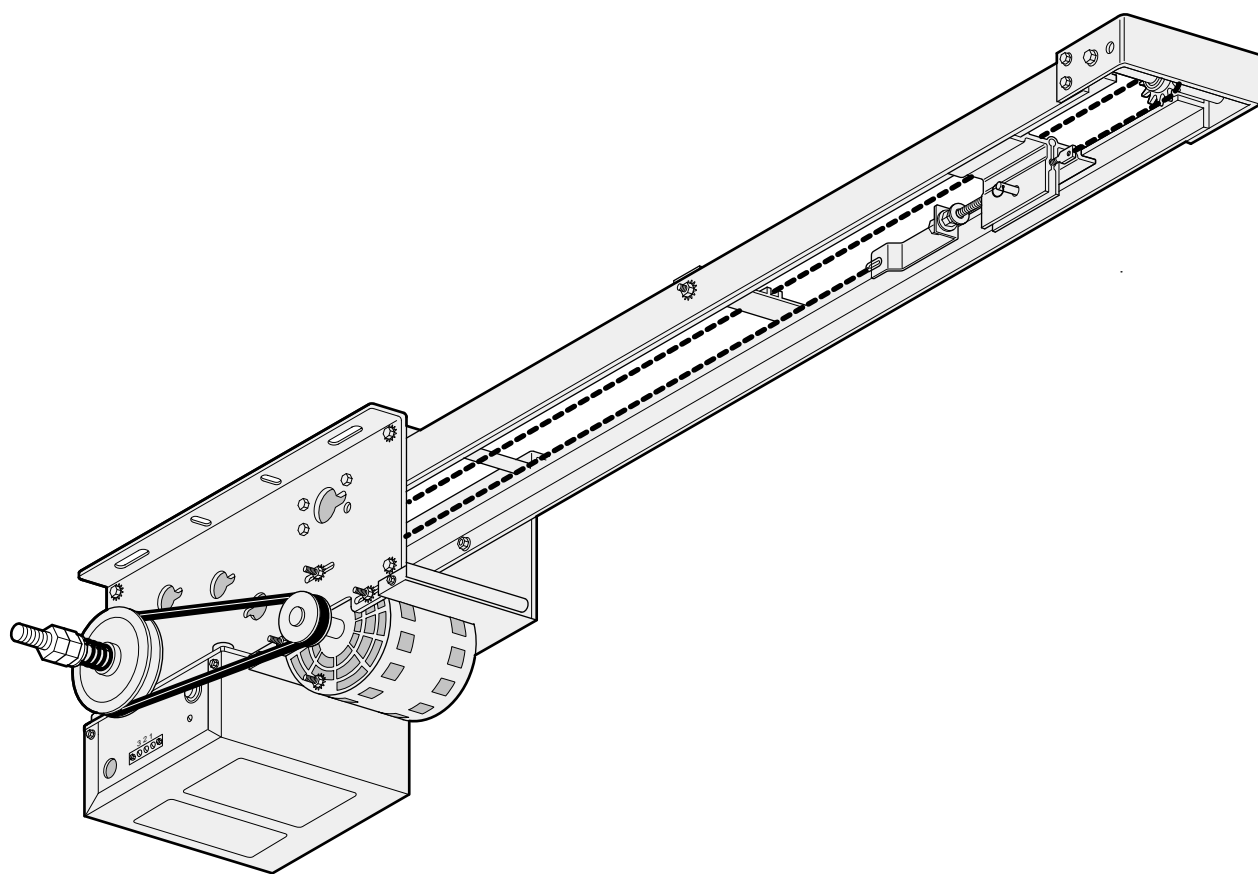


OWNER'S MANUAL
SERIES 1000
MODEL MT 1211
MEDIUM DUTY
BELT DRIVEN TROLLEY OPERATOR



Serial # _____
(located on electrical box cover)

Installation Date _____

Wiring Type _____



COMMERCIAL DOOR OPERATOR
LISTED
NOT FOR RESIDENTIAL USE

SPECIFICATIONS

MOTOR

TYPE:Permanent Split Capacitor
HORSEPOWER:1/2 HP Intermittent Duty
 (12 Cycles/Hr.)
SPEED:1000 RPM
VOLTAGE:115VAC 60Hz Single Phase
CURRENT:6.0/6.5 AMP
**MAXIMUM
 DOOR SIZE:**.....14' X 14'

ELECTRICAL

TRANSFORMER:24VAC
CAPACITOR:Single 70 microfarad
CONTROL STATION:.....3 Button
 OPEN/CLOSE/STOP, NEMA 1
WIRING TYPE:.....B2 (Standard)
 Momentary Contact to OPEN/CLOSE/STOP plus
 Wiring for Sensing Device to Reverse and Auxiliary
 Devices to Open and Close with Opener Override
LIMIT ADJUST:.....Linear Driven, Fully
 Adjustable Screw Type Cams. Adjustable to 14 feet.

MECHANICAL

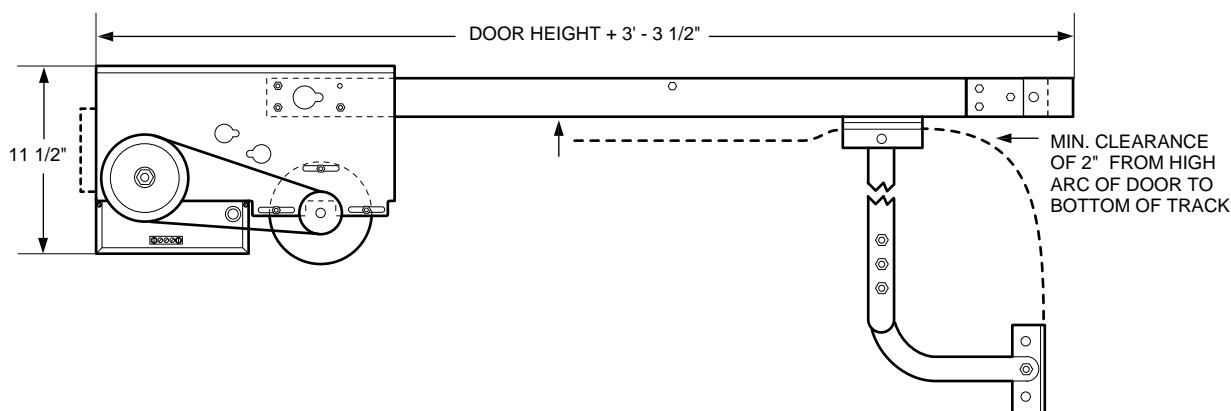
DRIVE REDUCTION:
1st Reduction:Heavy Duty (4L) V-Belt
2nd & 3rd Reductions:#48 Chain and Sprockets
Output: #48 Chain
OUTPUT SHAFT SPEED:...85 R.P.M.
DOOR SPEED:.....8" - 10" per sec.
BEARINGS:.....Heavy Duty Oil-Filled Bronze
BRAKE:.....Solenoid Drum Brake
 (Optional)

SAFETY

DISCONNECT:.....Spring Loaded Trolley
 Disconnect Arm
CLUTCH:.....Adjustable Friction Type
SAFETY EDGE:(Optional)
 Electric or Pneumatic Sensing Device attached to the
 Bottom Edge of Door.
**A REVERSING EDGE IS STRONGLY
 RECOMMENDED FOR ALL COMMERCIAL
 OPERATOR INSTALLATIONS. REQUIRED WHEN
 THE 3 BUTTON CONTROL STATION IS OUT OF
 SIGHT OF DOOR OR ANY OTHER CONTROL
 (AUTOMATIC OR MANUAL) IS USED. SEE PAGE 8.**

WEIGHTS AND DIMENSIONS

HANGING WEIGHT.....42 LBS.



