ATLAS DOOR CORP.
116 TRUMAN DRIVE, EDISON, N.J. 08818

# INSTALLATION INSTRUCTIONS FOR

## ROLLING STEEL FIRE DOOR AND FIRE SHUTTER



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# INSTALLATION INSTRUCTIONS

## ROLLING FIRE DOORS AND SHUTTERS

Throughout the instruction both Fire Doors and Fire Shutters will be referred to as Fire Doors.

**Upon receipt of shipment - immediately check that you have received the correct number of pieces, and that the entire shipment is intact and complete. Any damage or shortages should be noted on the carrier's bill of lading before signing for the shipment.**

**Should damage or shortages be found after the shipment has been accepted - notify the delivering carrier at once and confirm such notification in writing to them.**

**Call Atlas Door Corporation Customer Service Dept. for pricing to replace/repair the items in question and submit this information to the carrier - in writing. This forms basis for freight claim.**

**All shipments are made F.O.B. factory, freight allowed, and it is the purchaser's responsibility to file all freight claims. Atlas will provide any necessary back-up paperwork to substantiate your claim, but we cannot file these claims for you, as ownership of the shipment determines who must file the claim.**

**Before beginning installation - read the installation instructions on the following pages thoroughly.**

**IMPORTANT NOTE:**

**On completion of the installation, it is the installer's responsibility to test drop each fire door to make certain that it operates properly. If there is an operating problem, installer must immediately notify Atlas Door Corporation of the problem in writing.**

## INSTALLATION PROCEDURE

**Step #1:**

Review the shop drawings supplied with the shipment (found in the hardware bag). Each door is identified by a code letter under "Atlas Code" in the lower left hand corner of the shop drawing. Doors of identical size and hand have the same code letter. All door components are identified with the contract number and the code letter (excluding bolts, nuts, and other miscellaneous hardware).

A typical door will have the following components:

a) A curtain made up of interlocking slats with bottom bar.

b) Two guide assemblies (one left and one right hand) each having three angles; two forming guides and one wall angle or bent shapes forming guides and wall angles temporarily assembled with two bolts.

c) One counterbalancing pipe, one end has kick-off pawl, swing stop and washers and adjusting wheel attached for shipping purposes. The adjusting wheel, swing stop and washers must be removed prior to assembly of the shaft and bracket plates.

d) Two steel bracket plates; one with adjusting wheel drop-out (see fig. 1 and 1a); the other with governor and drive gear drop-out (see fig. 2, 2a, 2b, 2c). Some units do not require governors be used).

e) One sheet metal hood. When the door is to be installed under a lintel, a sheet metal fascia is included in the shipment.

f) One sheet metal cover to protect the adjusting wheel and its drop-out.

Before going to the job site and beginning the installation, check to make sure all material is present. Atlas Door will not be responsible for trip charges if the above procedure is not followed.

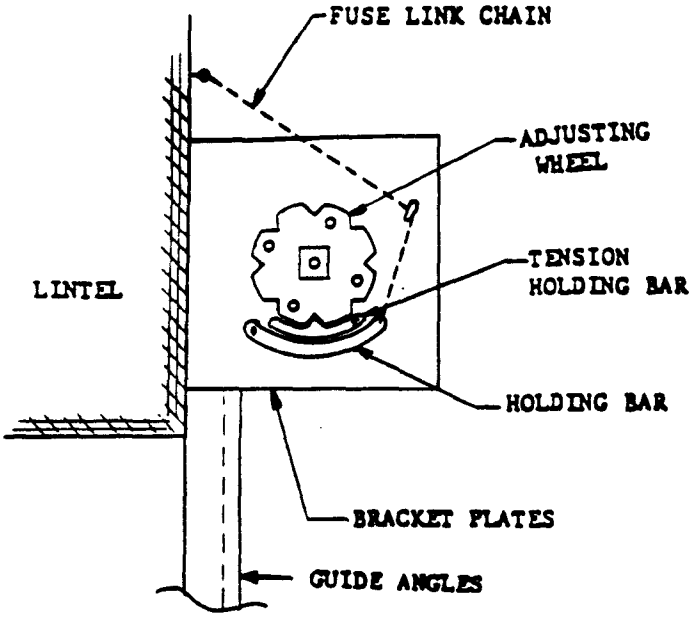



FIGURE #1A

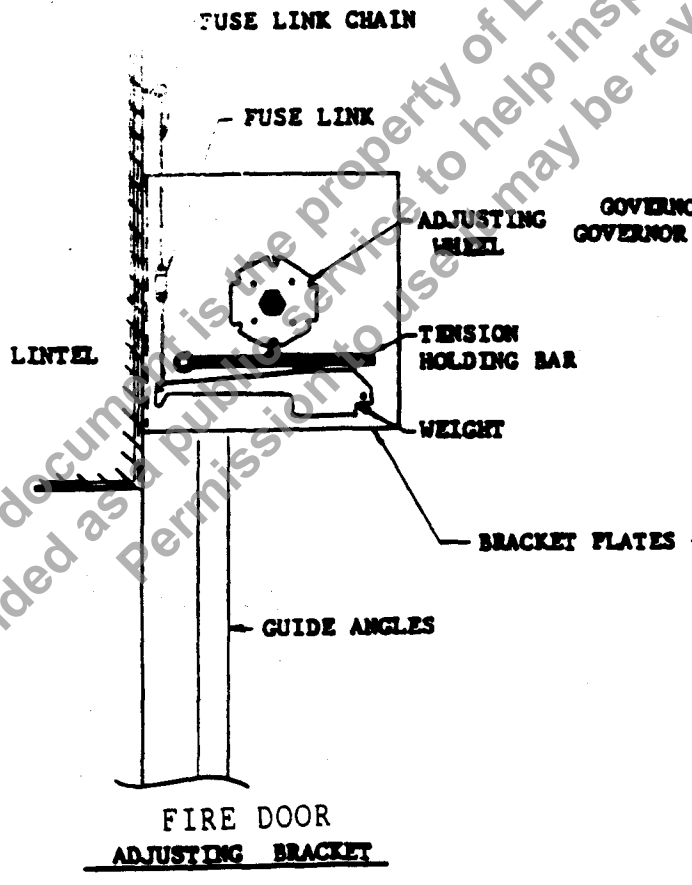



FIGURE #1

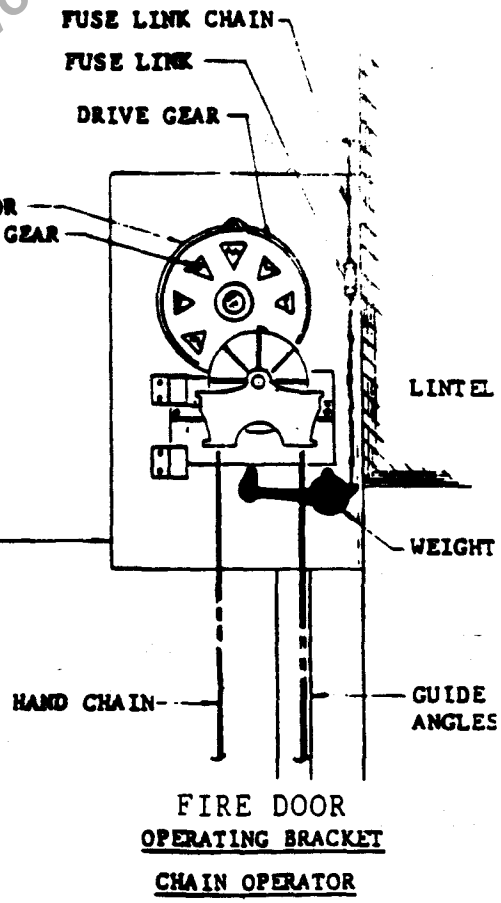
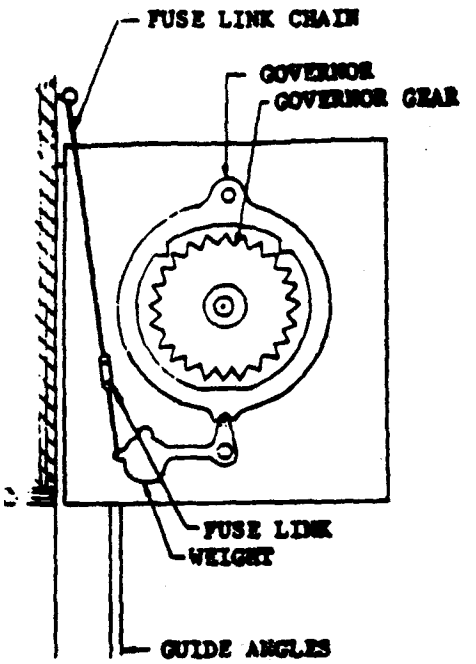
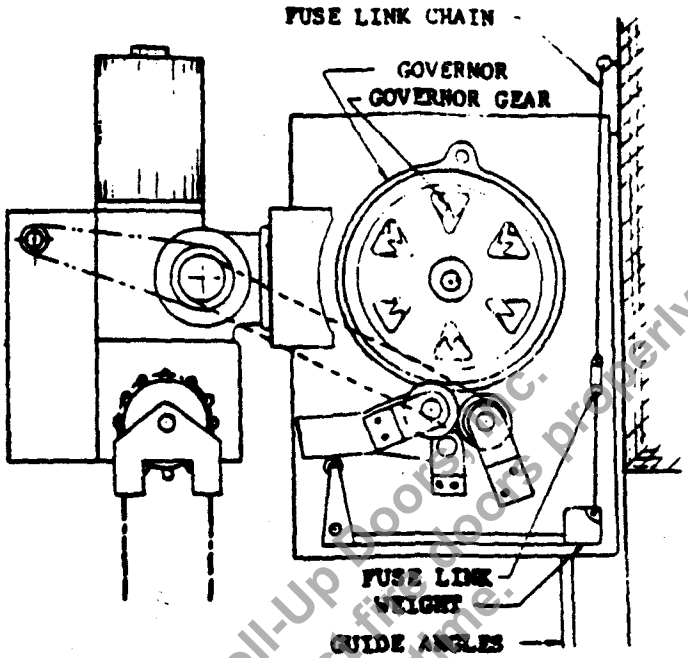



