



“BI-FOLD DOOR”

OPERATORS

MANUAL

PLEASE READ THIS MANUAL BEFORE OPERATING OR INSTALLING DOOR. IT IS IMPORTANT THAT THIS DOOR BE INSTALLED CORRECTLY IN ORDER TO ACHIEVE PROPER OPERATION AND ENSURE WARRANTABILITY.

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Midland Door Solutions Contact Info

Midland Door Solutions - "Bi-Fold Door"

Operating Instructions

Warning

** Do not operate door if any mechanical deficiency or problem is apparent**

Before Operating the Bi-fold Door:

1. Always disengage manual latches on both sides of the door (If applicable). Failure to do so will result in damage to the door or operator. If doors are installed with safety latch disconnect switches, be sure that the latch is tilted completely back on the rest. The latch disconnect switches prevent the door from operating if the latches are not fully disengaged.
2. Make sure all objects / persons are cleared away from the outward and upward / downward motion of the door.
3. Always close the walk-in service door (if equipped) securely before opening bi-fold door and remove cane bolt (if equipped) from floor.
4. Push "Open" or "Close" button as desired. Press "Stop" to stop door travel at desired height or the door will stop automatically at the full open or closed position.
5. Never leave the door unattended while the door is in operation.
6. Do not stand, work, walk or move equipment under door when it is in operation.
7. If you plan to leave the building, always close and latch the door securely and never leave the door in the open position if you will be leaving the area.
8. **Caution** - Keep door closed and latched during high winds(>30MPH). Failure to do so may result in damage to door and building or may cause serious injury or death. When operating door in windy conditions, please ensure all other openings are closed before operating the door to prevent damage to the door or latch mechanism.
9. When closing the Bi-Fold Door, please ensure the area under the door is clear of debris. If Bi-Fold door shuts on top of something. (Examples - Pallet, snow, ice, rock, heaving concrete or a high spot on ground under door). Note the door motors will keep spooling until the down limit is tripped in the control box. This may cause the cables or straps to become loose & may need to be adjusted. If out of adjustment it may be necessary to make sure the lifting cables are tracking on the lifting drums correctly. Cable lifting doors need to always be spooling tight from the left side of the drum to the right. There should never be a gap in between cables on the drum when spooling up or down. Keep cable spooling tight next to to itself. Never operate a door with the cables wrapped on top of itself.

Maintenance

Caution - Always disconnect power source before servicing the door. Only qualified technicians or licensed electricians should perform work on door. Failure to comply may result in serious injury or death.

1. Inspect all set screws on operator components (sheaves & sprockets) to insure they are tight 30 days after installation. Follow same procedure every 3 months.
2. Inspect all cables or straps every month for signs of wear or fraying. Replace any cables or straps showing signs of wear immediately.
3. Check oil level in gearbox every 6 months. If oil level is down, replace with synthetic gear oil recommended by manufacturer of gearbox.
4. Gearbox Chains should be checked for alignment and lightly lubricated with gear lube oil every 6 months.
5. The Limit Chain located on the side of the control box should be checked for alignment and lightly lubricated with gear lube oil every 6 months. Also check tightness of the set screw that holds the sprocket on the shaft.
6. After some initial use of the bi-fold door the cables (straps) may stretch a small amount. This is normal and adjustment of the cables (straps) or limit switches may be necessary. Adjustment of the lifting cables (straps) should be done when the door is in the closed and latched position.
7. Instructions for the door adjustment of the top and bottom limit switches can be found under the control box cover.
8. It is very important to maintain even cable tracking on the drum, although minimal cable "walk" is acceptable. The door is designed to have enough room on the drum for the cable to maintain proper alignment at full open position. If the cable becomes too loose due to initial cable stretch, improper limit set, or obstacles preventing the door from reaching full close, excessive cable "walk" will occur. Cables must be realigned on the drum and properly tensioned.
9. **Disconnect power supply to operator**
Open The Control Box & check all the screws in the box for tightness every 6 months (*Note: Be sure to even tighten the screws with no wires going to them*). Also be sure to check the screws on the open & close contactors. These are sunk down in the box & can be hard to locate. These are typically the screws holding the White block in the lower right part of the control box. As you can see this white block has 3 screws on the top & 3 on the bottom holding it in. This white block sits on top of a black block which also has 3 screws on top & 3 screws on the bottom holding it in. Be sure to check all these screws for tightness also.
10. If you are experiencing problems with your door, please contact a factory representative at 800-921-7008.

