



Horizontal Mount



Vertical Mount

Installation Manual

3-1-26

 **American**TM
garage door supply inc.

1-800-233-1487

Numax Air-Powered Operator Installation

Please read Instructions completely before installation!

Standard Recommendations

1. Before you begin the installation of the Numax product; test your door for proper operation. Your door must operate smoothly without binding and balanced properly from the fully-closed to the open position. An out of balance door will cause problems with the operation of the air operator.
2. All Numax operators utilize a cushioning spring to cushion the end of the open cycle. The down cycle will automatically cushion by design.
3. All air-powered operators should have an inline dryer located before the control box to eliminate moisture in the airlines. Units installed without an inline dryer may void the warranty due to the introduction of contaminants and moisture.
4. Oilers are not necessary for use with your Numax system. They are recommended in dirty or poorly maintained compressed air systems. Keep oil reservoirs full or the operator seals may dry out.
5. The Numax external and internal cylinder surfaces should be kept clean and must not be dented, scratched, or gouged. A damaged cylinder will restrict the operation of the internal piston and external trolley slide.
6. Do not use airline larger than 3/8" between the control box and the operator cylinder. Using larger line will slow the unit down.

Horizontal Mount Recommendations

1. If your door has a coupler on the torsion shaft, mount the coupler 4" - 6" to the right or left of the vertical centerline of the door for reducing clearance requirements.
2. You will need a minimum of 6" of space above the high point of the door travel to install a Numax in a horizontal position. It's ideal to keep the arm length to a minimum.
3. A strut must be placed on the top section of any door that will be using a horizontal mount Numax. This increases the strength of the section and will prevent deflection or bowing of the section after repeated operation.

Vertical Mount Recommendations

1. 30" or more of highlift is required for vertical mount applications.
2. Vertical Numax installations require a mounting surface on the same vertical plane as the track/jamb mounting surface ("buck"). This must be prepared in advance. Minimum 2" x 6" treated lumber construction recommended.

Safety

1. **Use the shut-off valve in the off position until installation is complete. To turn the valve to the off position, turn the valve handle 90° to the valve.**
2. **Torsion springs and counterweights on overhead type doors are under extreme torque and if handled improperly could cause serious injury, even death. Always use extreme caution when working with or near torsion springs, counterweights or any counterbalance system. Installation should be performed by a trained professional.**
3. **Follow manufacturer's recommendations on tools, ladders and other equipment used for installation.**
4. **Any air-powered opener must be equipped with a safety reversing device that operates reliably. Failure to install workable safety devices such as photoeyes, reversing edges and etc. may cause the door to strike an object or person causing serious damage, injury or death.**
5. **Use precaution when installing or servicing air-powered openers. Air-powered openers utilize high pressure air for a power source and can cause equipment damage, serious injury or death if used improperly.**

Horizontal Mounting Instructions

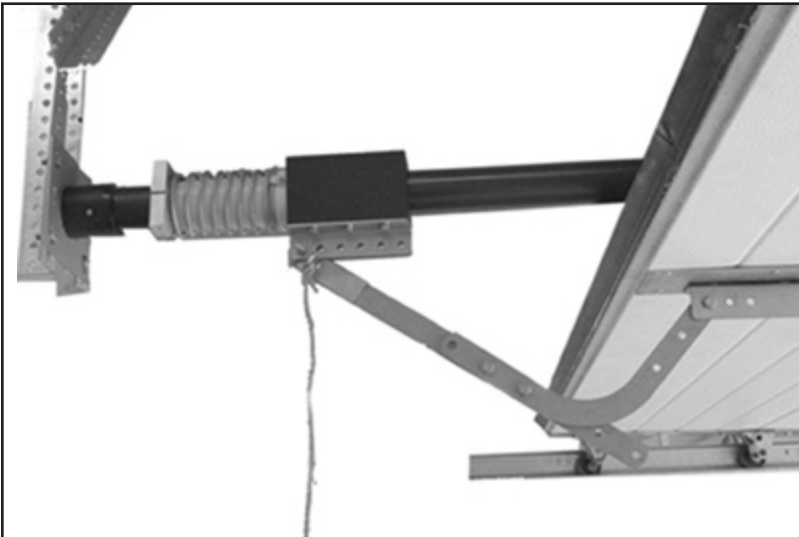
Sample Installation Images



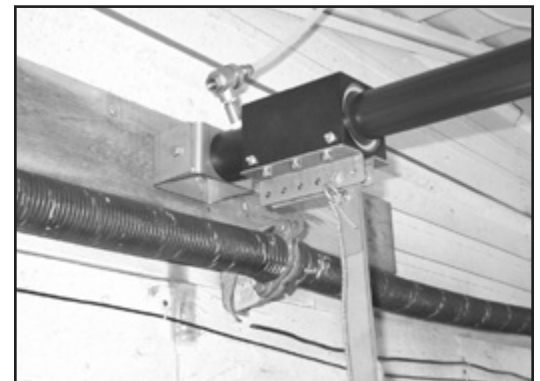
Overview- Installation Complete



Door Arm- Door Closed



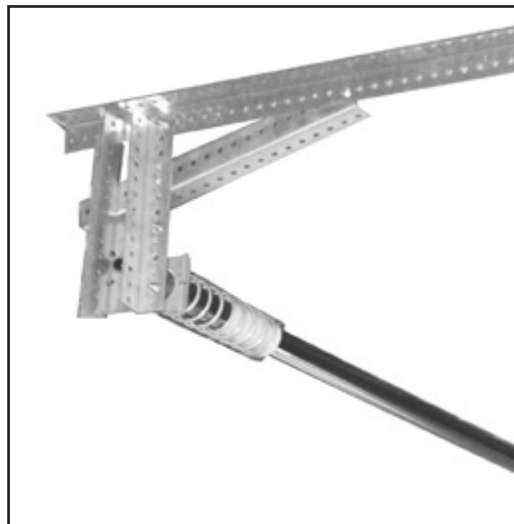
Back View



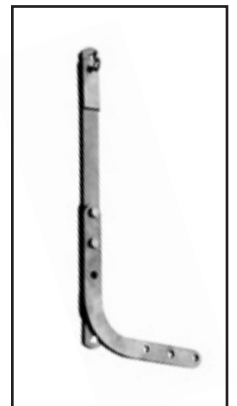
Header View



Side View

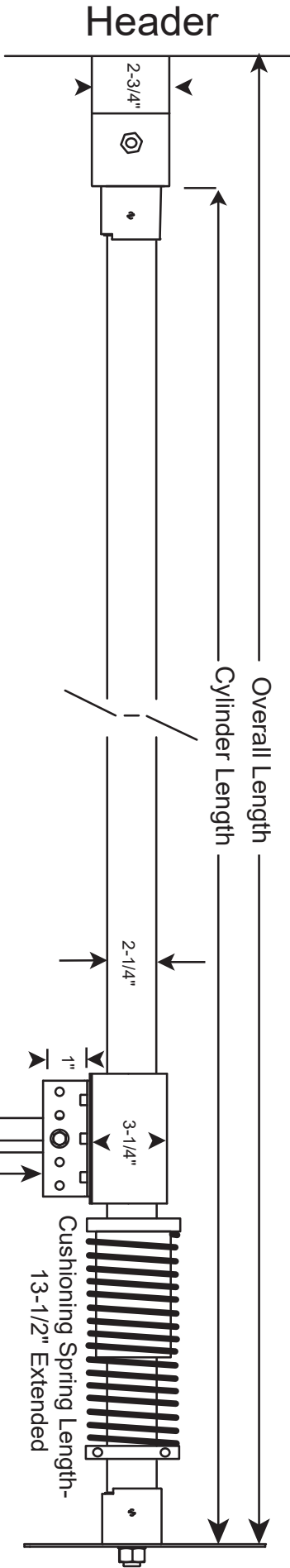


Rear View- Backhang



Drawbar
Arm
Assembly

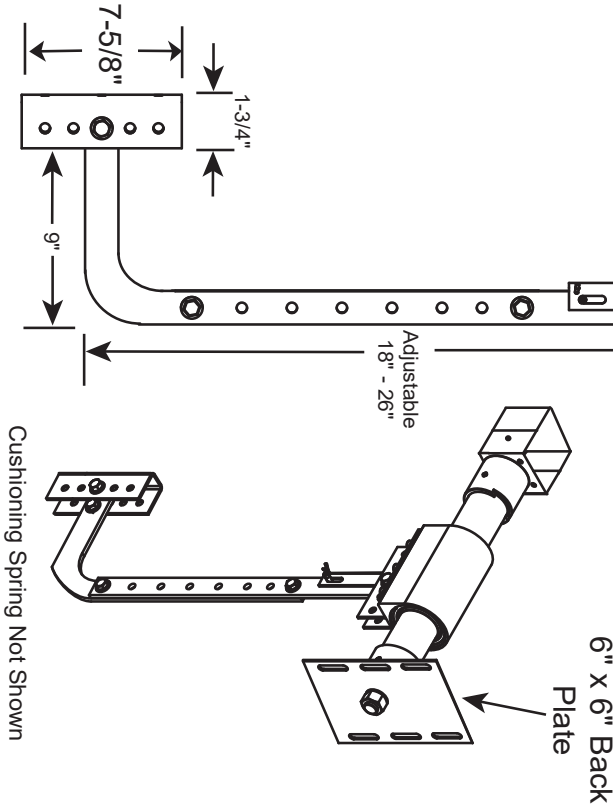
Horizontal Numax Overview



Critical Dimensions

Headroom Required: 4" to 6"
Arm: Adjustable from 18" to 26"

Lengths		Backroom Required		Stroke	
Door Height	Overall Length	Stroke Length	Cylinder Length	Required Overall Length	No Cushion Length
8'	127"	114"	120"	123-1/2"	114"
9'	139"	126"	132"	135-1/2"	126"
10'	148"	135"	141"	144-1/2"	135"
11'	163"	150"	156"	159-1/2"	150"
12'	187"	162"	180"	183-1/2"	162"
14'	211"	186"	204"	207-1/2"	186"
16'	235"	210"	228"	231-1/2"	210"



Material List For Horizontally Mounted Numax

Provided Materials

1- NMCXX(08-16)	Numax Cylinder (typically 24" longer than height of door)
1- NMHHB	Header U-Bracket
1- NMHFB	Front U-Bracket
1- NMHRB	Rear Mounting Bracket
1- NMHDB	Door Arm Bracket
2- NMHTB	Trolley Brackets
1- HBLTS51615	5/16"-18 x 1-1/2" Hex Head Bolt
1- NUTLS516	5/16"-18 SS Lock Nut
6- HBLTS51634	5/16" x 3/4" SS Hex Head Bolt
6- WASHLS516	5/16" Lock Washer
1- DAAS	SS Drawbar Arm Assembly
9- HBLTS381	3/8" x 1" S.S Bolt
8- NUTFS38	3/8"-16 SS Flange Nut
1- NUTLS38SS	3/8"-16 SS Lock Nut
1- MLHRP	Disconnect Rope
1- NM12PS	Cushioning Spring Assembly - Already Installed
3- LAG516158	5/16" x 1-5/8" Wood Lags
4- TAOS141W	1/4" x 1" SS Self Drilling Screws
2- SLRF15X38	1-1/2" x 3/8" Nipple
2- QDEV-A	Quick Dump Exhaust Valve
2- SLPF-38X38	3/8" x 3/8" Push-in Fitting
4- SLPE38	3/8" Porex Muffler
1- SUPERLUBE14	SUPERLUBE14 Lubricant- Tube
1- ANTI-SEIZE2	Anti-Seize Lubricant- Mini Packet

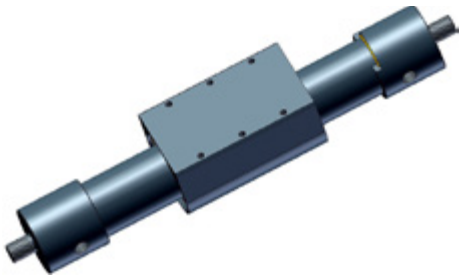
Materials Sold Separately

Photoeye or other Safety Reversing Mechanism
Inline Liquid Separator
Z-Strut for Top Section
Punched Angle Iron for Backhang
5/16" SS or Galvanized Bolts and Nuts for Backhang
Control Box Assembly with Valve & Regulator
3/8" Polyflow Airline

Tools Required

Ladder
Vise Grip Locking Pliers
Hand Wrenches- 7/16", 1/2", 9/16", 5/8"
3/8" Socket Set- 7/16", 1/2", 9/16", 5/8"
Electric Impact or Drill with 3/8" and 7/16" Sockets

Components Identification



Cylinder



Header U-Bracket



Door Arm Bracket



Front U-Bracket



Rear Mounting Bracket



Trolley Bracket



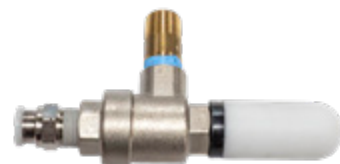
Cushioning Spring



Disconnection Rope



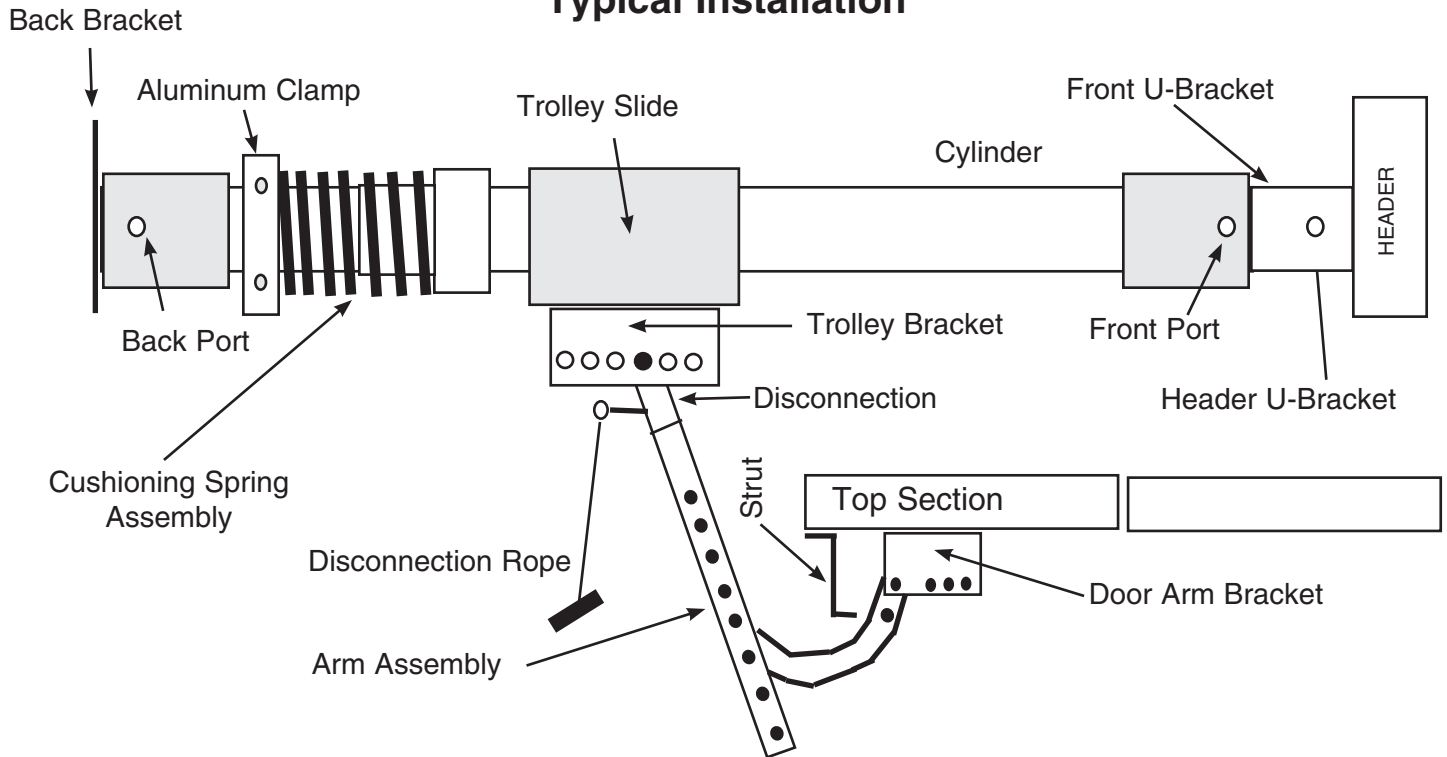
Drawbar Arm Assembly



Quick Dump Exhaust Assembly

Horizontal Cylinder Installation

Typical Installation



Step 1

Please inspect all packages for damage and missing parts (refer to components and material identification pages). You will need a minimum of 6" of additional headroom above the high point of the door travel to install a Numax-in a horizontal position.