FIGURE #2




FIRE DOOR
OPERATING BRACKET
HAND-LIFT DOOR

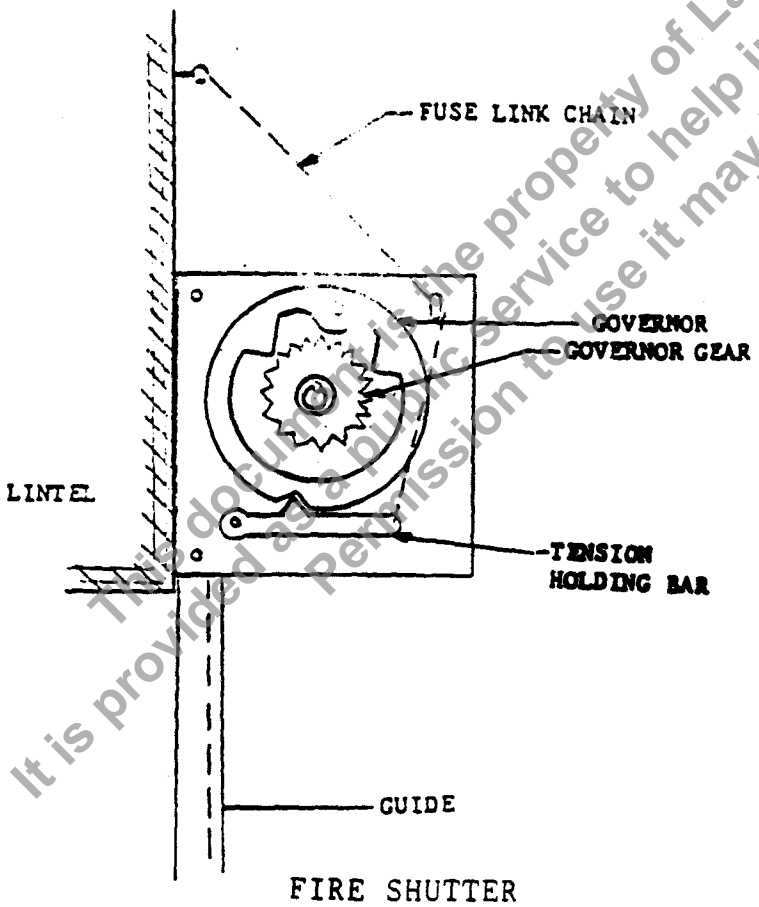
FIGURE #2a




FIRE DOOR
OPERATING BRACKET
MOTOR OPERATOR

FIGURE #2b

**NOTE:** Operator must be field - braced by contractor to minimize vibration and starting force on bracket plate. Bracing must not interfere with fuse-link chains or with proper operation of the door.




FIRE SHUTTER
OPERATING BRACKET
HAND-LIFT SHUTTERS

FIGURE #2C

Step #2:

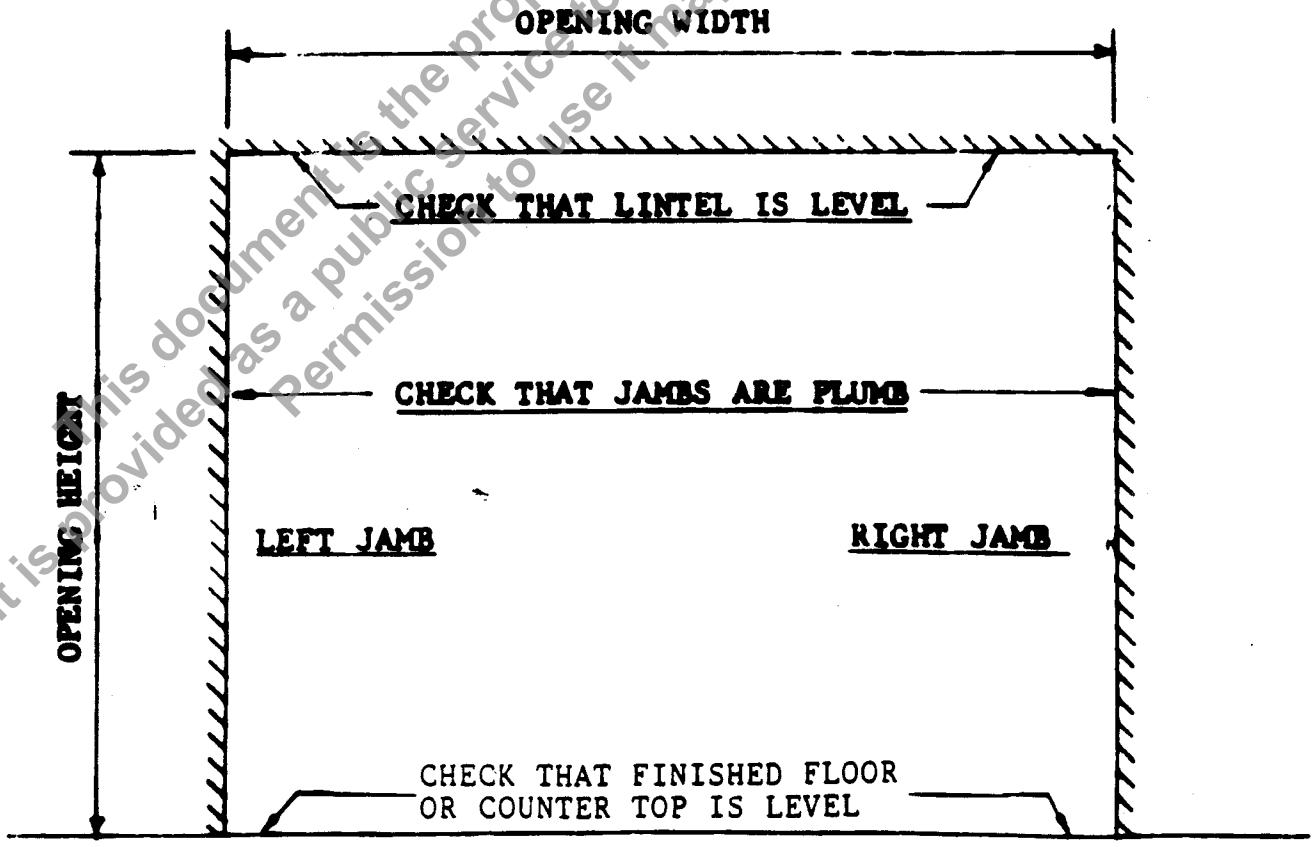
Separate the material into groups forming complete doors and determine the "hand" of each door.

"Hand" is determined by the location of the operating side (chain, crank, or motor) taken when looking at the opening from the side on which the coil will be mounted. A right hand door will therefore have the operator on the right with the adjusting wheel at the left side.

CAUTION: It is imperative that you verify "hand" of doors correctly. Failure to do so can result in incorrect installation, causing possible damage to the springs within the pipe shaft by winding them backwards. This may also lead to damage to other parts of the door or to serious injury to installation personnel and passersby.

Step #3:

Measure the opening and verify the drawing dimensions and clearances. Check that lintel is level, that jambs are plumb. If opening is not, shim the wall angles until they are plumb. If one jamb is shorter than the other, raise wall angle until tops of both are on the same level line. Pipe shaft must be absolutely level to prevent curtain from shifting to one side.

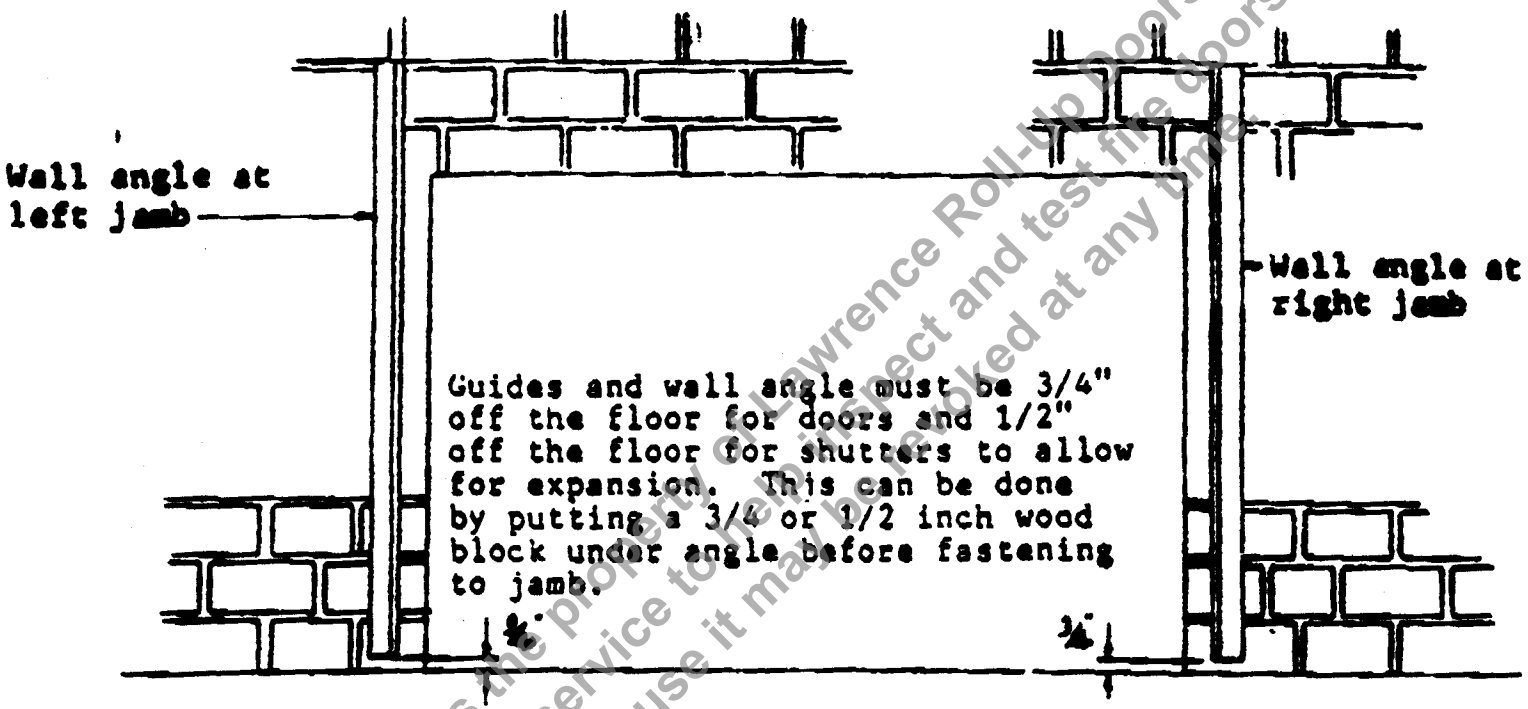


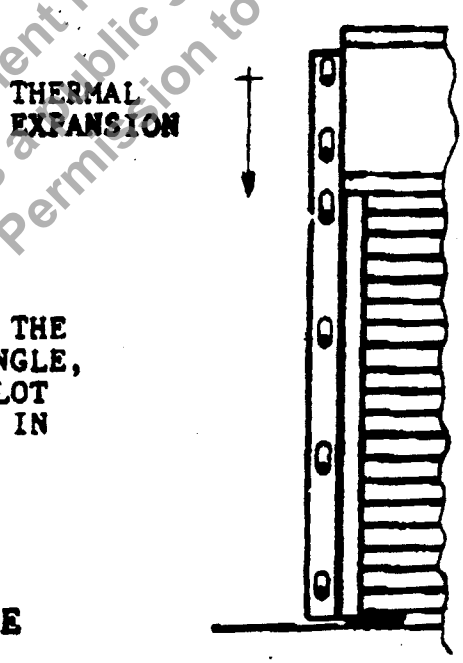
Step #4:

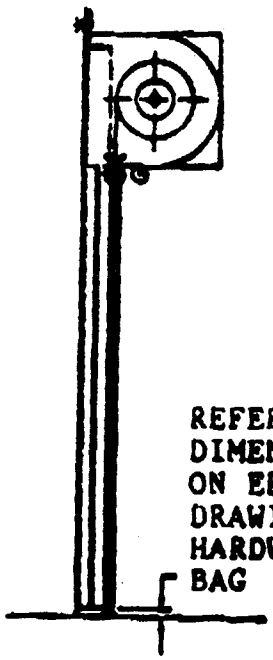
Check drawings supplied for the required bracket plate to bracket plate dimension. This is an extremely critical dimension and must be held to ± 1/8" accuracy.

Install the wall angles as shown making sure that they are plumb and true and that the exact distance between guides is maintained at the top and bottom.

Fastening should be made to masonry with through bolts or steel expansion shields. Fastening to steel is made with tap bolts.

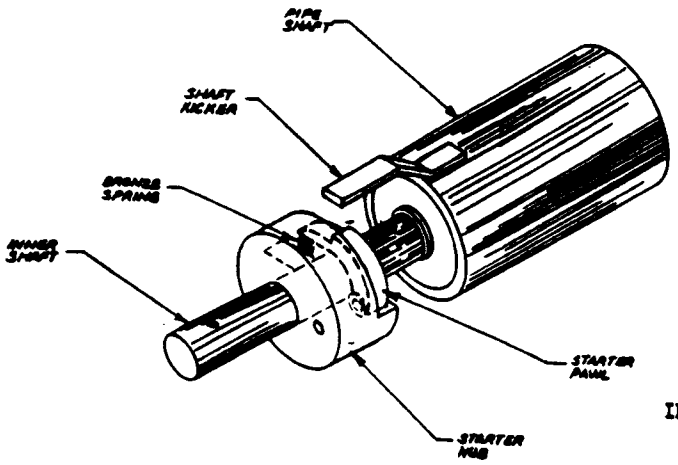


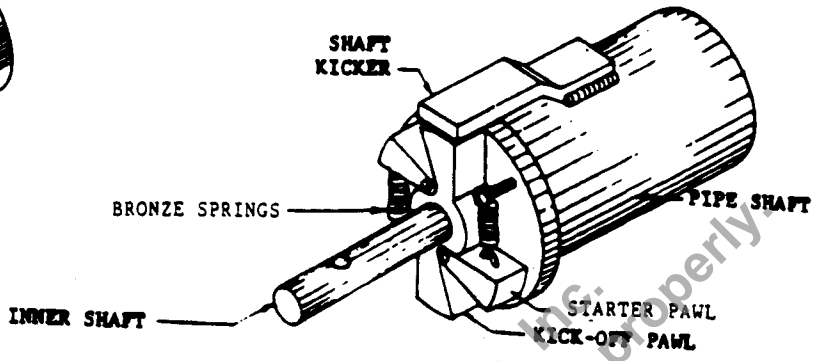




ALL BOLTS MUST BE AT THE BOTTOM OF THE WALL ANGLE, WALL LEG, MOUNTING SLOT FOR PROPER EXPANSION IN CASE OF FIRE.

FIRE DOOR WALL ANGLE BOLT HOLE LAYOUT




FIRE SHUTTER




FIRE DOOR



**ADJUSTING END**

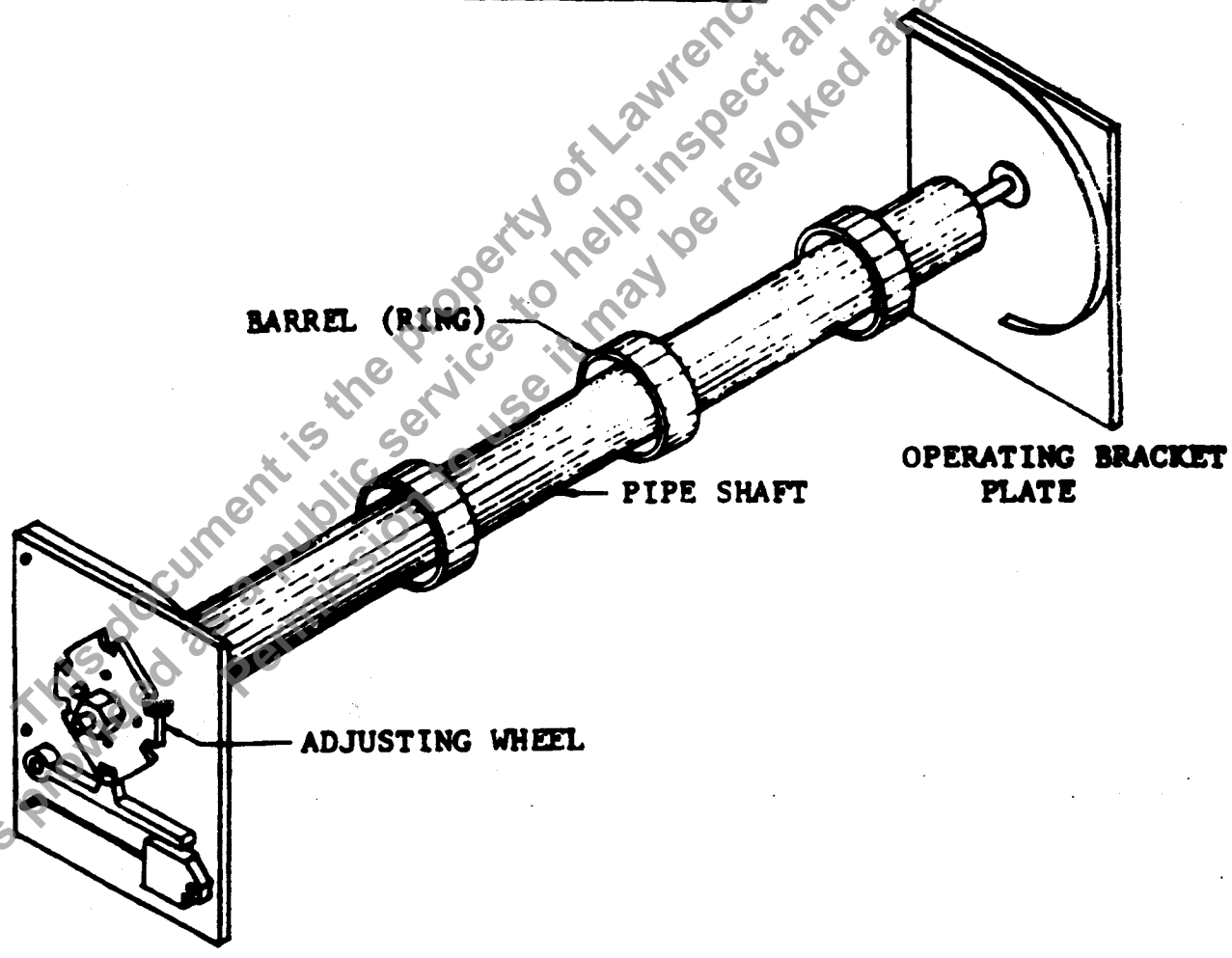



**FIGURE # 3**

Step #5:

Remove adjusting wheel, swing stop and washers from adjusting end of shaft, assemble pipe shaft unit and both bracket plates on floor. Be sure to match adjusting bracket plate to the adjusting end of the pipe shaft. Slide the swing stop over the projection of the bushing in the adjusting bracket plate using a bronze washer on each side of the swing stop. See Figure 4. Slide adjusting wheel over shaft and check pin in place.

Slide the sharp tooth governor gear (Fig. 2) on the shaft at the operating end and tighten set screws. Governors are not supplied on Class "D" doors and on very small fire doors.

For chain and crank operated doors, place sharp tooth governor gear and driven gear in position on the operating bracket plate then slide entire assembly on to operating end of the shaft. Tighten set screws on governor gear. Make sure driven gear meshes properly with pinion and that it turns freely. Pin driver gear in place.

For Motor operated doors -- slide driven sprocket on shaft at operating end. Pin driven sprocket in place.

