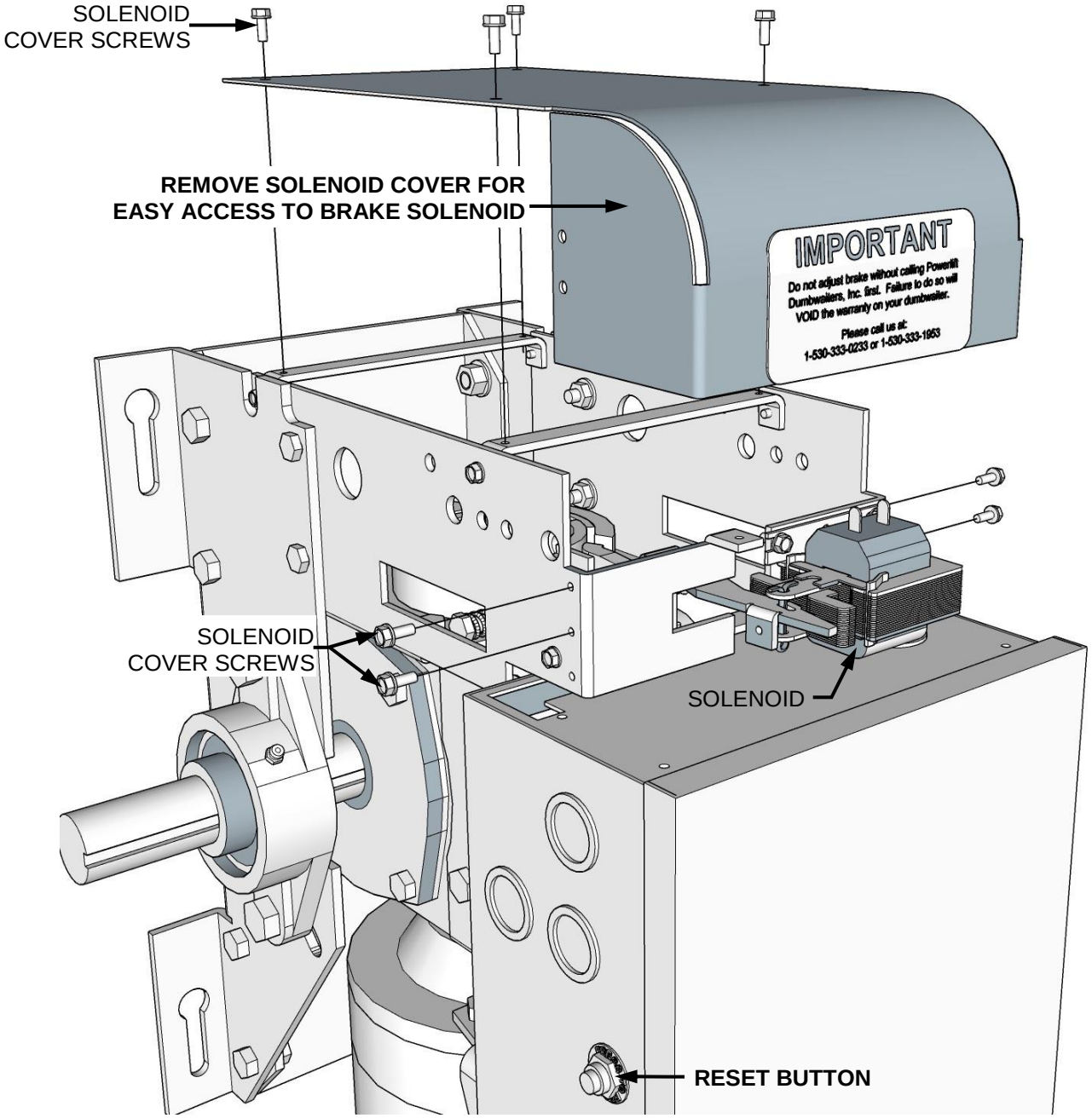
⚠ WARNING ⚠

**YOU MUST ACCESS THE BRAKE SOLENOID THROUGH THE MOTOR ACCESS PANEL!!
FAILURE TO DO SO COULD DAMAGE THE LIFT AND/OR CAUSE SERIOUS BODILY INJURY,
LOSS OF LIMB, OR DEATH!**

Acceptable types of lubricant for use on the brake solenoid:

Spray silicone, spray graphite, garage door lubricant, lightweight oils such as olive oil or machine oil.

DO NOT USE WD-40!



Troubleshooting

All Models

The following instructions refer to the wiring diagrams on:

Page 15 -- for 2-stop single phase machines
Page 16 -- for 2-stop three phase machines
Page 19 -- for 3-stop single phase machines
Page 20 -- for 3-stop three phase machines
Page 21 -- for 4-stop single phase machines
Page 22 -- for 4-stop three phase machines

1 **Verify that the Lift has a.c. power.**

A. Check the circuit breaker to see if it has been tripped and reset breaker.

B. Check the overload "Reset" button, on the side of the controller box, to see if it has popped out and reset it, if necessary, by pushing it back in.

