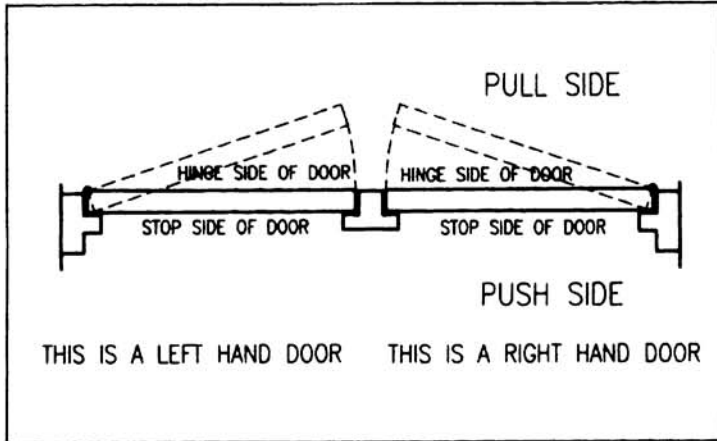


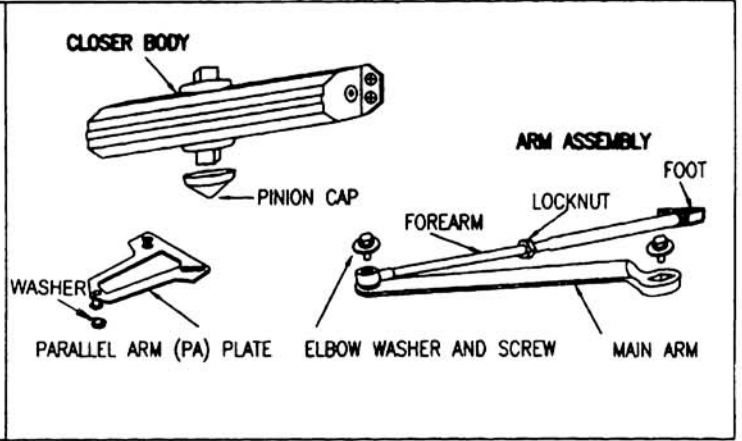
DOOR CLOSER

MODEL 116 INSTALLATION INSTRUCTIONS

■ CHART TO DETERMINE HAND OF DOOR



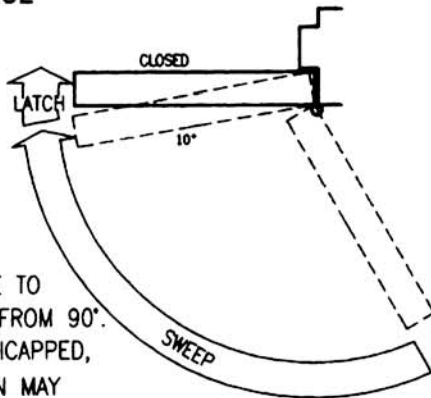
■ COMPONENTS



■ CONTROL FUNCTION

CLOSING SPEED CONTROL

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



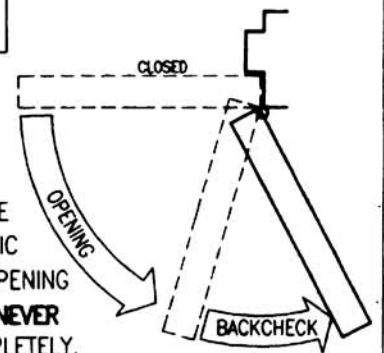
ATTENTION:

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.

