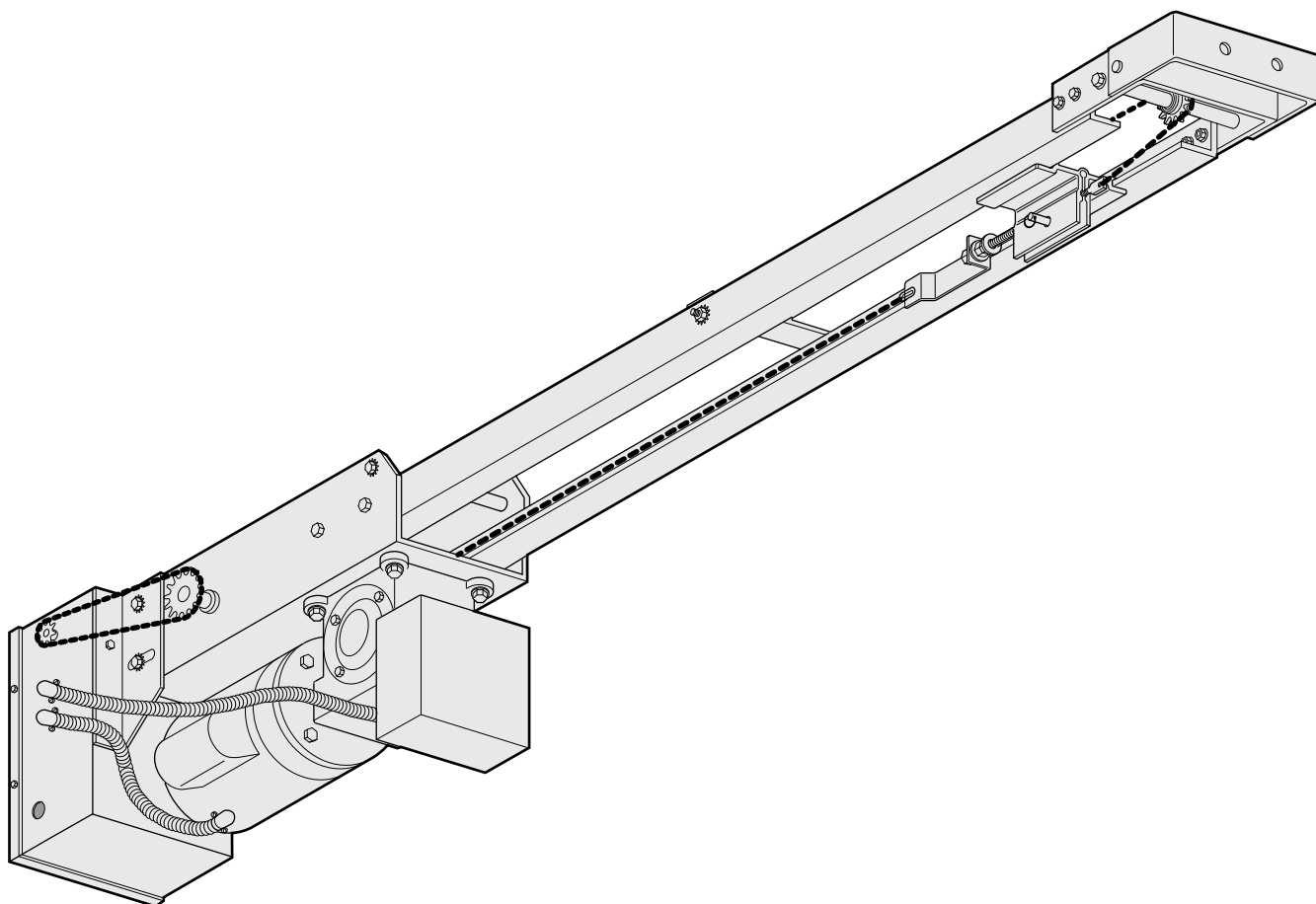


OWNER'S MANUAL

SERIES 3000

MODEL GT

INDUSTRIAL DUTY GEARHEAD TROLLEY OPERATOR



Serial # _____
(located on electrical box cover)

Installation Date _____

Wiring Type _____

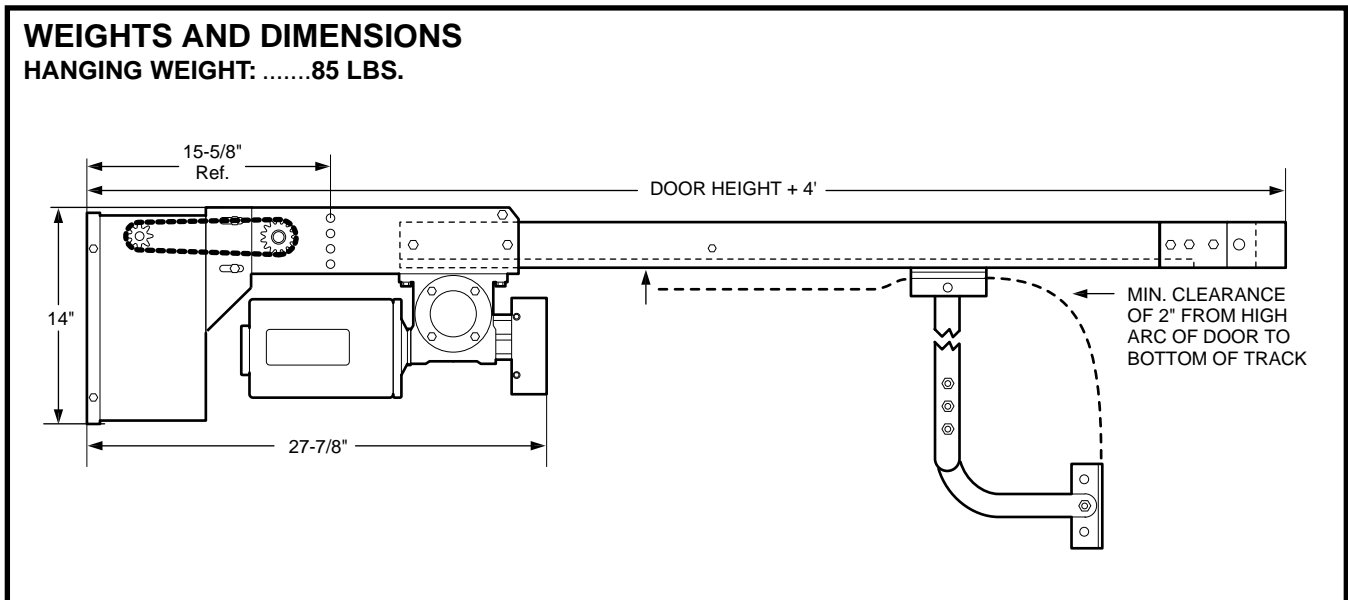


COMMERCIAL DOOR OPERATOR
LISTED
NOT FOR RESIDENTIAL USE

SPECIFICATIONS

MOTOR	ELECTRICAL
TYPE:Continuous Duty	TRANSFORMER:24VAC
HORSEPOWER:1/2, 1/2, 3/4 & 1 HP Single or Three Phase	CONTROL STATION:3 Button OPEN/CLOSE/STOP NEMA 1
SPEED:1725 RPM	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 Open Override (Other types available. See chart.)
VOLTAGE:115/208-230 Single Phase 208-230/460 Three Phase	LIMIT ADJUST:Linear Driven, Fully Adjustable Screw Type Cams. Adjustable to 22 feet.
CURRENT:See Motor Nameplate	

MECHANICAL	SAFETY
DRIVE REDUCTION: 1st Reduction:10: Gear Reducer 2nd & 3rd Reductions:#41 Chain and Sprockets Output:#41 Chain	DISCONNECT:Spring Loaded Trolley Disconnect Arm
OUTPUT SHAFT SPEED: 100 R.P.M.	CLUTCH:Adjustable Friction Type
DOOR SPEED:11 inches per sec.	REVERSING EDGE:(Optional) Electric or Pneumatic Sensing Device attached to the Bottom Edge of Door.
BEARINGS:Ball Bearings on Output Shaft	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.
BRAKE:Solenoid Drum Brake	



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 Through 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



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.