HOW TO ORDER REPAIR PARTS

OUR LARGE SERVICE ORGANIZATION
 SPANS AMERICA
 INSTALLATION AND SERVICE INFORMATION
 ARE AVAILABLE 6 DAYS A WEEK
 CALL OUR TOLL FREE NUMBER - 1-800-528-6563
 HOURS 7:00 TO 3:30 p.m. (Mountain Std. Time)
 MONDAY Thorough SATURDAY

**WHEN ORDERING REPAIR PARTS
 PLEASE SUPPLY THE FOLLOWING INFORMATION**
PART NUMBER DESCRIPTION MODEL NUMBER

ADDRESS ORDER TO:

THE CHAMBERLAIN GROUP, INC.
 Electronic Parts & Service Dept.
 2301 N. Forbes Blvd., Suite 104
 Tucson, AZ 85745

ASSEMBLE TRACK AND OPERATOR



CAUTION

THIS IS A MEDIUM USE OPERATOR, NOT INTENDED FOR RESIDENTIAL OR HIGH USE APPLICATIONS. TO PREVENT ELECTRICAL COMPONENT DAMAGE AND RELATED POTENTIAL HAZARD, DO NOT EXCEED TWELVE (12) CYCLES PER HOUR.

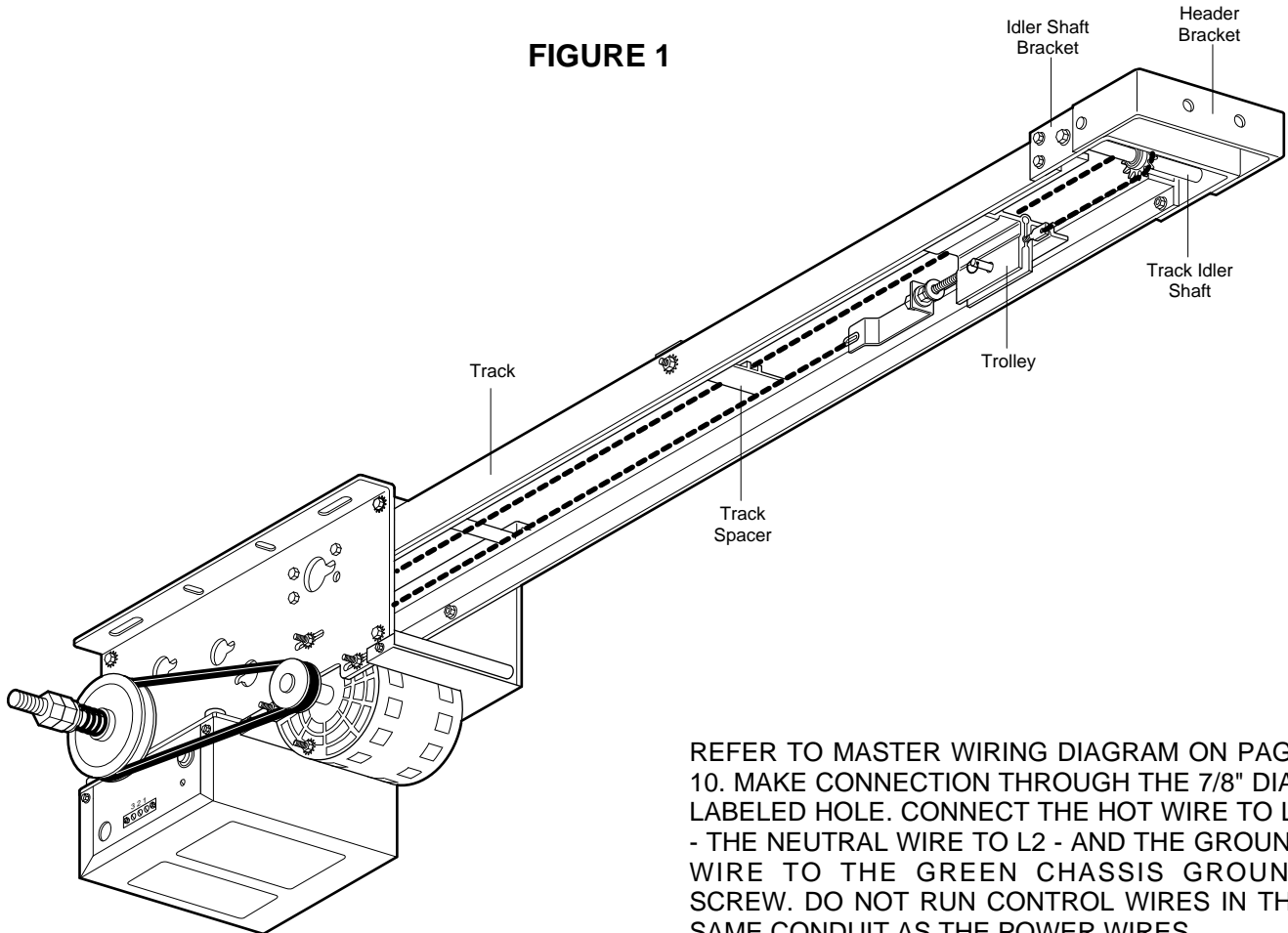
DO NOT CONNECT ELECTRIC POWER UNTIL INSTRUCTED TO DO SO.



WARNING

KEEP DOOR BALANCED. STICKING OR BINDING DOORS MUST BE REPAIRED. DOORS, DOOR SPRINGS, CABLES, PULLEYS, BRACKETS AND THEIR HARDWARE MAY BE UNDER EXTREME TENSION AND CAN CAUSE SERIOUS PERSONAL INJURY OR DEATH. CALL A PROFESSIONAL DOOR SERVICEMAN TO MOVE OR ADJUST DOOR SPRINGS OR HARDWARE.

FIGURE 1



REFER TO MASTER WIRING DIAGRAM ON PAGE 10. MAKE CONNECTION THROUGH THE 7/8" DIA., LABELED HOLE. CONNECT THE HOT WIRE TO L1 - THE NEUTRAL WIRE TO L2 - AND THE GROUND WIRE TO THE GREEN CHASSIS GROUND SCREW. DO NOT RUN CONTROL WIRES IN THE SAME CONDUIT AS THE POWER WIRES.

Check the identification tag mounted on the electrical box to be sure the voltage, phase and h.p. are correct for your needs.

1. Fasten track to the operator frame. **DO NOT TIGHTEN BOLTS.** See Figure 1.
2. Position the slide on the track. Attach track spacer(s).
3. Position the idler shaft between tracks. Place track bracket over tracks. There are two holes on each side of bracket (Fig. 1).

Fasten track bracket to end of rail assembly.

4. Align track so that slide moves easily and does not bind. Tighten all bolts.
5. Run chain around front and rear sprockets and attach to slide assembly with master links. Adjust chain only until excessive slack is removed. To retain proper tension, tighten 3/8" lock nut.

INSTALL OPERATOR

CAUTION: AT LEAST TWO PERSONS AND A STRONG, SAFE WORKING PLATFORM ARE REQUIRED FOR THE INSTALLATION OF OPERATOR.



CAUTION

TO AVOID DAMAGE TO DOOR AND OPERATOR, MAKE ALL DOOR LOCKS INOPERATIVE. SECURE LOCK(S) IN "OPEN" POSITION.

IF THE DOOR LOCK NEEDS TO REMAIN FUNCTIONAL, INSTALL AN INTERLOCK SWITCH.

DO NOT RUN THE OPERATOR BEFORE MAKING LIMIT SWITCH ADJUSTMENTS.

FOR METAL BUILDINGS ONLY: A strong mounting surface for the operator front header bracket is needed. On the wall above the center stile, weld or bolt a 2"x2"x1/4" piece of angle iron or another suitable, heavy-duty material as shown in Figure 2.

6. Draw a vertical line on header (or reinforcement material) above center stile of door.

7. Raise the door to its high arc point. Use a carpenter's level to locate high arc point on wall above door center stile as shown in Figure 3. Make a horizontal line, intersecting the vertical centerline mark.