STANDARD CLOSING CYCLE

OPENING DOOR CONTROL

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



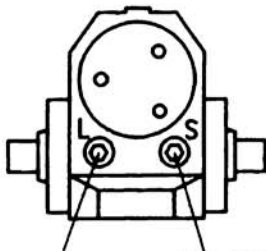
ATTENTION:

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

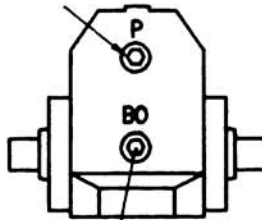


THIS VALVE CONTROLS LATCHING SPEED

THIS VALVE CONTROLS DOOR SWEEP SPEED

REGULATING SPRING POWER REGULATING BC POWER

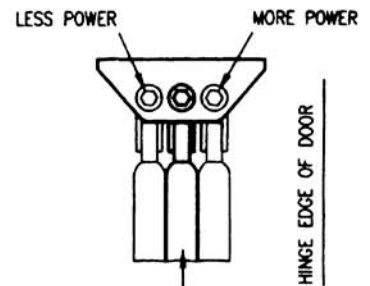
POWER ADJUSTMENT SCREW. TURN THIS SCREW CLOCKWISE TO INCREASE OR COUNTER CLOCKWISE TO DECREASE.



