



FIRE DOOR TECHNOLOGY PROBLEMS & SOLUTIONS

# THE RETROFIT OPTION FOR ROLLING FIRE DOORS



## A Revolution in Reliability...

McKeon Door Company has **UL Classification** and **FM Approval** to retrofit most existing rolling fire doors, regardless of the original manufacturer, with the **Auto-Set® Fire Door Operator**.

This option provides the owner with an economical and reliable solution to the conventional fire door problem.



**McKEON DOOR COMPANY**



**McKEON**

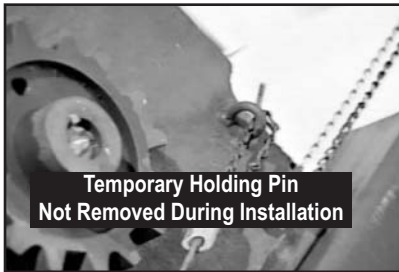
[www.McKeonDoor.com](http://www.McKeonDoor.com)

800-266-9392

# THE AUTO-SET® RETROFIT OPTION

## THE PROBLEMS WITH CONVENTIONAL DOORS...

### TESTING DIFFICULTY & IMPROPER RESETTING



Testing difficulties often stem from malfunctioning of the sash chains/cables and fusible links.

Additional malfunctions occur when spring tension is misapplied during installation or conventional resetting procedures.

**THE SOLUTION?** Auto-Set® Fire Doors are always biased to the closed position. The spring tension does not require adjusting and the fire door is automatically tested and reset. Sash chains or cables are still possible problems with the Auto-Set® System if they are used, however, the Auto-Set® System allows for the connection of multiple fire doors with fusible links without the need for sash chains or cables. In addition, since the magnetic release device is an integral part of the operator, the need to connect a remote mounted magnetic release device to the fire door with a sash chain or cables is eliminated. Therefore, during alarm activations, sash chains or cables are never used.

### INADEQUATE MAINTENANCE



Often, as a result of improper maintenance, fusible links and gears malfunction due to the rusting of metal parts or paint build-up on gears and sash chains or cables. Under no circumstances should fusible links be painted. Paint thermally insulates the lead in the fusible link and may prevent the link from functioning correctly.

**THE AUTO-SET® SOLUTION:** The Auto-Set® System is a low maintenance product. The number of working parts has been dramatically reduced and incorporated into the Auto-Set® Operator. The mechanical parts which are prone to maintenance problems have been eliminated.

### DAMAGE



Damage to fire doors usually results from forklift impact or the improper stacking of heavy warehouse merchandise and material against the fire door.

**THE AUTO-SET® SOLUTION:** Fire doors should be designed to overlap the opening and should be designed in a manner which allows for easy testing and resetting in order to periodically check for damage, which may not be visible to the eye. The Auto-Set® System is designed for daily testing and resetting. A typical Auto-Set® fire door takes less than a minute to test and reset.



As far back as 1994, McKeon Door Company obtained UL Classification to retrofit most existing rolling steel fire doors with the Auto-Set® Fire Door Operator. Our retrofit procedure allows building owners to install the Auto-Set® fire door operator onto existing fire doors - regardless of the original manufacturer!

# THE AUTO-SET® RETROFIT OPTION

## THE PROBLEMS WITH CONVENTIONAL DOORS...

### IMPROPER INSTALLATION



Fire door malfunctions often originate during installation, as a result of inexperienced installers and poorly prepared installation instructions.

**THE AUTO-SET® SOLUTION:** Fire doors should be designed in a manner allowing for easy testing and resetting, verifying that the fire door was installed correctly and will function properly when the need arises. *The Auto-Set® System is designed for daily testing and resetting.*

### MANUFACTURING QUALITY - DEFECTIVE PARTS



Manufacturing defects in the external gears and mechanical governors which are inherent with the conventional fire door design can result in unpredictable and hazardous conditions.

