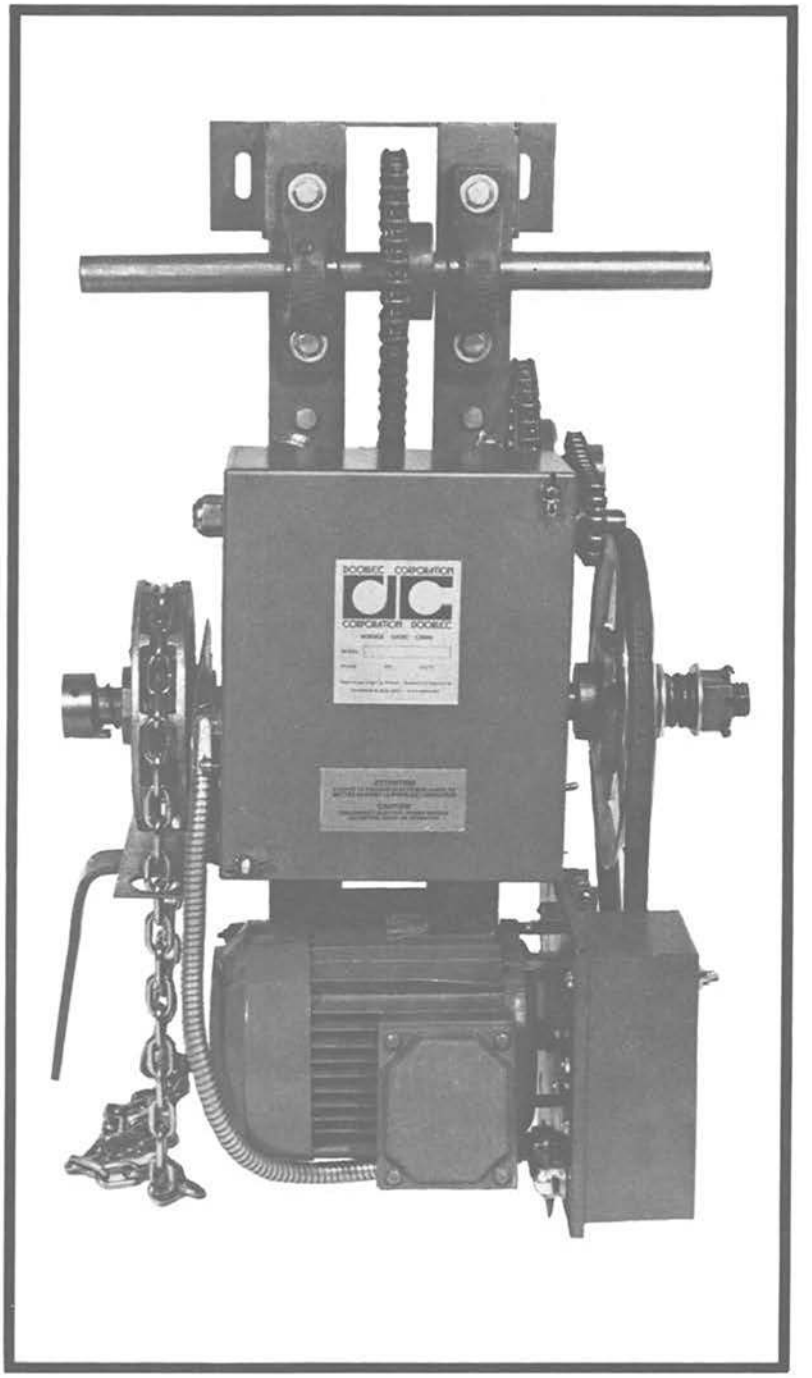
Installation, maintenance and instruction manual

Models GH, GHW, EHJW, GHX, EHJX, EHJ, LJH, LJ, LJHW, GH-3, GHW-3



Note to installer:
Please leave this manual and wiring diagram with owner.

DOORLEC CORPORATION

General information

GH - GHW - EHJW - GHX - EHJX - EHJ - LJH - LJ

These operators are designed for large sectional overhead type doors, multiblade doors and steel rolling doors driven by a cross header shaft.

Features

Power is developed by a worm gear reducer or a V belt and pulley system plus a heavy duty roller chain and sprockets, reducing the speed of the motor from 1750 RPM to 10" per second for sectional doors and 6" to 8" per second for steel rolling or multiblade doors. Driven limit switches (that are adjustable) shutt off the motor in both open and close positions. A solenoid brake stops and holds the door when power is off.

All these models have a manual operated chain hoist that is controlled from a disconnect device operable from floor level. An electrical interlock switch cuts power to operator during manual operation (except model LJ which has a manual floor disconnect only).

Installation instructions

Unpack carton and check for possible damage. If damage in shipping is detected, file claim with freight carrier before proceeding further.

Important: Be sure that the available power matches that on the operator name plate.

The carton should contain the following:

Models GH - GHW - GHX

1 power unit complete
1 control station
4 feet roller chain #50
1 connecting link #50
2 square shaft keys ¼" × 1½"
1 cable (⅔ of door height)
1 lever release assembly
1 sprocket 50B12 × 1" I.D. (operator)
1 sprocket 50B23 × 1" I.D. (door shaft)
1 passing link hoist chain 1.5 × door height
For rolling steel, multiblade, vertical lift and high lift loors, door shaft sprocket varies depending on door size and drum diameter.

Models EHJ - EHJW - EHJX - LJH - LJ

1 power unit complete
1 control station
4 feet roller chain #41
2 chain connecting links #41
1 rollpin (5/16" × 1½")
2 square shaft keys (¼" × 1½")
1 cable (⅔ of door height)
1 lever release assembly
1 sprocket 41B12 × 1" I.D. (operator)
1 sprocket 41B23 or 41B36 × 1" I.D.
(standard steel door)
1 passing link hoist chain 1.5 × door height
(Except model LJ)

Note: Use of spreader bar assembly – Prior to attempting installation of E.O. check that job conditions do not force you to install either the door sprocket or the operator sprocket (or both) more than 1" away from the nearest shaft bearing; if they do, we STRONGLY recommend that you assemble and install a spreader bar in accordance with instructions and dimensions given on page 5. This will keep both shafts perfectly parallel at all times and prevent any jumping of drive chain on the sprockets with the ensuing disadjustment of the limit switch assembly.

Mounting operator

1. Figure 4 shows the suggested mounting positions for wood or steel sectional overhead doors.

2. Figure 5 shows the suggested mounting positions for steel rolling doors.

3. The center distance between the door shaft and the operator shaft is usually between 10" and 15". A more accurate measurement can be determined by the diameters of the sprockets and the length of the roller chain. If driving and driven sprockets cannot be located close to solid bearings refer to Figure 6 with accompanying text and select a proper center distance (dim. "A") to install a spreader bar.

4. Whether or not a spreader bar should be used, it will be easier to hang the operator temporarily by the sprockets and the roller chain (cut to desired length) on one side and a rope on the other side (as shown in Figure 6). If spreader bar is required, slide bearing plates and collars on both shaft prior to making temporary hanging outlined above, then drill or punch holes in the connecting bar (or angle) and fasten with four ⅜" × 1" bolts with nuts and lock washers.

5. Holes to mount the operator can now be marked and drilled.

6. Operator should be attached to the wall using ⅜" through bolts for a secure mounting. If wall is constructed so as to prohibit the use of through bolts, lag bolts and shields of suitable size may be used instead.

7. ¼" shaft key is furnished with operator. If no key way is provided in the door shaft, drill a 5/16" hole through sprocket and door shaft and insert 5/16" × 1½" roll pin.