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

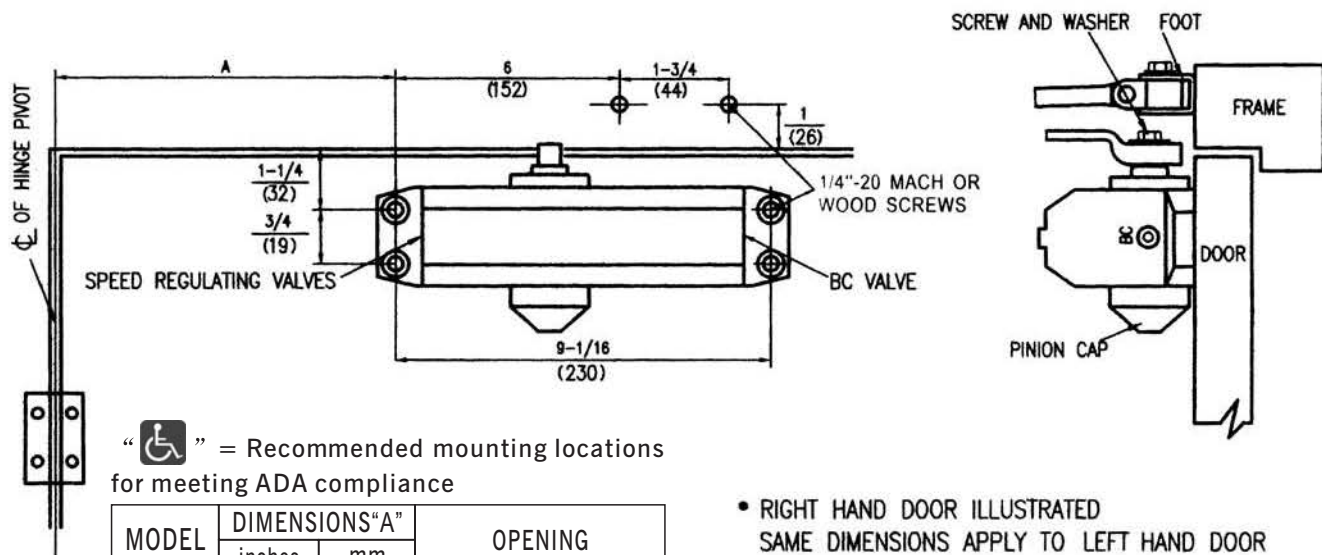
ADJUSTING FOOT FOR CLOSING POWER


MOVE FOOT PIVOT TO HOLE AS ILLUSTRATED BELOW





STANDARD POSITION

REGULAR ARM INSTALLATION

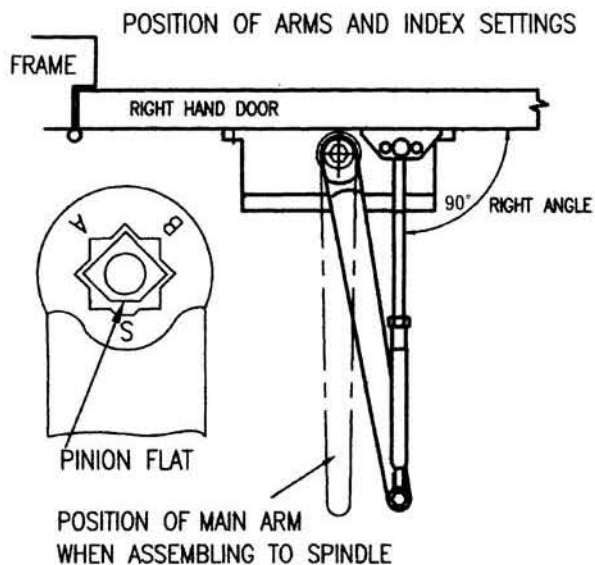


“” = Recommended mounting locations for meeting ADA compliance

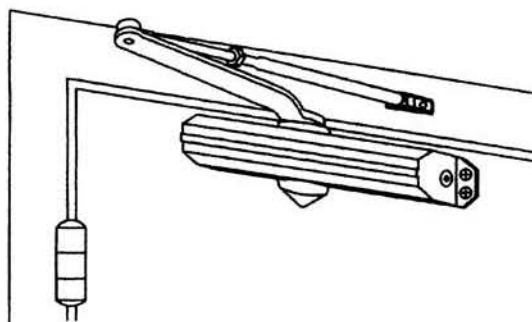
| MODEL | DIMENSIONS "A" | | OPENING |  |
|-------|----------------|-----|---------------|-----------------------------------------------------------------------------------|
| | inches | mm | | |
| 116 | 7 | 178 | TO 100* | |
| | 6 | 152 | 101° TO 120° | |
| | 3-1/2 | 89 | *121° TO 180° |  |

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

INSTALLATION INSTRUCTIONS



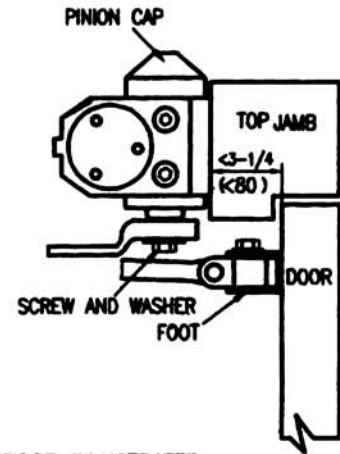
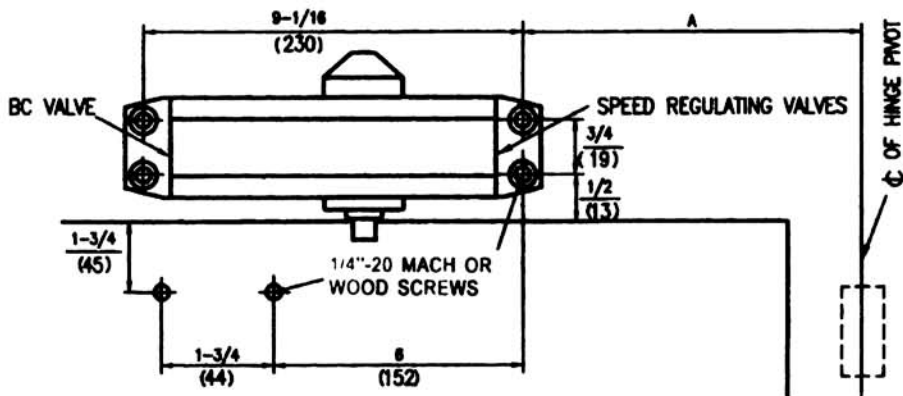
1. SELECT DEGREE OF DOOR OPENING. USE DIMENSIONS SHOWN IN CHART AND ILLUSTRATION ABOVE TO MARK LOCATIONS OF MOUNTING SCREWS ON DOOR & FRAME THEN PREPARE HOLES.
2. ASSEMBLE MAIN ARM TO CLOSER.
3. ATTACH CLOSER TO DOOR WITH SPEED REGULATING VALVES TOWARD HINGE.
4. ATTACH THE FOOT OF THE FOREARM TO FRAME.
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.