Step 2

Place the Numax cylinder on a flat surface, attach the front U-bracket to the front of the cylinder (Figure 1). Use the cylinder nut provided. Position the port for the air-fitting to your desired position before tightening the nut (typically to the side).

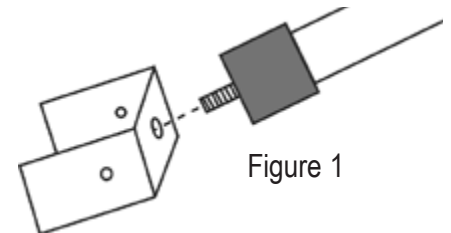


Figure 1

Step 3

Attach the back mounting brackets to the back of the cylinder (Figure 2). Use the cylinder nut provided. Position the port for the air-fitting for ease of access and then tighten the nut.

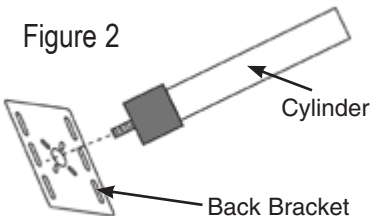


Figure 2

Step 4

Typically pre-assembled from the factory, slide the cushioning spring onto the cylinder by removing end cap (see special instructions for end cap removal installation towards the back of this manual.) Either end of the cylinder can be used for the front or back.

The cushioning spring must always be positioned near the rear of the cylinder. The plastic stop should be pointing towards the trolley slide and the aluminum clamp should be positioned towards the end of the cylinder. (Figure 3)

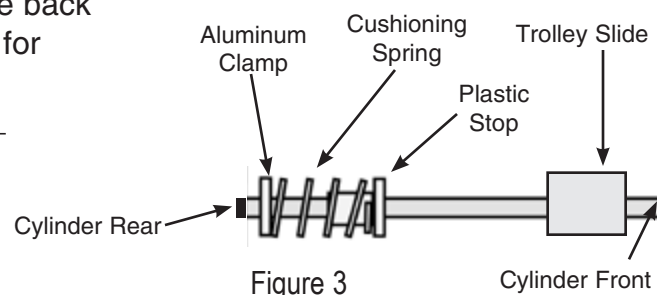


Figure 3

Step 5

Assemble trolley brackets onto the trolley slide with (6) 5/16" x 3/4" SS bolts and 5/16" lock washers, use anti-seize on these bolt threads! (Figure 3a). Add 5/16" x 1-1/2" bolt with 5/16 lock nut (Figure 3b) to one of the trolley bracket holes for future connection of the drawbar arm. This may be repositioned for final connection and adjustment of the door arm.

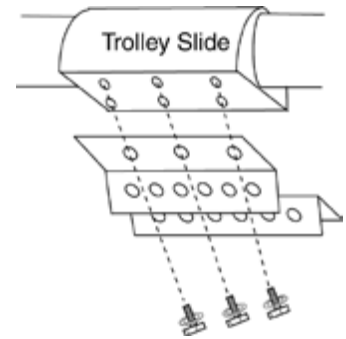


Figure 3a

Step 6

Install the quick dump exhaust assemblies to the ports located on each end of the cylinder (Figure 4).

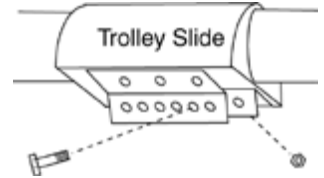


Figure 3b

Step 7

Close the door and lock it down with a slide lock or vise grip the track to keep the door in it's closed position.

Step 8

Install the door arm bracket on the top section of the door. Place the top of the bracket 4" below the top of the section. Fasten with 1/4" x 1" stainless steel self-drilling screws or equivalent. (Figure 5).

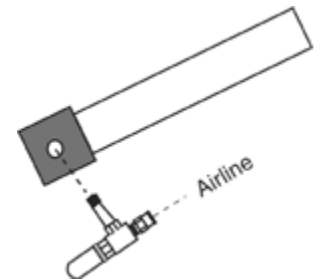


Figure 4

Note: The door arm should attach to the top section on the same horizontal height as the top roller of the door (Figure 5). Generally the door arm bracket will be installed on the center stile located at midcenter of the door. It may be also relocated off center of the door at another stile location to avoid obstacles. Fasten the door arm bracket just underneath the previously installed strut. The strut should always be installed as close to the top of the top section as possible. (Figure 5a)

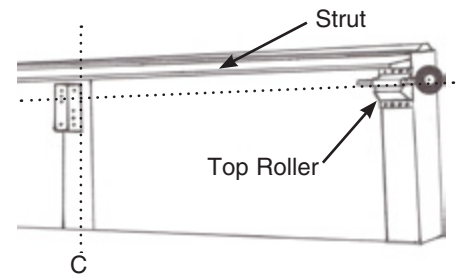


Figure 5

Step 9

Open the door to the high point of door travel (Figure 6) and lock into position with visegrips under any roller on the track. Place a level from the top of the doors' top section to the wall and mark a horizontal line 4" above the level line on the header (Figure 7). Make sure to make this mark directly above the previously mounted door arm bracket. This will be the horizontal top of the header U-bracket.

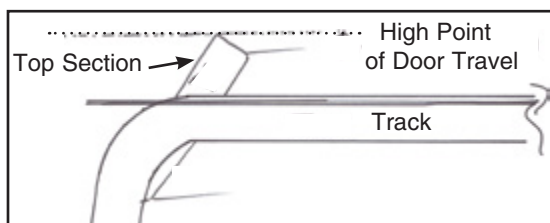


Figure 6

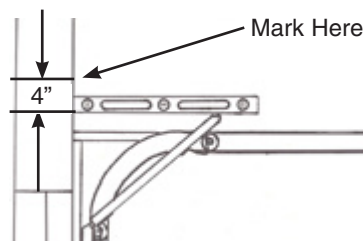


Figure 7

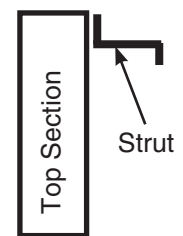


Figure 5a

Step 10

Close the door and place the level vertically on the doors top section upward from the previously attached door arm bracket. Mark a vertical line to intersect with the previous mark made horizontally in Step 9 to create a **+** on the header (Figure 8). This will be the vertical centerline of the header U-bracket.

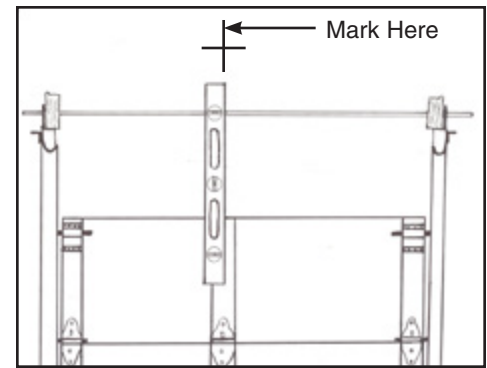


Figure 8

Step 11

Fasten the header U-bracket to the wall above the torsion shaft. Use the wood lags provided. (Figure 9)

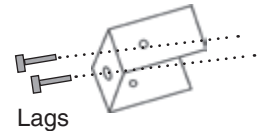


Figure 9

Step 12

With the door closed. Place a ladder just inside the door opening slightly to the side of the vertical centerline of the door.

Step 13

Place another ladder back from the opening approximately the height of the door and near the center of the door. Use a step ladder high enough to reach above door when the door is in its open position (Figure 10).

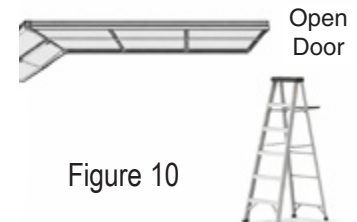


Figure 10

Step 14

Raise the front of the cylinder up to the header and bolt the front U-bracket to the header U-bracket with (2) 3/8" x 1" stainless steel bolts and 3/8" flange nuts (Figure 11).

Do not tighten the bolts until the rear backhangs have been installed.

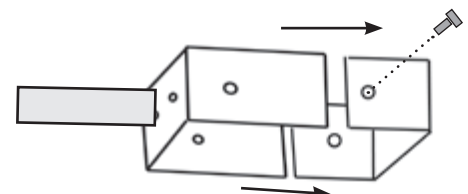


Figure 11

Step 15

Lift the back end of the cylinder above the door track and the traveling path of the door (Figure 12). Tie off with a rope or secure on top of the ladder above the intended travel of the door. This will keep the back end of the cylinder above the door travel for clearance when opening the door.

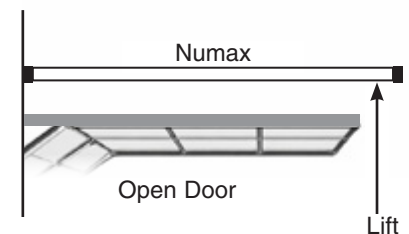


Figure 12

Step 16

Open the door to it's fully up position and lock a vise grip on the track under the bottom of a roller to prevent the door from closing.

Step 17

Place blocking material on top of the top section and rest the cylinder on top of the blocking to hold cylinder up approximately 4" above the door. Center the cylinder with the door arm bracket previously attached to the top section (Figure 13).

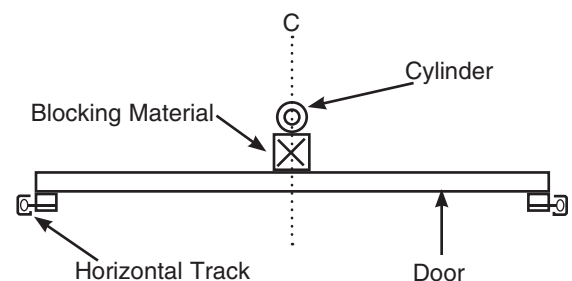
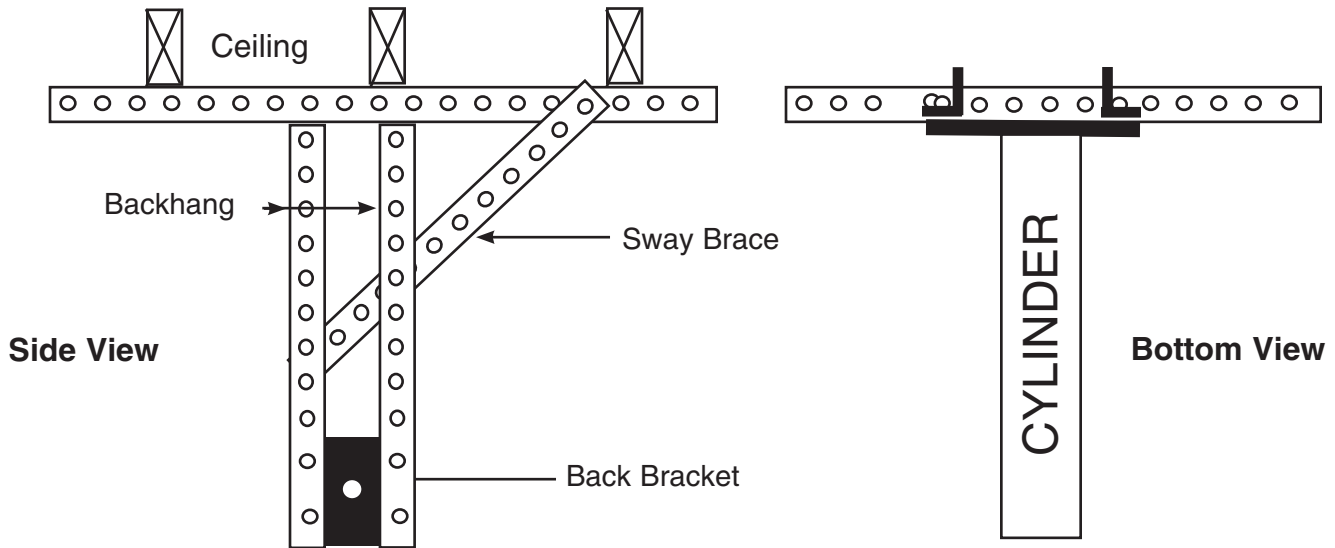


Figure 13

Step 18

Attach the backhang material to the back end of operator from the ceiling. Be sure to attach the sway braces to eliminate side movement.

Common Backhang Details.



It is recommended to use 5/16" x 3/4" SS bolts and nuts to fasten the backhang material together.

Use a minimum of 12 ga. 1-1/2" x 1-1/2" galvanized or stainless steel pre-punched angle iron.

Other methods may be used, but the backhang must be anchored securely and should not move when the opener is cycling.

Step 19

Remove the blocking material holding the cylinder up above the top section. Unlock the vise grips or the lock.

Step 20

Close the door and lock it down with vise grips or a slide lock.

Step 21

Tighten the fasteners holding the header U-bracket to the front U-bracket on the cylinder.

Step 22

Check to make sure the operator is aligned properly and that the trolley bracket is 1/2"–1" above the high travel point of the doors' top section. Maintain a clearance of 1/2"–1" between the bottom of the trolley bracket from the high point of travel and the top of the fully open door. (Figure 14)

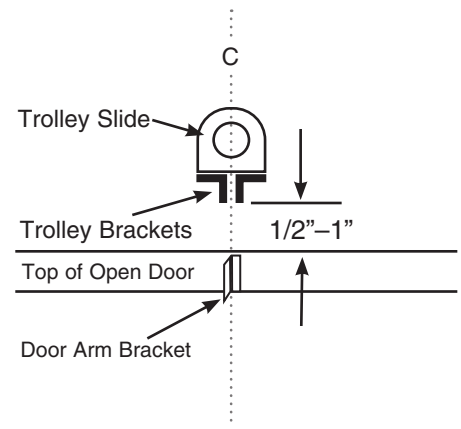


Figure 14

Step 23

Assemble the drawbar arm together using (2) 3/8" x 1" SS hex head bolts and (2) 3/8" SS flange nuts (typically preassembled). Adjust the arm to the correct length by holding the arm up to the trolley bracket assembly and aligning it with the door arm bracket. (Figure 15)

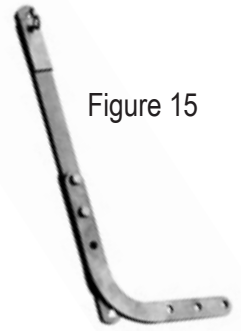


Figure 15

Step 24

Attach the drawbar arm assembly to the trolley bracket. The emergency disconnect end of the arm will attach to the trolley bracket bolt in the trolley bracket. Connect the other end of the arm to the door arm bracket with (1) 3/8" x 1" SS hex head bolt and (1) 3/8" SS locknut. Tighten the lock nut leaving approximately 1/8" of play in the bolt to allow the arm to pivot at the door arm bracket.