Clutch adjustment (When used)

8. After the operator is installed, adjust the clutch (see Figure 1).

NOTE: MORE PROBLEMS ARE CAUSED BY AN IMPROPERLY ADJUSTED CLUTCH THAN BY ANY OTHER CAUSE.

a) Remove cotter pin from nut on clutch shaft.
b) Back off clutch nut until there is just not sufficient tension on clutch to drive door.
c) Tighten clutch nut gradually until there is just enough tension on spring to permit operator to move door smoothly, but to allow clutch to slip if door is obstructed.
d) When clutch and door are properly adjusted, it should be possible to stop the door by hand during travel.
e) Replace cotter pin after each adjustment.

FIGURE 1. CLUTCH ASSEMBLY (Optional)

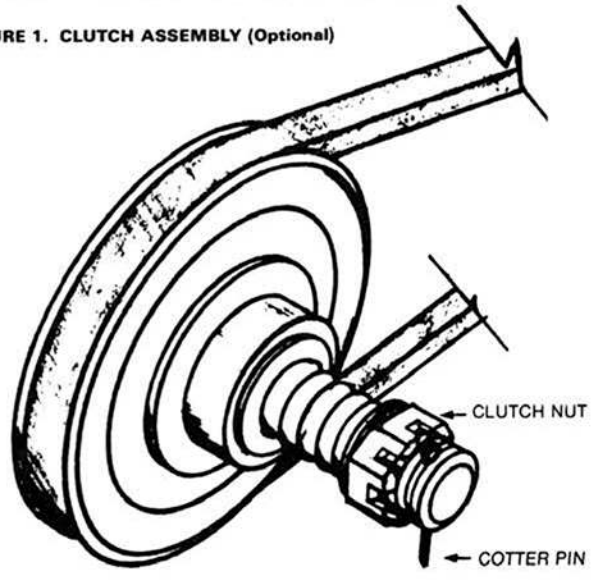
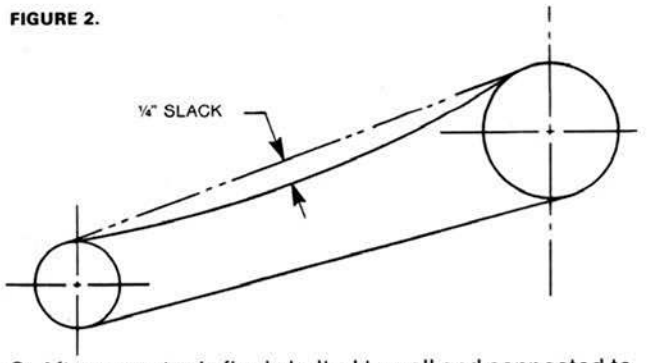


FIGURE 2.



9. After operator is firmly bolted to wall and connected to closed door by its drive chain (be sure to leave slack shown in Figure 2), remove cover from electrical enclosure and observe travelling cams on limit shaft. The "CLOSE" limit switch should be already actuated by its corresponding cam; if it is not, depress cam retaining bracket with one hand and turn "CLOSE" cam with the other until "CLOSE" limit switch is just actuated (a click will be heard) then give cam another half turn in same direction; reengage retaining bar in cam slots. Now move door up to fully open position by the chain hoist or by turning manually the large pulley which is driven by the motor; depress cam retaining bracket and turn "OPEN" cam by hand until it just actuates "OPEN" limit switch (a click will be heard) then give cam another half turn in same direction. Operator is now ready to receive final connections to electrical power source and to all remote control devices except pushbutton station.

Note: "CLOSE" limit switch has one orange and one red wire going into it; for the "OPEN" switch, the colors are orange and green.

10. Now that preliminary setting of limit switches is done and power connections are completed, install temporarily the pushbutton station near the operator and connect it to the short leads coming out of operator control box; move the door up manually to a point about two feet from floor, apply power and push on "CLOSE" button; door should move downwards and stop a few inches from floor (stand by the "STOP" button just in case). If motor is fed from a three phase power source, door may move in wrong direction; correct motor rotation will be obtained by interchanging any two of the three wires from power supply.

11. You are now ready to make final adjustments to limit switches. Move "CLOSE" cam one notch away from "CLOSE" limit switch and send door down electrically; repeat until door just stops on floor without compressing weatherstrip excessively and without causing a slackening of door lift cables. Proceed in the same manner for the "OPEN" limit switch, one notch at a time until bottom edge of door stops at lintel.

Note: Be sure to reengage cam retaining bracket into the slots of both cams after each cam adjustment and before door is moved. Stand by the "STOP" button each time the door is tested.

12. Remove pushbutton station from its temporary location, install it in its intended location and make permanent connections.