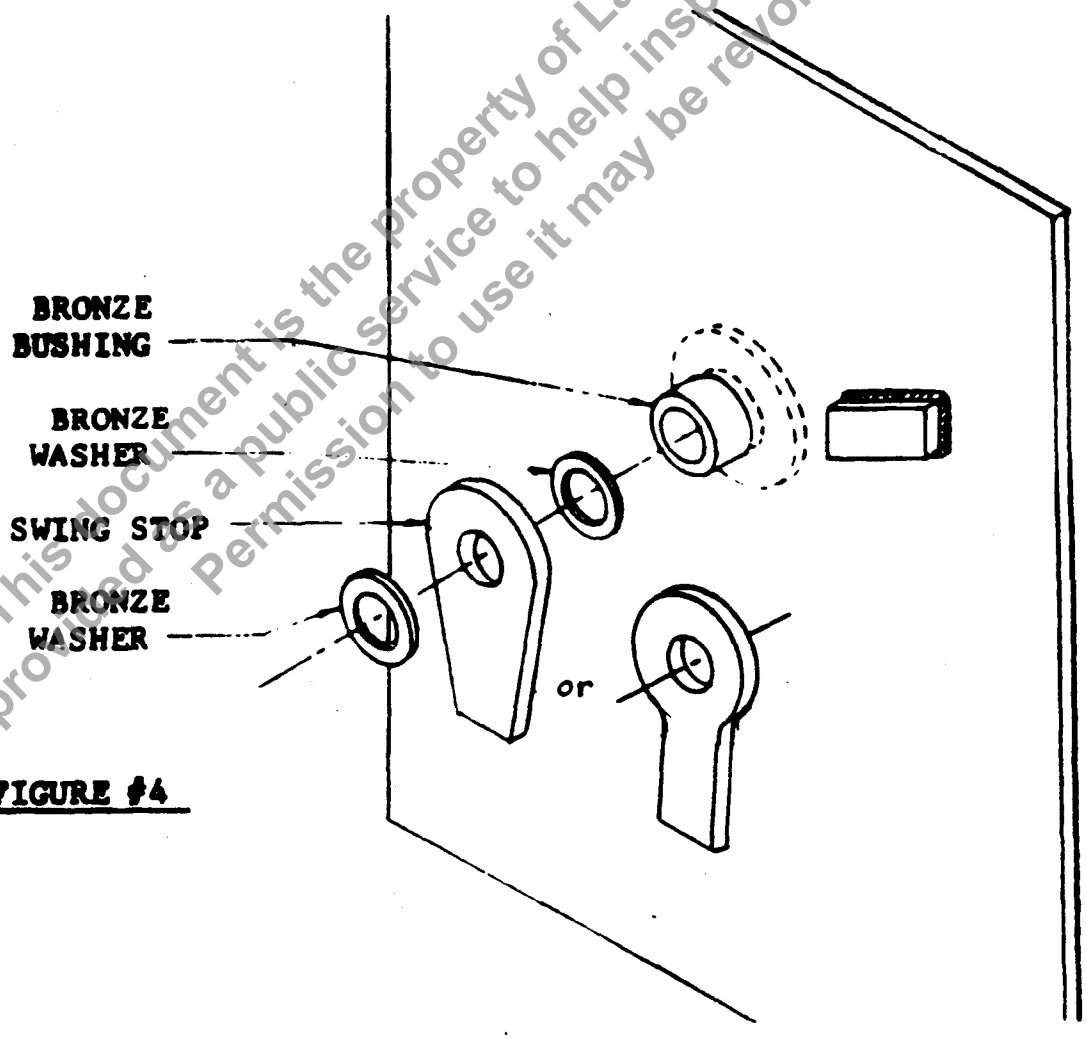
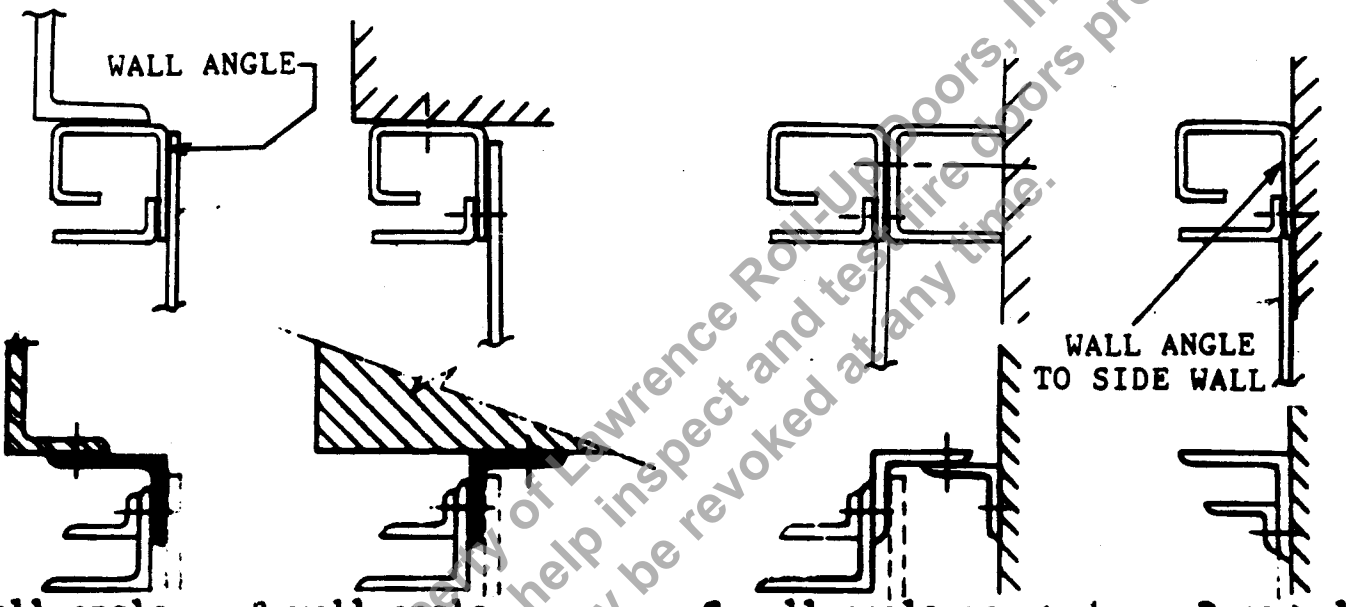



FIGURE #4

**Step #6:**

**Hoist the shaft assembly and bolt the bracket plates to the wall angles. Note that the bracket plates are mounted to outboard faces of wall angles. See Figure 5.**

**Tighten all bracket bolts to the wall angle while revolving pipe by hand to be certain it is free turning in the bearings. The pipe must be checked with a level and be in perfect alignment (square with the bracket plates) for proper automatic closing action.**




**A-wall angle mounted to steel jamb**

**B-wall angle mounted to masonry**

**C-wall angle mounted to side wall - between jamb**

**D-no wal angle**

**Bracket plates for details A and B are carried by the wall angles. Detail C is used for between jamb doors to create operator and/or adjusting wheel clearances above. Detail D requires that a pocket be provided in the wall at each bracket plate to permit the drop-out mechanism to operate.**

**FIGURE #5**

Step #6a.

If fascia is provided hold in position on ends of bracket plates. Drill holes for 1/4" bolts or expansion shields in upper flange of fascia for bolting under the lintel. Space holes maximum 24" on centers. Bolt fascia into position using washers. (see figure #6a.) On some doors clips may be provided to hold fascia in place.

Step #7

Free adjusting wheel by removing chain holding fusible link from bolt and lowering locking bar. It must not be locked or binding. Raise the coiled curtain to about 18" below the pipe shaft. Best method is with a fork lift truck of suitable capacity. Install two, three or more heavy rope slings around the curtain and the pipe. Place each sling on one of the pipe barrels (rings). Pass baling wire through holes in top slat and tie to rope slings.

Step #7 (cont.)

Turn pipe shaft by hand or with drive mechanism so that slings carry top slat to the pipe shaft. Line holes in top slat with holes in barrels and bolt top slats to barrels using 3/8" X 1-1/4" bolts for doors and 3/8 X 1" screws for shutters. Be certain that the top slats on both ends of the curtain are butted against the endlocks of the slat just below them, before they are bolted to the barrel rings. This will insure against curtain movement from side to side, while opening and closing the door. If the pre-punched holes in the top slats will not allow the top slats to butt against the endlocks of the slat below them, the installer must punch an additional hole in the top slats in order to meet this requirement. Remove baling wire and continue winding curtain onto barrels. When bottom bar reaches top of guides, stop coiling. Do not remove slings (see Fig. #6). Clamp bottom bar to wall angle to prevent it from moving. Keep bottom bar just below level of bellmouth stops. Attach bellmouth stops to top of guides (see Fig. #7 for angle guides). Attach stop rod to wall angle (see Fig. #7A) for bent shape guides.

Fastening of the guides should begin with the center slotted hole in the guide. The center bolt should be placed in the middle of its slot. The remaining bolts should be placed in their slots as far away from the center bolt as possible. This allows for expansion of the guide in each direction away from the center bolt. A steel washer is placed under the nut before tightening.

Care must be used to prevent damage to door or injury to personnel. Erector must use a sufficient number of slings to prevent curtain from being deformed while installing (one every 3 feet will suffice).