Adjust the arm, so the straight portion of the arm is in a vertical position when fastened to the door arm bracket on the top door section. Do this when the arm is connected to the trolley slide and when the trolley slide is all the way forward (door should be in closed position).

Adjust the arm length, connection at the trolley bracket and/or door arm to achieve a good bottom seal. There should be some slight downward pressure on the door when the trolley slide is fully forward or closed.

Step 25

Loosen the bolts on the aluminum clamp on the cushioning spring. Slide the cushioning spring to the back of the operator. Make sure to keep the plastic sleeves under the aluminum block to ensure tightening of the clamp and to keep from scratching or denting the cylinder.

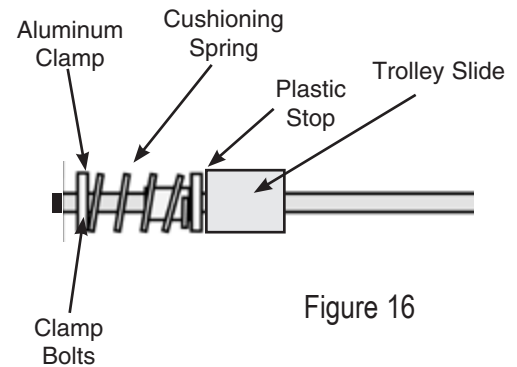


Figure 16

Step 26

Disconnect the vise grips and manually open the door to the desired open height. This should be done with the door arm attached to the trolley slide. When door is in the desired open position, slide the cushioning spring up to the trolley slide. Mark the desired open position with a felt tip pen or pencil. Close the door at least 12" and position the cushioning spring so that it compresses 75% and tighten the bolts on the aluminum clamp (Figure 16).

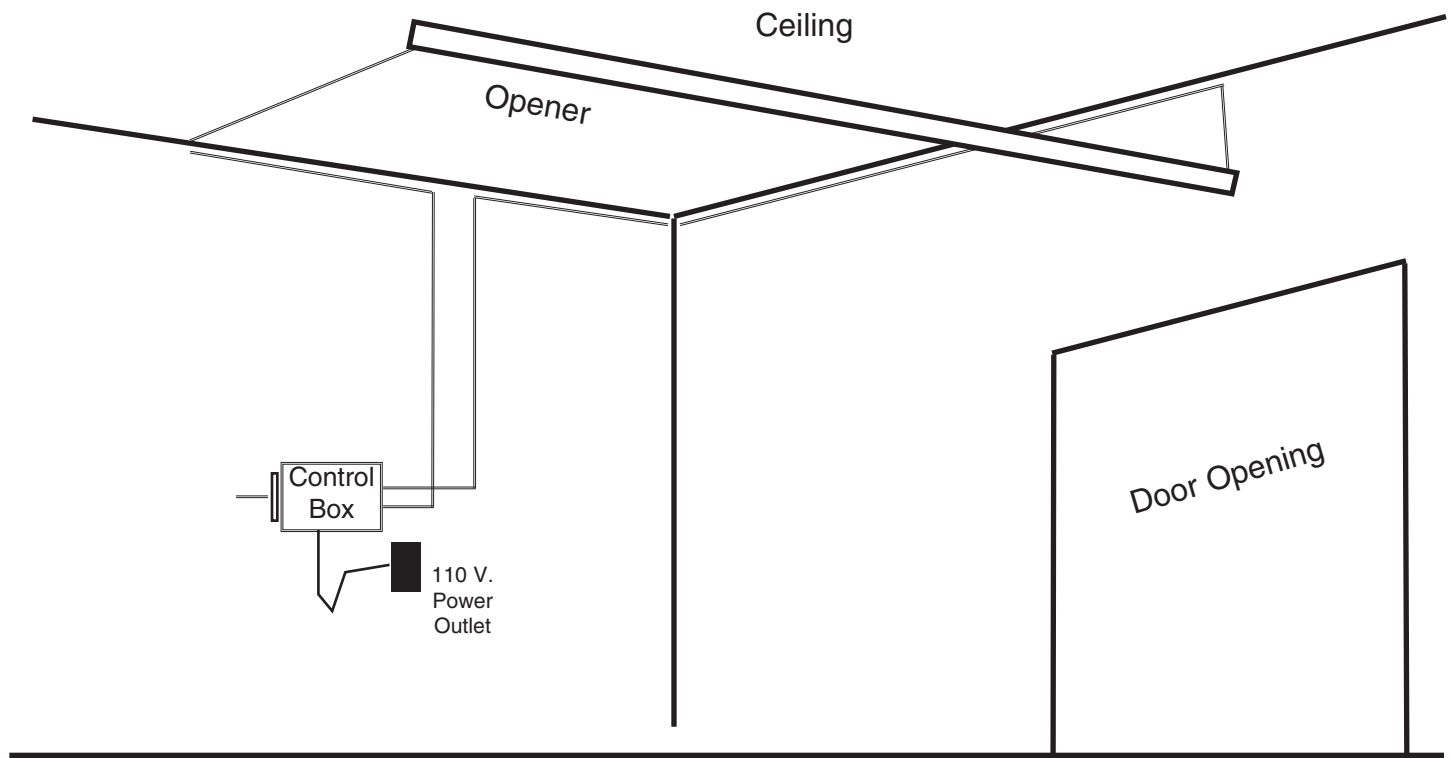
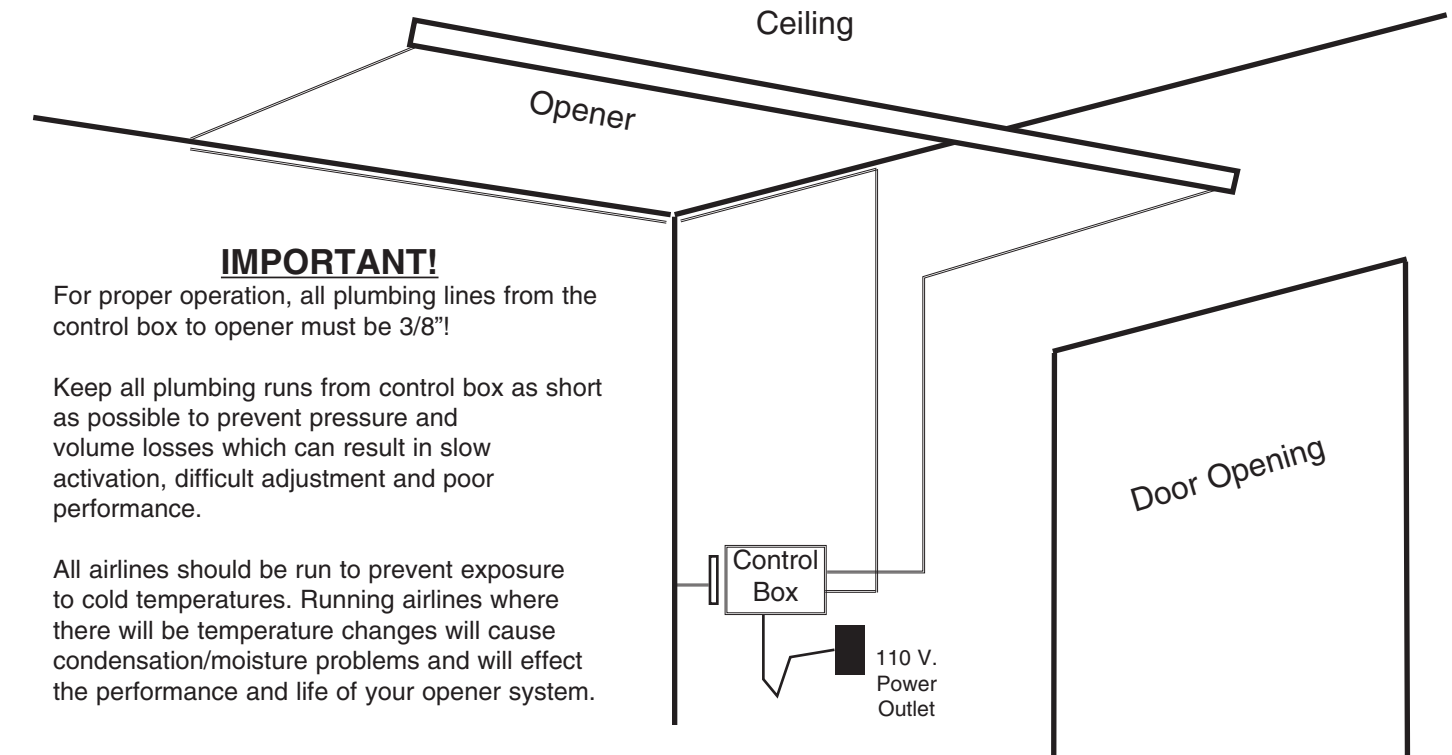
Step 27

Install the rope on the eye bolt on the quick disconnect of the drawbar arm.

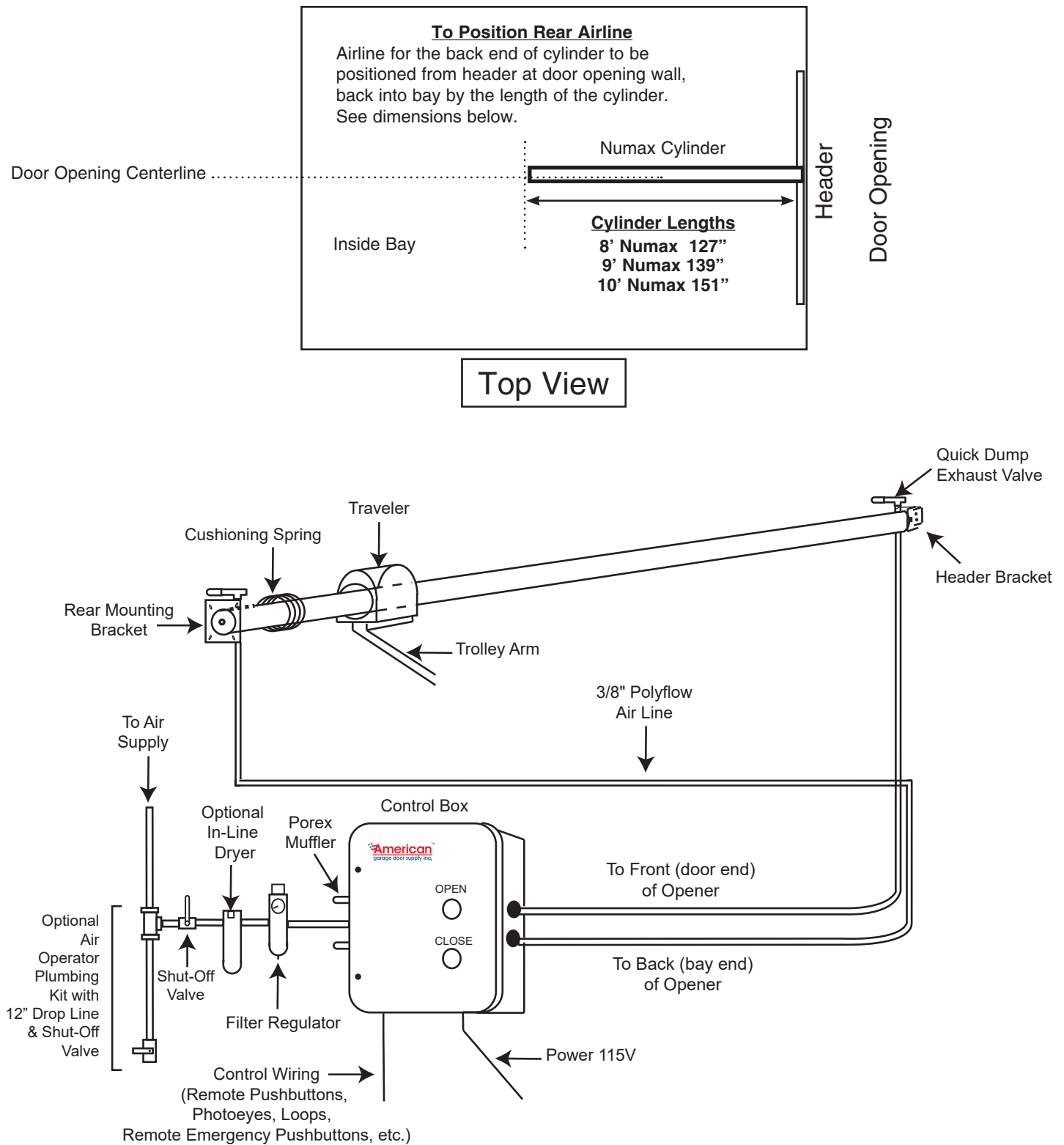
Your Numax is now ready for the control box installation, final hook-up and adjustment.