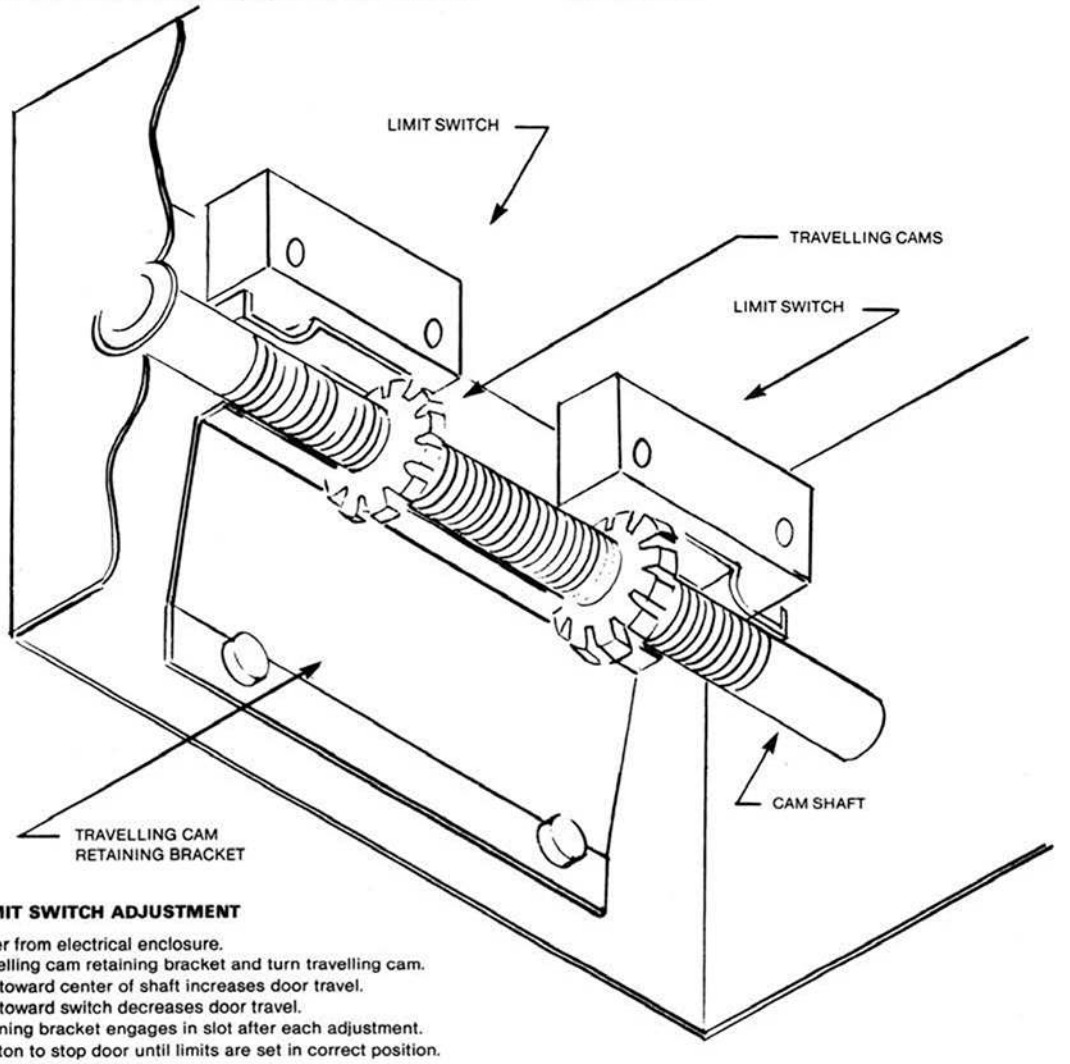
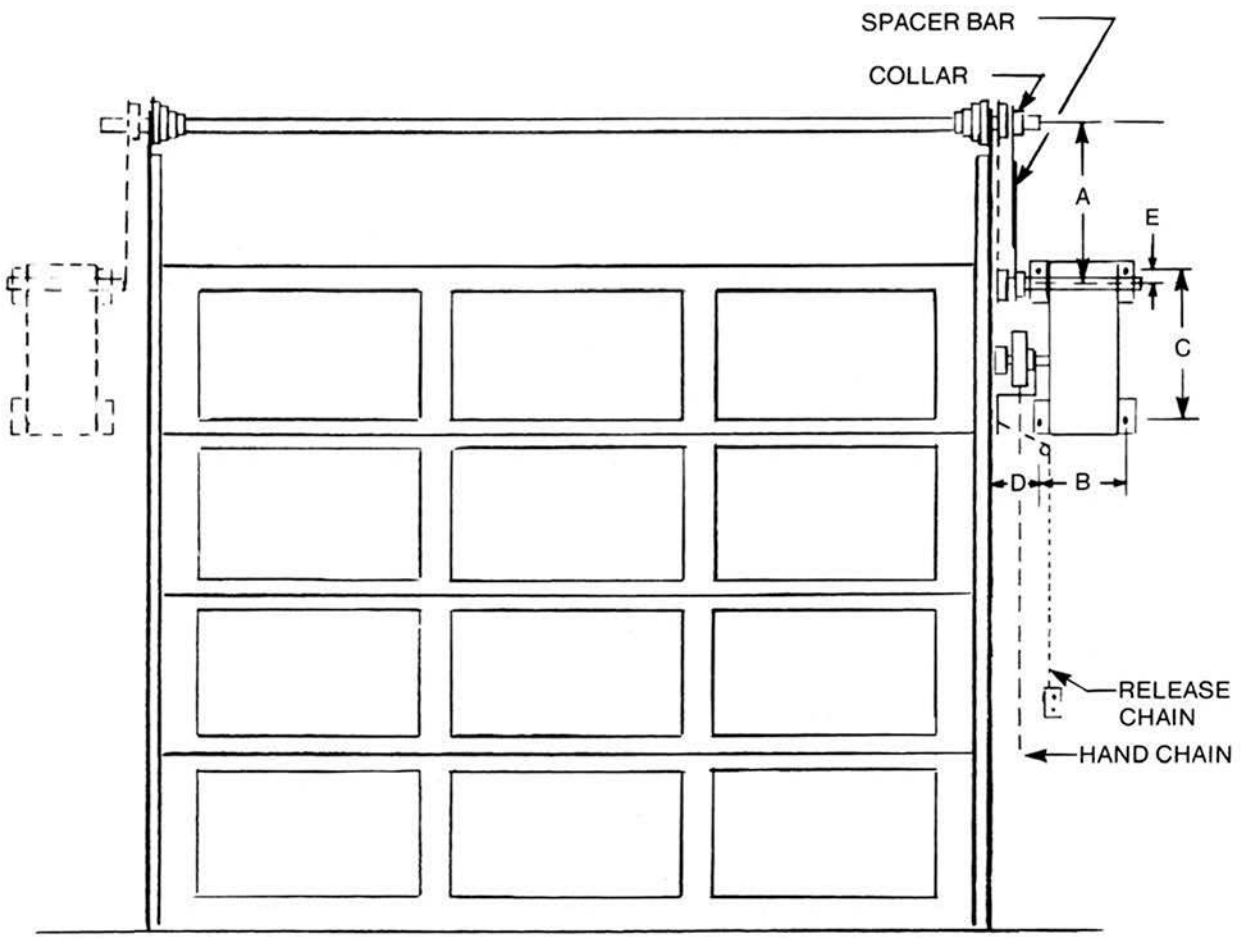


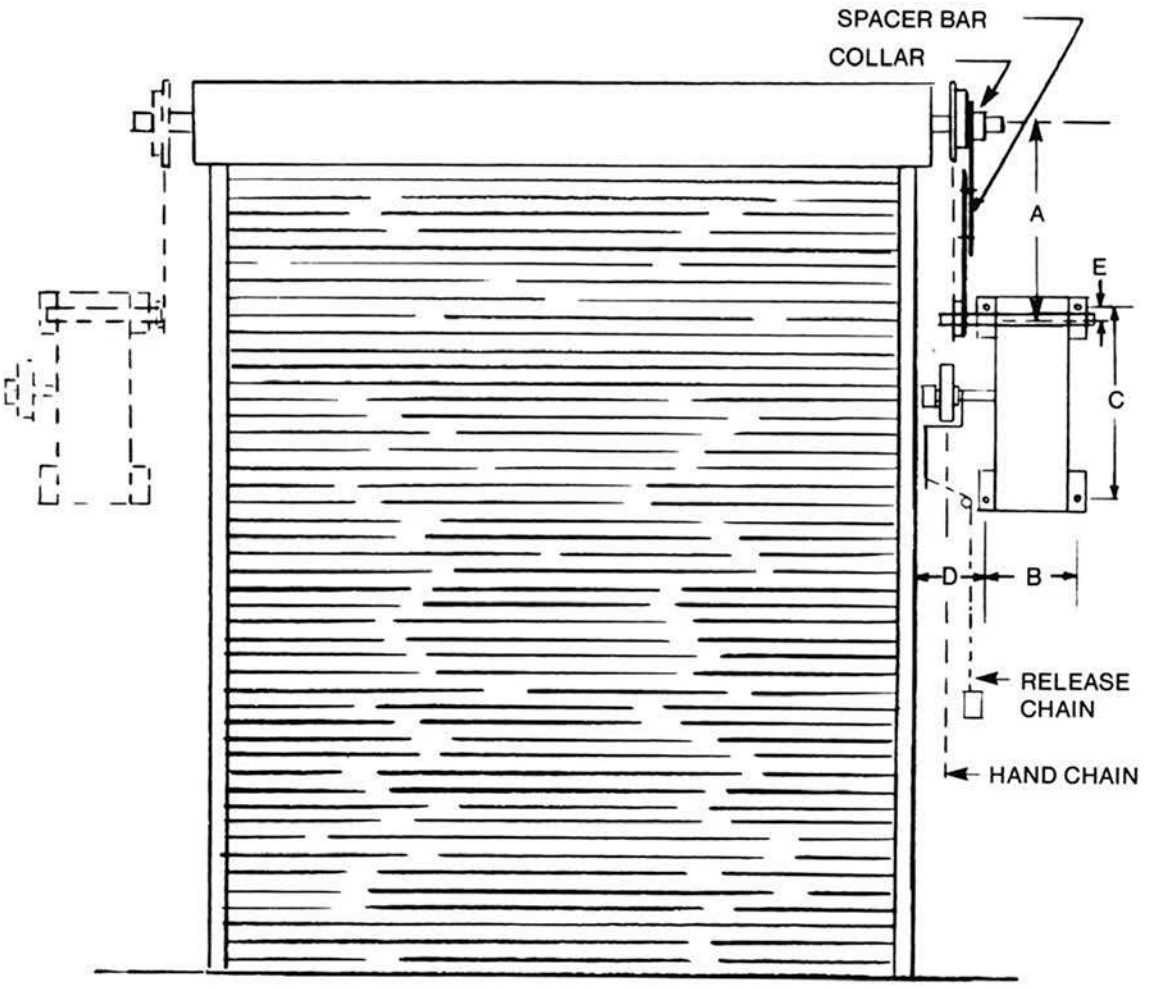
FIGURE 3. LIMIT SWITCH ADJUSTMENT

1. Remove cover from electrical enclosure.
2. Depress travelling cam retaining bracket and turn travelling cam.
3. Turning cam toward center of shaft increases door travel.
4. Turning cam toward switch decreases door travel.
5. Be sure retaining bracket engages in slot after each adjustment.
6. Use stop button to stop door until limits are set in correct position.