CAUTION

DO NOT CONNECT ELECTRIC POWER UNTIL INSTRUCTED TO DO SO.

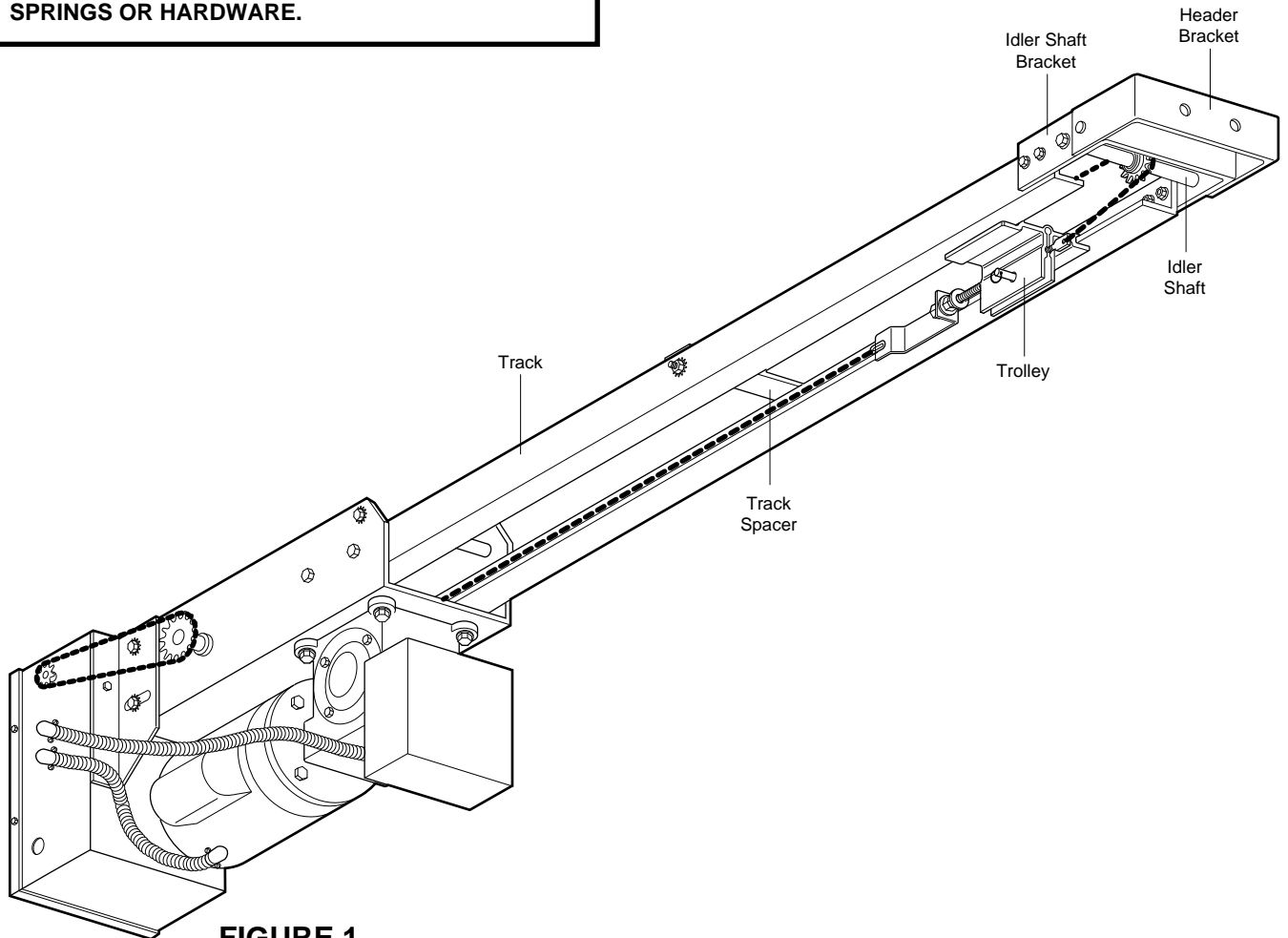



FIGURE 1

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 trolley on the track. Attach track spacer(s).
3. Place idler shaft bracket over end of track. There are two holes on each side of bracket (Figure 1). Fasten shaft bracket to end of rail assembly.
4. Align track so that trolley moves easily and does not bind. Tighten all bolts.
5. Run chain around front and rear sprockets and attach to trolley 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.

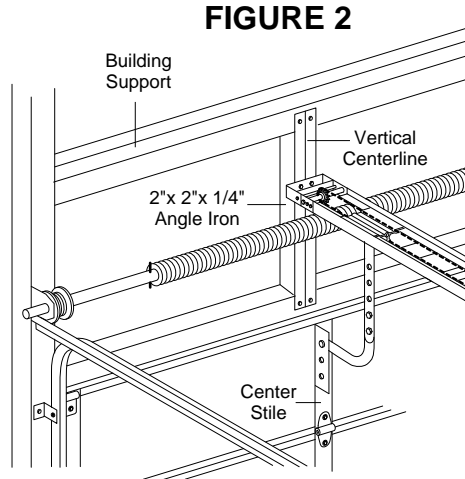


FIGURE 2

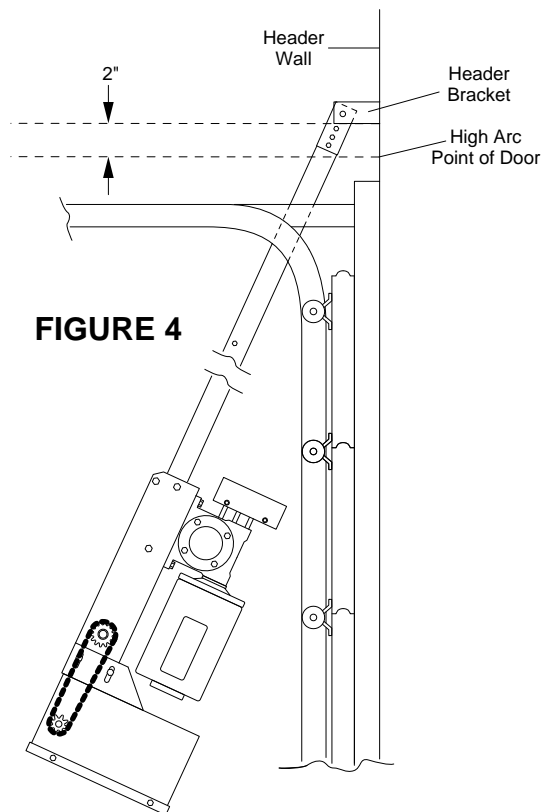


FIGURE 4

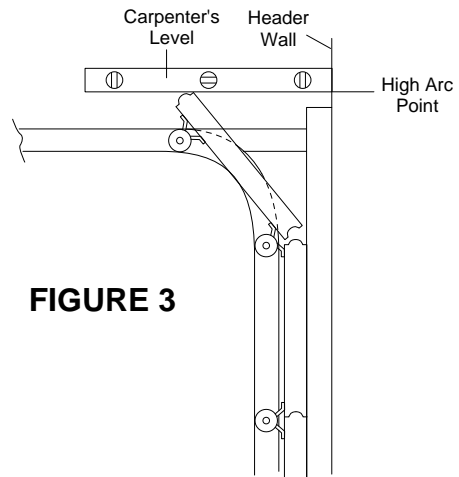


FIGURE 3

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.