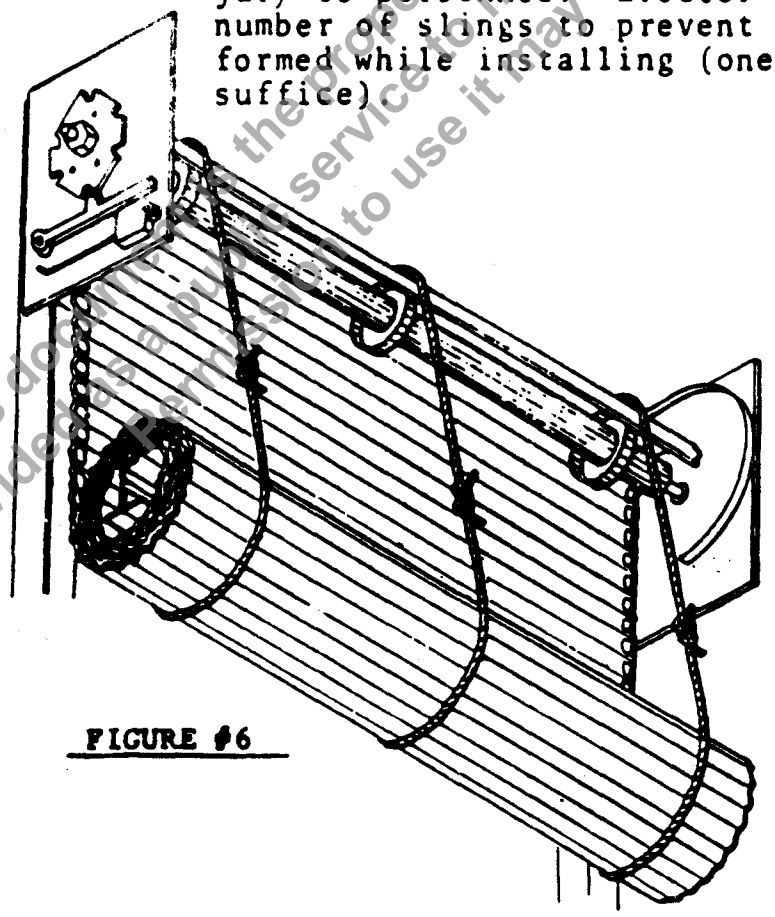


FIGURE #6

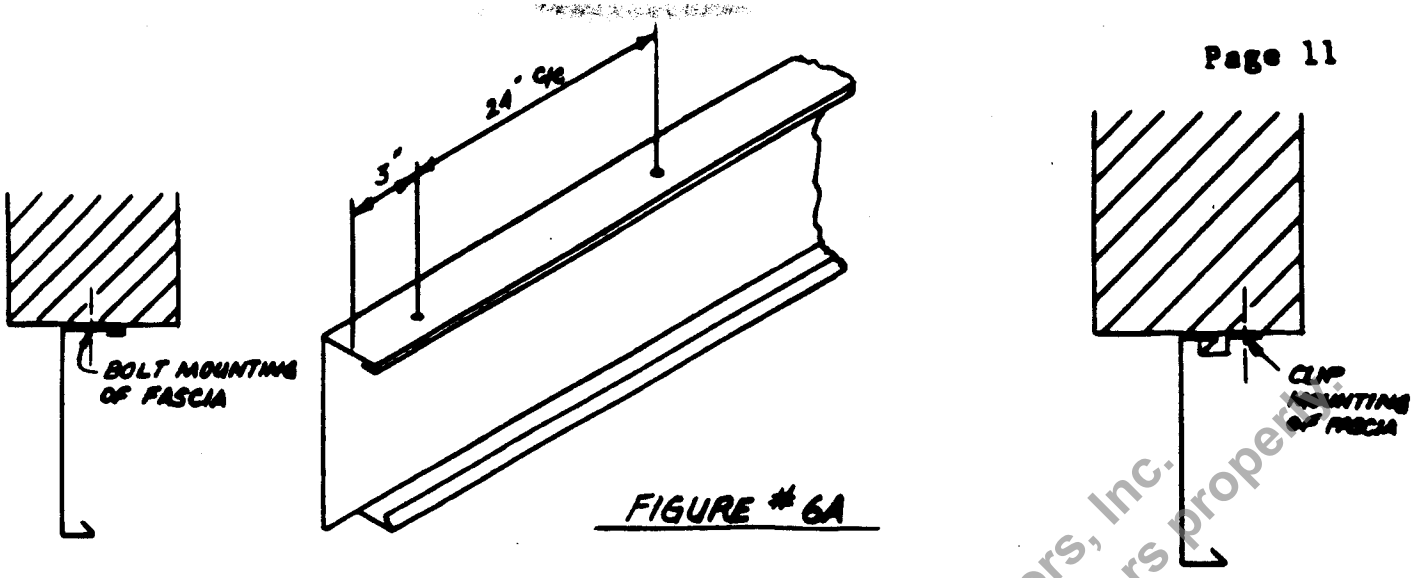



FIGURE #6A

## FASCIA MOUNTING

IMPORTANT

1) FOR ANGLE GUIDES USE ONLY TRACK BOLTS SUPPLIED BY ATLAS IN HARDWARE BAG. DO NOT USE ROUND OR HEX HEAD BOLTS. TRUSS HEAD MACHINE SCREW MAY BE USED AS SUBSTITUTE.

2) ATTACH BELLMOUTH STOPS TO TOP OF GUIDES BEFORE ATTACHING TO WALL ANGLES. IF NOT ALREADY THERE, ATTACH STOPS TO BENT SHAPE WALL ANGLE (FIGURE #7A).

Step #9:

The guides, bracket plates, pipe shaft and curtain are now in place. Adjust the spring tension by raising the door to the fully open position and turning the adjusting wheel with a large pipe wrench. Make sure the wrench has a positive grip on the hub of the adjusting wheel. Springs will exert a large force on the wheel which must be held securely to avoid an accident. Turn the adjusting wheel one recess at a time in the direction of opening the door (See Fig. #8) to increase the spring force. Hold the wheel with the tension holding bar when taking a new grip with the wrench. The number of turns required is usually between one and two turns. Apply one and one half turns and remove rope slings. Test the door for balance. Adjust spring force as required so that the curtain remains down in the closed position and so that it remains against the stops in the open position. If proper balance cannot be attained, stop immediately and call Atlas Door Corporation at 201 572-5700, Customer Service Dept.

When finally Adjusted, connect fusible link chain to bolt as it was shipped.

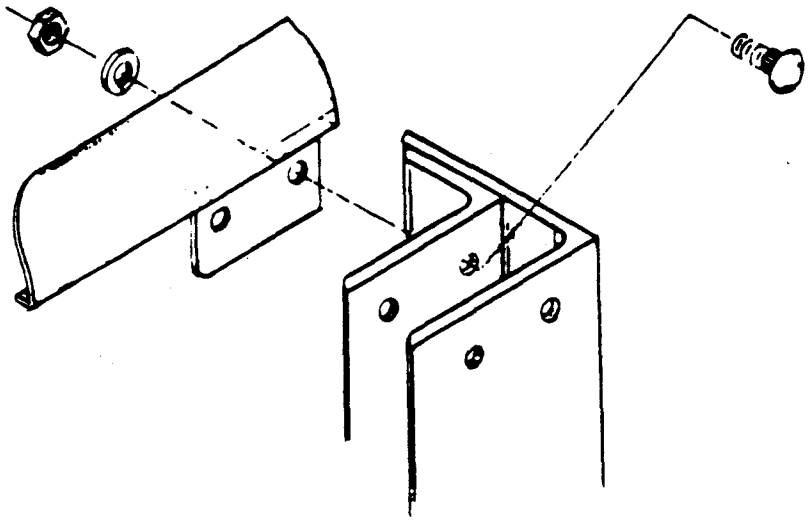


FIGURE #7

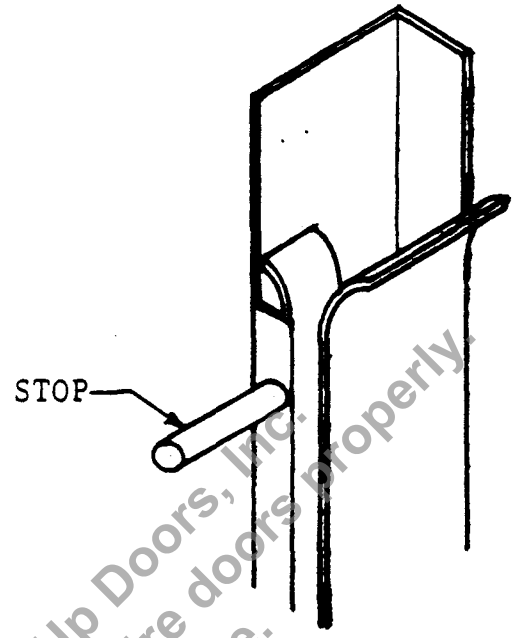



FIGURE #7A

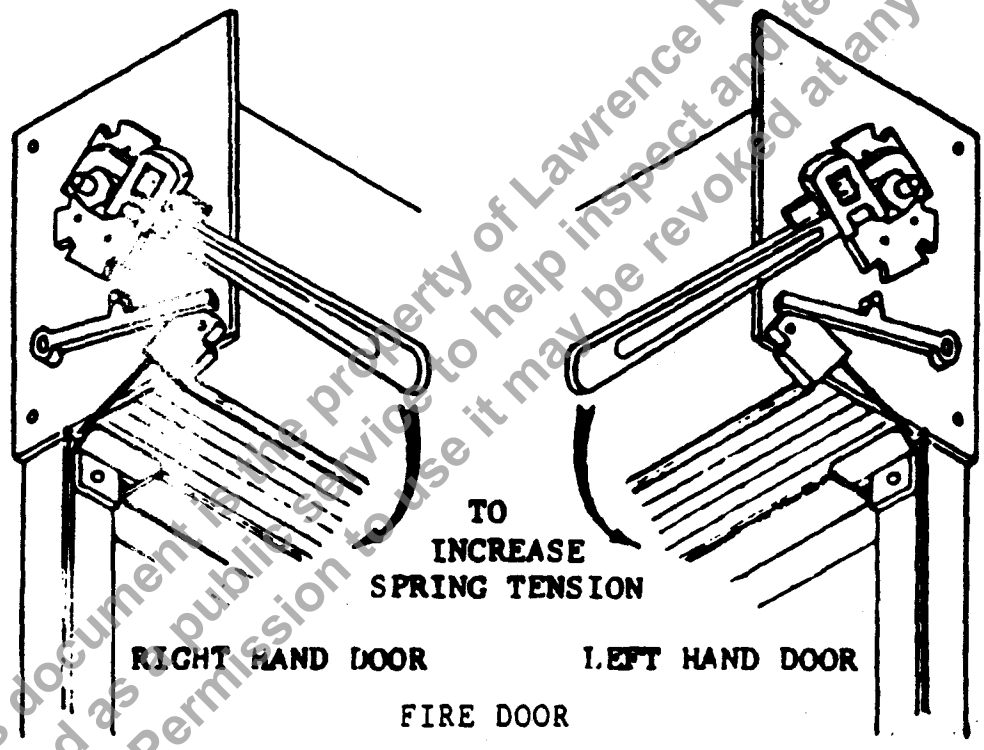
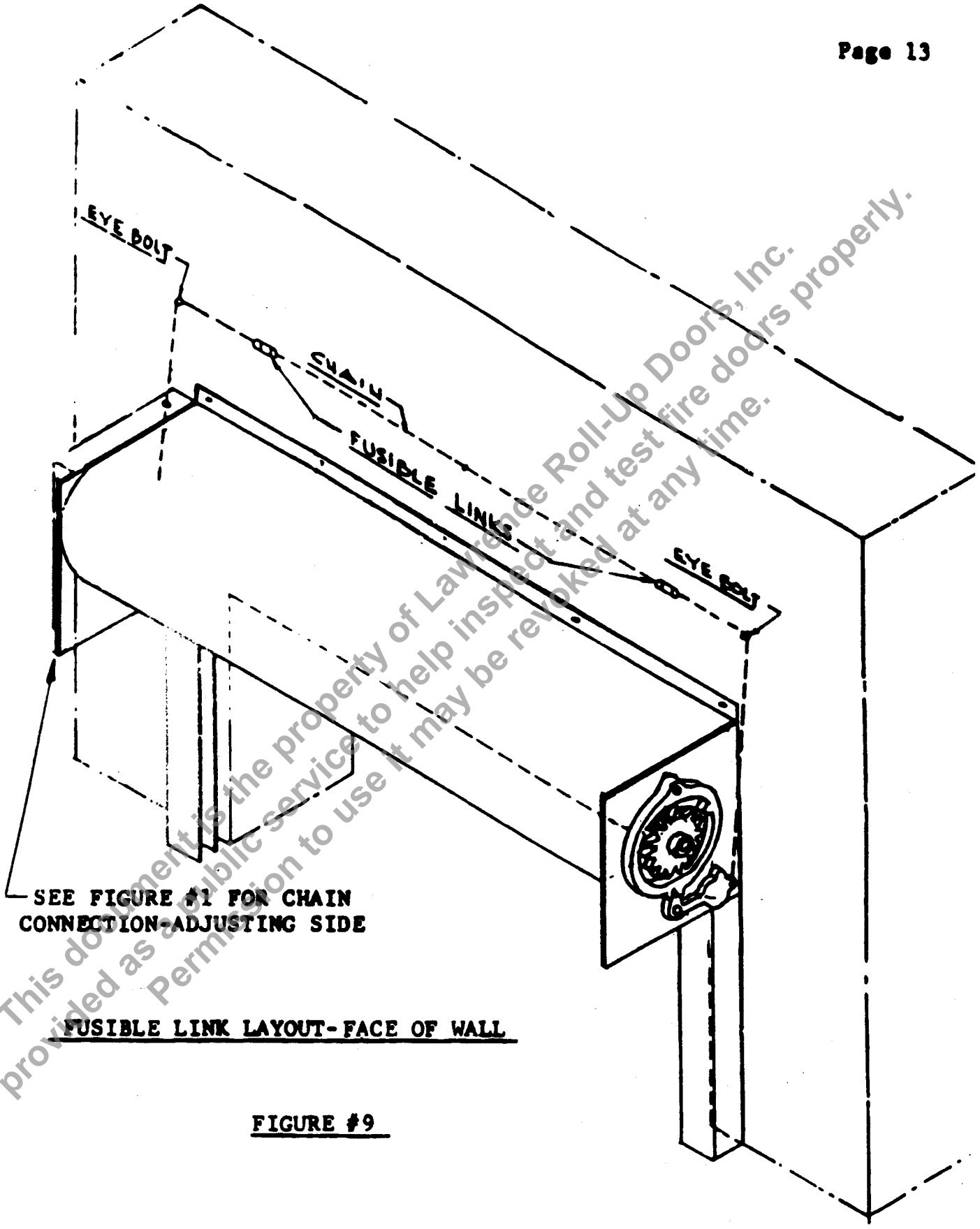



