



Accessibility Guidelines
Annual Door Pressure Adjustment
Facilities Advisory 23-0731
July 31, 2023

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Facilities Advisory 23-0731

Introduction

This Facilities Advisory was developed in an effort to provide guidance on required annual maintenance to door closers for continued compliance with accessibility codes and regulations. This shall be utilized as a reference guide when adjusting door closers as required. There are **no** exceptions for compliance with accessibility laws, standards, and codes. As such, this guide shall be adhered to.

The requirements for doors are:

- Opening and closing speed
- Time delay
- Opening force

Compliance with the requirements and tracking of maintenance are the responsibility of each site.

The requirements herein are based on the following and are subject to change:

- The American's with Disabilities Act, Title II and Title III
- 2010 ADA Standards for Accessible Design
- 2022 California Building Code, California Code of Regulations, Title 24, Part 2, Chapter 11B

Any changes to the interior or exterior spaces that require or are being considered for modification, reconfiguration, improvement, upgrade, or renovation, are subject to Administrative Regulation (AR) 6601 **Facility Modification and New Construction**. AR 6601 can be found on the District website and employee intranet. Employees and faculty are **not** allowed to modify district-owned properties, including but not limited to site areas, buildings, or classrooms without the appropriate approvals and consultations of responsible administrators.

This document should be circulated to the appropriate staff. This document can be found on the RSCCD.edu Intranet under the department of Facility Planning, Construction and District Support Services, and will be updated to reflect code revisions and additional information as needed. Should you have any questions or need additional assistance, do not hesitate to contact our department at (714) 480 -7510.

Sincerely,

Facility Planning, Construction and District Support Services

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Why is Door Closer Adjustment Required?

The Americans with Disabilities Act requires that buildings and facilities maintain accessible features over time. Certain accessible features may be made inaccessible unintentionally by anticipated wear and tear, damage, and changes without prior knowledge of federal and state requirements. Door closers are one such building feature that fall into this category. Furniture related features that fall into this category have been addressed as a part of Facilities Advisory 21-0921, which can be found on the RSCCD Employee Intranet.

"The American with Disabilities Act requires that buildings...maintain accessible features over time."

Which Doors are Required to Comply?

All doors in every facility must comply with the requirements outlined in the following sections with limited exceptions. Doors that are not required to comply are those serving machinery rooms and spaces frequented only by staff for maintenance, repair, or occasional monitoring. Examples of doors that are not required to comply are:

- Equipment rooms and machinery spaces such as elevator pits and penthouses
- Electrical and communications closets
- Fire pump rooms
- Electric substations
- Transformer vaults
- Power plants

If the staff responsible for adjusting door closers is uncertain of whether a door must comply, and the requirements cannot be met, an inquiry may be submitted to the RSCCD Facilities Planning, Construction and District Support Services Department for clarification.

What are the Requirements for Door Closers?

Door closers must be adjusted regularly for closing speed. If a door is power operated, then time delay and opening speed must also be adjusted.

Manual Doors and Gates

Manual doors and gates are those that are operated by hand without assistance from power actuators, automation, or power assistance. The requirements for manual doors and gates will apply to most doors in District facilities, with some exceptions at newer or renovated buildings, where power operated doors have been installed on exterior doors.

Closing Speed

Door closing speed is the amount of time that it takes for a door to close from one position to another relative to the fully closed position. The positions of the door panel, measured in degrees, and the speed of the door, measured in seconds, depend on the type of closing mechanism the door is provided with; either a closer or a spring hinge. Door closers are a mechanical device attached at the head of a door that close the door in a controlled way, to prevent slamming of the door. A spring hinge is a special door hinge that encourages the door to close on its own rather than remaining open. A closer is the most common closing mechanism on doors.



Door Closer



Spring Hinge

Figure 1.1

Door and Gate Closers

Where closers are used, the speed to close the door when fully open at 90 degrees from closed to a position 12 degrees from closed is required to be a minimum of 5 seconds.

