

Installation Instructions

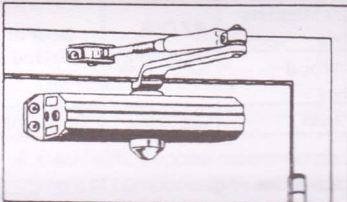
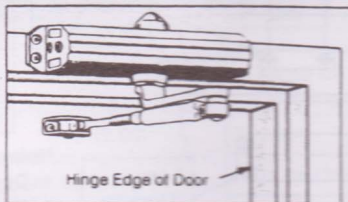
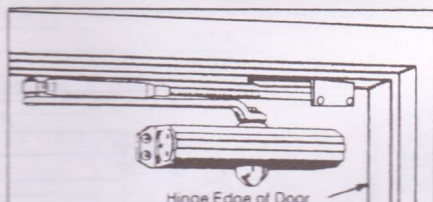
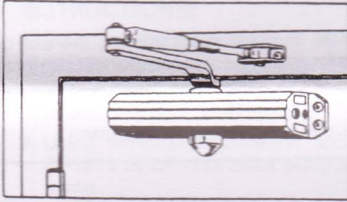
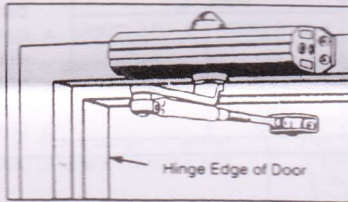
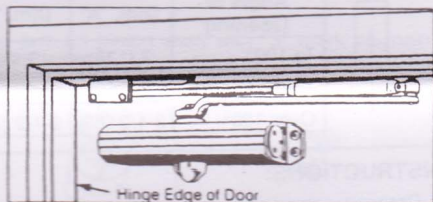
80-9350-9601-005 (4-96)

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.

TC200 Non-Hold Open, Non-Handed Door Closers

Model Numbers				
BODY LENGTH				
8-7/8" (225mm)	9-3/4" (248mm)		9-3/4" (248mm)	
Sized Units*			Multi-Sized Units	
202	—	242	—	201
203	203PA	204	204PA	Size 3-6)
234	234PA	205	205PA	201ADA
235	235PA			(Size 1-4)

* Models that are equipped with an optional BACKCHECK feature will have the model number suffixed with "BC".

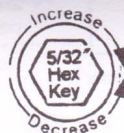
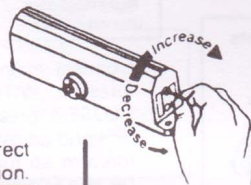
Regular Arm Installation Closer installs on PULL/HINGE side of door.	Top Jamb Installation Closer installs on frame on PUSH/STOP side of door.	Parallel Arm Installation Closer installs on PUSH/STOP side of door.
 <p>Right Hand Door - RH Left Hand Reverse - LHR</p>	 <p>Hinge Edge of Door</p> <p>Right Hand Door - RH Left Hand Reverse - LHR</p>	 <p>Hinge Edge of Door</p> <p>Right Hand Door - RH Left Hand Reverse - LHR</p>
 <p>Left Hand Door - LH Right Hand Reverse - RHR</p> <p>See Page 2</p>	 <p>Hinge Edge of Door</p> <p>Left Hand Door - LH Right Hand Reverse - RHR</p> <p>See Page 3</p>	 <p>Hinge Edge of Door</p> <p>Left Hand Door - LH Right Hand Reverse - RHR</p> <p>See Page 5</p>

- It is recommended that the door on which the door closer will be installed, be hung on ball bearing hinges. Door must swing freely.
- A separate door stop supplied by others is recommended to prevent damage to the door closer, closer arm, or to the door, frame or adjacent walls.
- Door and frame must be properly reinforced, or use of special fasteners employed, to prevent the mounting screws from pulling out.
- All dimensions are given in inches (mm).

Sized Door Closer Units Only (Nonadjustable)

Note: Door closing force is not adjustable. Correct size door closer must be selected before installation.

