

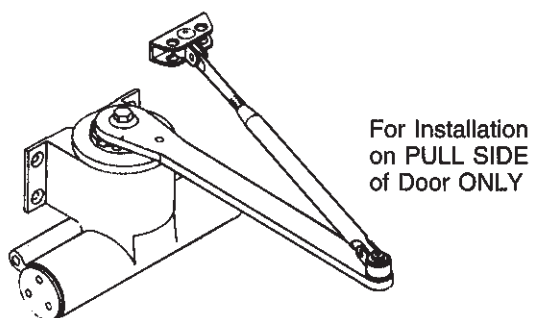
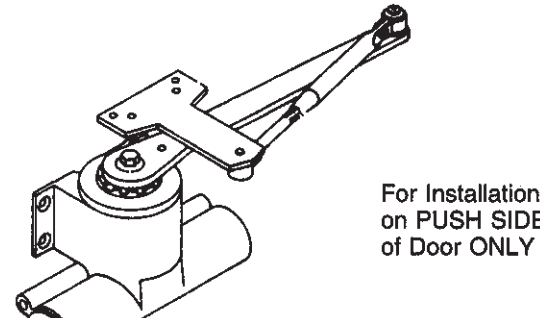

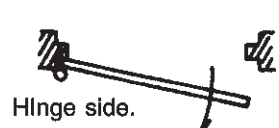
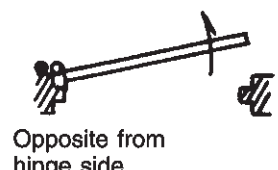
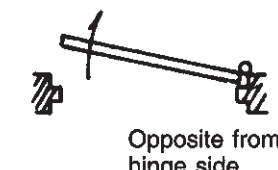
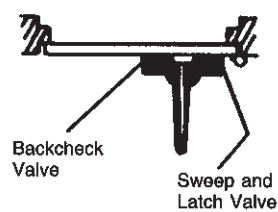
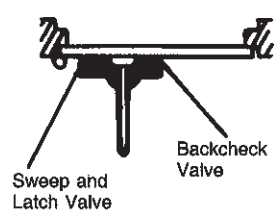
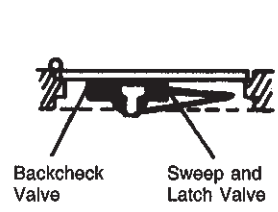
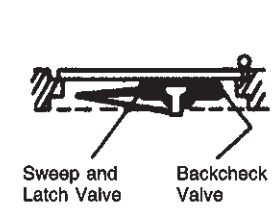


# Installation Instructions

80-9319-0001-010 (06-09)

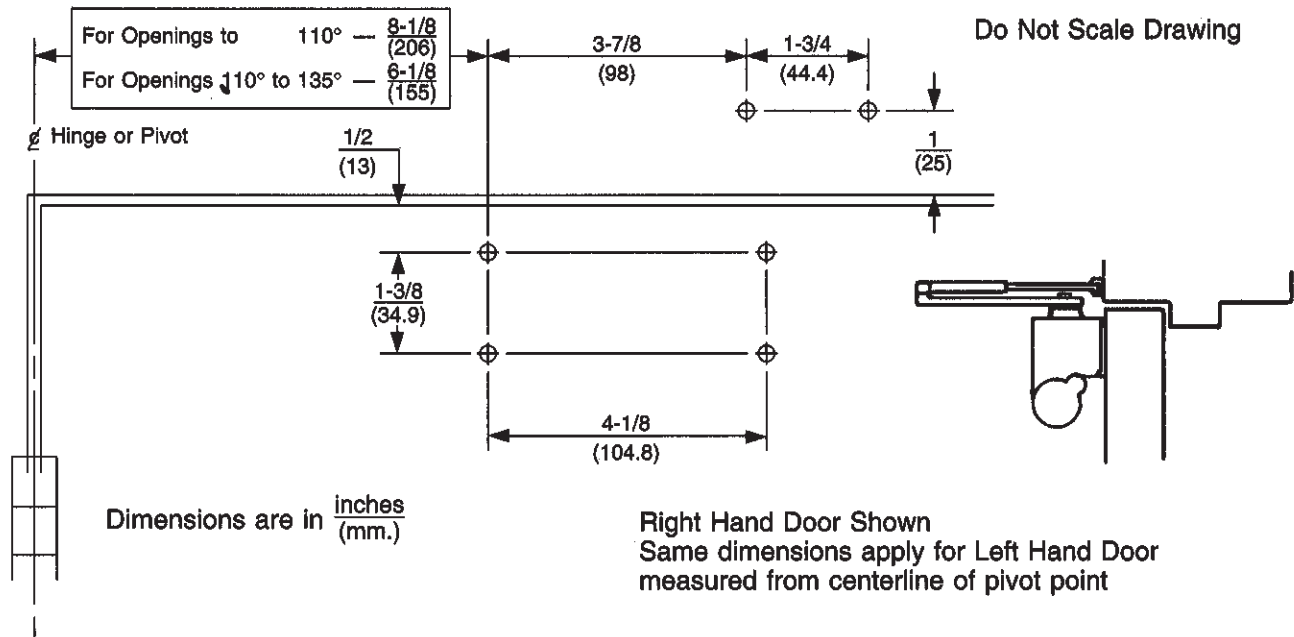
## 1900 Series Traditional Style Non-Hold Open Door Closers

