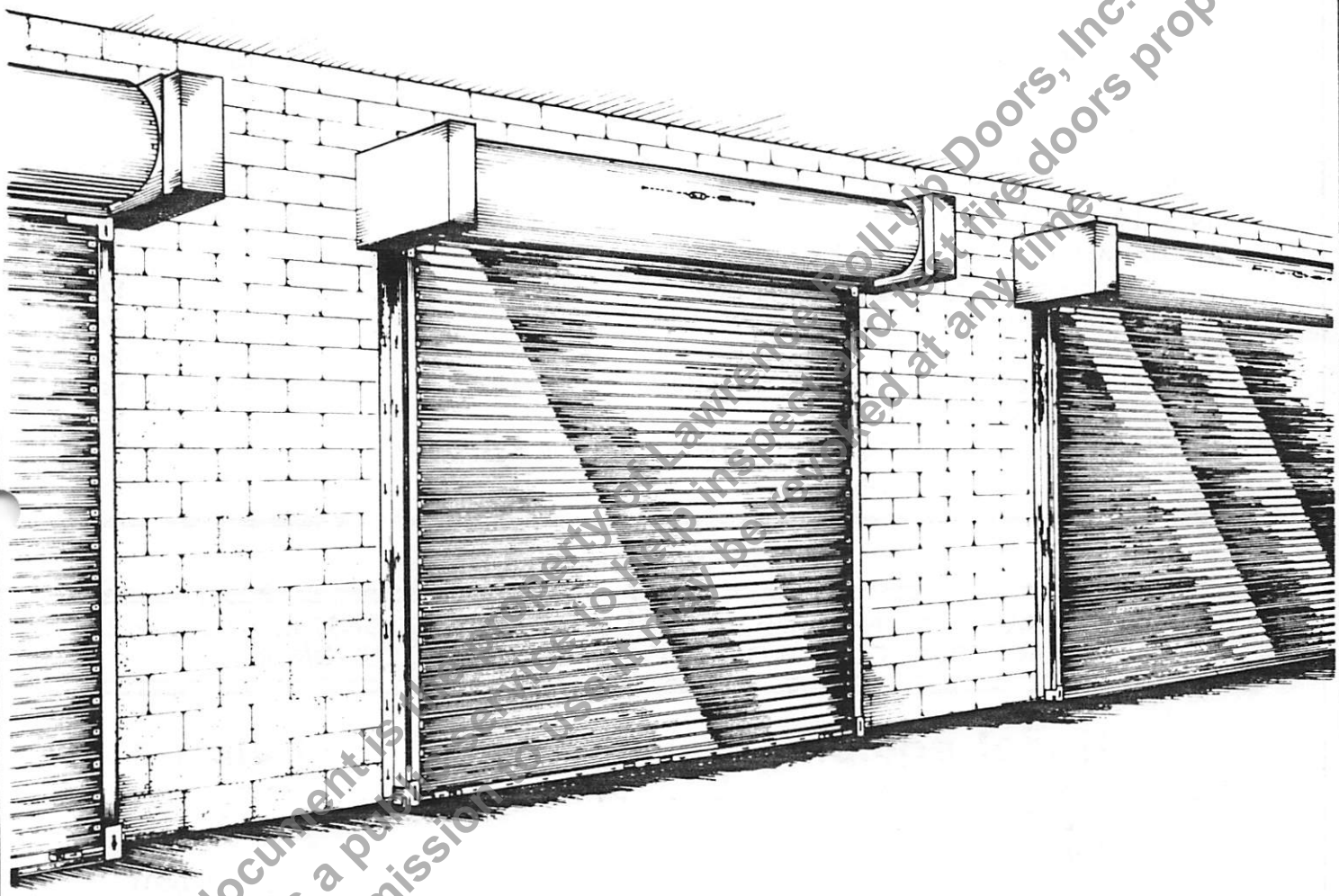
rolling fire door
installation instructions for face of wall mount

THE OVERHEAD DOOR TRADE MARK
SINCE the original 1921



TYPE 776

TABLE OF CONTENTS

LIST OF AVAILABLE INSERTS

NOTE

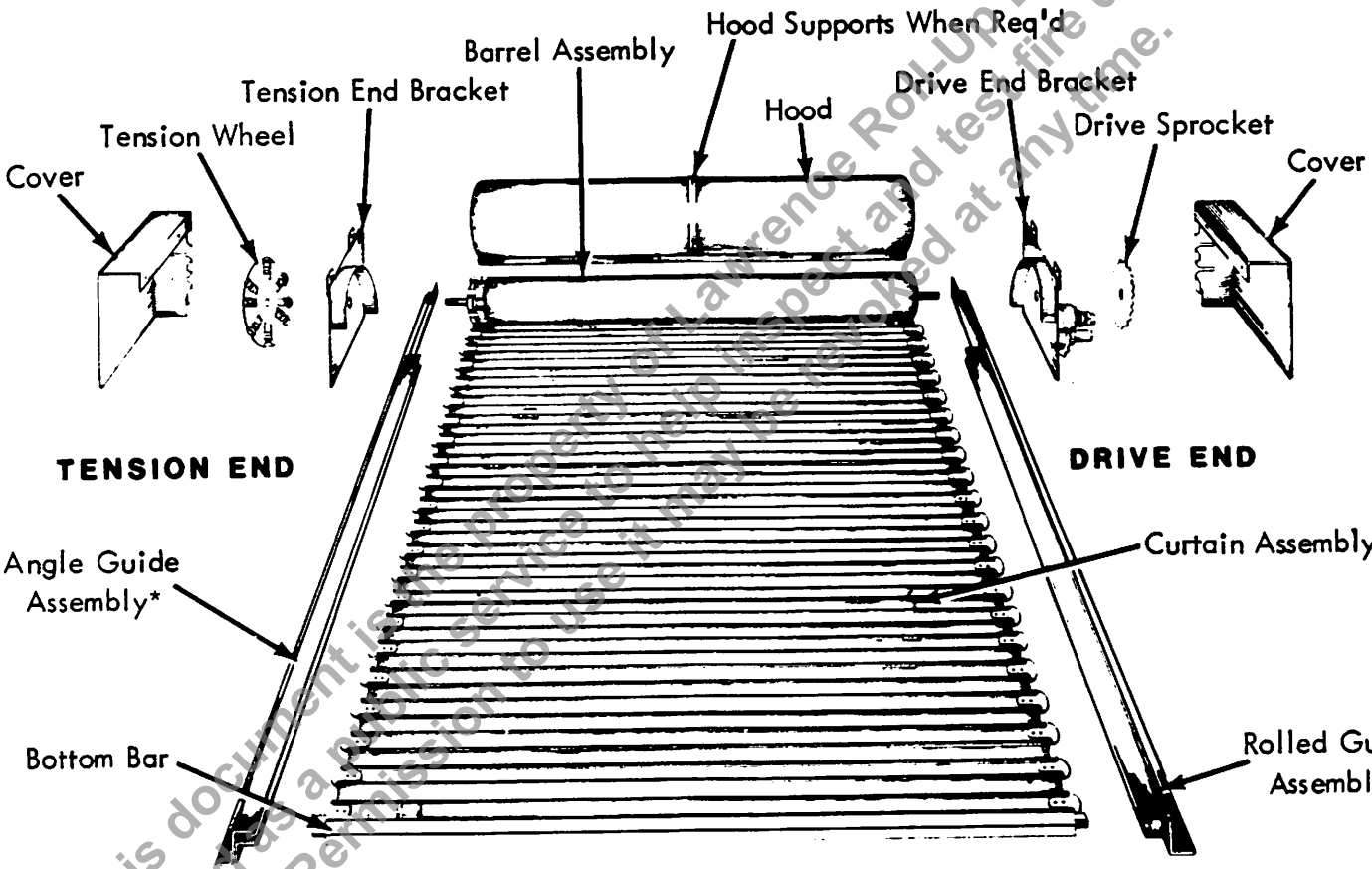
THESE INSERTS ARE TO BE INCLUDED WITH THE BASIC INSTRUCTIONS, AS APPLICABLE, IN ACCORDANCE WITH OPTIONS SELECTED BY THE CUSTOMER.

optional equipment	pub. no.
ELECTRIC OPERATOR INSTALLATION	307230-0001
Face of Wall	
Thru-Wall	
COIL CORD INSTALLATION	307230-0001
TAKE-UP REEL INSTALLATION	307230-0001
AUTOMATIC BOTTOM BAR ASSEMBLY	307230-0001
Electric Type	
Pneumatic Type	
THRU-WALL HAND CHAIN OPERATION	INS-019-1
Opposite Side of Wall	
Operation Both Sides of Wall	
HAND CRANK ASSEMBLY AND INSTALLATION	INS-019-1
Removable Crank Assembly	
Crank Assembly Thru-Wall	
Crank Assembly Face of Wall	
SLIDE BOLT AND CYLINDER LOCK INSTALLATION	INS-019-1

INSTALLATION • ADJUSTMENT • OPERATION

NOTICE

DRAWN BELOW IS A PICTORIAL VIEW OF A ROLLING FIRE DOOR BROKEN DOWN TO FAMILIARIZE YOU WITH PARTS AND THEIR NAMES.



A RIGHT HAND DOOR IS ILLUSTRATED. IN A LEFT HAND DOOR THE BARREL AND BOTH BRACKETS ARE REVERSED.

NOTICE

READ THE INSTALLATION INSTRUCTIONS THRU AND UNDERSTAND THEM PRIOR TO ATTEMPTING TO MAKE AN INSTALLATION.

*Two different guide types shown for illustration purposes. Guides will match for each door installation.

Check (✓) or add data, as applicable.