**FIGURE #8**



**Step #10:**

**Place the hood across the coil of the door. Mark the hole locations along the top of the hood on the wall and drill for ¼" expansion shield. The center bolt is to be located in the middle of its' slot. The remaining bolts are to be placed in their slots as far away from the center bolt as possible. Remove the hood and insert the expansion shields. Replace the hood and bolt the hood to the wall using a washer under the head of the ¼" bolts.**




FUSIBLE LINK LAYOUT- FACE OF WALL

FIGURE #9

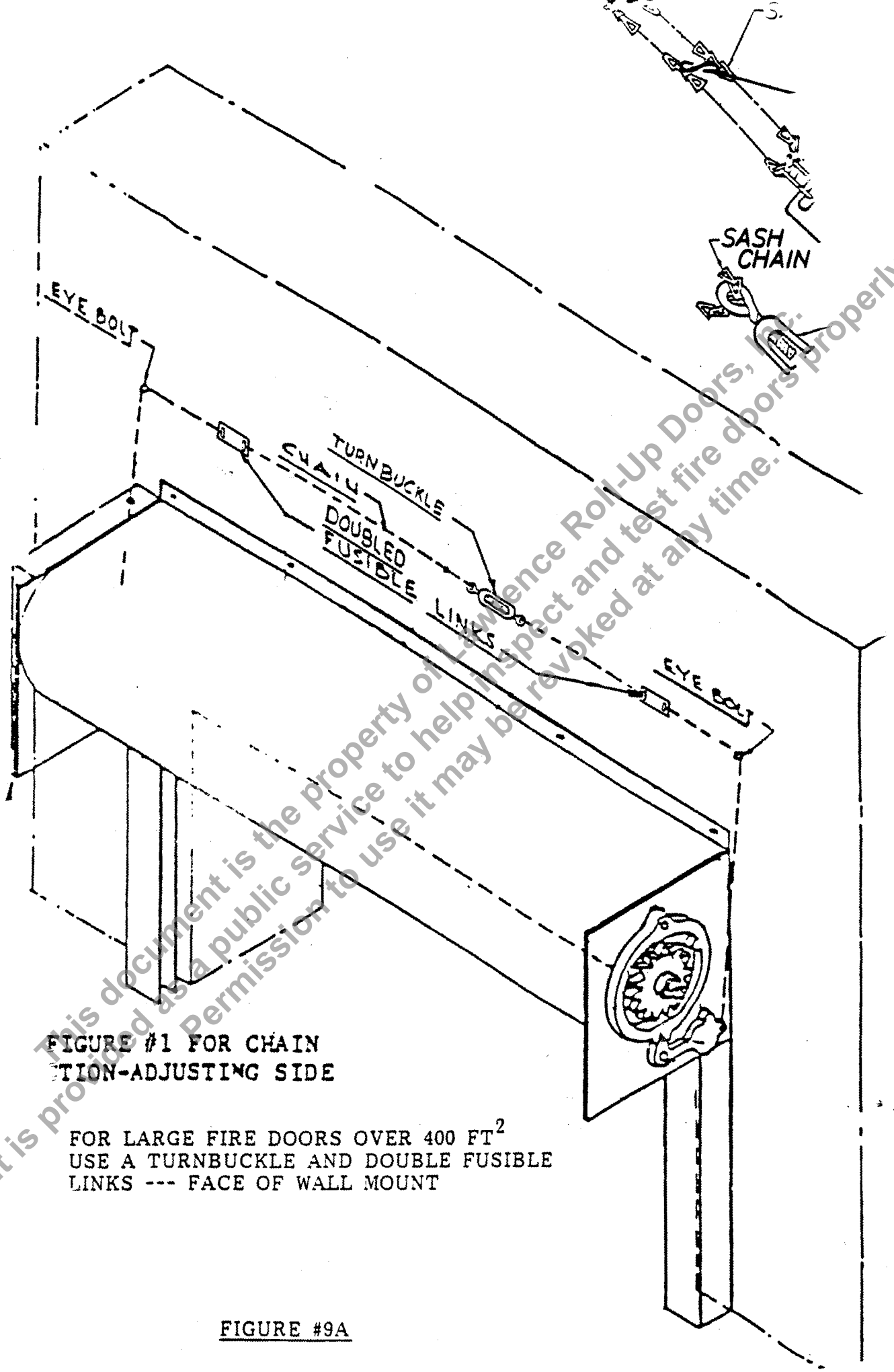
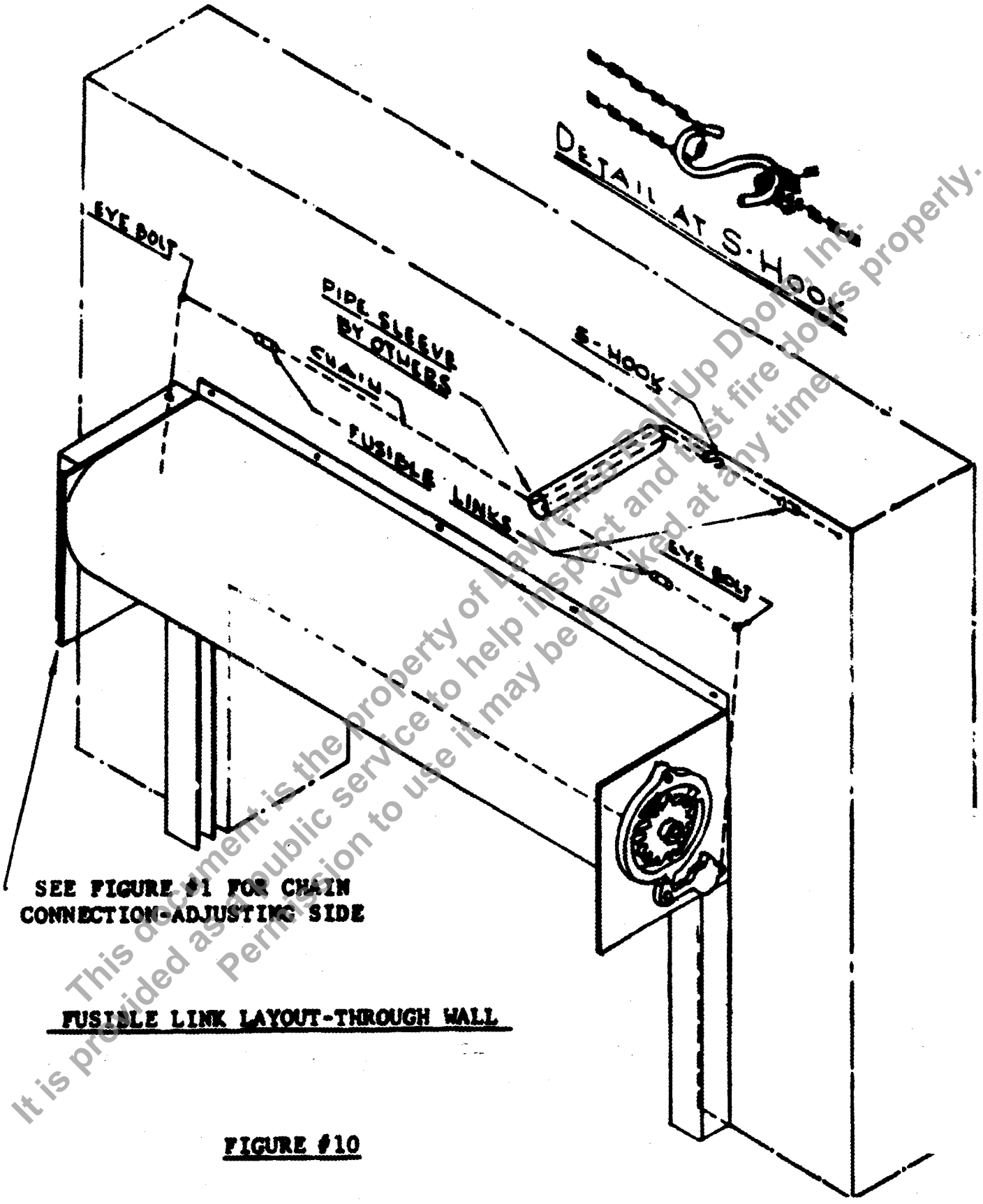



FIGURE #1 FOR CHAIN
TION-ADJUSTING SIDE

FOR LARGE FIRE DOORS OVER 400 FT$^2$
USE A TURNBUCKLE AND DOUBLE FUSIBLE
LINKS --- FACE OF WALL MOUNT

FIGURE #9A




FUSIBLE LINK LAYOUT-THROUGH WALL

FIGURE #10

# INSTALLATION INSTRUCTIONS FOR

# FINGERS RELEASE DEVICE

## STEP #11

Disconnect fusible link chain from its bolt on the adjusting bracket plate and on the operating bracket plate and connect these chains to wall chain as shown in Figure 9 or 10. Fusible links should be placed where most exposed to possible fire and chain should be free to move smoothly. Make sure all chains are taut.