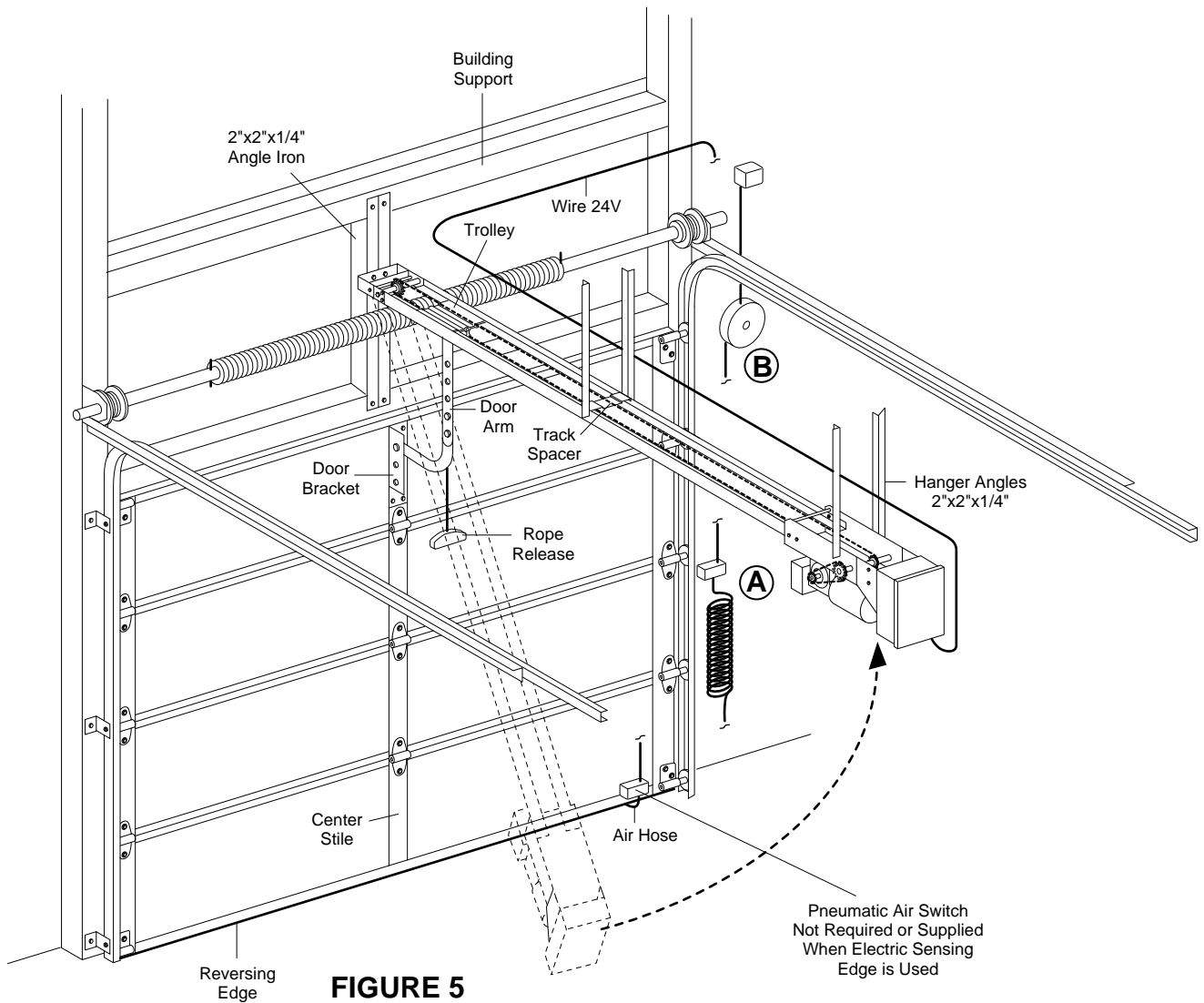


FIGURE 5

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.

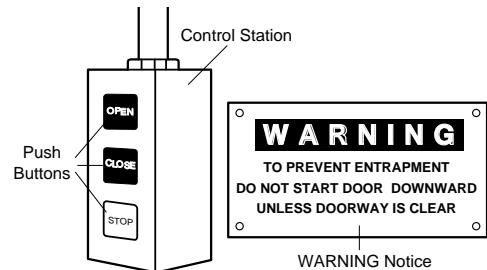
11. Complete the electrical connections to operator and control station (Refer to Control Connection Diagram, Pg. 20). Fasten the control station to the wall.

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

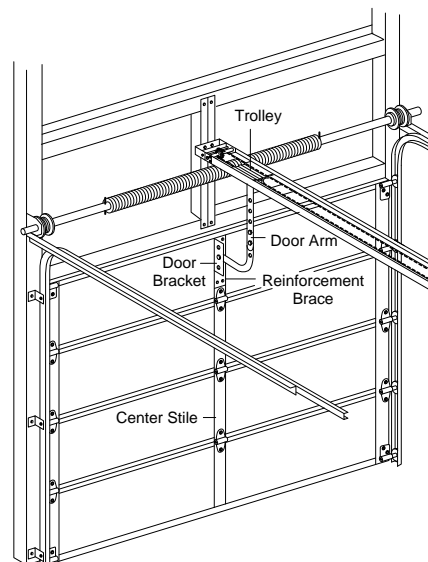
REINFORCE CENTER STILE WITH A VERTICAL BRACE. USE A PIECE OF ANGLE IRON THAT WILL SPAN THE HEIGHT OF TOP PANEL. DO NOT CUT HORIZONTAL STRUT.

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.





WARNING

TO AVOID SERIOUS PERSONAL INJURY OR DEATH FROM ELECTROCUTION, DISCONNECT ELECTRIC POWER BEFORE PROCEEDING WITH THE FOLLOWING ADJUSTMENTS.

ADJUST LIMITS

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

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 top in open position with the bottom of the door even with the top of the door opening.
4. Repeat Steps 1 and 2 for close cycles. Be sure close limit actuator is engaged as door fully seats at the floor.

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

ADJUST THE TORQUE LIMITER

1. Press OPEN button and observe door and operator.
2. If door does not move due to slippage of Torque Limiter, press STOP button.
3. Adjust Torque Limiter as follows:
 - a. Bend down tab on tab washer.
 - b. With a 1-7/8" wrench, tighten adjusting nut 1/8th turn.
4. Repeat Steps 1, 2 and 3b until door operates properly.
5. Bend up at least one tab on tab washer against adjusting nut to retain setting.