(for "Reset" location on Mezz-100 & 200 see Page 12)
(for "Reset" location on single phase Mezz-300 & 500 see Page 13)
(the "Reset" on three phase Mezz-300 & 500 is inside the controller)

2 **Check for 24 volts a.c. in control box.**

A. Use a volt meter to test the low voltage side of the transformer. Connecting volt meter leads to the brown and yellow wires should show at least 24V a.c.

B. Check lighted relays 1 & 2 to see if both relays are lit.

I. If relay 2 is lit and relay 1 is not, go on to step 3.

II. If both are out, check the 2 amp fuse mounted inside the control box on the side. It is best to remove the fuse and check for burn marks. Replace if blown.

3 **Test the safety circuit.**

A. On terminal bar, for 2 stop machines, short out terminals 6 and 7. For 3 and 4 stop machines, short out terminals 1 and 2.

I. If relay 1 clicks, the safety circuit is not complete, go on to step 4.

II. If relay 1 is lit and does not click, check the connections to the push buttons.

4 **Manually moving lift carrier.**

A. Verify all doors are closed and lift carrier is not lower than the bottom floor opening or higher than the top floor opening.

I. If lift carrier is not vertically out of alignment and still does not function, please call Powerlift Dumbwaiters, Inc.

II. If lift carrier is vertically out of alignment, use the "UP" contactor to adjust the carrier up or use the "DOWN" contactor to adjust the carrier down.

⚠ WARNING ⚠

USING THE CONTACTORS TO MOVE THE LIFT CARRIER BYPASSES THE ENTIRE SAFETY CIRCUIT. HOLDING THE CONTACTOR IN COULD DAMAGE THE LIFT AND/OR CAUSE SERIOUS BODILY INJURY, LOSS OF LIMB, OR DEATH!