MAINTENANCE SCHEDULE

CAUTION: BEFORE SERVICING, ALWAYS DISCONNECT OPERATOR FROM POWER SUPPLY

Check at the intervals listed in the following chart

Item	Procedure	3 Months	6 Months	12 months
Cables	Check for fraying	*		*
	Check for alignment	*		*
	Check tension	*		*
Chain	Check for excessive slack	*		*
	Lubricate if necessary	*		*
Sprockets	Check Alignment	*		*
	Check set screw tightness	*		*
Sheaves	Check Alignment	*		*
	Check set screw tightness	*		*
Belt	Check condition & tension	*		*
Bearings	Lubricate if necessary		*	*
Fastners	Check & Tighten as necessary		*	*
Gearbox	Check oil level		*	*

** Inspect and service whenever a malfunction is observed or suspected **

How to order repair parts or service door

Please contact a Midland Door Solutions Representative
 1-800-921-7008
 Hours 8:00 a.m. to 5:00 p.m. CST
 Monday through Friday

We service all makes and models of Bi-fold Doors.
 If you need service on your Bi-fold, please give one of our reps a call.

TROUBLE SHOOTING GUIDE

PROBLEM	SOLUTION
Motor will not run	<ol style="list-style-type: none"> 1. No Power Power not connected to building, make sure breaker is not tripped, Replace circuit breaker, fuse 2. Reset button tripped Push reset button 3. Safety switch on latches Latch handle must be fully disengaged – whisker switch should not be bent over unless latched 4. Top Override Switch Remove switch & lower door -Replace immediately 5. Loose electrical connection Make sure all connections are tight, shut off power check all screws in control box for tightness. 6. Motor wired wrong Check wiring in motor 7. Defective Motor Replace motor
Motor hums but door does not move	<ol style="list-style-type: none"> 1. Latch engaged Disengage both latches 2. Motor sprocket set screw loose Tighten set screw 3. Brake does not release Check for correct voltage or make sure wires are connected properly 4. Motor defective Replace motor
Motor runs but makes a lot of noise and gets hot	<ol style="list-style-type: none"> 1. Brake not releasing Check for the correct voltage Check for low voltage, check pinched wires 2. No oil in gearbox Fill gearbox with oil 3. Defective Motor Replace motor
Door does not stop at preset stops	<ol style="list-style-type: none"> 1. Limit switches not set Set limits in control box 2. Limit switch not working Wire not connected to the correct switch
Motor will not start under load	<ol style="list-style-type: none"> 1. Low voltage Increase wire size to operator 2. No oil in gearbox Fill gear box 3. Brake not releasing Refer to prior steps
Door Jumps	<ol style="list-style-type: none"> 1. Bottom roller not turning Rubbing against rail Replace bottom roller 2. Cable not feeding properly Fell off sheave Sheave not turning 3. Bottom follower roller binding Rubbing against I-beam Adjust location of travel
Bad cable wind	<ol style="list-style-type: none"> 1. Cable drum not aligned properly Re-align cable drum 2. Cable attached to drum wrong Re-thread cables 3. Less than one wrap on drum Make sure there is one wrap around drum when door is closed 4. Door closed on object Open door, remove object, re-align drum
Operator makes clicking noise	<ol style="list-style-type: none"> 1. Chain & Sprocket out of alignment Adjust chain & sprocket 2. Worn sprocket Replace sprocket
Operator rattles	<ol style="list-style-type: none"> 1. Sheaves loose Tighten sheave 2. Brake vibrates Check solenoid contacts & voltage
Operator makes thumping	<ol style="list-style-type: none"> 1. Belt damaged Replace belt

TROUBLE SHOOTING GUIDE

PROBLEM	SOLUTION
Cable sheave worn one side more than the other	1. Sheave is out of alignment Re-align sheave
Belt rolls on back side	1. Sheaves out of alignment Re-align sheave 2. Belt worn or stretched Replace belt
Door difficult to latch shut	1. Bottom limit not set correctly Reset limits 2. Bottom rollers resting on ground, ice, or debris Clear debris from roller path 3. Other doors or windows open in building blow bi-fold outward Close other windows and doors
Brake does not release	1. Wrong voltage Check for correct voltage. Voltage must correspond to that listed on the nameplate. 2. Incorrect wiring or broken wires Find the connection or wiring fault. 3. Burned out coil Replace magnet assembly 4. Broken or damaged parts Replace
Brake does not stop properly	1. Brake is manually released Determine if manual release is in normal position 2. Worn friction disc Replace disc if worn to 1/8" thickness. If disc replacement is not required, adjust air gap 3. Broken or damaged parts Replace
Brake chatters or hums	1. Wrong voltage supply Check for low voltage, check for pinched wire on door 2. Dirty magnet faces To remove dirt, insert a clean sheet of paper between faces and energize brake. Move paper between faces to dislodge dirt and remove paper. 3. Loose or broken shading coil Replace magnet assembly
Manual release does not work	1. Improper setting See owners manual 2. Broken or damaged parts Replace

Bi-fold Door Trouble Shooting

Please note that Midland Bi-fold Door's installers use a generator to test the Bi-fold doors & set the limits so Bi-folds are working properly before they leave the sight. If there is an issue it is generally do to a lack of power or not enough power.