### FINGER RELEASE DEVICE STANDARDS

| FINGER RELEASE DEVICE APPLICATION | DEVICE MOUNTING LOCATION |
|---|---|
| Labelled Shutter Std. Crank Operations | Crank Box Output Shaft |
| Labelled Shutter up to 5'2" high MO-30 only | Pipe Shaft Plug End |
| Labelled Shutter over 5'2" high MO-30 only | Pipe Shaft Plug End |
| Labelled Shutter only use with J,H,M-50 operators vertical front hood | Motor Operator Reducer Output Shaft |

## STEP 11A:

Insert the fingers release device on the shaft specified in standards chart and tighten the set screws. Run the fuse link chain thru the bracket holding the two "fingers" in place. Be sure to place an "S" hook on the end of the fuse link chain and pull it tightly against the bearing in the bracket. Run the other end of the fuse link chain thru the eyebolt on the end of the arm. Be sure the eyebolt is positioned properly in front of the bracket so the fuse link chain is set at 90 degrees to the bracket. See figure #13. Attach the end of this fuse link chain to the fuse link chain coming from the Governor side bracket. Make sure the chain is taut, and the tension disc and set screws are tight. Check to be sure the eyebolt and mounting arm will not interfere with the drop out mechanism of the Governor, when it is released. Attach the motor drive chain between the drive sprocket on the operating end of the shaft and the fingers release device. Be sure the chain is tensioned properly.

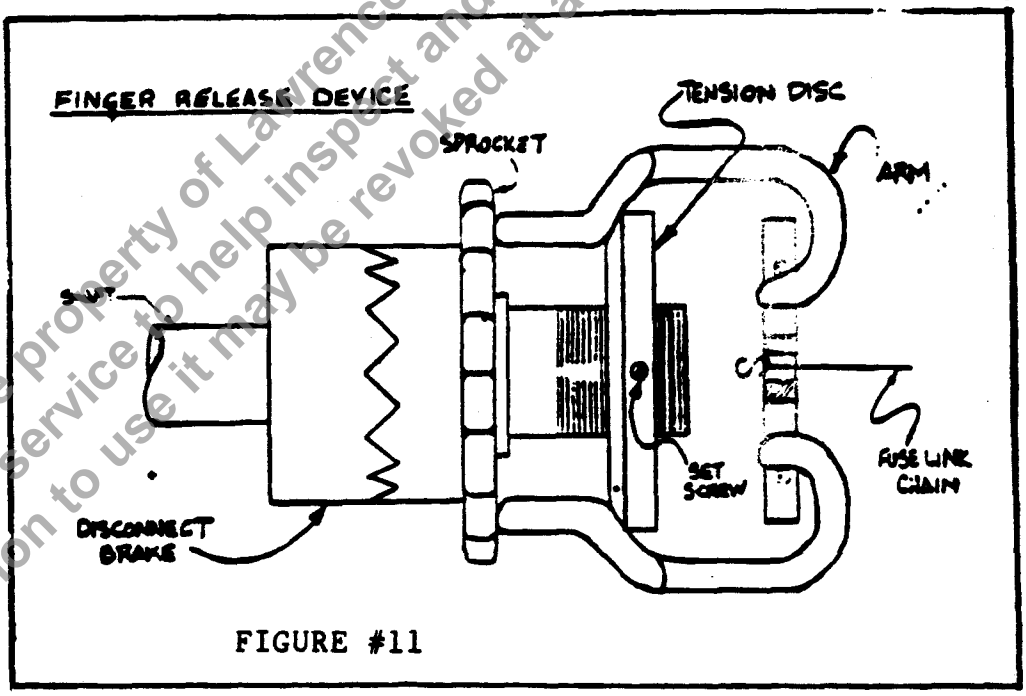



FIGURE #11

# INSTALLATION INSTRUCTION FOR QUARTZOID RELEASE DEVICE

**STEP 11B:**

Insert the Quartzoid release device on the shaft at the operating end and tighten the set screws. Attach the motor drive chain between the driven sprocket on the operating end of the shaft and the Quartzoid release device. Be sure the chain is tensioned properly.

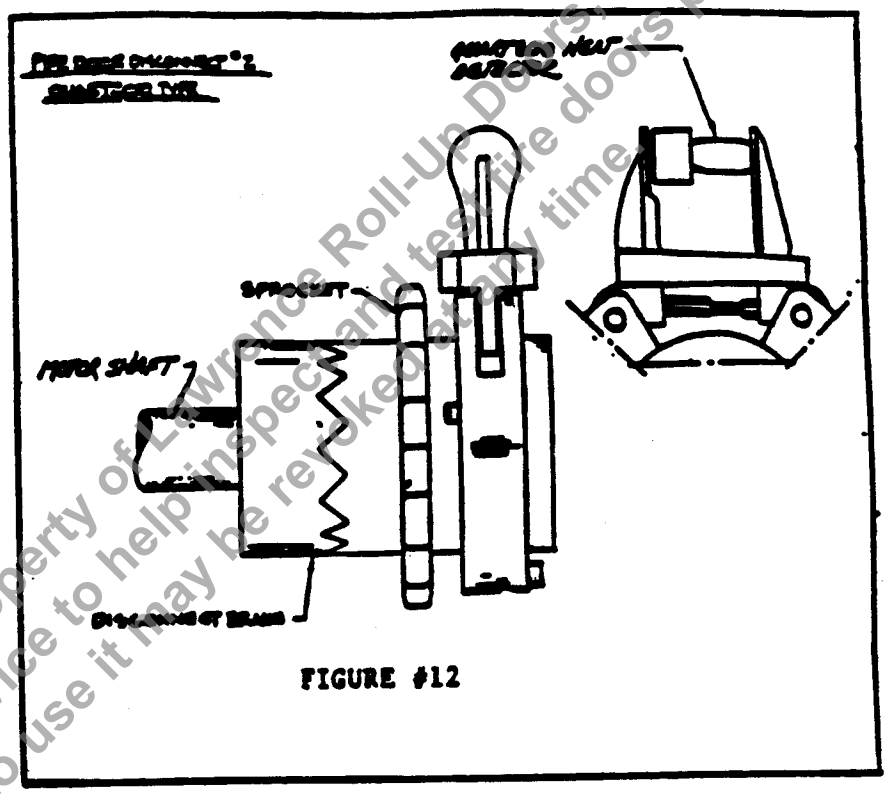
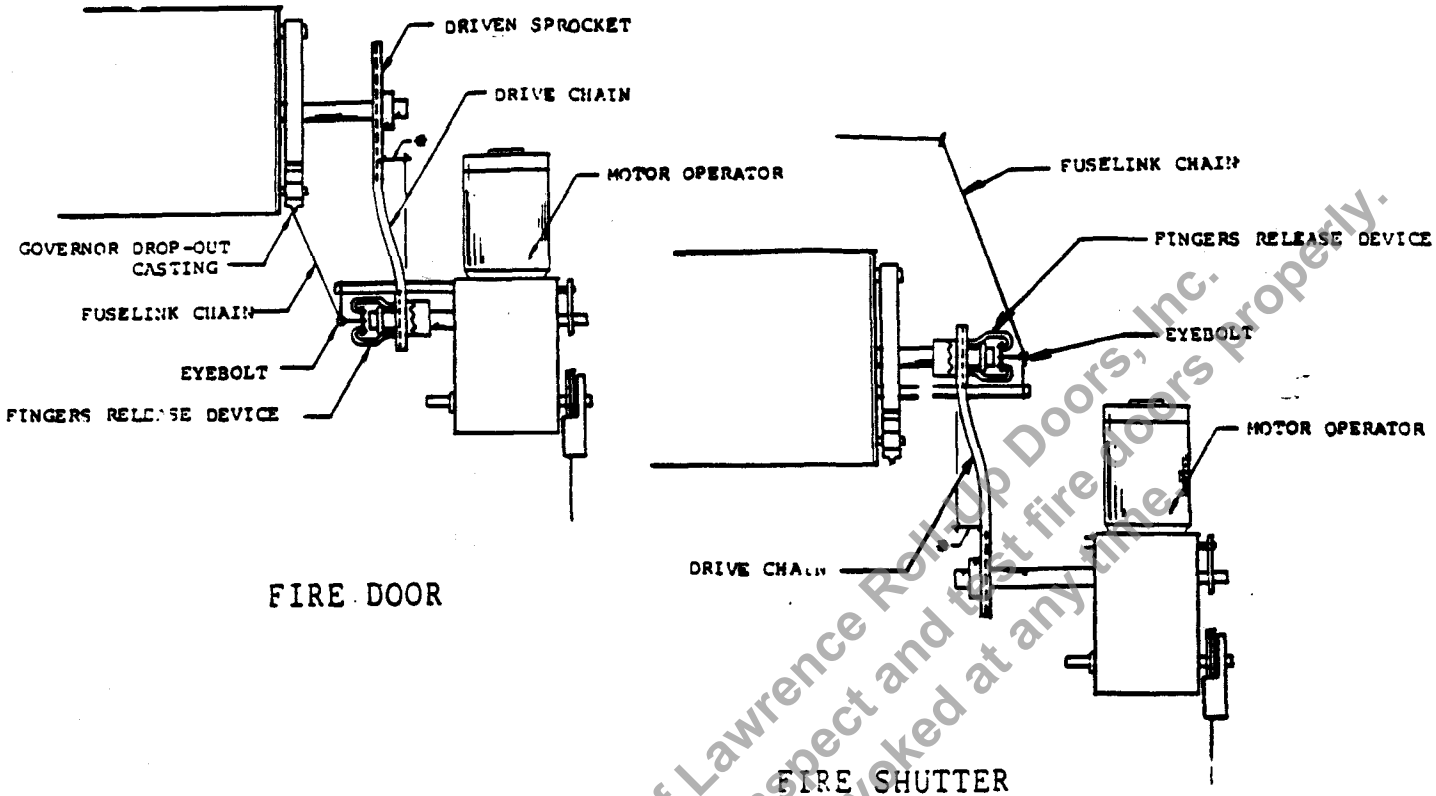
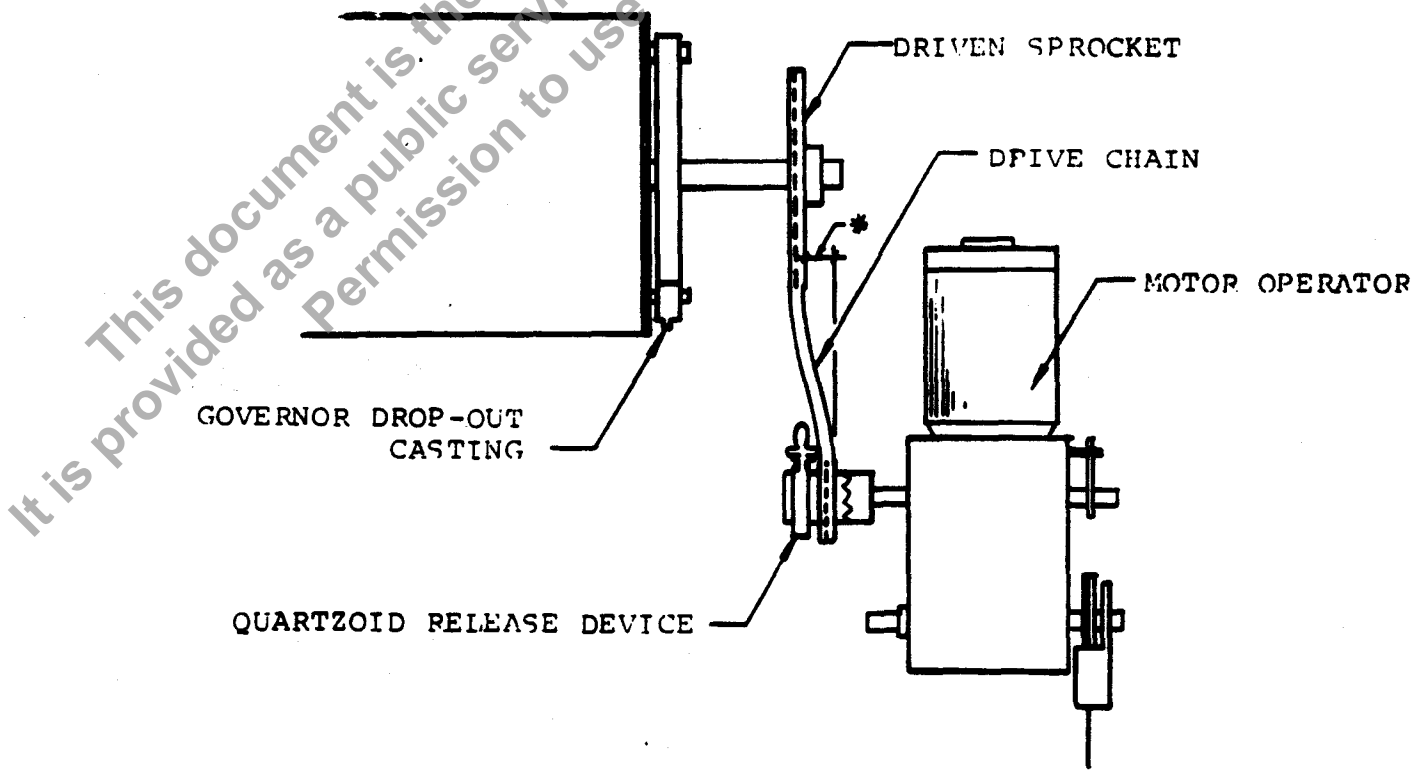



