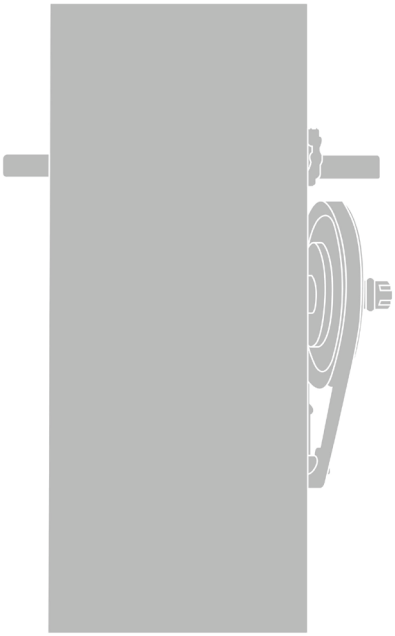
Pro-LT



Automation for sectional overhead doors

Instructions and warnings for installation and use

Nice

Contents

Warranty

NICE NORTH AMERICA warrants that materials and workmanship are free from defects for a period of four (4) years or 50,000 cycles, whichever comes first. The start of the warranty will be determined by the date of invoice. Materials returned to Nice deemed defective after examination will be returned at the option of Nice with repaired, new, or re-manufactured parts.

NICE NORTH AMERICA will not be responsible for any charges incurred in the process of returning defective material. All returned material must be received pre-paid, or it will not be accepted.

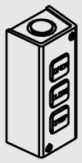
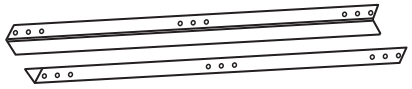
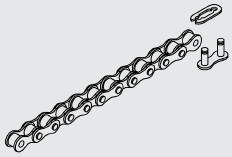
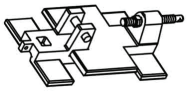
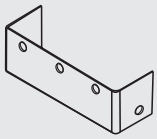
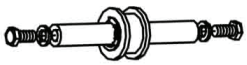
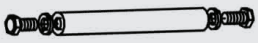
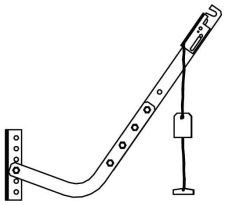
This warranty is limited, and in lieu of all other warranties expressed or implied. There is no expressed liability due on the part of the seller.

⚠ WARNING ⚠

DO NOT CONNECT TO ELECTRICAL POWER DURING INSTALLATION OR SERVICING OF OPERATOR.

Verification of Operator and Hardware

Upon delivery of your Nice medium-duty trolley door operator, please inspect the unit carefully for damage. Verify that operator horsepower, voltage, phase and amperage correspond to available power supply and door application. Ensure that along with your operator, you have received the following standard hardware:

1 x OPEN/CLOSE/STOP 3-button control station	
1 x Set of trolley tracks (door height+ 2'6")	
1 x Drive chain package (door height x 2; 5' 6" (1.65m) c/w connecting link)	
1 x Trolley carriage and 3/8 take-up bolt assembly	
1 x Trolley track end bracket	
1 x Front idler	
2 x Trolley spreader bars	
1 x Trolley arm assembly	
1 x Set of Warning Signs	

IMPORTANT

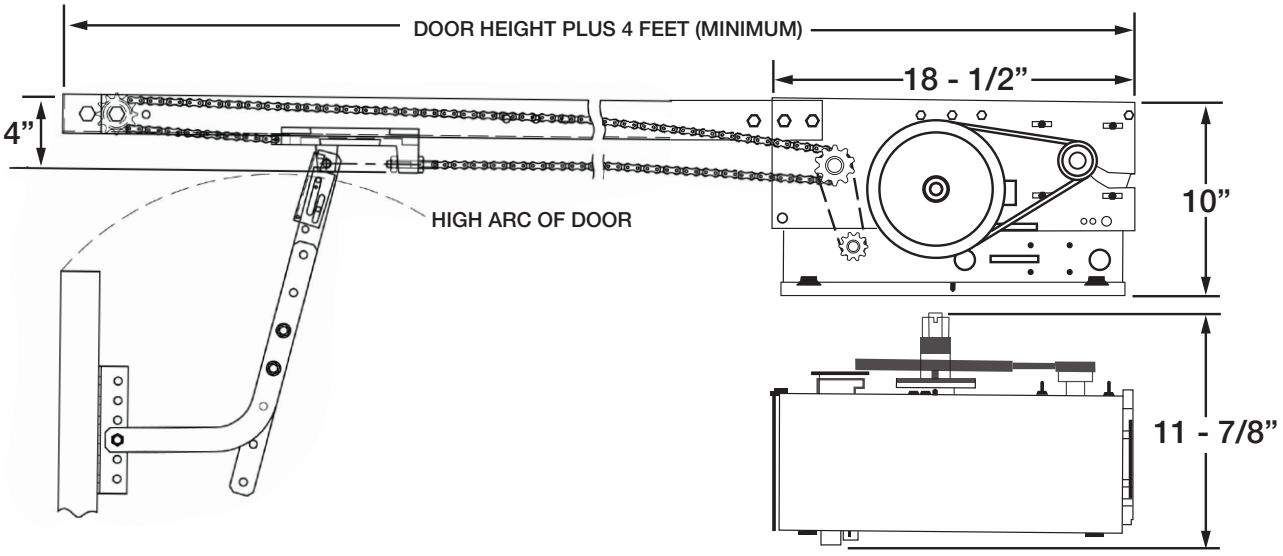
FOR ANY QUESTIONS CONCERNING THE SAFETY OR OPERATION OF THIS OPERATOR PLEASE CONTACT NICE AT I-877-888-1116.

Specifications : Pro-LT

PRO-LT medium duty trolley operator is designed for standard lift overhead sectional garage doors with low duty cycles.

Standard Operator Weight	40-45 lbs	
Motor		
• Horsepower	1/2 HP	
• Motor	Intermittent duty 1000 RPM motor with high starting torque.	
• Thermally protected by a built-in thermostat that cuts power to the motor and control circuit when overheating.		
• Voltage	115V 1-phase	220V 1-phase
Reduction	**Primary:** (4L) V-belt and pulleys (1.5'' to 7" diameter) **Secondary:** #41 chain and sprockets	
Output Shaft Speed	90 RPM	
Door Speed	9"/second	
Solenoid Brake (optional)	Solenoid Brake system available for model PRO-LTB.	
Wiring Type (Standard)	C-2 Wiring constant pressure on close, momentary contact on open and stop. Wired to accept reversing edge, radio control, photocells, loops and OPEN/CLOSE devices. **NOTE:** If momentary contact on close (B2) wiring is desired: Re-install the purple wire onto terminal #5.	
Transformer	24V AC control circuit, supplies power to drive control relays with 15V A power available for external devices.	
Limit Adjustment	4 micro switches that control door travel. These limit switches are activated by fully adjustable screw type cams.	
Emergency Disconnect	Quick release disconnect door arm to allow person to disengage operator drive chain from door for manual operation.	
Clutch	Adjustable friction clutch to minimize damage to door operator, door or vehicles.	

Operator Dimensions:



Safety Instructions

⚠ WARNING ⚠

TO REDUCE THE RISK OF INJURY OR DEATH: READ AND FOLLOW ALL INSTRUCTIONS.

