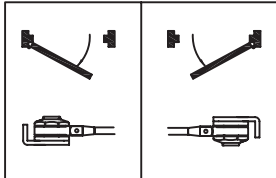


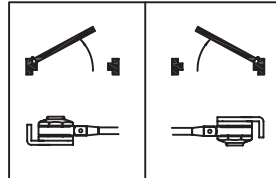
416 Friction Type Hold Open Arm Installation Instructions

■ CHART TO INSTALL FOOT

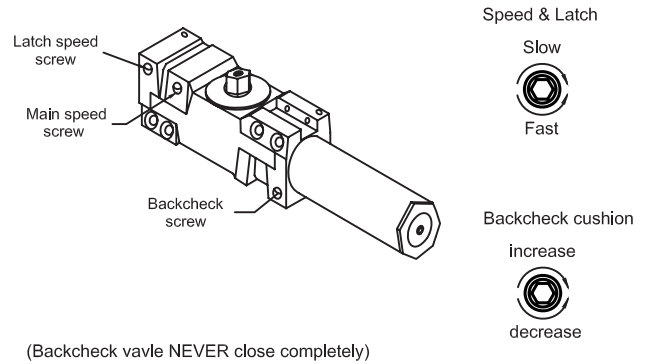
Optional Hold-open arm. Identify direction of hold-open nut according to mounting.



Optional Hold-open arm. Identify direction of hold-open nut according to mounting.

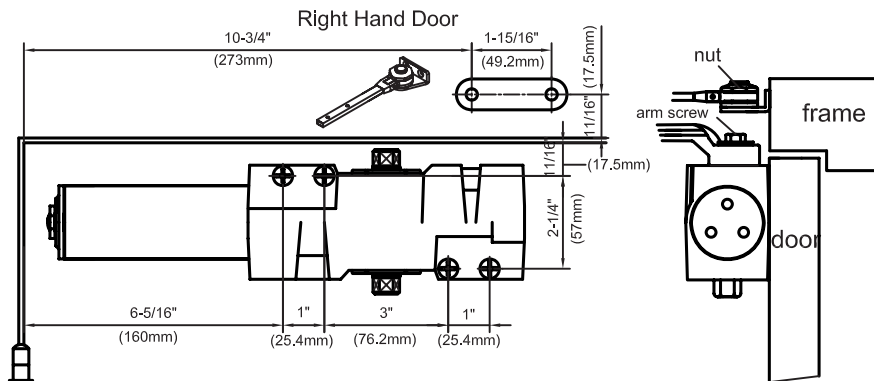


■ CLOSING SPEED CONTROLS AND BACKCHECK



■ STANDARD INSTALLATION: PULL SIDE RIGHT HAND INSTALLATION

- Right hand door illustrated
- Measured from hinge



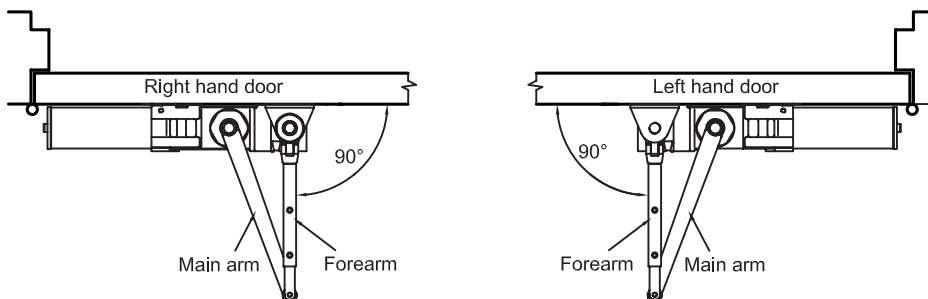
INSTALLATION INSTRUCTIONS

1. Adjust spring power to match door width as indicated.
2. Mount closer on door using dimensions shown. Tube end toward hinge. If pivots are used, locate closer and shoe from Centerline of pivot.
3. Place main arm on top of shaft 90° to closer body, insert arm screw into top of shaft and tighten.
4. Attach shoe to frame as shown:
(Note: THE NUT IS ON THE TOP for RH DOOR and BOTTOM FOR LH DOOR)
5. Open door and insert rod in forearm.
6. With forearm at right angle to door (90°), insert forearm set screw and tighten.

