

CAUTION
 AN INCORRECTLY INSTALLED OR IMPROPERLY ADJUSTED DOOR CLOSER CAN CAUSE PROPERTY DAMAGE OR PERSONAL INJURY. THESE INSTALLATION INSTRUCTIONS SHOULD BE FOLLOWED TO AVOID THE POSSIBILITY OF MISAPPLICATION OR MISADJUSTMENT.
CAUTION

Installation Instructions

Model : K-990 SERIES
 Series can be adjusted from Power size 1 thru 6.

Non Hold Open Door Closer

Components

Screw Pack No.1

1 x1 2 x4 3 x4 4 x2 5 x2 6 x2 7 x2

Screw Pack No.2

8 x1 9 x4 10 x4

Preparation for Fasteners (Tap & Drill): Screw No. 2, 4, 9(Wood) → 7/32" (5.5mm.)
 Screw No. 3, 5, 10(Metal) → 7/32" Drill: #7(.201 dia.), Tap: 1/4" -20

Figure 1.

Unit Adjustment

Control Valve Adjustments

(see Figure 2.)

Closing Speed Controls(Figure 2)

- Valve "1" Controls Sweep Range.
- Valve "2" Controls Latch Range.
- Valve "D" Controls Delay Range. (Optional)

Opening Cycle

- "Backcheck" valve controls the strength of cushioning in Backcheck Range. NEVER close this valve completely- it is not to provide a positive stop. (see Figure 2).

HOW TO ADJUST SPRING POWER (see Figure 3.)

BE NOTED THIS 990SERIES ARE SET DOWN AS DOOR CLOSER SIZE 3 FROM THE FACTORY.

EX. SIZE 2 CLOSER CAN BE MADE BY ROTATING SPRING ADJUSTING NUT ANTI CLOCKWISE 3 TURNS BECAUSE IT WAS SET DOWN AS SIZE 3 FROM THE FACTORY ORIGINALLY. ALSO IN A SAME WAY SIZE 6 CLOSER CAN BE MADE BY ROTATING SPRING ADJUSTING NUT CLOCKWISE 11 TURNS.

Closing Speed & Opening Door Controls

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

Figure 2.

Spring Power Adjustment

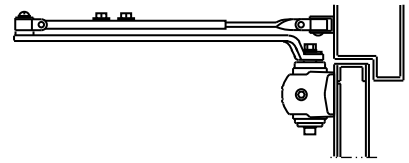
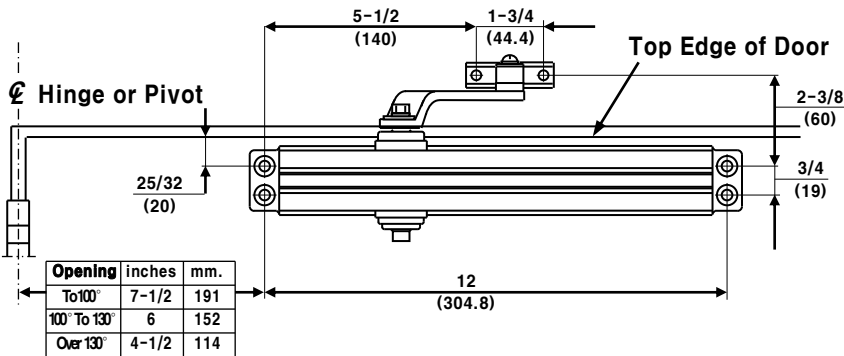
Figure 3.

DOOR CLOSER SIZE	CLOCKWISE TURNS OF ADJUSTING NUT	APPLICABLE DOOR LEAF WIDTH		APPLICABLE DOOR WEIGHT
		INTERIOR	EXTERIOR (SWING OUT)	
1	-5	32" (0.81m)	28" (0.71m)	33-56 LBS (15-30Kg)
2	-3	36" (0.91m)	32" (0.81m)	56-99 LBS (30-45Kg)
3	0	42" (1.07m)	36" (0.91m)	99-143 LBS (45-55Kg)
4	3	48" (1.22m)	42" (1.07m)	143-187 LBS (65-85Kg)
5	7	54" (1.37m)	48" (1.22m)	187-264 LBS (85-120Kg)
6	11	58" (1.47m)	54" (1.37m)	264-330 LBS (120-150Kg)