A	12 3/16"	10 3/4"
B	9 1/8"	9 1/8"
C	23 11/16"	23 11/16"
D	5 1/2"	5 1/2"
E	1/2"	—

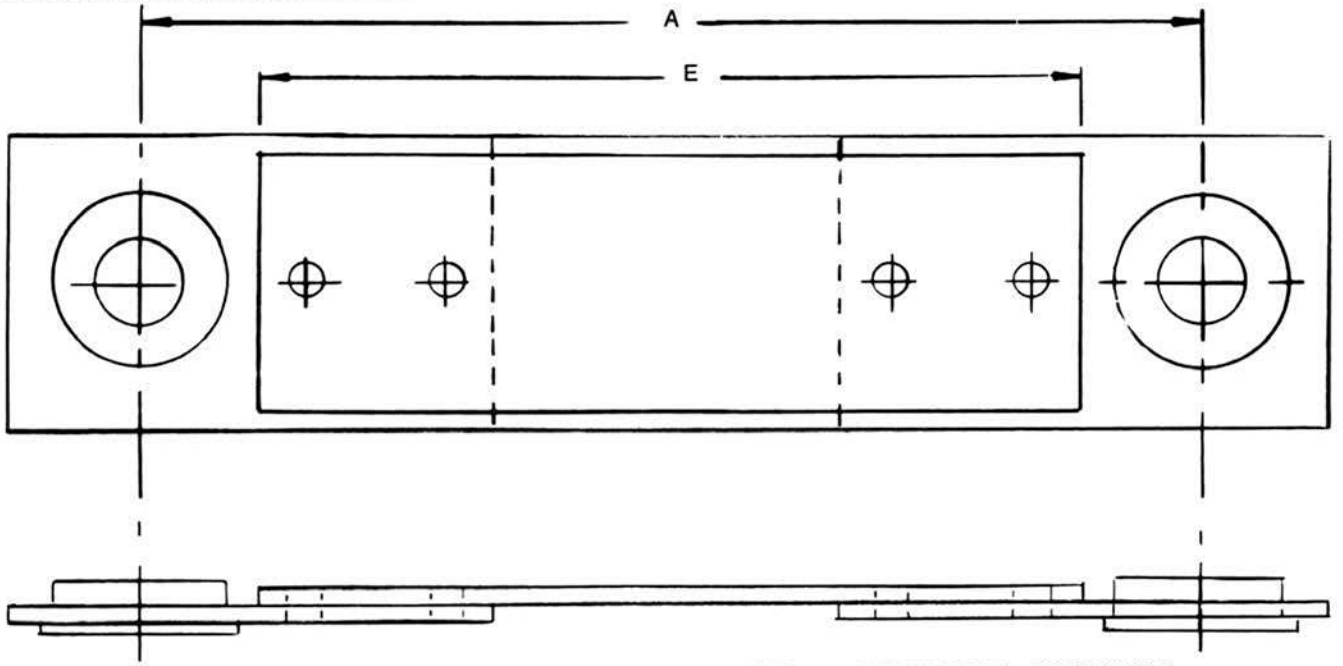
FIGURE 4. MOUNTING DIMENSIONS FOR WOOD OR STEEL SECTIONAL OVERHEAD DOORS



A	12 3/16"	10 3/4"
B	9 1/8"	—
C	23 11/16"	—
D	5 1/2"	—
E	1/2"	—

FIGURE 5. MOUNTING DIMENSIONS FOR STEEL ROLLING DOORS

FIGURE 6. BEARING SPACER BAR ASSEMBLY



DOOR MATERIAL	R. C. N°	R. C. LENGTH	ELEC. OPER. SPROCKET N°	DOOR SPROCKET N°	DIMENSION "A" MINIMUM	DIMENSION "E" MINIMUM
Wood	41	32½"	41B12	41B23	12⅛"	6"
Steel	41	32½"	41B12	41B36	10¾"	6"
Wood	50	33"	50B12	50B23	10⅝"	6"
Steel	50	38"	50B12	50B36	11"	6"

Note: If dimension "A" is greater than the minimum value selected from above chart add, for each extra inch of "A", one inch to dimension "E" and two inches to roller chain length.

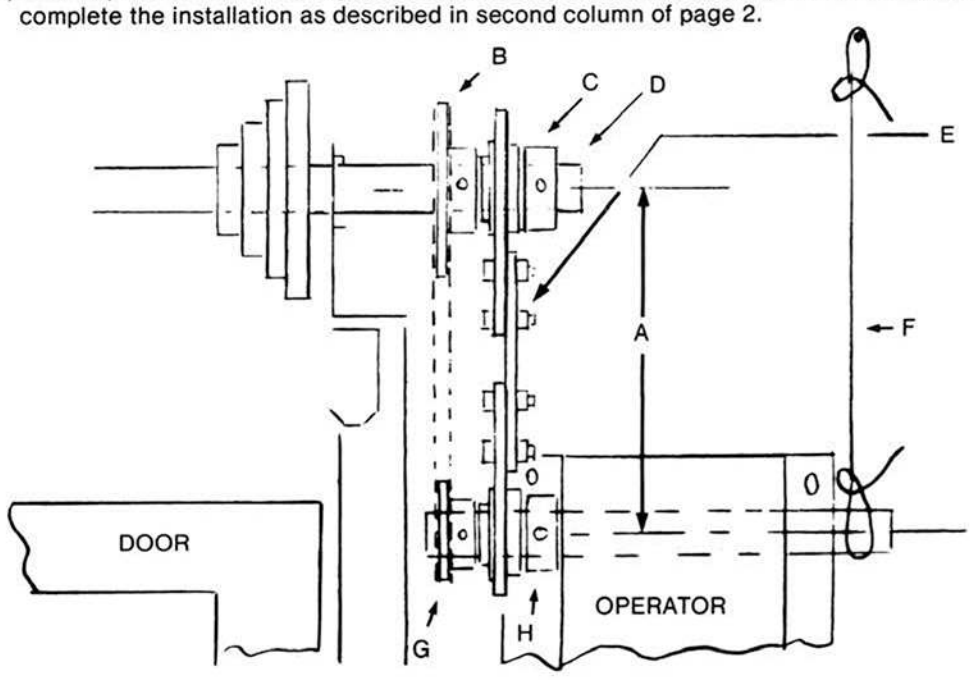
If the use of a spreader bar is required (as determined on page 2), the following procedure must be followed:

a) ascertain that dimension "A" is **not less** than the minimum value given in the chart for the roller chain and sprocket combination you have been supplied with.

b) cut the roller chain (by means of a pin punch and a hammer or with a chain breaker tool) to the length given in the chart for the same roller chain and sprocket combination. Chain length is to be measured between center lines of rollers at each end (bear in mind the above note).

c) make up the spreader bar assembly by bolting together the two bearing plates and an intermediate member (ITEM E) which you may cut to a suitable length (6" or more) from 2" × 2" × ⅛" angle iron or 3/16" × 2½" flat iron (see upper drawing).

d) install spreader bar assembly and roller chain and operator with temporary cable (as shown in lower drawing) then complete the installation as described in second column of page 2.