FIGURE 2

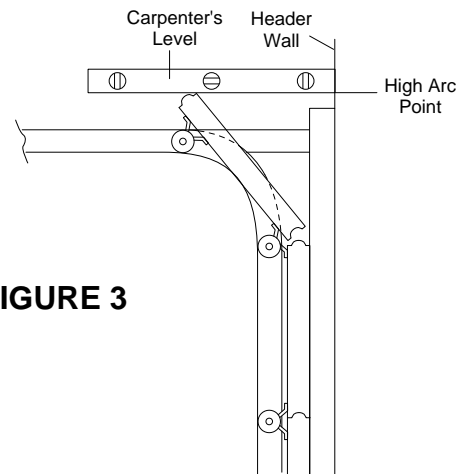
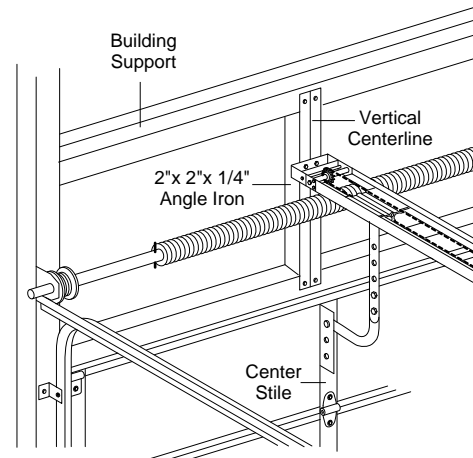
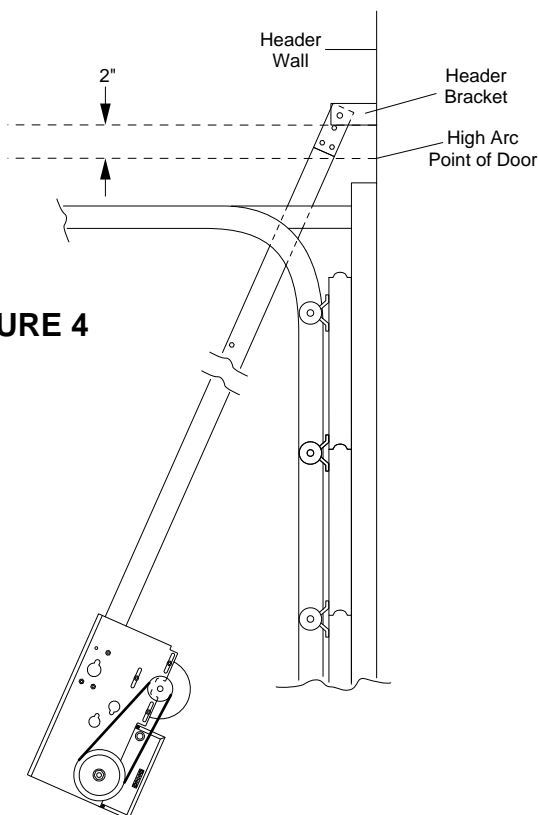


FIGURE 3

FIGURE 4



8. Close the door and refer to Figure 4. Position operator chassis on the floor with the bottom edge of header bracket 2" above horizontal mark and centered on vertical line. Mark mounting holes.

FOR METAL BUILDINGS: Drill 3/8" holes for fastening bolts. **FOR CONCRETE BUILDINGS:** Drill 3/8" holes for anchor bolts, following manufacturer's instructions.

NOTE: Be sure header bracket is level before tightening the bolts.

9. Raise operator straight up until the door can be raised to the full open position. See Figure 5. Temporarily secure to ceiling or rafters with rope or other suitable means.



WARNING

FAILURE TO SUSPEND THE OPERATOR SECURELY MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH, AND/OR PROPERTY DAMAGE.

10. Raise door to full open position. Place a 2x4 board on top of leading edge of door. Lower operator to rest on 2x4 board.

Make four hangers from 2"x2"x1/4" angle iron. **IT IS RECOMMENDED THAT RAIL BE CENTER-SUPPORTED AS WELL.** Bolt the operator into place.

COIL CORD (OPTIONAL)

REFER TO (A) IN ILLUSTRATION

Connect operator end of coil cord to junction box (not supplied) fastened to the wall approximately half-way up the door opening.

Electrician must hardwire the junction box to the operator electrical box in accordance with local codes.

REEL (OPTIONAL)

REFER TO (B) IN ILLUSTRATION

Take-up reel should be installed 12" above the top of the door.

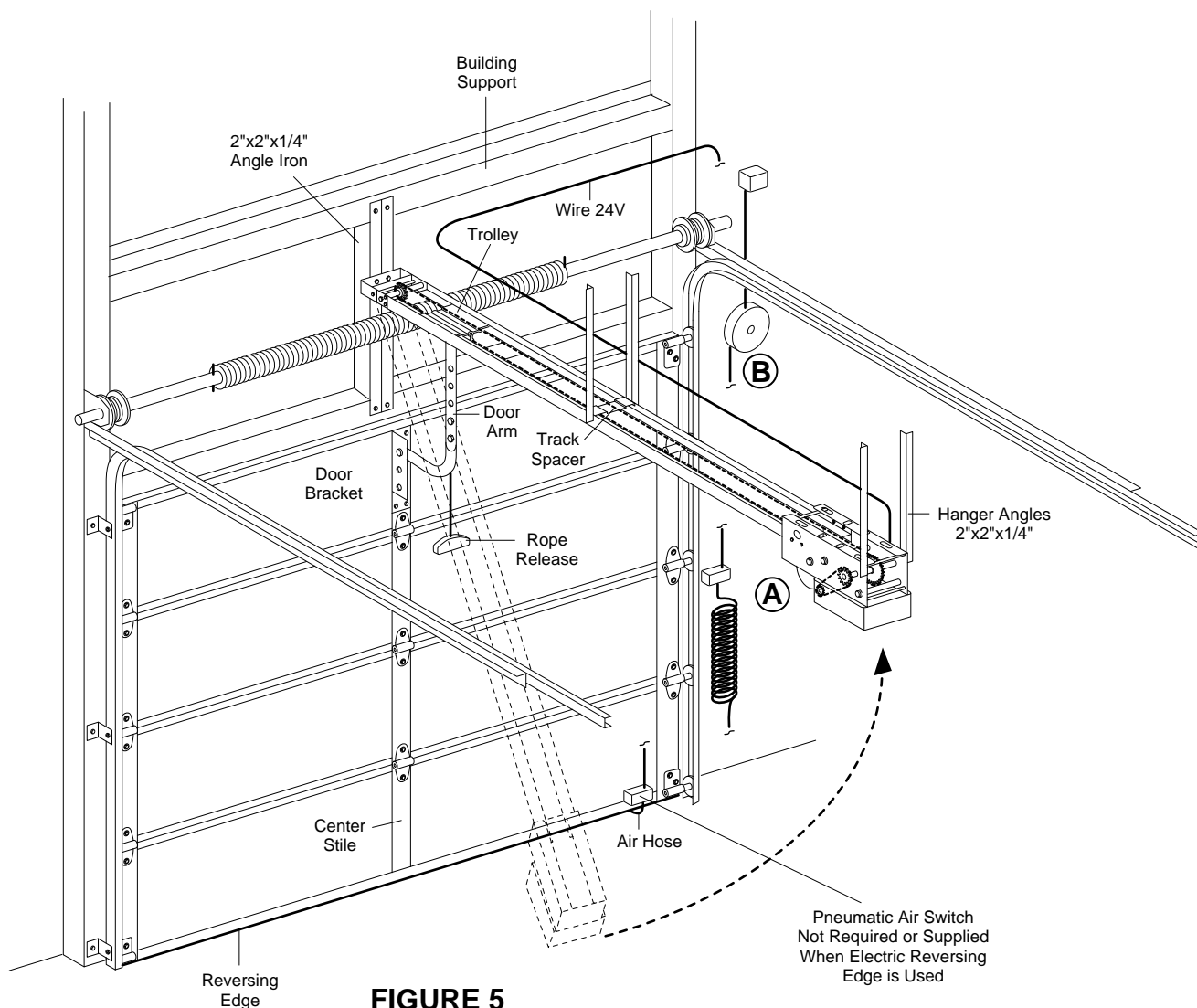


FIGURE 5

CONNECT OPERATOR TO POWER SUPPLY AND INSTALL CONTROL STATION



WARNING

DISCONNECT POWER AT THE FUSE BOX BEFORE PROCEEDING.

OPERATOR MUST BE PROPERLY GROUNDED AND CONNECTED IN ACCORDANCE WITH LOCAL ELECTRICAL CODES. THE OPERATOR SHOULD BE ON A SEPARATE FUSED LINE OF ADEQUATE CAPACITY.

ALL ELECTRICAL CONNECTIONS MUST BE MADE BY A QUALIFIED INDIVIDUAL.



