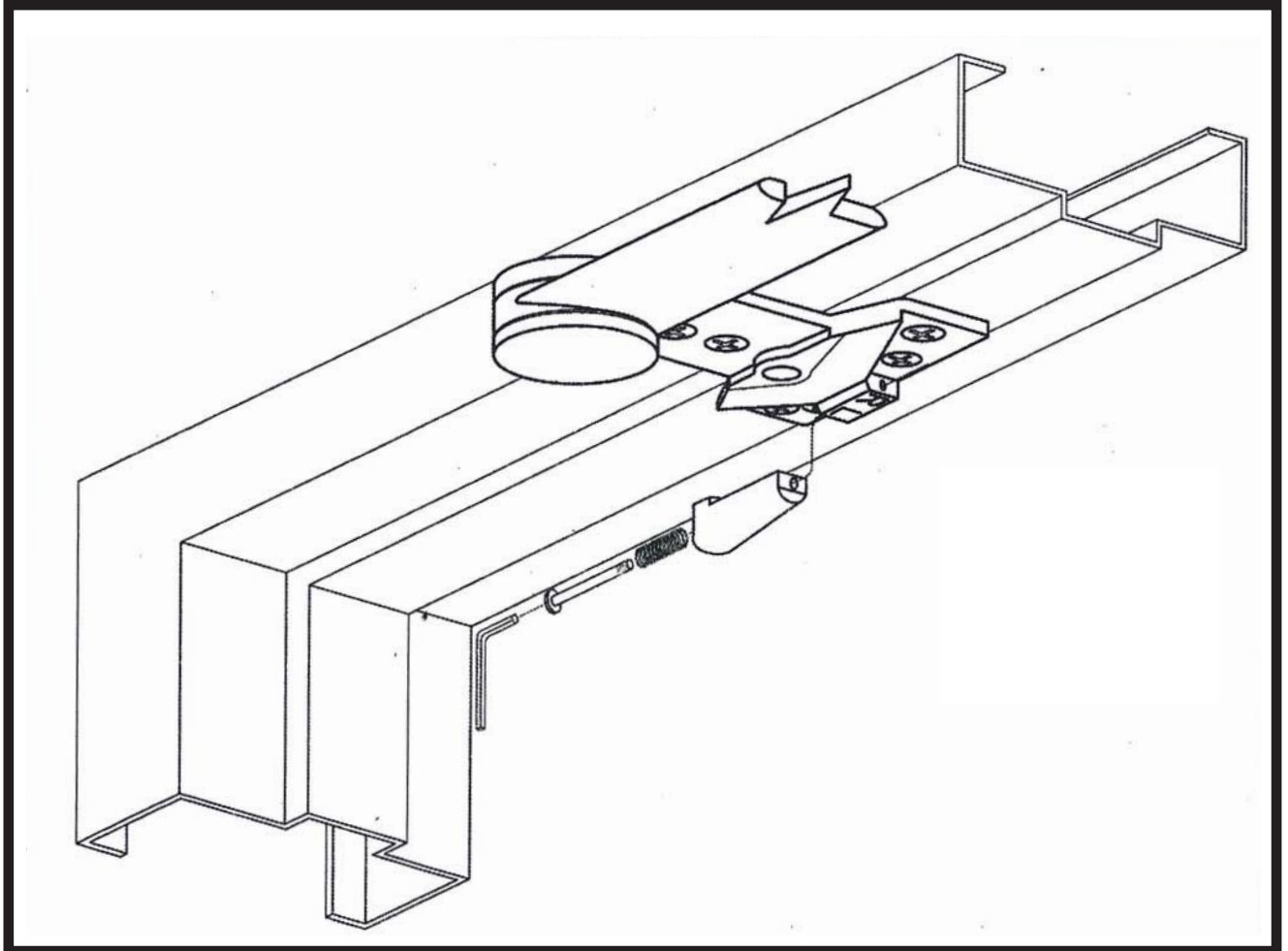


CR441 SERIES DOOR CLOSER WITH SPRING CUSH ARM

INSTALLATION INSTRUCTIONS

CR3049HOSPRING & CR3077SPRING



1. Please follow the installation instruction on page 1 – 3. The shoe must be mounted at first stage.
2. Insert the bolt to the shoe from the rear, with the spring properly inserted to the bolt.
3. Align the shoe to the bracket with the correct position (left or right) corresponding to the door handing. Illustration shows left handing.
4. Tighten the screw using the supplied $\frac{5}{32}$ " (4 mm) hexagonal wrench.

