



**INSTALLATION INSTRUCTIONS  
AND  
OPERATION MANUAL**

**Fire Door Chain Operator  
(FHCM)**

**Fire Door Crank Operator  
(FHKM)**

***Medium Duty Fire Door Operators***

# **IMPORTANT INSTALLATION INSTRUCTIONS**

**WARNING** - To reduce the risk of death or serious injury to persons:

1. READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS.



## **WARNING**

WARNING! – Components under **extreme spring tension** can cause death or serious injury.

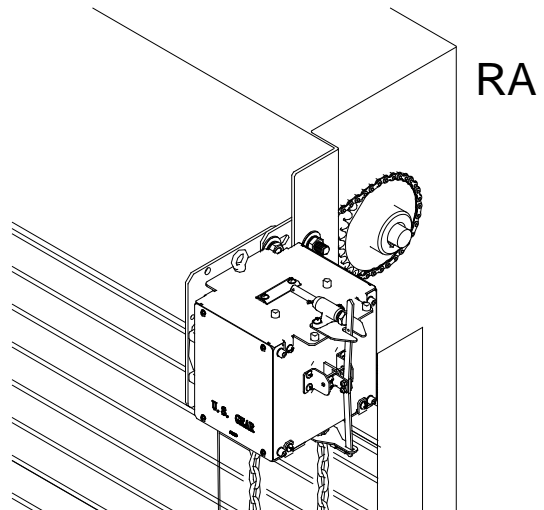
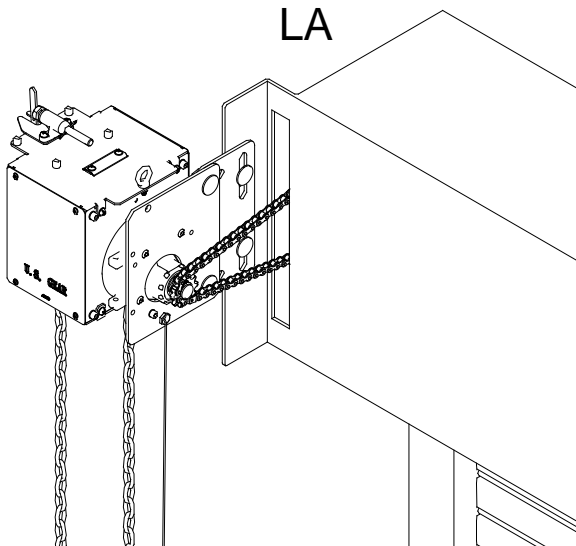
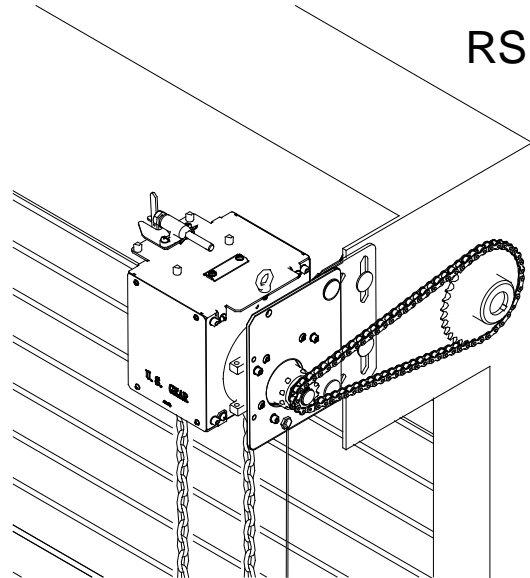
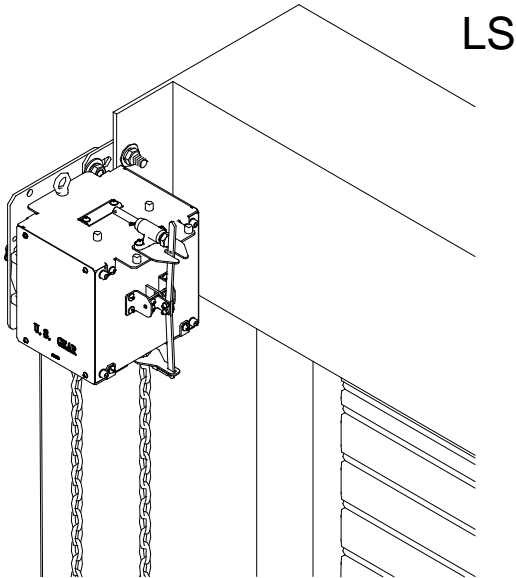
2. Install only on a properly operating and balanced door. A door that is operating improperly could cause severe injury. Have qualified service personnel make repairs before installing the operator.