CAUTION

TO AVOID DAMAGE TO DOOR AND OPERATOR, MAKE ALL DOOR LOCKS INOPERATIVE. SECURE LOCK(S) IN "OPEN" POSITION.

IF THE DOOR LOCK NEEDS TO REMAIN FUNCTIONAL, INSTALL AN INTERLOCK SWITCH.



WARNING

INSTALL THE CONTROL STATION WHERE THE DOOR IS VISIBLE, BUT AWAY FROM THE DOOR AND ITS HARDWARE. IF CONTROL STATION CANNOT BE INSTALLED WHERE DOOR IS VISIBLE, OR IF ANY DEVICE OTHER THAN THE CONTROL STATION IS USED TO ACTIVATE THE DOOR, A *REVERSING EDGE MUST BE INSTALLED ON THE BOTTOM OF THE DOOR*. FAILURE TO INSTALL A REVERSING EDGE UNDER THESE CIRCUMSTANCES MAY RESULT IN SERIOUS INJURY OR DEATH TO PERSONS TRAPPED BENEATH THE DOOR.



CAUTION

DO NOT ALLOW TROLLEY TO OVERRUN FRONT IDLER SPROCKET OR RUN INTO OPERATOR HEAD. LIMIT SWITCHES MAY NOT BE IN THE PROPER POSITIONS. (See Limit Adjustments).

REFER TO MASTER WIRING DIAGRAM.

MAKE CONNECTION THROUGH THE 1-1/16" DIA. LABELED HOLE. DO NOT RUN CONTROL WIRES IN THE SAME CONDUIT AS THE POWER WIRES.

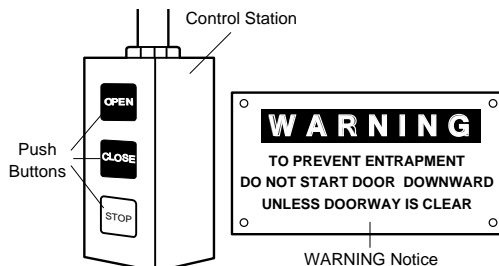
11. Complete the electrical connections to operator and control station (Refer to Control Connection Diagram, Pg. 20). Fasten the control station to the wall.

FASTEN THE WARNING NOTICE BESIDE OR BELOW THE PUSH BUTTONS.

12. Apply power to operator. Press either the OPEN or the CLOSE push button and observe direction of trolley travel. Press the STOP button.

If trolley did not move in the correct direction, check for improper wiring at control station or between opener and control station.

If electrical problems persist, call our Toll Free number (1-800-528-6563) for assistance.



13. Operate push button so that the trolley moves forward (toward close position). Press STOP button when trolley is approximately 10" from front wall.

CONNECT DOOR ARM AND BRACKET



CAUTION

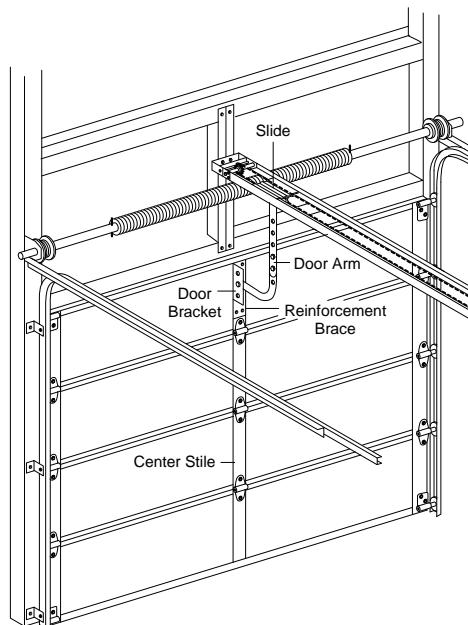
REINFORCE CENTER STILE WITH A VERTICAL BRACE. USE A PIECE OF ANGLE IRON THAT WILL SPAN THE HEIGHT OF TOP PANEL. DO NOT CUT HORIZONTAL STRUT.

14. With door CLOSED, snap door arm onto operator trolley. Position door bracket against reinforced center stile of top section of door. Make sure arm is straight and centered on stile. Mark bracket holes. Drill and fasten with 5/16" bolts.

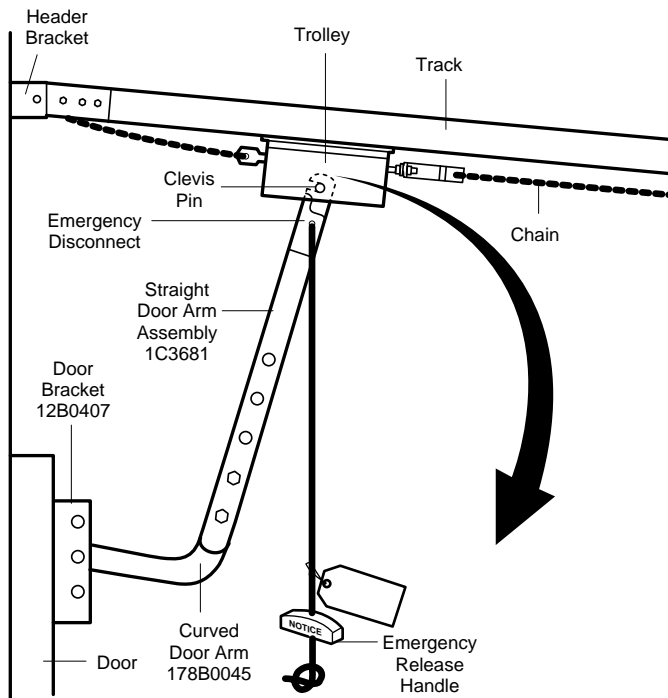
NOTE 1: Choose a set of holes which aligns door arm in a near vertical position.

NOTE 2: If door strut interferes with placement of door bracket, position bracket below strut. DO NOT CUT OR MODIFY STRUT.

Attach door arm to door bracket using 3/8"-16x1" screw and lock nut.



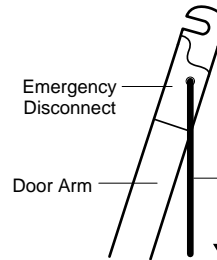
EMERGENCY DISCONNECT SYSTEM



WARNING

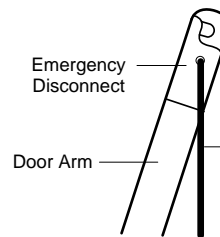
DOOR ARM IS RELEASED FROM TROLLEY WHEN EMERGENCY DISCONNECT OPENS.

TO AVOID BEING STRUCK BY DOOR ARM, DO NOT STAND UNDER THE ROPE OR DOOR ARM WHEN PULLING THE EMERGENCY RELEASE.



TO DISCONNECT
DOOR FROM OPENER

Pull emergency
release handle
straight down.
Emergency
disconnect
will open.



TO RECONNECT
DOOR ARM TO TROLLEY

Lift free end of
door arm to trolley.
Pull emergency handle
to allow arm to engage
clevis pin. Release
handle. Emergency
disconnect will close.

ADJUST LIMITS



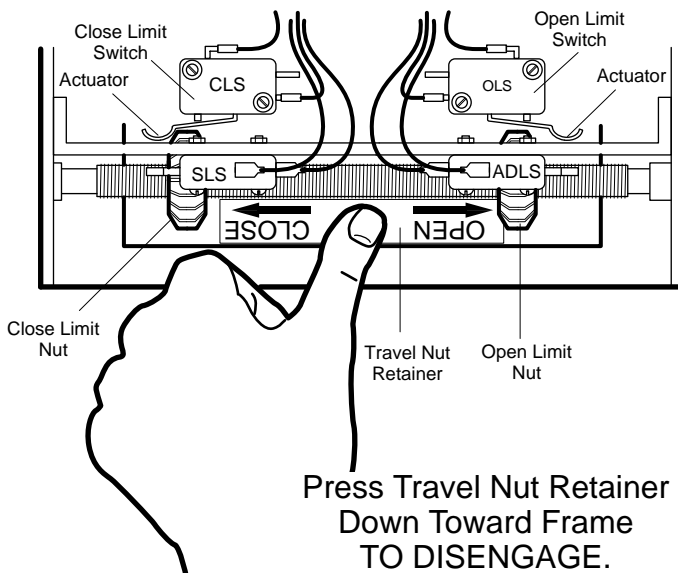
WARNING

TO AVOID SERIOUS PERSONAL INJURY OR DEATH FROM ELECTROCUTION, DISCONNECT ELECTRIC POWER BEFORE MANUALLY MOVING LIMIT NUTS.

