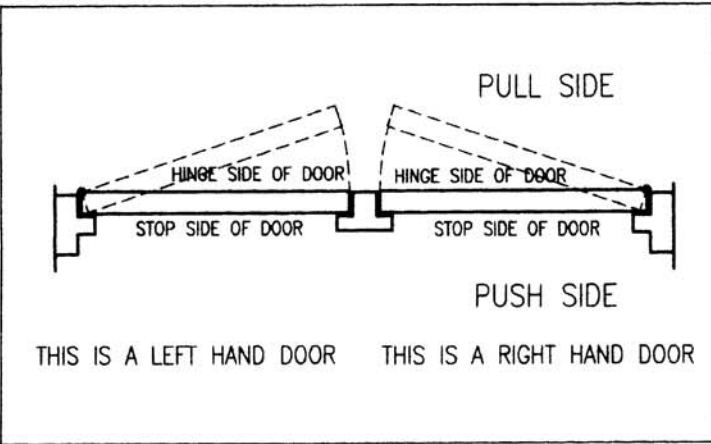


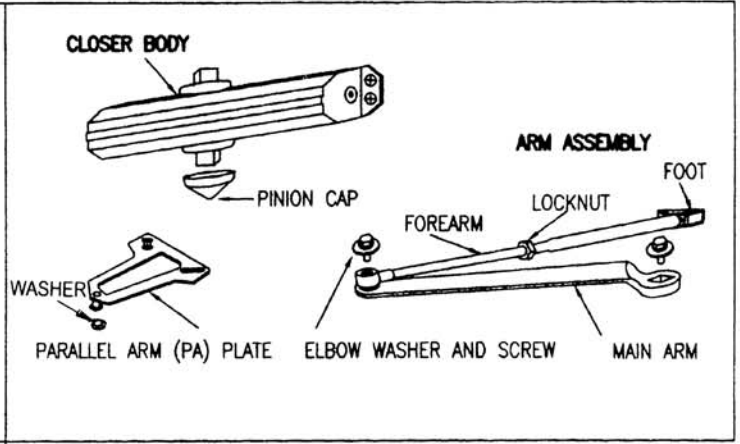
# DOOR CLOSER

## MODEL 116 INSTALLATION INSTRUCTIONS

### ■ CHART TO DETERMINE HAND OF DOOR



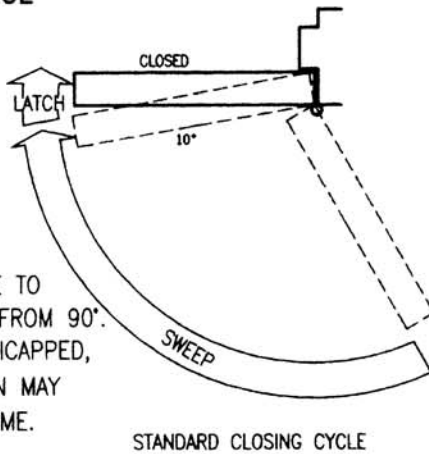
### ■ COMPONENTS



### ■ CONTROL FUNCTION

#### CLOSING SPEED CONTROL

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

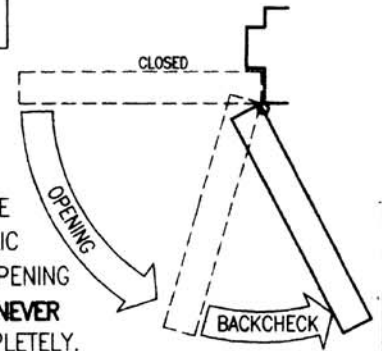


#### ATTENTION:

ADJUST CLOSING SPEED TIME TO BETWEEN 4 TO 6 SECONDS FROM 90°. USE OF THE DOOR BY HANDICAPPED, ELDERLY OR SMALL CHILDREN MAY REQUIRE LONGER CLOSING TIME.

#### OPENING DOOR CONTROL

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



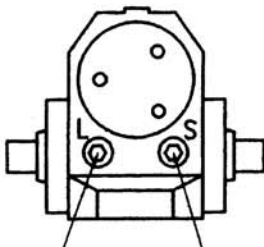
#### ATTENTION:

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.

