

ENHANCE YOUR BUSINESS BY UNDERSTANDING THE GARAGE DOOR CYCLE

Editor's note:

In this article, Roy Bardowell explains the true value of the door cycle. Read on to learn how to gather accurate cycle counts, implement quality service contracts, and ultimately grow your business.

By Roy Bardowell, CDDC

What constitutes a full garage door cycle?

Some people consider a door fully opening and then coming to a complete close to be a full cycle. For me, a true full cycle means a door opens from the floor, continues all the way to the header-stops, continues back to the floor, and stops.

Cycle data

To determine maintenance requirements, it is essential to have accurate cycle data. One way to get real-time maintenance information is to add an analog cycle counter to the operator circuit. For accuracy, it is critical that the cycle counter is wired to the operator.

Retrieving accurate data from a cycle counter can be valuable because it can allow you to determine a maintenance schedule and offer preplanned maintenance options.

Unfortunately, if a cycle counter logs an input incorrectly, it may provide inaccurate door and operator cycle information making

it impossible to predict maintenance requirements. In this article, I refer to an input as a “click.” Logging accurate pulse clicks is essential.

Inaccurate click counts

If you define a click as every time a door opens and stops on the up-limit switch or every time the door closes and stops at the down limit switch, your data will not be accurate. When the door initially opens, you will get a one-click cycle. The door is then closed by either the push button or an auto closing device.

There are many variables that can influence the cycle process. For example, a pet or debris can trigger the optical safety beam and signal a door to reverse. The door would then open until it stops at the open limit switch. In this example, the operator and door experienced two incomplete runs, but two full cycles were registered. This demonstrates how easily click count data can be inaccurately logged.

Fuzzy data

A half run in one direction qualifies as neither a half nor a full cycle. The 2010 UL 325 amendment increased safety by requiring monitored photo sensors or a safety edge on all commercial door operators. These safety devices can sometimes cause more reversals during closing. Some sensors are highly sensitive, and minimal interference of the beam can signal a reversal.

A second click will register two cycles even when only one and a half cycles occurred. With photo sensors on all motorized commercial doors, there is a higher chance of a reversing door and thus additional clicks.

For example, a door that closes only seven feet then reverses and opens back up seven feet did not complete a full cycle, especially if the door is higher than 12 feet. Installing a cycle counter in the right place will help reduce false clicks and lead to more accurate door cycle numbers.

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The MMTVC-1 is a quality and well-priced cycle counter available. You can also request one cycle counter when you purchase a new operator.

False clicks while closing a door can also lead to inaccurate numbers. Let's say someone opens a door and hits the stop button at four feet to let a dog out, then presses the close button. When the down limit switch is triggered, it clocks another click. This process repeated throughout the day would add to the overall click total, but it would not reflect an accurate number of a true full cycles.

Mid-stop and quick-close options

Operators with a mid-stop feature are popular in automotive service bays. In the cold winter months, some owners prefer to open a 14' service door to vehicle height.

An outside loop can determine when the automobile has cleared the door, and then the door can close right away. A "quick close feature" allows the door to close as soon as the vehicle is clear of the opening. It is popular in colder climate areas and provides an energy efficient option.

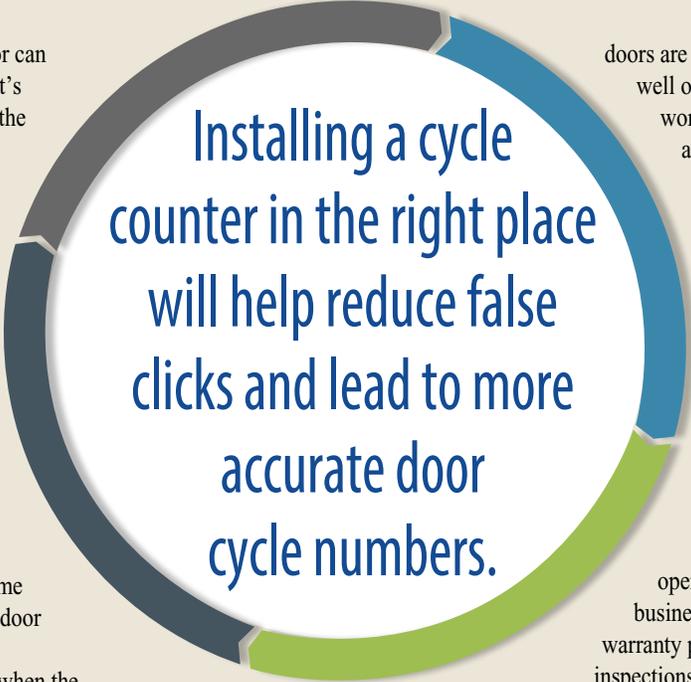
The mid-stop partial opening feature is primarily used for sliding gates. It allows someone to use a dedicated key switch to open the gate slightly and is typically used for two-wheel vehicles. Why would you want to move a gate 20 feet twice just for a bicycle? A partial opening feature can decrease the time the gate and operator are in motion and will ultimately extend the life of their mechanical components.