**THE AUTO-SET® SOLUTION:** The Auto-Set® System has eliminated the need for all the external parts which are prone to malfunction on conventional fire doors. The Auto-Set® System has been tested by Factory Mutual Research Corporation, for 50,000 operational cycles and 525 consecutive drop tests. Conventional fire doors are tested for 7,500 operational cycles and 25 drop tests.

### OCCUPANCY RELATED - BLOCKED & WEDGED FIRE DOORS



Fire doors are blocked and wedged by occupants of the building because the fire doors have been trip tested and not reset.

The occupant has wedged the fire doors in order to allow for access through the opening.

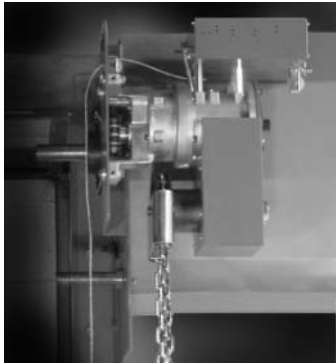
Fire doors are blocked by material or fork lift trucks which are placed and left in the openings.

**THE AUTO-SET® SOLUTION:** The Auto-Set® System automatically resets itself, therefore, the probability of an Auto-Set® fire door being trip tested and not reset has been eliminated. If blocked fire doors have been a problem, McKeon Door can provide a detection system which will set off an audible alarm if the opening is blocked for a period of more than two minutes. In addition to this detection system, we recommend that the opening be clearly marked and signs posted stating that material cannot be placed in the opening under the fire door.



# THE AUTO-SET® RETROFIT OPTION

## TESTED, CLASSIFIED & APPROVED...



Hand Chain Auto-Set® Unit



Motorized Auto-Set® Unit

The Auto-Set® Retrofit Option **eliminates testing difficulties & improper resetting** by eliminating all the components that typically fail on fire doors and incorporating them into the Auto-Set® Fire Door Operator. The Auto-Set® Fire Door Operator is highly durable, automatically resets itself, and has been **tested by Factory Mutual for 50,000 operational cycles and 525 consecutive drop tests**. Conventional fire doors are only tested for 7,500 operational cycles and 25 drop tests.

*"A new type of rolling steel fire door recently receiving approval from the Factory Mutual Research Corporation features a design that will improve the reliability..."*

### NEWS RELEASE:

#### FMRC APPROVES ROLLING STEEL FIRE DOOR

FEATURING SIMPLE INSTALLATION, TESTING AND RESETTING...

Rolling steel fire doors serve an important purpose: they protect openings in fire walls built to separate sections of a building and prevent the passage of flame and hot gases. However, results of a study show that nearly 20 percent of installed rolling steel fire doors could fail to operate in an emergency. The main culprits: improper installation, misapplied spring tension and lack of proper door maintenance.

A new type of rolling steel fire door recently receiving approval from the Factory Mutual Research Corporation features a design that will improve the reliability of these important loss control devices. **The door, Model FSD manufactured by McKeon Rolling Steel Door Company, Inc.,** of Brooklyn, N.Y., features a novel innovation to the automatic closing device.

What makes McKeon door different is that it utilizes an electrical, constantly engaged, hold-open brake as the method of automatic closure control, rather than a convention spring tensioning device. As long as electricity is supplied to the unit, the brake, located in the gearbox assembly, remains set and prevents the curtain from closing. Upon a loss or interruption of power or the activation of a fusible link, the brake retracts, freeing the gear train and allowing the curtain to close. The door's rate of descent is controlled by a quiet and efficient centrifugal governor unlike that found on most fire doors.

"The use of an electrically operated, automatic device, rather than the typical counterbalanced spring tension device, results in a rolling steel fire door that is simple to install, maintain, test

and reset," said John Rennie, Vice President of FMRC's Approvals Division. "Approval and use of this door/assembly is eventually expected to reduce significantly the percentage of rolling steel fire door trip test failures."

The assembly is fire rated up to and including four hours for wall openings up to 144 sq. ft. Oversized doors are also available.