MAKE SURE THE LIMIT NUTS ARE POSITIONED BETWEEN THE LIMIT SWITCH ACTUATORS BEFORE PROCEEDING WITH ADJUSTMENTS.

1. Depress open limit switch. The operator should stop.
2. To **increase** door travel, spin nut **away** from actuator. To **decrease** door travel, spin limit nut **toward** actuator.
3. Adjust open limit nut so that door will stop in open position with the bottom of the door even with top of door opening.
4. Repeat Steps 1 and 2 for close cycle. Be sure close limit actuator is engaged as door fully seats at the floor.

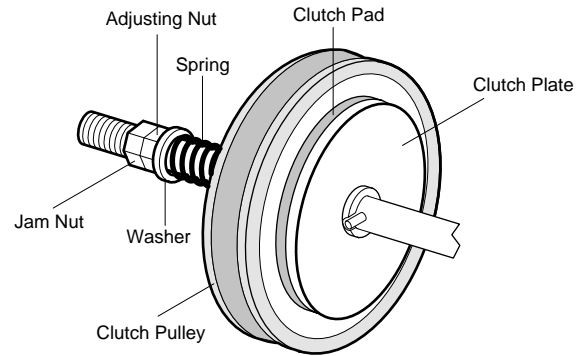
If other problems persist, call our toll-free number for assistance - 1-800-528-6563.



ADJUST CLUTCH

Adjust clutch so that it is tight enough to open and close the door but will slip when the door meets an obstruction. Either loosen or tighten the clutch nut with 1/4 turn increments. The clutch will require periodic inspection and adjustment.

CAUTION: The adjustable friction clutch is **NOT** an automatic reversing device. An electric or pneumatic reversing edge can be added to bottom edge of door if desired.



CONNECT REVERSING EDGE DEVICE (OPTIONAL)



WARNING

IF CONTROL STATION CANNOT BE INSTALLED WHERE DOOR IS VISIBLE, OR IF ANY DEVICE OTHER THAN THE CONTROL STATION IS USED TO ACTIVATE THE DOOR, A **REVERSING EDGE MUST BE INSTALLED ON THE BOTTOM OF THE DOOR**. FAILURE TO INSTALL A REVERSING EDGE UNDER THESE CIRCUMSTANCES MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH TO PERSONS TRAPPED BENEATH THE DOOR.

The operator has been pre-wired to accept connection of a reversing edge device (Figure 5, Page 5). Connect the normally open contacts to terminals T3 and T5 on the low voltage terminal block. A cut-off switch will de-activate the safety device during the last few inches of the door's downward travel.

MAINTENANCE SCHEDULE

Check at the intervals listed in the following chart.

ITEM	PROCEDURE	EVERY 3 MONTHS	EVERY 6 MONTHS	EVERY 12 MONTHS
Drive Chain	Check for excessive slack. Check & adjust as required. Lubricate.*	●		✓
Sprockets	Check set screw tightness	●		✓
Clutch	Check & adjust as required		●	✓
Belt	Check condition & tension		●	✓
Fasteners	Check & tighten as required		●	✓
Manual Disconnect	Check & Operate		●	✓
Bearings & Shafts	Check for wear & lubricate	●		✓

* Use SAE 30 Oil (Never use grease or silicone spray).

✓ Repeat ALL procedures.

■ Do not lubricate motor. Motor bearings are rated for continuous operation.

■ Do not lubricate clutch or V-belt.

■ Inspect and service whenever a malfunction is observed or suspected.

■ CAUTION: BEFORE SERVICING, ALWAYS DISCONNECT OPERATOR FROM POWER SUPPLY.

1A3989, 1A4045, 1A4046 & 1A4047 BRAKE INSTALLATION & ASSEMBLY PARTS



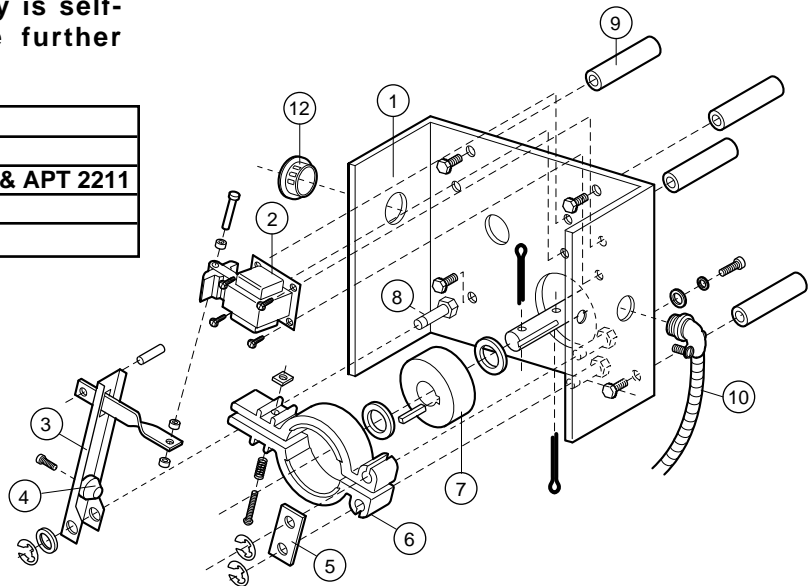
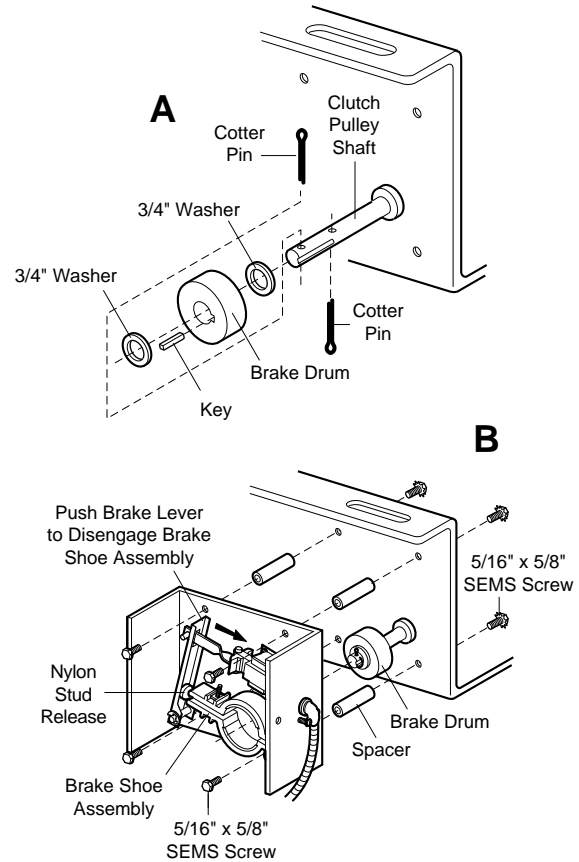
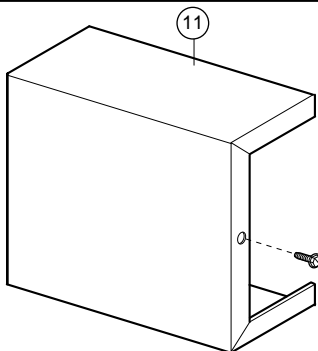
WARNING

TO AVOID SERIOUS PERSONAL INJURY OR DEATH FROM ELECTROCUTION, DISCONNECT ELECTRICAL POWER TO OPERATOR BEFORE PROCEEDING.

1. Install brake drum on clutch pulley shaft as illustrated in Fig. A.
2. Attach the four spacers provided to back of brake pulley assembly housing using four 5/16 x 5/8 sems screws (Fig. B).
3. Push brake lever engaging nylon stud release between brake shoes and align brake drum between brake shoe assembly (Fig. B).
4. Adjust spring loaded bolt on brake shoe assembly so that spring is compressed to 1".
5. Mount brake assembly housing to operator frame using the four spacers and 5/16 x 3/8 sems screws (See Fig. B).
6. Remove plug from 7/8" hole in electrical box and attach conduit assembly.
7. Connect wires per master wiring diagram, (See "brake optional").
8. Reconnect power to the operator.
9. Test for proper brake operation and replace brake cover.