Door Closer Size	Recommended Max. Door Width Inches (mm)		
	Regular Arm	Top Jamb	Parallel Arm
INTERIOR DOORS			
2	34 (864)	34 (864)	32 (813)
3	40 (1016)	40 (1016)	38 (965)
4	48 (1219)	48 (1219)	46 (1168)
5	—	—	52 (1321)
EXTERIOR DOORS			
2	30 (782)	30 (782)	28 (711)
3	34 (864)	34 (864)	32 (813)
4	40 (1016)	40 (1016)	36 (914)
5	48 (1219)	48 (1219)	42 (1067)



Multi-Sized Door Closer Units Only (Adjustable)

		Power Adjustment Chart					
DOOR	TYPE OF INSTALLATION	★	MAXIMUM DOOR SIZE				
			34" (0.85M)	36" (0.90M)	40" (1.00M)	44" (1.10M)	48" (1.20M)
TC201ADA	INTERIOR	REGULAR ARM TOP JAMB	1	1	2	3	3
		PARALLEL ARM	2	2	3	4	5
	EXTERIOR	REGULAR ARM TOP JAMB	5	6	8	NOT RECOMMENDED	
		PARALLEL ARM	8	9	12		
TC201	INTERIOR	REGULAR ARM TOP JAMB	2	4	6	9	11
		PARALLEL ARM	3	5	7	10	13
	EXTERIOR	REGULAR ARM TOP JAMB	3	5	7	10	13
		PARALLEL ARM	5	7	10	14	16

★ 18-360° TURNS MAXIMUM AVAILABLE

TC200

Components:

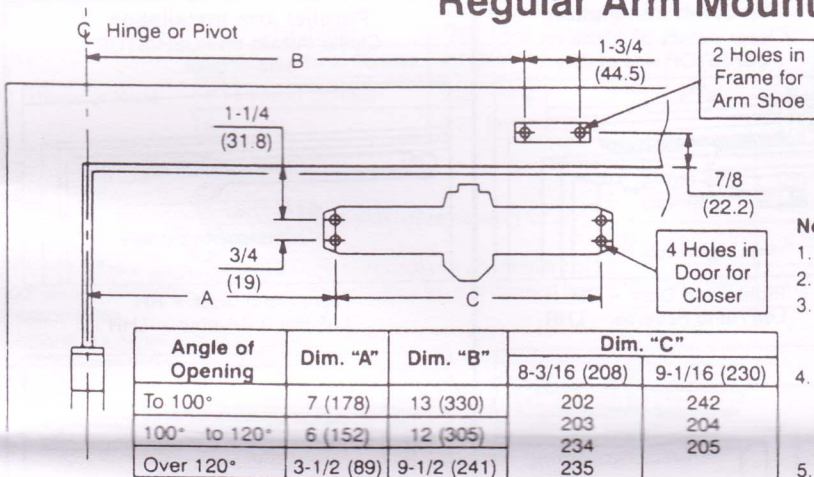
* Optional Backcheck Valve Only Supplied with Models TC200BC, TC201, TC201ADA

Cloner Size Stamp
Hex Valve Adjustment Wrench
Latch Valve
Sweep Valve
Pinion Cap

Arm Assemblies

Arm Shoe
Forearm
Main Arm
Elbow
Phillips Drive Screw and Washer
PAB1245 Parallel Arm Bracket (Parallel Arm Models Only)

Regular Arm Mount



Fastener	Drill Size	Location
1/4-20 Machine Screws	#7 Drill	Door or Frame
#14 Wood Screws	5/32" Drill	
Sex Nuts	3/8" Drill	Door Only

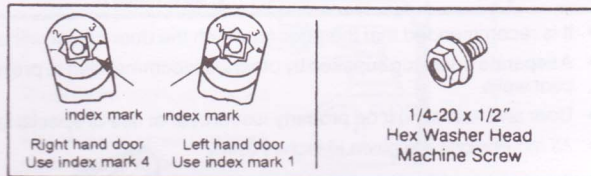
Notes:

- Do not scale drawing.
- Right hand door shown.
- Closer projection and location may restrict door swing if door must open against wall or other barrier.
- CAUTION:** Supplier recommends the use of sex nuts for attachment of components to unreinforced doors, composite doors and labeled fire door assemblies.
- Dimensions are given in inches (mm).