* HOLD OPEN ADJUSTMENT

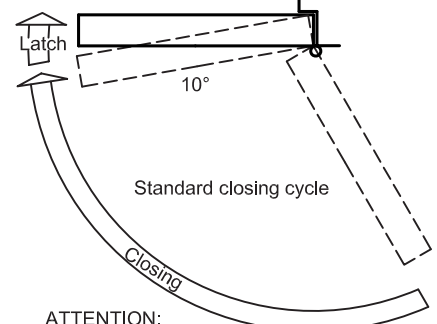
Loosen adjusting nut, open door to desired hold open position and tighten nut. Do not permit door to swing while setting hold open position

POSITION OF ARMS AND INDEX SETTINGS



CLOSING SPEED CONTROL

CAUTION
Do not back valves out all the way or a leak will result.



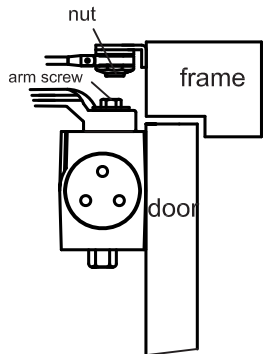
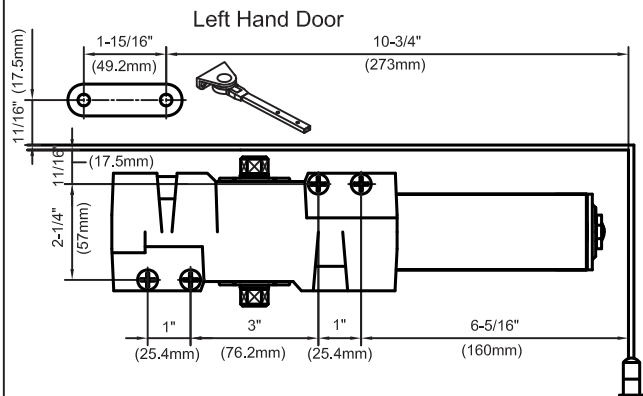
ATTENTION:

Adjust closing speed time to between 4 to 6 seconds from 90°. Use of the door by handicapped, Elderly or small children may require longer closing time.

Not to scale 1:1. Measurements are for reference only. Not a drilling template.

■ STANDARD INSTALLATION: PULL SIDE LEFT HAND INSTALLATION

- Left hand door illustrated
- Measured from hinge



INSTALLATION INSTRUCTIONS

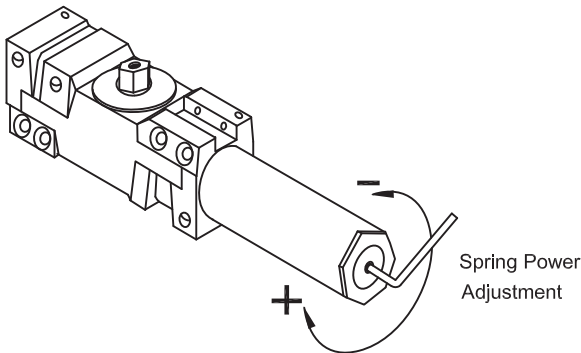
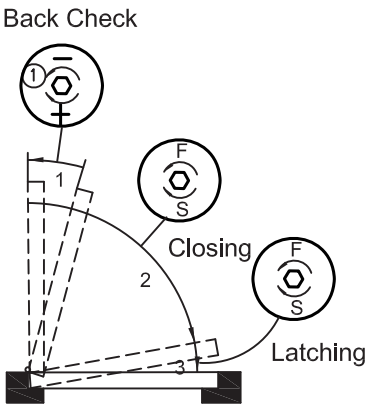
- 1.Adjust spring power to match door width as indicated.
 - 2.Mount closer on door using dimensions shown. Tube end toward hinge. If pivots are used, locate closer and shoe from Centerline of pivot.
 - 3.Place main arm on top of shaft 90° to closer body, insert arm screw into top of shaft and tighten.
 - 4.Attach shoe to frame as shown:
(Note: THE NUT IS ON THE TOP for RH DOOR and BOTTOM FOR LH DOOR)
 - 5.Open door and insert rod in forearm.
 - 6.With forearm at right angle to door (90°),insert forearm set screw and tighten.
- * HOLD OPEN ADJUSTMENT
Loosen adjusting nut, open door to desired hold open position and tighten nut. Do not permit door to swing while setting hold open position.