- Do not allow children to play with door.
- Before installation, be sure that operator is suited for type of door and application
- Connect a reversing device to prevent entrapment if door is located near pedestrian traffic. Place control device within clear sight of the door but at a minimum distance from the door so that user cannot reach moving door parts when operating.
- Outdoor external devices should have security features to prevent unauthorized operation of the door. Never cross under a moving door.
- Press the "OPEN" device or activate quick release disconnect device if a person is trapped under the door.
- Do not use disconnect mechanism or manually operate door unless power has been electrically disconnected.
- Keep doors properly maintained. Test door and service regularly. Have a qualified service person make repairs. An unmaintained door system could cause injury or death.

Installation Instructions

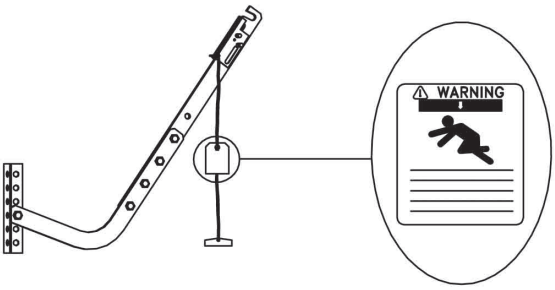
⚠ WARNING ⚠

DO NOT INSTALL THIS OPERATOR BEFORE READING THIS MANUAL CAREFULLY.

NOTE :

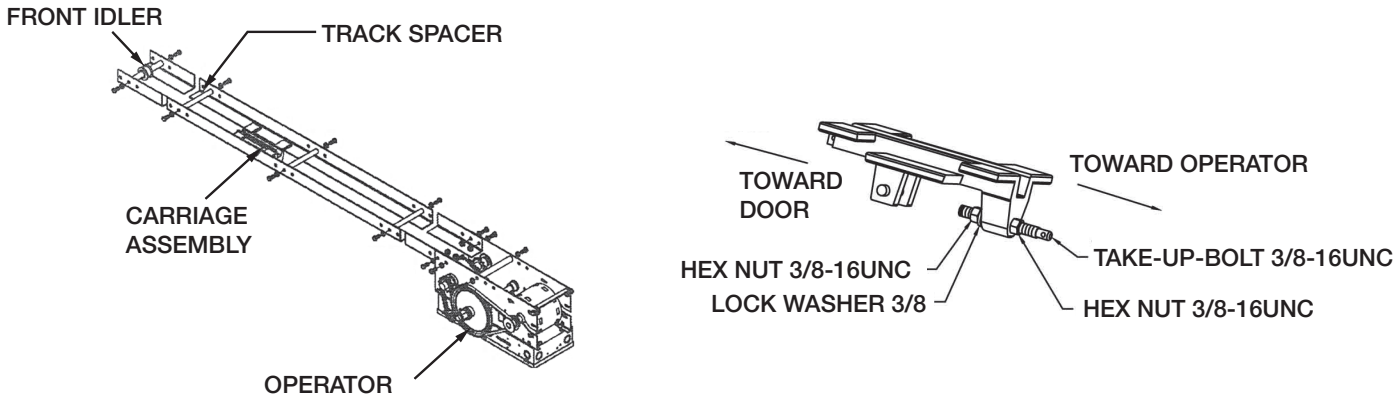
- Installation of operator must be done by a qualified installer. The door must be properly installed and working smoothly. Remove all door locks prior to installation.

1. Install the control station away from all moving door parts, within sight of the door and a minimum of 5 ft (1.5 m) from the ground.
2. Install the entrapment warning sign next to control station.
3. Do not remove the emergency release tag attached to disconnect handle.

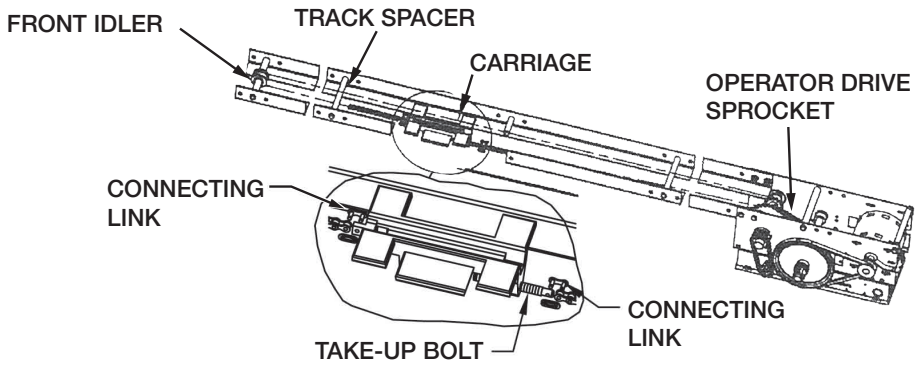


Preparation

1. Lay out the operator and trolley tracks on ground in front of door with door operator motor facing away from door.
2. Install the track spacers evenly to track assembly.
3. Install a 3/8" take-up bolt to carriage using two 3/8" hex nuts and lock washer provided.
4. Slide the trolley carriage through the end of the tracks towards operator with the take-up bolt facing operator.
5. Install the front idler assembly to the second set of bolts at the end of the trolley tracks.
6. Bolt the rail assembly to the operator frame using four 3/8" x 3/4" bolts and 3/8" serrated hex nuts provided.



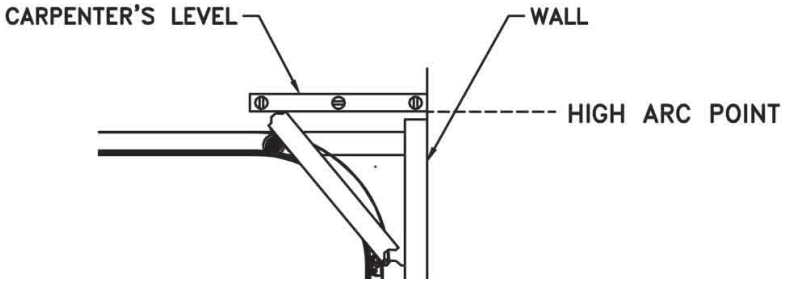
7. Attach one end of drive chain to carriage using the connecting link provided. Run the chain around front idler, over the track spacers, around the drive sprocket and connect to the take-up-bolt using the connecting link provided. Adjust the take-up-bolt so that the chain sags approximately 3" (7.5 cm) at midpoint of the tracks. Remove links from drive chain, if necessary, to make proper adjustment.



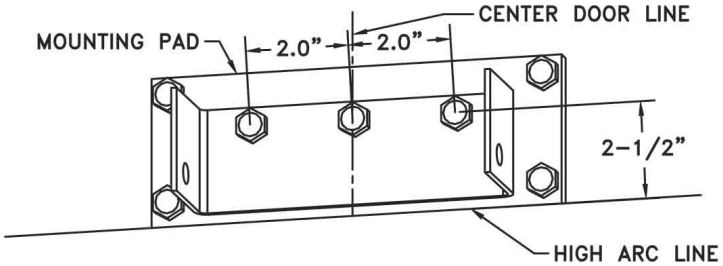
Wall Mounting Bracket and Operator Installation

NOTE: Trolley type operators should generally be mounted directly over the center of the door, and the trolley tracks should clear the tracks by 2-1/2" (6.5 cm). However, if interfering structures or other reasons do not allow for centered mounting, it is possible to install it up to 18" off-center for torsion spring doors.

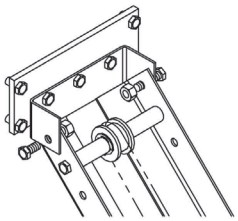
1. Locate the center of the door by measuring door width, and mark a vertical line above the door.
2. Determine the highest point of the door travel by manually opening the door. Using a carpenter's level, project a line from where the top section of the door reaches its highest point. Mark the spot where this line (high arc) intersects with the vertical line drawn earlier.