INSTRUCTIONS:

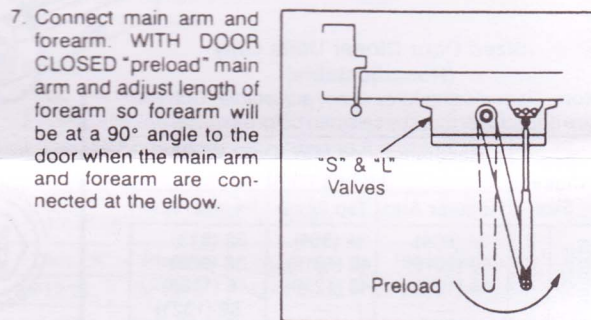
- Determine hand of door from illustrations on front page.
CAUTION: Supplier recommends the use of sex nuts for attachment of components to unreinforced doors, composite doors and labeled fire door assemblies.
- Using template information above, prepare the door and frame.
- Mount closer unit to door with "S" and "L" valves TOWARD hinge.
Note: For 201 or 201ADA Models Only: Set closing power using "Power Adjustment Chart" on front page.

Standard	Optional Special Order Sex Nuts
1/4-20 x 3/4" POHMS (Qty. 4)	1/4-20 x 3/8" Dia.
OR	Pkg. of Four:
#14-10 x 1-1/4" POHMS (Qty. 4)	1-3/4" (44mm) Door: SXN134
	1-3/8" (35mm) Door: SXN138
	Use with Std. 1/4-20 x 3/4" POHMS



- Separate main arm from forearm by removing Phillips drive screw at elbow joint. (Refer to "Arm Assembly" illustration above.)
- Mount arm shoe (forearm) to frame face.

1/4-20 x 5/8" PRHMS (Qty. 2)	OR	#14-10 x 1-1/4" PRHMS (Qty. 2)
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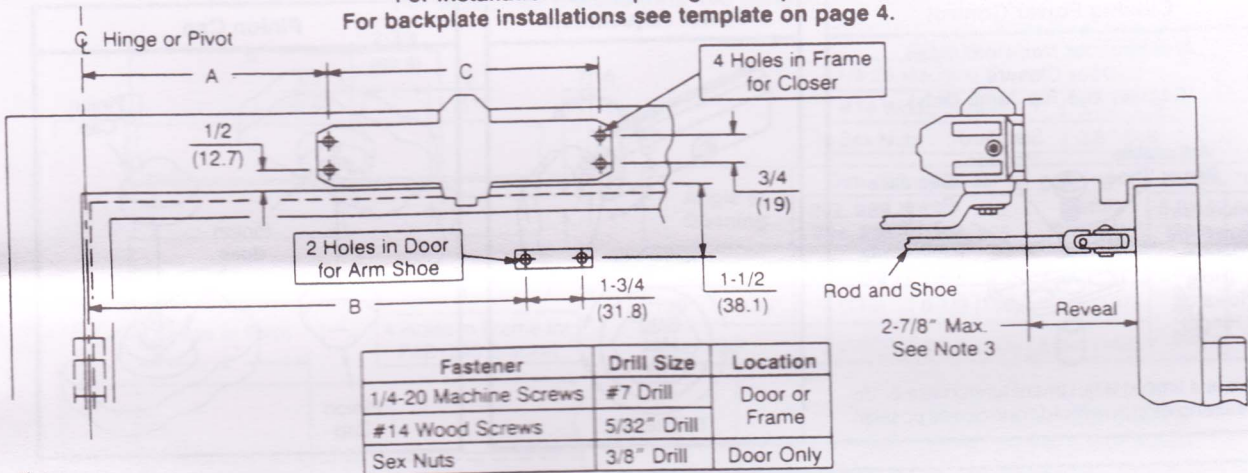


- Press pinion cap onto closer on bottom pinion boss, opposite to arm attachment. (See "Pinion Cap" on page 6.)
- Adjust sweep speed "S", latch speed "L" and optional backcheck "BC". For adjustments see page 6.