### ■ FINAL ADJUSTMENT AND REGULATING PROCEDURES

#### REGULATING DOOR SPEED AND LATCHING SPEED

TURN SPEED REGULATING VALVE CLOCKWISE TO SLOW DOWN OR COUNTER CLOCKWISE TO SPEED UP DOOR MOVEMENT

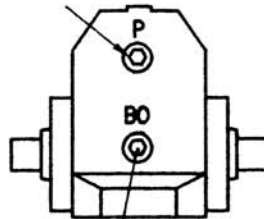


THIS VALVE CONTROLS LATCHING SPEED

THIS VALVE CONTROLS DOOR SWEEP SPEED

#### REGULATING SPRING POWER REGULATING BC POWER

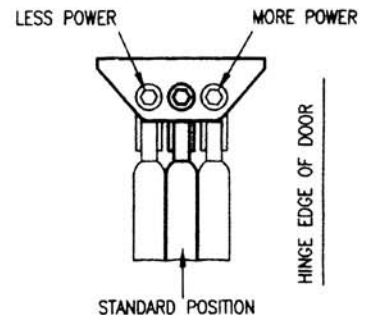
POWER ADJUSTMENT SCREW. TURN THIS SCREW CLOCKWISE TO INCREASE OR COUNTER CLOCKWISE TO DECREASE.



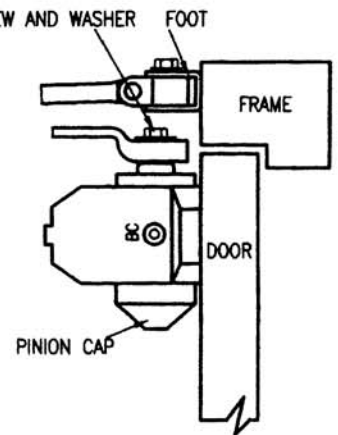
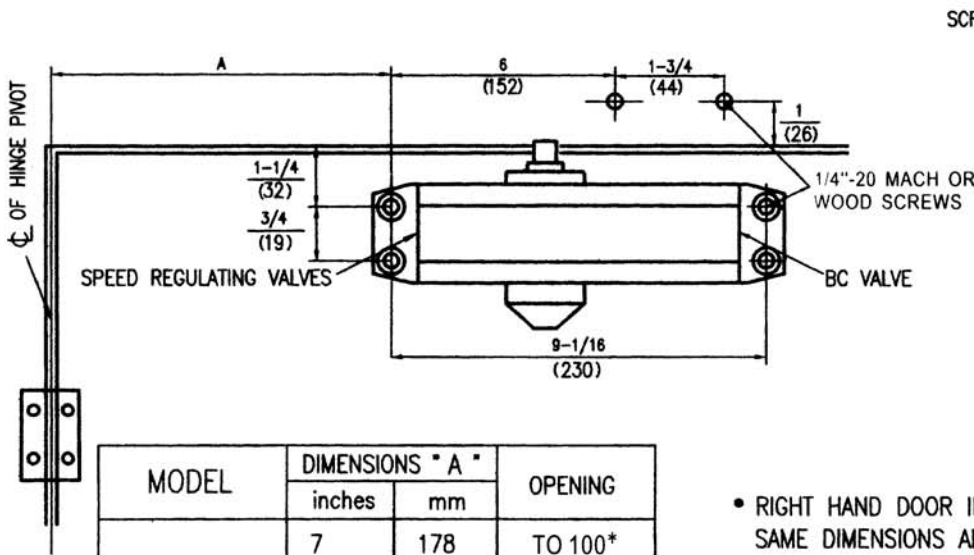
TURN BC REGULATING VALVE CLOCKWISE TO INCREASE OR COUNTER CLOCKWISE TO DECREASE. **NEVER** CLOSE THIS VALVE COMPLETELY.