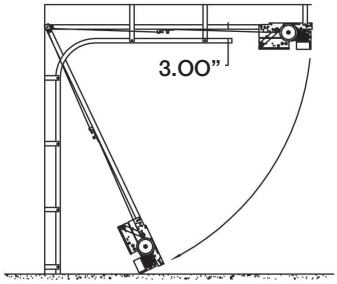
3. Mount a wood block or angle iron to the wall above the door opening (as shown below). The wall mounting bracket has 3 holes for anchoring to the wood block or angle iron. The bracket should be centered with the door and positioned so that these holes are 2-1/2" (6.5 cm) above the high arc line of the door. Secure the wall mounting bracket using suitable hardware.



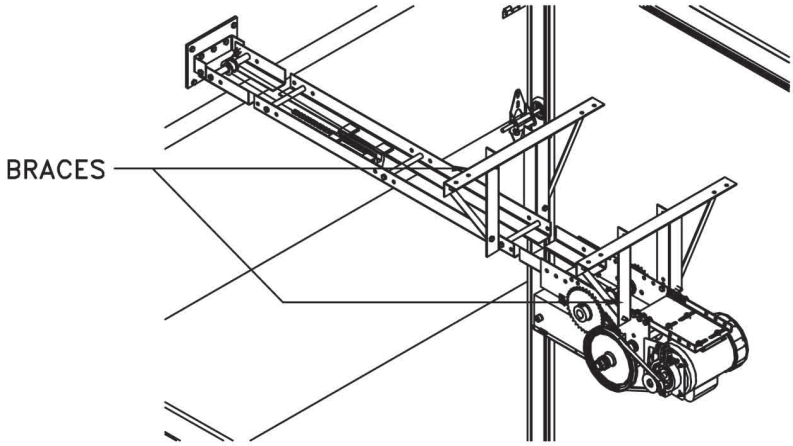
4. While allowing motor to rest on floor, raise the front end of the track assembly, and secure (but not tighten) to the wall mounting brackets with 3/8" bolts and nuts provided.



5. Swing the operator and track assembly above the level of the door tracks, and temporarily secure in place with the rope or chain. Carefully open the door. Align the operator and rails with the center of door. Using the door as support, shim the operator so that there is 3" (7.5cm) clearance between the door and bottom of the operator. Tighten the wall mounting bracket bolts.

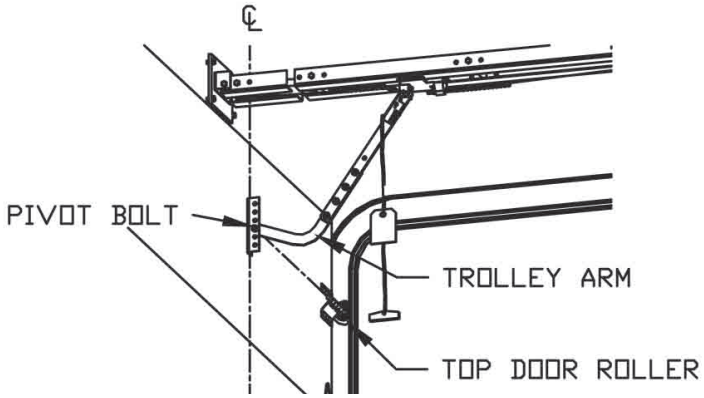


6. Install hanging brackets (braces) from the ceiling or structure to any of the 3/8" holes located on the operator frame. For tracks over 14' long, it is recommended to install braces to the tracks at 4' (1.2m) to 5' (1.5m) from the operator.

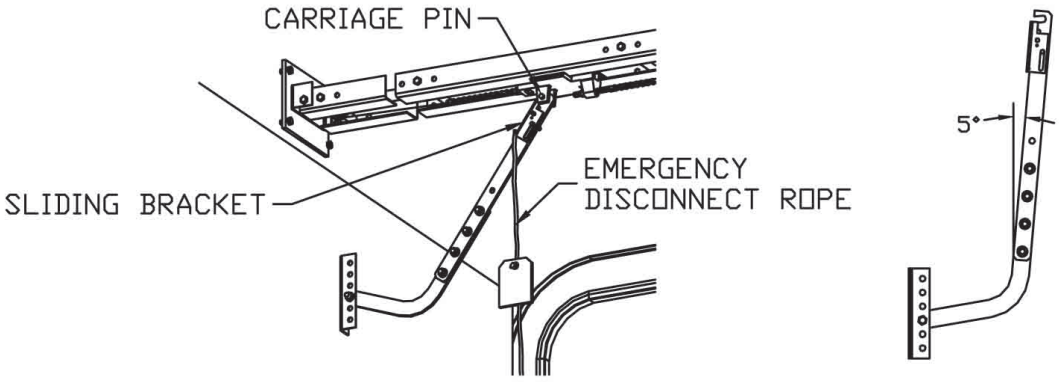


Trolley Arm Installation

1. Manually close the door to the fully closed position. Slide the trolley carriage towards the front idler, and latch the trolley arm to the carriage spring pin by pulling on the rope. When installed, the open side of the notch should face the door.
2. Using the 3/8" bolts and nuts provided, align the mounting holes of the straight arm and curved arm so that the pivot bolt on door bracket is in line with the top rollers of the door. Align door bracket with centerline of door, and secure to the door using suitable hardware.



3. When properly installed, the door arm should lean slightly away from the door when the door is fully closed.



4. At this time, check all bolts for tightness.

Limit Switch Adjustments

Adjustment of door travel is done by moving the limit cams on the threaded shaft. The position of the 4 limit switches are factory adjusted and should not be modified. The limit switches are:

- **"Open" limit switch:** End of door travel in the fully open position
- **"Closed" limit switch:** End of door travel in the fully closed position
- **"Advanced Open" limit Switch:** Used for open/close devices or tinier lo close features
- **"Advanced Closed" limit switch:** Used to prevent reversing device from reversing door when door is almost fully closed.

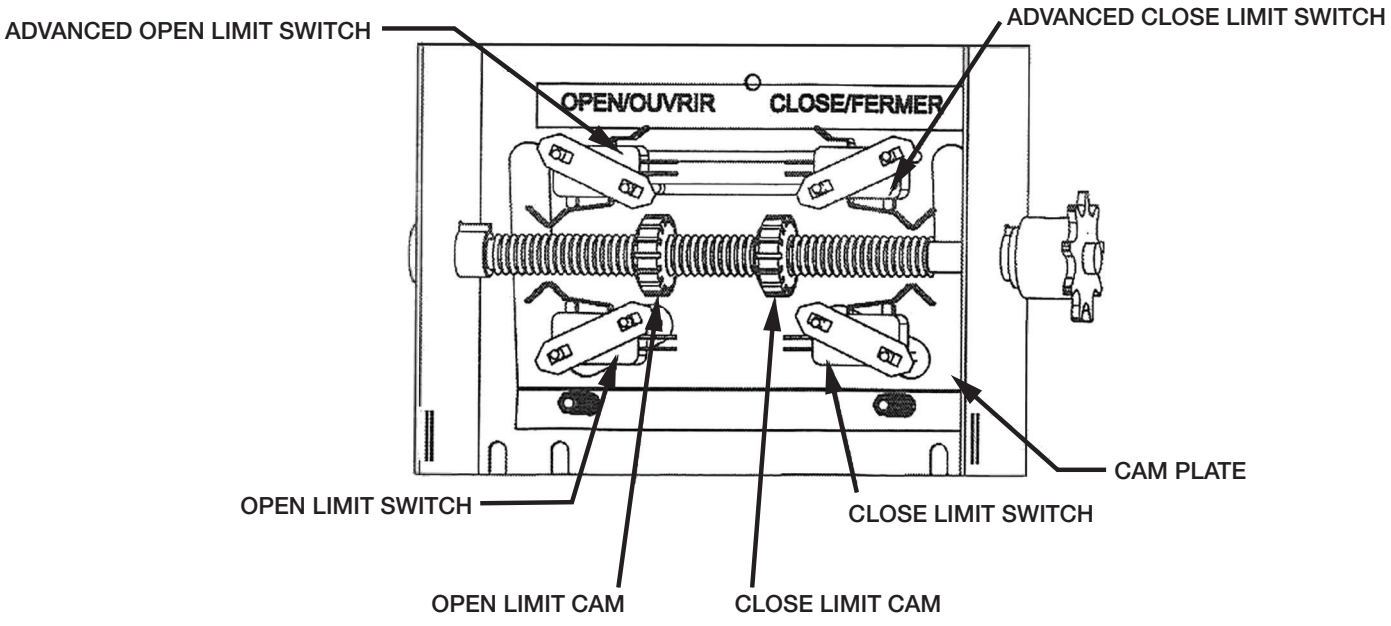
⚠ WARNING ⚠

TO REDUCE THE RISK OF INJURY OR DEATH:

DO NOT ATTEMPT TO MAKE LIMIT SWITCH ADJUSTMENTS UNLESS POWER HAS BEEN ELECTRICALLY DISCONNECTED.

To adjust door travel:

1. **Open cycle:** Depress the cam plate, and spin the "Open" limit cam away from the "Open" limit switch to increase door travel; or spin the "Open" limit cam toward the "Open" limit switch to decrease door travel. After each adjustment, ensure that the cam plate fully engages in the slots of both limit nuts.
2. Adjust the "Open" limit cam so that door stops at the desired fully open position.
3. **Close cycle:** Depress the cam plate and spin the "Close" limit cam away from the "Close" limit switch to increase door travel; or spin the "Close" limit cam toward the "Close" limit switch to decrease door travel. After each adjustment, ensure that the cam plate fully engages in the slots of both limit nuts.
4. Adjust the "Close" limit cam so that the door stops at the desired fully closed position.



Connection of Power Supply and Control Station

⚠ WARNING ⚠

COMPARE THE AVAILABLE POWER SUPPLY VOLTAGE TO OPERATOR NAMEPLATE PRIOR TO ELECTRICAL CONNECTION. FAILURE TO CONNECT APPROPRIATE POWER SUPPLY VOLTAGE MAY CAUSE SERIOUS DAMAGE TO OPERATOR.

Refer to electrical diagrams inside control box cover or at the end of this manual prior to connection of power supply or control station.

⚠ WARNING ⚠

TO REDUCE THE RISK OF INJURY OR DEATH:

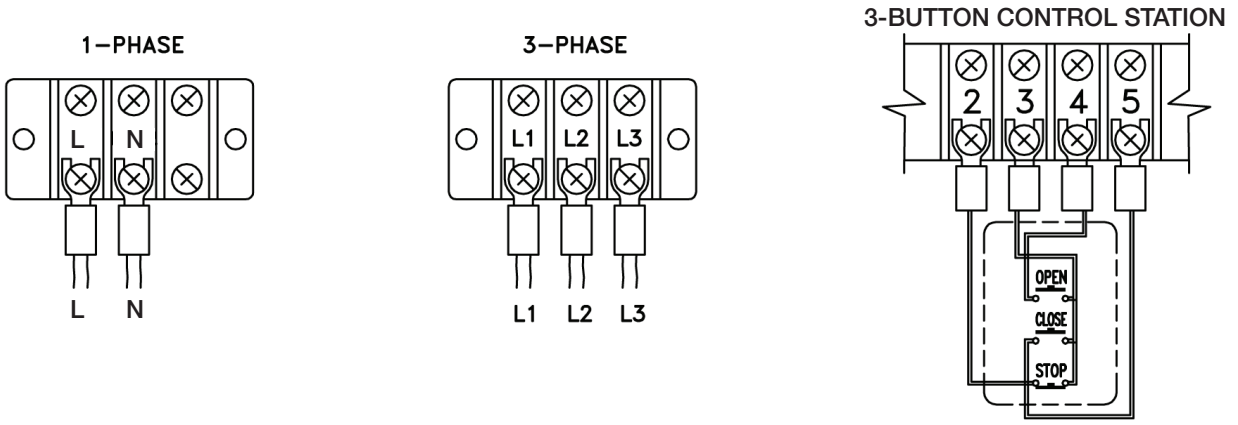
ALL ELECTRICAL CONNECTIONS SHOULD BE MADE BY A QUALIFIED SERVICE PERSON.

DO NOT ATTEMPT TO MAKE ELECTRICAL CONNECTIONS TO OPERATOR UNLESS POWER SUPPLY HAS BEEN DISCONNECTED AT FUSE BOX

THE OPERATOR MUST BE CONNECTED IN ACCORDANCE TO LOCAL ELECTRICAL CODES AND GROUNDED TO GREEN GROUND LUG LOCATED INSIDE CONTROL BOX.

POWER WIRING: Use 1-1/8" (2.85 cm) diameter holes for all power wiring.

1. Connect the single phase power supply to terminals L (line) and N (neutral) on three-pole power terminal strip.



CONTROL WIRING: Use 7/8" (2.22 cm) diameter holes for all control.

NOTE: Do not run control wires and power wires in same conduit.

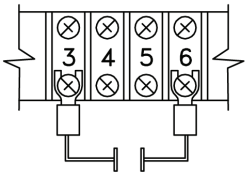
- Install the control station within clear sight of door but away from all moving parts of the door or hardware. Install the **Entrapment Warning** sign next to control station. Connect the 3-button (open/close/stop) push button station to terminals 2, 3, 4 and 5. Refer to the electrical diagram for connection of two 3-button stations.

NOTE: After electrical connections are made, manually move the door to the mid-position. Using the control station, press the "Open" button for several seconds and then press the "Stop" button. If the door did not move in the correct direction, verify the control station wiring.

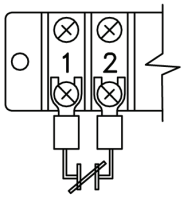
Connection of a Reversing Edge Device and Control Accessories

1. **Reversing Edge device (must be normally open contact):**

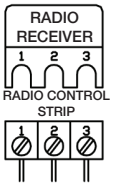
   NOTE: If the door is controlled by any device or wired in such a manner that the door is not controlled by constant pressure on close, an appropriate reversing edge must be installed.

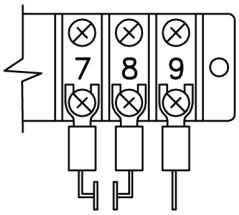


2. **External interlock:** Remove the jumper between terminals 1 and 2, and wire the interlock between these two terminals.

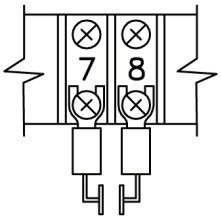


3. **Radio control receiver:** Wire standard radio receiver to separate radio strip on side of control box or to terminals 7, 8 and 9 on the control terminal strip inside control box.

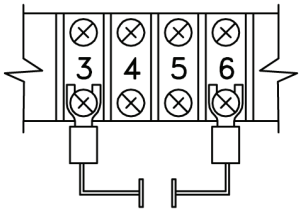




4. **Single button open/close device:** Wire to terminals 7 and 8 on the control terminal strip.

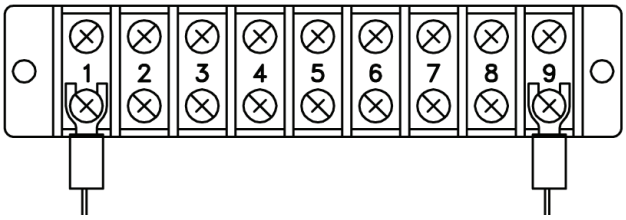


5. **Loop detectors, photocells and other reversing devices:** Wire to terminals 3 and 6 on the control terminal strip.