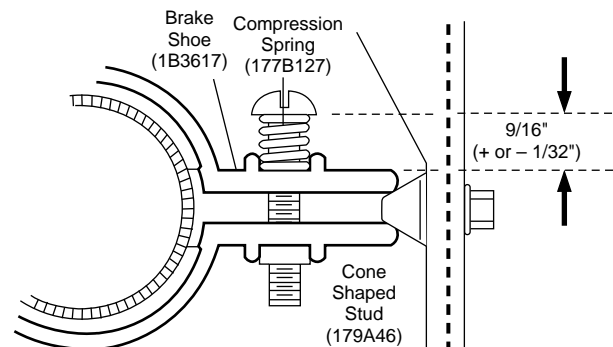
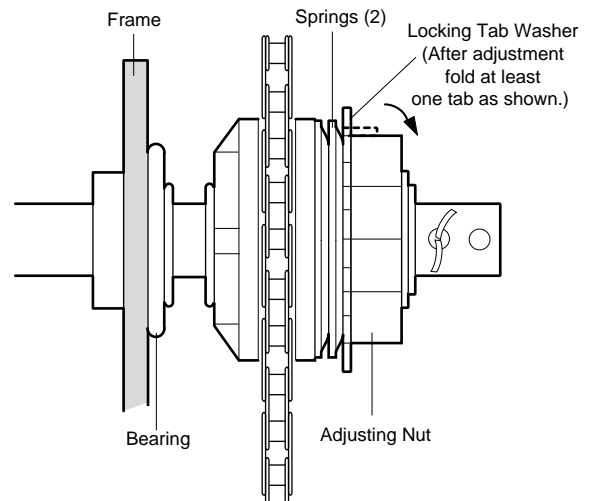
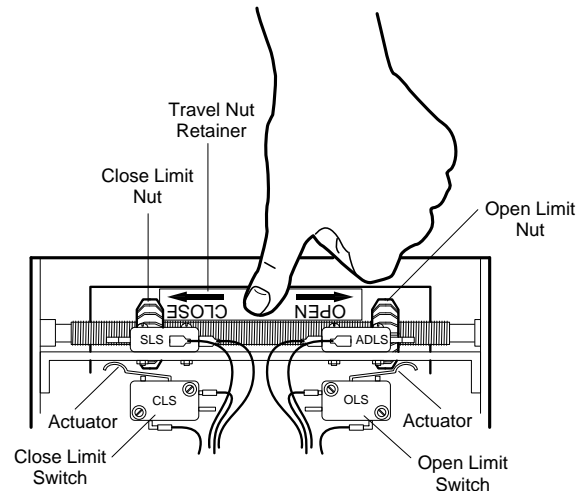
NOTE: The torque Limiter will require periodic inspection and possibly readjustment.

CAUTION: *The Torque Limiter is not intended to be a reversing device. A pneumatic or electric reversing edge may be added for that purpose.*

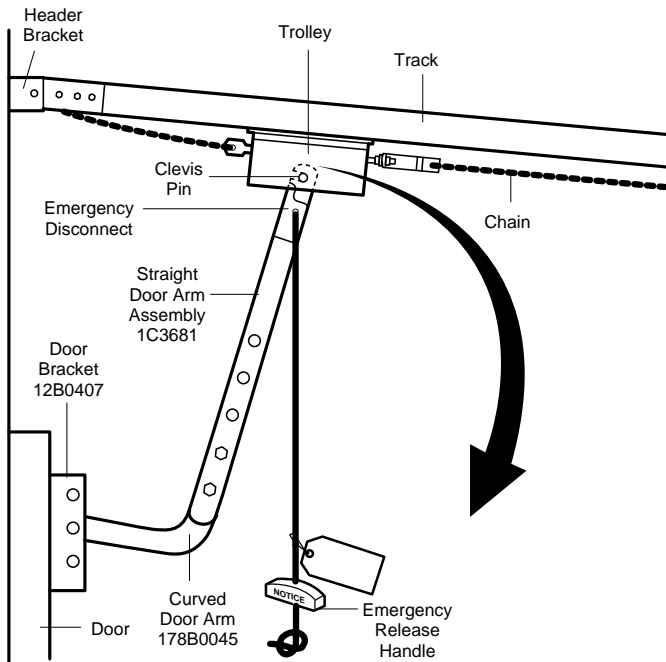
If properly adjusted, the Torque Limiter will provide a degree of protection for the door and operator by slipping under overload conditions.

ADJUST THE BRAKE COMPRESSION SPRING

1. Compress spring to the 9/16" dimension by turning screw. Do **NOT** spread brake shoes with cone shaped stud while adjusting spring height.
2. Test for proper brake operation and replace brake housing cover.
3. The brake assembly is self-adjusting and should not require further adjustment until brake shoes or drum are replaced due to wear. Check for wear every 3 months.



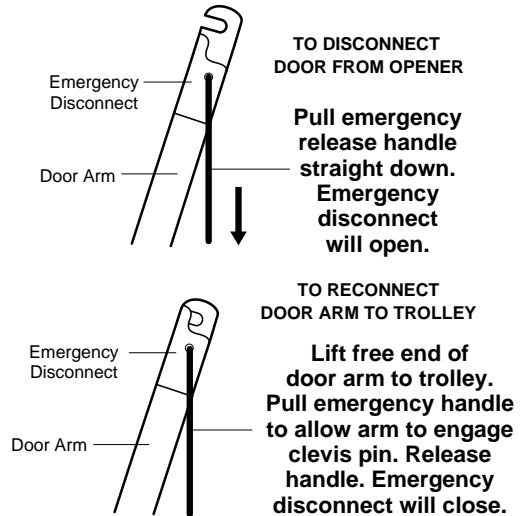
EMERGENCY DISCONNECT SYSTEM



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.



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.

CONNECT REVERSING EDGE DEVICE (OPTIONAL)

The operator has been pre-wired to accept connection of a reversing edge device. Connect the normally open contacts to terminals T6 and T8 on the low voltage terminal block. A cut-off switch will deactivate 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	●		✓
Torque Limiter and Brake	Check & adjust as required	●		✓
Gear Reducer**	Check for leaks and replace seals as needed		●	✓
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.