NOTE:

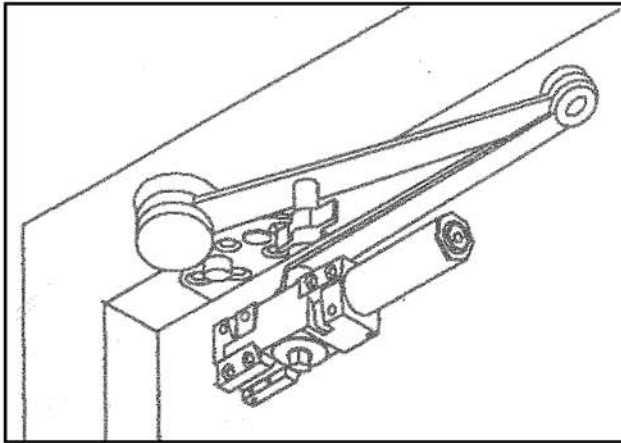
Spring Cush will slow the door down 5 degrees (5°) ahead from normal dead stop point. Despite installation of the Spring Cush, do not adjust BACKCHECK settings of door closer.



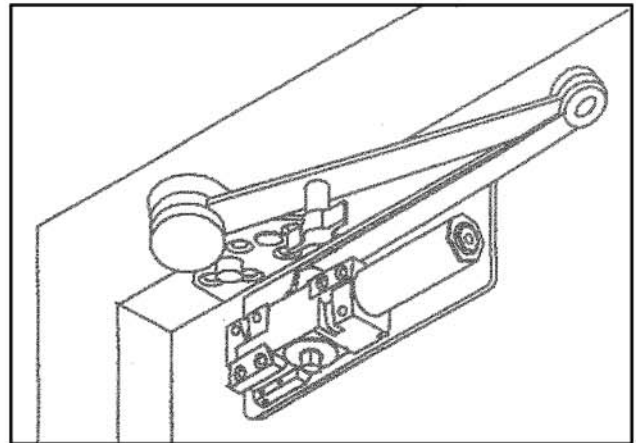
CR3049HOSPRING & CR3077SPRING

INSTALLATION INSTRUCTIONS

PUSH SIDE MOUNTED (PARALLEL ARM)



STANDARD INSTALLATION



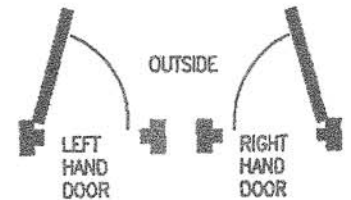
INSTALL ON DROP PLATE
(FOR NARROW RAIL INSTALLATION)

GENERAL NOTES

The Cushion Arm Closer is non-handed and is designed to meet entrance accessibility requirements. Determine hand of door first before installation. Refer to the illustration (right), then the proper installation template.

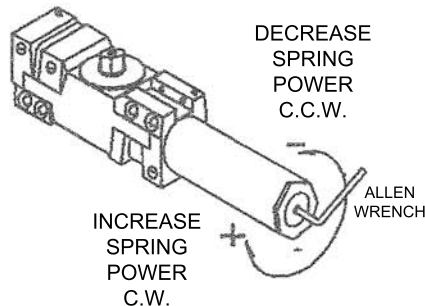
The Cushion Arm Closer can be adjusted to handle all exterior doors up to 4'0" and interior doors up to 5'0" wide. Adjust the spring power as shown before installing the closer. Turn the spring adjustment nut clockwise or counter-clockwise to the required number of turns to match door width as indicated in the chart below.

HOW TO DETERMINE HAND OF DOOR

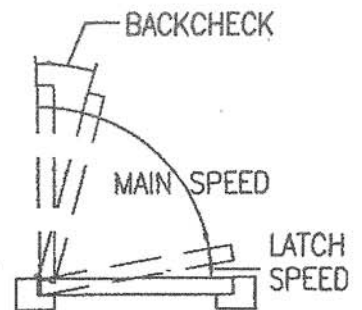


| MAXIMUM DOOR WIDTH | | FULL TURNS REQUIRED |
|--------------------|----------------|---------------------|
| EXTERIOR DOORS | INTERIOR DOORS | |
| | 5lb-f* | 5 TURNS C.C.W |
| 8.5lb-f* | 34" | 2 TURNS C.C.W |
| 30" | 38" | 0 TURNS |
| 36" | 48" | 5 TURNS C.W |
| 42" | 54" | 10 TURNS C.W |
| 48" | 60" | 15 TURNS C.W |