Note: Fire door spring tension must be adjusted per the manufacturer's installation instructions to allow for automatic closing during fusible link/alarm activation and drop test. If an operator is connected to an alarm release, the door must also close in a power failure (unless closing functions are supported by an approved battery back-up system.)

3. If the door operator is installed less than 8 feet above the floor, any exposed moving parts must be covered or guarded.
4. Install the fusible link cable from the release module on top of the operator per the requirements of NFPA-80.
5. Make sure the available alarm power supply to be connected to the operator is of the same voltage, frequency, phase and wattage as indicated on the nameplate of the alarm release module. (If provided.)
6. Read and understand the wiring diagram of the alarm release module (if applicable), and any other equipment to be connected to the operator.
7. Any change in mounting position may result in change of operator rotation and function. Consult instructions for necessary directional (rotational) change.

# INSTALLATION INSTRUCTIONS

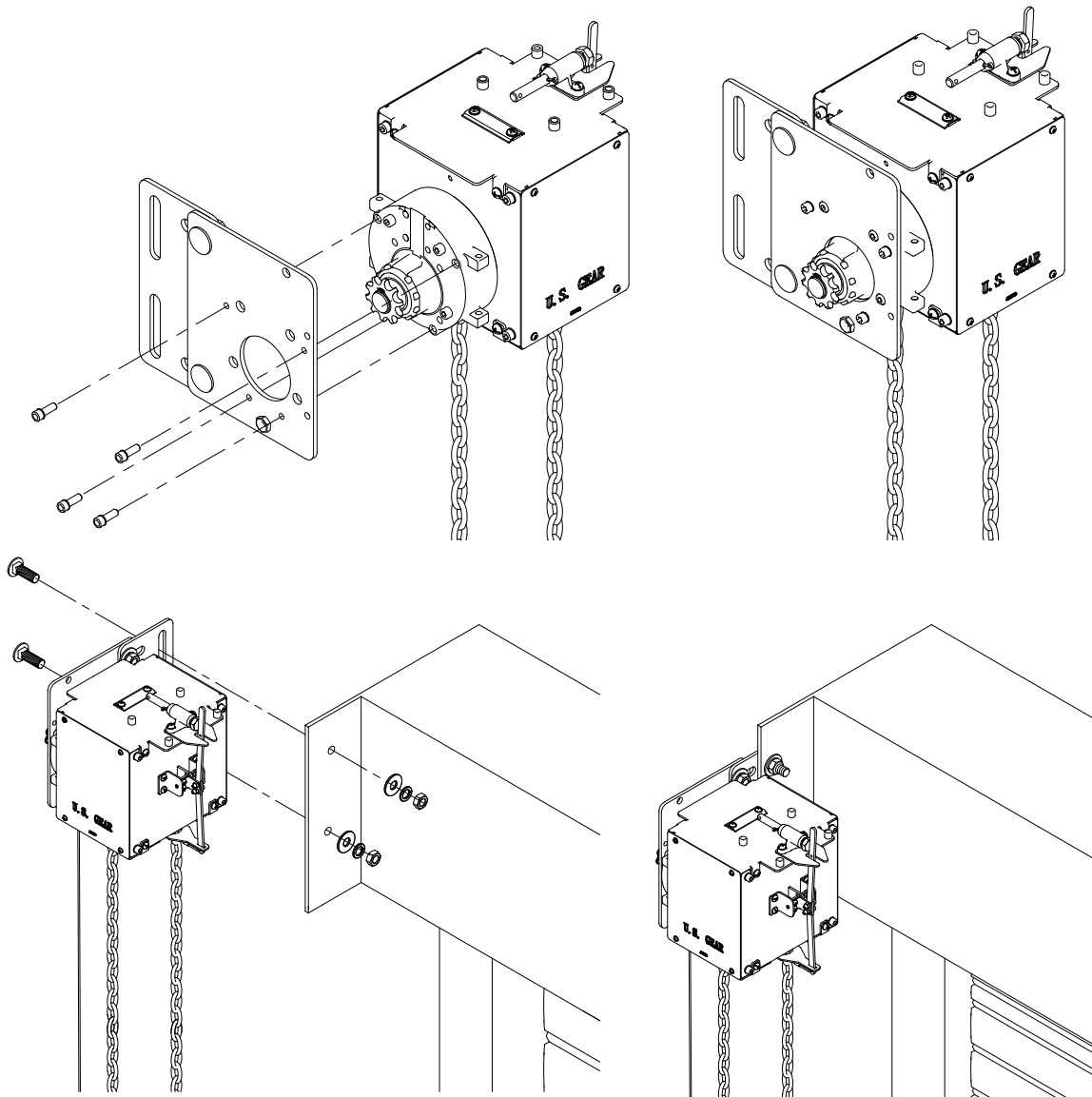
## INSTALLATION POSITIONS



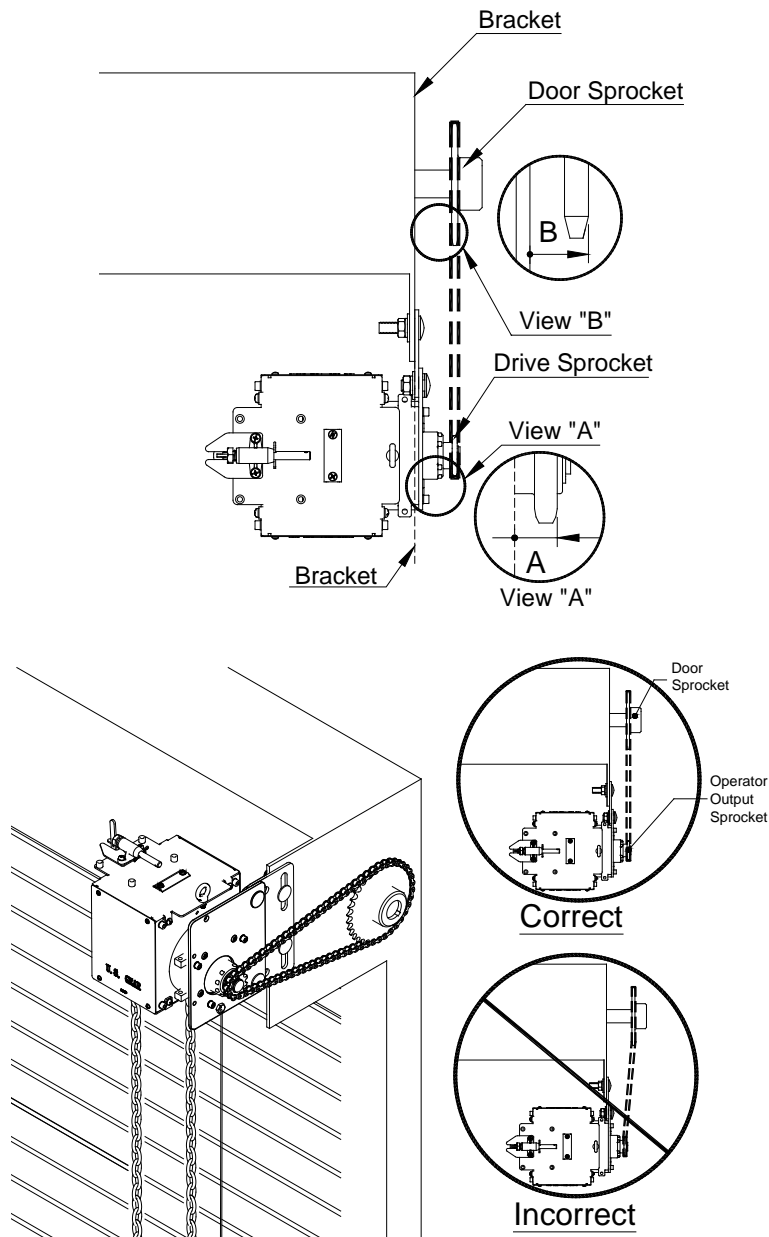
**NOTE:** Any change in mounting position may result in change of operator rotation. Consult instructions for changing direction (rotation).  
(LH=LS and RA, RH=RS and LA)

## **OPERATOR MOUNTING**

1. Before the operator is installed, verify that the door is properly operating and balanced.
2. Attach the operator to the mounting plate with the screws as shown.
3. Bolt the operator & mounting plate to the door bracket plate.



5. When the operator assembly is attached to the door bracket, be sure the door driven sprocket is properly aligned with the operator drive sprocket before securing to the shaft. The clearance (B) must be the same as the height (A).
6. The bracket must provide adequate support for the operator. Prevent play between the operator and the door shaft. The operator must be securely attached with the drive shaft parallel to the door shaft. It may be necessary to field brace the operator/bracket.