DATA TABLE

FIGURE 1

ITEM	DATA	DOOR#	DOOR#	DOOR#	DOOR#	DOOR#
1	ORDER NUMBER					
2	Opening Width					
	Opening Height					
3	Operation	L.H. ☐ R.H. ☐	L.H. ☐ R.H. ☐	L.H. ☐ R.H. ☐	L.H. ☐ R.H. ☐	L.H. ☐ R.H. ☐
	LFN-1 Electric Drive#					
	LFN-2 Chain Drive#					
	LFN-3 Crank Drive#					
	LFN-4 Push-Up Drive#					
4	Type of Jambs	☐ Concrete ☐ Masonry ☐ Steel	☐ Concrete ☐ Masonry ☐ Steel	☐ Concrete ☐ Masonry ☐ Steel	☐ Concrete ☐ Masonry ☐ Steel	☐ Concrete ☐ Masonry ☐ Steel
5	"B" Dimension					
6	"H" Dimension					
7	"S" Dimension					
8	Size of Wall Fasteners					
9	Number of Attachments Curtain to Barrel					
10	Curtain Attach Method Barrel / Ring					
12	Bracket Bolt Size					
13	Initial Turns					

NOTE

DATA TABLE MUST BE FILLED OUT BY DOOR MANUFACTURING PLANT BASED ON CUSTOMER ORDER AND CUTTING BILL

INSTALLING GUIDES

WARNING: DO NOT WELD GUIDES TO JAMBS.

1 Verify opening size (Item 2 of the Data Table - Figure 1). Door has been fabricated to fit width and height listed.

2 Recheck headroom and sideroom clearances to assure that complete door assembly can be installed without interference.

3 Locate and mark center of opening (see Figure 2).

4 Check the floor for levelness. If one side is higher than the other, locate the guide for the higher side first at "B" distance (Item 5, Data Table, Figure 1) from the center of opening, at "H" distance (Item 6, Data Table, Figure 1) above the floor and plumb.

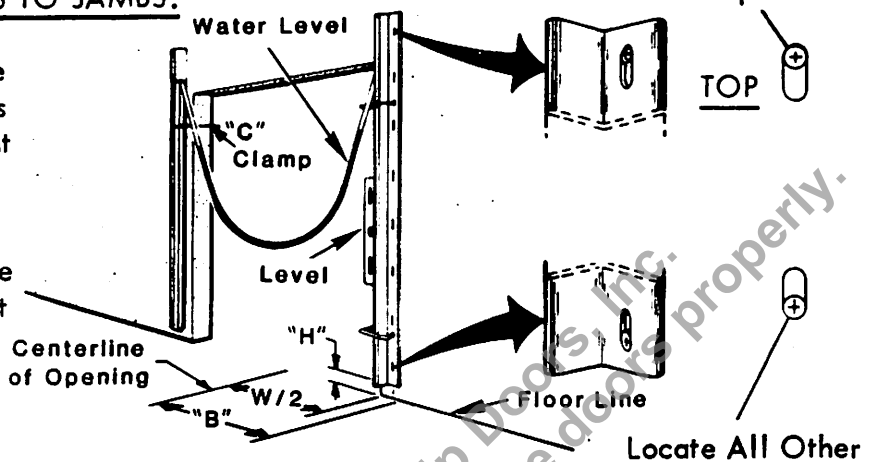


FIGURE 2

GUIDE MOUNTING

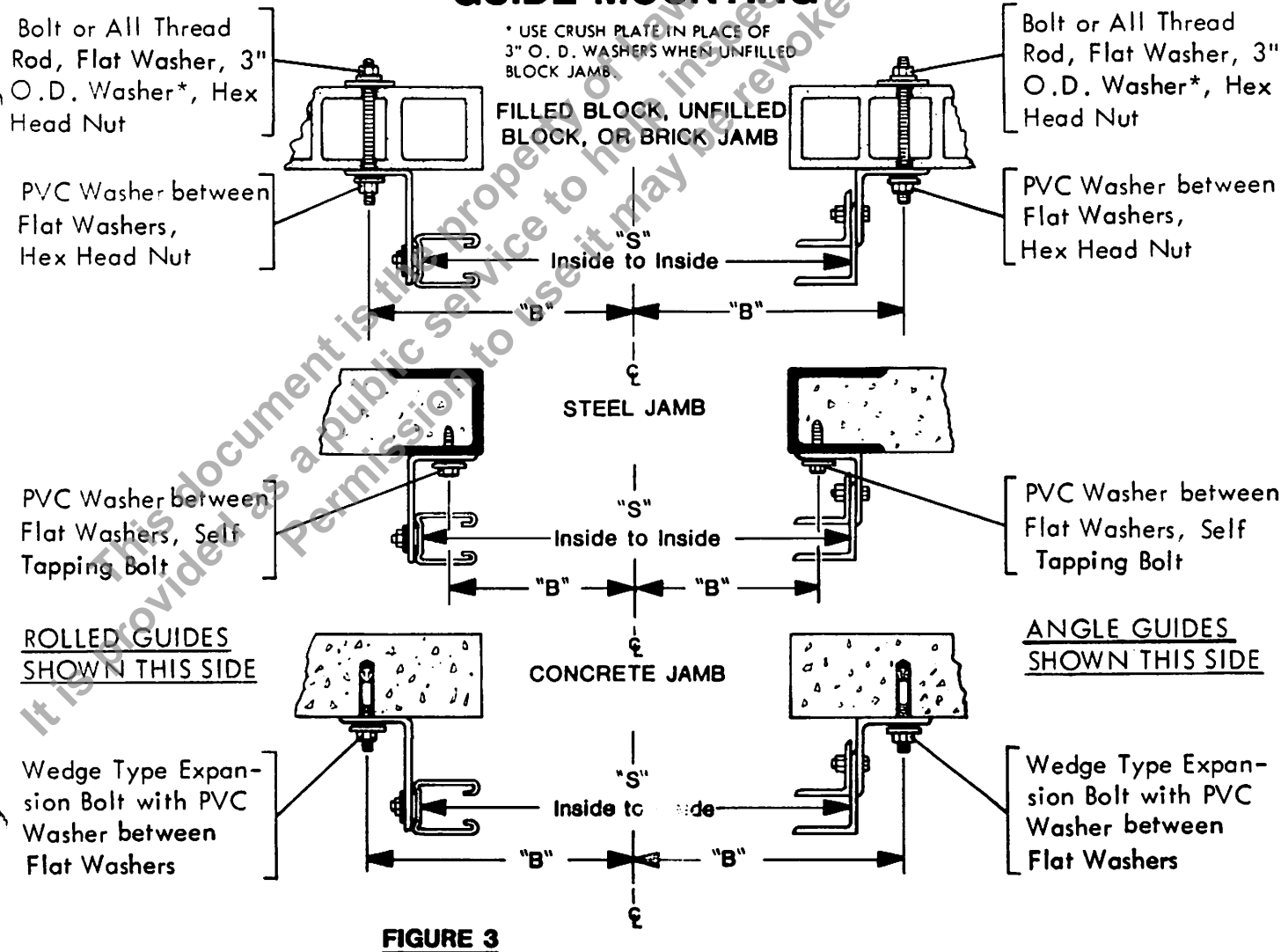


FIGURE 3

5 Determine bolt size, Item 8, Data Table, Figure 1. Drill top hole at top of top slot only. Drill all remaining holes at bottom of slot as shown in Figure 2, 4, 4A, 5, or 6.

For Block or Brick Jambs:

Drill 7/16" diameter holes for 3/8" thru-bolts.
Drill 9/16" diameter holes for 1/2" thru-bolts.

For Steel Jambs:

Drill .348 (s) dia. holes for 3/8" Self-Taps.
Drill 27/64" dia. holes and tap 1/2-13 for 1/2 bolt.

For Concrete Jambs:

Drill Hole and Depth per Wedge-Type Expansion Bolt requirements - INS P/N 306932-0001 and Expansion Bolt Schedule Below.

EXPANSION BOLT SCHEDULE		
Opening Width	Bolt Dia.	Min. Embedment
Up to 12'-0"	3/8"	3"
12'-1" to 14'-0"	1/2"	4"
14'-1" to 24'-0"	1/2"	6"

6 Bolt guide to wall as shown in Figure 4, 4A, or 5.

7 Locate opposite guide, level with and at "S" dimension, Item 7, Data Table, Figure 1, from guide installed in Step 6.

STEP 7A
Locate guide at "S" dimension as shown in Figure 3.

STEP 7B
Clamp guide to jamb at same elevation as first guide. Check "S" dimension.

STEP 7C
Adjust bottom of guide until guides are parallel and at proper "S" dimension.

STEP 7D
Mark bolt hole centers, drill, and secure guides as in Steps 4 and 4A, or 5.

STEP 7E
Install Guide Bottom Seal to cover dimension "H" (See Page 15).