■ FINAL ADJUSTMENT AND REGULATING PROCEDURES

Power Adjustment Chart

MAXIMUM DOOR WIDTH		FULL TURNS REQUIRED
EXTERIOR DOORS	INTERIOR DOORS	
————	5 lb-f*	5 TURNS C.C.W.
8.5 lb-f*	34" (864)	2 TURNS C.C.W.
30" (762)	38" (962)	0 TURNS
36" (914)	48" (1219)	5 TURNS C.W.
42" (1067)	54" (1372)	10 TURNS C.W.
48" (1219)	60" (1524)	15 TURNS C.W.

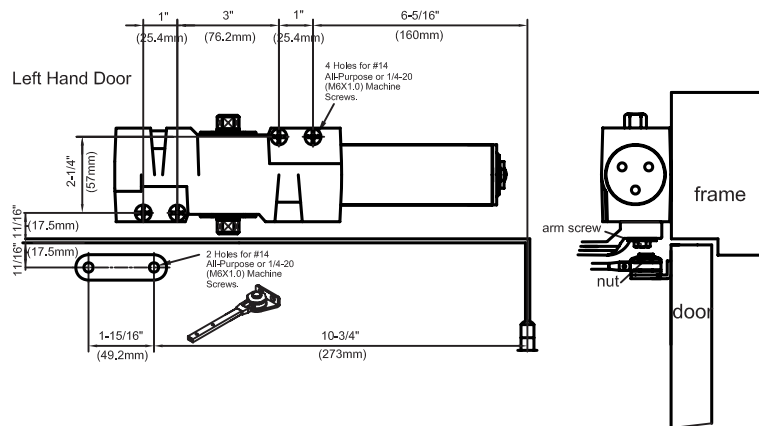
CONTROL RANGE



- REGULATION:
A'Normal'closing time from 90° open position to door stop position is 4-6 secs, evenly divided between main swing speed and latch swing speed. Use Allen Key (provided) to adjust speed. To slow main speed of door, turn regulating screw nearest shaft clockwise. To slow latch speed, turn regulating screw nearest hinge clockwise.
- BACK CHECK
To increase back-check force, turn regulating screw nearest hinge clockwise. DO NOT USE ABRUPT BACKCHECK OR EXPECT DOOR CLOSER TO ACT AS A DOOR STOP.

Not to scale 1:1. Measurements are for reference only. Not a drilling template.