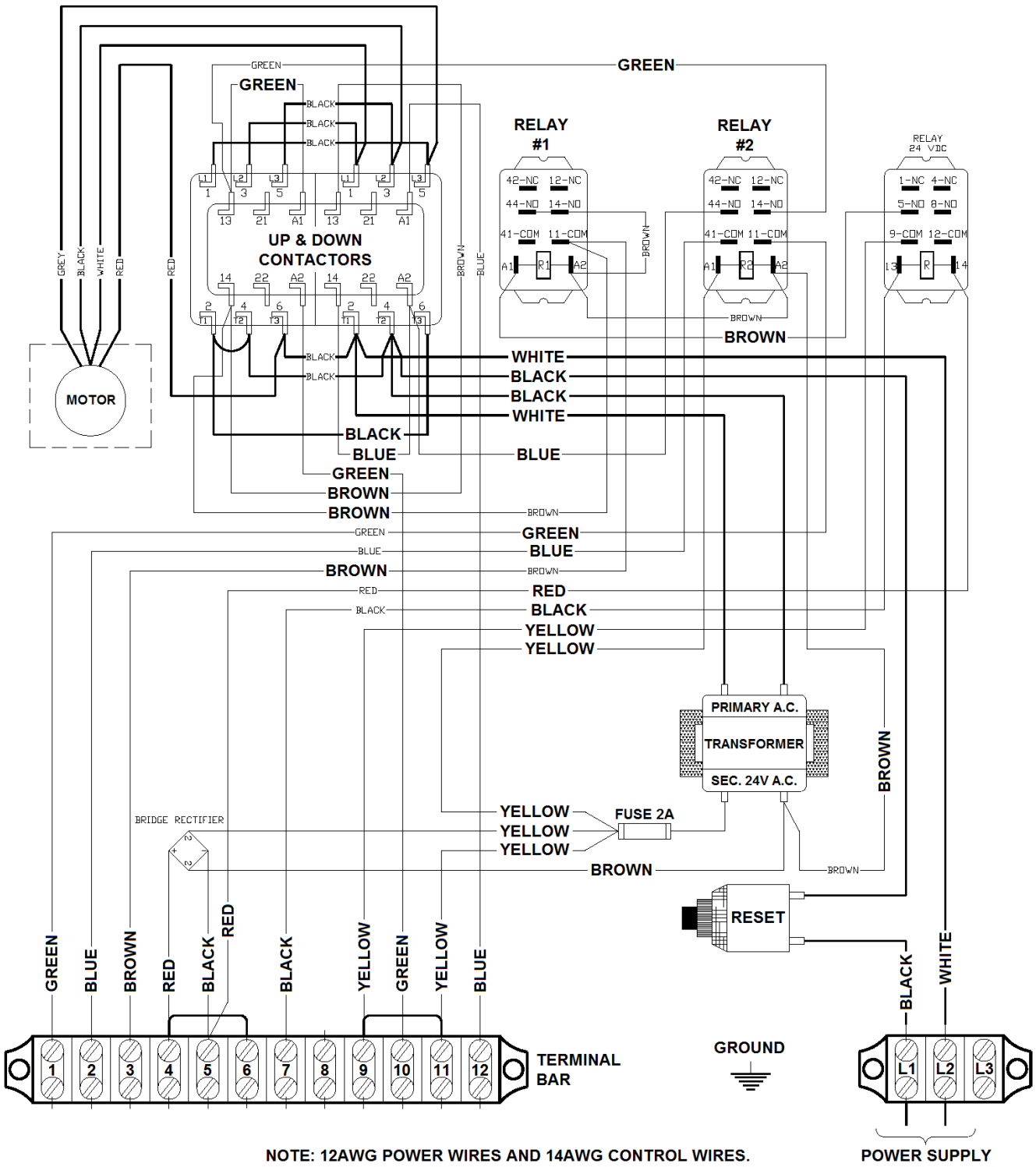
Contactor operation

- With 2 stop machines, the contactor will stay in when pressed and the lift carrier will automatically go to the nearest floor when working properly. If the contactor does not stay in, there is a low voltage problem. Please call Powerlift Dumbwaiters, Inc.
- With 3 & 4 stop machines, the contactor will never stay in. If power is lost while the lift carrier is between stops, the contactors will work like a momentary contact switch, and may be used to bump the carrier up or down to the nearest floor. Once the carrier is aligned with an opening, the pc board will be reset and the lift should function properly.