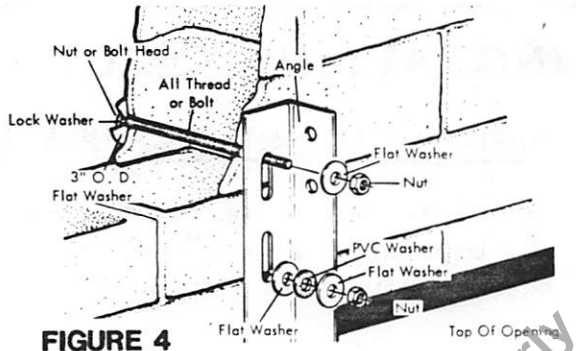


FIGURE 4
CUTAWAY of FILLED BLOCK OR BRICK SECTION

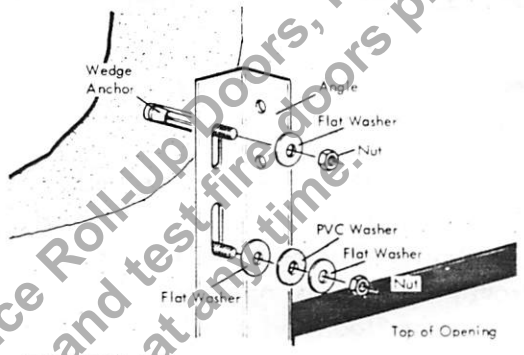


FIGURE 4A
CUTAWAY of CONCRETE SECTION

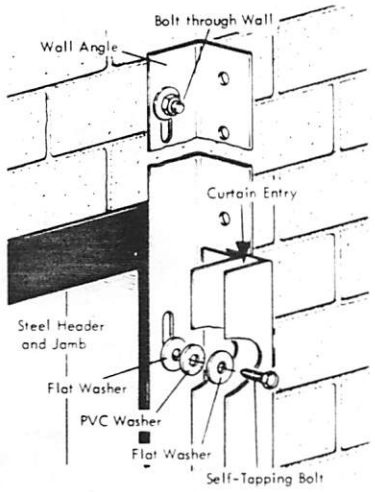


FIGURE 5

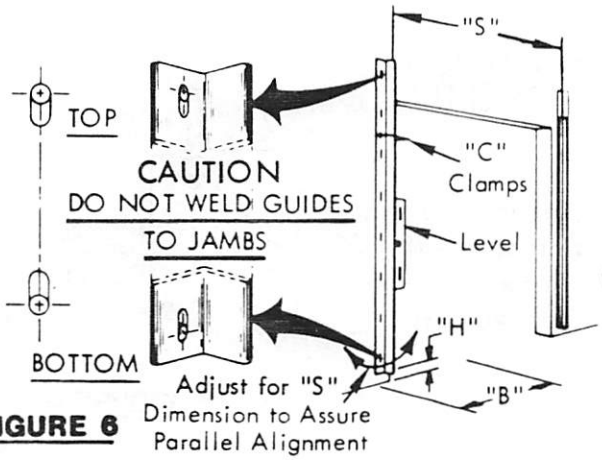


FIGURE 6

PREPARING BARREL

8 Identify hand of barrel assembly. An "L" for left hand drive or an "R" for right hand drive will be clearly stamped on the flat end of each drive shaft. See Figure 7.

> NOTE
> Right Hand Drive Shown for this Instruction.

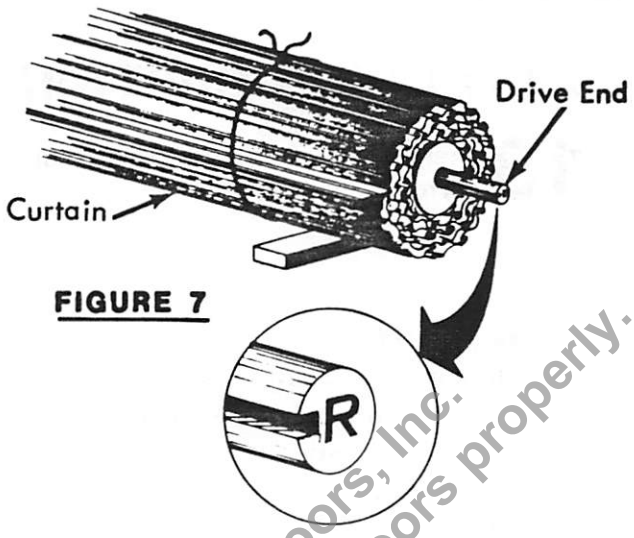


FIGURE 7

9 Place barrel in front of opening. Right hand drive "R" marked shaft to the right or left hand "L" marked shaft to the left.

10 Unroll curtain with top slat near barrel and outside of curtain down.

> NOTE
> Measures should be taken to protect the curtain's face from marring.

11 Mark curtain and barrel centerlines as shown in Figure 8.

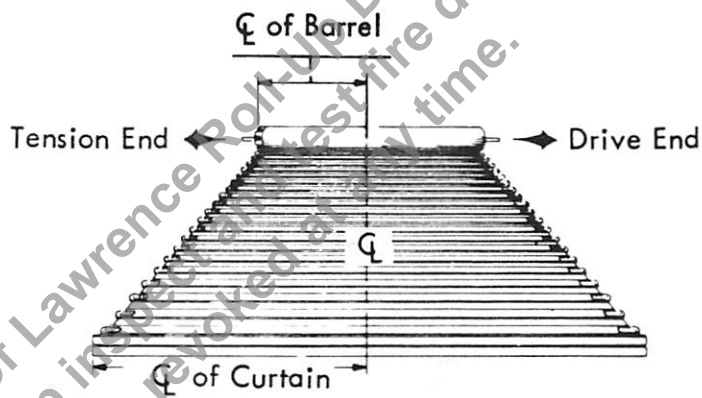


FIGURE 8

12 Determine method used to attach curtain to barrel, Item 10, Data Table, Figure 1. See Figure 9 and Step 13.

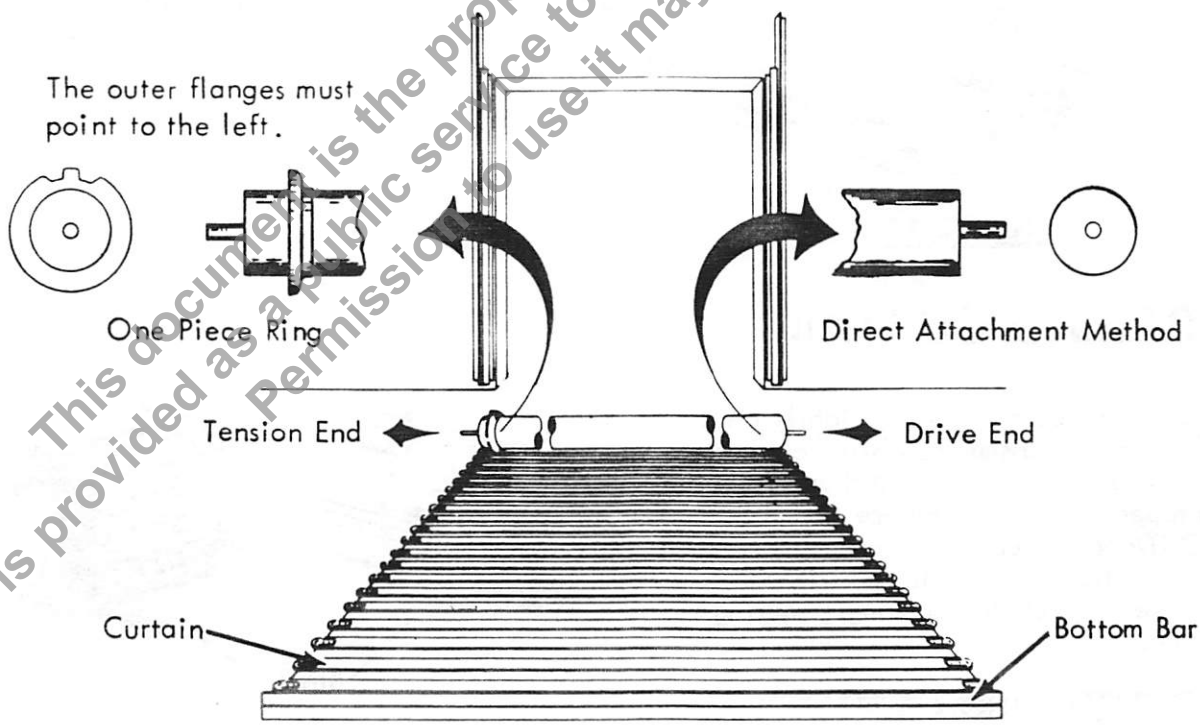


FIGURE 9

ATTACHING CURTAIN TO BARREL

13 There are two methods used to attach curtain to barrel.

METHOD 1:
When Rings are required, slide Rings onto Barrel and align holes in Rings with holes in Barrel and attach with 3/8" x 1/2" Hex Head Bolts. Rings must be positioned on the Barrel so that curtain attachment holes are no more than 9" from each end and no more than 45" from center to center.

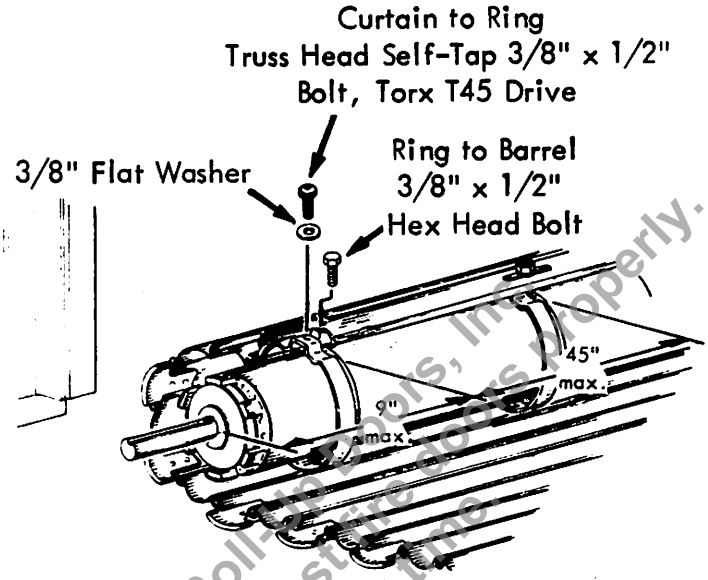


FIGURE 10

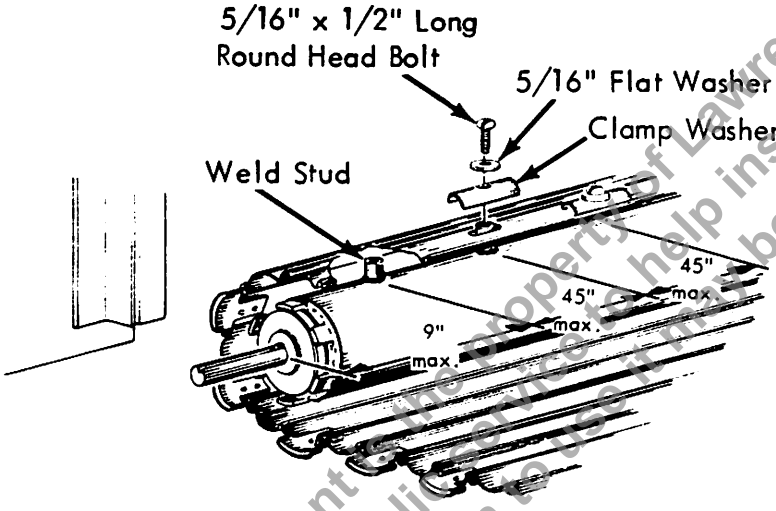


FIGURE 11

METHOD 2:
Curtain attached to female studs welded to outside surface of barrel. See Figure 11.