TC200

Top Jamb Mount

For installation not requiring a backplate.
For backplate installations see template on page 4.



Fastener	Drill Size	Location
1/4-20 Machine Screws	#7 Drill	Door or Frame
#14 Wood Screws	5/32" Drill	
Sex Nuts	3/8" Drill	Door Only

Notes:

1. Do not scale drawing.
2. Left hand door shown.
3. Nonstandard arms are required for deeper reveals. (See catalog for arm number.)
4. **CAUTION:** Supplier recommends the use of sex nuts for attachment of components to unreinforced doors, composite doors and labeled fire door assemblies.
5. Dimensions are given in inches (mm).

Angle of Opening	Dim. "A"	Dim. "B"	Dim. "C"	
			8-3/16 (208)	9-1/16 (230)
To 100°	7-1/2 (191)	13-1/2 (343)	202	242
100° to 120°	6 (152)	12 (305)	203	204
			234	205
Over 120°	3-1/2 (89)	9-1/2 (241)	235	

INSTRUCTIONS:

1. Determine hand of door from illustrations on front page.
CAUTION: Supplier recommends the use of sex nuts for attachment of components to unreinforced doors, composite doors and labeled fire door assemblies.
2. Using template information above (or from page 4 when DP1213 or DP1214 back plate is used) prepare the door and frame.
3. If using DP1213/DP1214 plate, mount plate to frame.

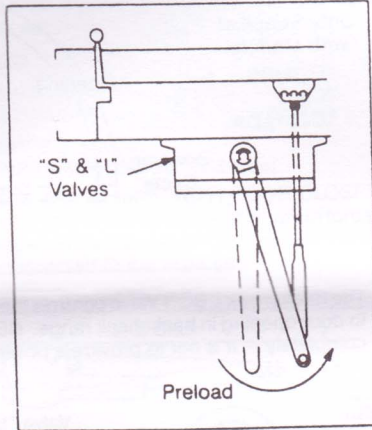
7. Place main arm on pinion shaft with "S" mark on main arm aligned with FLATTED corner of pinion shaft. Secure with main arm screw.

1/4-20 x 9/16" PFHMS (Qty. 4) OR #14-10 x 1-1/4" PFHMS (Qty. 4)

4. Mount closer unit to frame or plate with "S" and "L" valves TOWARD hinge.
Note: For 201 or 201ADA Models Only: Set closing power using "Power Adjustment Chart" on front page.

8. Connect main arm with forearm. WITH DOOR CLOSED "preload" main arm and adjust length of forearm so forearm will be at a 90° angle to the door when the main arm and forearm are connected at the elbow. (See illustration.)

Backplate Mounting Only	Mounting to Frame
1/4-20 x 9/16" PFHMS (Qty. 4)	1/4-20 x 3/4" POHMS (Qty. 4) OR #14-10 x 1-1/4" POHMS (Qty. 4)



5. Separate main arm from forearm by removing Phillips drive screw at elbow joint. (Refer to "Arm Assembly" illustration on page 2.)
6. Mount arm shoe (forearm) to door.