Troubleshooting

Controller Wiring Diagram

2-Stop / Single Phase

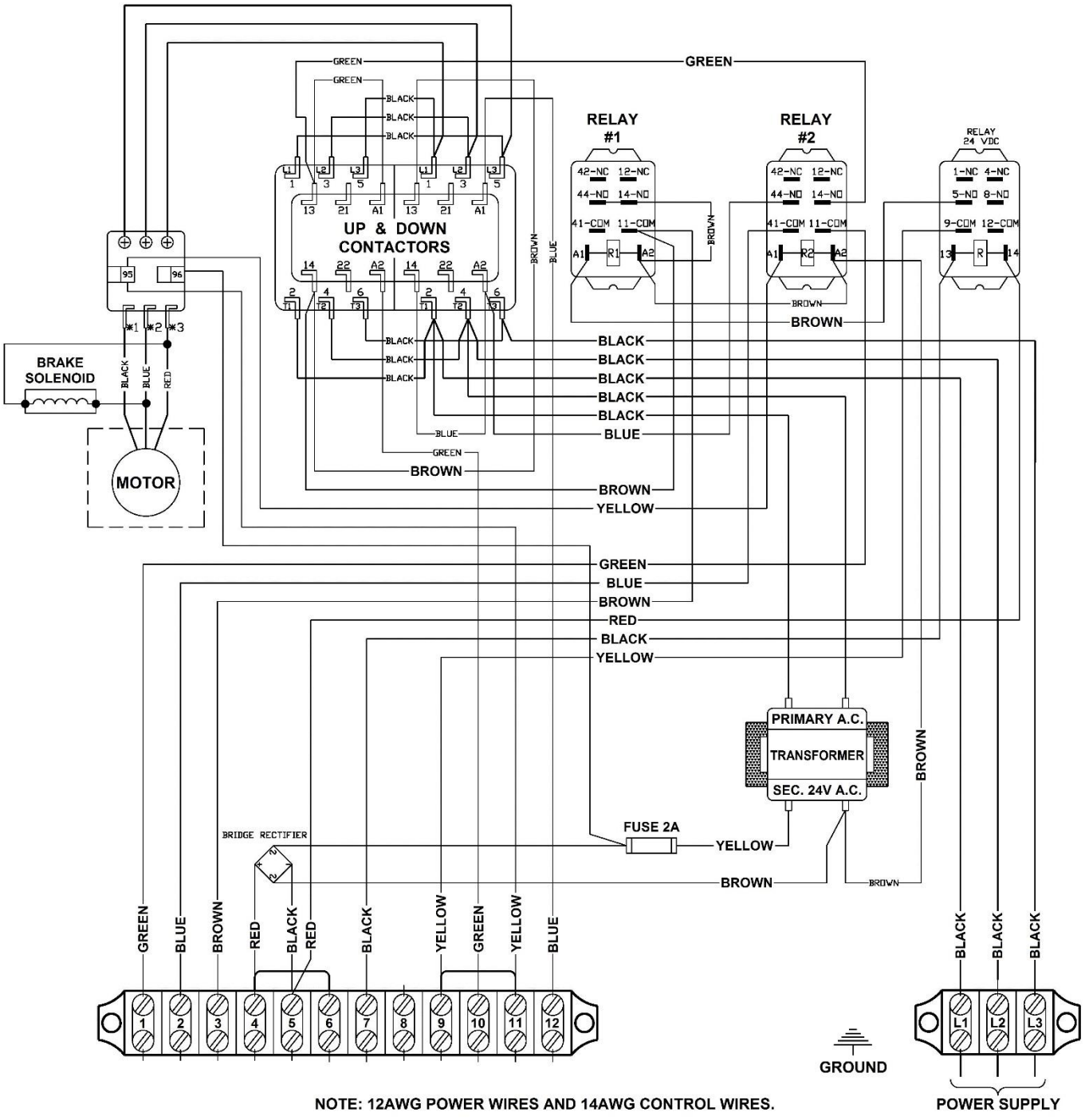


NOTE: 12AWG POWER WIRES AND 14AWG CONTROL WIRES.

Troubleshooting

Controller Wiring Diagram

2-Stop / Three Phase

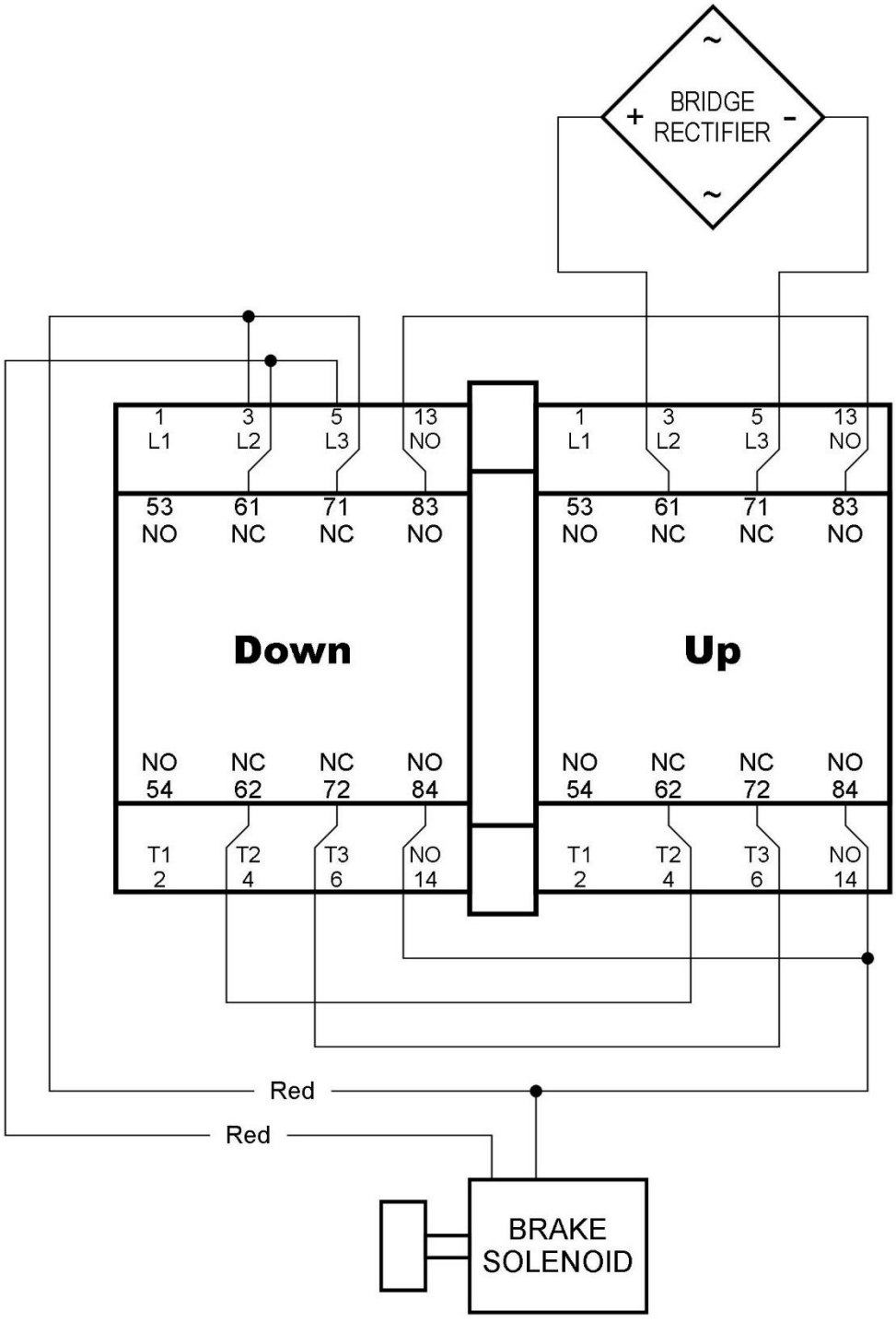


NOTE: 12AWG POWER WIRES AND 14AWG CONTROL WIRES.