PREPARING CURTAIN

14 Roll up the curtain tightly on the barrel assembly while keeping the ends straight as possible and then secure with ropes as shown in Figure 12.
IMPORTANT: If curtain ends are not rolled up straight, it will be difficult to secure brackets to wall angles during Step 19.

CAUTION

ROLL CURTAIN UP STRAIGHT AND SECURE WITH ROPES.

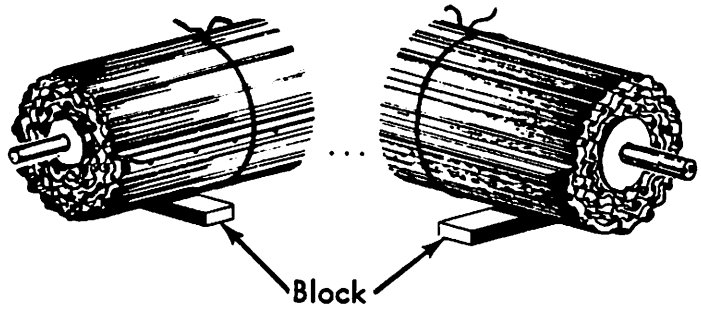


FIGURE 12

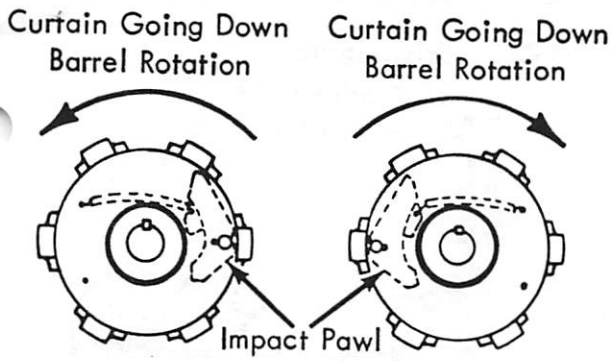


FIGURE 13

INSPECT POSITION OF IMPACT PAWL

15 Inspect position of impact pawl assembly. The L. H. or R. H. tension end assemblies MUST be as shown in Figure 13.

16 Place curtain and barrel as shown in Figure 14. Blocking under curtain should be a minimum of 4" high to allow clearance for bracket installation and a minimum of 4" wide to avoid crushing slats.

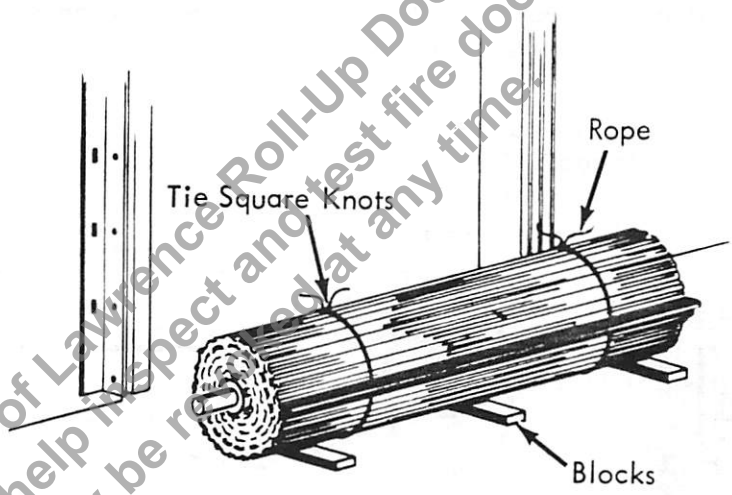


FIGURE 14

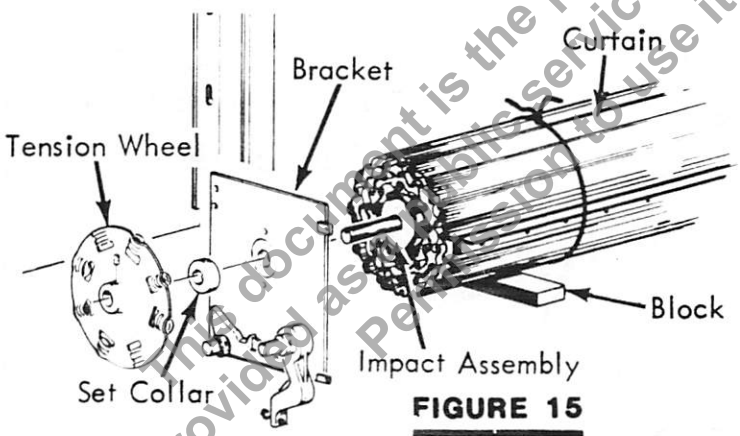
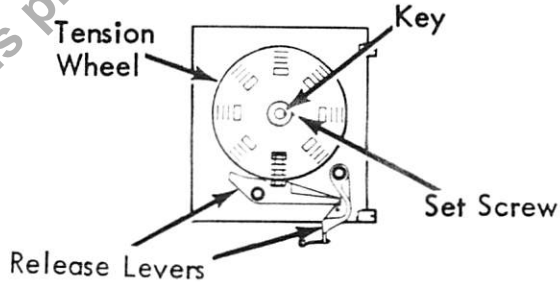


FIGURE 15



MOUNTING BRACKET ASSEMBLIES

17 Slide the tension bracket assembly onto the shaft as shown in Figure 15. Position the bracket assembly as follows: Measure curtain length over the endlocks, Subtract this measurement from the "S" dimension shown in DATA Table (Fig. 1). Divide this difference by two, and position the bracket this distance from the endlock on the curtain. Slide the set collar onto the shaft and up against the bearing in the bracket. Tighten the set screws in the set collar.

Position tension wheel in vertical alignment with release levers. Insert key and tighten set screw. NOTE: Right Hand Drive shown in Figure 15; L. H. opposite.

IDENTIFYING DRIVE ASSEMBLIES

18 Identify drive assembly, Item 3, Data Table, Figure 1, with assembly in Figures 16 through 20. Slide the drive end assembly on the shaft. Install drive sprocket.

18A For hand chain operation, complete installation by threading hand chain through pocket wheel and closing the link. DO NOT ALLOW TWIST IN CHAIN.

18B Install shaft spreader on all no. 5 drive headplates. Tighten set screw. Adjust length before door is operated. Adjust nut to maintain distance between shafts. Tighten lock nut.