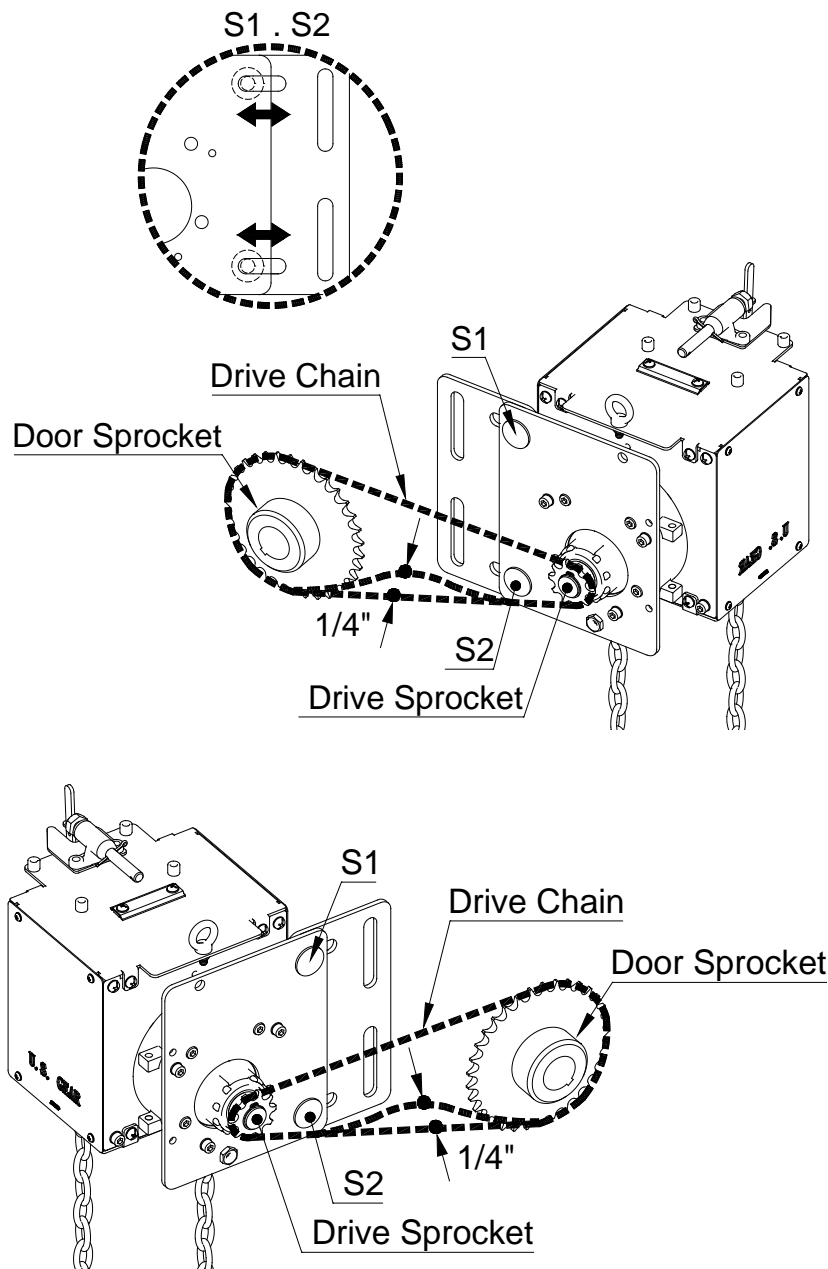


\* Hand hoist (FHCM) shown. Chain crank (FHKM) similar.

## ADJUSTING THE DRIVE CHAIN

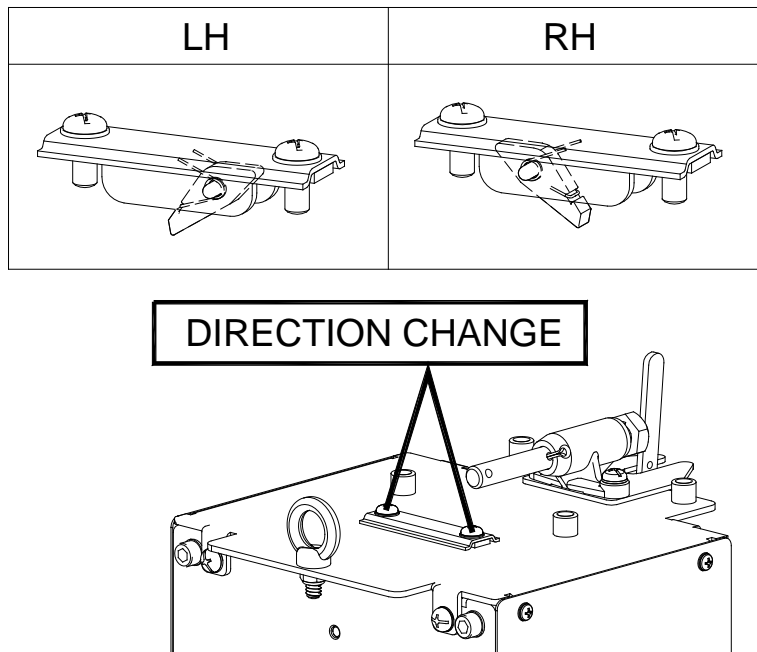
**NOTE: Use correct type, size and proper length of roller chain.**