* Opening Force on 36" Door



CLOSER CONTROL DIAGRAM

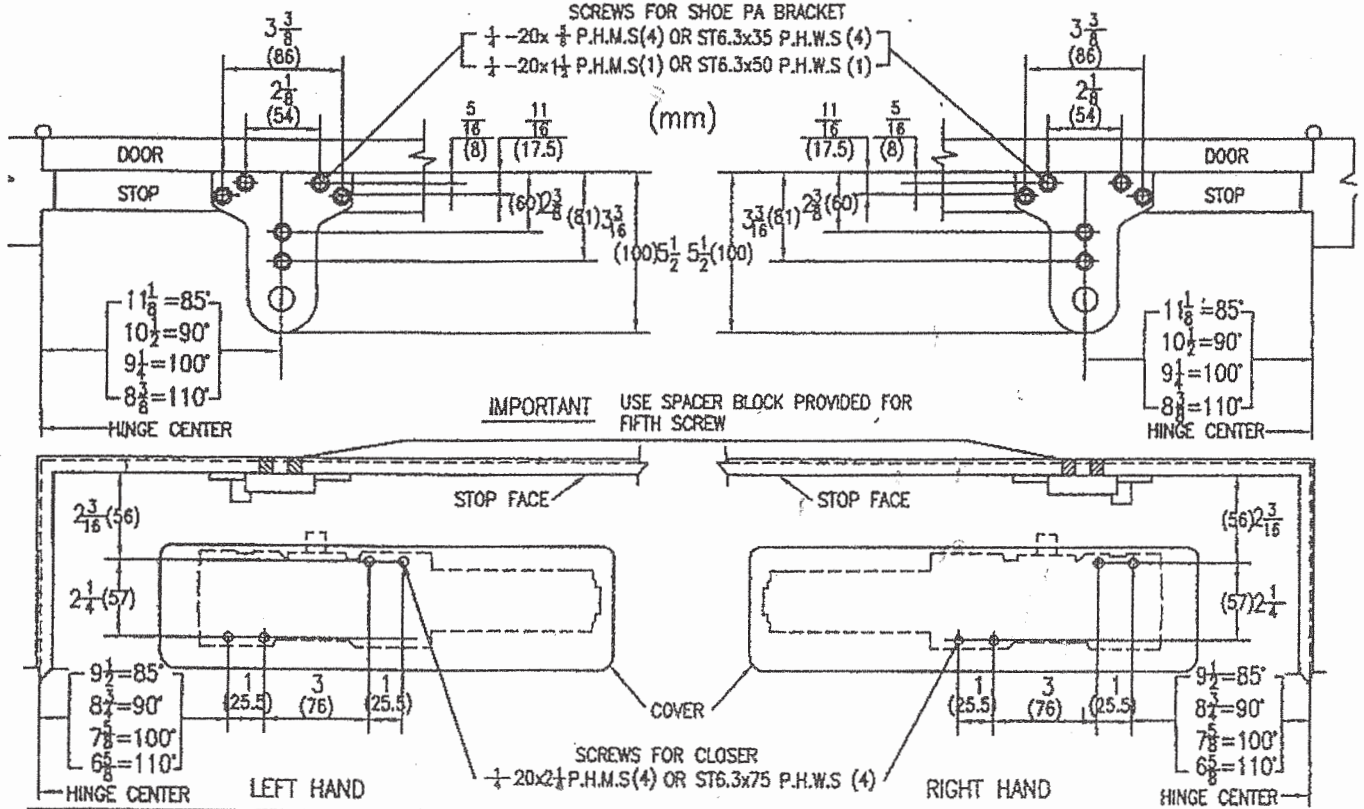


IMPORTANT - When adjusting spring power DO NOT exceed the maximum number of turns in either direction. Doing so may damage the closer.