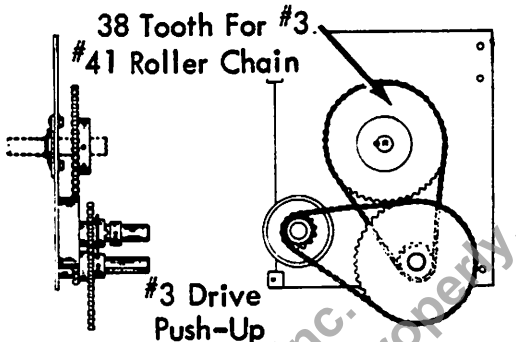


FIGURE 16

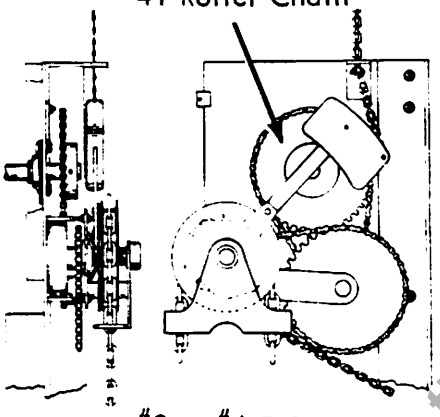


FIGURE 17

NOTE
DO NOT LUBRICATE CLUTCH

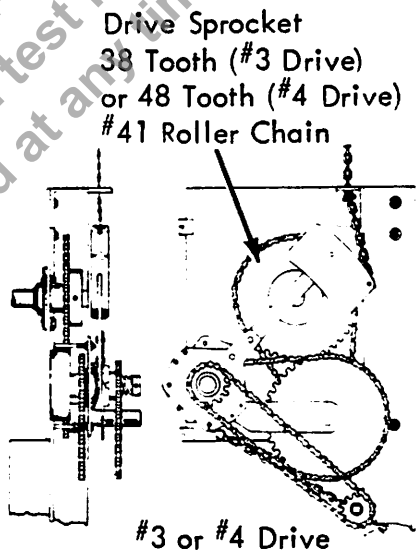


FIGURE 18

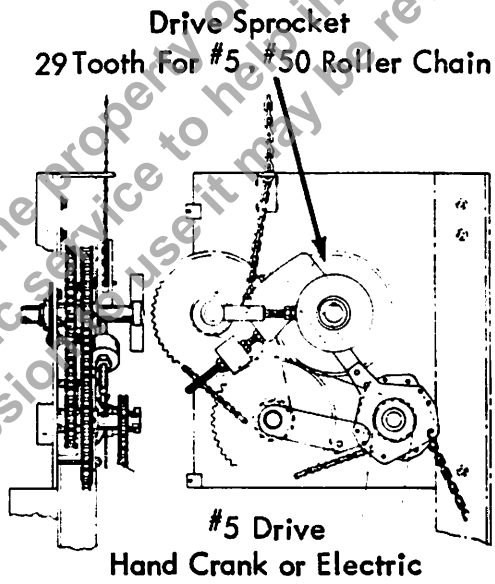


FIGURE 19

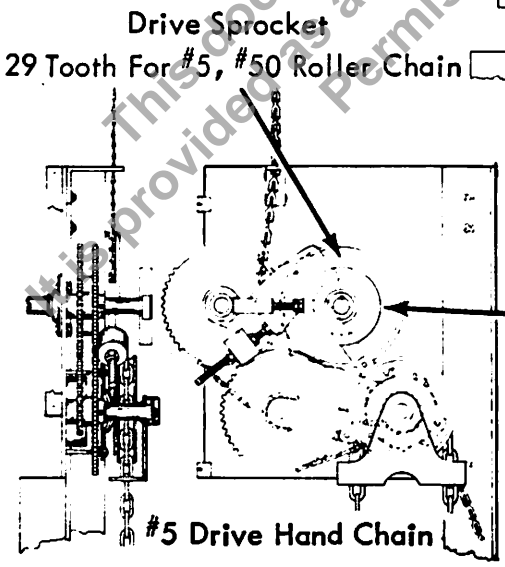


FIGURE 20

INSTALLING FIRE DOOR IN OPENING

19 Lift assembly to opening following either of the suggested methods shown on Page 15. Secure brackets to wall angle with proper fasteners, Item 12 of the Data Table (Fig. 1), as shown in Figure 22A or 22B. Center curtain between brackets. Reset set collars at both tension and drive end as required. Recheck tension wheel alignment (refer to Step 17).

20 Install "Inside Stop" on L. H. and R. H. guides as shown in Fig. 22A or 22B. Locate locking pliers 4" below top of L. H. and R. H. guides.

If the door has flared guides;

Slide stop into inside channel holder and secure with 3/8-16 x 1/2" cap screw and washer. Locate locking pliers approximately 4" below the top of channel holder on both L. H. and R. H. guides as shown in Figure 22A.

If the door uses bellmouths;

Install inside stops and locate locking pliers approximately 4" below entrance to both L. H. and R. H. guides as shown in Figure 22B.

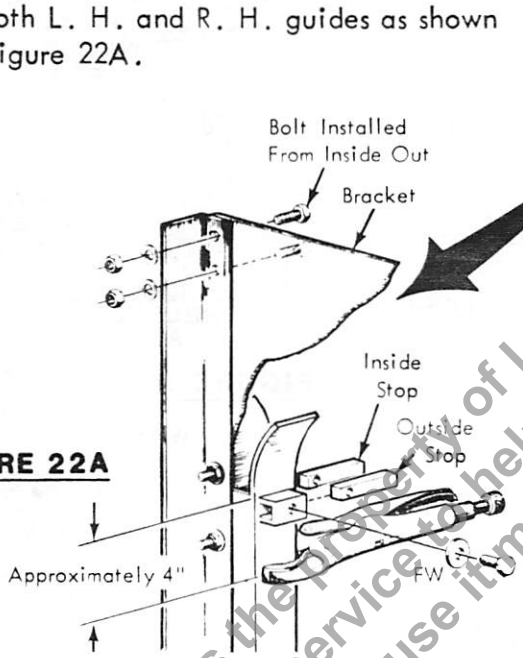


FIGURE 22A

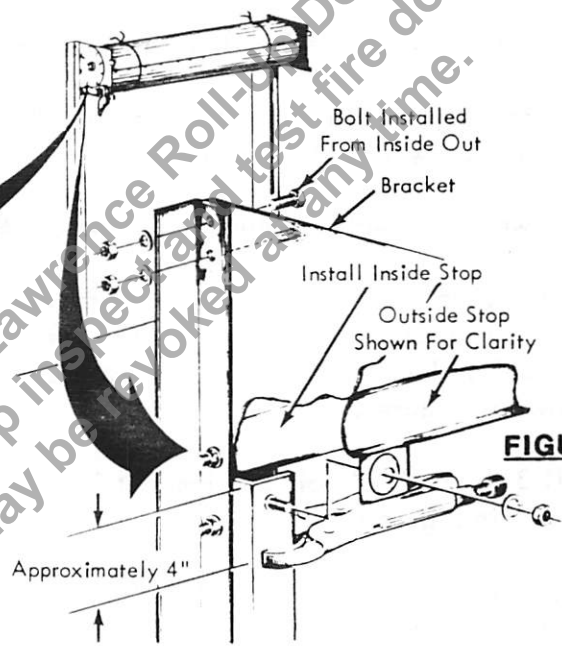


FIGURE 22B

21A The next step is to lower curtain into guides. Before loosening the ropes which hold the coiled curtain, enough initial spring tension must be applied to cause the bottom bar to rotate about 45 degrees; then leave one winding bar in the tension wheel with the bar resting against the wall.

21B Loosen ropes and lower curtain into guides. Bottom bar angles will pass by inside stops by twisting angle and come to rest against locking pliers.

22 Install outside stops. See Figure 23A for flared guides and Figure 23 B for guides with bellmouths.

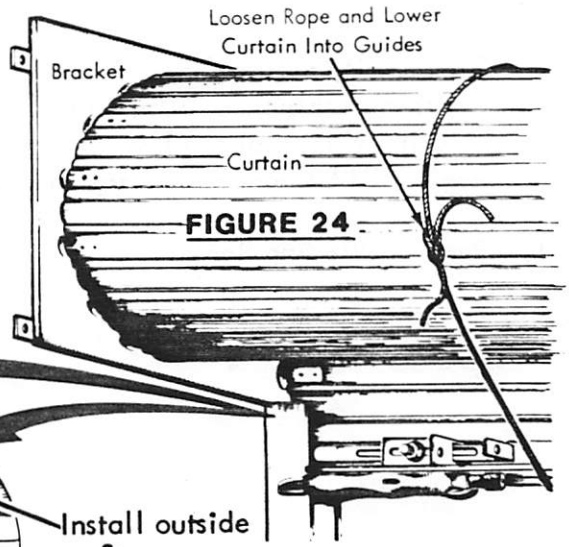


FIGURE 24

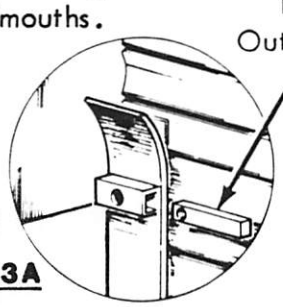


FIGURE 23A

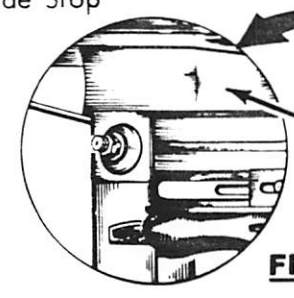


FIGURE 23B

ADJUSTMENT

TENSION BRACKET ASSEMBLY

23 Obtain initial turns. Item 13, Data Table, Figure 1.

NOTE: Read the following instructions throughly before performing procedure.

CAUTION: WINDING BARS SHOULD BE 3/4" DIAMETER STEEL ROD, 2 TO 3 FEET LONG. DO NOT USE PIPE OR CONDUIT.

A. Insert a winding bar in hole at top of tension wheel and pull down as shown in Figure A.

B. Rotate tension wheel 1/8 to 1/4 turn and stop.

C. While holding first bar, insert second winding bar in top of tension wheel as shown in Figure B.

D. Pull down on second bar while removing the first bar.

E. Repeat procedure until the bottom bar moves up against the curtain stops, or you set the initial turns shown in Data Table. Insert winding bar to rest against wall as shown in Figure C.

F. Install 3/4 x 2-1/2" bolt and jam nut in tension wheel as shown in Figure C.

G. Using winding bars, slowly rotate tension wheel until tension wheel bolt rests in the offset in horizontal release arm as shown in Figure D.

H. Set release arms as shown in Figure D.

I. Temporarily secure the Vertical Release Arm in position at this time. Locking pliers may be clamped onto the bottom of the headplate; a short piece of angle will be needed on large headplates.

J. Remove Winding Bar.

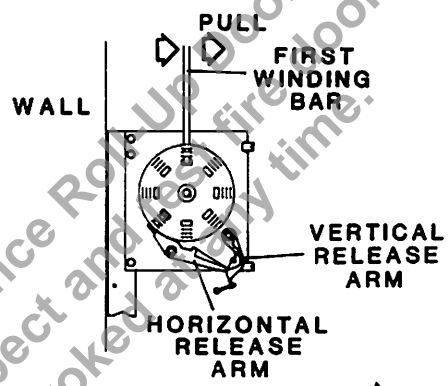


FIGURE A

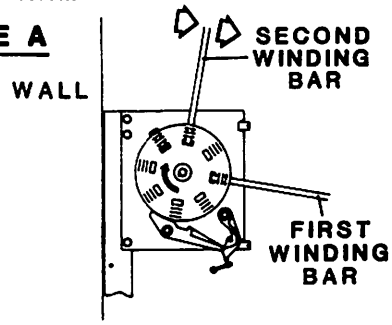


FIGURE B

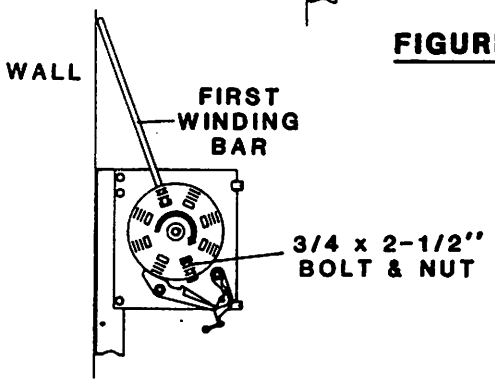


FIGURE C

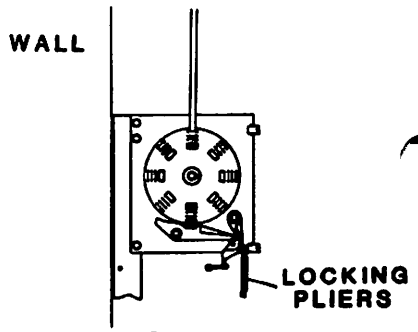


FIGURE D

DRIVE BRACKET ASSEMBLY

24A Position main drive sprocket on counterbalance in correct alignment with the smaller sprocket to which it is connected. Tighten set screw firmly.