Caution - Always disconnect power source before trouble shooting the door. Trouble shooting should only be performed by a Qualified Technician or Licensed Electrician. Failure to comply may result in serious injury or death.

- √ Check to make sure 220 power is at the door by removing the cover of the black control box that is located to the left of the motor at the center of the Bi-fold door. Put a voltage tester on L-1 & L-2 to verify that there is 220 power coming to the door.
- √ Remove the cover of the black control box that is located to the left of the motor at the center of the Bi-fold door. Now make sure screws in the control box are all tight. Be sure to even tighten the screws that do not have anything running to them. These still have current flowing through them & if loose the current will not flow past them.
- √ Make sure the whisker switch at the door latch in the center of the Bi-Fold is not tripped or pushed over. This will send a signal to the controls to not run the latch is in locked position. You may need to wiggle the whisker around.
- √ Make sure the cord you are powering the Bi-fold with is capable of 220 power or more. Refer to the wire size chart on the next page.
- √ Make sure the cord you are powering the Bi-fold with is not too long or coming from a power source that is too far away. This may cause a voltage drop which can damage the controls or motors.

ELECTRICAL REQUIREMENTS

- SAFETY:**
1. Wiring of the door should be done by a qualified electrician.
 2. Always disconnect the power source before servicing the door.

The door is equipped with electrical wiring from the factory for both the power supply and the control circuits. This wiring is intended to facilitate testing, setting the limit switches and for temporary use. It is the responsibility of the owner to provide permanent wiring to meet the local electrical code.

Wiring diagrams for the operator can be found on the inside cover of the control box.

Wire size requirements:

- Control circuits (24 VAC) should use 16 gauge wire minimum.

Power voltage and horsepower are listed on the control box and motor. The following chart can be used to determine the appropriate wire size for your application.

MINIMUM WIRE SIZES FOR SINGLE PHASE MOTORS

115 volt

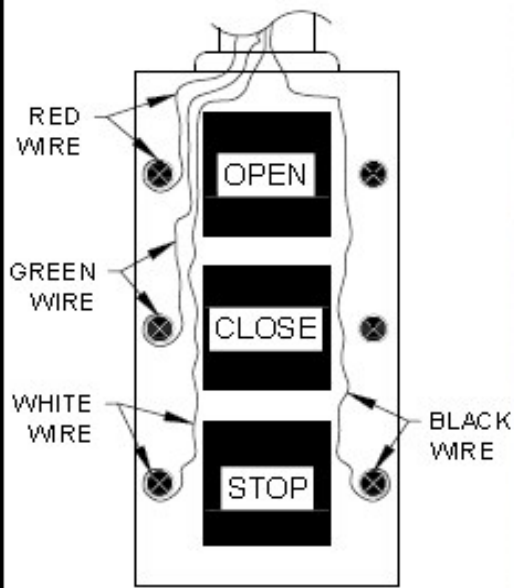
Motor HP	25 feet	50 feet	100 feet	150 feet	200 feet
1	12 ga.	10 ga.	8 ga.	8 ga.	8 ga.