#### ADJUSTING FOOT FOR CLOSING POWER

MOVE FOOT PIVOT TO HOLE AS ILLUSTRATED BELOW



# REGULAR ARM INSTALLATION



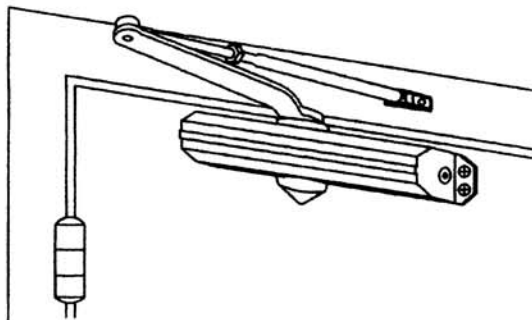
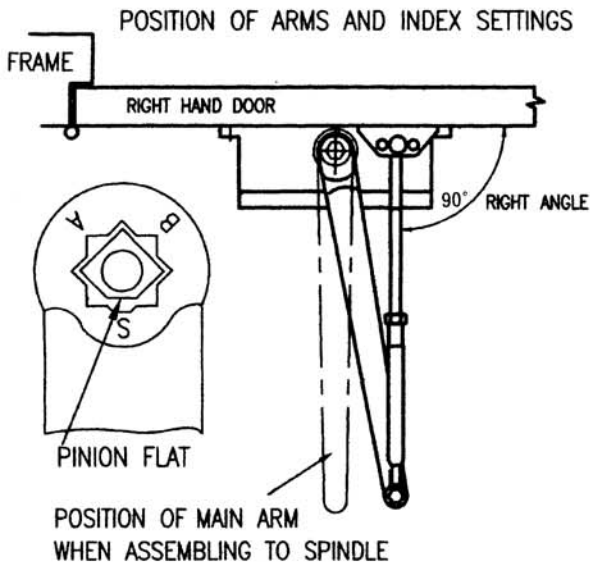
MODEL	DIMENSIONS "A"		OPENING
	inches	mm	
116	7	178	TO 100*
	6	152	101" TO 120"
	3-1/2	89	* 121" TO 180"

\* Door/Wall/Hardware/Jamb conditions permitting

- RIGHT HAND DOOR ILLUSTRATED  
SAME DIMENSIONS APPLY TO LEFT HAND DOOR
- MEASURED FROM HINGE  $\phi$   
DIMENSIONS ARE IN  $\frac{\text{inches}}{\text{mm}}$
- DO NOT SCALE DRAWING

## INSTALLATION INSTRUCTIONS

1. SELECT DEGREE OF DOOR. USE DIMENSIONS SHOWN IN CHART AND ILLUSTRATION ABOVE TO MARK LOCATION OF ATTACHING SCREWS ON DOOR AND FRAME PREPARE HOLES
2. ASSEMBLE MAIN ARM TO CLOSER.
3. ATTACH CLOSER TO DOOR WITH SPEED REGULATING VALVES TOWARD HINGE.
4. ATTACH THE FOOT OF THE FOREARM TO FRAME.
5. ADJUST LENGTH OF FOREARM TO POSITION FOREARM AT RIGHT ANGLE TO FRAME WHEN CONNECTED TO MAIN ARM AT ELBOW USE WASHER AND SCREW PROVIDED TO SECURE PIVOT CONNECTION. TIGHTEN LOCKNUT ON FOREARM.
6. SNAP PINION CAP OVER SPINDLE AT BOTTOM OF CLOSER
7. ADJUST CLOSER.

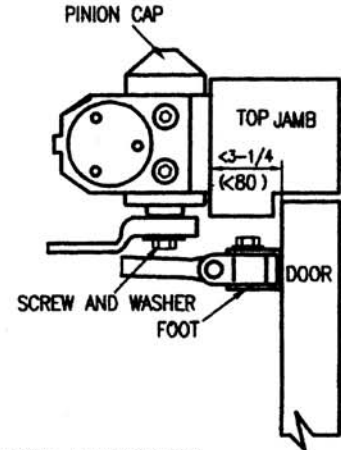
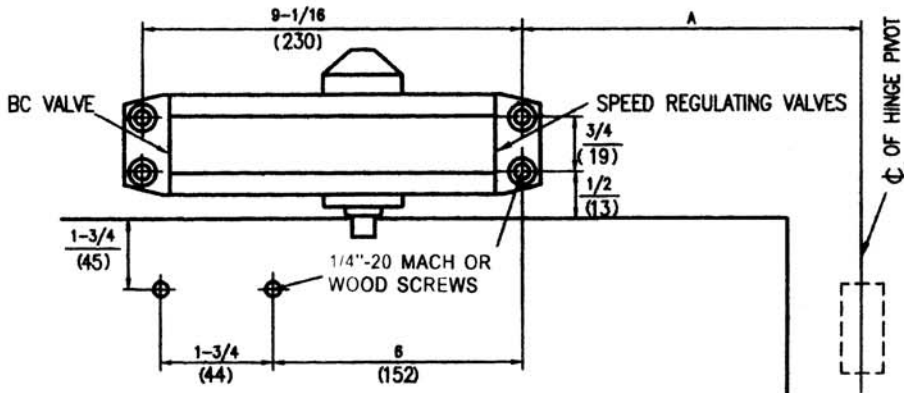


## Power Adjustment Chart

DOOR	TYPE OF INSTALLATION	*	MAXIMUM DOOR SIZE				
			34"	36"	40"	44"	48"
			0.85M	0.90M	1.00M	1.10M	1.20M
116	INTERIOR	REGULAR ARM TOP JAMB	2	4	6	9	11
	PARALLEL ARM		3	5	7	10	13
116	EXTERIOR	REGULAR ARM TOP JAMB	4	6	8	11	14
	PARALLEL ARM		6	8	10	15	17