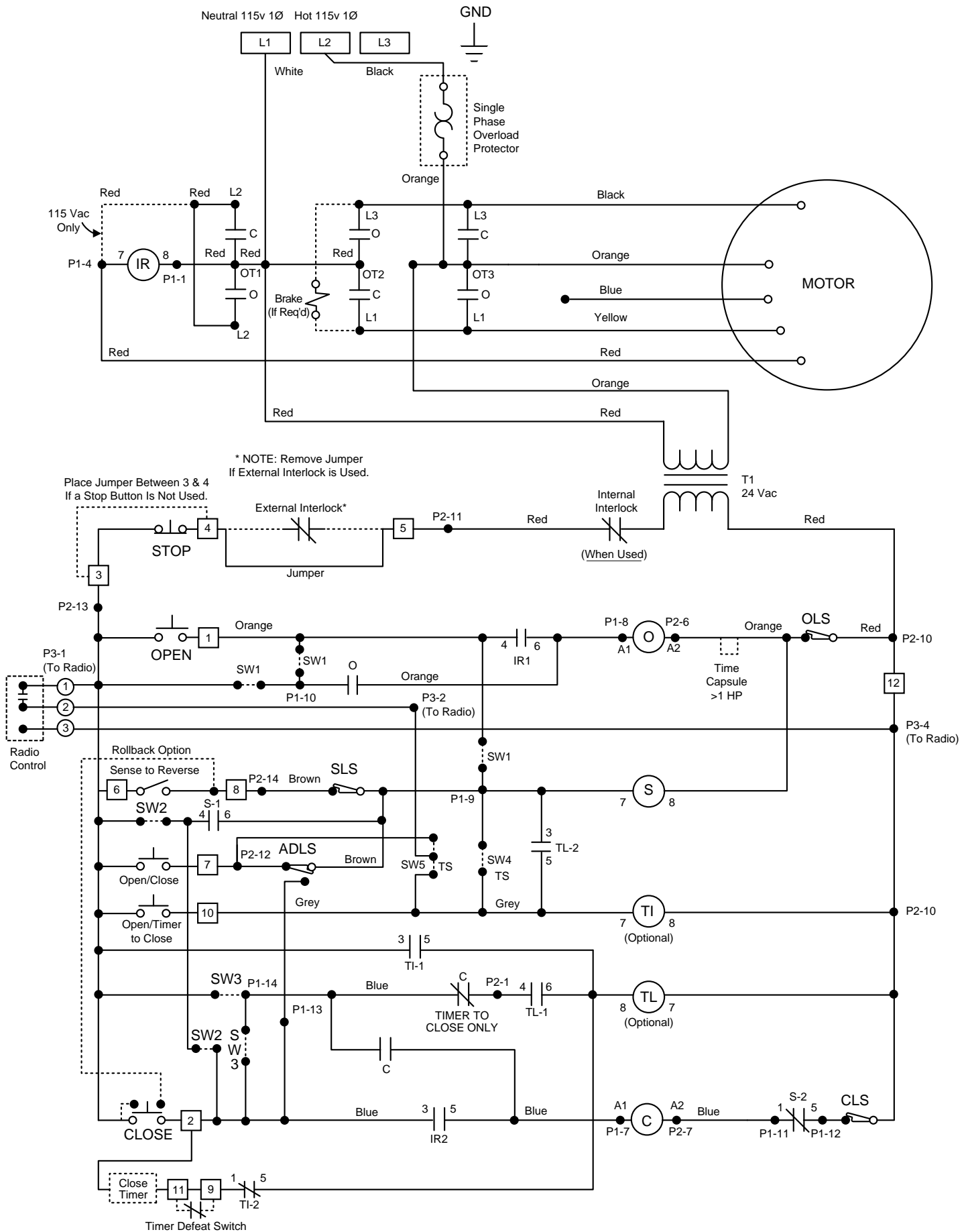
■ Do not lubricate clutch or V-belt.

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

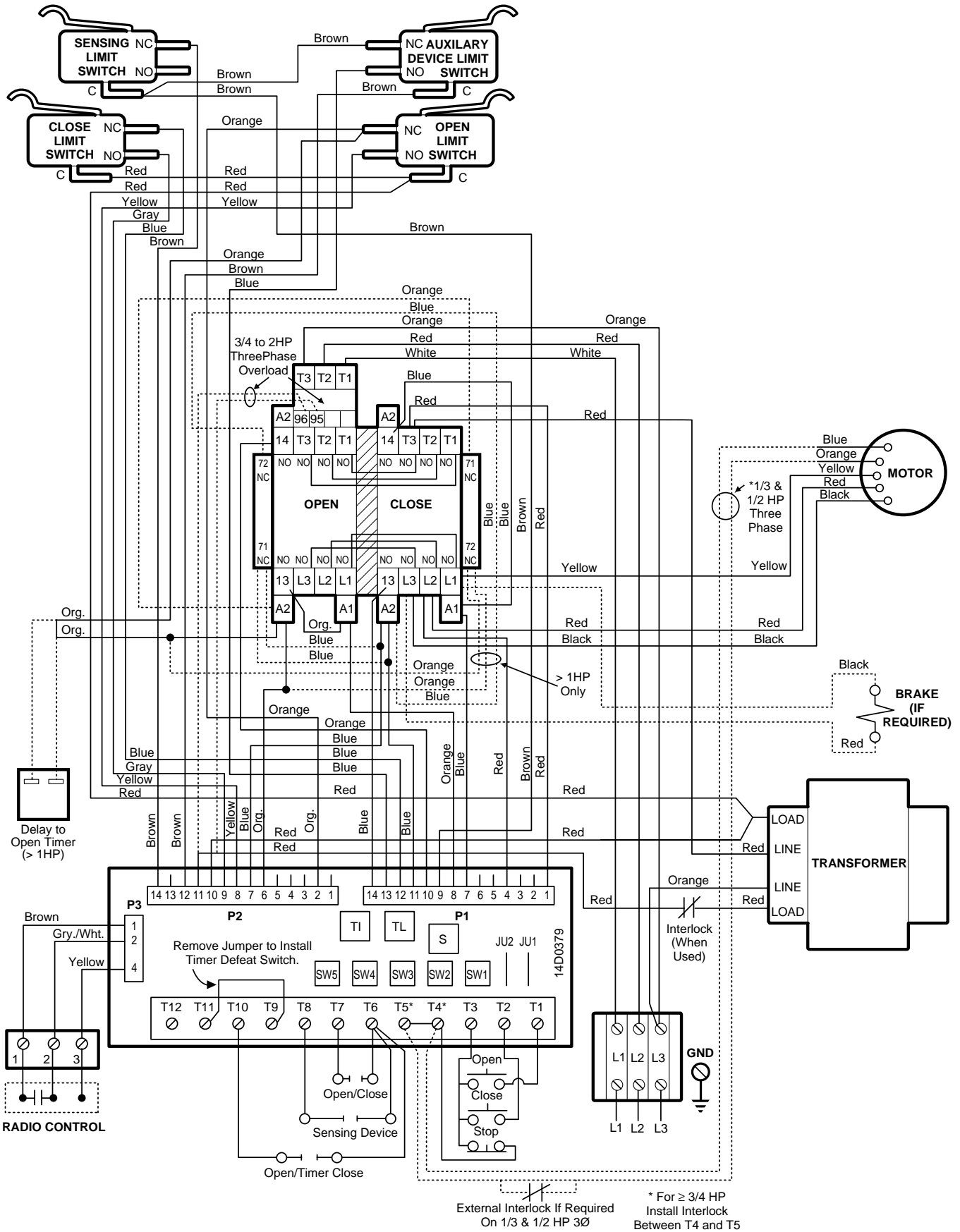
■ CAUTION: BEFORE SERVICING, ALWAYS DISCONNECT OPERATOR FROM POWER SUPPLY.

MEMO:

GT SINGLE PHASE SCHEMATIC DIAGRAM (For P.C. Board #14D0379)



GT THREE PHASE WIRING DIAGRAM (For PC Board #14D0379)

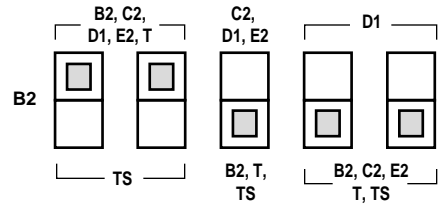


WIRING KITS

TYPE STATION

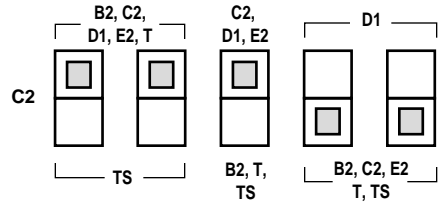
B2 3 Button

Function: Momentary contact to open, close and stop, plus wiring for sensing device to reverse and auxiliary devices to open and close with open override.