- Read these instructions **before** proceeding with the installation.
- Sex-bolts are required for mounting closer-body or arm to non-reinforced hollow-metal and wood or plastic-faced composite fire-door.
- Make sure that the door opens the full angle desired and latches without any binding action or interference.
- Select the type of installation from figure 1 below.  
 Note: For special applications, a separate door and frame preparation template is packed with these instructions. Use this instruction sheet for installation sequence and closer adjustments only.
- Check hand of door, see figure 1 below. Hand of door closer must be the same as hand of door.  
 Door closer is handed but can be easily reversed.  
**SEE PAGE 4 FOR INSTRUCTIONS FOR REVERSING HAND OF CLOSER.**

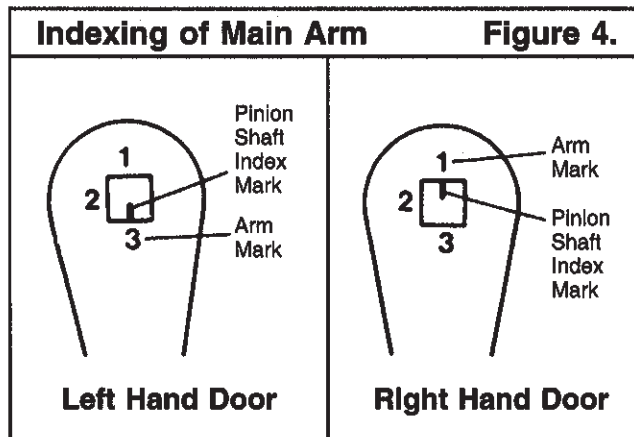
| Type of Installation and Handing of Door   |   | Figure 1.   |   |
|--|---|---|---|
| Regular Arm Installation   |   | Parallel Arm Installation   |   |
|  <p>For Installation on PULL SIDE of Door ONLY</p> <p>See Page 2 for Template and Installation</p> |   |  <p>For Installation on PUSH SIDE of Door ONLY</p> <p>See Page 5 for Template and Installation</p> |   |
| Left Hand Door   | Right Hand Door   | Left Hand Door  | Right Hand Door   |
|  <p>Hinge side.</p>   |  <p>Hinge side.</p>                                  |  <p>Opposite from hinge side.</p>   |  <p>Opposite from hinge side.</p>                    |
|  <p>Backcheck Valve</p> <p>Sweep and Latch Valve</p>  |  <p>Sweep and Latch Valve</p> <p>Backcheck Valve</p> |  <p>Backcheck Valve</p> <p>Sweep and Latch Valve</p>  |  <p>Sweep and Latch Valve</p> <p>Backcheck Valve</p> |

# Regular Arm Mounting Dimensions Template

Figure 2.