Regular Arm

Installation Instructions

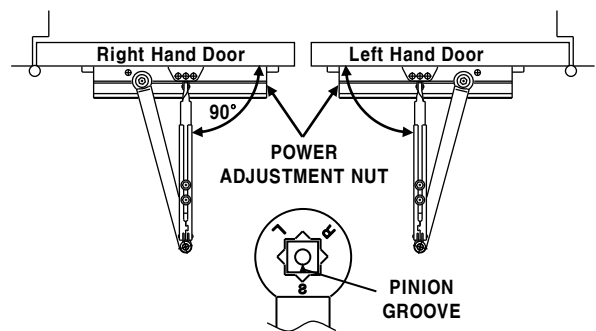
Template



- RIGHT HAND DOOR SHOWN .
- SAME DIMENSIONS APPLY FOR LEFT HAND DOOR MEASURED FROM CENTERLINE OF PIVOT POINT.
- DIMENSIONS ARE IN $\frac{\text{INCHES}}{\text{(mm.)}}$

PLEASE NOTE

- This drawing is not to full scale.
- Therefore, do not use it as your template to locate the hole positions while you fabricate your door and frame for the installation of this product.
- Instead make the measurements needed manually without the use of the enclosed template which is not to full scale.

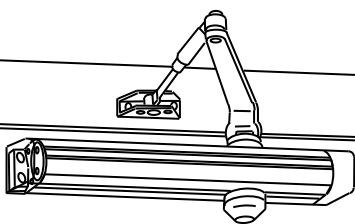


INSTALLATION INSTRUCTIONS

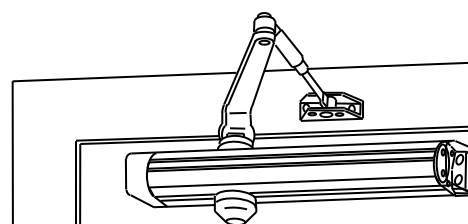
- Select angle of opening and use dimensions shown to locate 4 HOLES ON DOOR for closer body and 2 HOLES ON FRAME face for arm shoe.
- Prepare door and frame for fasteners. See "Preparation for Fasteners" , page 1-figure 1.
- Set closing power for door size using Chart see page 1-figure 3.
- Mount closer body on door with screws ② or ③, page 1-figure 1.
Be sure that power adjustment nut is away from hinge.
- Place main arm on closer pinion shaft with screw ① page 1-figure 1.
Indexing main arm mark "S" with pinion groove as shown at right.
- Fix arm shoe to frame with screws ④ or ⑤, page 1-figure 1.
- Insert connecting rod into forearm.
- Pull main arm toward opposite side of hinge so that connecting rod will be perpendicular to door.
Fix connecting rod on forearm using screws ⑥, page 1-figure 1.
- Adjust closer and install cover and pinion cap. (When full cover is installed, use screws ⑦, page 2- figure 1.)
- See page 1 (figure 2.) for closer adjustment.

Regular Arm Installation

Closer mounts on hinge (pull) side of door. Closers illustrated with slim covers.



Left Hand Door - LH
Right Hand Reverse - RHR

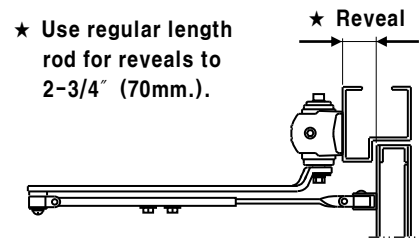
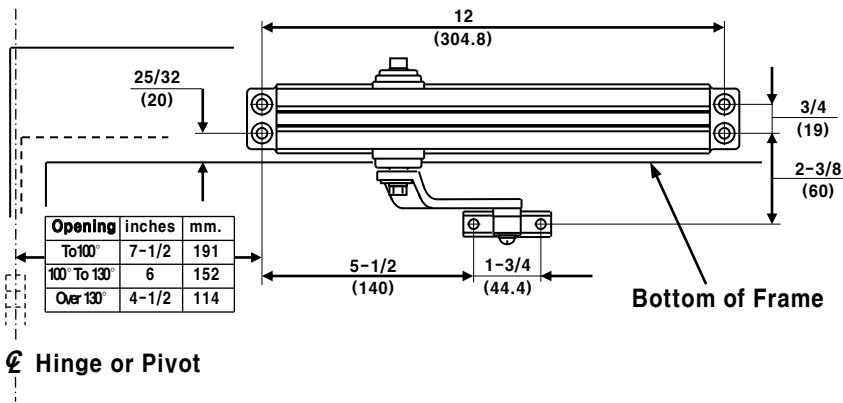