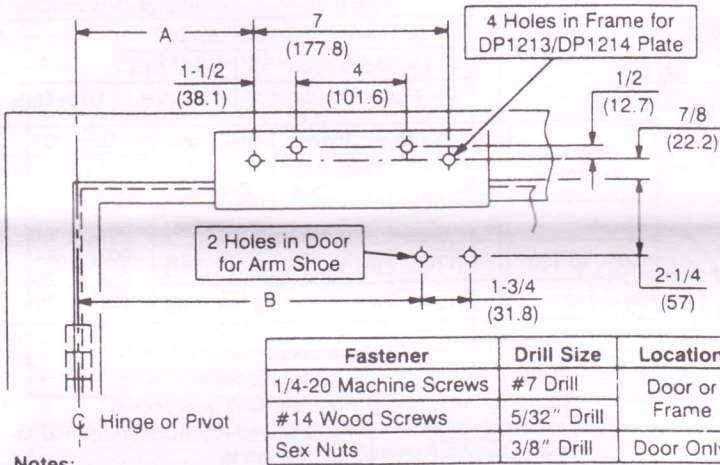
Standard	Optional Special Order Sex Nuts
1/4-20 x 5/8" PRHMS (Qty. 2) OR #14-10 x 1-1/4" PRHMS (Qty. 2)	1/4-20 x 3/8" Dia. Pkg. of Four: 1-3/4" (44mm) Door: SXN134 1-3/8" (35mm) Door: SXN138
	Use with Std. 1/4-20 x 5/8" PRHMS

9. Press pinion cap onto closer on top pinion boss, opposite to arm attachment. (See illustration on page 6.)
10. Adjust sweep speed "S", latch speed "L" and optional backcheck "BC". For adjustments see page 6.

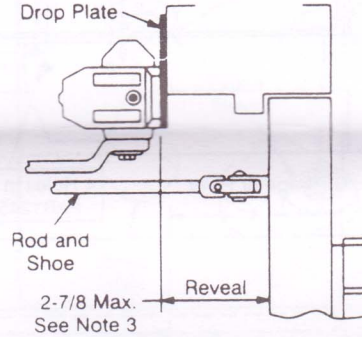
TC200

Top Jamb Mount Back Plate Mounting

Template Information Only
See Page 3 for Installation Sequence



Use drop plate when door closer interferes with ceiling and when frame face is too narrow to mount closer body.



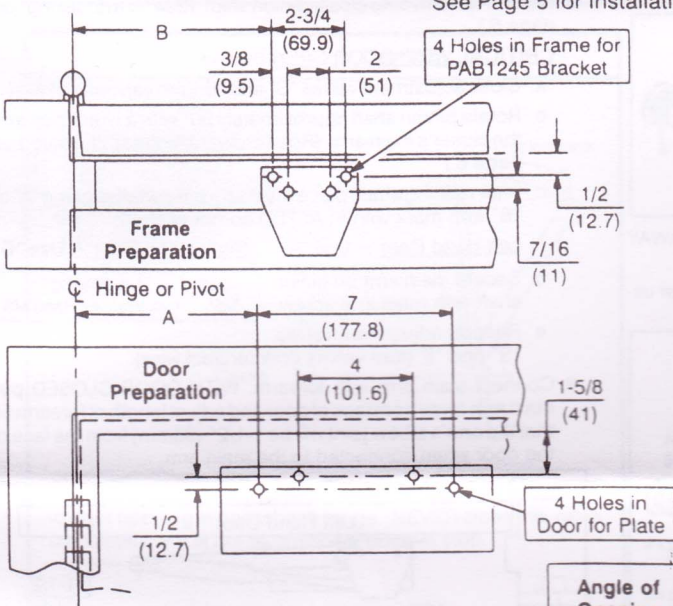
Notes:

1. Do not scale drawing.
2. Left hand door shown.
3. Nonstandard arms required for deeper reveals. (See catalog for arm No.)
4. **CAUTION:** Supplier recommends the use of sex nuts for attachment of components to unreinforced doors, composite doors and labeled fire door assemblies.
5. Dimensions are given in inches (mm).