FIGURE #12

FIGURE #13




NOTE: TO PROVIDE PROPER SEPERATION OF RELEASE DEVICE, DRIVE CHAIN MUST BE MOUNTED AS SHOWN WITH A ONE (1) INCH DIFFERENCE BETWEEN SPROCKETS (INDICATED WITH A "*").



STEP #12:

The door is now ready for test operation and adjustment.

The fusible links hold up the weights which engage the operating mechanism and the tension bar holding the adjusting wheel. When the fusible links part at 165 degrees, the weight and tension bar drop. With nothing holding the spring force, the shaft (to which the adjusting wheel is pinned) turns rapidly and forces the dogs on the kick-off pawl to move outward until one of the dogs strikes the shaft kicker, forcing the pipe to turn and the door to close. In order to allow only a portion of the spring force to be used in automatically closing the door, a bolt is located in the face of the adjusting wheel in one of four positions. As the adjusting wheel is released, the bolt end strikes the swing stop behind the adjusting wheel and both rotate until they are stopped by the ½" x ½" x 2" long bar welded to the bracket plate. Adjustment of the spring force used to start the door down, is made by changing the location of the bolt in the face of the adjusting wheel. If the bolt is located at approximately 8:00 o'clock, it will strike the swing stop and both will stop when they meet the welded bar, releasing approximately 3/8 turn of spring force. Placing the bolt at 10:00 o'clock will allow 5/8 turn of spring force to be released. Placing the bolt at 2:00 o'clock will release 7/8 turn of spring force. Placing the bolt at 5:00 o'clock will release 1 1/8 turns of spring force (See figure 14). Adjust the spring tension and locate the bolt so that the kicker causes door to reach the floor and so that door may be raised manually after having been test-dropped. Once the correct spring tension and bolt location have been determined, place a chalk mark on the edge of the adjusting wheel and on the bracket plate so that the adjusting wheel may be returned to the same position after the test drop.

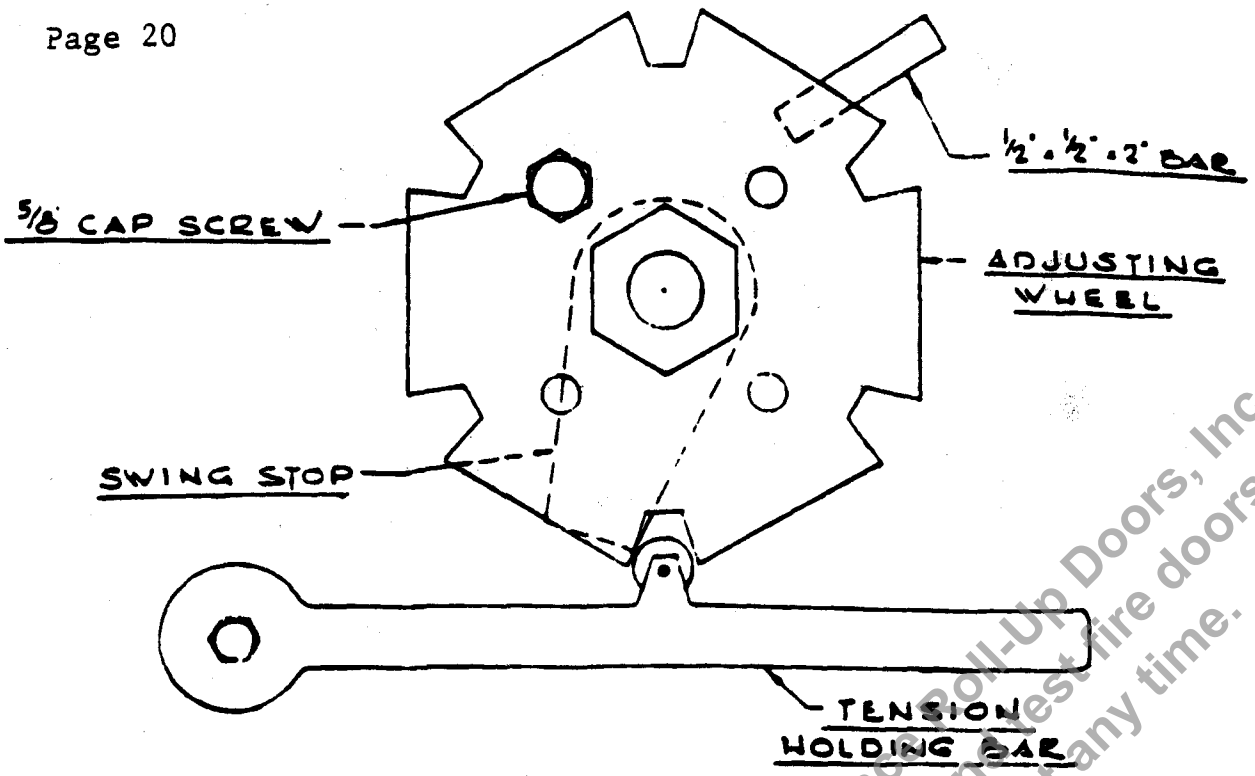



**FIGURE #14**

Step #13:

After all adjustments have been made, test drop the door by releasing the fuse link chains. Door must lower gradually to the floor. Check that door can be raised manually after having been dropped. After successful test drop, return adjusting wheel to chalk mark position and connect fusible links to chains. All disconnect levers must be fastened to chains having fusible links in them. Under NO circumstances should disconnect levers be fastened to bracket plates or walls without having a fusible link in the line.

**NOTE:** It is the responsibility of the installer to make sure that the door is operating properly and it has been test dropped before he leaves job. If there is a problem, notify Atlas Door Corporation in writing, IMMEDIATELY.