IMPORTANT: When door closer is set to 5lbs to meet ADA compliance or ANSI A117.1 it may not close and latch the door every time the door closes.

| | | 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 | |
| 116 | INTERIOR | FULL 360° TURNS OF POWER ADJUSTMENT SHAF | REGULAR ARM TOP JAMB | 2 | 4 | 6 | 9 | 11 |
| | PARALLEL ARM | | 3 | 5 | 7 | 10 | 13 | |
| 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



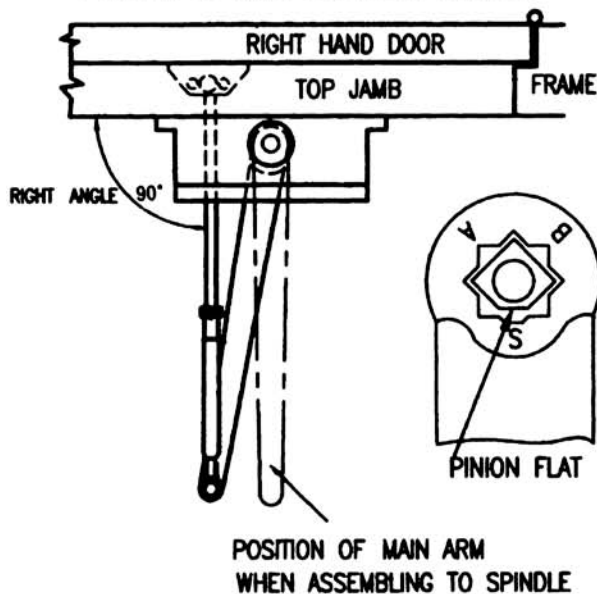
“” = Recommended mounting locations for meeting ADA compliance

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

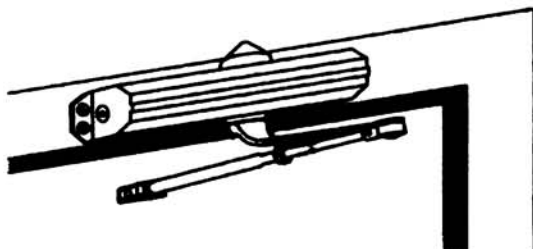
- RIGHT HAND DOOR ILLUSTRATED
SAME DIMENSIONS APPLY TO LEFT HAND DOOR
- MEASURED FROM HINGE \ominus
- DIMENSIONS ARE IN ~~inches~~
mm
- DO NOT SCALE DRAWING

INSTALLATION INSTRUCTIONS

POSITION OF ARMS AND INDEX SETTINGS



1. SELECT DEGREE OF DOOR OPENING. USE DIMENSIONS SHOWN IN CHART AND ILLUSTRATION ABOVE TO MARK LOCATIONS OF MOUNTING SCREWS ON DOOR & FRAME THEN 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.