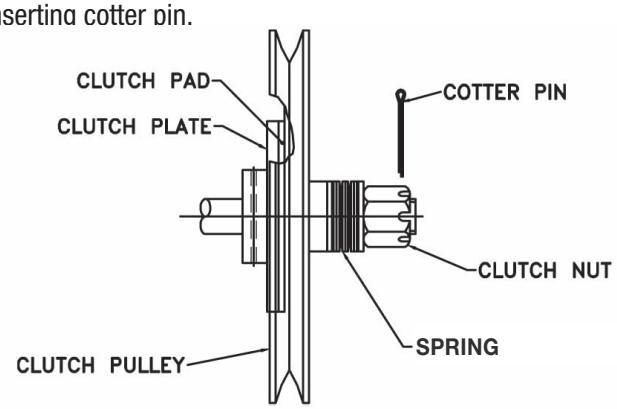
6. **24 Volt power:** Wire to terminals 1 and 9 on the control terminal strip.

CONTROL TERMINAL STRIP



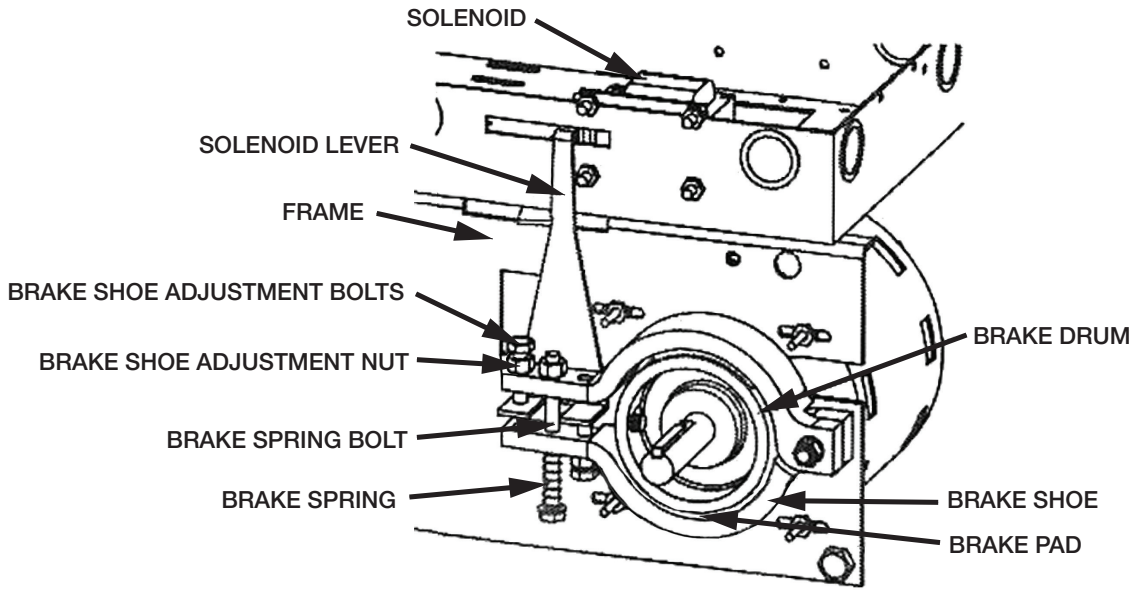
Clutch Adjustment

1. Remove the cotter pin taped to pulley.
2. Rotate the clutch nut counterclockwise (to loosen) until there is insufficient tension to permit the clutch to drive the door.
3. Gradually tighten the clutch nut until the tension on the spring washers is sufficient to permit the clutch to drive the door smoothly, while still allowing the clutch to slip if the door is obstructed. It should be possible to stop moving the door by hand if the clutch is properly adjusted.
4. Lock clutch nut in place by inserting cotter pin.



Brake Adjustment (For PRO-LTB only)

- The brake adjustment is factory set and should only require minor adjustment after extensive use.
- Verify the brake adjustment by manually holding in the solenoid plunger. When the brake is properly adjusted, the brake shoe pads should make complete contact with the brake drum with sufficient brake spring tension to stop and maintain the door when the solenoid is de-energized. When the solenoid is energized, the brake shoes should release from drum with sufficient clearance to avoid contact between the shoes and drum.
- To adjust brake tension, tighten (to increase) or loosen (to decrease) the nylon lock nut on the brake spring bolt. Observe the solenoid during the electrical testing of brake. Brake spring tension must be adjusted so that the solenoid should pull and release smoothly and quietly. Too much or too little tension on the brake spring may cause solenoid to bum out.
- To adjust individual brake shoes, loosen the nut on the brake shoe adjustment bolt, and adjust the bolt. When properly adjusted, there should be a small clearance between the adjustment bolt and the solenoid bracket when the solenoid is de-energized. When the solenoid is energized, the brake shoes should move away from the drum with sufficient clearance to avoid friction between the brake shoe pad and drum. After adjustments are made, be certain to tighten the nuts on the brake shoe adjustment bolts.



Emergency Manual Operation

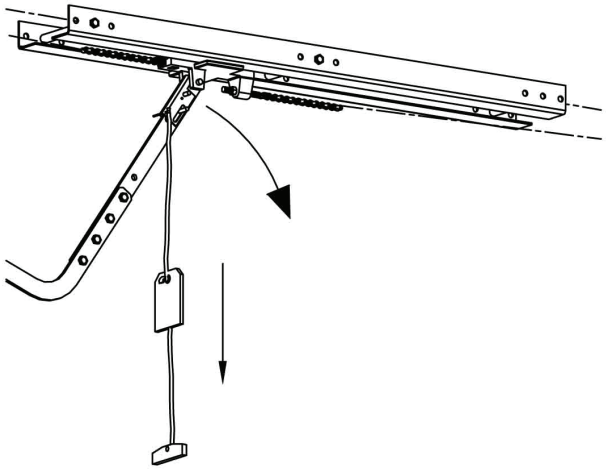
- The operator is equipped with a quick release disconnect system to manually operate door in case of emergency. This feature should not be used to manually operate a malfunctioning door.

⚠ WARNING ⚠

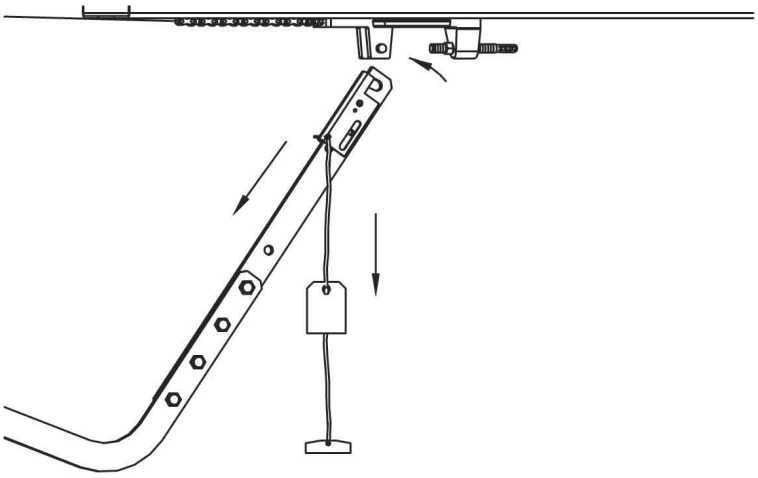
TO REDUCE THE RISK OF INJURY OR DEATH:

DO NOT ATTEMPT TO USE EMERGENCY DISCONNECT SYSTEM WHILE OPERATOR IS RUNNING.