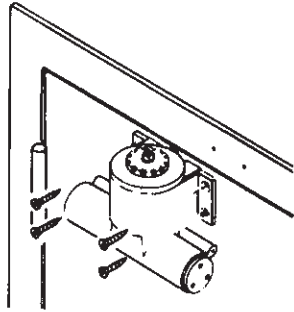


| Preparation for Fasteners |                                |                        | Figure 3.   |
|---------------------------|--------------------------------|------------------------|---|
|                           | Fasteners                      | Door or Frame Material | Fastener Preparation  |
| Standard                  | #14 type "A" S.M. screw        | Wood                   | 3/16" (4.30mm.)   |
|                           |                                | Aluminum               | 7/32" (5.50mm.)   |
|                           | 1/4"-20 machine screw          | Metal                  | drill: #7 (.201"), tap: 1/4"-20   |
| Optional                  | Sex nuts and bolts             | Hollowmetal            | 9/32" (7.00mm.) through;<br>3/8" (9.50mm.) door face opposite to closer                             |
|                           |                                | Aluminum or Wood       | 3/8" (9.50mm.) through  |
|                           | Through bolts and grommet nuts | All                    | 9/32" (7.00mm.) through;<br>3/8" (9.50mm.) dia. x 3/8" (10mm.) deep<br>door face opposite to closer |

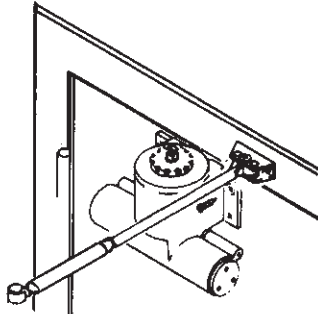


## Installation Sequence

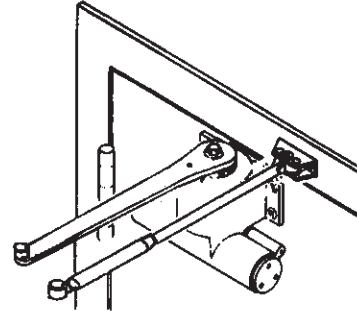
- 1 Using the template at the top of page 2, see figure 2, select the angle of opening desired. Locate and mark for 4 holes on the door for the closer body and 2 holes on the frame for the arm shoe.
- 2 Prepare the door and frame for fasteners using the information from the "Preparation for Fasteners" chart, figure 3 on page 2.
- 3 Install closer body to door as shown.



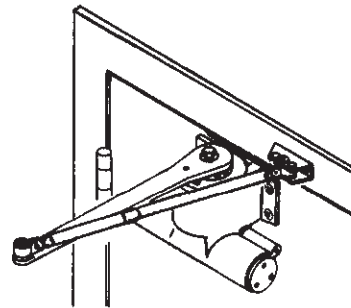
- 4 Disassemble secondary arm and shoe assembly from the main arm by removing elbow screw.
- 5 Fasten secondary arm and shoe assembly to frame face as shown.



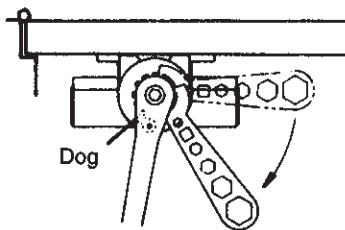
- 6 Following the main arm indexing illustrations in figure 4, place main arm onto the closer pinion shaft. Install and tighten main arm screw with a 1/2" wrench.



- 7 Close door. Adjust secondary arm assembly so that the main arm is perpendicular to face of door. Re-assemble secondary arm to main arm. Tighten screw securely.

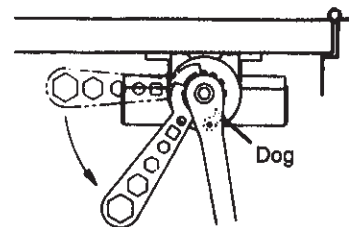


- 8 **Closing Tension** - Place wrench (packed with door closer) on ratchet as shown. Swing wrench away from hinge to wind spring between 3 to 10 notches, engage dog in ratchet. Increase or decrease spring power to suit conditions.



**Left Hand Door**

**Caution** - Underwound spring (less than 3 notches) or overwound spring (more than 10 notches) will cause spring breakage.



**Right Hand Door**

## Regular Arm

### Closer Adjustment -

**Closing Speed . . .** Controlled by the regulating valve on the end of the closer **closest** to the hinge.

**Sweep Speed . . .** Controls the door's speed in the sweep speed range, see illustration.

Full 360° **clockwise** turns **decrease** the sweep speed.  
Full 360° **counter-clockwise** turns **increase** the sweep speed.

**Latch Speed . . .** Controls the door's speed in the latch speed range, see illustration.  
A partial turn, up to a maximum of ½ turn (180°) in either direction determines the latch speed.