FMRC's Approvals Division is a leading resource for manufacturers seeking third-party certification of their products in response to the demands of customers and regulatory agencies. FMRC's Approval of a product to specific standards provides the end user and manufacturer reassurance that the product's performance claims have been verified.



Detailed product information including demonstration videos, dimensional drawings, specifications, wiring diagrams and case studies are available online — [www.McKeonDoor.com](http://www.McKeonDoor.com) or call us with any questions.

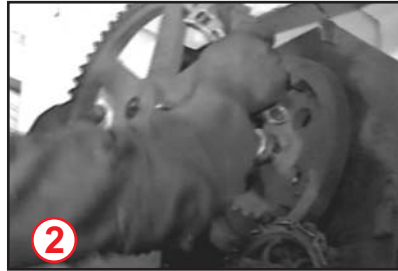
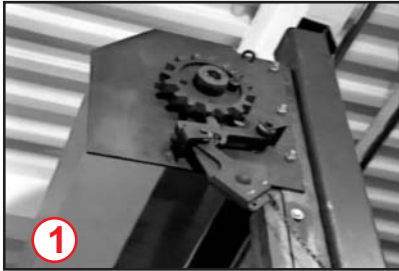


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# THE AUTO-SET® RETROFIT OPTION INSTALLATION PROCEDURE

INSTALLATION IS EASY AND ECONOMICAL...



- 1) Neutralize the charge of the torsion spring.
- 2) Remove drive mechanism, exposing drive shaft.
- 3) Connect new retrofit bracket to existing bracket plate.
- 4) Bolt fire door operator to the retrofit bracket plate.
- 5) Install the drive sprocket and drive chain.
- 6) Electrically wire fire door operator.

Once this procedure is completed, the once conventional fire door is now converted into the dependable Auto-Set® fire door. The Retrofit Option, which is installed in a matter of a few hours, gives the owner all the economical and safety features that are available with the McKeon Auto-Set® Fire Door System — *without the cost of having to replace the entire existing conventional type fire door.*

## DESIGNING THE PRODUCT IS THE KEY.....

At McKeon Door Company, we have met the challenges of designing a reliable fire door. We have taken a fresh look at a product whose origin dates back over 100 years, and have redesigned it to meet the needs of today's building owners, insurance companies, architects and design professionals.

We have simply built a better, safer, economical and more efficient fire door.



# THE AUTO-SET® RETROFIT OPTION

## A REVOLUTION IN RELIABILITY...

### Significant Advantages to Building Owners

- ✓ Saves the cost of replacing an existing non-functional fire door.
- ✓ No ladders, tools or door technicians required to drop test & reset the fire door.
- ✓ Controlled rate of descent during the self-closing mode (6" per second).
- ✓ Automatically resets after being drop tested.
- ✓ Multiple fire doors may be drop tested and reset simultaneously.

### The Auto-Set® Retrofit is available with an option that can eliminate the need for through-the-wall sash chains or cables in order to connect multiple fire doors together.....

This is particularly significant on Maximum Foreseeable Loss (MFL) walls where two fire doors are installed back to back within the same opening.

In this type of application it is difficult to successfully activate the two (2) doors to drop test simultaneously when only one (1) fusible link is actuated.

#### ***The Auto-Set® fire door operator solves this problem!***

If two or more Auto-Set® fire door operators are installed on an MFL wall, they can be connected in series through low voltage wiring. If one fusible link is actuated on a single Auto-Set® fire door operator, that in turn would cut power to all of the operators which are wired in series thus causing all of the fire doors to self-close.

#### ***This means more reliability!***

If a fusible link is not functional because of dust, paint, improper installation, etc., and a single fusible link elsewhere is actuated, it will cause all of the fire doors which are wired in series to self-close.

### Low Cost / Easy Testing & Resetting

**IMPORTANT!**

***For Safety, Trip-Test Fire Doors Frequently!***

McKeon recommends fire doors be trip tested monthly (or even weekly) to identify maintenance problems.

**With the Auto-Set® system, they can all be trip tested simultaneously — just cut the power to the operators!**



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