A. Spacing between shaft centers
B. Door sprocket (driven)
C. Door shaft collar
D. Door shaft
E. Spacer bar
F. Temporary rope hanging
G. Operator sprocket (driver)
H. Operator shaft collar

Wall mount optional positions

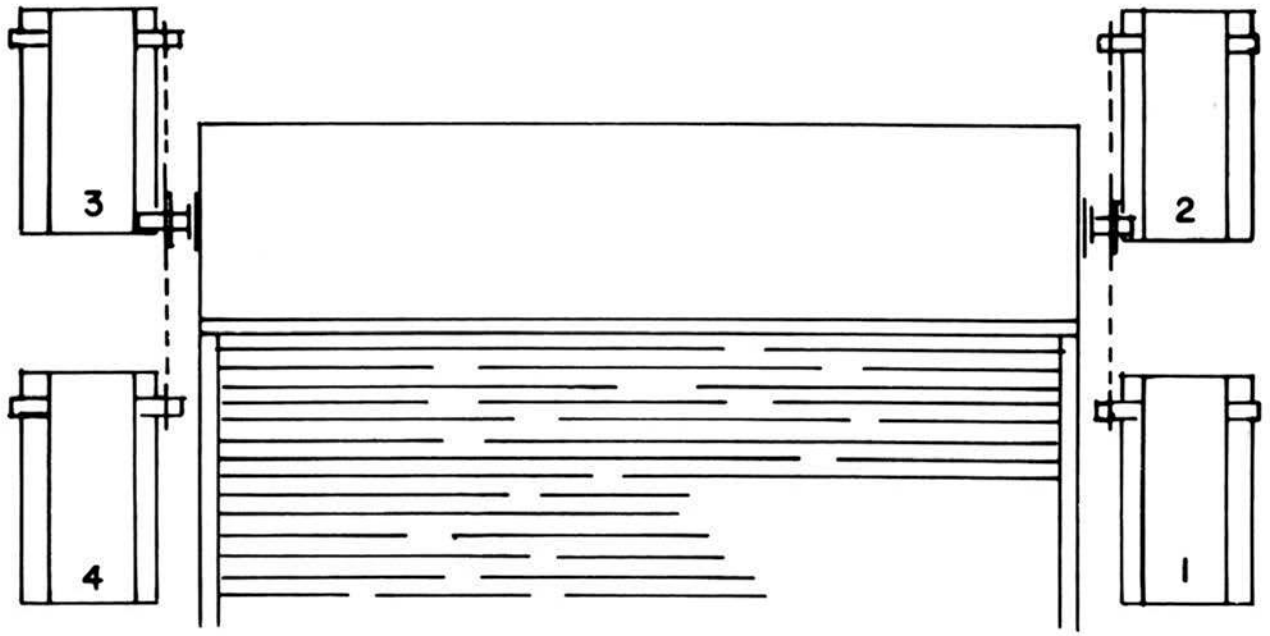


FIGURE 7. STEEL ROLLING DOOR OPTIONAL WALL MOUNT POSITIONS FOR HANGING OPERATOR

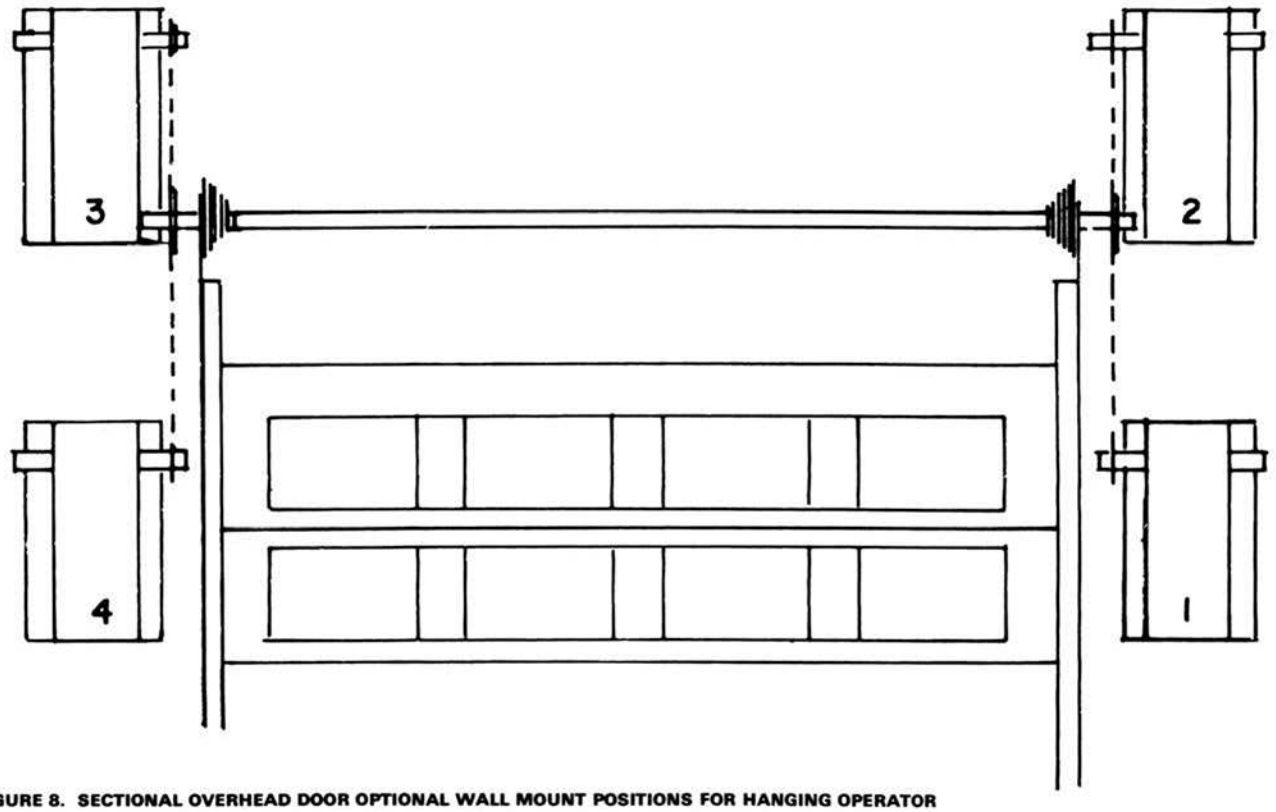


FIGURE 8. SECTIONAL OVERHEAD DOOR OPTIONAL WALL MOUNT POSITIONS FOR HANGING OPERATOR

Shelf mount operator optional positions

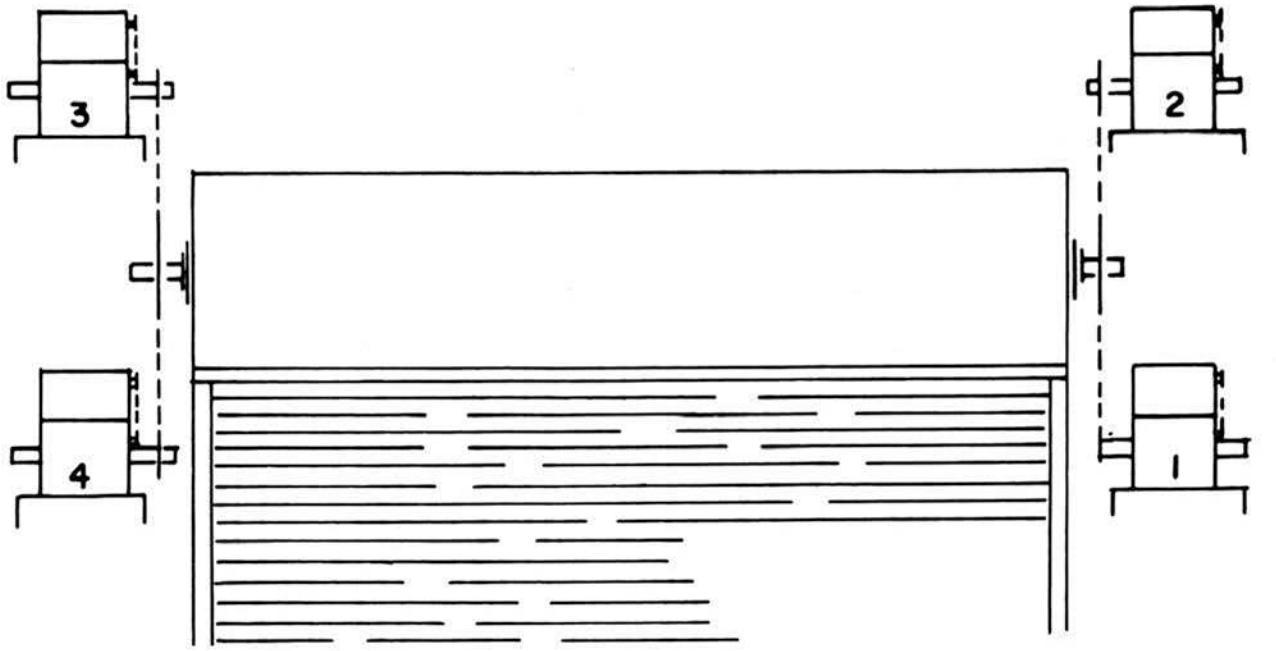