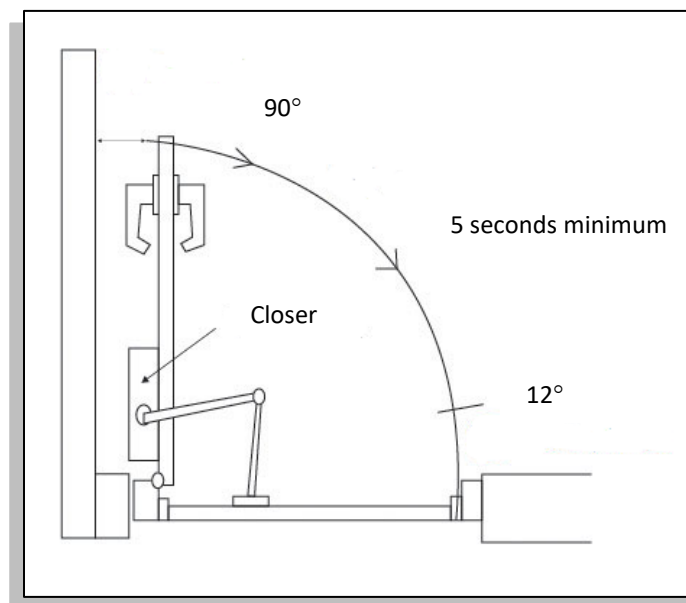


Figure 1.2

Spring Hinges

Where spring hinges are used, the door must close from a position 70 degrees from fully closed to closed in a minimum of 1.5 seconds.

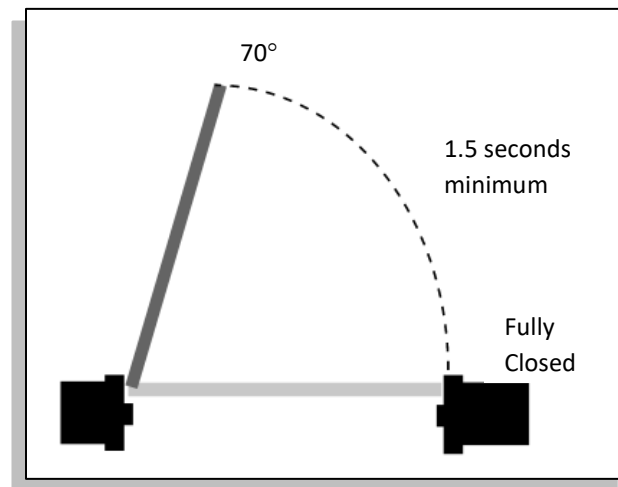


Figure 1.3

Power Operated Doors and Gates

Power operated doors and gates are generally serviced by installers certified by the manufacturer. The installers should be contacted to service power operated and automatic doors on an annual basis to confirm that the requirements for closing speed and time delay continue to be met.

Opening and Closing Speed

The door opening and closing speed for power operated doors depends on the weight of the door, which can be determined by the installer servicing the door. In any case, the opening speed from opening to back check or 80 degrees, whichever comes first, is to be no less than 3 seconds. Door closing speed from 90 degrees to 10 degrees is to be no less than 3 seconds. With an additional 1.5 seconds to fully closed.

Table 3.1

POWER ASSISTED DOOR OPENING AND CLOSING SPEED					
Minimum opening time to back check or 80° (whichever occurs first) and minimum closing time from 90° to latch check or 10° (whichever occurs first)					
"D" Door Leaf Width	"W" Door Weight in Pounds (kg)				
	100 (45.4)	125 (56.7)	150 (68.0)	175 (79.4)	200 (90.7)
30 (762)	3.0s	3.0s	3.0s	3.0s	3.5s
36 (914)	3.0s	3.5s	3.5s	4.0s	4.0s
42 (1067)	3.5s	4.0s	4.0s	4.5s	4.5s
48 (1219)	4.0s	4.5s	4.5s	5.0s	5.5s
Total Opening Time to 90°					
Backcheck at 60°		Backcheck at 70°		Backcheck at 80°	
Time above plus 2.0s		Time above plus 1.5s		Time above plus 1s	
If the door opens more than 90 degrees, it shall continue at the same rate as backcheck speed.					

Time Delay

When powered open, power assisted doors are required to remain fully open for 5 seconds.

What are the Requirements for Door Opening Force?