Numax - Horizontal Mount

Typical Installations

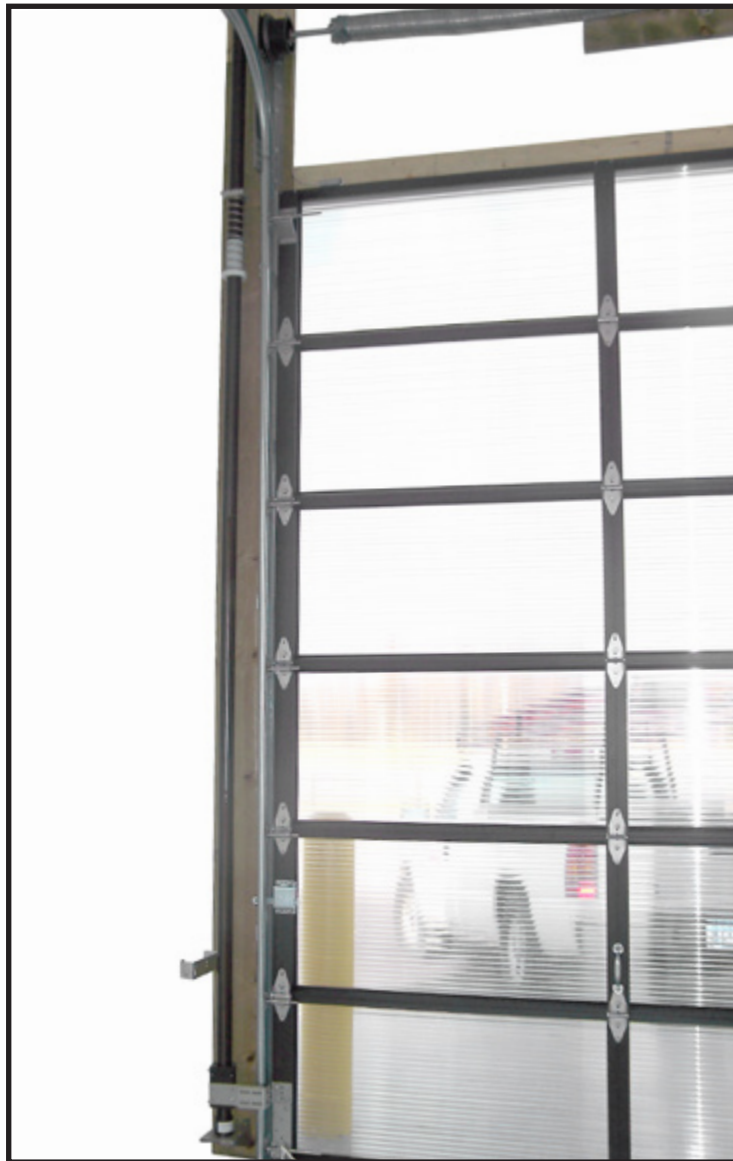


Numax Control Box & Plumbing Detail

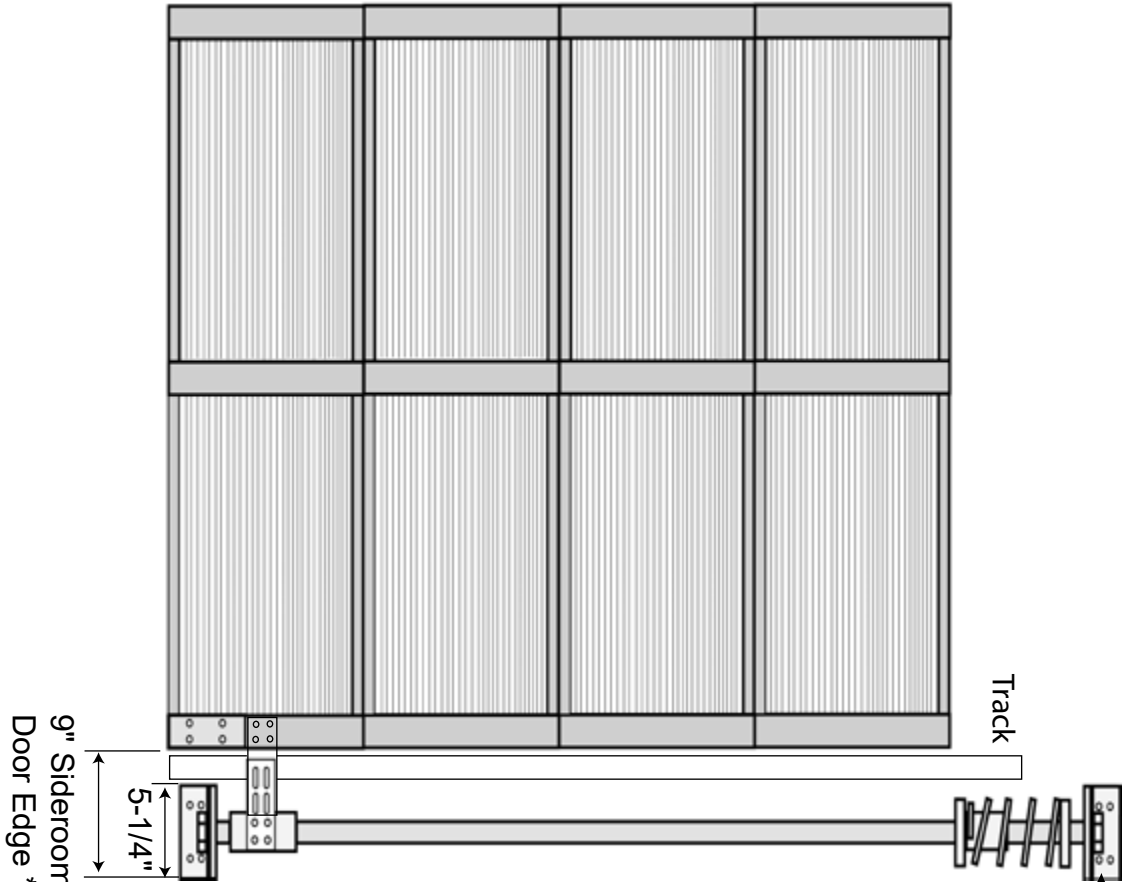


**Typical installation features air lines on top of cylinder

Vertical Mounting Instructions



Vertical Numax Overview



Projection from wall of top wall bracket is 9-3/4"

Lengths				Backroom		
Door Height	Overall Length	Stroke Length	Cylinder Length	Required Overall Length	Stroke Length No Cushion	Stroke Range With Cushion
8'	127"	114"	120"	123-1/2"	114"	101"-108"
9'	139"	126"	132"	135-1/2"	126"	113"-120"
10'	148"	135"	141"	144-1/2"	135"	122"-129"
11'	163"	150"	156"	159-1/2"	150"	137"-144"
12'	187"	162"	180"	183-1/2"	162"	149"-156"
14'	211"	186"	204"	207-1/2"	186"	173"-180"
16'	235"	210"	228"	231-1/2"	210"	197"-204"

Projection from wall of bottom wall bracket is 7-3/4"

**Optional mounting bracket can save up to 2-1/2" of sideroom

Material List for Vertically Mounted Numax

Provided Materials

1- NMCXX (08-16)	Numax Cylinder (typically 24" longer than height of door)
1- NMVBWB	Bottom Wall Bracket
1- NMVTVB	Top Wall Bracket
1- NWVLDB	Door Bracket
1- NMVLTB	Trolley Traveler Bracket
1- NMVLCB	Trolley Center Bracket
4- HBLTS51634	5/16" x 3/4" SS Hex Head Bolt
6- CBLTS51634	5/16" x 3/4" SS Carriage Bolt
8- NUTFS516	5/16"-18 SS Flange Nut
4- WASHLS516	5/16" SS Lock Washer
1- NM12PS	Cushioning Spring Assembly - Already Installed
10- LAG516158P	5/16" x 1-5/8" Wood Lags
6- TAOS141W	1/4" x 1" SS Self Drilling Screws
2- SLRF15X38	1-1/2" X 3/8" Nipple
2- QDEV	Quick Dump Exhaust Valve
2- SLPF-38X38	3/8" x 3/8" Push-in Fitting
4- SLPE38	3/8" Porex Muffler
1- SUPERLUBE14	Lubricant- Tube
1- ANTI-SEIZE2	Anti-Seize Lubricant- Mini Packet

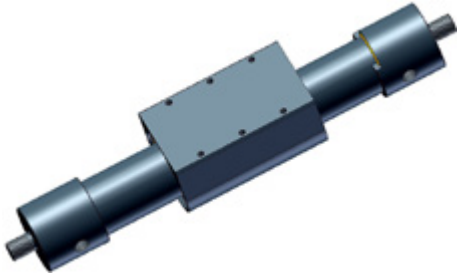
Materials Sold Separately

Photoeye or other Safety Reversing Mechanism
Inline Liquid Separator
Installation Kits- (3/8" Polyflow Airline & Fittings)
Control Box Assembly with Valve & Regulator
3/8" Polyflow Airline

Tools Required

Ladder
Vise Grip Locking Pliers
Hand Wrenches- 7/16", 1/2", 9/16", 5/8"
3/8" Socket Set- 7/16", 1/2", 9/16", 5/8"
Electric Impact or Drill with 3/8" and 7/16" Sockets

Components Identification



Cylinder



Bottom Wall Bracket



Top Wall Bracket



Trolley Door Bracket



Center Trolley Bracket



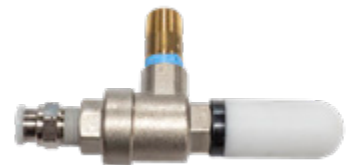
Trolley Traveler Bracket



Cushioning Spring



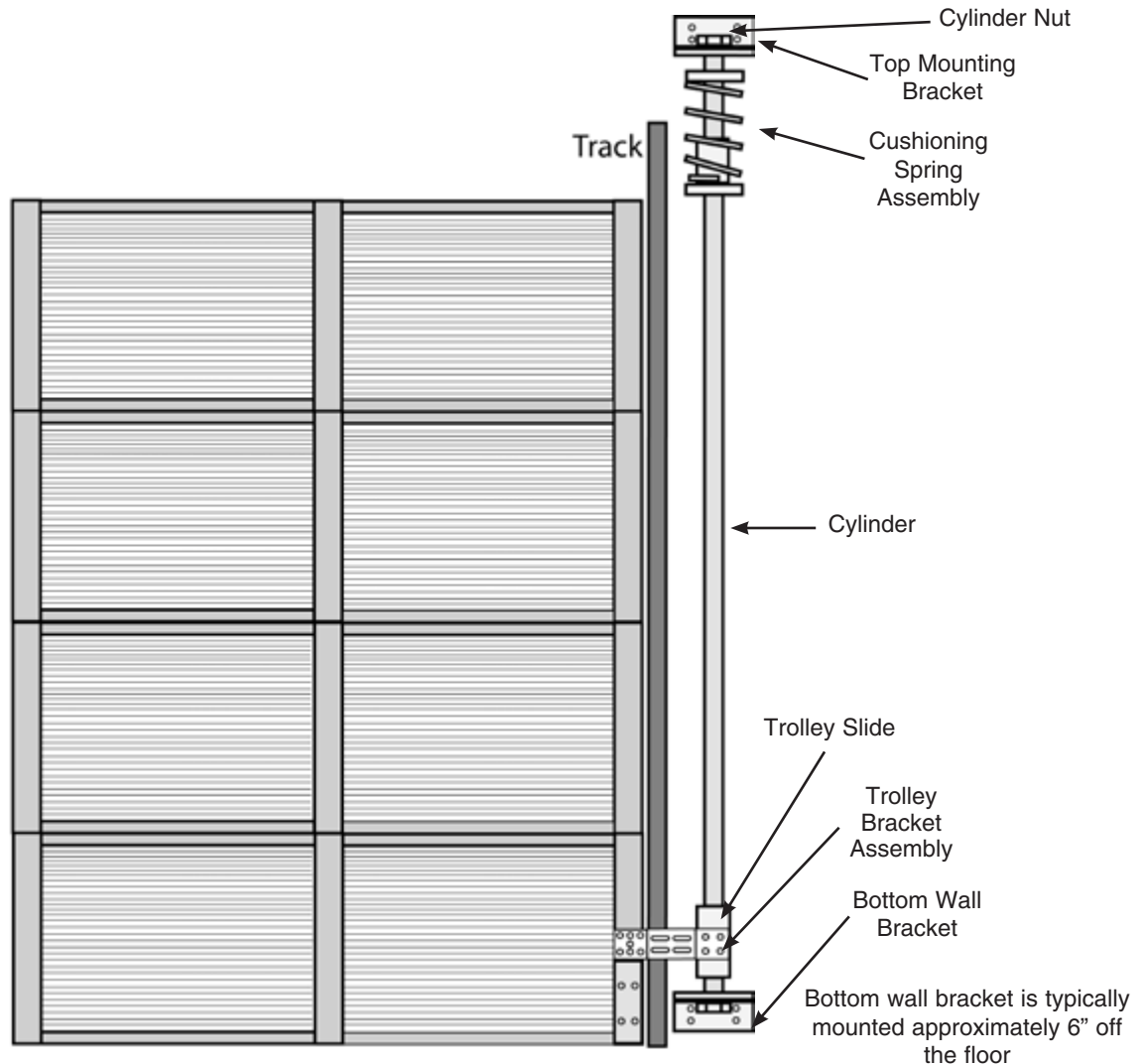
Trolley Bracket



Quick Dump Exhaust
Assembly

Vertical Cylinder Installation

Typical Installation



Step 1

Please inspect all packages for damage and missing parts (refer to components and material identification pages).

You will need a minimum of 30" of highlift to install a Numax vertically.

Step 2

Slide the cushioning spring onto the cylinder by removing the end cap (typically pre-assembled from factory). See special instructions for end cap removal installation towards back of this manual. Either end of the cylinder can be used for the top or bottom. The cushioning spring must always be positioned near the top of the cylinder. The plastic stop should be pointing towards the trolley slide and the aluminum clamp should be positioned towards the top of the cylinder. Hand tighten near the end (top) of the cylinder (Figure 1).

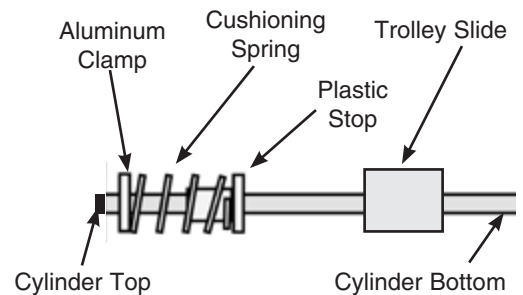


Figure 1

Step 3

Place the Numax cylinder on a flat surface, and install the quick dump exhaust assemblies to the ports located on each end of the cylinder (Figure 2).

Step 4

Attach the bottom and top wall brackets to the cylinder with the provided cylinder nuts.

Top Bracket: Place the long bracket on the top of the cylinder. The mounting holes should be up. (Figure 3)

Bottom Bracket: Place the short bracket on the bottom of the cylinder. The mounting holes should be down. (Figure 4)

Position the port for the air fitting to your desired position (typically to the side or back) before hand tightening the cylinder nuts.

Note: Leave the cylinder nuts loose enough for the cylinder to slide in the wall brackets.

Step 5

Fasten the trolley door bracket just above the bottom cable bracket on the door with self-drilling screws. (Figure 5).

Tip: Start with 2 and finish later with remaining 4.

Step 6

Close the door and lock it down with a slide lock or vise grip in the track to keep the door in its closed position.

Step 7

Install the trolley center bracket to the trolley door bracket with (2) 5/16" x 3/4" carriage bolt and 5/16" flange nuts. Hand tighten the nuts. (Figure 6).

Step 8

Push the trolley slide on the cylinder to the bottom of the cylinder. The trolley slide should bottom out. This is the bottom of the stroke. (Figure 7)

IMPORTANT!

Once the trolley slide bottoms out, push the trolley slide back towards the center of the cylinder 3/4 – 1" for cushioning. Note: (you may need to remove the quick dump exhaust to accomplish this.)