1. Loosen screws (S1 and S2) and move the mounting plate to adjust the drive chain so that there is about 1/4" of slack when the chain is depressed.
2. Once the drive chain has been adjusted, tighten the mounting plate screws



## **CHANGING CHAIN HOIST OR CRANK DIRECTION (Changing Rotation)**

1. Use the operating chain or crank to verify correct direction (rotation). If pulling the chain or turning the crank opens the door, then the direction is correct. If pulling the chain or turning the crank closes the door, the direction is **NOT** correct. By reversing the internal direction control, the hoist or the crank can be changed from right hand to left hand or left hand to right hand.
2. To reverse chain hoist or crank direction, **make sure the door is in the closed position.** Remove the 2 screws in the top of the direction control plate. Remove the direction control plate, rotate it end-for-end, and reinstall the plate. Pull the hand chain or turn the crank to verify the direction is correct.



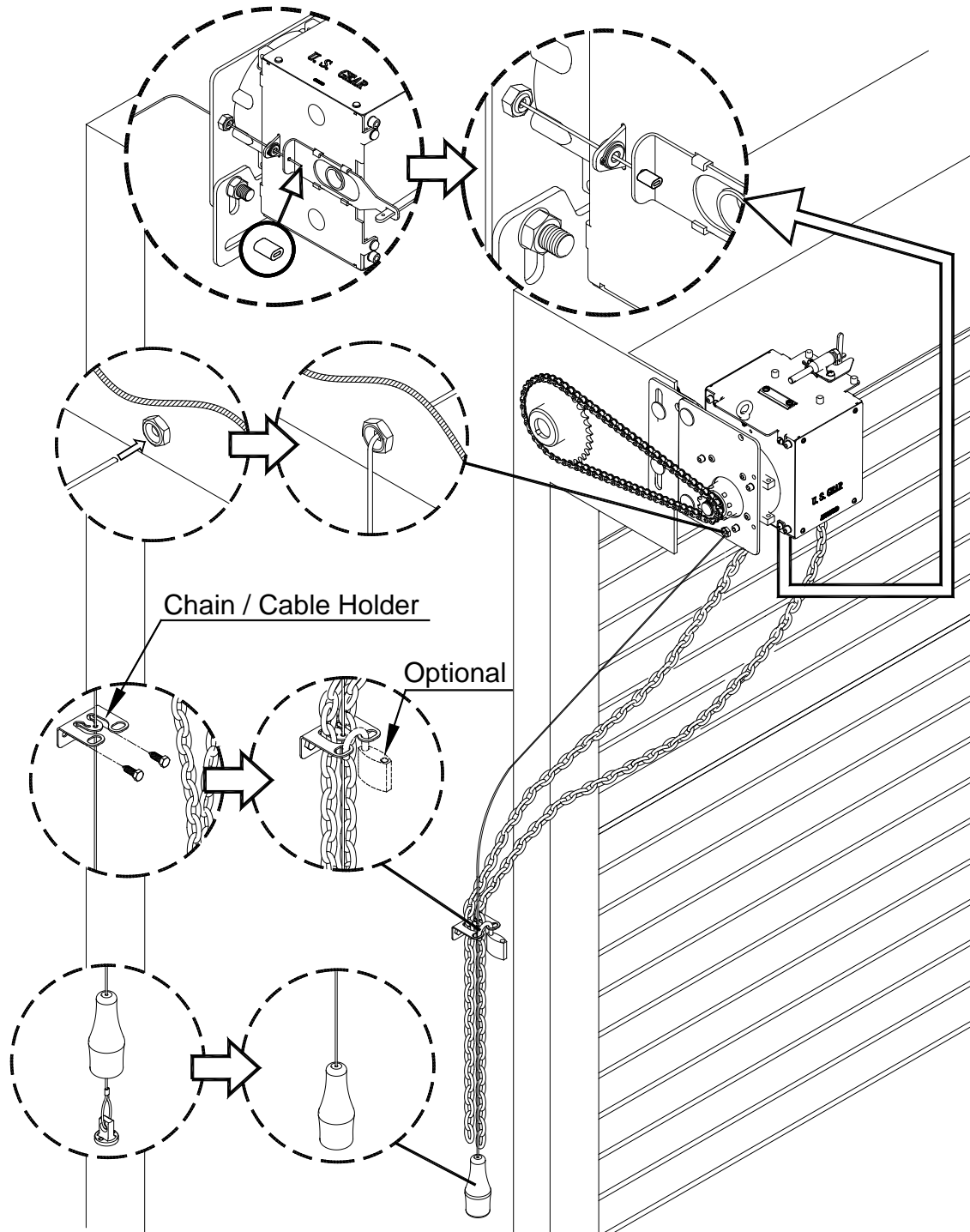
## **ADJUSTING HAND CHAIN AND RELEASE CABLE LENGTH**