**Backcheck . . .** Controlled by the regulating valve on the end of the closer **farthest** from the hinge.

Backcheck cushions or slows the door opening speed near the end of the opening cycle.

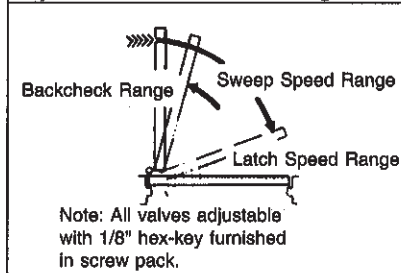
Full 360° **clockwise** turns **increases** resistance to opening.  
Full 360° **counter-clockwise** turns **decreases** resistance to opening.

**Note:**

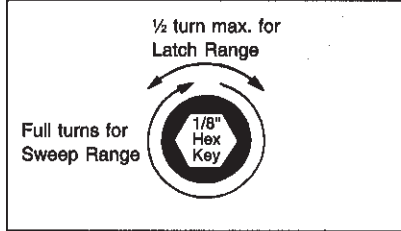
If backcheck is encountered extremely early in the opening cycle, rotate the valve ½ turn (180°) to eliminate early opening resistance.

**Caution . . .** To avoid damage to closer, never fully close the backcheck regulating valve.

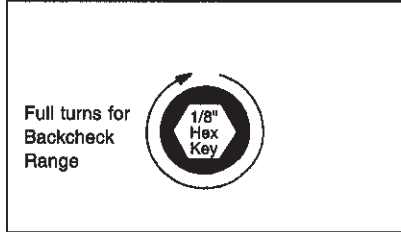
**Hydraulic Control Figure 5.**



**Closing Speed Control Figure 6.**



**Backcheck Control Figure 7.**



## Parallel Arm

### Closer Adjustment -

**Closing Speed . . .** Controlled by the regulating valve on the end of the closer **farthest** from the hinge.

**Sweep Speed . . .** Controls the door's speed in the sweep speed range, see illustration.

Full 360° **clockwise** turns **decrease** the sweep speed.  
Full 360° **counter-clockwise** turns **increase** the sweep speed.

**Latch Speed . . .** Controls the door's speed in the latch speed range, see illustration.  
A partial turn, up to a maximum of ½ turn (180°) in either direction determines the latch speed.

**Backcheck . . .** Controlled by the regulating valve on the end of the closer **closest** to the hinge.

Backcheck cushions or slows the door opening speed near the end of the opening cycle.

Full 360° **clockwise** turns **increases** resistance to opening.  
Full 360° **counter-clockwise** turns **decreases** resistance to opening.

**Note:**

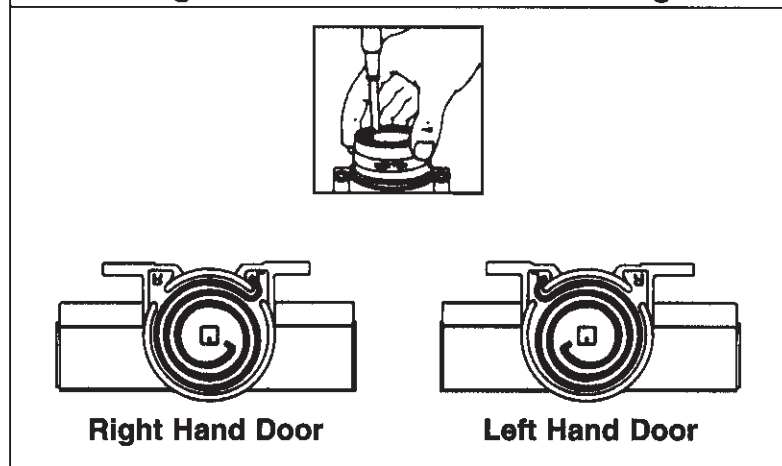
If backcheck is encountered extremely early in the opening cycle, rotate the valve ½ turn (180°) to eliminate early opening resistance.