Step 9

Fasten the trolley traveler bracket to the trolley slide using (4) 5/16" x 3/4" hex head bolts and lock washers, use anti-seize on these bolt threads! (Figure 8)

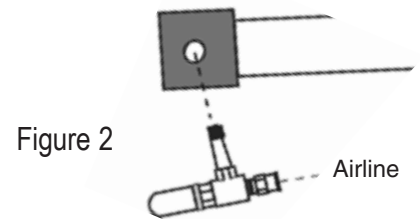


Figure 2

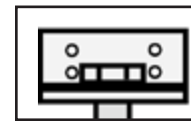


Figure 3

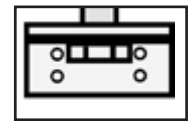


Figure 4

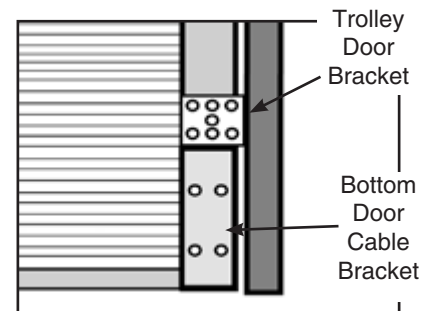


Figure 5

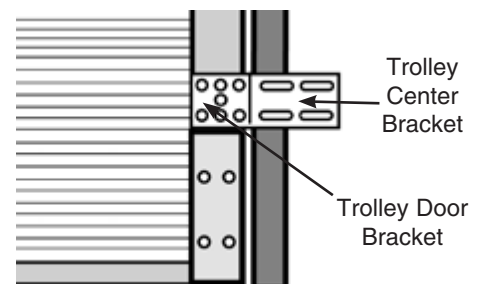


Figure 6

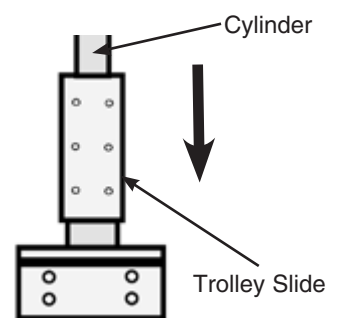


Figure 7

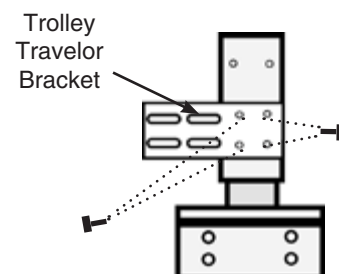


Figure 8

Step 10

Lift the pre-assembled cylinder and the wall bracket assembly alongside door track at the height where the trolley center bracket and the trolley traveler bracket holes match. Attach the trolley door bracket, trolley center bracket assembly and the trolley traveler bracket together using (4) 5/16" x 3/4" carriage bolts and 5/16" flange nuts (Figure 9).

Do not completely tighten at this time.

Step 11

While holding the operator up against your prepared mounting surface, position the bottom wall bracket assembly and the cylinder so there is approximately 1" of stroke (travel) left from the bottom of the trolley slide and the bottom of the cylinder. Once you have found a position that the bracket assembly will clear the track, fasten the wall bracket to the prepared mounting surface with the provided wood lags. (Figure 10)

Step 12

Place a ladder slightly to the side of the door track and place a level vertically on the cylinder. Find the plumb line. Fasten the top wall bracket to the prepared mounting surface with the provided wood lags.

IMPORTANT! Keep the cylinder parallel with the door track. The track should always be plumb! (Figure 11)

Step 13

Hand tighten the bottom cylinder nut.

Step 14

Open the door manually to it's fully up position. Slide the cylinder in the slotted top wall bracket to align door/trolley bracket assembly throughout it's travel to the open position. Once adjusted hand tighten top cylinder nut.

Step 15

Close and open door several times to ensure that the wall brackets and trolley bracket assemblies are set for the best movement throughout the door travel. Adjust and tighten the cylinder nuts and trolley bracket assembly bolts until the door travels smoothly without binding or bowing the cylinder and with the least amount of resistance/friction.

Step 16

Tighten the top and bottom cylinder nuts, and all bracket fasteners.

Step 17

Manually open the door to your customers' desired open height. When the door is in the fully open position, slide the cushioning spring down to the trolley slide. Mark the position with a felt tip pen or pencil. Close the door at least 12" and position the cushioning spring so that it compresses nearly completely and tighten the bolts on the aluminum clamp.

Your Numax is now ready for the control box installation, final hook-up and adjustment.

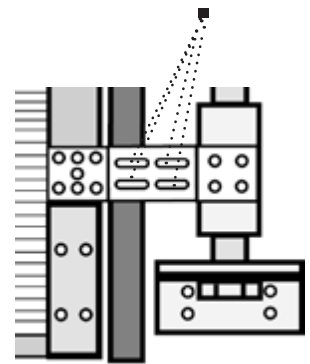


Figure 9

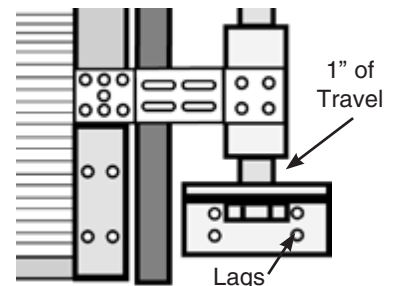


Figure 10

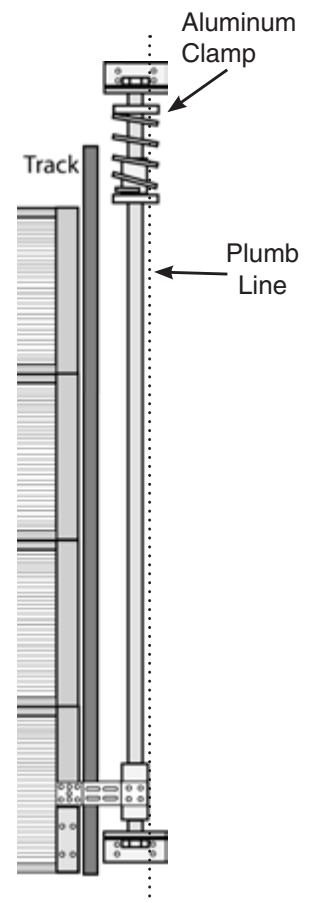
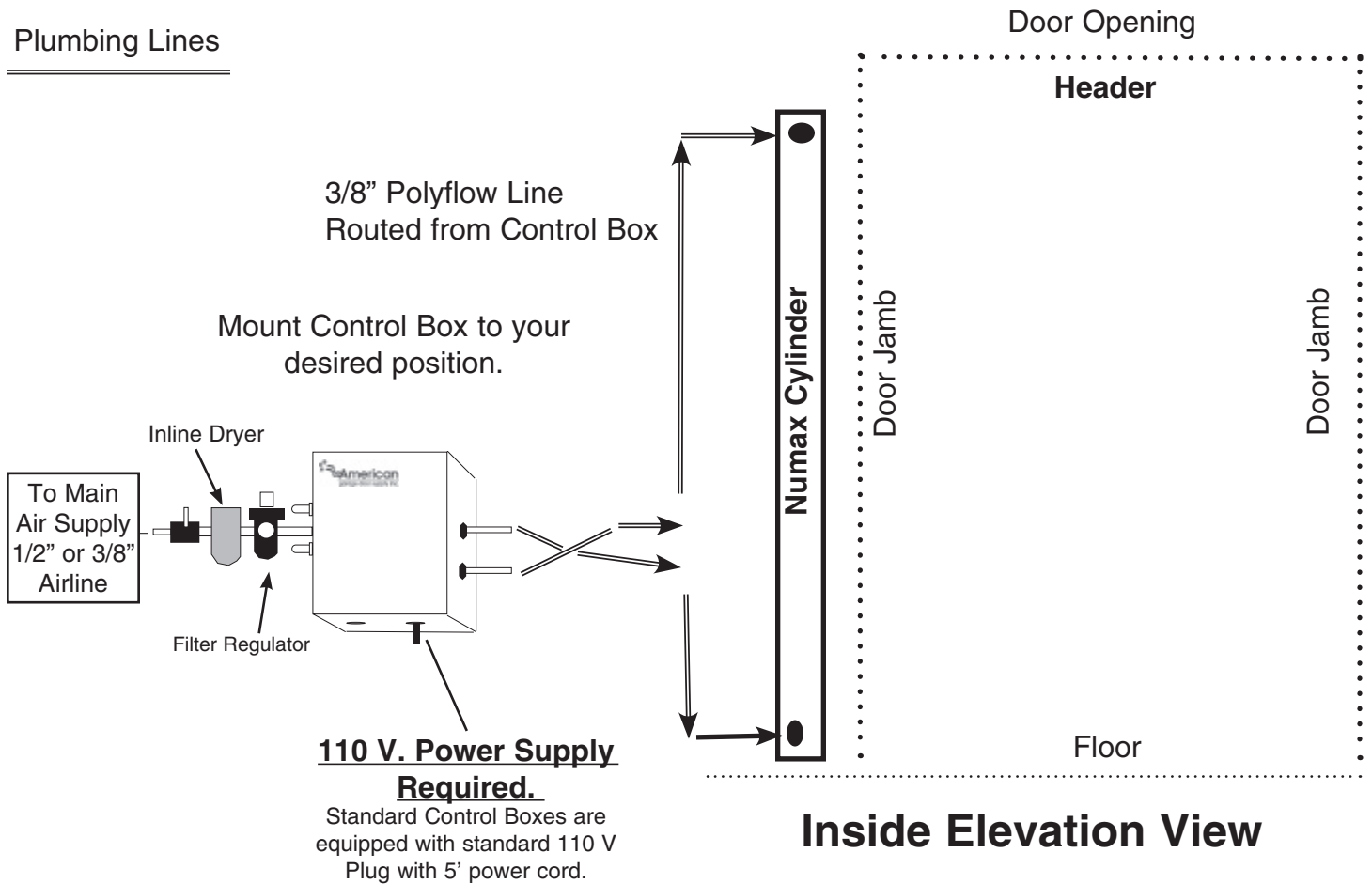


Figure 11

Numax Plumbing Detail

Vertical Mount

Plumbing Lines



Note

Vertical mount Numax operators may be mounted to the left or right side of the door. Please check clearances before permanently mounting airlines.



1-800-233-1487

IMPORTANT!

For proper operation:

All plumbing lines from control box to the opener and flow controls must be 3/8"!

Keep all plumbing runs from the control box as short as possible to prevent pressure and volume losses which can result in slow activation, difficult adjustment and poor performance.

All Airlines should be run to prevent exposure to cold temperatures. Running airlines where there will be temperature changes will cause condensation/moisture problems and will effect the performance and life of your opener system.

Numax - Vertical Mount

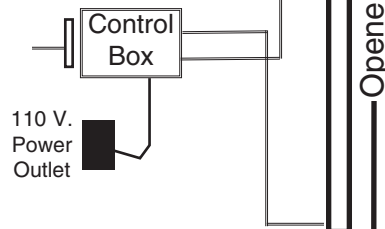
Typical Installations

Ceiling

Mount control box 4–5' from the floor for easy access and adjustment. Keep control box to operator airlines as short as possible. Long airline runs may cause poor operation due to pressure and volume deficiencies.

Control boxes may be located in adjacent dry rooms.

Locate 110 V. outlet within 3' of control box mounting location.



Door Opening

Opener

Ceiling

110 V.
Power
Outlet

Control
Box

Opener

Door Opening

Numax End Cap Removal

1. Remove end of the cylinder from the mounting brackets.
2. Locate the end of the retaining ring that is located at the end of the cylinder by carefully rotating the end cap until the end of the retaining ring is visible through the opening on the side of the end cap.
3. Using a small standard screwdriver, lift the end of the retaining ring out of the groove that it rides in. Place the end of the retaining ring onto the cylinder out of the groove.
4. Carefully turn the end cap until the retaining ring feeds out of the groove onto the cylinder. Turn slowly and feed the ring onto the cylinder as you turn the end cap. Go slowly as to not damage the o-ring located inside the end cap.
5. Once the ring is totally onto the cylinder and out of the groove. The end cap can be pulled off the end of the cylinder. Pull the end cap off slowly and carefully as not to damage the O-ring. You may have to wiggle the end cap slightly and rotate it some as you are pulling the end cap off the cylinder.
6. To install a cushioning spring. You will have to remove the retaining ring from the cylinder. To do this. Use the screwdriver to feed the ring over the groove and off the cylinder.
7. Slide on the cushioning spring. The white stop should be positioned towards the center of the cylinder away from the end cap you just removed. The aluminum clamp will be closest to the end cap you just removed.
8. Once the cushioning spring is installed. Feed the retaining ring onto the cylinder and position past the groove towards the center of the cylinder.
9. Lubricate the O-ring located inside the end cap with some vasolene.
10. Gently push the end cap back onto the end of the cylinder, you may have to wiggle and turn it as you are pushing it on. Be careful not to damage the o-rings.
11. Feed the end of the retaining ring into the opening on the side of the end cap. Feed the end into the groove on the cylinder. Push the retaining ring so it is close to the end of the end cap and gently turn the end cap until the retaining ring is completely in the groove and the end cap is secure.
12. Replace the end brackets and install.



Watch on our
YouTube Channel

Note: It is advisable to test the unit before installing to make sure there are no air leaks!



Step 1



Step 2



Step 3



Step 4

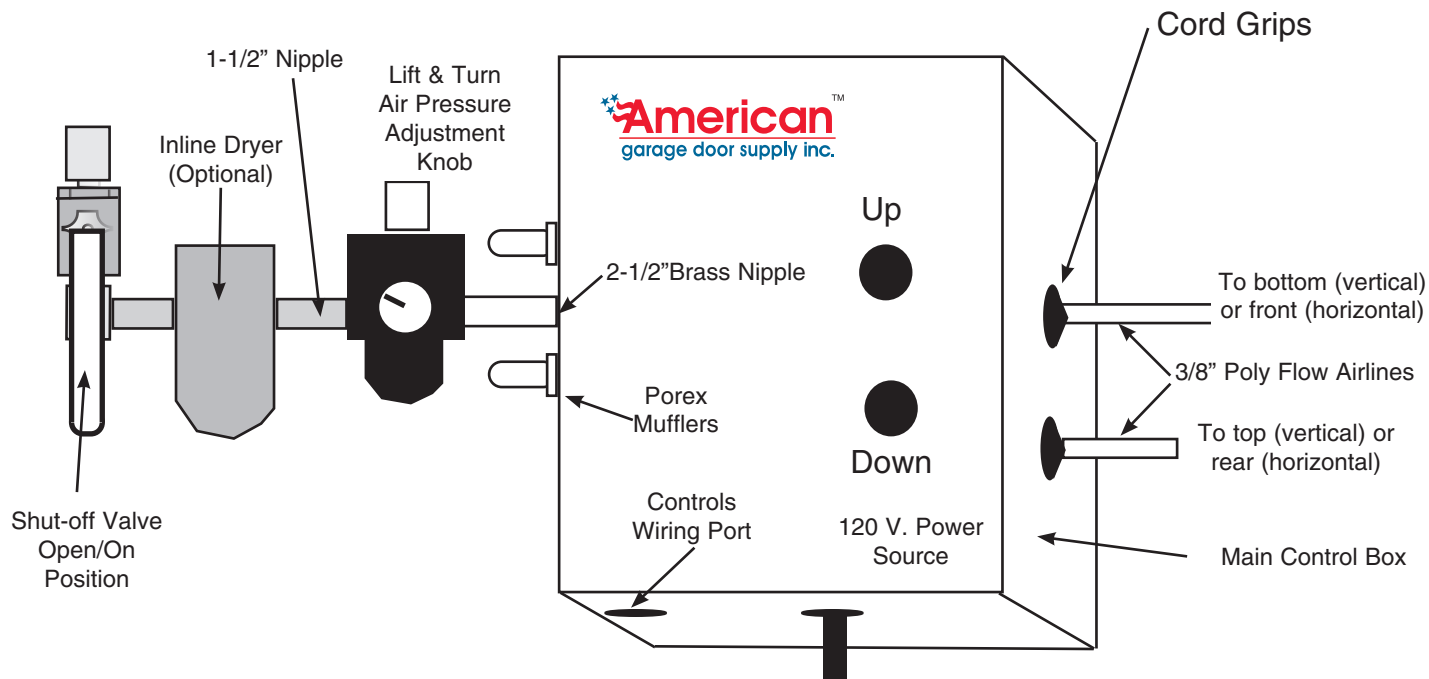


Step 6



Step 11

Typical Control Box Assembly



Typical Material List

Provided Materials

<u>Part Number</u>	<u>Description</u>	<u>Qty</u>
SLA20-24	Waterproof Control Box	1 ea.
SLFR	Filter Regulator Assembly w/Gauge	1 ea.
SLRF-25x14	Nipple 1/4" NPT x 2-1/2"	1 ea.
SLRF-15x14	Nipple 1/4" NPT x 1-1/2"	1 ea.
SLPE18	Porex Muffler	2 ea.
VV500P-4	Shut-off Valve Assembly	1 ea.
SLPF-38x14	Push-in Fitting, 3/8" x 1/4" NPT	1 ea.