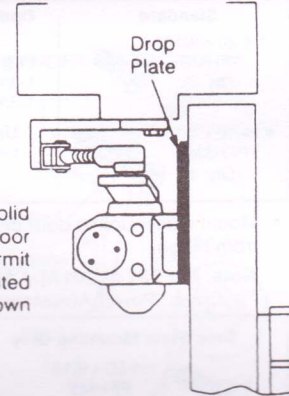
Angle of Opening	Dim. "A" Plate	Dim. "B" Arm Shoe	Plate/Closer	
			DP1213	DP1214
To 100°	8 (203)	13-1/2 (343)	202	242
100° to 120°	6-1/2 (165)	12 (305)	203	204
			234	205
Over 120°	4 (102)	9-1/2 (241)	235	

Parallel Arm Drop Plate Mounting

Template Information Only
See Page 5 for Installation Sequence



Drop plate fastens to solid or reinforced face of door and extends down to permit door closer to be mounted at the proper distance down from the frame stop.



Notes:

1. Do not scale drawing.
2. Left hand door shown.
3. **CAUTION:** Supplier recommends the use of sex nuts for attachment of components to unreinforced doors, composite doors and labeled fire door assemblies.
4. Dimensions are given in inches (mm).

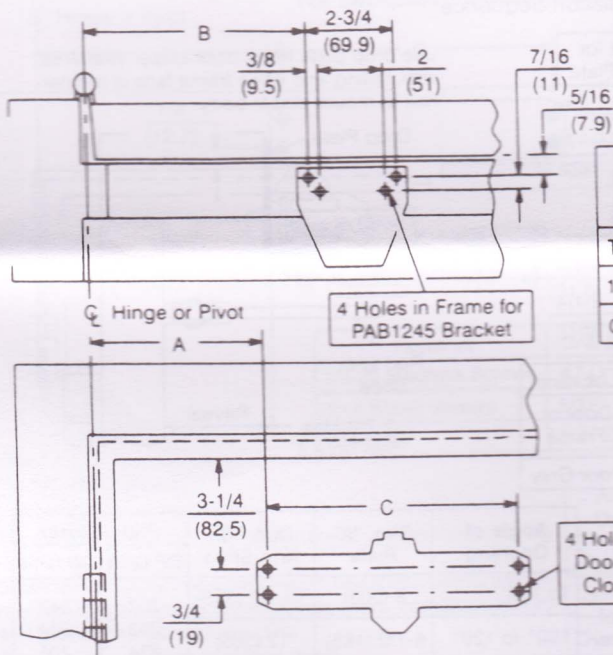
Fastener	Drill Size	Location
1/4-20 Machine Screws	#7 Drill	Door or Frame
#14 Wood Screws	5/32" Drill	Door or Frame
Sex Nuts	3/8" Drill	Door Only

Angle of Opening	Dim. "A" - Plate		Dim. "B" Arm Shoe	Plate/Closer	
	DP1213	DP1214		DP1213	DP1214
To 100°	9-1/8 (232)	8-5/8 (219)	9-1/4 (235)	202	242
100° to 120°	7-5/8 (194)	7-1/8 (181)	7-3/4 (197)	203	204
				234	205
Over 120°	5-5/8 (143)	5-1/8 (130)	5-3/4 (146)	235	

TC200

Parallel Arm Mount

For installation not requiring a drop plate.
For drop plate installations see template on page 4.



Fastener	Drill Size	Location
1/4-20 Machine Screws	#7 Drill	Door or Frame
#14 Wood Screws	5/32" Drill	
Sex Nuts	3/8" Drill	Door Only

Angle of Opening	Dim. "A" - Closer		Dim. "B" Soffit Bracket	Dim. "C"	
	202, 203, 234, 235	242, 243, 204, 205		8-3/16 (208)	9-1/16 (230)
To 100°	8-1/2 (216)	7-5/8 (194)	9-1/4 (235)	202, 203, 234, 235	242, 243, 204, 205
100° to 130°	7 (178)	6-1/8 (156)	7-3/4 (197)		
Over 130°	5 (127)	4-1/8 (105)	5-3/4 (146)		

Notes:

- Do not scale drawing
- Left hand door shown
- Delayed action closers use 100° dimensions
- CAUTION:** Supplier recommends the use of sex nuts for attachment of components to unreinforced doors, composite doors and labeled fire door assemblies.
- Dimensions are given in inches (mm).