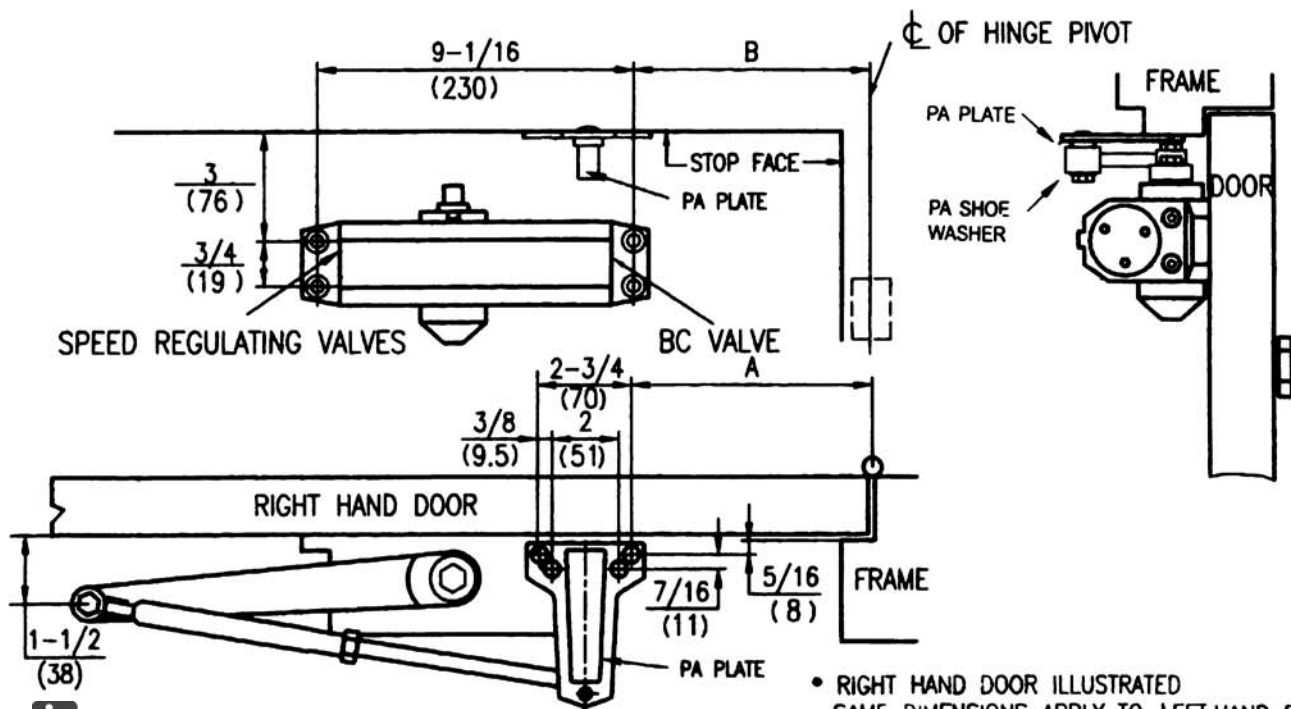
IMPORTANT: When door closer is set to 5lbs to meet ADA compliance or ANSI A117.1 it may not close and latch the door every time the door closes.


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



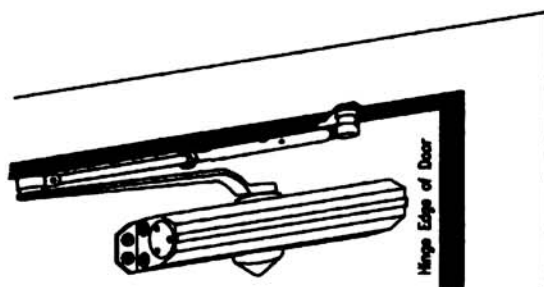
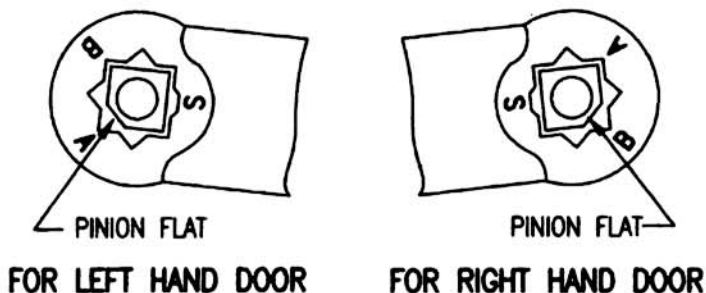
“” = Recommended mounting locations for meeting ADA compliance

| 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° |

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

INSTALLATION INSTRUCTIONS

1. SELECT DEGREE OF DOOR OPENING. USE DIMENSIONS SHOWN IN CHART AND ILLUSTRATION ABOVE TO MARK LOCATIONS OF MOUNTING SCREWS ON DOOR & FRAME THEN 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. USING AN ADJUSTABLE WRENCH ROTATE PINION 45° TOWARD HINGE EDGE OF DOOR TO ALIGN MAIN ARM LETTER "B" (RIGHT HAND DOOR) OR LETTER "A" (LEFT HAND DOOR) WITH PINION FLAT. THEN 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.



IMPORTANT: When door closer is set to 5lbs to meet ADA compliance or ANSI A117.1 it may not close and latch the door every time the door closes.