TOP JAMB INSTALLATION CLOSER MOUNTED TOP JAMB ON PUSH SIDE OF DOOR



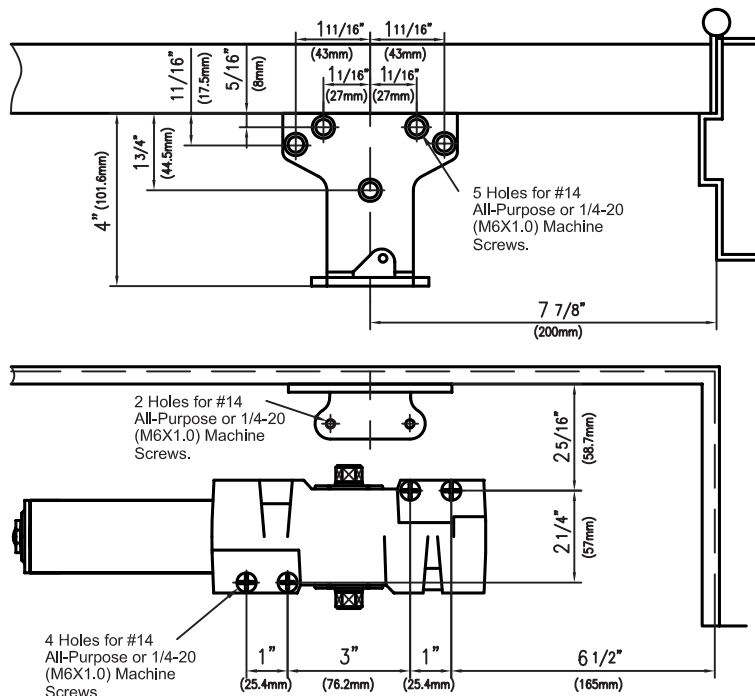
INSTALLATION INSTRUCTIONS

1. Adjust spring power to match door width as indicated.
2. Mount closer on door using dimensions shown. Tube end toward hinge. If pivots are used, locate closer and shoe from Centerline of pivot.
3. Place main arm on top of shaft 90° to closer body, insert arm screw into top of shaft and tighten.
4. Attach shoe to frame as shown:
(Note: THE NUT IS ON THE TOP for RH DOOR and BOTTOM FOR LH DOOR)
5. Open door and insert rod in forearm.
6. With forearm at right angle to door (90°), insert forearm set screw and tighten.

* HOLD OPEN ADJUSTMENT

Loosen adjusting nut, open door to desired hold open position and tighten nut. Do not permit door to swing while setting hold open position.

PARALLEL ARM INSTALLATION CLOSER MOUNTED ON DOOR ON PUSH SIDE



1. Before installation, (parallel arm), turn Back Check selector valve (found on the opposite side of closer) ALL THE WAY IN (CLOCKWISE).
2. Adjust spring power to match door width as indicated by chart on page 1.
3. Mount closer on door as dimensions shown. Tube end toward latch. If pivots are used, locate closer and parallel bracket from CENTERLINE OF PIVOT.
4. Place open end wrench on bottom shaft and turn toward hinge jamb about 30° and then place main arm on top shaft, insert arm screw into top of shaft and tighten.
5. Attach parallel bracket on frame as dimensions shown.
6. Attach rod and shoe to parallel bracket as shown.
7. Insert rod in forearm, and then insert main arm to closer parallel to door. Then insert forearm set screw and tighten.
(IF HOLD OPEN ARM IS USED, THE NUT IS ON THE TOP FOR RH DOOR AND BOTTOM FOR LH DOOR)

REGULATION:

A Normal closing time from 90° open position to door stop position is 4-6 secs, evenly divided between main swing speed and latch swing speed. Use socket key (furnished) to adjust speed. To slow main speed of door, turn regulating screw nearest shaft clockwise. To slow latch speed, turn regulating screw nearest hinge clockwise.

BACK CHECK

To increase back-check force, turn regulating screw nearest hinge clockwise. DO NOT USE ABRUPT BACKCHECK OR EXPECT DOOR CLOSER TO ACT AS A DOOR STOP.

COVER

Place insert in proper cutout, then push cover against door frame. Tighten both cover screw securely.

HOLD OPEN ADJUSTMENT

Loose adjusting nut, open door to desired hold open position and tighten nut. Do not permit door to swing while hold open is setting.

Not to scale 1:1. Measurements are for reference only. Not a drilling template.