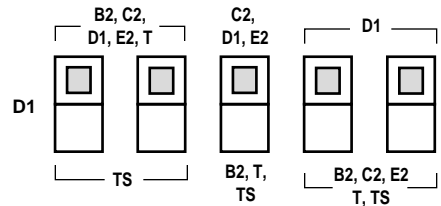
C2 3 Button

Function: Momentary contact to open and stop with constant pressure to close, open override plus wiring for sensing device to reverse.



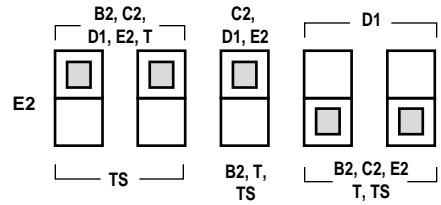
D1 2 Button

Function: Constant pressure to open and close with wiring for sensing device to stop.



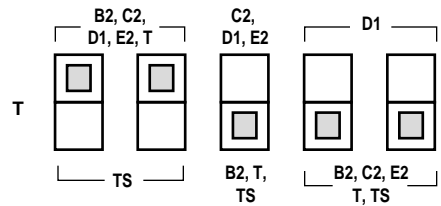
E2 2 Button

Function: Momentary contact to open with override and constant pressure to close. Release of close button will cause door to reverse (roll-back feature) plus wiring for sensing device to reverse.



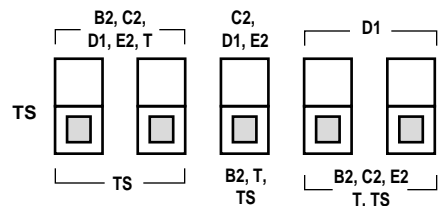
T* 3 Button

Function: Momentary contact to open, close and stop, with open override and timer to close. Open button can be connected to activate timer if desired. Auxiliary controls can be connected to open and activate timer to close or to open and close without activating timer. If timer has been activated, reinitiation of the timer to close circuit will recycle the timer. Includes wiring for sensing devices to reverse which will NOT activate time.



TS* 3 Button

Function: Momentary contact to open, close and stop with open override and timer to close. EVERY device that causes door to open will activate timer to close including sensing device to reverse. Timer may be deactivated until next opening signal is received by depressing stop button after door has reached open position or permanently by use of optional timer defeat switch. If timer has been activated, reinitiation of open circuit will recycle the timer.



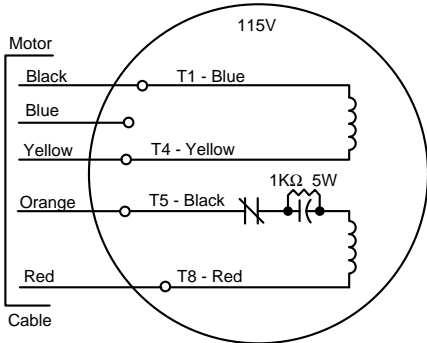
NOTE:

1. External interlocks may be used with all wiring types.
2. Auxiliary devices are any devices that have only one set of contacts. Examples are: photocell, loop detector, pneumatic or electrical treadles, residential radio controls, one button stations, pull cords, etc.
3. Open override means that the door may be reversed while closing by activating an opening device without the need to use the stop button first.

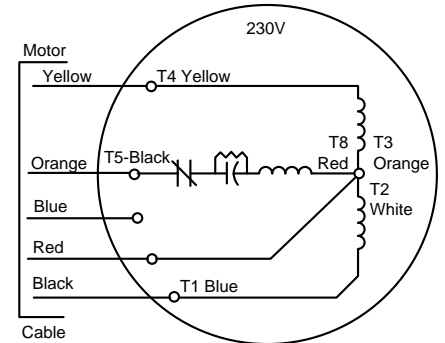
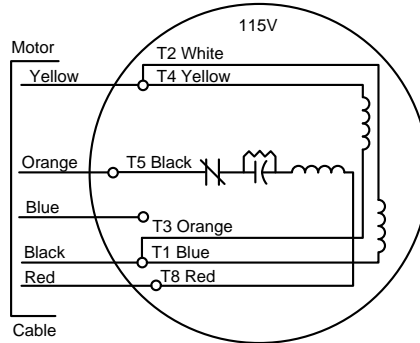
NEMA MOTOR WIRING DIAGRAMS

SINGLE VOLTAGE

1/3 & 1/2 H.P. 115 V only

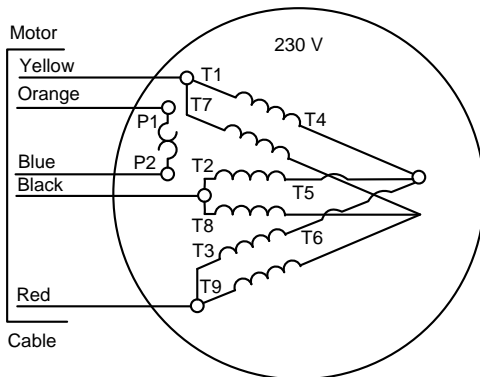


1 PHASE

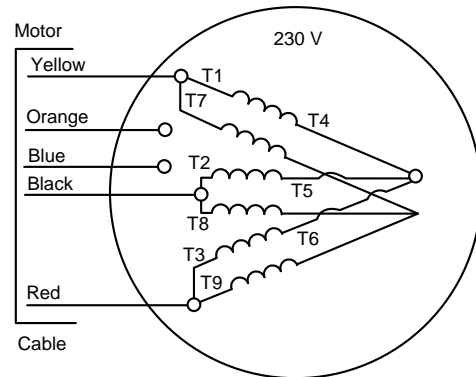


3 PHASE

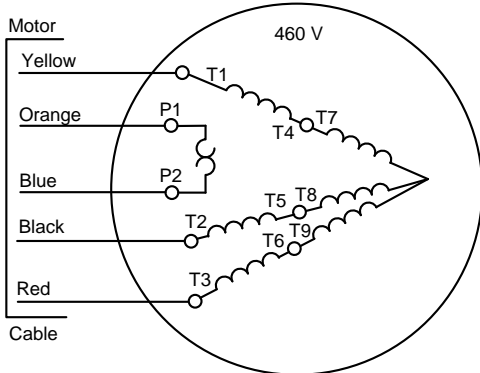
1/3 & 1/2 H.P.



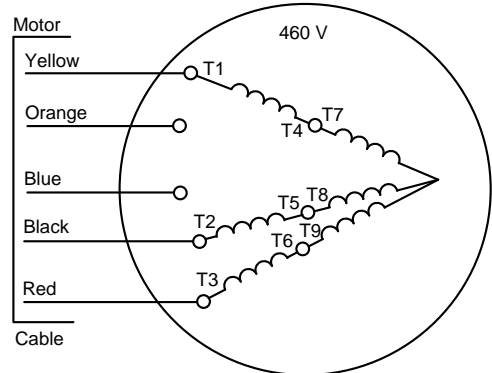
3/4 H.P. & OVER



1/3 & 1/2 H.P.