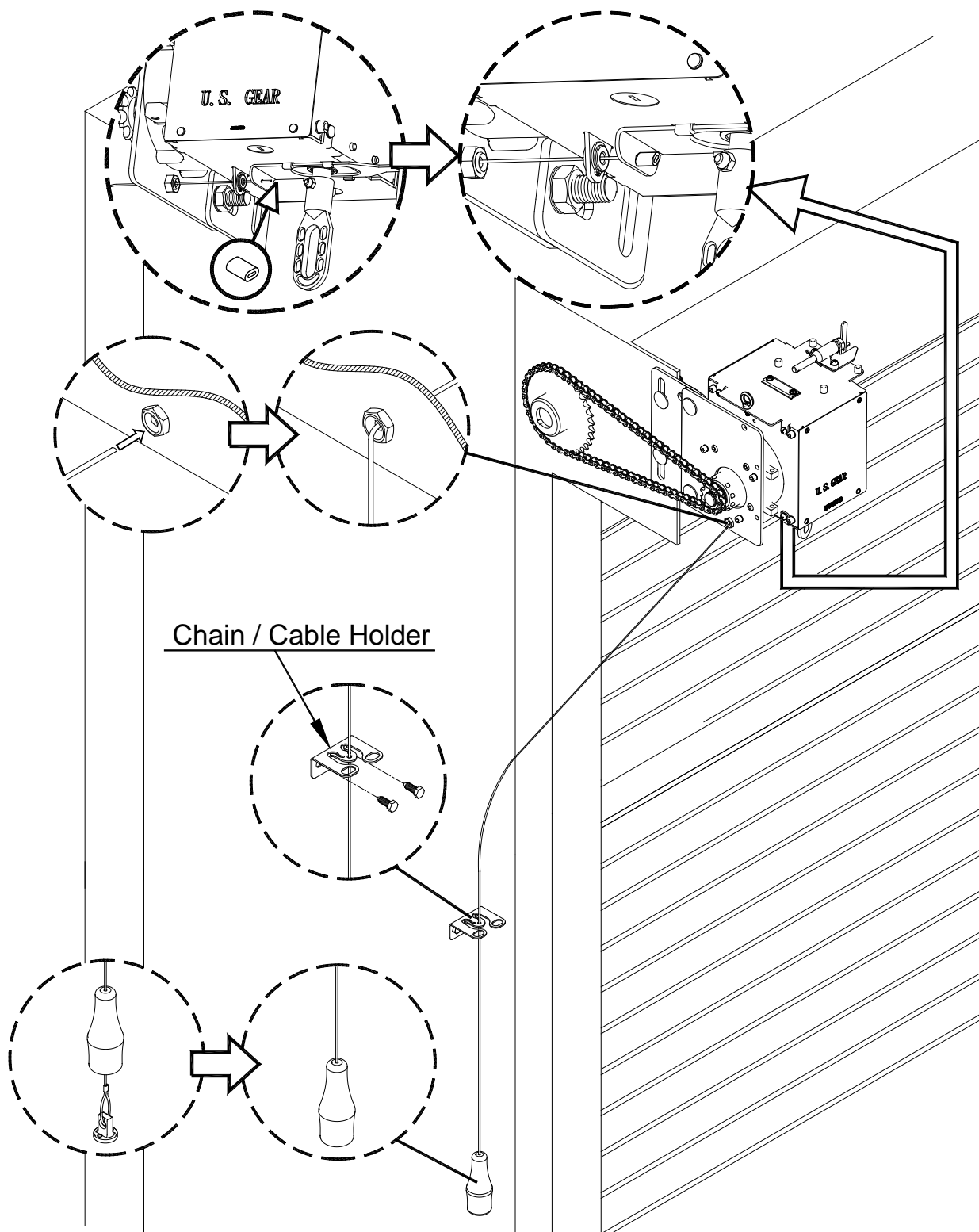
The hand chain and release cable are provided in standard lengths. If the hand chain is too long, cut and reconnect the chain with the different color connecting link provided. Completely close the connecting link so it is properly aligned.