ADJUSTMENT: The brake assembly is self-adjusting and should not require further adjustment.

KIT NO.	DESCRIPTION
1A3989	115V Solenoid Brake, M - Series
1A4045	115V Solenoid Brake, H - Series & APT 2211
1A4046	230V Solenoid Brake, H - Series
1A4047	460V Solenoid Brake, H - Series

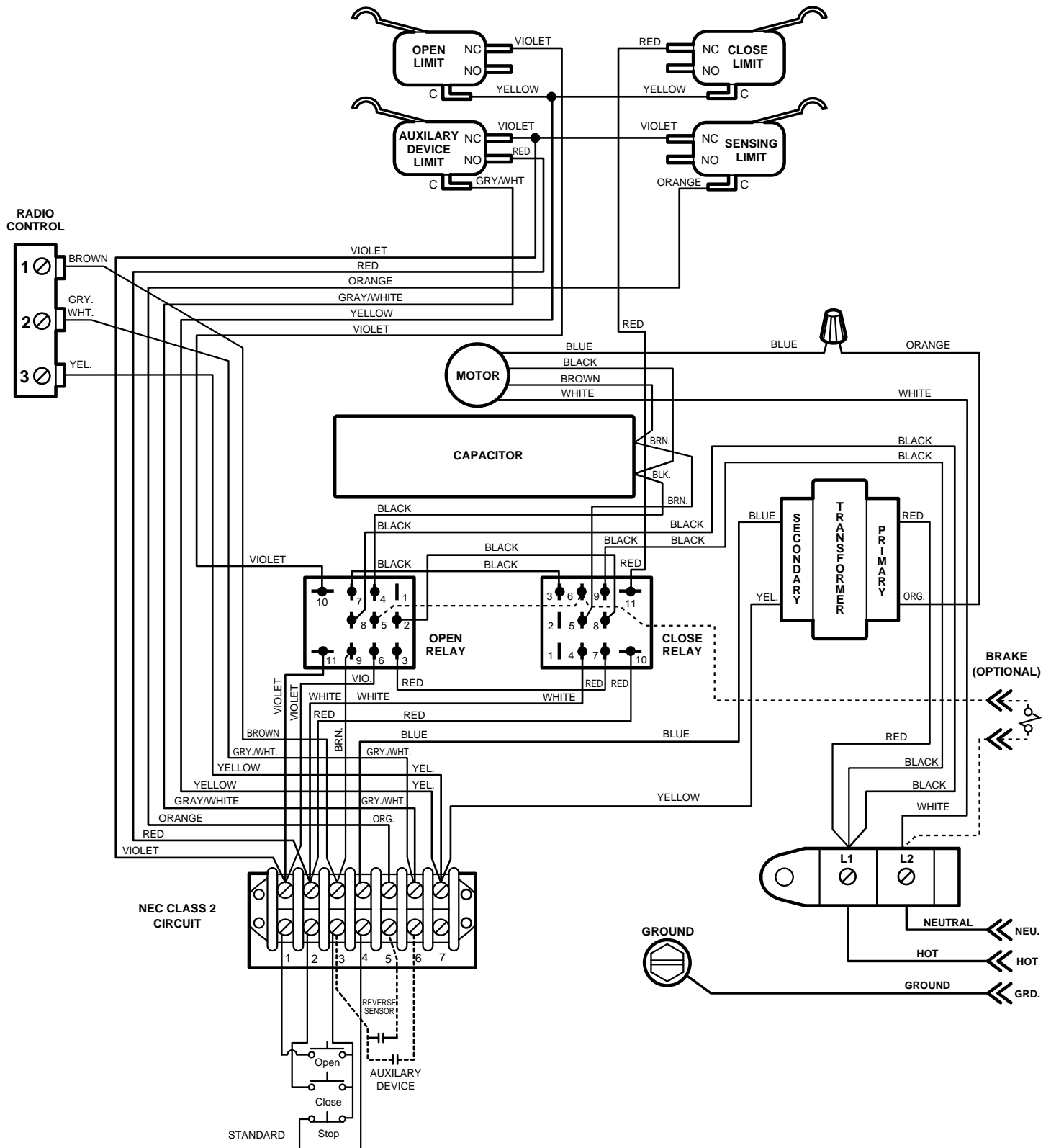


REPAIR PARTS FOR BRAKE ASSEMBLY

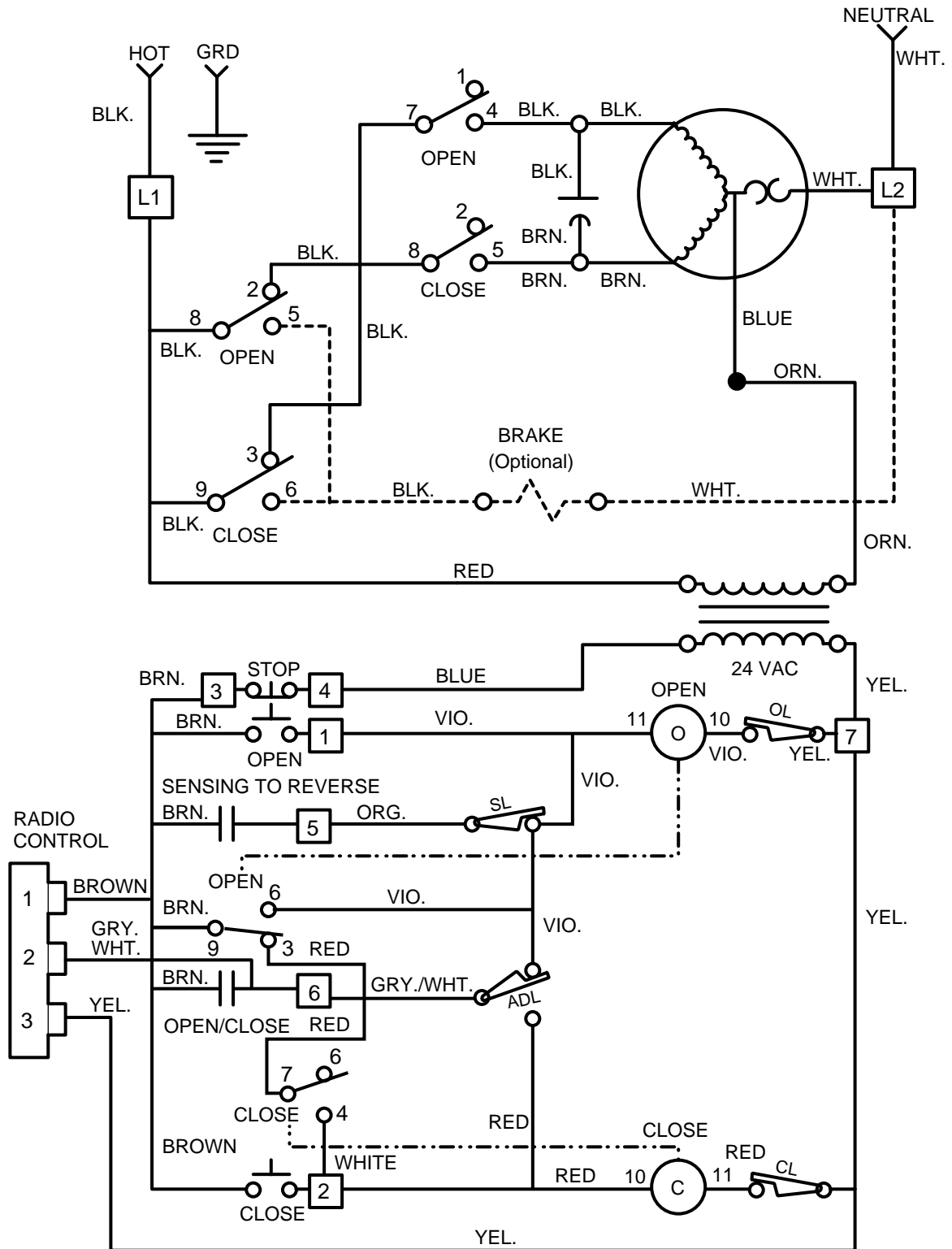
ITEM	PART NO.	DESCRIPTION & QUANTITY
1	17D111	Brake Box (1)
2	204B118	Solenoid 115V (1)
	204B118-1	Solenoid 230V (1)
	204B118-2	Solenoid 460V (1)
3	113B49	Brake Lever, Pivot (1)
4	179A46	Brake Release Stud
5	142A143	Brake Stud Plate (1)

