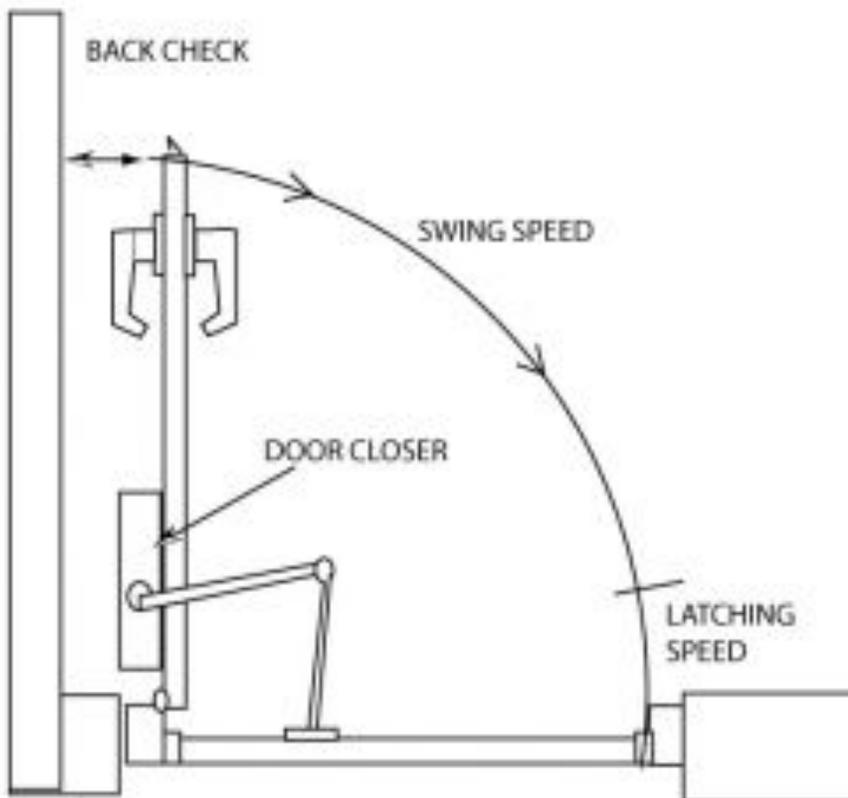


Door Closer Adjustments

Door closer adjustment is an art that requires knowledge, patience, and an ability to climb up and down a ladder several times, but with these attributes and the appropriate wrench, hex key or screwdriver, you can do it yourself.

Most of the adjustments are implemented through the opening or closing of hydraulic valves. When it comes to turning the screws that operate these valves, a little goes a long way. A turn of 5 degrees can significantly increase or decrease closing speed.

CAUTION: DO NOT COMPLETELY UNSCREW DOOR CLOSER HYDRAULIC ADJUSTMENT SCREWS OR YOU WILL RUIN THE CLOSER AND VOID THE WARRANTY. Also, hydraulic fluid will leak out of the closer and make a mess.



Door Closer Adjustments

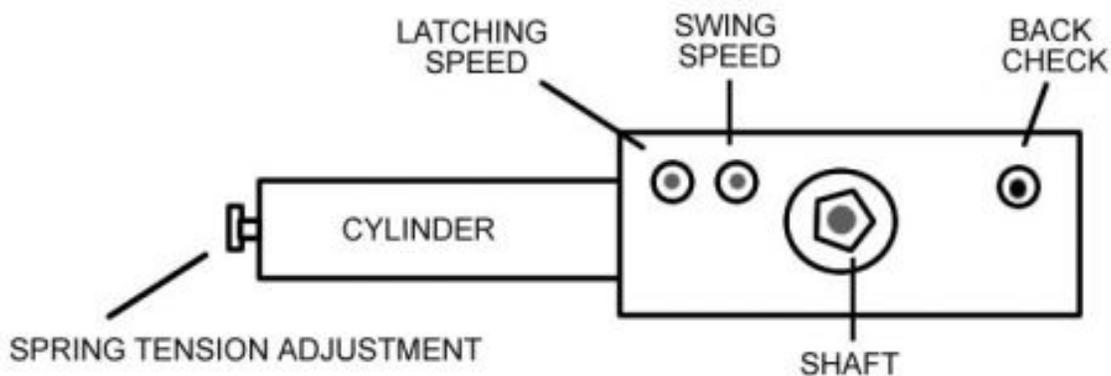
A door closer is a mechanical device designed to close a door slowly, but firmly enough to latch. It accomplishes this by using spring tension modulated by hydraulic fluid. As the user opens the door, hydraulic fluid passes from one reservoir to another, and as the spring pushes the door closed again, the hydraulic fluid passes back to the previous reservoir through a series of valves that control the speed.

The illustration above shows the effects of the common hydraulic adjustment controls available on most commercial grade door closers. Controls for swing speed and latching speed control how fast the door closes, and many closers also feature a hydraulic control for back check that controls the last few inches of the opening the door so as to prevent the door from being slammed into an adjacent wall.

- Swing speed adjustment controls how fast the door closes from fully open to within about 5 degrees of closed
- Latching speed adjustment controls how fast the door closes for those last few inches
- Back check adjustment controls the amount of resistance to opening the door past a selectable point

The illustration below shows the various hydraulic control valves. These might be located in many configurations, but you will usually see the back check control located somewhat away from the latch speed and swing speed controls.

There are also door closers equipped with an additional valve for Delayed Action. Delayed action closers hold the door open for a longer period of time to allow persons with disabilities more time to get through the



Door Closer Adjustments

Also notice the Spring Tension Adjustment in the illustration above. Spring tension controls the "size" of a closer. The term is misleading, because it does not actually have anything to do with the physical dimensions of the closer. Size is determined by the width of a door. "Sized" closers, that is, closers that have a factory pre-determined spring tension for a particular door width, have no spring tension adjustment. Many door closers today are "non-sized", indicating that spring tension can be field adjusted to fit the size of the door.

It is tempting to use the spring tension adjustment to solve problems, for example, in positive pressure situations where air flow is preventing the door from closing properly. However, the tighter you make the spring, the harder it will be to open the door. It is possible to tighten the spring tension to the point that some people will not be able to open the door.

Adjusting the Door Closer

To adjust the door closer, bring a step ladder tall enough so that you can easily reach the door closer from the second or third highest step. Climb the ladder and examine the closer. If you can't see adjustment screws, chances are the closer has a cover. Usually the cover is plastic, but it could also be metal. If you see no fasteners holding the cover on, that means the cover is held on by tension. Pull it off. If you do see fasteners, usually you can loosen, but not remove, the fasteners and the cover will slide off.

If you find that there is oil in the cover or oil on or leaking from the closer body, you can stop right now. You need a new door closer. If, however, it is not leaking, you can proceed.

Now that you have the cover off, you should be able to see the adjustment screws. If you are lucky, they will be marked on the closer body as to what they are or there will be a diagram inside the cover. If not, you may have to experiment a little to see which is which. Remember, when it comes to turning door closer adjustment screws, a little goes a long way. Start with no more than 1/8 of a turn. Turn the adjustment screw clockwise to slow the door closer down, counter-clockwise to speed it up. Then get down off the ladder and observe the effect.

Open the door and watch it close. If it closes right the first time, check it 10 more times. If it closes correctly every time, you're done. If not, go back up the ladder and make another adjustment, etc., until the closer is doing what you want it to do. When it closes the way you want it to 10 times in a row, it will probably continue to do so.

Ideally a non-delayed action door closer will close and latch the door in 7 to 8 seconds.