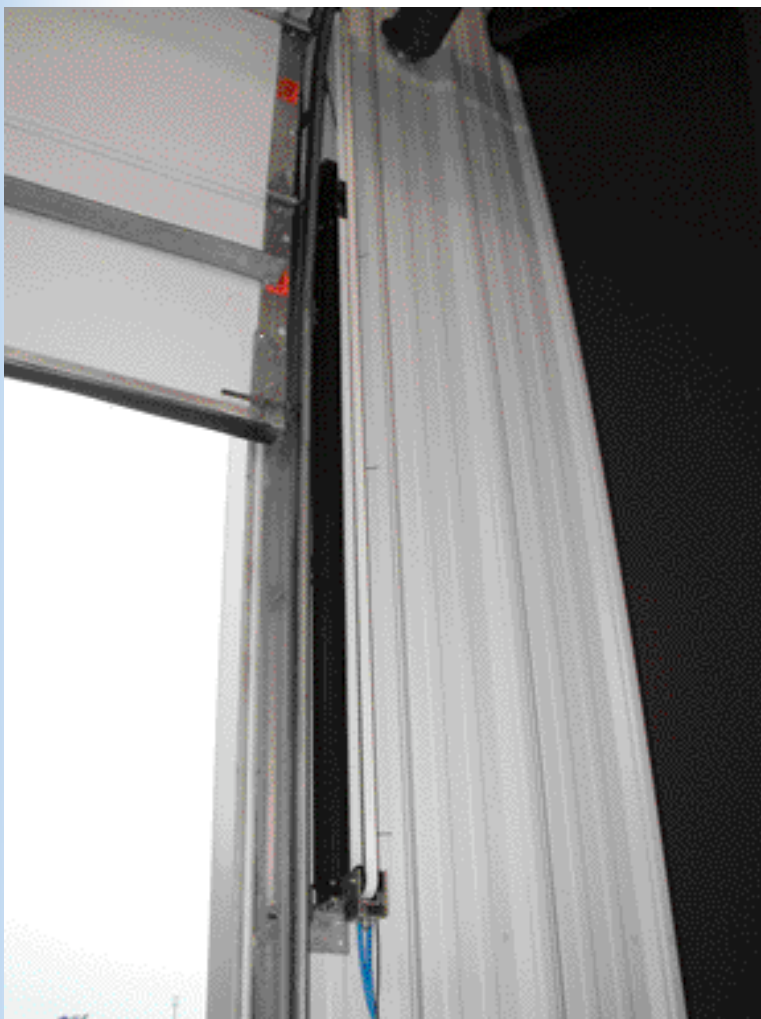


# CAR WASH DOOR OPENERS

When to chose a premium quality pneumatic operator

by Peter Wold

All overhead door operators are not created equal but they all have their place and come in a wide variety. As a manufacturer of pneumatic door operators we aim at markets that use our type of pneumatic operators. The purpose of this article is to point out when to use a premium quality pneumatic operator. I will also point out ways to evaluate the pay back of a premium pneumatic operator as well as the key features a buyer should be looking for.



Vertically mounted Jack Shaft Pneumatic Operator is used when overhead horizontal space is limited for mounting or when door height is excessive that prohibits use of horizontal overhead trolley.

## Speed

The big question one might ask is, why should my business pay more for a pneumatic operator when we can get by with an electrical operator? One answer to that question is **speed**. If you need to open and close a door fast, the air option is a great way to go. Most air operators move at around one foot per second, depending upon the specific door application and operating pressure. The speed becomes important when trying to keep the cold weather out. If you live in a place that looks like the movie *Fargo*, then you need a quality pneumatic operator. Saving seconds in the opening and/or closing time can make the difference in keeping equipment working in locations where the temperatures dip below freezing. Cold weather wreaks havoc on car wash equipment. Continuous door cycling paces customers through the wash, and is another advantage of speed. Earning precious extra seconds per wash adds up in a big way at the end of the day, and especially at the end of the year.

## Power

Another reason to use a premium pneumatic operator is **power**. When you take a heavy polycarbonate panel door and load it with ice and snow, a powerful pneumatic operator may be the most important factor. Even in areas with more mild winters, the changes of temperatures can cause things in buildings to move around and cause doors to bind. A powerful operator can help minimize these difficulties. See comments about power in the features section.

## Dependability

The overall answer to the above question, (Why use a premium quality pneumatic operator?), is **dependability**. If you are paying more for an operator it needs to open and close the door when others might fail. This is what

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separates an economical operator from a premium operator. Pneumatic operators are by design, air cylinders. They become an operator when they are specially configured to operate a door instead of any countless industrial actuation uses. The important question to ask here is, was the cylinder designed to perform in the harsh cold wet car wash type of environments. If it was not, its' performance and service life is in question.

A basic pneumatic operator looks like two rod cylinders connected together with a chain and sprocket. These are lower cost operators and not a bad choice for speed, but require high maintenance relative to the premium operators. If your door does not open your customers can not come in. Hence a lost sale. If the door does not shut, the winter elements can sing the blues to expensive car wash equipment.