INSTRUCTIONS:

- Determine hand of door from illustrations on front page.
- Using template information above (or from page 4 when DP1213 or DP1214 drop plate is used) prepare the door and frame.
- If using DP1213/DP1214 plate, mount plate to door.

Standard	Optional Special Order Sex Nuts
1/4-20 x 9/16" PFHMS (Qty. 4)	1/4-20 x 3/8" Dia
OR	Pkg. of Four:
#14-10 x 1-1/4" PFHSMS (Qty. 4)	1-3/4" (44mm) Door: SXN134
	1-3/8" (35mm) Door: SXN138
	Use with Std. 1/4-20 x 9/16" PFHMS

- Mount closer unit to door or plate with "S" and "L" valves AWAY from hinge.

Note: For 201 or 201ADA Models Only: Set closing power using "Power Adjustment Chart" on front page.

Drop Plate Mounting Only	Optional Special Order Sex Nuts
1/4-20 x 9/16" PFHMS (Qty. 4)	1/4-20 x 3/8" Dia
Standard Mounting to Door	Pkg. of Four:
1/4-20 x 3/4" POHMS (Qty. 4)	1-3/4" (44mm) Door: SXN134
OR	1-3/8" (35mm) Door: SXN138
#14-10 x 1-1/4" POHSMS (Qty. 4)	Use with Std. 1/4-20 x 3/4" POHMS

- Separate main arm from forearm by removing Phillips drive screw at elbow joint. (Refer to "Arm Assembly" illustration on page 2.)

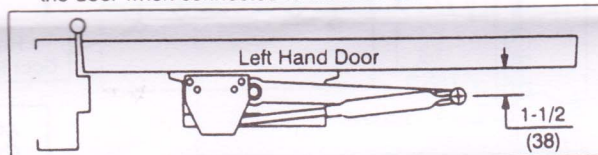
1/4-20 x 5/8" PRHMS (Qty. 4)	OR	#14-10 x 1-1/4" PRHMS (Qty. 4)
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- Mount PAB1245 soffit bracket to underside of frame. (See previous column for hardware fasteners.)
- Fasten arm shoe (forearm) to PAB1245 soffit bracket. 1/4-20 x 5/16" PRHMS (Qty. 2)
- Install main arm onto closer pinion shaft. (See "Arm Indexing" on page 6.)

CRITICAL WITH DOOR OPEN

- Close adjustment valves "S" and "L" (turn valves clockwise).
- Rotate pinion shaft approximately 50° with a wrench or with the closer's main arm. (Rotate toward hinge as illustrated on page 6.)
- After rotating shaft, place main arm onto shaft aligning "A" or "B" arm mark with FLATTED corner of shaft:
Left Hand Door - Use "A" **Right Hand Door** - Use "B"
- Secure main arm on pinion shaft with main arm screw. 1/4-20 x 1/2" Hex Washer Head MS
- Reopen adjustment valves "S" and "L" (turn valves counterclockwise).

- Connect main arm with forearm. WITH DOOR CLOSED pull main arm away from face of door and adjust length of forearm so that the arm's elbow joint will be 1-1/2" (38mm) from the face of the door when connected to the main arm.



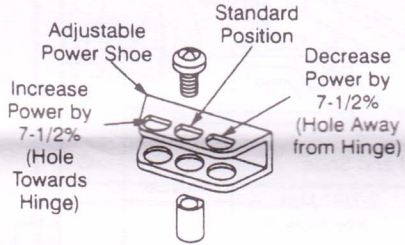
- Press pinion cap onto closer on bottom pinion boss, opposite to arm attachment (see page 6).
- Adjust sweep speed "S", latch speed "L" and optional back-check "BC" (on TC200BC models only). For adjustments see page 6.