Door and gate opening force is the amount of pressure it takes to push open a door from the closed position, measured in pounds of force or newtons. The allowable force to open a door depends on the location and type of door, as follows:

- Interior hinged doors and gates: 5 pounds (22.2 N) maximum
- Sliding or folding doors: 5 pounds (22.2 N) maximum
- Required fire doors: 15 pounds (66.7 N) maximum
- Exterior hinged doors: 5 pounds (22.2 N) maximum

Determining the Fire Rating of a Door

To determine whether a door is fire rated and permitted to have an opening force of up to 15 pounds, a fire rating tag must be provided on the door and door frame. These tags are typically located on the interior side of the door panel on the hinge side of the door, as pictured below:



Figure 2.1

If these tags cannot be found on the door, it should be assumed that the door is not rated, and it should open with 5 pounds of pressure or less.

How Often is Adjustment Required?

Maintenance of door opening force, closing speed, and time delays is an ongoing effort that must be completed on an annual basis. In order to ensure that this is completed, the District recommends that a tracking log similar to the one shown below, be developed, and utilized at each site. A sample tracking table is provided on the following page.

Table 4.1

SITE								
Building	Room	Door	Closer Type (Closer/ Spring Hinge/ Auto)	Required Opening/ Closing Speed	Required Door Opening Force	Required Delay	Adjusted By (Initials)	Date
S	S-101	S-101A	Closer	5s Open	5lb	N/A	ABC	00/00/23

How are the Requirements Measured?

Door pressure is measured using a pressure gauge, similar to the one shown below:



Figure 5.1

To measure the opening force of the door, use the following steps:

- Reset the rubber pressure marker to “0”
- Open the door so that the face edge aligns with the outside edge of the door frame
- Place the gauge immediately above the door operating hardware, about 2 ½” from the latch edge of the door (approximately the centerline of the door hardware)
- Push slowly, keeping the pressure gauge perpendicular to the face of the door
- Remove the pressure gauge when the door is open 70 degrees from closed (the approximate start of backcheck on the closer)

The allowable force to open a door is a maximum and not to be exceeded. Approximations are not sufficient when adjusting door closers. Be sure that the force on the gauge is being read in pounds, as most gauges show measurements in both pounds and kilograms. If the measurement is only slightly elevated. Measure the door again, taking care to maintain a 90-degree angle between the gauge and the door panel, using slow and even pressure, and stopping at the start of the back check.

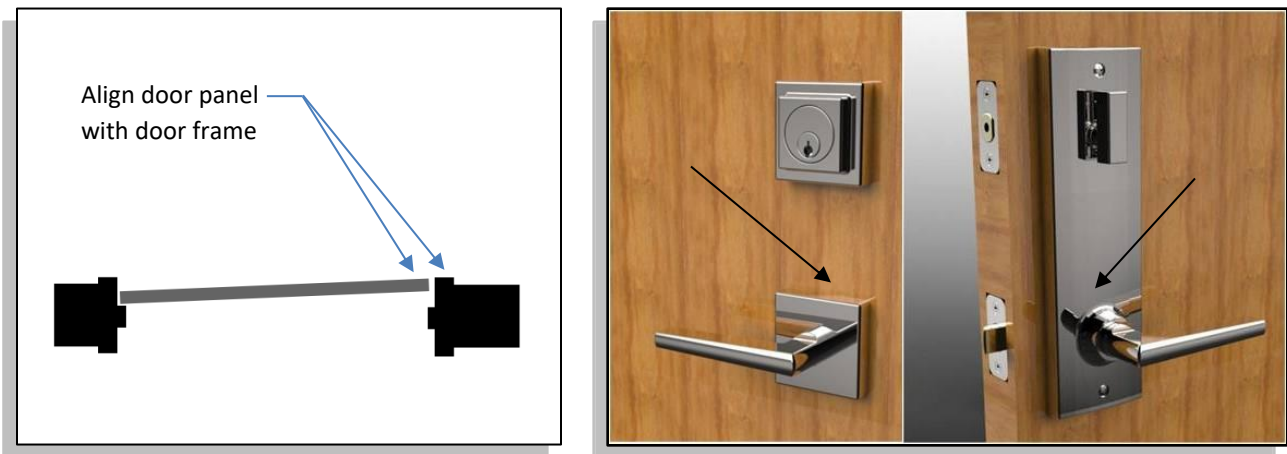


Figure 5.2

How are Door Closers Adjusted?