FIGURE 9. STEEL ROLLING DOOR OPTIONAL SHELF POSITIONS FOR MOUNTING OPERATOR

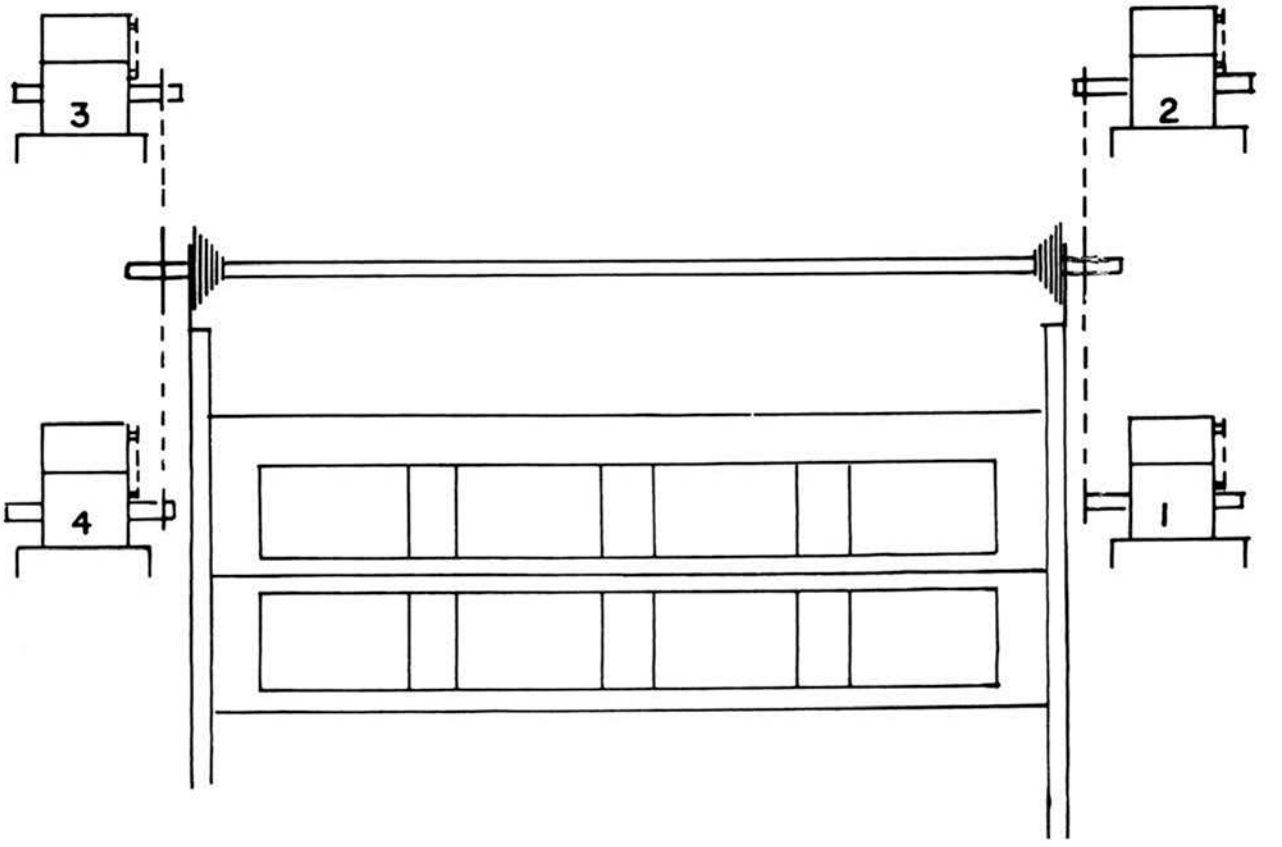


FIGURE 10. SECTIONAL OVERHEAD DOOR OPTIONAL SHELF POSITIONS FOR MOUNTING OPERATOR

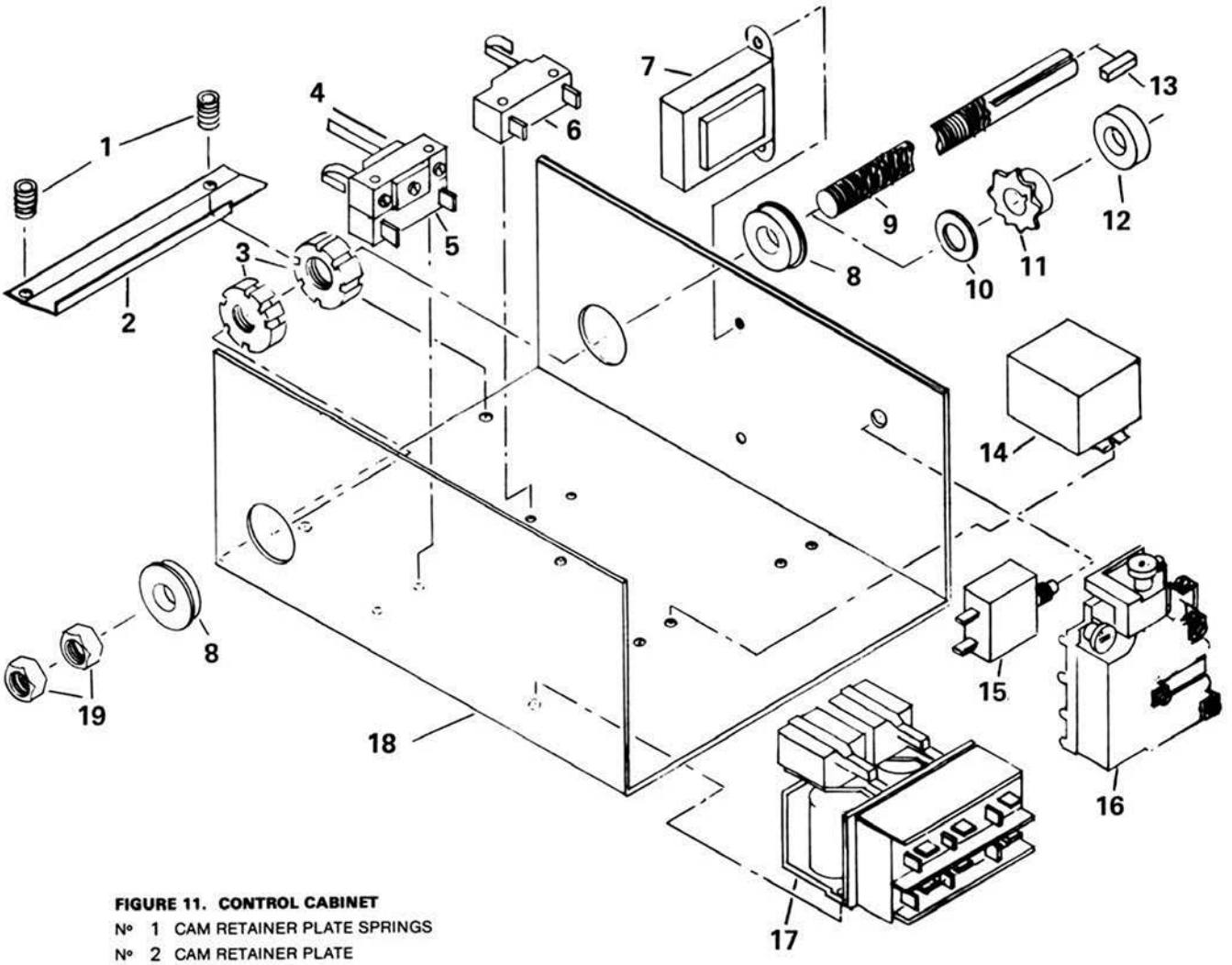


FIGURE 11. CONTROL CABINET

- Nº 1 CAM RETAINER PLATE SPRINGS
- Nº 2 CAM RETAINER PLATE
- Nº 3 BRONZE CAMS GROOVED ⅝" I.D.
- Nº 4 AUXILIARY LIMIT SWITCH (WHEN ORDERED)
- Nº 5 OPEN LIMIT SWITCH
- Nº 6 CLOSED LIMIT SWITCH
- Nº 7 TRANSFORMER
- Nº 8 FLANGED BEARING ⅝"
- Nº 9 CAM SHAFT 10¾" × ⅝"