TC200

Door Closer Adjustment

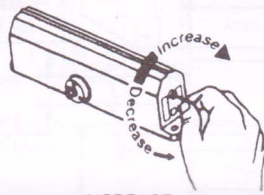
Closing Power Control

Arm Shoe for Non-Hold Open Door Closers (Regular and Top Jamb Only)

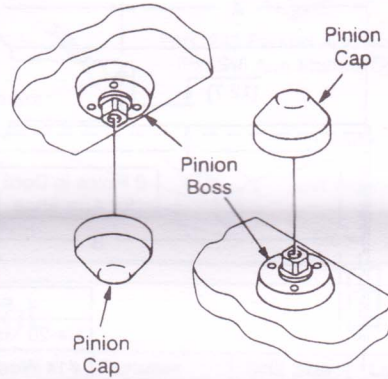


This is a limited adjustment to increase or decrease holding power of door in closed position.

Power Adjustment



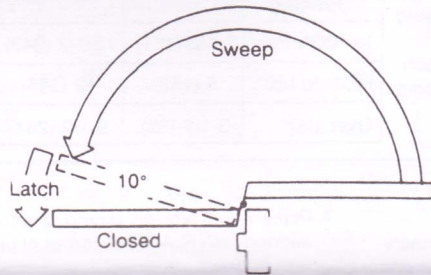
Pinion Cap



Closing Speed Control

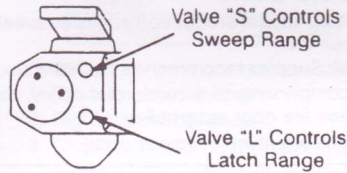
CAUTION
DO NOT BACK VALVES OUT OF CLOSER OR A LEAK WILL RESULT

ATTENTION: Adjust closing speed time to between 4 to 7 seconds from 90°. Use of the door by handicapped, elderly or small children may require greater closing time.



Standard Closing Cycle

Unit Adjustment

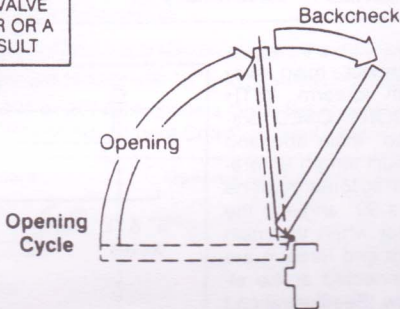


Closing Speeds "S" and "L"

Opening Door Control

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

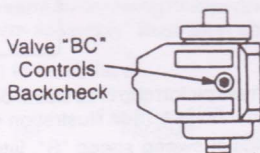
Only Supplied with Models:
TC200BC
TC201
TC201ADA



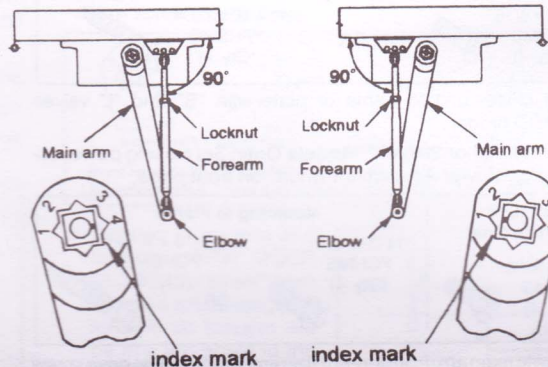
The Backcheck ("BC") Valve controls the hydraulic resistance to door opening in backcheck range. NEVER close this valve completely - it is not to provide a positive stop.



Backcheck Intensity "BC"



POSITION OF ARMS AND INDEX SETTINGS



Right hand door. Use index mark 4 Left hand door. Use index mark 1

**POSITION OF ARMS AND INDEX SETTINGS FOR PARALLEL ARM
Left hand door. Use index mark 3 right hand door. Use index mark 2

**POSITION OF ARMS AND INDEX SETTINGS FOR TOP JAMB
Left hand door. Use index mark 1 right hand door. Use index mark 4

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