Options Sold Separately

Inline Dryer with 1-1/2" Nipple
 Photoeye or other Safety Reversing Mechanism
 Timer to Close
 3/8" Poly Flow Air Hose
 One Shot Timers Relays

Tools Required

Standard Screwdriver
 Phillips Screwdriver
 Hand Wrenches- 1/4", 7/16", 1/2", 9/16", 5/8"
 3/8" Socket Set- 7/16", 1/2", 9/16", 5/8"
 Electric Impact or Drill with 3/8" and 7/16" Sockets, 1/4" Drill Bit
 Small Pipe Wrench
 Wire Cutters
 Teflon Tape



Components Identification



Control Box (1)



Filter/Regulator (1)



2-1/2" and 1-1/2" Nipple



Porex Mufflers (2) / Metering Valves **(DO NOT USE for Numax)**



3/8" x 1/4" Push-in Fitting
and Shut-off Valve



Shut-off Valve Assembly
and (Optional Inline Dryer)

Control Box Assembly & Installation

Step 1

Install the two porex mufflers to the top and bottom ports on the left side of the control box. Hand tighten only. **Do not use the metering valves on Numax operators.**

Step 2

Install the filter regulator assembly onto the control box using the 2½" brass nipple. Insert through the middle hole on the left side of the control box and tighten. Use teflon tape on threads. (Figure 1)

Step 3

Install the shut-off valve using the 1-1/2" nipple. If an inline dryer was purchased, install that in front of the regulator. (Figure 1)

Step 4

Mount the control box to the wall or other surface at the desired location.

Step 5

Open the cover of the control box and connect two 3/8" polyflow lines to the two push-in fittings on the valve inside the control box.

Plumb through the cord grips located on the right side of the control box to the push-in fittings located on the ends of the cylinder.

Plumb the top airline from the control box to the bottom of the operator cylinder (vertical mount) or to the end of the cylinder closest to the header (horizontal mount).

Connect the bottom airline on the control box to the top end (vertical) or the back end of cylinder farthest from the header (horizontal). Tighten the cord grips on the right side of the control box when complete. (Figure 2)

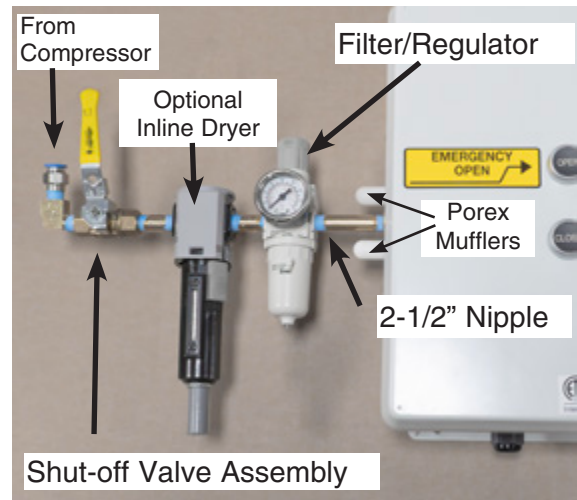


Figure 1

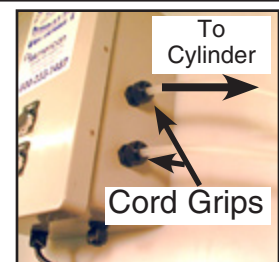
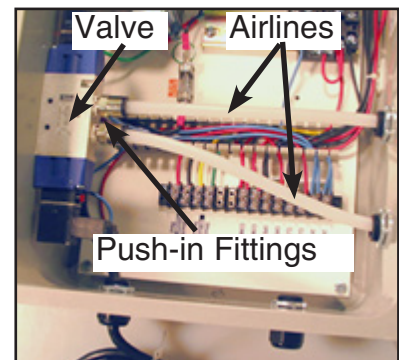


Figure 2

IMPORTANT!

Control boxes should be used in conjunction with an inline dryer! See recommendations. We recommend to keep the airlines as short as possible to reduce internal condensation in the airlines. Always install airlines without dips or watertraps.

Final Installation & Adjustment

Before Connecting Main Airline from Compressor to Control Box

Clear main airline from compressor from contamination and debris by slowly opening up valve at compressor and purging line. If new installation, the main airline which may have slag or other contaminant's which could cause damage to the valve and other internal components.

Before hooking up the main airline to the shut-off valve, turn off the shut-off valve by turning the valve lever to 90° to the valve or off.

CAUTION: If the shut-off valve is in the open position, the door may start upward when you apply air pressure to the operator system.

Step 1

Install an airline from your air compressor to the fitting on the shut-off valve. We recommend bringing a hard line down from the ceiling to the shut-off valve with a drop line as shown in the plumbing diagram (kit available upon request).

Step 2

Back off the filter regulator by pulling up on the adjustment knob on top of regulator and turn counter clockwise until it stops. Open the shut-off valve (inline with valve), Turn the regulator adjustment knob in slowly until it reaches approximately 60-PSI (recommended air pressure between 60 PSI and 80 PSI).

Step 3

Plug in 110 volt power cord located on the bottom of the control box.

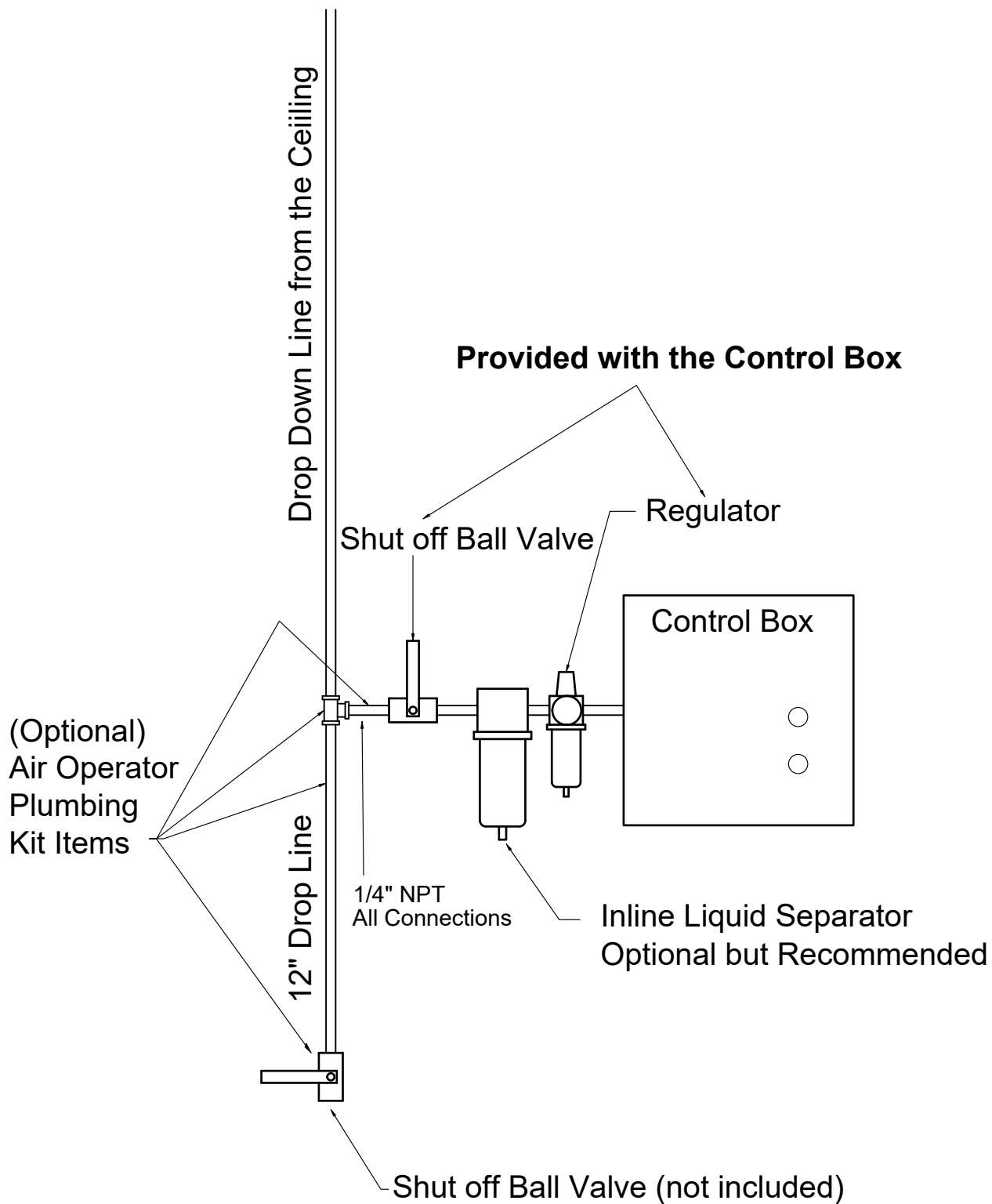
This should be connected to a grounded receptacle only!

Step 4

For Horizontal Mounted Numax Models- Operate the door up and down and adjust the operator arm assembly, traveler/arm assembly connection, and the door bracket connection until the final closing position of the door completely seals on the bottom while minimizing pressure on the doors' top section.

For Vertically Mounted Numax Models- Operate the door up and down and adjust the door/trolley brackets and cushioning spring assembly so that the door runs up and down smoothly and the door closes and stops at your desired positions.

Air Operator Plumbing Detail



Maintenance & Adjustment

Keep the door tracks, torsion springs, track rollers and shaft bearings lubricated monthly. Tighten track bolts holding operator to it's supports periodically as well as checking tightness of the bolts holding the operator track bracket and top plate. Check to ensure correct plumbness with torsion shaft and sprocket.

There is one main adjustment to be made on a Numax operator.

1. Air Filter - Regulator

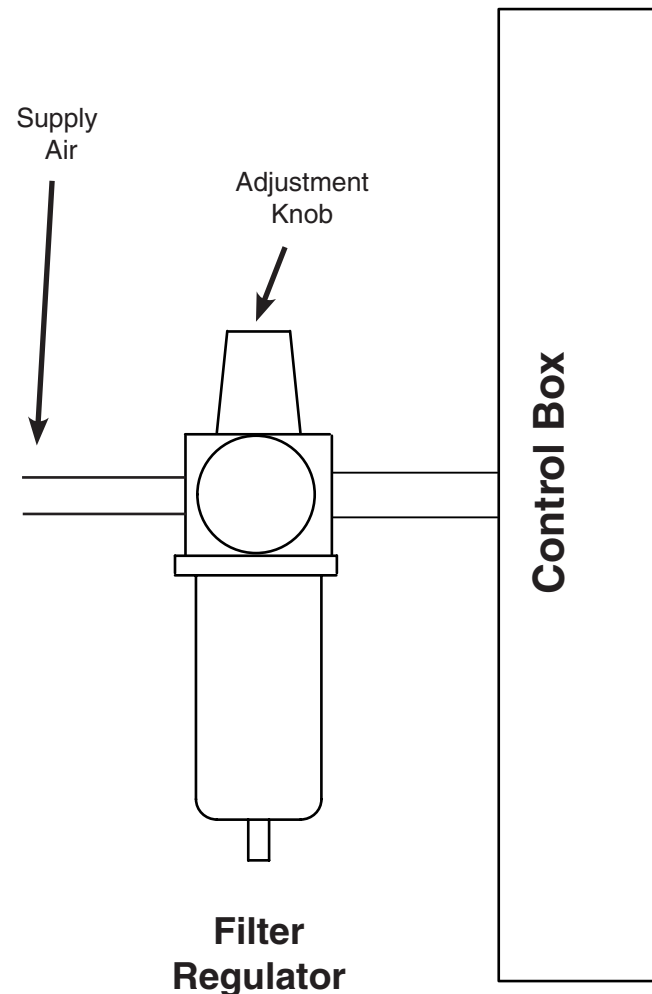
The combination filter/regulator assembly controls the air pressure to both cylinders. It may be adjusted by pulling the knob up and turning clockwise or counter-clockwise (clockwise to increase PSI, **60 - 100 PSI recommended**).

Heavier doors may need to have the pressure increased, but if you must exceed 100 PSI you probably have a door problem. **Replacing the filter in the regulator is recommended every 6 months.**

DO NOT IGNORE YOUR AIR COMPRESSOR!

Compressing air creates a lot of water. There is a drain at the bottom of your air compressor that should be opened to let water out of your tank. (Daily attention may be required). Automatic drains are available for your compressor as well as in-line air dryers; all you need to do is contact your local compressor dealer.