On most closers, there are three adjustable valves that work together:

- **Backcheck:** A feature in door closers that prevents the door from slamming against the wall or other objects. The opening swing is slowed at a certain degree and controls the speed of the door during the balance of its opening cycle. This is usually the valve located by itself and facing away from the hinges.
- **Sweep:** The movement of the door from open, to a point a few inches away from the latch. This is usually the valve located in the middle.
- **Latching Speed:** The closing speed of a door closer that kicks in within the last few inches before the door closes completely. This is usually the valve closest to the hinge, near the sweep.

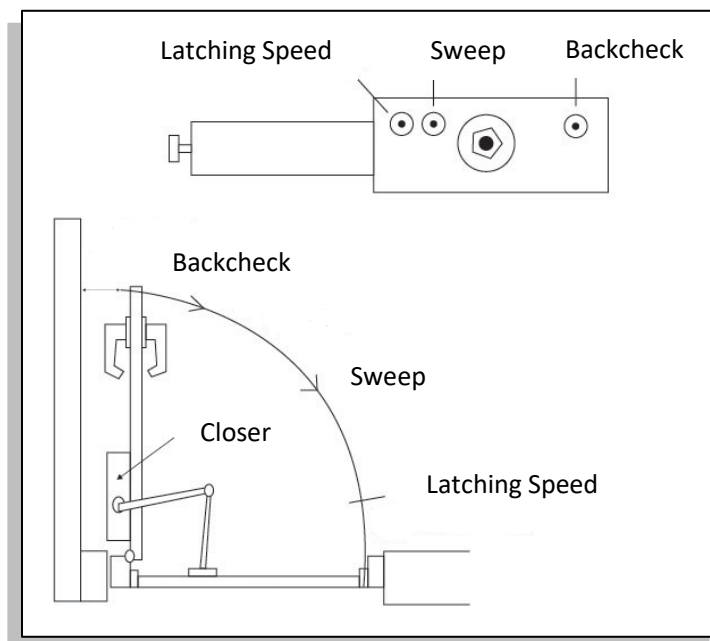


Figure 5.1

Step 1: Remove the cover

If the adjustment valves are not visible, remove the cover. If there are no fasteners, the cover is held on by tension and can be pulled off.

Step 2: Close all of the valves

Close the three valves by turning them clockwise until they stop.

Step 3: Adjust the backcheck

Make approximately 1 ½ turns counterclockwise and open the door to make sure it comes to a steady, hard stop. At about 75 degrees, the door should start to slow down. Turning the valve counterclockwise will make the door open wider.

Step 4: Adjust the sweep

Make approximately two turns counterclockwise to adjust the closing speed of the door. Turning the valve clockwise will slow down the closing speed. The faster the door speed, the greater the pressure will be required to open the door.

Step 5: Adjust the latching speed

Make approximately two turns counterclockwise to achieve your desired latching speed. The correct latch speed depends on the situation. If it is an outside door, you may want to increase the latch speed (counterclockwise), so it snaps closed a little faster. If it is an office door, you may want to slow it down (clockwise) so it does not slam. The faster the latch speed, the greater pressure will be required to get the door moving.

Step 6: Test the door

Open and close the door a few times with the door pressure gauge as instructed above to assess the adjustments and modify as needed. Make small adjustments at a time.

Common Issues with Door Closers

Maintaining door closer accessibility is an on-going effort with several challenges. Often, the accessible force to close doors may not meet the specific desires of room occupants, and they will adjust the door closers themselves for the door to operate in a way that meets their needs. Educating room occupants as to the requirements for doors can help mitigate this issue. For exterior doors, positive or negative pressure can be put on the door due to HVAC and wind loads. For this reason, it is best to test doors under the most common condition the door will be operating under. For instance, with the HVAC running and little exterior air movement. Additionally, door closer valves may loosen over time from continued use and age. Annual adjustment helps to maintain door opening forces as the closer ages and the door is used.

Exhibit A

***Contact the
Facility Planning, Construction and District Support Services Department
for Exhibit A***