ITEM	PART NO.	DESCRIPTION & QUANTITY
6	1B4421	Brake Shoe Assy. (2)
7	60B31	Brake Drum (1)
8	179B45	Brake Pivot Stud (3)
9	184A111	Brake Spacer (4)
10	1B3933	Conduit Assy. M-Series (1)
	1B4044	Conduit Assy. H-Series (1)
11	31D387	Cover (1)
12	31A388	Dome Plug (1)

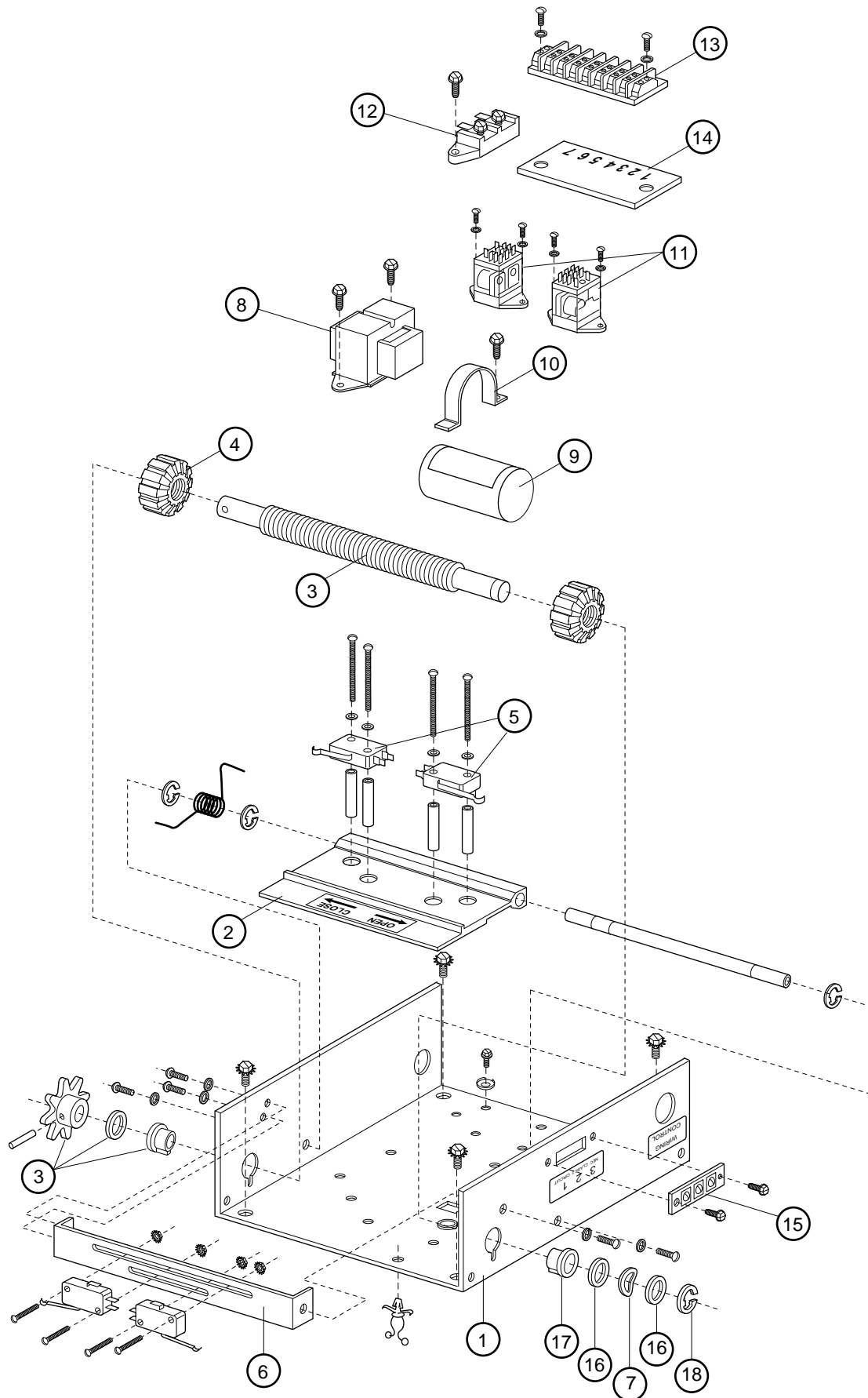
MASTER WIRING DIAGRAM



MASTER SCHEMATIC



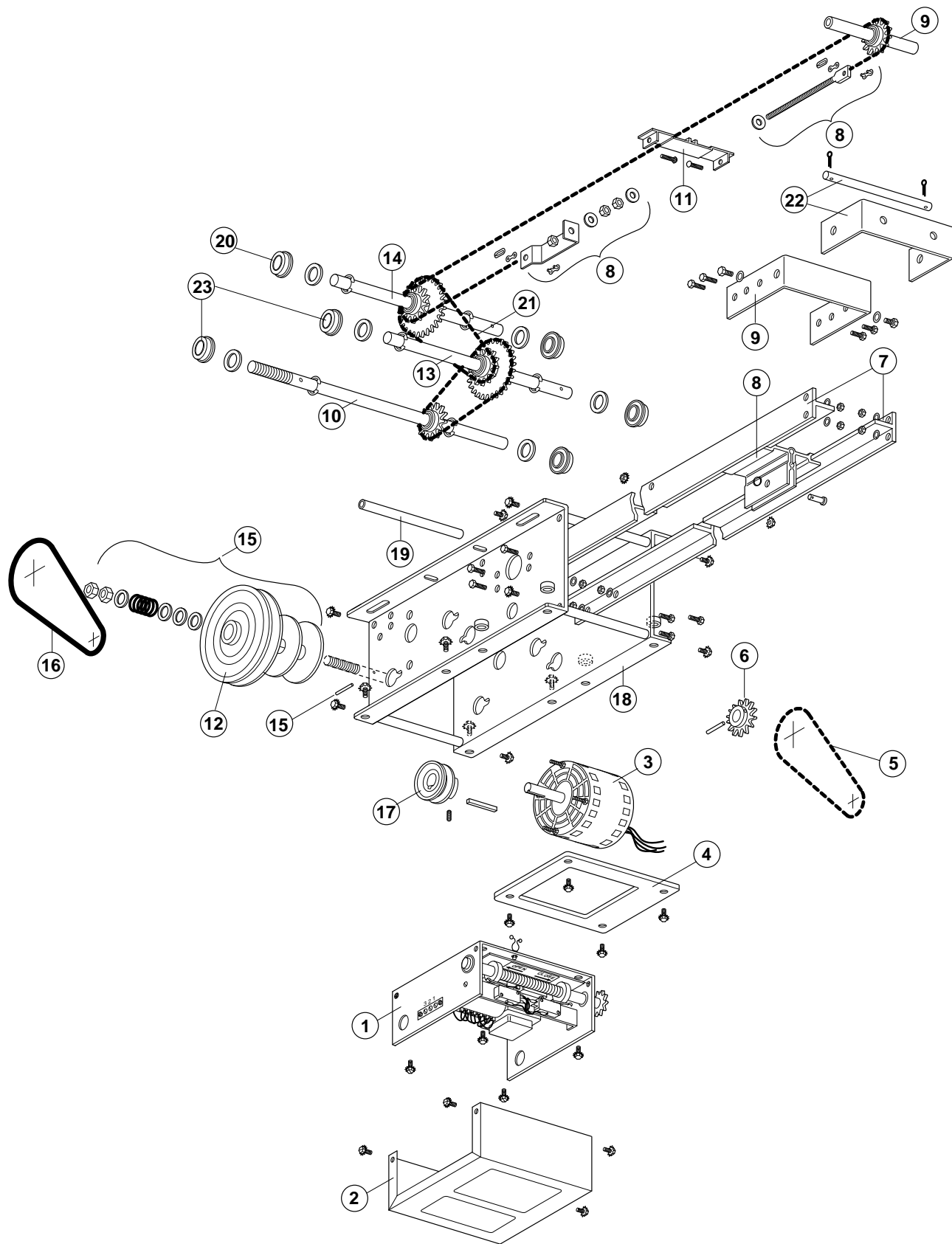
ILLUSTRATED PARTS – MT & MJ ELECTRICAL BOX