Right Hand Door - RH
Left Hand Reverse - LHR

Top Jamb

Installation Instructions

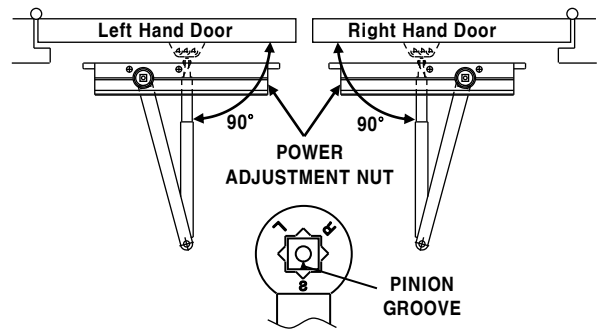
Template



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- DIMENSIONS ARE IN $\frac{\text{INCHES}}{\text{(mm.)}}$

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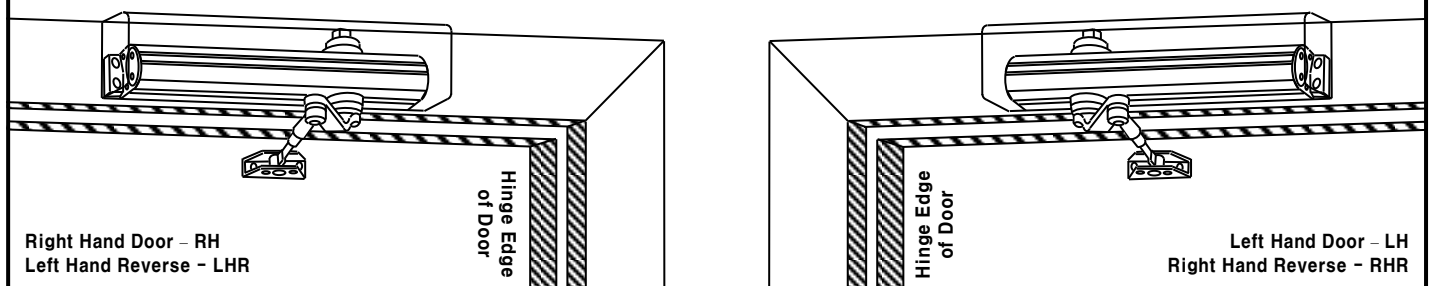


INSTALLATION INSTRUCTIONS

- Select angle of opening and use dimensions shown to locate 4 HOLES ON FRAME for closer body and 2 HOLES ON DOOR face for arm shoe.
- Prepare door and frame for fasteners. See "Preparation for Fasteners" , page 1-figure 1.
- Set closing power for door size using Chart see page 1-figure 3.
- Mount closer body on frame with screws ② or ③, page 1-figure 1.
Be sure that power adjustment nut is away from hinge.
- Place main arm on closer pinion shaft with screw ① page 1-figure 1.
Indexing main arm mark "S" with pinion groove as shown at right.
- Fix arm shoe to door with screws ④ or ⑤, page 1-figure 1.
- Insert connecting rod into forearm.
- Pull main arm toward opposite side of hinge so that connecting rod will be perpendicular to door.
Fix connecting rod on forearm using screws ⑥, page 1-figure 1.
- Adjust closer and install cover and pinion cap. (When full cover is installed, use screws ⑦, page 1-figure 1.)
- See page 1 (figure 2.) for closer adjustment.