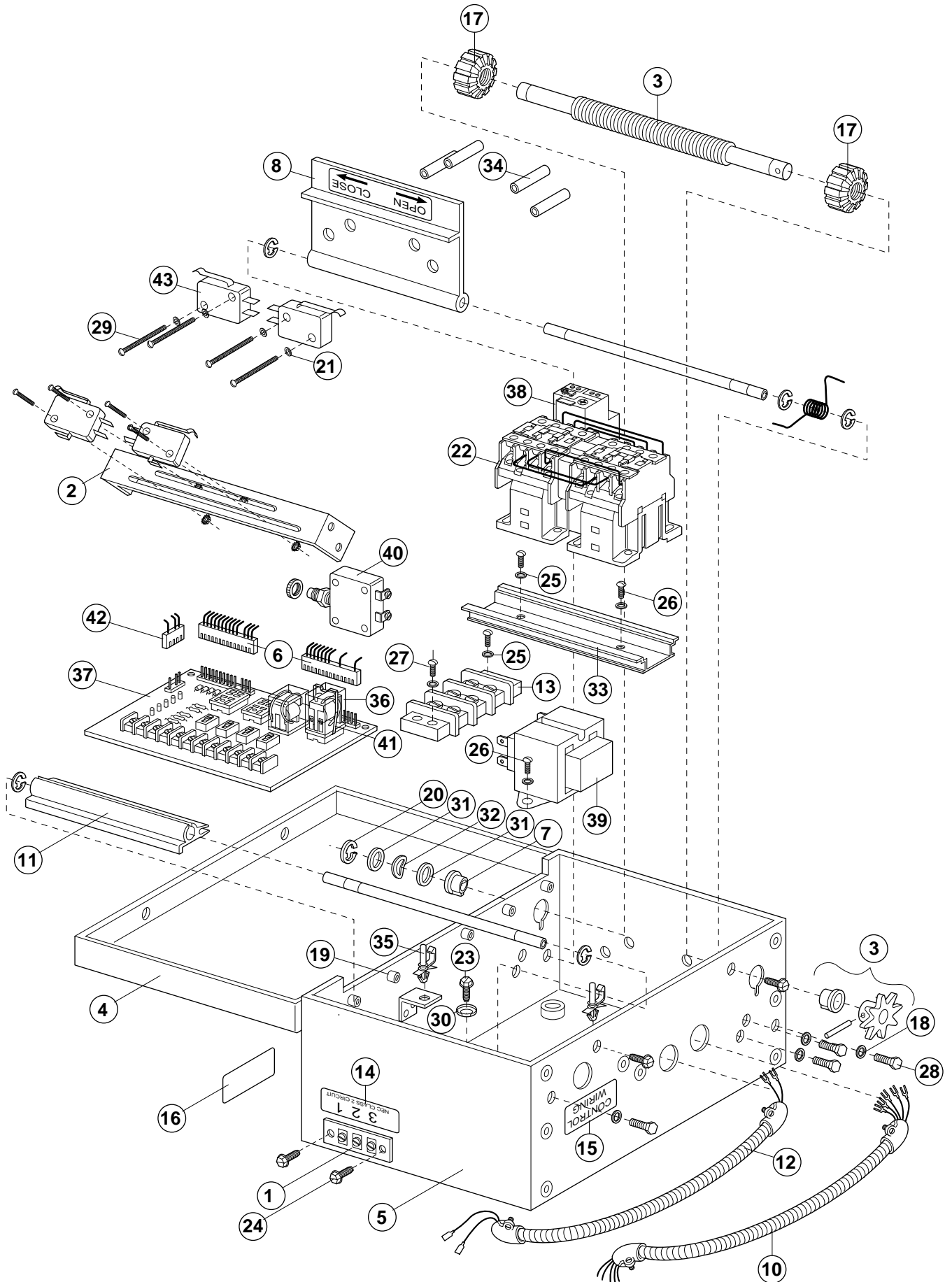


3/4 H.P. & OVER



○ DENOTES WIRENUT CONNECTION

ILLUSTRATED PARTS – GT ELECTRICAL BOX



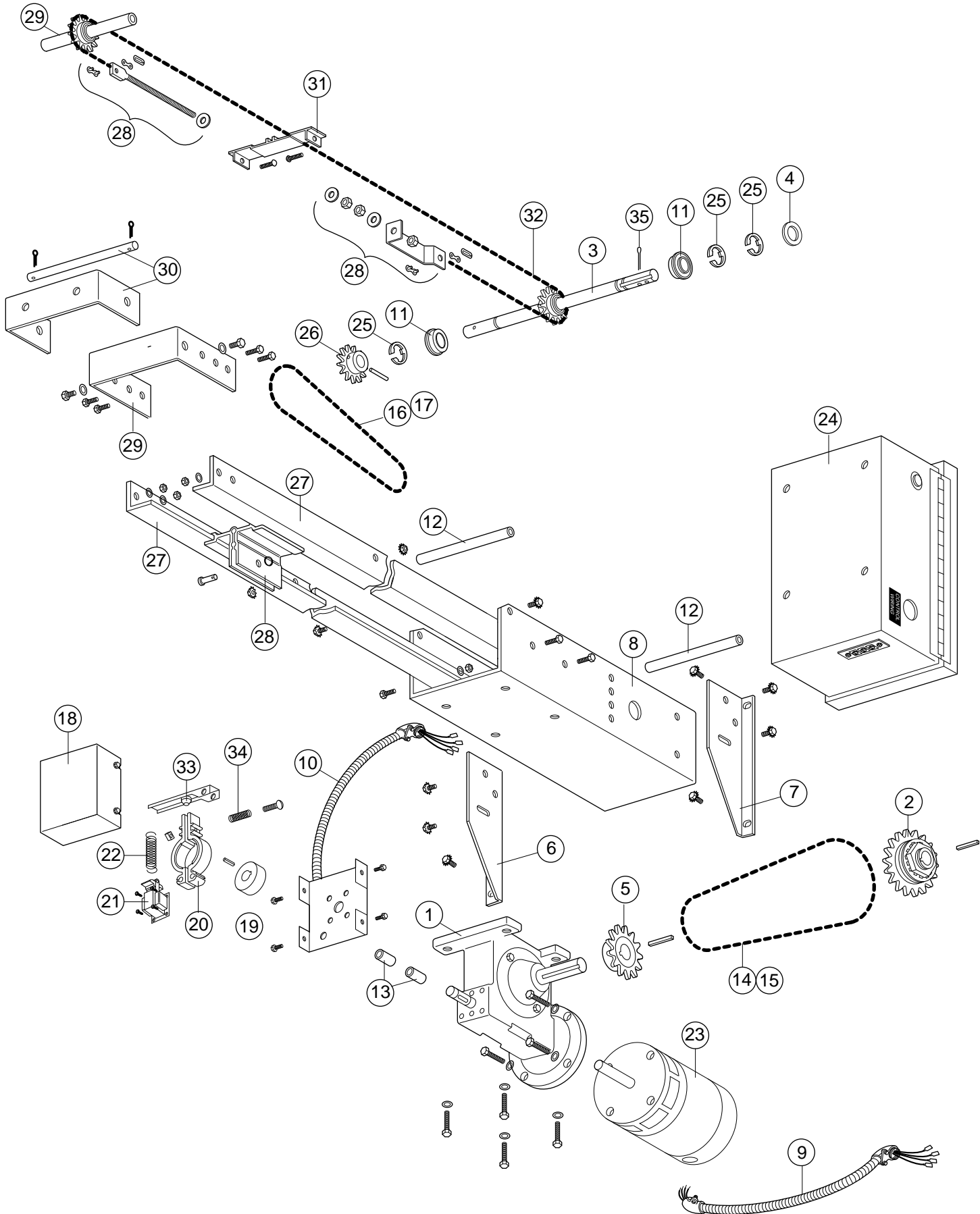
REPAIR PARTS – GT ELECTRICAL BOX

ITEM NO.	PART NO.	QTY	DESCRIPTION
1	1B3727	1	Terminal Assy. 3-Lug
2	41K4304	1	Switch Bracket Assy. (Aux. & Sensing)
3	1B3796	1	Limit Shaft-Sprocket Assy.
4	1B4323	1	Cover & Hinge Assy.
5	1C3937	1	Electric Box Assy.
6	1D4017	1	Wire Harness
7	11A12	1	Flanged Sleeve Bearing
8	41K4337	1	Limit Bracket (Adj.) Kit
10	1B4281	1	Motor Cable Assy.
11	41K4305	1	PCB Holder Assy. Kit
12	1B4280	1	Brake Conduit Assy.
13	203A177	1	Terminal Strip 3 Lug
14	132A2011	1	Label - Class 2 NEC Circuit
15	132B1931	1	Control Wiring Label
16	132B1930	1	Label - Power Wiring
17	133A182	2	Limit Nut 1/2"
18	216A10	7	Washer #6 Internal Lock
19	157A84	4	Rivet
20	158A49	1	Retaining Ring 3/8
21	216A43	4	Washer #4 Internal Lock
22	160C86	1	Reversing Contactor
23	171A220	1	Screw #8F 1/2 SL Hex Green
24	171A311	4	S.T. SCR #8TF 3/8" Hex/Washer
25	216A140	6	Washer #8 Lock-Split
26	171A337	4	Machine Screw 8-32 x 1/2" Hex
27	171A339	2	Machine Screw 8-32 x 3/4" Sl. Pan
28	171A386	7	Screw 6-32 x 1/2" - Hex Head
29	171A411	4	Screw 4/40 x 1-1/2" Pan Head
30	216A149	1	Washer #8 Terminal Cup
31	216A184	2	Thrust Washer
32	216A191	1	Washer, Spring Curved
33	183B139	1	DIN Rail - 4-3/4"
34	184A109	4	Spacer - Stand Off - Round
35	184A112	2	PCB Stand Off
43	180B133	2	Limit Switch

ITEM	PART NO.	DESCRIPTION	QUANTITY											
			DESCRIPTION MOTOR P/N	1/2 HP, 115V, 1 PHASE 123D135	1/2 HP, 230V, 1 PHASE 123D135	1/2 HP, 230V, 3 PHASE 123D138	1/2 HP, 460V, 3 PHASE 123D138	3/4 HP, 115V, 1 PHASE 123D136	3/4 HP, 230V, 1 PHASE 123D136	3/4 HP, 230V, 3 PHASE 123D139	3/4 HP, 460V, 3 PHASE 123D139	1 HP, 115V, 1 PHASE 123D137	1 HP, 230V, 1 PHASE 123D137	1 HP, 230V, 3 PHASE 123D140
		Motor	1	1	1	1	1	1	1	1	1	1	1	
36	160B83	Relay 115V	1				1				1			
	160B84	Relay 230V		1					1			1		
37	1C4198	PCB 1 Phase	1	1				1	1		1	1		
	1C4197	PCB 3 Phase			1	1			1	1		1	1	
38	160B73-01	Overload 1-1.6A*								1				
	160B73-02	Overload 1.6 - 2.5A*											1	
	160B73-03	Overload 2.5 - 4.0A*							1			1		
	160B73-04	Overload 4.0 - 6.0A*												
	160B73-05	Overload 5.5 - 8.0A*												