High-cycle operators

Manufacturers encourage their designers and engineers to build operators that provide the most endurance. Today, many commercial door operator models can last for more than 100,000 cycles (providing that the V-belt is adjusted and tightened every 50,000 cycles). Additionally, polyurethane rubber V-belts tend to stretch and wear on the sides; this can only be remedied with maintenance.

A typical operator can have a long lifespan, but in return it may require extensive service to achieve a high number of cycles. Installers can purchase a more expensive "high-cycle" option for longer endurance.

To build high-cycle motors, manufacturers add heavy-duty precision bearings on the operator shafts where there is a higher load, or they add more horsepower to increase the cycle life of an operator.



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Additional horsepower can extend the life of the motor simply because a stronger motor does not need to work as hard as a weaker motor. Another option is to utilize three-phase electrical energy if available.

Three-phase power is typically lower in amperage draw and is thus easier on the electrical components. An additional benefit is that three-phase motors will last longer than single-phase motors.

Slow your roll

If you cannot change out a motor, you can reduce wear on an operator by simply slowing the door. Adjusting a door's speed can be done easily with jackshaft operators by simply installing a different sprocket kit.

Swapping out the existing door shaft sprocket for a bigger one will slow the door and demand less work from the operator. If you attempt this, then you will most likely need to add more roller chain.

If you decrease the door speed too much, then you may run out of travel time. If this occurs, different sprockets can be installed to modify the limit shaft speed. An operator's manufacturer can help you determine the correct components needed to properly adjust the door's speed.

It is important that the drive shaft and limit shaft remain balanced. One wrong sprocket will throw the entire reduction into chaos. Slowing down a door can add two to three times the number of true cycles you can get from the operator.

However, this only holds true if all the

doors are perfectly maintained and operating well over time. Thus, maintaining a good working door is your best option for achieving a longer life span for your operator and door system as a whole.

Offer service warranties

It's a win-win to offer a warranty when selling and installing a commercial door operator (CDO). CDO warranties vary in length, but you can offer an extended or service-specific warranty to help maintain the door for a longer duration.

Service warranties help extend operator life and are also great for business. For example, one service warranty plan could include regular operator inspections. A technician can return every 100-120 days to perform a safety inspection and make any necessary repairs to the door. At this time, they could also inspect all the moving components for wear or damage and document the cycles on the cycle counter.

With this data, you can replace springs before they fracture or require an emergency service call. Good record-keeping is essential to anticipate repairs. Knowing what springs and duty cycles were installed is helpful to determine the correct replacement parts. A cycle counter provides concrete data, which is essential to effective service contracts because an accurate count allows you to estimate when parts may break down.

Doors that open and close 500 times a day will keep you busy. If you install higher cycle springs (e.g., 50,000 cycle springs) and the door opens 500 times daily, then you can expect a fracture in the springs every 100 days. Google Calendar is a great resource for setting up notifications for regular service calls.

One and done

Homeowners want service companies to complete their repairs in one visit, so try to have the appropriate inventory in stock for the customers you have service contracts with. Typically, the service company that responds first gets the job regardless of price, so it's always a good idea to have replacement parts on hand.

For businesses, a broken garage door can impact their bottom line, especially if they use their garage door throughout the day. These companies are great candidates for a service contract.

Customers with potential

Cold storage companies are situated across the country; each location typically has 100 dock doors and levels that require regular door service and dock leveler adjustments. Consider marketing to companies with multiple garage doors like this. Many can be found simply by driving through industrial parks.

Imagine retaining service contracts with multiple big companies that pay you well to be available for regular service calls. A big retainer might turn off potential customers, but you can always offer monthly payment options to make service contracts more appealing and manageable.

Benefits of a service contract

Having a nonfunctional door can hinder production leading to lost revenue. Retaining an annual service contract can ensure constant door operation and flow. Regardless of the payment plan frequency, securing service contracts can offer faster growth potential for your installation company.

The key to an effective service contract is to have a properly installed cycle counter to accurately predict future service needs. As time goes by, you will get better at determining what to service and when. ■

For questions or more information, contact roythedoorman@gmail.com or at 480-543-0620.



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