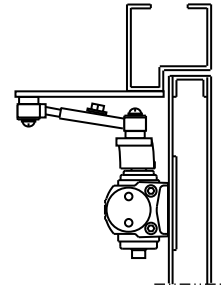
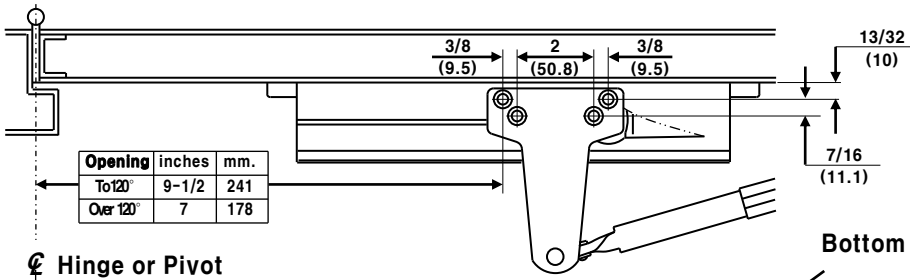
Top Jamb Installation

Closer mounts on frame face on opposite to hinge (push) side of door. Closers illustrated with full covers.



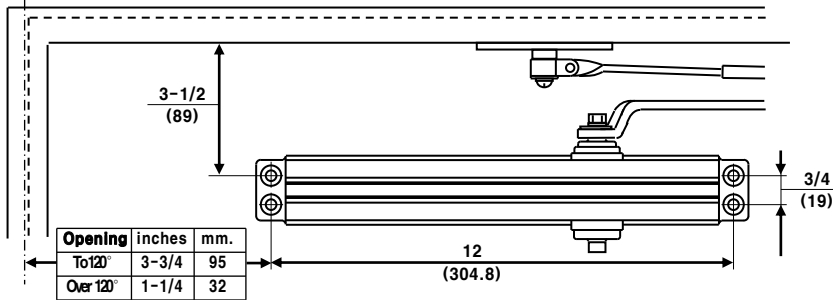
Parallel Arm Template

Installation Instructions



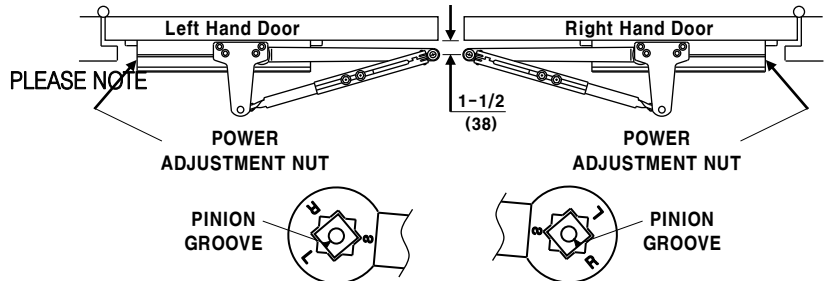
⊕ Hinge or Pivot

Bottom of Frame



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 RIGHT HAND DOOR MEASURED
 FROM CENTERLINE OF PIVOT
 POINT.
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- Therefore, do not use it as your template to locate the hole positions while you fabricate your door and frame for the installation of this product.
- Instead make the measurements needed manually without the use of the enclosed template which is not to full scale.



INSTALLATION INSTRUCTIONS

- Select angle of opening and use dimensions shown to locate 4 HOLES ON DOOR for closer body and 4 HOLES ON FRAME face for parallel arm bracket.
- Prepare door and frame for fasteners. See "Preparation for Fasteners", page 1-figure 1.
- Set closing power for door size using Chart below right and see page 1-figure 3.
- Mount closer body on door with screws ② or ③, page 1-figure 1. **Be sure that power adjustment nut is toward hinge.**
- Place main arm on closer pinion shaft with screw ① page 1-figure 3. indexing main arm mark "L" or "R" with pinion groove as shown at right.
- Fix parallel arm bracket to frame with screws ⑨ or ⑩, page 1-figure 1.
- Disconnect arm shoe from connecting rod by removing screw. Remove arm shoe from connecting rod and discard. Assemble parallel arm bracket to connecting rod with screw ⑧, page 1-figure 1.
- Insert connecting rod into forearm.
- With door closed, adjust length of forearm and connecting rod so that the tip of the main arm is 1-1/2" (38mm.) from parallel with door. Secure with screws ⑥, page 2.
- Adjust closer and install cover and pinion cap. (When full cover is installed, use screws ⑦, page 1-figure 1.)
- See page 1 (figure 2) for closer adjustment.

Parallel Arm Installation

Closers mounts opposite to hinge (push) side of door. Closers illustrated without covers.