\* 18-360° TURNS MAXIMUM AVAILABLE

# TOP JAMB INSTALLATION

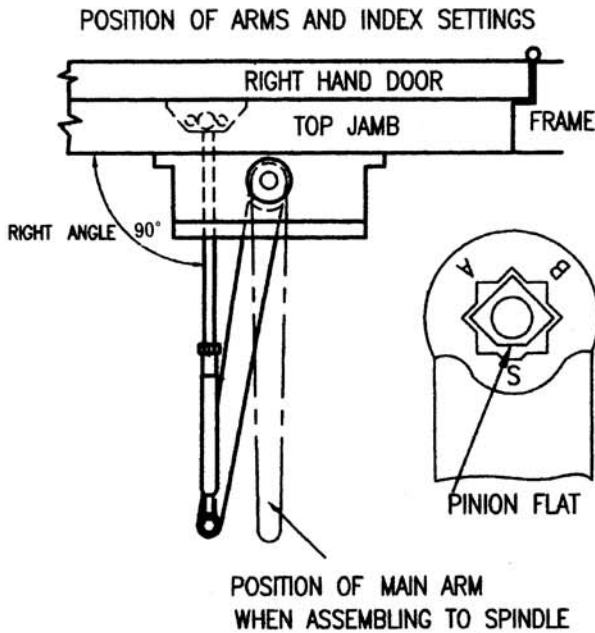


MODEL	DIMENSIONS "A"		OPENING
	inches	mm	
116	7	178	TO 100*
	6	152	101" TO 120"
	3-1/2	89	* 121" TO 180"

\* Door/Wall/Hardware/Jamb conditions permitting

- RIGHT HAND DOOR ILLUSTRATED  
SAME DIMENSIONS APPLY TO LEFT HAND DOOR
- MEASURED FROM HINGE  $\perp$
- DIMENSIONS ARE IN  $\frac{\text{inches}}{\text{mm}}$
- DO NOT SCALE DRAWING

## INSTALLATION INSTRUCTIONS



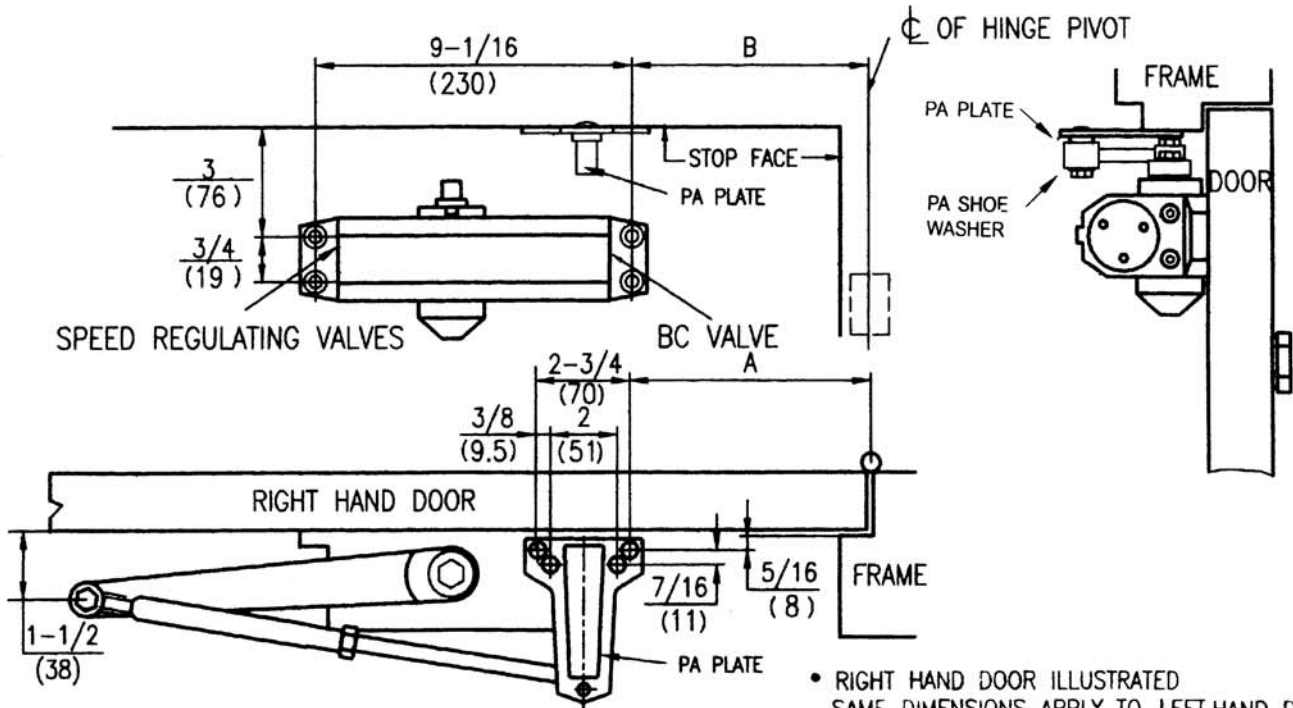
1. SELECT DEGREE OF DOOR. USE DIMENSIONS SHOWN IN CHART AND ILLUSTRATION ABOVE TO MARK LOCATION OF ATTACHING SCREWS ON DOOR AND FRAME PREPARE HOLES
2. ASSEMBLE MAIN ARM TO CLOSER.
3. ATTACH CLOSER TO FRAME WITH SPEED REGULATING VALVES TOWARD HINGE.
4. ATTACH THE FOOT OF THE FOREARM TO DOOR.
5. ADJUST LENGTH OF FOREARM TO POSITION FOREARM AT RIGHT ANGLE TO FRAME WHEN CONNECTED TO MAIN ARM AT ELBOW USE WASHER AND SCREW PROVIDED TO SECURE PIVOT CONNECTION. TIGHTEN LOCKNUT ON FOREARM.
6. SNAP PINION CAP OVER SPINDLE AT BOTTOM OF CLOSER
7. ADJUST CLOSER.