Troubleshooting

Dynamic Brake Wiring Diagram

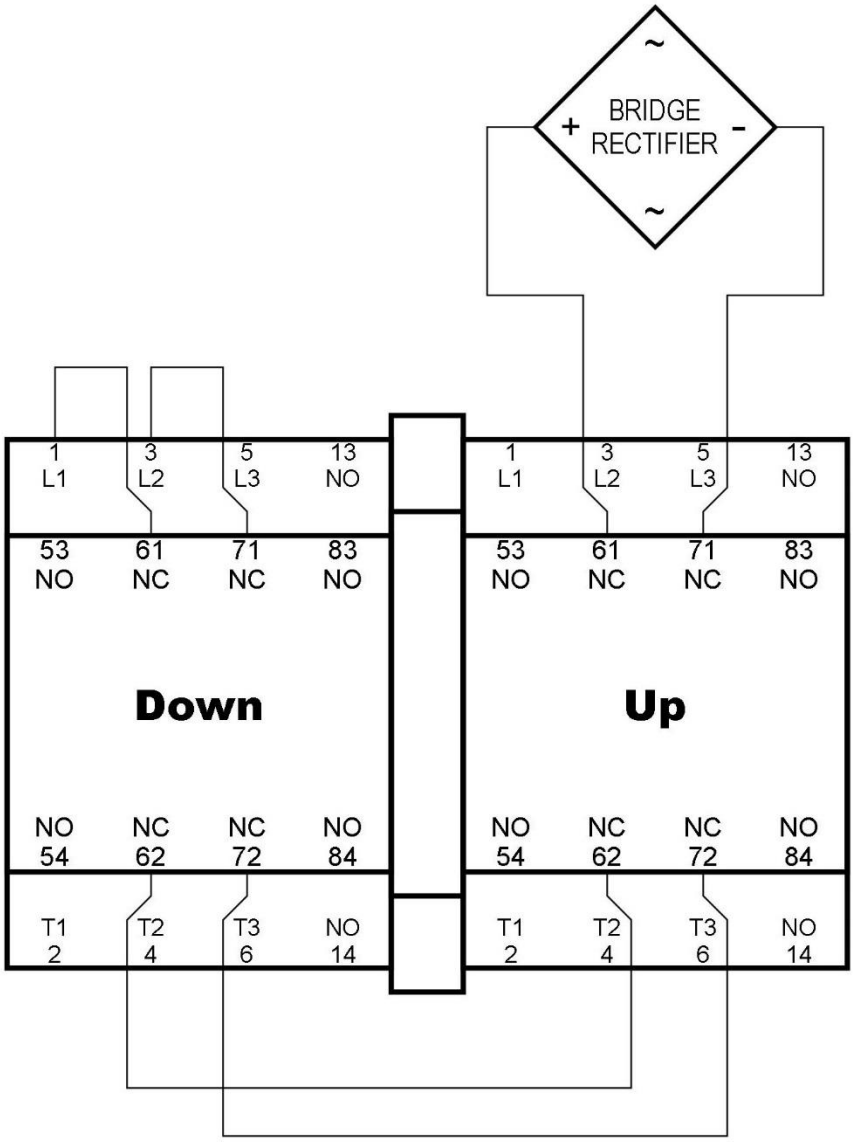
Single Phase



Troubleshooting

Dynamic Brake Wiring Diagram