**Caution . . .** To avoid damage to closer, never fully close the backcheck regulating valve.

## To Reverse Closer Hand

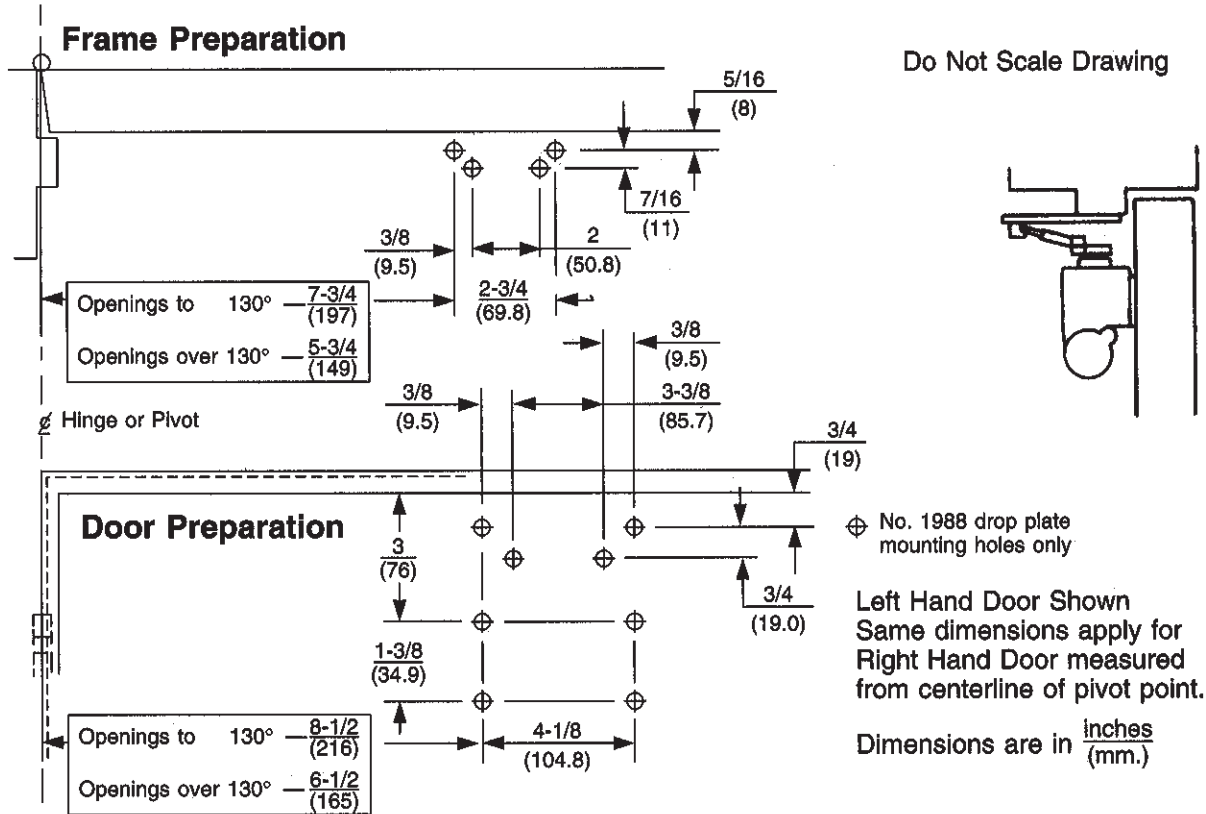
- 1 Remove main arm screw, arm assembly, ratchet, and top cover.
- 2 Lift out spring using screwdriver wedged between coils. (See figure 8.)
- 3 Reverse spring and re-assemble to required hand (See figure 8).
- 4 Rotate shaft to required hand (See figure 8).
- 5 Replace cover and insert ratchet, lining up slot with liner hook on spring.

**Reversing Closer Hand Figure 8.**

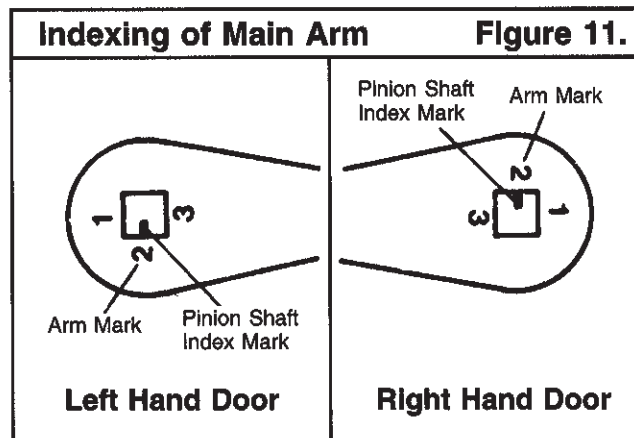


# Parallel Arm Mounting Dimensions Template

Figure 9.