An operator designed for this environment should have a working piston that is totally enclosed from the environment. When the environment hinders the operator it needs to be enclosed. This is because, the chemicals that are so efficient at removing grease and contaminants from your customers' cars are hard on most door operators. Combined with the harsh wet environment mechanical items designed for standard conditions have difficulty functioning and shorter performance lives. The best solution is to separate the nasty conditions from the door operator. One solution is to use a totally enclosed magnetically coupled operator that is specifically designed for the car wash industry. Following are some other important performance items to look for.



**Close up of Overhead Trolley Style Operator with integrated internal cushioning that eliminates the need for external mechanical springs.**

### **Important Features**

- ▶ **Repairability**—An important feature is repairability. If you spend the money on a premium operator you do not want it to be a throw away. Ask what it takes to rebuild after regular wear. Some pneumatic operators with a magnetically coupled piston design are repairable. Protecting your initial investment is an added benefit.
- ▶ **Force**—Power is a necessity when winter sets in. Cold weather can cause ice and snow to build up around doors. Serious cold causes contraction that change how things fit, line up and move. This is when a powerful operator can be of importance. Ask about the bore size and port size. Larger bore size operators produces more force. Larger port size can produce more speed. Be sure to check your available air pressure. If it is a magnetically coupled operator ask about the magnet coupling force in pounds.
- ▶ **Internal Cushions**—Internal cushions allow for controllable, smooth acceleration and soft deceleration. This can be a very important performance feature for the life of the door and operator. This feature may allow the door to operate without the need for external springs and cushions. Imagine the cylinder, the door and the operator slamming without cushions. It can cause a lot of unnecessary wear and tear.
- ▶ **Tube Wipers**—A feature found in tube style magnetically coupled cylinders help keep the cylinder body clean resulting in longer life and improve dependability. The wipers remove grease, detergents and particulate that can build up on the operator.

### **The chemicals that are so efficient at removing grease and contaminants from your customers' cars are hard on most door operators.**

- ▶ **Warranty**—A good barometer of any product is how a company stands behind it. How long is the warranty and more importantly does the manufacturer stand behind it? Ask for a written warranty. Seek referrals. Ask others who have used the products that you are considering and see what their overall experience was like.
- ▶ **Custom Sizes**—You may not, require a 20 foot pneumatic operator, but more importantly is the option of specific custom strokes available in pneumatic operators. For example you may need a 9 foot 7 inch operator instead of a standard 10 footer. Is it available? Find out about custom strokes as well as long ones for special applications.
- ▶ **Mounting Flexibility**—There are many configurations for low rise and high lift overhead doors. There are also Jack-Shaft-Operators available in high performance pneumatic models. The benefit is one can install a variety of solutions to fit the space where car wash equipment may dictate one option. If at all possible the best choice is the trolley or draw bar style installation. This is because it operates high and dry less effected by the environment. The important thing is to be aware of is the options available as well as the flexibility of installation in a variety of locations.

#### **Evaluate the Payback**

- 1) **When a wash is busy, throughput is money. Ask yourself this question. How long does it take to open and close the door? This can be the slowest operation or the drag on your throughput. To optimize you may need to speed up the doors.**

- ▶ Time  $\div$  (Door Open and Close Cycle Time + Car input time from a stop at the entrance)  
1 hour example:
  - 60 Minutes/30 second door cycle and entrance = 120 potential washes per hour
  - 60 Minutes/20 second door cycle and entrance = 180 potential washes per hour

In this example there is a 50 percent increase in potential throughput with 60 additional washes.

- 2) **To evaluate dependability. You need to put a value on the cost of being shut down. If the door is down, the system may be down as well. This is where it is critical to determine these costs before they become a reality. Ask yourself the following:**

- ▶ How many customers could not be serviced?
- ▶ And even worse, how many will remember?
- ▶ What is the cost of repairs?
- ▶ How long will it take to have those repairs completed?
- ▶ How much is it costing to have the car wash equipment idle ie. lease, hourly costs?

The key reason to chose a premium pneumatic operator lies here.

So what if the cost to acquire a premium pneumatic operator is say, \$500. What is the opportunity cost of having the wash shut down? What is the cost of repairing expensive car wash equipment that may get damaged? Minimizing difficulty, downtime and repairs can be worth thousands when you are in a jam. So, is it worth the added cost of a premium built pneumatic operator? It is a classic risk assessment.

I hope this helps you decide when to look at using a premium pneumatic overhead door operator. When smooth performance, speed and dependability are required up time and product life advantages may wildly exceed the additional up front cost. Even being down a day or one hour for that matter can make up the cost of using a quality operator that can last many years. The bottom line is car wash environments require a premium car wash operator because of the harsh, wet environments. You've invested heavily in the car wash system. The operator is the first and last piece of equipment you depend on.

Check with an experienced door dealer and get their opinion as well. One good source of expertise in the heart of cold weather country is American Garage Door Supply, Inc. They have a knowledgeable staff and can recommend options in a wide variety of types that can suit your situation.

Good luck and keep the door operating! **ACCB**

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