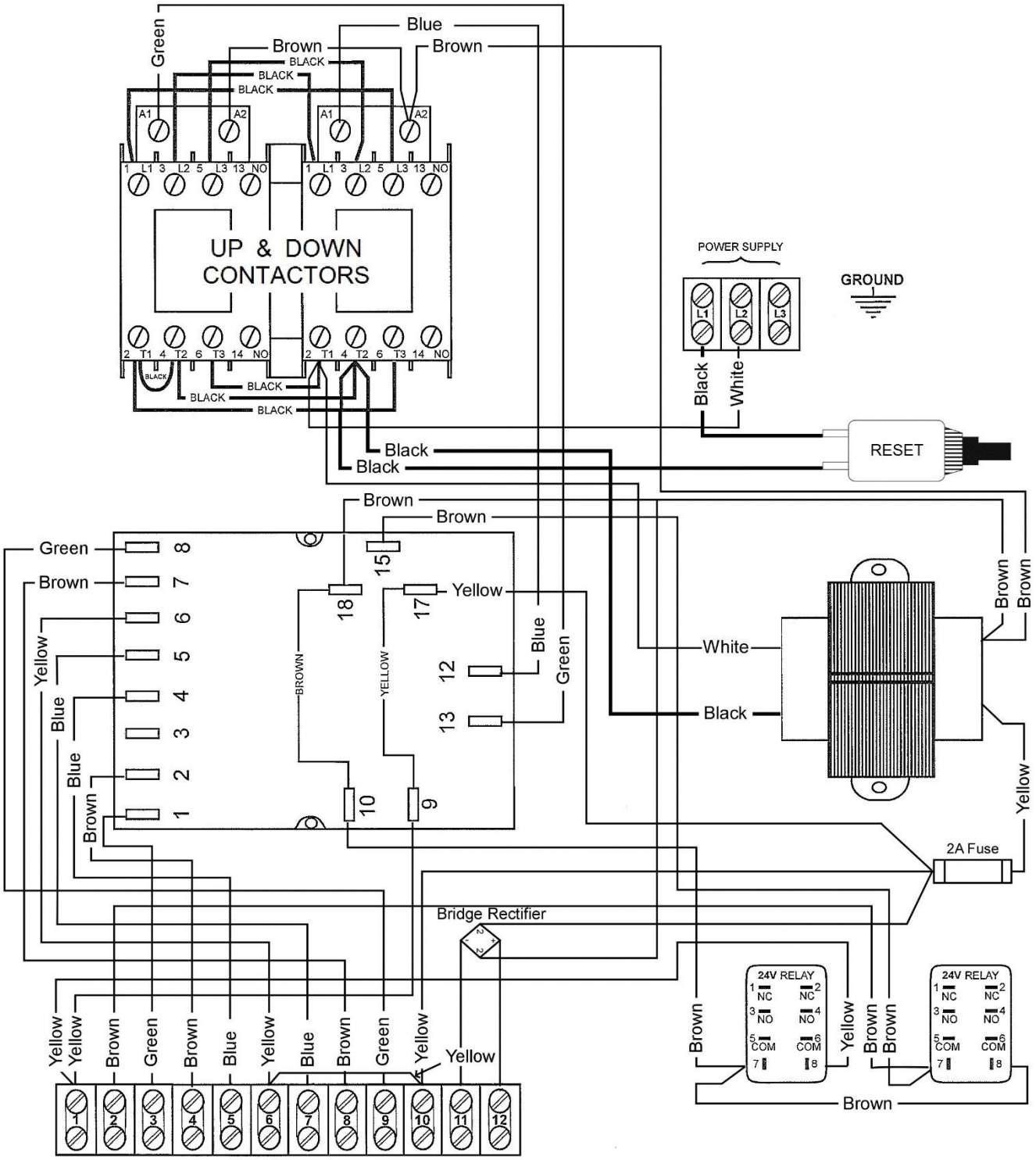
Three Phase



Troubleshooting

Controller Wiring Diagram

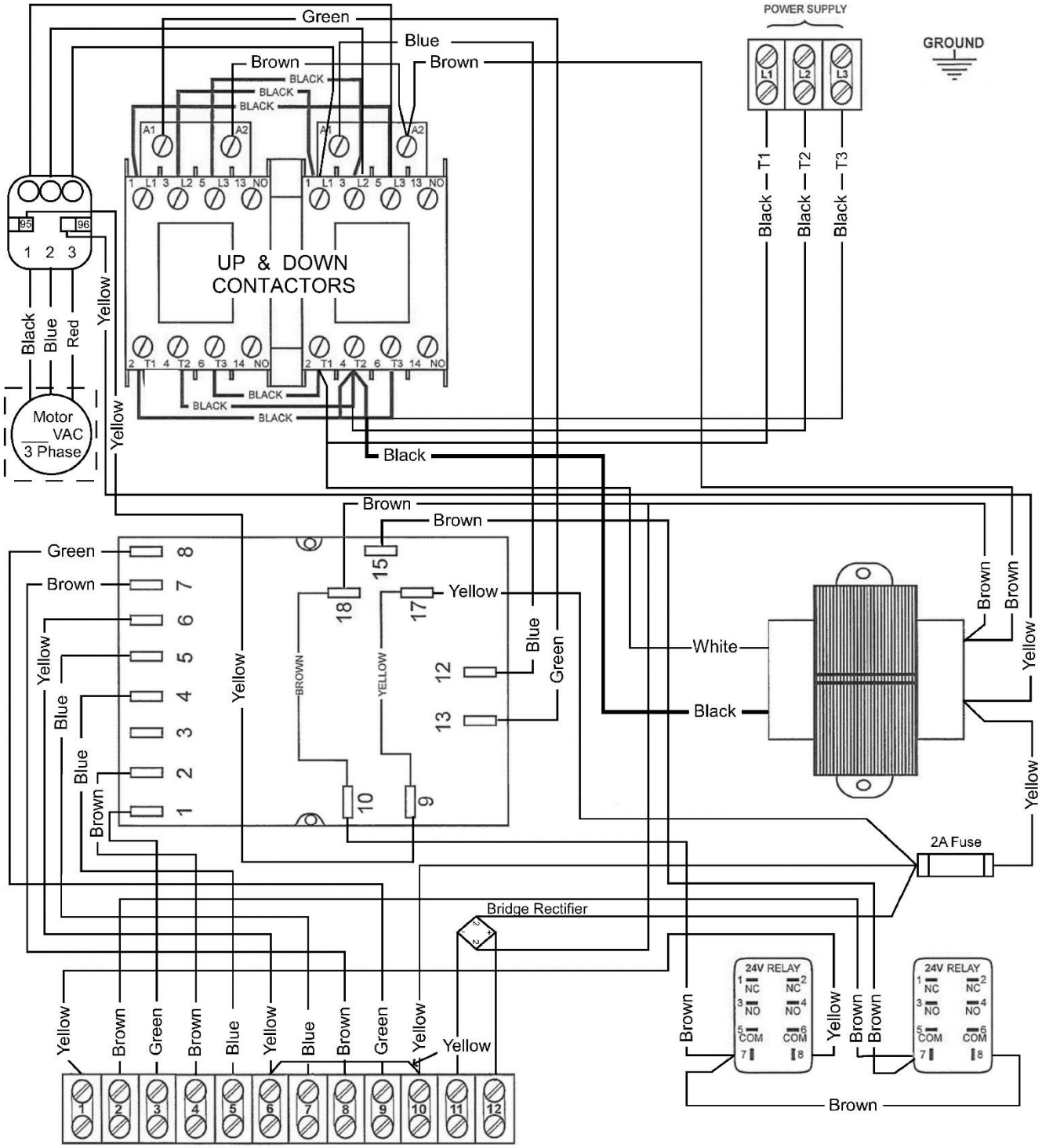
3-Stop / Single Phase



Troubleshooting