TO A VOID BEING STRUCK BY DOOR ARM, DO NOT STAND DIRECTLY UNDER THE RELEASE ARM WHEN PULLING THE RELEASE CORD.



1. Pull the release cord downward to disconnect the trolley arm from the carriage and manually operate the door.
2. To reconnect the door arm to the carriage, pull the emergency release cord, and re-insert the trolley arm to the trolley carriage spring pin.



Operator Maintenance

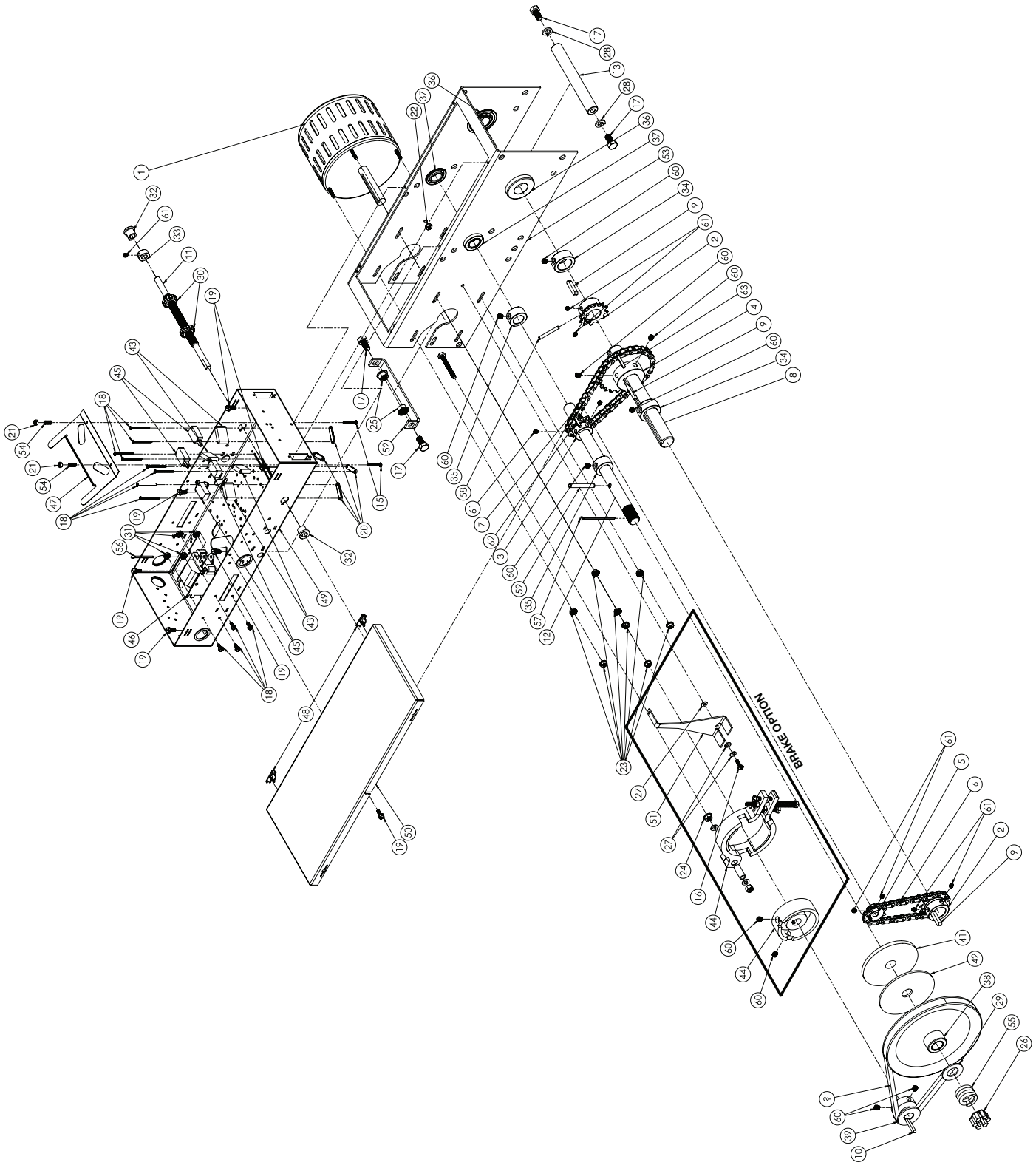
⚠ WARNING ⚠

TO REDUCE THE RISK OF INJURY OR DEATH:

DO NOT ATTEMPT TO SERVICE THE OPERATOR UNLESS POWER SUPPLY HAS BEEN DISCONNECTED

- Inspect the manual function of the door every 3 months. Make sure that the door runs smoothly. If the door does not manually open or close freely, have a qualified service person make repairs. Do not attempt to electrically operate a malfunctioning door.
- Every 3 months:
  1. Verify that the door area is kept clean. Remove any obstructions that would prevent proper door operation.
  2. Check for any excessive slack in chains. If a chain adjustment is required, verify and adjust limit switches.
  3. Verify and adjust the clutch and brake (Do not lubricate).
  4. Lubricate chains, bearings and the limit shaft.
  5. Verify that the motor and the operator runs smoothly and quietly. Verify that the carriage runs smoothly on tracks.
- Every 6 months:
  1. Verify tightness of all fasteners and set screws.
  2. Verify that the operator is properly secured.
  3. Inspect manual disconnect.
  4. Verify the tension and the condition of V-belt.
- Every 12 months:
  1. Perform a complete service check.
  2. Verify that the inside of the control box is clean and that grounding wires, terminations and power terminations do not show signs of corrosion.
  3. Verify the tightness of all terminal strip screws and electrical connections.
  4. Verify power supply, voltage of input terminals during operation.
  5. Verify that the current consumption of the operator corresponds to the nameplate information.