230 volt

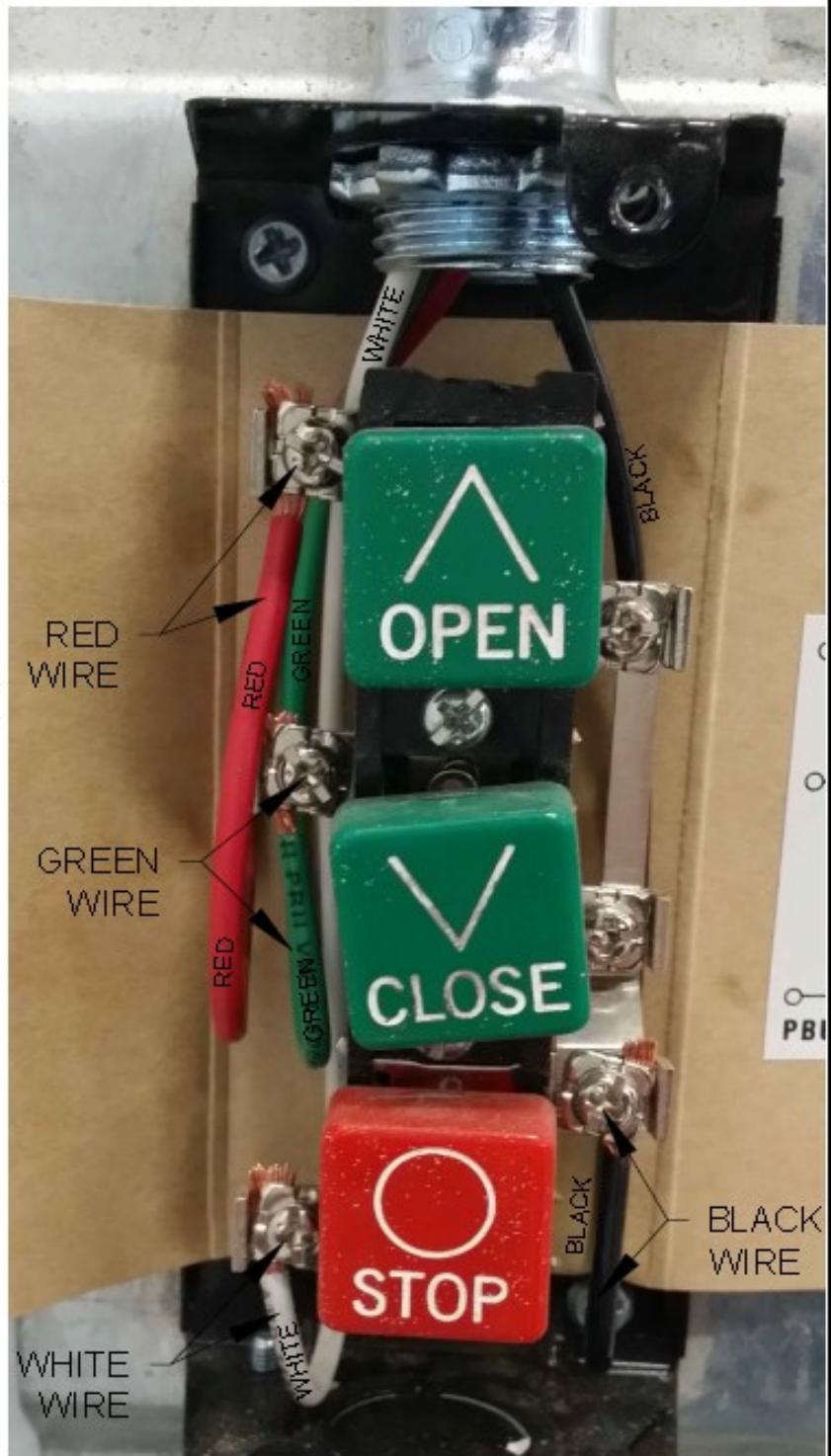
Motor HP	25 feet	50 feet	100 feet	150 feet	200 feet
1	14 ga.	12 ga.	10 ga.	8 ga.	8 ga.
1-1/2	14 ga.	12 ga.	10 ga.	8 ga.	6 ga.
(2) 1	14 ga.	12 ga.	8 ga.	6 ga.	6 ga.
(2) 1-1/2	10 ga.	10 ga.	8 ga.	6 ga.	4 ga.

MINIMUM WIRE SIZES FOR THREE PHASE MOTORS

Motor HP	25—50 feet			100 feet			150—200 feet		
	208 V	230 V	460 V	208 V	230 V	460 V	208 V	230 V	460 V
1	14 ga.	14 ga.	14 ga.	10 ga.	12 ga.	14 ga.	8 ga.	10 ga.	14 ga.
1-1/2	12 ga.	14 ga.	14 ga.	10 ga.	10 ga.	14 ga.	6 ga.	8 ga.	14 ga.
(2) 1	12 ga.	12 ga.	14 ga.	8 ga.	10 ga.	14 ga.	6 ga.	6 ga.	12 ga.
(2) 1-1/2	10 ga.	12 ga.	14 ga.	8 ga.	8 ga.	14 ga.	4 ga.	6 ga.	12 ga.



**STANDARD PUSH BUTTON
WIRING DIAGRAM**
NOT TO SCALE



1021-7th ST NE
WEST FARGO, ND 58078

STANDARD PUSH BUTTON
WIRING DIAGRAM

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1-800-921-7008

FAX:
701-277-8961

DRAWING
NUMBER

PB-1



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