MOUNTED STOP FACE (PUSH SIDE) PARALLEL ARM

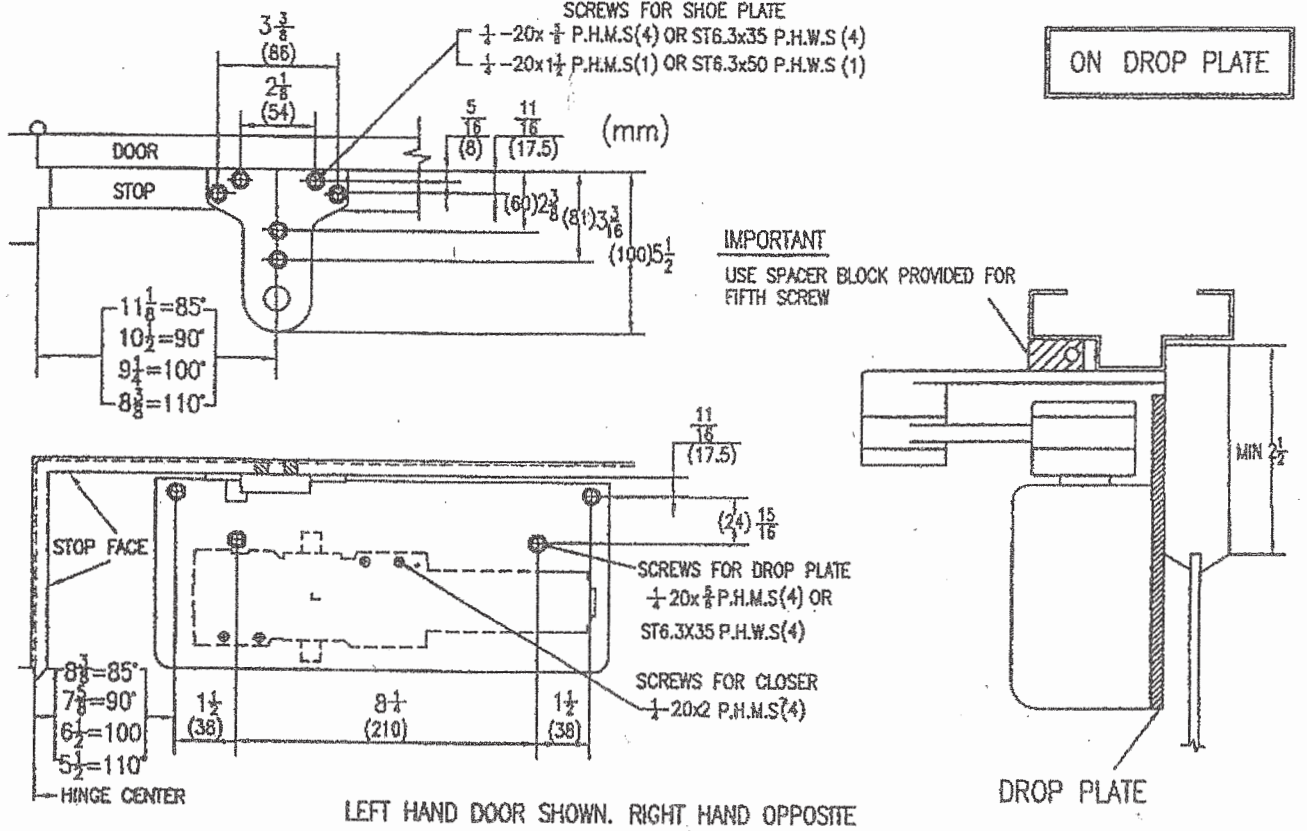
TOP RAIL LESS THAN 5-1/2"; DROP PLATE WILL BE REQUIRED.
(AVAILABLE FROM DEALER) MAXIMUM OPENING 110"

PUSH SIDE MOUNTING



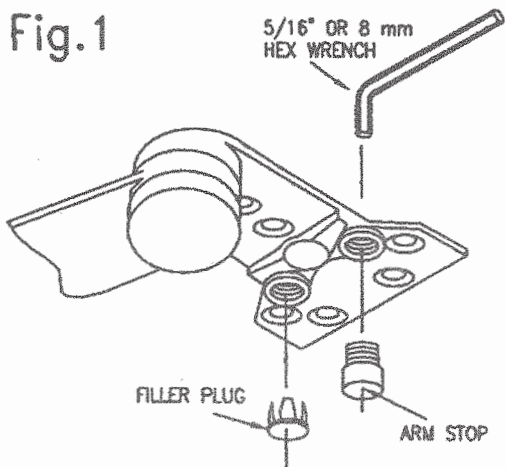
BEFORE INSTALLING MOUNTED STOP FACE (PARALLEL ARM) TURN BACKCHECK SELECTOR VALVE (FOUND ON OPPOSITE SIDE OF CLOSER FROM REGULATING SCREW SIDE) ALL THE WAY IN (CLOCKWISE)!