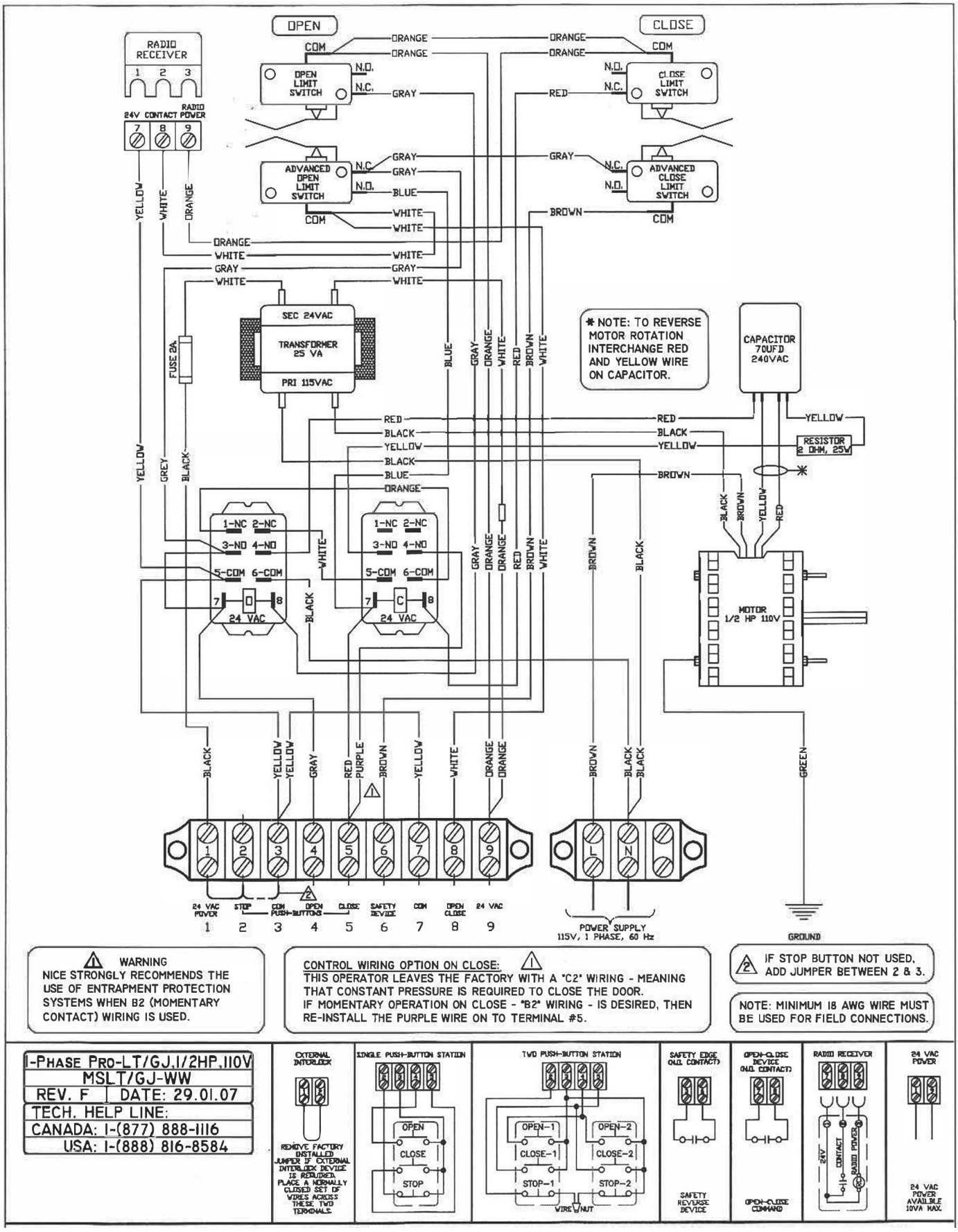
PRO-LT/LTB Replacement Parts Diagram



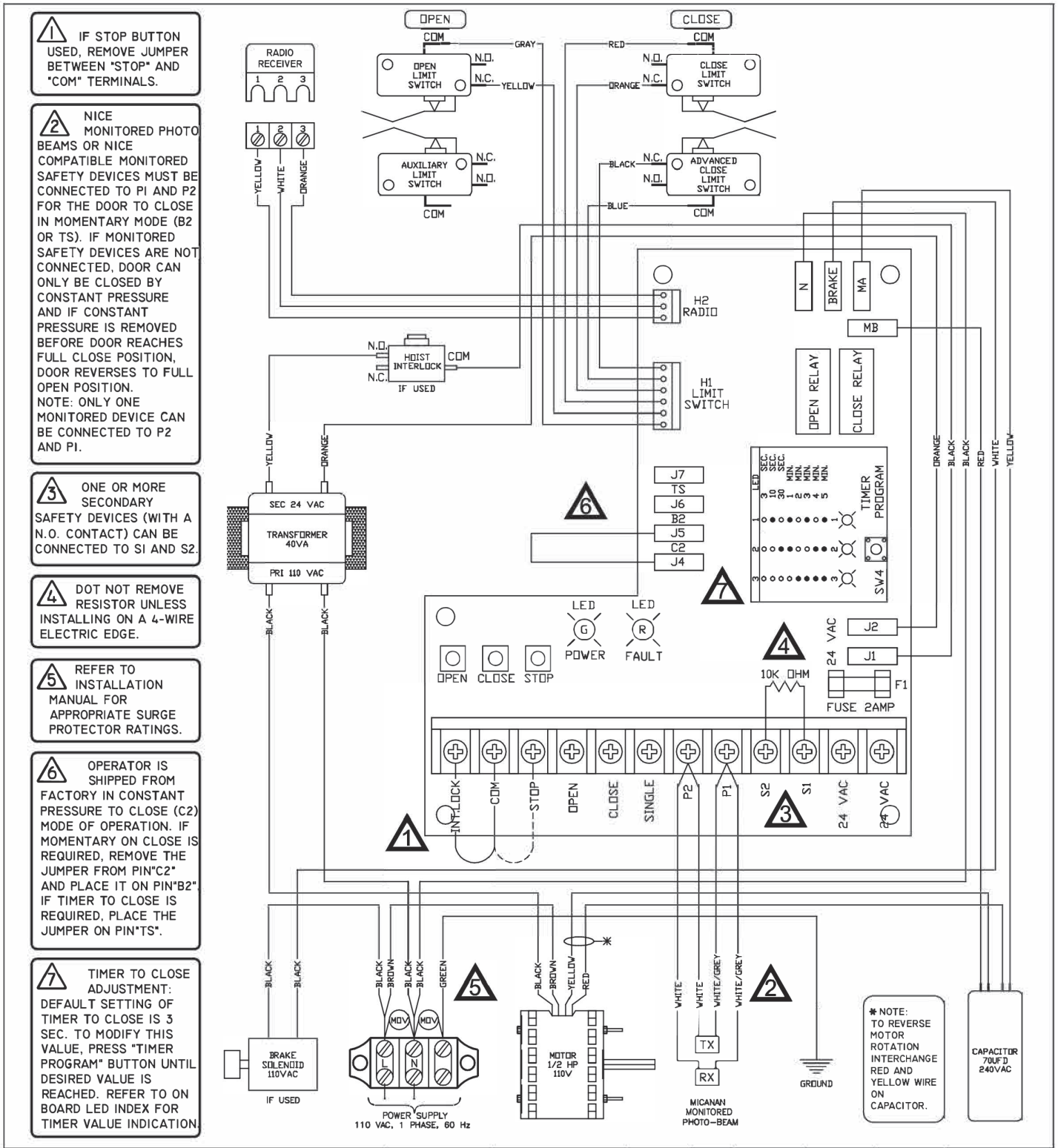
PRO-LT/LTB Replacement Parts List

CODE	ARTICLE#	DESCRIPTION	QUANTITY PRO-LT	QUANTITY PRO-LTB
MB01010	1	0.5 HP Electric Motor	1	1
MD00004	2	Sprocket 410B12 x 1" Bore 1/4" KW (2SS 1/4"-20)	2	2
MD00006	3	Sprocket 41B10 x 3/4" Bore C/W 3/16" KW 2SS	1	1
MD00110	4	Sprocket 41B24 x 1" Bore 1/4" KW 2SS	1	1
MD00111	5	Sprocket 410B9 x 3/8"	1	1
MD00128	6	#410 Chain (27 Links C/W Link)	1	1
MD00129	7	#41 Chain (37 Links C/W Link)	1	1
ME00005	8	Shaft 1" x 8.75" C/W KW	1	1
ME00017	9	Keyway 1/4" SQ x 1-1/4" Long	3	3
ME00018	10	Keyway 3/16" x 3/16" x 1-1/4" Long	1	1
ME00035	11	Limited Duty Limit Shaft (3/8" - 1/2" x 8.5")	1	1
ME00036	12	Pro-LT Input Shaft 3/4" x 10.875"	1	1
ME00050	13	Frame Support Shaft 3/4" x 6"	1	1
MF00003	14	R.H. Philips Machine Screw 4-40 UNC x 1-1/2"	8	8
MF00004	15	R.H. Philips Machine Screw 6-32 UNC x 1"	2	2
MF00005	16	R.H. Philips Machine Screw 10-32UNF x 5/8"	1	1
MF00011	17	Hex Head Bolt 3/8"-16UNC x 3/4" Long	4	4
MF00045	18	Hex Head Slotted Self Rounding Washer Head Screw 8-32UNF x 3/8"	4	4
MF00046	19	Hex Head Slotted Self Rounding Washer Head Screw 10-32UNF x 1/2"	7	7
MG00003	20	Double Nut for Lim-Sw	4	4
MG00007	21	Hex Nylon Lock Nut 6-32UNC	2	2
MG00008	22	Hex Nylon Lock Nut 10-32UNF	1	1
MG00010	23	Ribbed Hex Nut 10-32UNF	8	8
MG00011	24	Ribbed Hex Nut 1/4"-20	1	1
MG00013	25	Ribbed Hex Nut 3/8" -16 UNC	2	2
MG00014	26	Slotted Hex Nut 3/4-24UNF	1	1
MG00016	27	Flat Washer #10	3	3
MG00018	28	Lock Washer for 3/8" Screw	2	2
MG00019	29	Flat Washer 13/16" ID x 1.5" OD	1	1
MG00030	30	Limit Cam 1/2"-20UNF	2	2
MG00036	31	Ribbed Hex Nut #8-32	4	4
MH00001	32	T-Bushing 3/8" ID	2	2