- Nº 10 SPACER
- Nº 11 SPROCKET
- Nº 12 LOCKING COLLAR
- Nº 13 KEY
- Nº 14 REVERSING RELAY (WHEN ORDERED)
- Nº 15 SINGLE PHASE OVERLOAD (WHEN REQUIRED)
- Nº 16 THREE PHASE OVERLOAD
- Nº 17 REVERSING CONTACTOR
- Nº 18 CONTROL CABINET
- Nº 19 NUTS HEX. LOCKING

DOORLEC CORPORATION			
DEALER:			
EEMAC 1 enclosure for all models (shown) EEMAC 4 - 12 - 7 - 9 available on special request (not shown)			
DRWG. BY	DATE	APPROVAL	DRAWING Nº
P.G.S.	AUG 8/80		4010

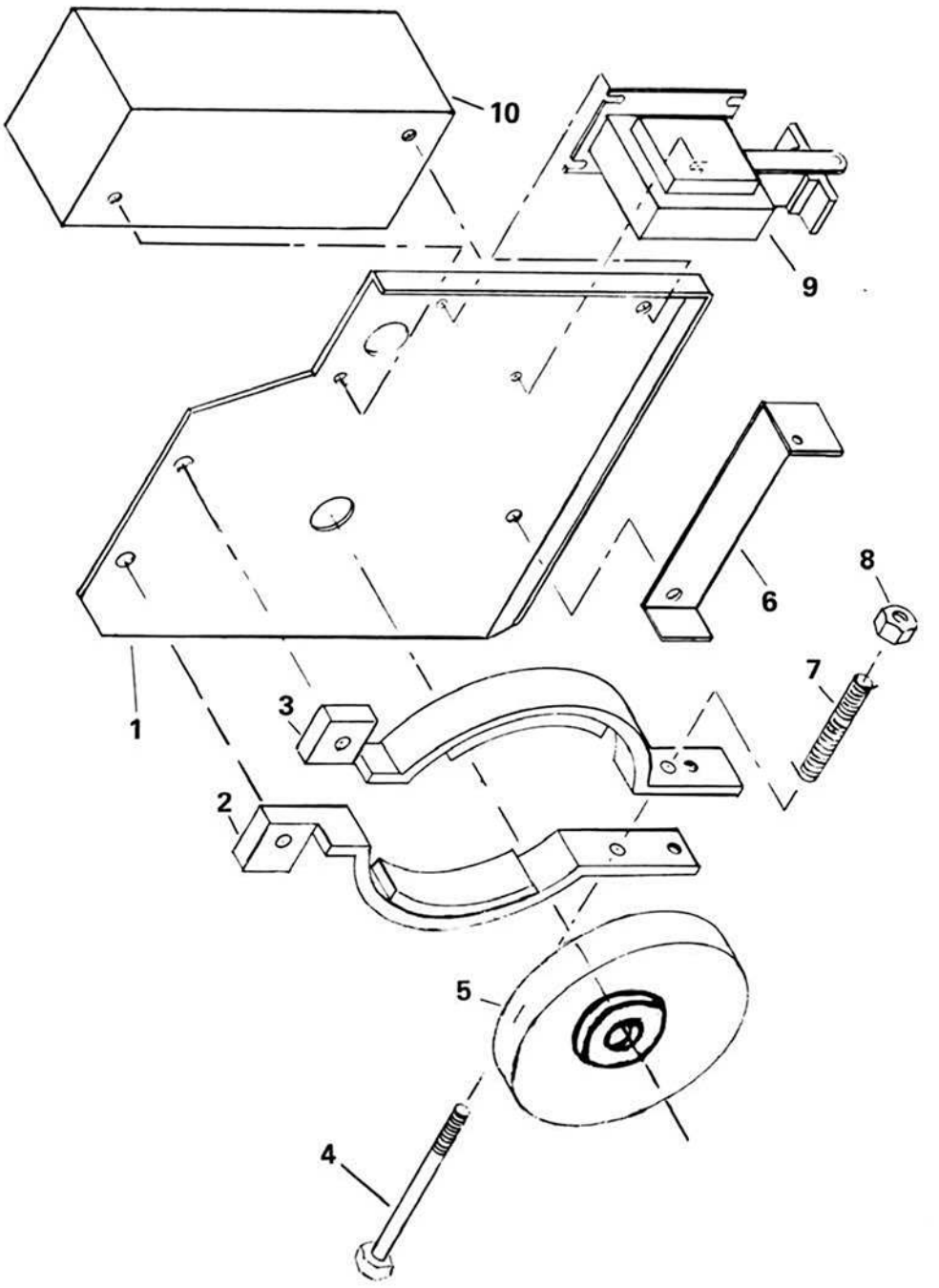
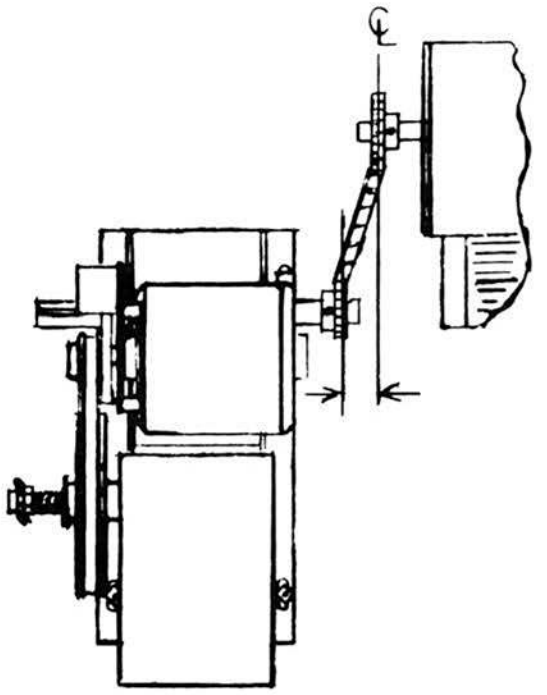