24B On hand chain, hand crank, or electrically operated doors, the sprocket drive end is disconnected from the input device by means of a dentil and cam release mechanism. On these assemblies, the face of the stationary dentil release assembly must not press against the governor assembly. Therefore, adjust stationary cam per note beneath Figure 25. See Table of Contents page for correct insert and complete Drive End Installation in accordance with the applicable instructions.

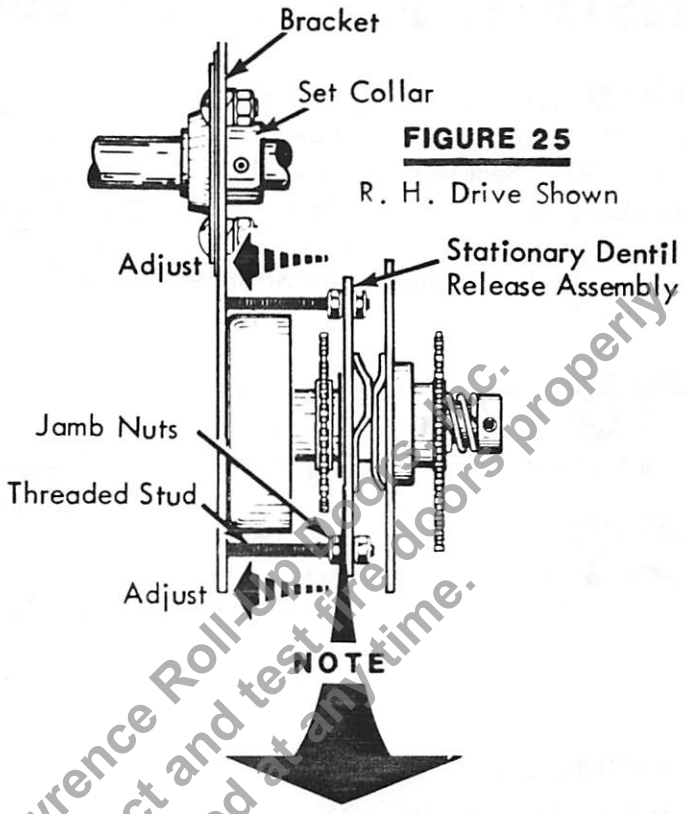


FIGURE 25

R. H. Drive Shown

Set gap of 1/16 to 1/32 between face of Stationary Dentil Release Assy. and washer on Governor Drive Hub Assy. by adjusting jamb nuts on threaded studs. Tighten jamb nuts after gap is set.

25 Install Sash Chain as shown in Figure 28 or 29, and Pages 10 and 14. Install Sash Spring by hooking one end of spring on carriage bolt and the other end in sash chain link (Figures 26 and 26A). Spring should be stretched approximately 3". Remove locking pliers from tension headplate. IMPORTANT: During a fire or a drop test, spring must pull slack in chain to allow rotation of Vertical Release Arm which allows the Horizontal Release Arm to drop.

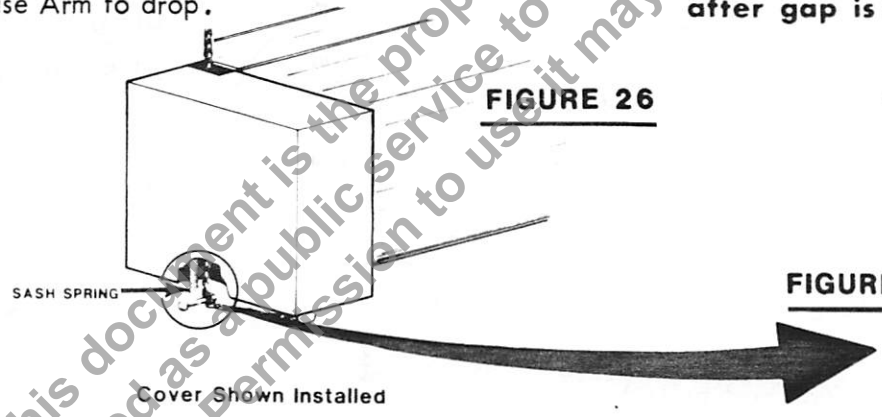


FIGURE 26

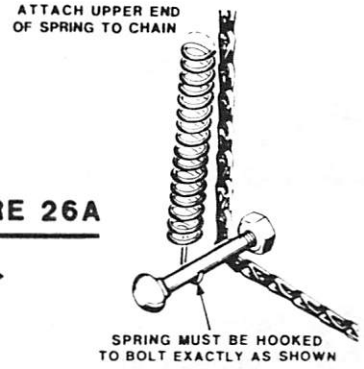


FIGURE 26A

26 Check door operation:

A. Lower and raise the curtain at least twice to test for proper operation. The bottom bar should rest against floor and not show a tendency to rise off floor.

B. If door is difficult to open, RAISE CURTAIN TO FULLY OPEN POSITION, then increase initial tension until operation is satisfactory. Move 3/4" bolt accordingly.

C. If door has a tendency to raise off the floor, RAISE CURTAIN TO UP POSITION, then decrease the initial tension until operation is satisfactory. Move 3/4" bolt accordingly.

WARNING: ADJUST TENSION ONLY WITH DOOR IN FULLY OPEN POSITION.

INSTALLING HOOD & RELEASE CHAIN

27 Prior to making drop test, install hood as shown in Figure 27. Secure hood to wall and brackets with appropriate fasteners. Install hood supports if required. See Figure 27 for attaching hardware.