Controller Wiring Diagram

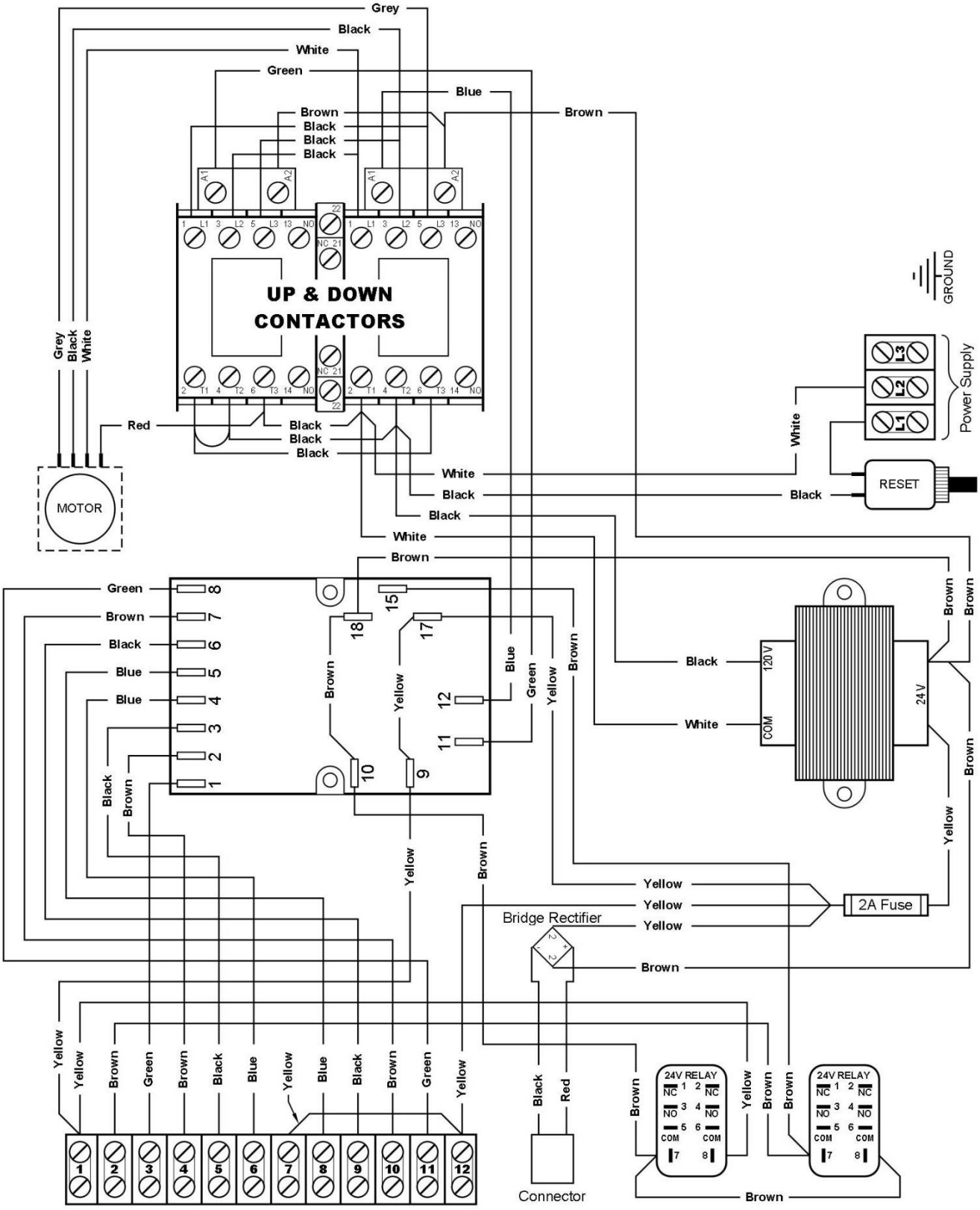
3-Stop / Three Phase



Troubleshooting

Controller Wiring Diagram

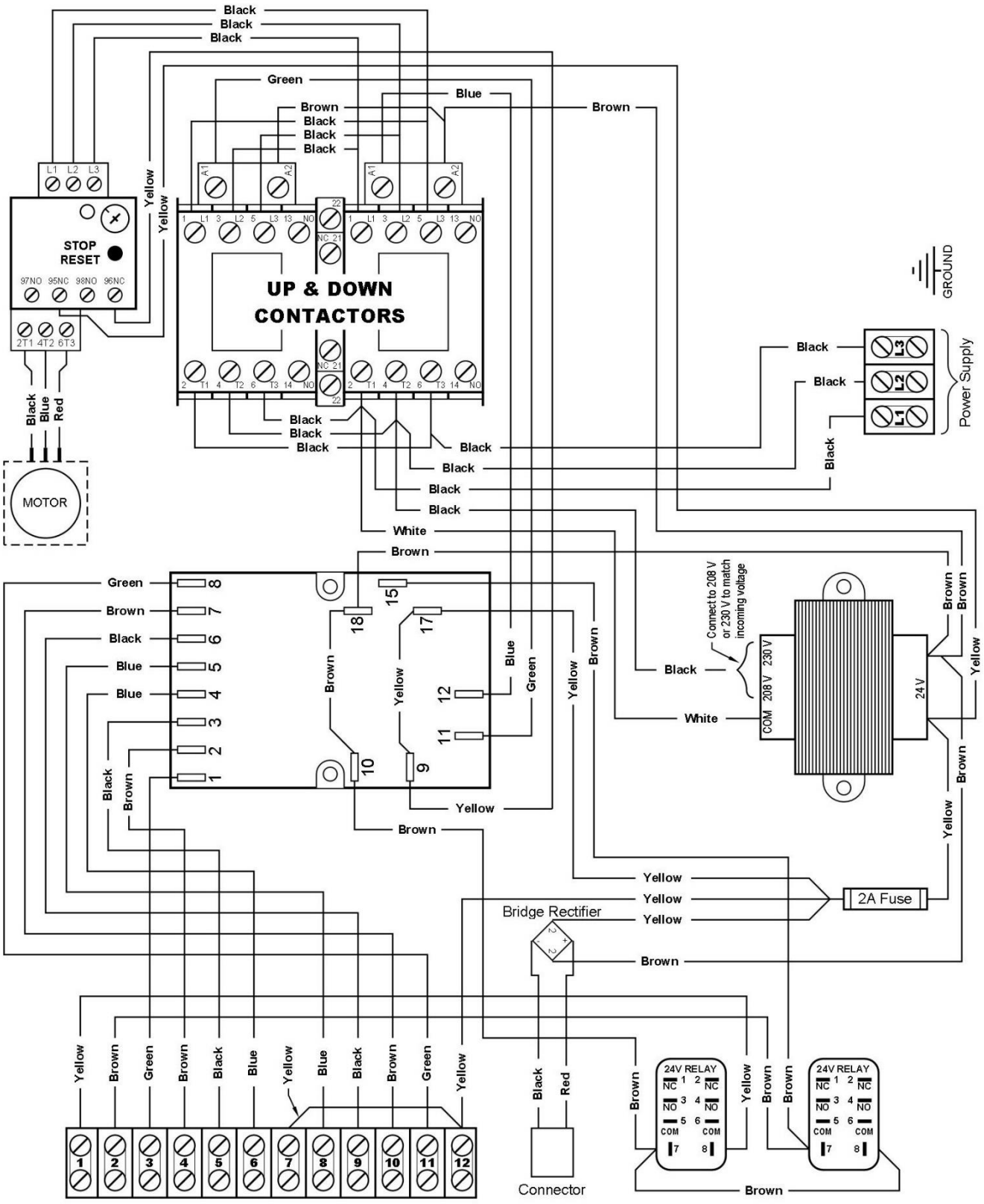
4-Stop / Single Phase



Troubleshooting

Controller Wiring Diagram

4-Stop / Three Phase



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