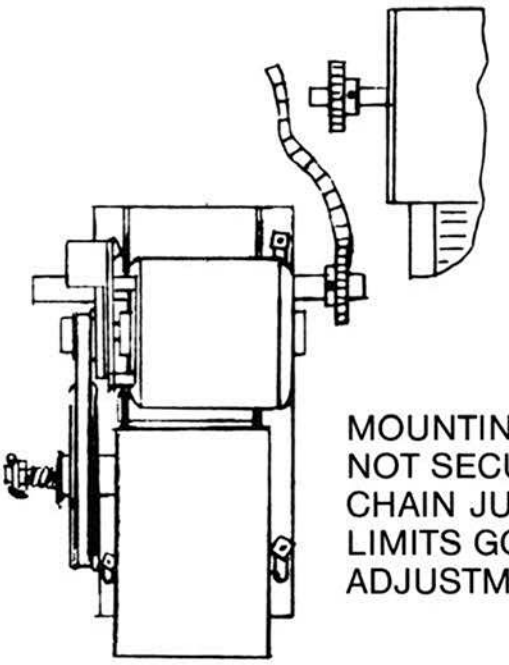
FIGURE 12. BRAKE ASSEMBLY COMPONENTS

Nº 1	BRAKE PLATE
Nº 2	BRAKE SHOE R
Nº 3	BRAKE SHOE L
Nº 4	SPRING BOLT
Nº 5	BRAKE DISC 4" × ⅝" BORE
Nº 6	BRAKE RELEASE LEVER
Nº 7	BRAKE SPRING
Nº 8	NYLON INSERT NUT (¼" – 20)
Nº 9	SOLENOID #18 CONT.
Nº 10	SOLENOID COVER

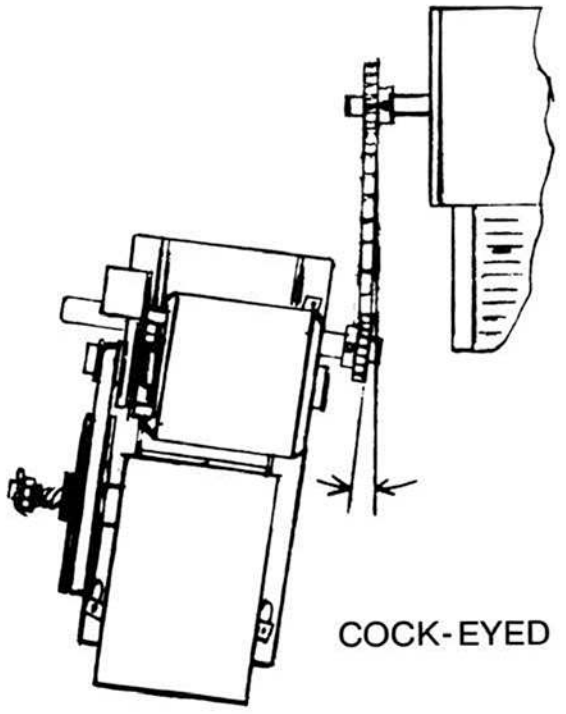
DOORLEC CORPORATION			
DEALER:			
BRAKE ASSEMBLY			
DRWG. BY	DATE	APPROVAL	DRAWING Nº
P.G.S.	AUG 5/80		4011



OFF CENTRE



MOUNTING BOLTS
NOT SECURE
CHAIN JUMPS OFF OR
LIMITS GO OFF
ADJUSTMENTS.



COCK-EYED

FIGURE 13. JACK-SHAFT INCORRECT INSTALLATIONS

DOORLEC CORPORATION			
DEALER:			
JACK-SHAFT INCORRECT INSTALLATIONS			
DRWG. BY	DATE	APPROVAL	DRAWING Nº
P.G.S.	AUG 8/80		4012

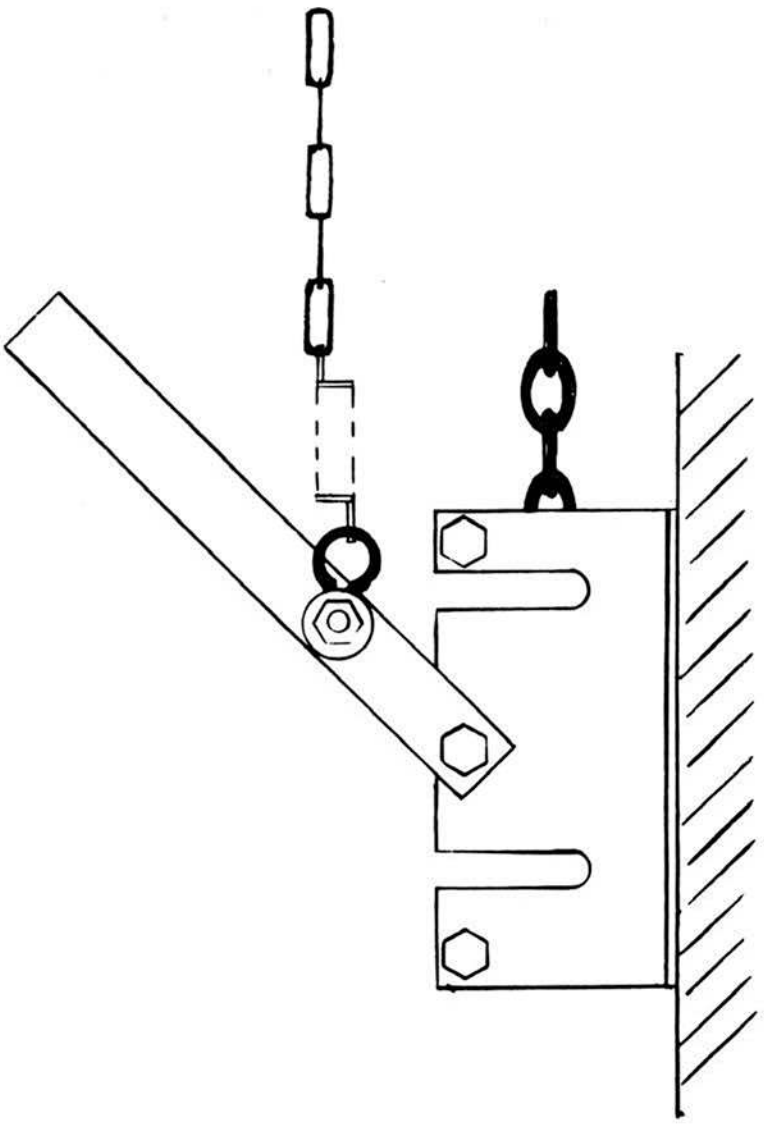


FIGURE 14. CHAIN HOIST

1. Thread hoist chain over the pocket sheave and connect ends.
2. Attach pull chain to the release arm using cotter pin.
3. Install the chain release lever assembly as shown here.