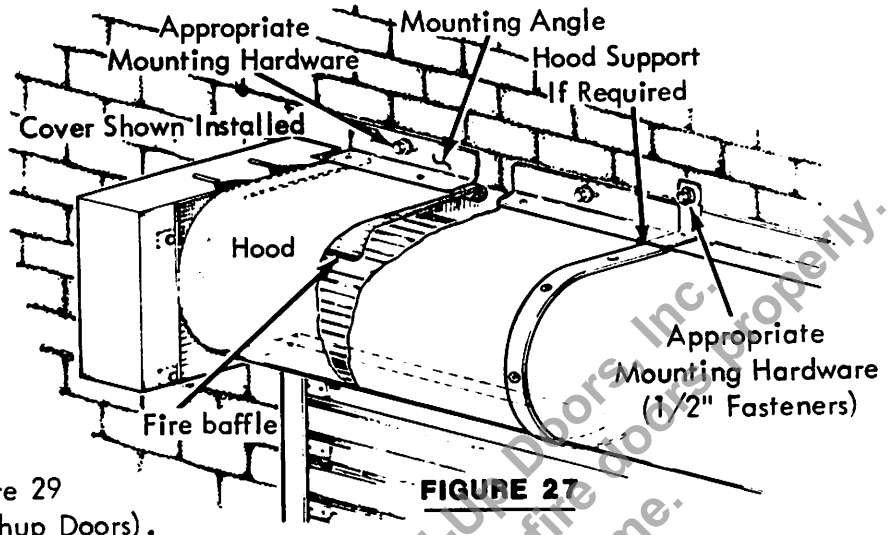


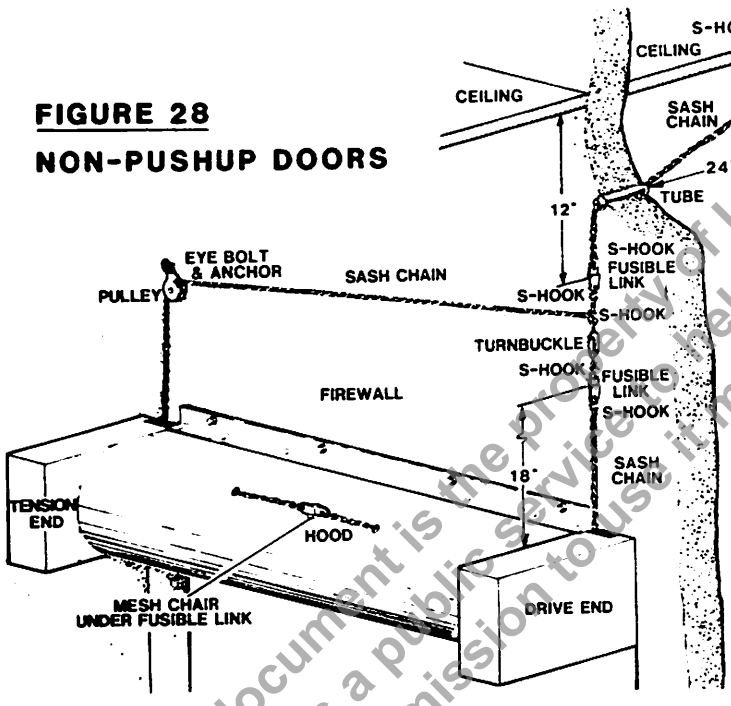
FIGURE 27

28 Check fire baffle operation to insure free movement of fire baffle and drop onto curtain.

29 Reconnect release chain for Fire Baffle as shown in Figure 29 (Pushup Doors) or Figure 28 (Non-Pushup Doors).

FIGURE 28

NON-PUSHUP DOORS



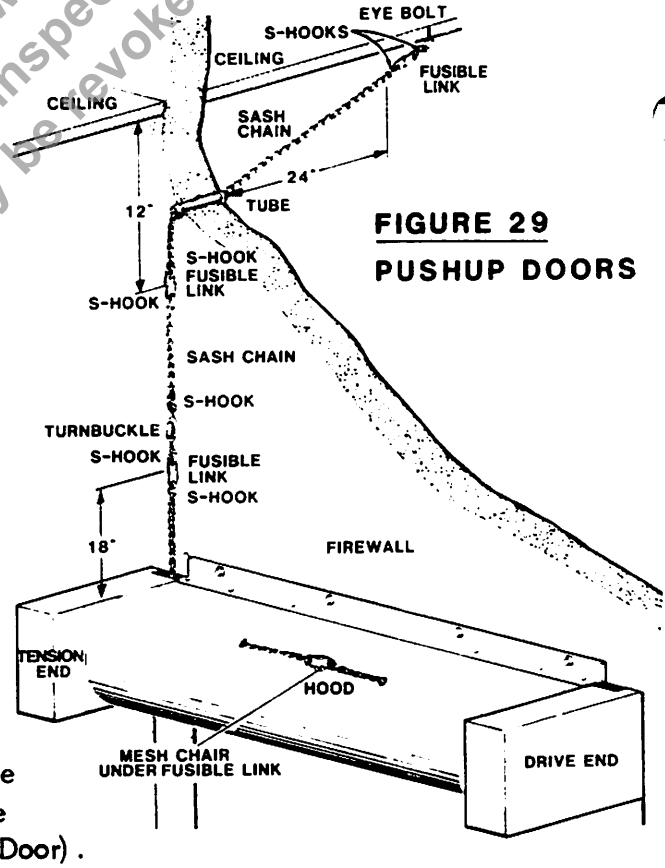


FIGURE 29

PUSHUP DOORS

30 Each rolling steel fire door must be test dropped and reset according to Overhead Door Corporation drop test instructions, provided with door inside tension end cover. If the door closed too quickly during the drop test (according to the instructions inside the tension end cover), move the 3/4 x 2-1/2" bolt assembly one (1) location clockwise (L. H. Drive Door) or counterclockwise (R. H. Drive Door).

WARNING: Adjust tension ONLY with door in FULLY OPEN position.

31 Install Bracket Covers using 1/4" diameter tapping or thread cutting screws that are no more than 3/8" long.

WARNING: A screw longer than 3/8" can prevent the door from dropping during a fire.

GUIDE SEAL INSTALLATION

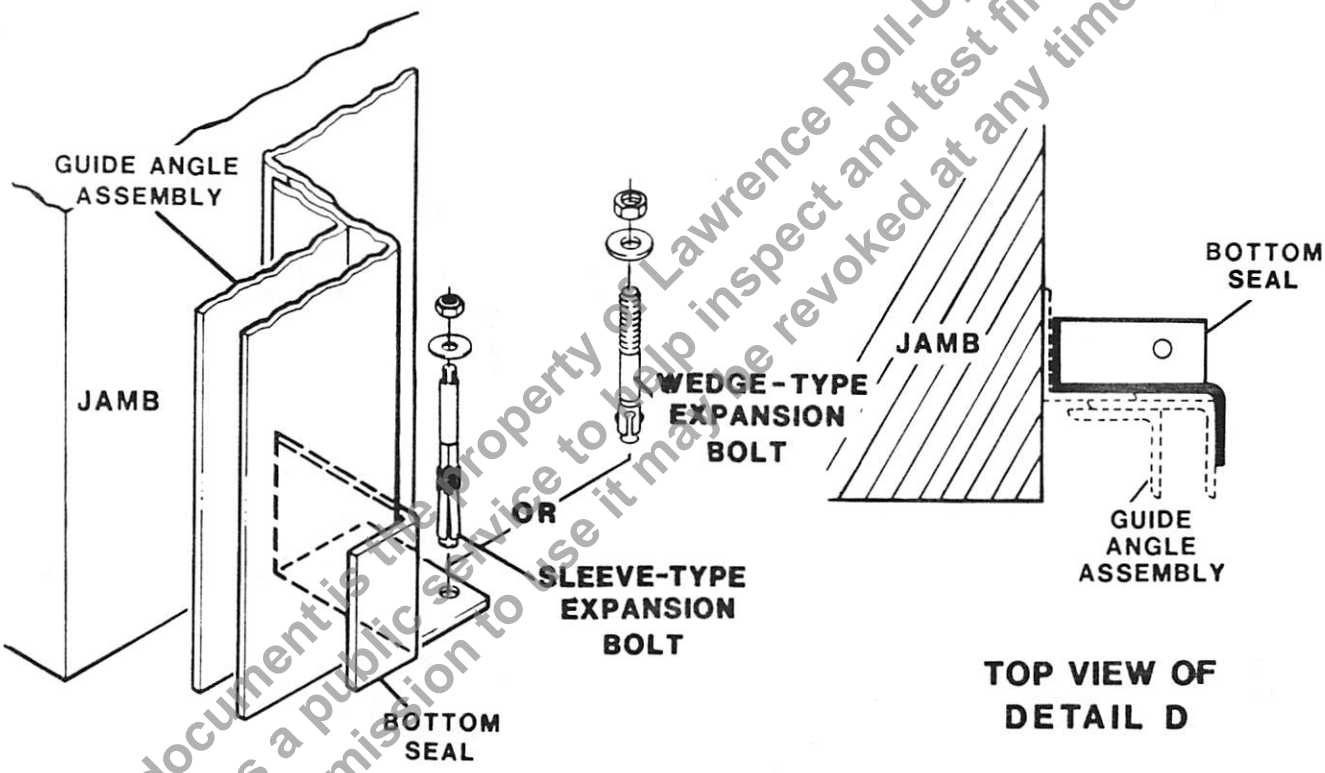
IMPORTANT

Guide Bottom Seals are a UL requirement for each fire door to keep fire from passing thru expansion gap under Guides. THEY ARE NOT OPTIONAL ITEMS. DO NOT FASTEN Guide Bottom Seal to Guide Assemblies.

NOTE: If door is equipped with slide bolts, notch Bottom Seal as required for slide bolt to project through.

32

1. Position Bottom Seal on floor and against Guide Assembly as shown in Detail D.
2. Mark fastener hole locations and drill hole per specifications for 3/8" Expansion Anchor (see OHD Instructions P/N 304725-0001).
3. Secure Bottom Seals to floor at mounting holes.



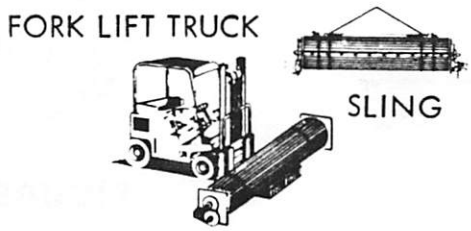
DETAIL D

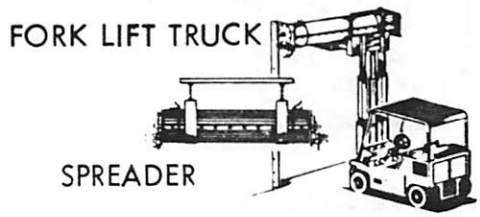
TOP VIEW OF DETAIL D

SUGGESTED METHODS OF LIFTING CURTAIN DOOR ASSEMBLY

CAUTION

Care should be exercised when lifting curtain and barrel. Devices such as spreader bars, slings, fork lift trucks, should be used when possible. Due to weight of curtain and barrel, deformation of slats will occur unless load is properly distributed and cushioned on lifting devices.





FOOT PEDAL INSTALLATION (Optional)

NOTE

This installation provides a means to engage the Drive Mechanism. Door users must be familiar with instructions shown on Decal installed on the same side as Foot Pedal.

The Foot Pedal is installed on the Jamb to the side of the door where the hand chain, crank, or electric drive control is located. Figure A shows installation for operation or control on both sides. Install all or the portion appropriate for the specific application.

1. Install Upper and Lower Chain Guides and Foot Pedal on existing Guide bolts. Figure A.

2. If Foot Pedal Adaptor Plate is provided, install as shown in Figure B. Adaptor provides clearance between back of Pedal and Guide Angle.

3. After the Chain Guide Assemblies are mounted on the Guide, and with Foot Pedal resting on the floor, thread the Sash Chain down through the Chain Guide Assemblies and attach to the Foot Pedal.

4. Grasp the Sash Chain just above the Upper Chain Guide Assembly and pull until the Foot Pedal is approximately 1" above the floor. Figure C.

5. Temporarily suspend the Foot Pedal by inserting a Cotter Pin (or similar retaining device) through the chain link just above the Upper Chain Guide Assembly.

6. Cut the Sash Chain approximately 1" beyond the Upper Chain Guide.

7. Install two "S" hooks in the Fusible Link according to Figure D. Place the end of one "S" hook through the cut end of the Sash Chain.

8. Fix an "S" Hook through the hole in the the Release Arm Assembly. Ensure that the Drop Weight or Release Arm Assembly is in the raised position (Dentil engaged). Cut and install an appropriate length of Sash Chain between the "S" Hook on the Fusible Link and the "S" Hook on the Release Arm Assembly.

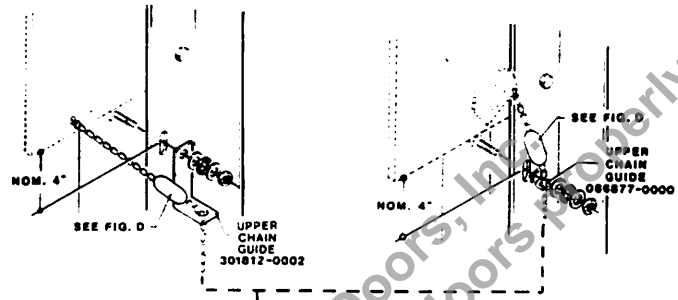
9. Remove the cotter pin (or retaining device) from the Sash Chain. Refer to Step 5 above.

10. Release the Drop Weight and test the Foot Pedal's operation. When the Foot Pedal is depressed, the Drop weight must raise and re-engage the Dentil.