### About Power Adjustment

Before installation, Adjust the spring power as chart in page 2. Adjust spring power **DO NOT** exceed the maximum turn

The spring power has been reset on 0 turns in factory.

# PARALLEL ARM INSTALLATION

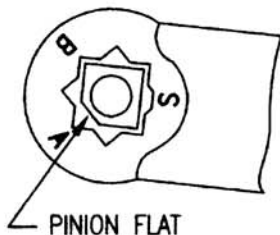


- RIGHT HAND DOOR ILLUSTRATED  
SAME DIMENSIONS APPLY TO LEFT HAND DOOR
- MEASURED FROM HINGE  $\phi$
- DIMENSIONS ARE IN  $\frac{\text{inches}}{\text{mm}}$
- DO NOT SCALE DRAWING

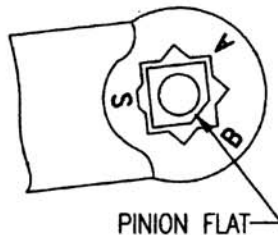
MODEL	DIMENSIONS "A"		DIMENSIONS "B"		OPENING
	inches	mm	inches	mm	
116	9-1/4	235	7-5/8	194	TO 100"
	7-3/4	197	6-1/8	156	101" TO 130"
	5-3/4	146	4-1/8	105	OVER 131"

## INSTALLATION INSTRUCTIONS

1. SELECT DEGREE OF DOOR. USE DIMENSIONS SHOWN IN CHART AND ILLUSTRATION ABOVE TO MARK LOCATION OF ATTACHING SCREWS ON DOOR AND FRAME PREPARE HOLES
2. ATTACH CLOSER TO DOOR WITH SPEED REGULATING VALVES AWAY FROM HINGE.
3. ATTACH PA PLATE TO TOP FRAME AS SHOWN.
4. REMOVE FOOT FROM FOREARM AND DISCARD.
5. INSTALL ARM ON PINION SHAFT. ROTATE PINION 45° TOWARD HINGE EDGE OF DOOR TO ALIGN MAIN ARM LETTER "B" (RIGHT HAND DOOR) OR "A" (LEFT HAND DOOR) WITH PINION FLAT. FASTEN WITH ARM SCREW.
6. FASTEN FOREARM TO PA PLATE USING SCREW REMOVED FROM FOOT IN STEP 4 AND PA SHOE WASHER INCLUDED IN SCREW PACK.
7. ADJUST FOREARM LENGTH TO SET ARM ELBOW ABOUT 1-1/2" (38mm) FROM DOOR WHEN CONNECTED TO MAIN ARM. USE WASHER AND SCREW PROVIDED TO SECURE PIVOT CONNECTION. TIGHTEN LOCKNUT
8. SNAP PINION CAP OVER SPINDLE AT BOTTOM.
9. ADJUST CLOSER.



FOR LEFT HAND DOOR



FOR RIGHT HAND DOOR