| Preparation for Fasteners |                                | Figure 10.             |  |
|---------------------------|--------------------------------|------------------------|--|
|                           | Fasteners                      | Door or Frame Material | Fastener Preparation   |
| Standard                  | #14 type "A" S.M. screw        | Aluminum               | 7/32" (5.50mm.)  |
|                           |                                | Wood                   | 3/16" (4.30mm.)  |
|                           | 1/4"-20 machine screw          | Metal                  | drill: #7 (.201"), tap: 1/4"-20  |
| Optional                  | Sex nuts and bolts             | Hollowmetal            | 9/32" (7.00mm.) through;<br>3/8" (9.50mm.) door face opposite to closer                          |
|                           |                                | Aluminum or Wood       | 3/8" (9.50mm.) through   |
|                           | Through bolts and grommet nuts | All                    | 9/32" (7.00mm.) through;<br>3/8" (9.50mm.) dia. x 3/8" (10mm.) deep door face opposite to closer |

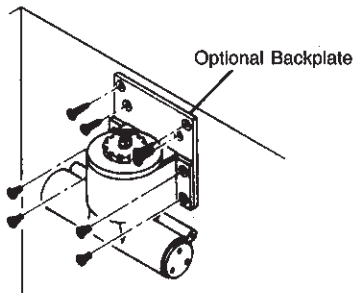


## Installation Sequence

1 Using the template at the top of page 5, see figure 9, select the angle of opening desired. Locate and mark for 4 holes on the door for either the closer body or #1988 drop plate and 4 holes on the frame for #289 soffit plate.

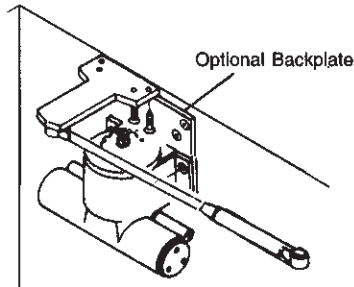
2 Prepare the door and frame for fasteners using the information from the "Preparation for Fasteners" chart, figure 10, page 5.

3 Install closer body to door as shown. If a backplate is used, mount it first, then fasten the closer to the backplate.

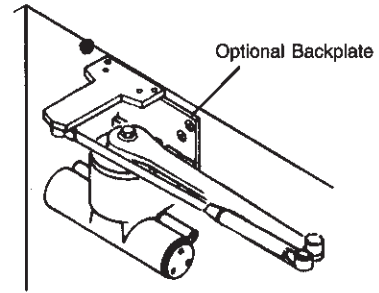


4 Disassemble secondary arm and soffit plate from the main arm by removing elbow screw.

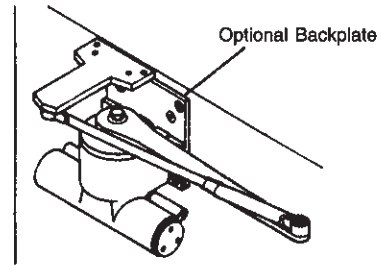
5 Fasten secondary arm and soffit plate assembly to frame soffit with 4 mounting screws.



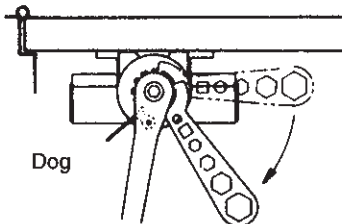
6 Following the main arm indexing illustrations in figure 11, place main arm onto the closer pinion shaft. Install and tighten main arm screw with a 1/2" wrench.



7 Close door. Adjust secondary arm so that the main arm is approximately 2° from parallel with face of door. Re-assemble secondary arm to main arm. Tighten elbow screw securely.

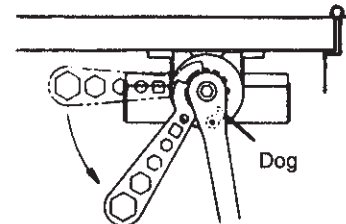


8 **Closing Tension** - Place wrench (packed with door closer) on ratchet as shown. Swing wrench toward hinge to wind spring between 3 to 10 notches, engage dog in ratchet. Increase or decrease spring power to suit conditions.



**Left Hand Door**

**Caution** - Underwound spring (less than 3 notches) or overwound spring (more than 10 notches) will cause spring breakage.



**Right Hand Door**

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