11. If the Foot Pedal works properly, close the "S" Hooks and store the Foot Pedal in the "up" position (Figure C). If it does not work properly, adjust the Sash Chain lengths as needed.

12. Check operation of the door to ensure that the Foot Pedal Sash Chain does not interfere with any drive chain.

13. **Install Foot Pedal Decal.**



NO. 3 OR NO. 4 DRIVE

NO. 5 OR NO. 6 DRIVE

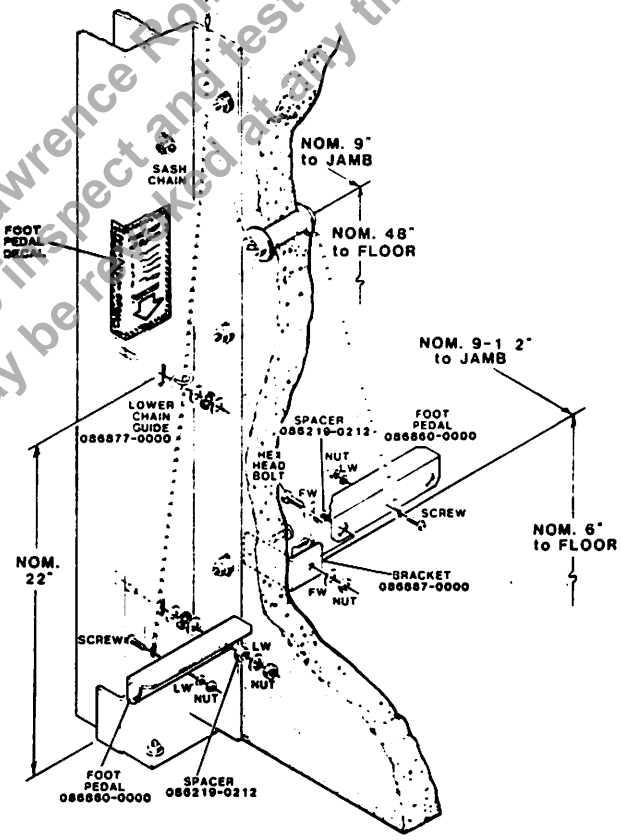


FIGURE A

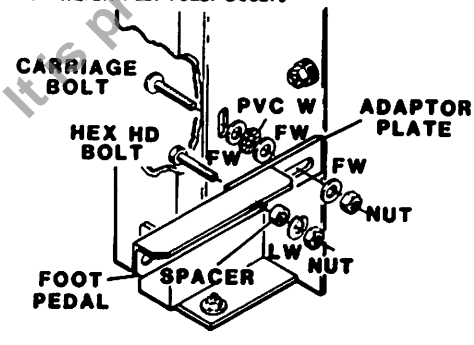


FIGURE B

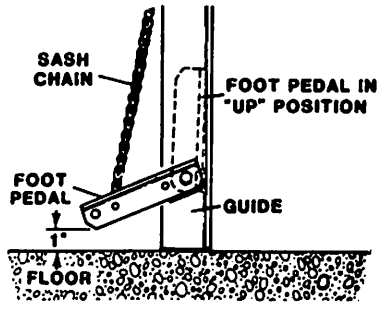


FIGURE C

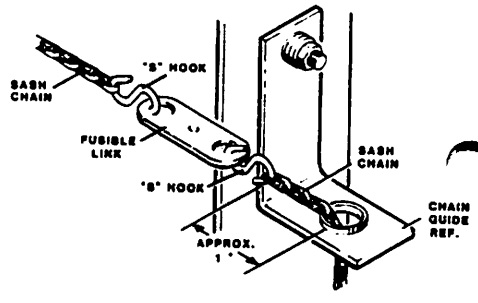


FIGURE D

rolling steel fire door
drop test & reset instructions*

drop test instructions

WARNING

TO AVOID INJURY, STAY CLEAR OF TENSION WHEEL WHEN COVER IS NOT IN PLACE.

IMPORTANT

ONLY QUALIFIED PERSONNEL SHOULD PERFORM THIS OPERATION.
READ INSTRUCTIONS THOROUGHLY BEFORE STARTING THIS PROCEDURE.

1. Raise door to "UP" position. Check doorway for obstructions.
2. Unscrew Turnbuckle (See Figure 1). Release Chain Assembly will separate and activate Release Arms at Tension End and Drop Weight at Drive End.*
3. TENSION END: Vertical Release Arm swings away from wall and Horizontal Release Arm Drops. Tension Wheel will rotate rapidly for 1/2 turn and hesitate as Impact Pawl engages and starts Curtain "DOWN". Tension Wheel will continue to rotate until Tension Wheel Bolt hits back of Horizontal Release Arm shown in Figure 5.
   DRIVE END: Drop Weight will fall and disengage Drive Dentil as shown in Figure 3.
4. Curtain should close smoothly at less than 2 feet per second. Bottom Bar should rest on floor.
5. If Curtain does not rest on floor:
   A. Check for obstruction under Bottom Bar.
   B. Check for damage to Guides, Hood, and Curtain.
   C. Check Counterbalance Tension. If Tension is too great, refer to Installation Instructions 300921-0001 or 305965-0001.
   D. Call nearest Overhead Door Distributor for service.
6. After satisfactory completion of DROP TEST PROCEDURE, refer to RESET PROCEDURE.

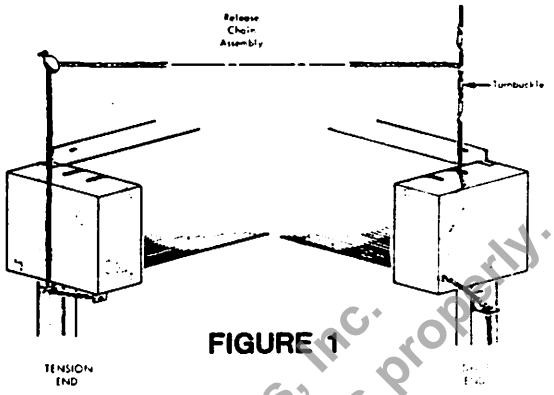


FIGURE 1

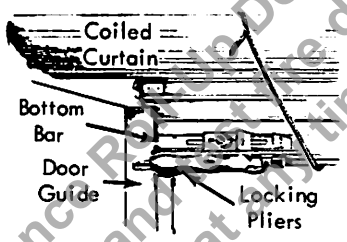


FIGURE 2

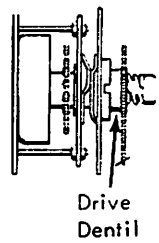


FIGURE 3

reset instructions

CAUTION

IF DOOR IS EQUIPPED WITH AN OPERATOR, RUN OPERATOR TO "DOWN" POSITION BEFORE RAISING DOOR.

IMPORTANT

IF DOOR HAS BEEN ACTIVATED BY A FIRE, CHECK DOOR FOR DAMAGES, FOR PARTS AND SERVICE CALL YOUR NEAREST OVERHEAD DOOR DISTRIBUTOR.

1. Pull up on Drop Weight Emergency Release Chain (at Drive End) until Hog Ring contacts Brass Grommet in Bracket.
2. Temporarily tie Hog Ring to Bracket using twine as shown in Figure 4. Drive Dentil will now engage.
3. Raise Curtain to "UP" position and clamp locking pliers on Guide as shown in Fig. 2.
4. READ THE FOLLOWING INSTRUCTIONS THOROUGHLY BEFORE PERFORMING PROCEDURE.

CAUTION

WINDING BARS SHOULD BE 3/4" DIAMETER STEEL ROD, 2 TO 3 FEET LONG.
DO NOT USE PIPE OR CONDUIT.

   A. Insert Winding Bar in hole at top of Tension Wheel and pull down as shown in Figure 6.
   B. Rotate Tension Wheel 1/8 to 1/4 turn and stop.
   C. While holding first BAR, insert second Winding Bar in top of Tension Wheel as shown in Figure 7.
   D. Pull on second Bar while removing first Bar.
   E. Repeat procedure until Tension Wheel and Tension Wheel Bolt are in place as shown in Figure 8.
   F. Set Release Arms as shown in Figure 9.
   G. Secure Vertical Release Arm in position with locking pliers clamped onto bottom of headplate (a short piece of angle is needed on large headplates). REMOVE WINDING BARS.
5. Reconnect Turnbuckle in Release Chain Assembly (See Figure 1) or replace damaged or separated Fusible Link.
6. Remove twine from Drive End and locking pliers from Tension End and reinstall covers.
7. Remove locking pliers from Guide. Door should open and close normally. If adjustment is required, refer to Installation Instructions 300921-0001 or 305695-0001. For parts and service contact the nearest Overhead Door distributor.

* FOR PUSH-UP DOOR, DISREGARD REFERENCES TO DRIVE END.

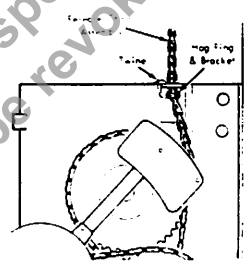


FIGURE 4

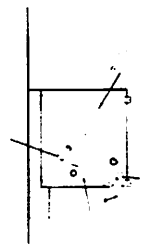


FIGURE 5

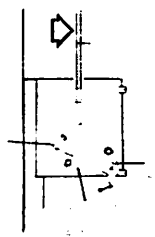


FIGURE 6

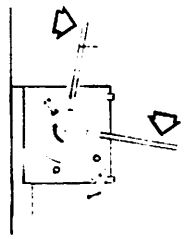


FIGURE 7

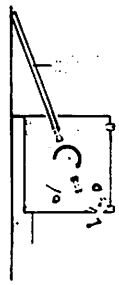


FIGURE 8

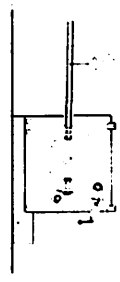


FIGURE 9

INSERT FOR 300921-0001 & 305695-0001