REPAIR PARTS – MT & MJ ELECTRICAL BOX

ITEM	PT. NO.	QTY	DESCRIPTION
1	1D3695-1	1	Electrical Box Assy.
2	41K4303	1	Limit Bracket (ADJ) Kit
3	1B3796	1	Limit Shaft - Sprocket Assy.
4	133A182	2	Limit Nut
5	180B133	2	Limit Switch
6	41K4304	1	Switch Bracket Assy. (Aux. & Sensing)
7	216A191	1	Washer Spring Curved
8	1B3734	1	Transformer Assy.
9	30B432	1	Capacitor
10	12A461	1	Capacitor Bracket
11	160B69	2	Relay
12	1B3726	1	Terminal (2) Pos.
13	203B180	1	Terminal (7) Pos.
14	132A2012	1	Label
15	1B3727	1	Terminal Strip - 3 Pos.
16	216A184	2	Thrust Washer
17	11A12	1	Flange Brg, (3/8" I.D.)
18	158A49	1	Retaining Ring 3/8"

ILLUSTRATED PARTS – OPERATOR MODEL MT 1211



REPAIR PARTS – MODEL MT 1211

ITEM NO.	PART NO.	QTY	DESCRIPTION
1		1	Electrical Box Assy. (See detail)
2	1A3797	1	Electrical Box Assy. Cover
3	123D114	1	Motor
4	31B413	1	Motor Cover
5	1A3742	1	Chain Assy. (43 Pitches)
6	81C151	1	Sprocket-Hub Assy. 13-3/4
7	See Chart	2	T-Rail
8	1B4001	1	Trolley Assy.
9	1C3992	1	1 Bracket Assy., #48 Chain
10	1C3692-2	1	Shaft Assy. - Pulley
11	See Chart	Varies	Spacer Kit
12	144C28	1	Pulley 6" - 4L
13	1C3688	1	Shaft Assy. - Intermediate
14	1C3689	1	Shaft Assy. - Output - #48
15	41K4301	1	Clutch Assy. Kit
16	20B8	1	V-Belt 34" - 4L
17	144B32	1	Motor Pulley w/Set Screw
18	59D48-6	1	Frame Right Side
	59D48-7	1	Frame Left Side
19	184B97	4	Spacer
20			
21	1A3741	2	Chain Assy. (41 Pitches) #48 Chain
22	41K4302	1	Header Brk. Assy.
23	41K4306	3	Oil Lite Brg. 3/4" I.D. Kit

RAIL - CHAIN ASSEMBLY - SPACER KIT for #48 Chain

ITEM #7					ITEM #11			
Door Height	Rail	Qty	Chain Assembly	Qty	#48 Chain Master Link	Qty	1 Set Spacer Kit	Qty
8 Ft.	183C135	2	1A3881	1	1A995	1	1A4004	2
10	183C135-1	2	1A3882	1	1A995	1	1A4004	2
12	183C135-2	2	1A3883	1	1A995	1	1A4004	2
14	183C135-3	2	1A3884	1	1A995	1	1A4004	3

CONTROL CONNECTION DIAGRAM



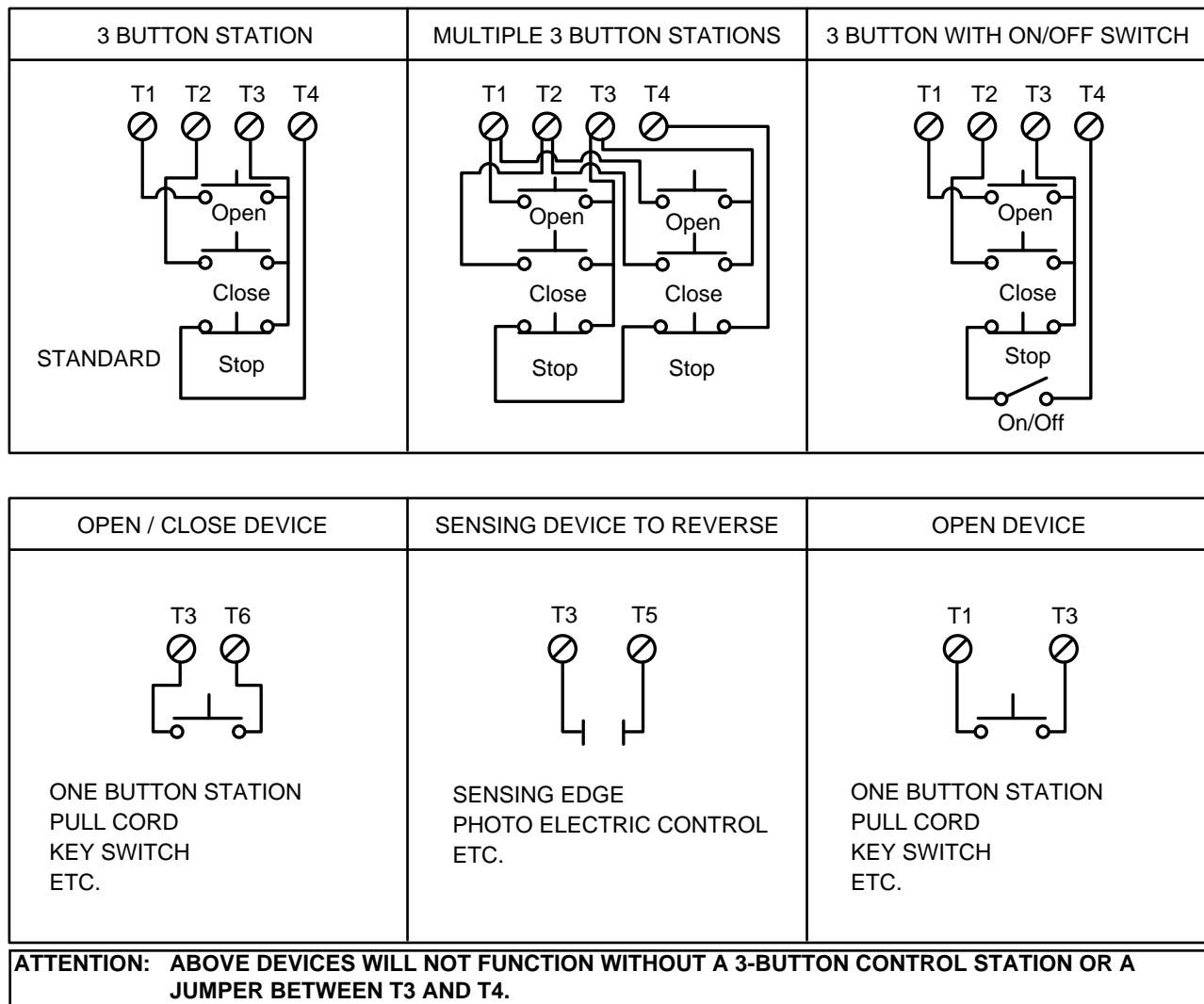
ATTENTION: The 3-Button Control Station provided must be connected for operation

WIRING TYPE - B2

- MOMENTARY CONTACT TO OPEN, CLOSE AND STOP
- ACCEPTS SENSING DEVICES TO REVERSE
- ACCEPTS AUXILIARY DEVICES TO OPEN AND CLOSE
- OPEN OVERRIDE

OPTIONAL C2

- SAME AS B2 EXCEPT CONSTANT CONTACT TO CLOSE. SEE BELOW.



OPTIONAL C2 • CONSTANT CONTACT TO CLOSE

Remove white wire between terminal 2 of control connection strip and terminal 4 of close relay. See Master Wiring Diagram.

NOTE: INTERLOCKS, IF USED, SHOULD BE NORMALLY CLOSED AND PLACED IN SERIES BETWEEN THE "STOP" BUTTON AND TERMINAL #4.