39	204C122-08	Transformer 115V	1					1			1			
	204C122-09	Transformer 230V		1	1				1	1		1	1	
	204C122-07	Transformer 460V				1					1		1	
40	180B159-1	Overload 5A		1										
	180B159-2	Overload 7A							1					
	180B159-3	Overload 8A									1			
	180B159-4	Overload 10A	1											
	180B159-5	Overload 15A									1			
	180B159-9	Overload 12A						1						
41	29A132	Relay Clip	1	1				1	1		1	1		
42	1B4048	Radio Cntrl Harness	1	1	1	1	1	1	1	1	1	1	1	

*Overload to be set at 115% maximum of motors rated current

ILLUSTRATED PARTS – OPERATOR MODEL GT



REPAIR PARTS – MODEL GT

ITEM NO.	PART NO.	QTY	DESCRIPTION
1	80D6	1	10:1 Gear Reducer
2	2A403	1	Torque Limiter
3	1B4314	1	Drive Shaft Assembly
4	216A182	1	Washer
5	81B84	1	#41 14Tooth Sprocket
6	12C506	1	Electric Box Mtg. Brkt.
7	12C506-1	1	Electric Box Mtg. Brkt.
8	1D4392	1	Frame Assembly
9	1B4281	1	Motor Cable Assembly
10	1B4280	1	Brake Conduit Assembly
11	41K4300	1	Ball Bearing (3/4") I.D. Kit
12	184B97	2	Spacer
13	184A123	2	Spacer
14	1A4283	1	#41 Chain, 61 Pitches
15	109A21	1	#41 Master Link
16	1A3971	1	#48 Chain, 49 Pitches
17	109A11	1	#48 Master Link
18	031C399	1	Brake Housing Cover
19	44A3	1	Brake Drum
20	1B3617	2	Brake Shoe Assembly
21	See Chart	1	Solenoid
22	177B128	1	Extension Spring
23	See Chart	1	Motor
24	See Detail	1	Electric Box
25	158A53	3	E-Ring
26	81C151	1	Sprocket
27	See Chart	2	L-Rail
28	1B4001	1	Trolley Assembly
29	1C3993	1	Bracket Assembly
30	41K4302	1	Header Assembly
31	184D113	Varies	Spacer T-Rail #41 Chain
32	See Chart	1	Chain Assembly, Master Link Kit
33	179A46	1	Brake Release Stud
34	177B127	1	Compression Spring
35	146A67	1	Cutter Pin

ITEM 21	
PART NO.	DESCRIPTION
204B118	115V. Solenoid
204B118-1	230V. Solenoid
204B118-2	460V. Solenoid

Door Hts.	ITEM 27		ITEM 32		ITEM 32		ITEM 31	
	Rail	Qty.	Chain Assembly	Qty.	#41 Chain Master Link Kit	1 Set Qty.	Spacer Kit	Qty.
8 Feet	183C137	2	1A4026	1	1A4034	1	1A4005	2
10'	183C137-1	2	1A4027	1	1A4034	1	1A4005	2
12'	183C137-2	2	1A4028	1	1A4034	1	1A4005	2
14'	183C137-3	2	1A4029	1	1A4034	1	1A4005	3
16'	183C138	2	1A4030	1	1A4034	1	1A4005	3
18'	183C138-1	2	1A4031	1	1A4034	1	1A4005	3
20'	183C138-2	2	1A4032	1	1A4034	1	1A4005	4
22'	183C138-3	2	1A4033	1	1A4034	1	1A4005	4

CONTROL CONNECTION DIAGRAM



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