MH00006	33	Collar 3/8" ID - 3/4" OD	1	1
MH00007	34	Collar 1" ID - 1.5" OD	2	2
MH00008	35	Collar 3/4" ID - 1.25" OD	2	2
MH00009	36	Flanged Bearing 1" ID x 2" OD	2	2
MH00013	37	Flange Bearing 3/4"ID x 1-3/8" OD	2	2
MI00017	38	Pulley 4L - 7" OD x 3/4" ID	1	1
MI00018	39	4L Motor Pulley 1-5/8"	1	1
MI00035	40	V-Belt Light Duty A 27	1	1
MJ00004	41	Clutch Plate 0.75" ID	1	1
MJ00005	42	Clutch Pad	1	1
MJ00006	43	Limit Switch Double Spacer 3/4"	4	4
MJ00013	44	Brake Assembly #1 (Standard Operator)	1	1
MK00004	45	Limit Switch	4	4
MK00027	46	Solenoid 220V	1	1
MM00024	47	Cam Plate	1	1
MM00046	48	Control Box Hinge	2	2
MM00076	49	Limited Duty Control Box	1	1
MM00077	50	Limited Duty Control Box Cover	1	1
MM00078	51	Solenoid Lever Limited Duty	1	1
MM00128	52	Limited Duty Frame U-Bracket Support	1	1
MM00448	53	Limited Duty Pro-LT/LTB Frame	1	1
MO00001	54	Cam Plate Compression Spring (0.178ID x 0.032G x 0.55L)	2	2
MO00027	55	Clutch Spring 0.812 ID x 0.218 WD x 1" - 4 Coil	1	1
MQ00001	56	Cotter Pin 1/8 x 1.5"	1	1
MQ00002	57	Cotter Pin 1/8 x 2.5"	1	1
MQ00005	58	Spring Pin 3/16" x 1-1/2" Long	1	1
MQ00007	59	Spring Pin 1/4" x 2"	1	1
MQ00008	60	Set Screw 5/16"-18UNC	10	2
MQ00009	61	Set Screw 1/4"-20	9	9
MQ00016	62	Spring Pin 3/16" x 1-1/4" Long	1	1
MQ00020	63	Spring Pin 3/16" x 1-3/4" Long	1	1

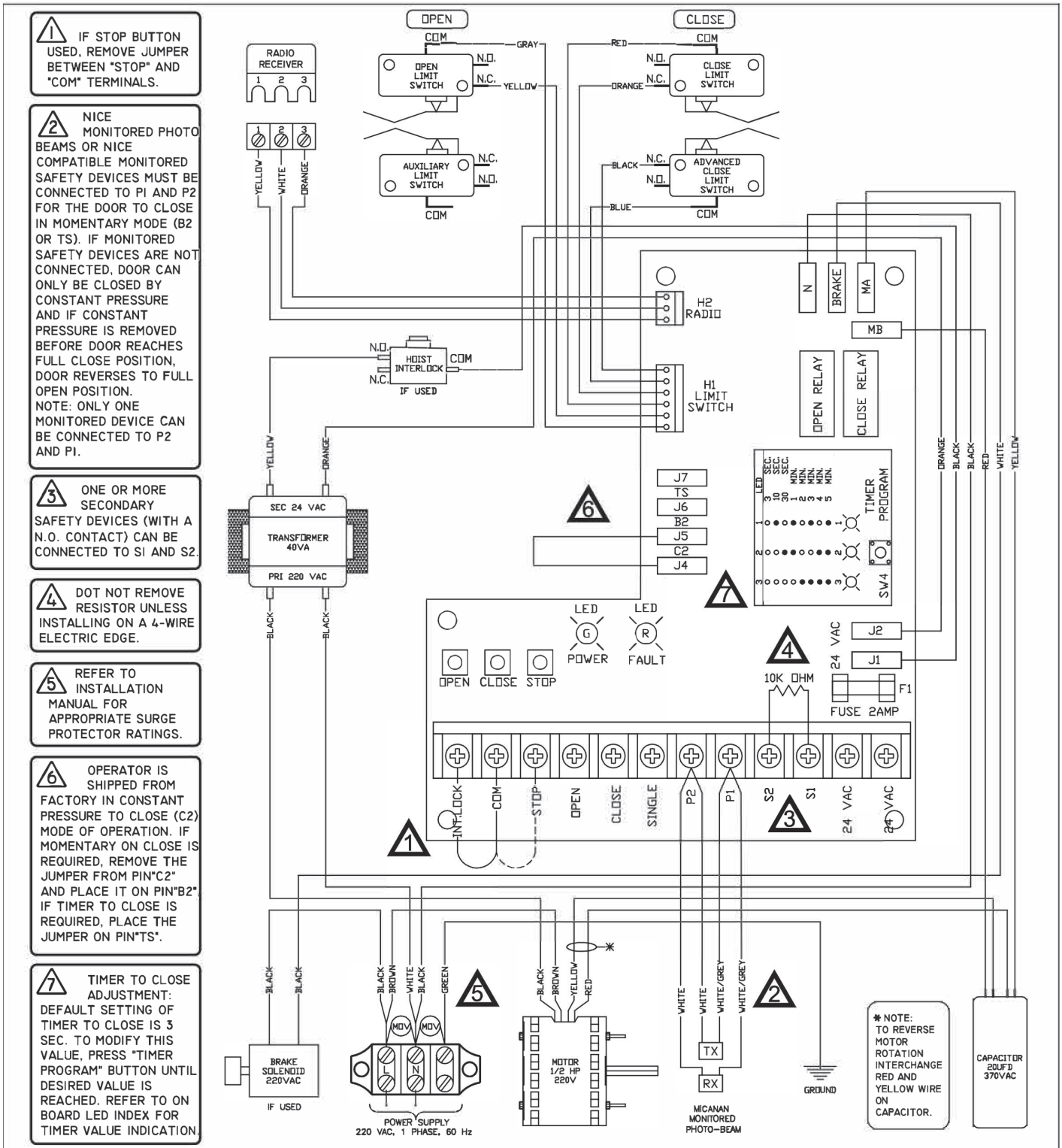
MSLT/GJ-WW 1-Phase Diagram



MSLLHR-110V-WW 1-Phase Wiring Diagram



MSLLHR-220V-WW 1-Phase Wiring Diagram



Notes

Technical Support:
877-888-1116

Technical Support Hours:
M – F, 8:00 a.m. – 6:00 p.m. ET

Nice North America
c/o Customer Service
5919 Sea Otter Place, Suite 100
Carlsbad, CA 92010

Niceforyou.com

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