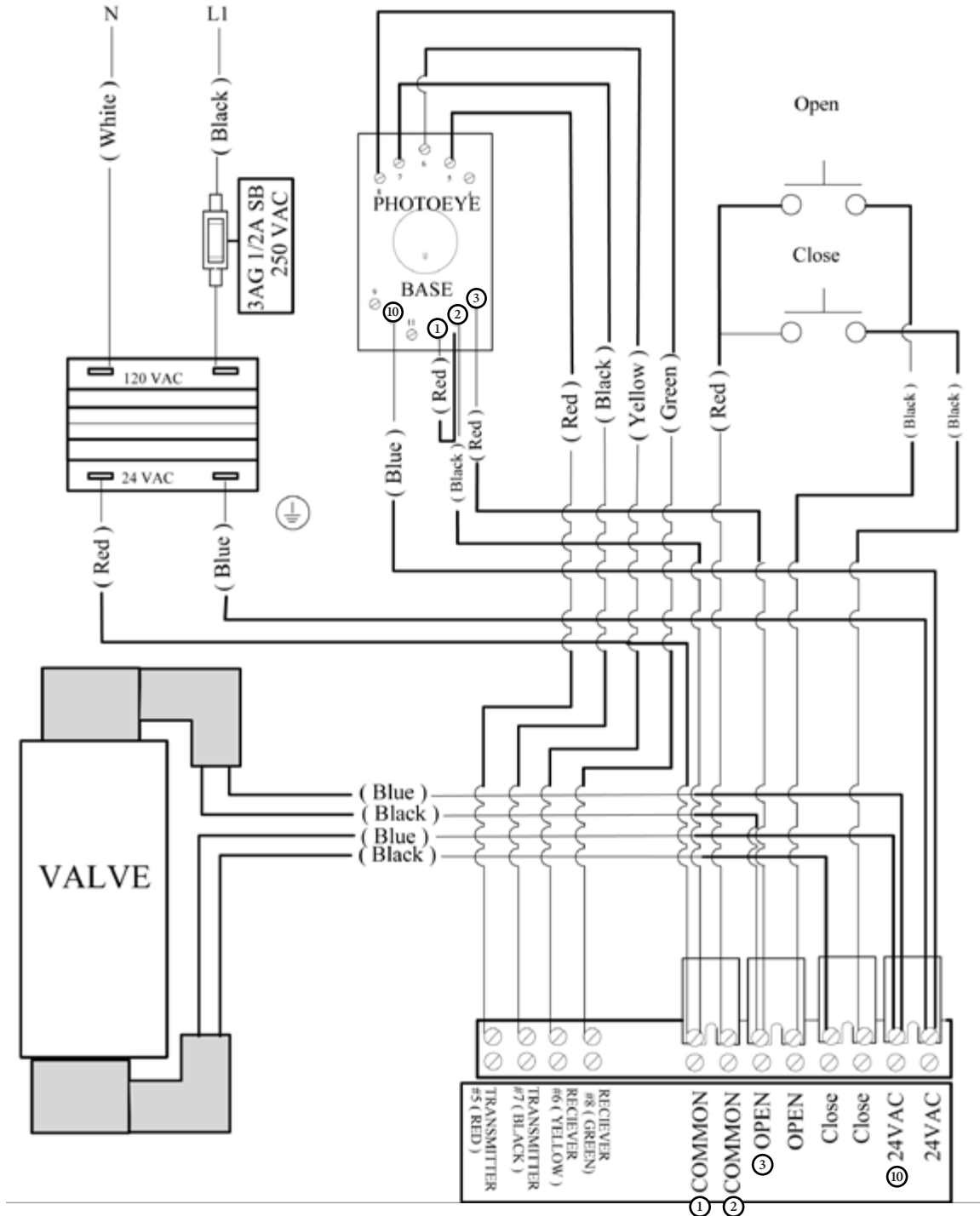
Also available from American Garage Door Supply Inc. is a large volume water separator for those applications that require much larger water separation. The inline liquid separator should be checked and cleaned monthly.



Control Box Wiring Diagram

SLA20-24

120 VAC
1 Phase (Primary Voltage)
24 VAC (Secondary Voltage)

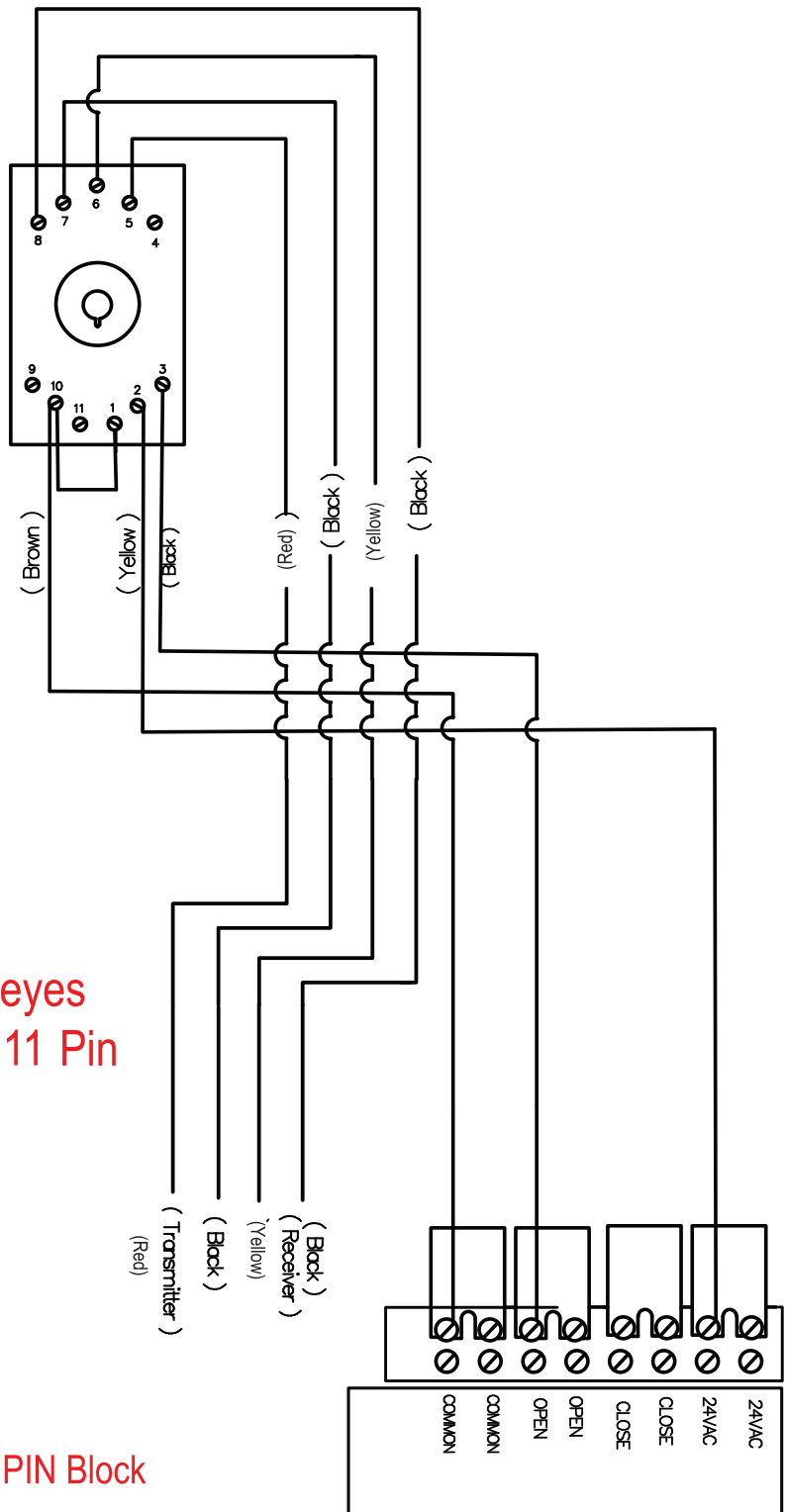


Control Box Wiring Diagram SLA20-24

Adding Second Set of Photo-Eyes with Close timer.

The 2nd set of Photo-eyes wires directly to the 11 Pin Base as shown here.

Wiring to 2nd PIN Block

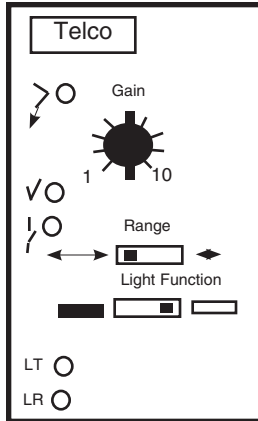


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Control Box Wiring Diagram
SupraLift & NuMax Operators
SLA20-24 7-2013 to Current

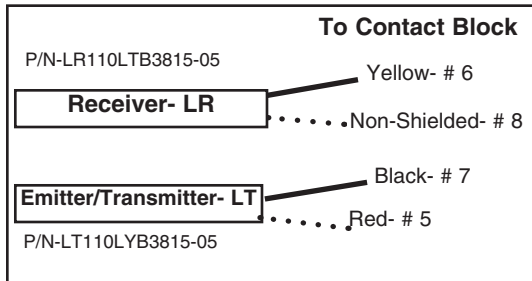
Telco Manual Amplifier Photoeye Wiring Diagram

Amplifier
Part # PA11-B302T-05

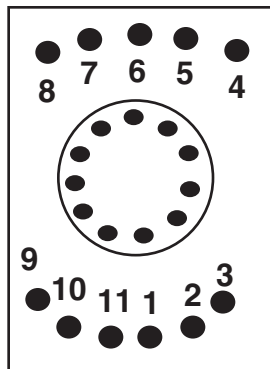


Range Switch should be set on **Long Range** $\longleftrightarrow$
Light Function Switch Should be set on **Light** $\square$
(Non-Failsafe Mode)

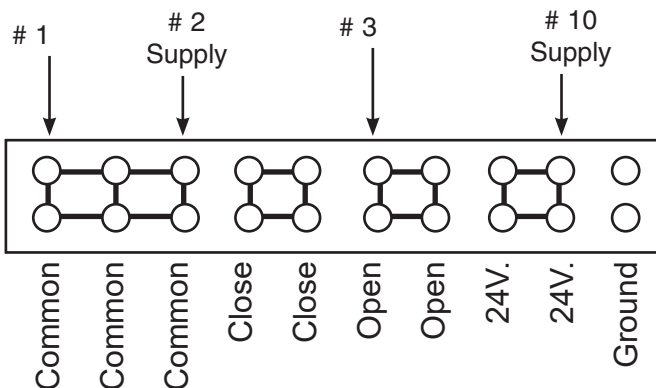
Photoeye Sensors



Contact Block 11 Pin Socket



Operator Terminal Strip



Wiring Eyes

Wire numbered terminals on contact block to appropriate numbers listed on Receiver, Transmitter and Terminal Strip. Once wired, plug in amplifier to 11 pin socket located on contact block.

Operation

Adjust gain adjustment on amplifier dial clockwise until green light turns on.

When adjusting, the eyes must be more that 5 feet apart.

Red LR or LT failure LED indicates a sensor failure. The failure can be due to a broken or shorted wiring or a defective sensor. Check wiring and if O.K, change the sensor.

Splicing

If sensor cables need to be lengthened. Splice cables with similar wire type and size. **Example-** Use shielded cable for shielded wire on sensor and use non-shielded wire for non-shielded sensor wire.

Attention!!!

This diagram shows photoeyes wired in non-failsafe mode. If you choose to wire in fail safe mode, wire #4 from the contact block to open on operator terminal strip instead of #3. The light function switch should be set to dark. $\blacksquare$

Warning: In failsafe mode, if either photoeye or system fails, the door will open automatically.

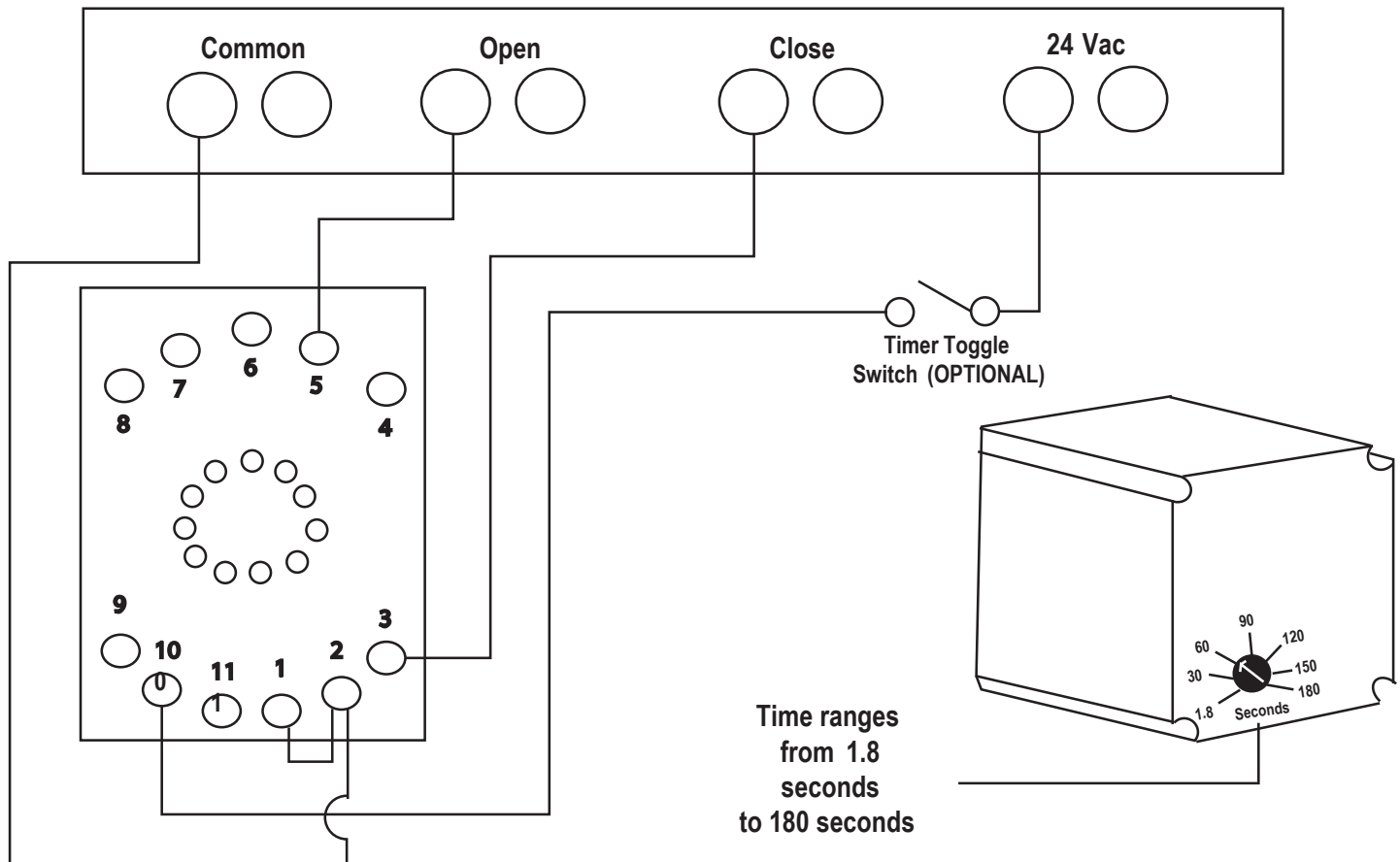
AmericanTM
garage door supply inc.

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www.carwashdoors.com

Note: This wiring Diagram is set up for Supralift & Numax Air-Powered Operators. For Electric Operators, please refer to electrical wiring diagram of your electric operator for terminal strip locations for Open, Common and 24 V. Power.

Macromatic Timer Wiring Diagram

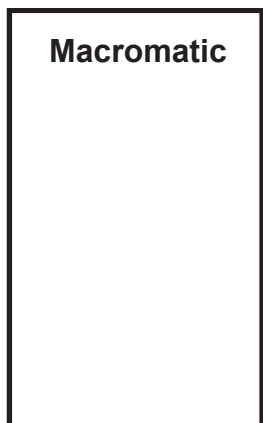
Standard Control Box



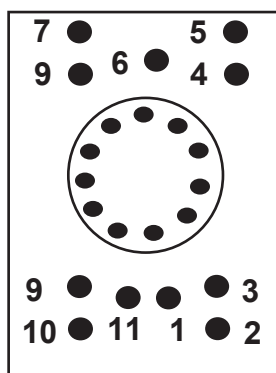
One Shot Macromatic Timer

Wiring Diagram - 120V or 24V

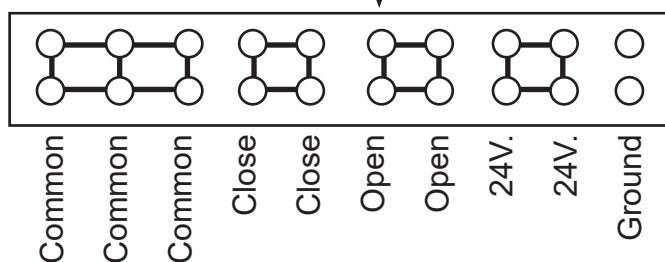
One Shot Timer



Contact Block 11 Pin Socket



1 # 3 This is an example of an
↓ ↓ Open signal. For Close,
 wire #3 to Close.