ON DROP PLATE



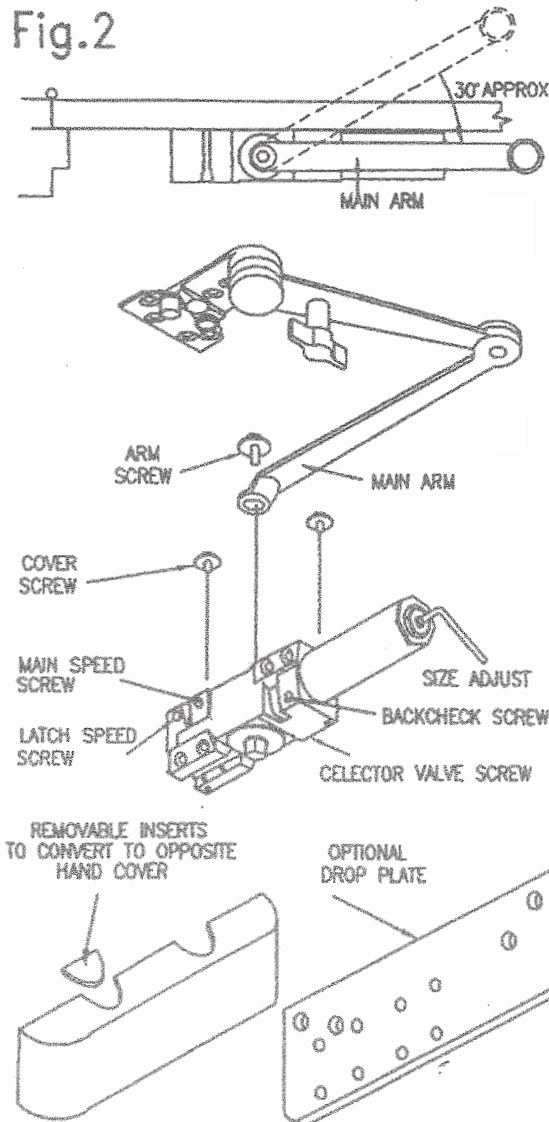
RIGHT HAND ASSEMBLY SHOWN HANDING & ASSEMBLY OF D.S./DSHO SHOE

Fig.1



CAUTION
 IMPROPER INSTALLATION OR
 REGULATION MAY RESULT IN
 PERSONAL INJURY OR PROPERTY
 DAMAGE.
 FOLLOW ALL INSTRUCTIONS CAREFULLY.
 FOR QUESTIONS CONTACT DEALER

Fig.2



Both D.S./DSHO shoes must be "handed" to match door BEFORE mounting. See Fig.1

For Left Hand doors: All shoes are shipped assembled for left hand doors. Insert 5/16" (8mm) Hex wrench into arm stop and turn counter-clockwise to seat stop as tightly as possible.

For Right Hand doors: (see illustration) Push filler plug out of shoe. Using a 5/16" (8mm) Hex wrench, turn arm stop clockwise to remove from shoe. Thread arm stop in hole marked "R". Turn wrench counter-clockwise, seating stop as tightly as possible. Insert filler plug into other hole.

INSTALLATION & ADJUSTMENT INSTRUCTIONS

(LEFT HAND SHOWN - RIGHT HAND OPPOSITE)

BEFORE INSTALLING THE ARM -TURN BACKCHECK SELECTOR VALVE.(on back of closer)ALL THE WAY IN.

1. Adjust spring power to match door width as indicated by chart on front page.
2. Select proper templating on opposite page, based on degree of opening/dead stop. The closer and arm holes must be located for same degree of opening /dead stop. Drill and/ or tap mounting holes in door and head jamb.
3. Attach complete arm to closer, as shown at left. Arm will be at about a 30° angle to closer body. Fasten with arm shaft screw. The arm will appear to be in an incorrect position. This is to accommodate the pre-load required for parallel arm mounted door closers. See Fig.2 .
4. Mount closer on door, using fasteners provided. NOTE: arm will provide some resistance.
5. Swing door open about 45°. Mount shoe to frame stop per proper templating on opposite page. Be sure to install the "fifth" screw. if stop is not wide enough, use spacer block provided.

REGULATION

CAUTION DO NOT BACK VALVES OUT OF CLOSER OR A LEAK WILL RESULT

The BA series closer has been regulated prior to shipment. If adjustments are necessary, carefully follow instructions.

CLOSING SPEED: See Closer Control Diagram on page 1.

To adjust Main Speed, turn reg.screw clockwise to decrease or counter-clockwise to increase. To adjust Latch Speed, turn reg.screw clockwise to decrease or counter-clockwise to increase. Reg.screw locations are shown at left and on label.

BACKCHECK: is essential for proper operation of Cush-Stop. Use enough backcheck to prevent arm from striking arm stop with impact. To increase resistance, turn reg.screw clockwise.

-DO NOT USE ABRUPT BACKCHECK!-

6. Attach cover: place cover insert into proper slots for either R.H.or L.H.door. Place cover over closer and hold against door while tightening cover screws firmly.