Wiring Contact Block

1. Primary Power to the Unit-

The Macromatic Time Delay Relay requires power at all times to power the unit. Wire primary power to the unit by connecting #2 and # 10 to the correct power source.

For 120VAC one shot timers use 120VAC (Polarity not important) or 120VDC (Polarity is important) Use the same rules for 24volt timer.

2. Power Trigger-

The power trigger is the input into the timer from your equipment or other electrical accessory that is triggering the timer to work. Use 5 and 7 on the contact block for connection to your incoming signal.

This signal should be a continuous signal with the same voltage as the timer primary power.

For 120VAC one shot timers use 120VAC (Polarity not important) or 120VDC (Polarity is important) Again for 24 Volt timers use the same rules.

3. Output to Opener-

Wire the contact block to your opener. Terminals 1 and 3 are normally open and 1 and 4 are normally closed. In most cases use 1 and 3. Wire 1 and 3 to the common and open or closed (dependent upon the functionality you require.)

Note: Other N.O and N.C contacts are available for multifunctionality and operate at the same time as the former mentioned terminals. N.C is 11 and 8 and N.O is 11 and 9.

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Note: This wiring Diagram is set up for Supralift & NuMax Air-Powered Operators only.

Wiring a Magnetic Contact Switch (MCS)

The Magnetic Contact Switch (MCS) wires inline between the common and the auxiliary device (photo eyes or reversing edge). The diagram is shown for photo eyes.

Step 1: Mount the contact switch on the door according to the enclosed directions.

Step 2: Remove the common wire connection from the 11 pin socket, located at the #1 position.

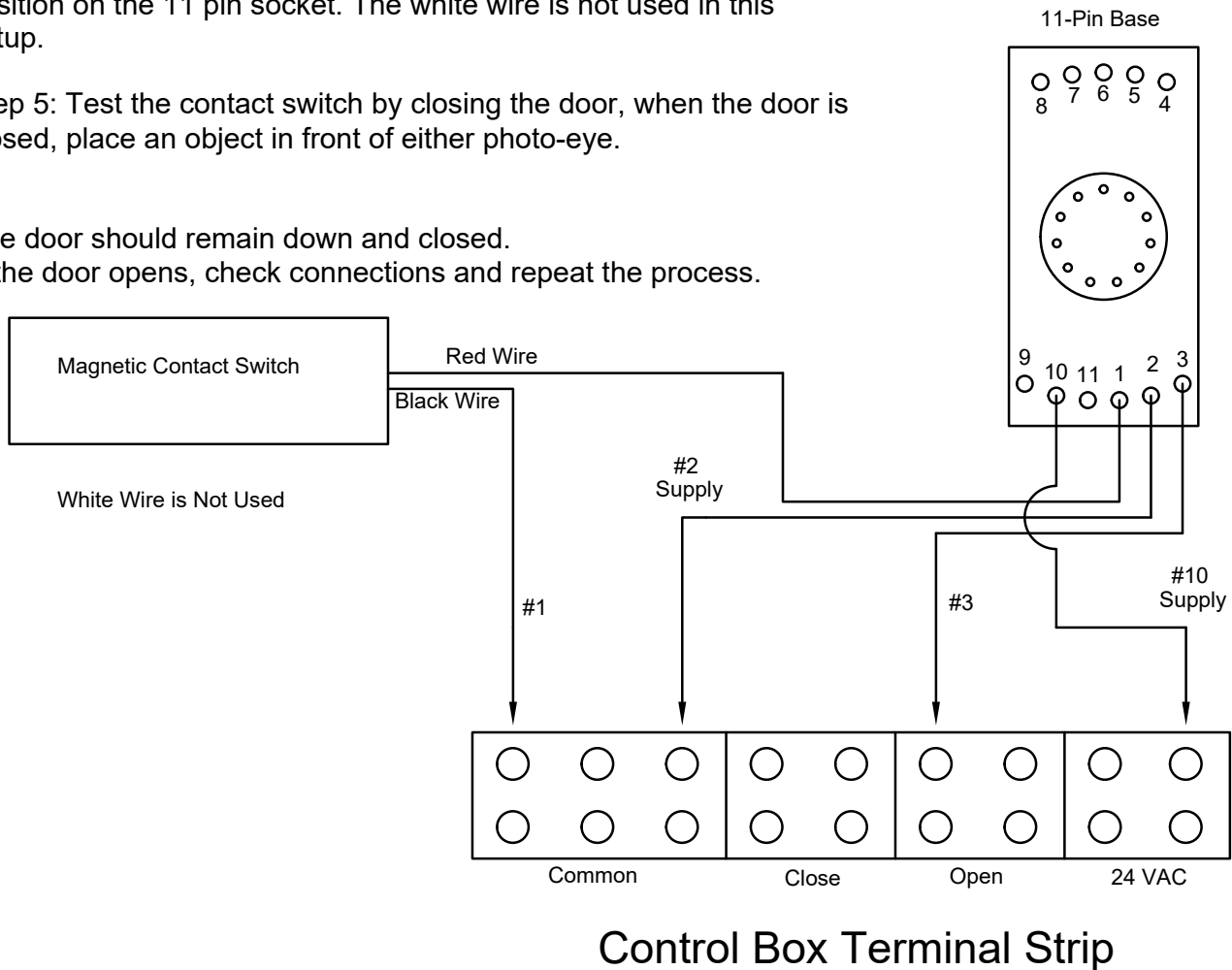
Step 3: Wire the BLACK wire from the contact switch to one of the common terminals on the terminal strip.

Step 4: Wire the RED wire from the contact switch to the #1 position on the 11 pin socket. The white wire is not used in this setup.

Step 5: Test the contact switch by closing the door, when the door is closed, place an object in front of either photo-eye.

The door should remain down and closed.
If the door opens, check connections and repeat the process.

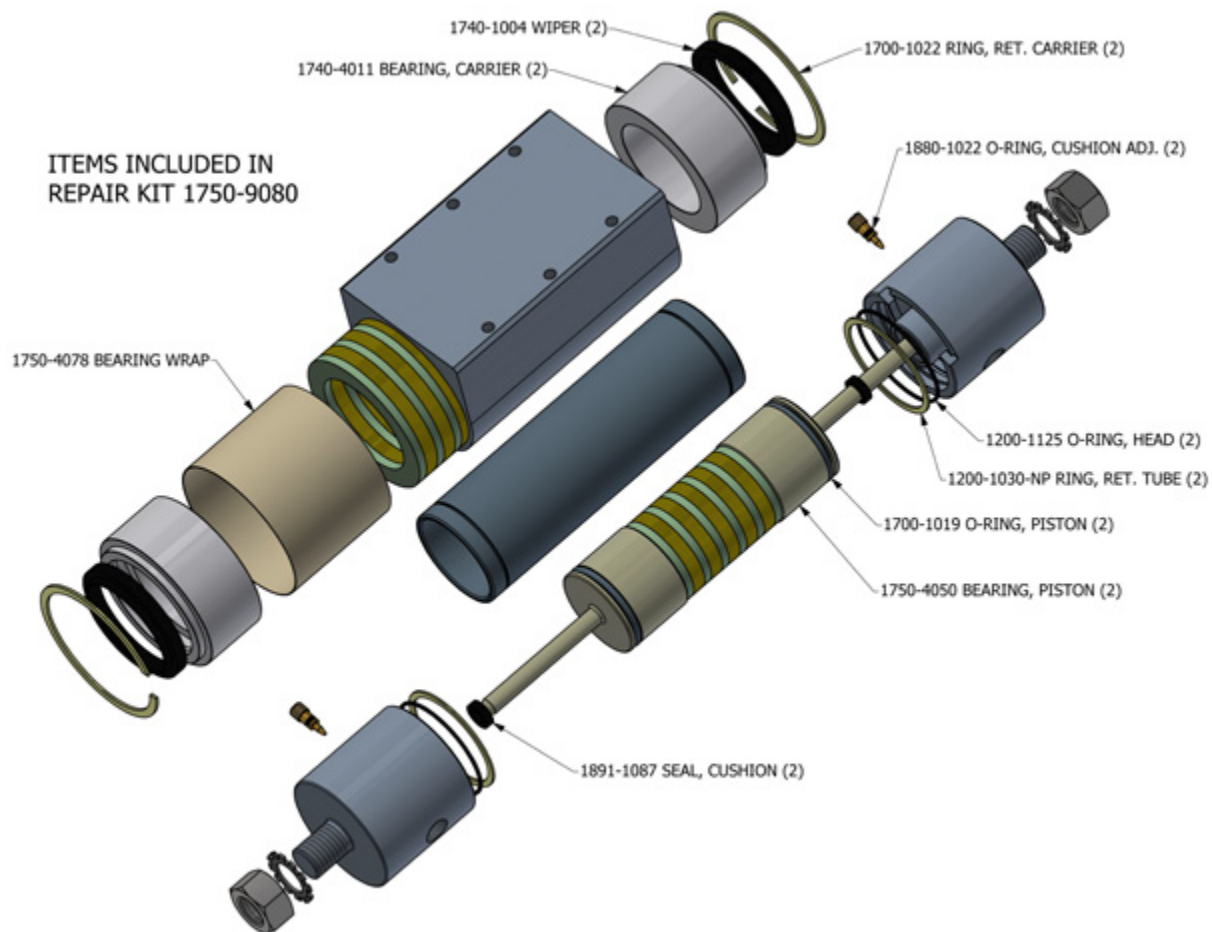
The purpose of the Magnetic Contact Switch (MCS) is to block the signal from auxiliary devices such as photo eyes or reversing edges. When the door is in the fully closed position and something breaks the photo eyes, the door will not open. Reversing edges require a shut-off device to prevent the door from reopening upon contact with the floor. The MCS will also prevent the door from opening if the photo eyes or reversing edge fails.



Monthly Maintenance

- Wipe down the cylinder tube, trolley slide and end caps. Clean **thoroughly**.
- Inspect cylinder for any damage. Damage to the cylinder tube will result in premature failure.
- Grease outside of carrier tube with 3-4 shots of Accro-lube Synthetic with PTFE, Super-Lube with PTFE, or comparable grease.
- Drain water from the system.
- Tighten all bolts and fasteners.

Cylinder Parts List





Numax™

Air-Powered Garage Door Openers

Three Year Limited Warranty

American Garage Door Supply, Inc. (Company) warrants to the original purchaser or original owner that all Numax Air Powered Garage Door Openers sold by American Garage Door Supply, Inc. and all parts thereof are free from defects in material and workmanship under normal use and service.

The company's sole obligation under this warranty shall be limited to furnishing replacement parts (F.O.B. Bemidji, Minnesota) for 36 months from the date of initial shipment by American Garage Door Supply Inc.

This warranty is void if the product warranted has been damaged by accident, abuse, misuse or neglect, negligence, improper installation or service, unauthorized modifications, misapplication or other use not arising out of defects in material and workmanship.

Warranty redemption requires verification of original purchase and ship date and completion of a return goods form. Returns are only accepted when a return authorization number has been provided by the Company before the product is returned.

General Conditions

The warranty set out in this certificate are the exclusive remedy for the original purchaser or owner in lieu of all other warranties; written, oral or implied (including any warranty of merchantability or fitness for purpose) and all other obligations or liabilities on the part of the Company. The Company neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with the sale, installation or use of the Numax Air Powered Garage Door Opener or any parts thereof.

The Company will not be responsible for labor or shipping and handling charges for the analysis of a defective condition or for the replacement and installation of defective parts.

The warranty herein shall be null and void if the Numax Air Powered Garage Door Opener is not installed or serviced according to the Company's Installation Manual and instruction.

Accessories and other components of the Numax Air Powered Garage Door Opener are not covered under this warranty. Items such as control boxes and components, airline, inline dryers, filter regulators, flow controls control stations, loop detectors, photoeyes and timers have separate warranties depending on the component/accessory and original manufacturer.

Written permission is required for the return of any parts or equipment and any such return must be on the basis of transportation charges prepaid.

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1225 Industrial Park Dr. SE
Bemidji, MN 56601
(800) 233-1487 Toll Free
www.carwashdoors.com

1-1-2026



Air-Powered Garage Door Openers Component and Accessories Warranties

American Garage Door Supply, Inc. (Company) will handle and manage the original manufacturer warranties to the original purchaser or original owner for all components and accessories manufactured by others and sold by American Garage Door Supply, Inc.

The company's sole obligation under this warranty shall be limited to presenting the defective component to the original manufacturer and furnishing replacement parts at normal pricing guidelines.

All accessories or components falling under this warranty statement will be presented by American Garage Door Supply Inc. to the original manufacturer for evaluation. Upon approval and credit by the original manufacturer for the defective product, credit will be made to the original purchaser for the invoice from American Garage Door Supply Inc. for the replacement product.

Warranty redemption requires verification of original purchase and ship date and completion of a return goods form. Returns are only accepted when a return authorization number has been provided by the Company before the product is returned.

General Conditions

The warranties set out in this certificate are the exclusive remedy for the original purchaser or owner in lieu of all other warranties; written, oral or implied (including any warranty of merchantability or fitness for purpose) and all other obligations or liabilities on the part of the Company. The Company neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with the sale, installation or use of the Components and Accessories or any parts thereof.

The Company will not be responsible for labor or shipping and handling charges for the analysis of a defective condition or for the replacement and installation of defective parts.

The warranties herein shall be null and void if the product is not installed according to the original manufacturer or is not installed or serviced according to the American Garage Door Supply's Installation Manual and instruction.

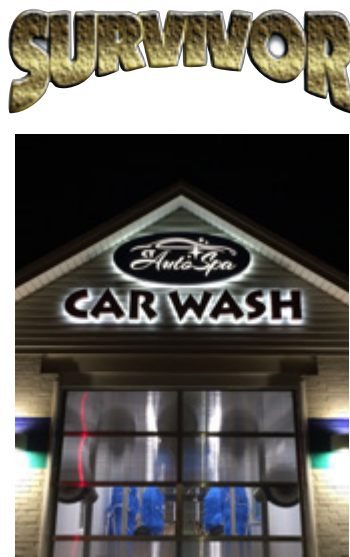
Main Valves-	1 Year (5 years If used with Parker Co. Filter Regulator)
Control Boxes-	1 Year
Filter Regulator	1 Year (5 years If used with Parker Co. Inline Dryer)
Inline Dryers -	1 Year
Telco Photoeyes-	3 Years
Macromatic Timers-	2 Year
NP2 Loop Detectors-	1 Year
PBK Control Stations-	1 Year

Written permission is required for the return of any parts or equipment and any such return must be on the basis of transportation charges prepaid.

American Garage Door Supply Inc.
1225 Industrial Park Dr. SE
Bemidji, MN 56601
(800) 233-1487 Toll Free
www.carwashdoors.com

3-1-2026

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In specifying American Garage Door Supply products for your project, you are focusing on our commitment to quality and reputation for excellence. Backed by over three and a half decades of experience, innovation and proven performance, American Garage Door Supply's door, operator, hardware and other products are the right choice to make your next project everything you need it to be. Call us today for more information about our high quality products, technical assistance or for a dealer near you.

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