Before adjusting the operating cable length, run the cable through eye bolt(s) installed in the mounting plate (or alternate location) to route the cable back towards the wall. (See next page for possible cable installation options.)

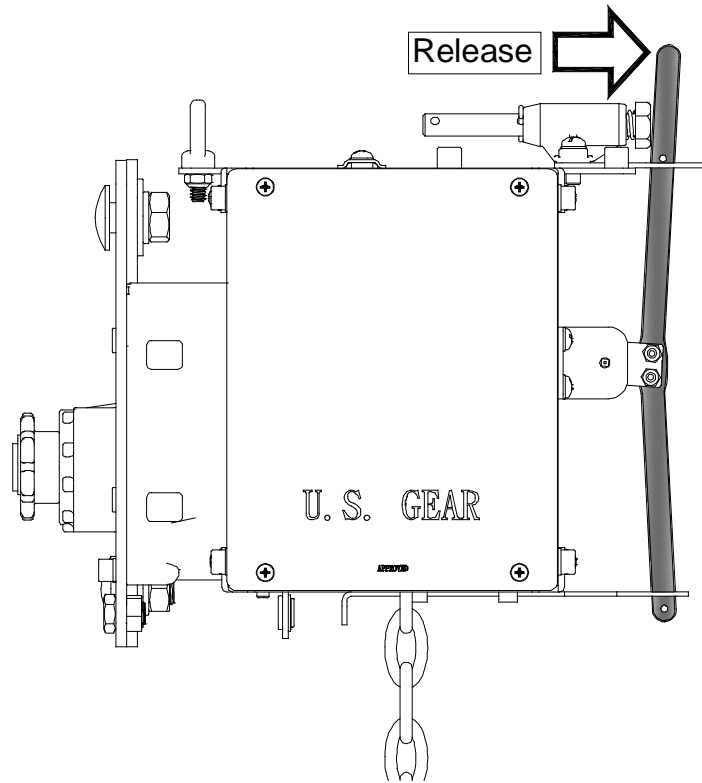
## **CHAIN/CABLE HOLDER**

Install at a convenient location.





## **BRAKE RELEASE LEVER (FHCM/FHKM)**



### **WARNING**

Releasing the door operator brake, or loosening or removing any part of the door operator drive system, can cause the door to close and cause death or serious injury. **Do NOT release the brake, or loosen or remove any part of the door operator drive system,** unless the door is closed, or the curtain is secured in the open position to prevent uncoiling.

1. Pressing the brake release lever will release the motor brake and can cause the door to move uncontrolled.
2. Fire doors using this operator have counterbalance springs that are adjusted during installation to allow the door to close automatically upon activation of the door operator release mechanism (brake release) without requiring a loss of spring tension.

## **IMPORTANT SAFETY INSTRUCTIONS**

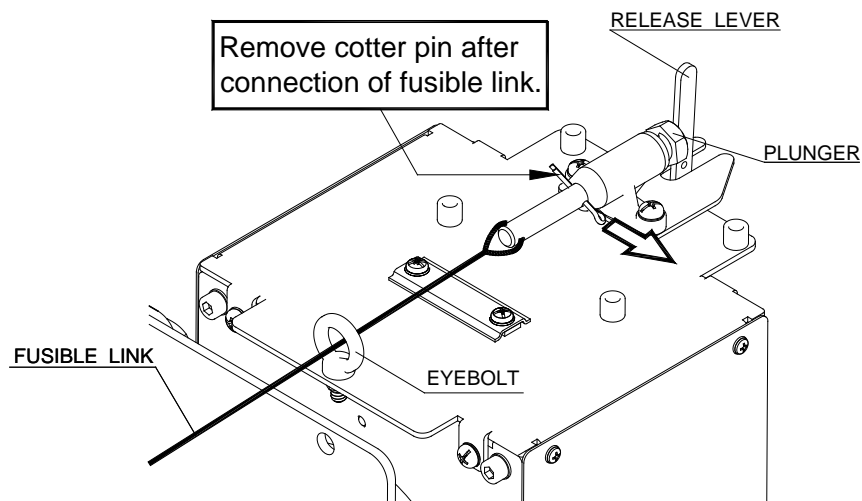
**WARNING** – To reduce the risk of severe injury or death:

1. READ AND FOLLOW ALL INSTRUCTIONS.
2. Personnel should keep away from a door in motion and keep the moving door in sight until it is completely closed or opened. NO ONE SHOULD CROSS THE PATH OF A MOVING DOOR.
3. KEEP DOORS PROPERLY OPERATING AND BALANCED. See Door Manufacturer's Owner's Manual. An improperly operating or balanced door could cause severe injury or death. Have trained door systems technician make necessary repairs.
4. **SAVE THESE INSTRUCTIONS.**

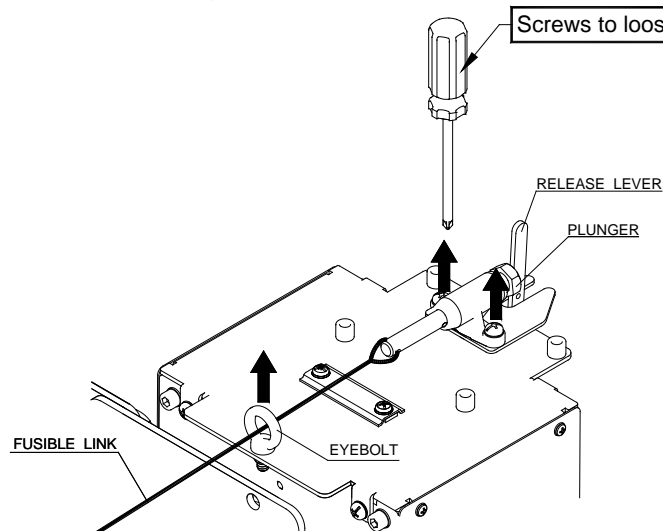
## **FUSIBLE LINK CONNECTIONS**

### **❖ REMOVE COTTER PIN FROM RELEASE ASSEMBLY AFTER INSTALLATION IS COMPLETE.**

Refer to the fire door installation instructions for connection of the release assembly or consult NFPA-80 and the authority having jurisdiction for fusible link location(s).



**NOTE:** Fusible link release can be substituted by AR Series alarm releases. Fusible link release can be removed by loosening the 2 screws.

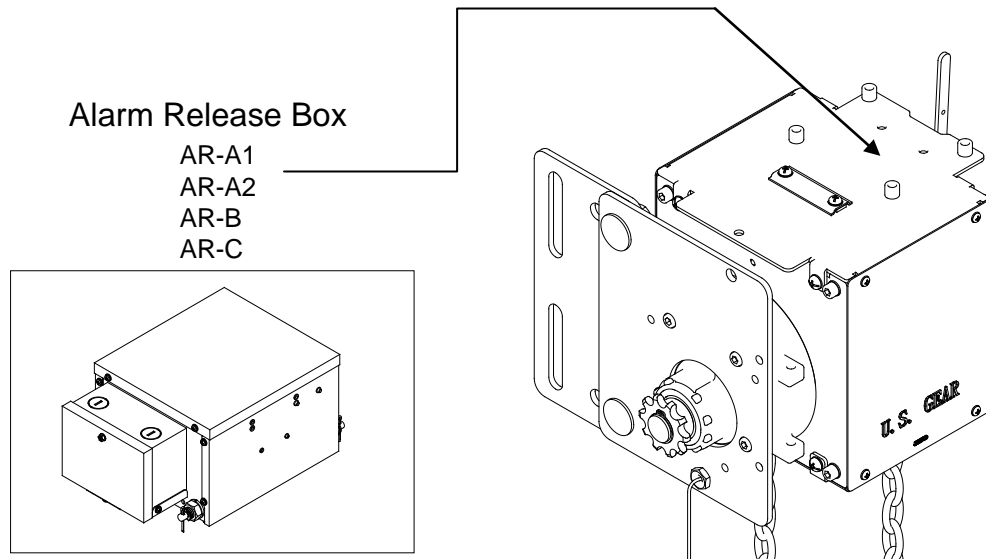


\*AR Series alarm release can be used as a substitute for standard fusible link release. Consult factory for details. Follow alarm release installation instructions.

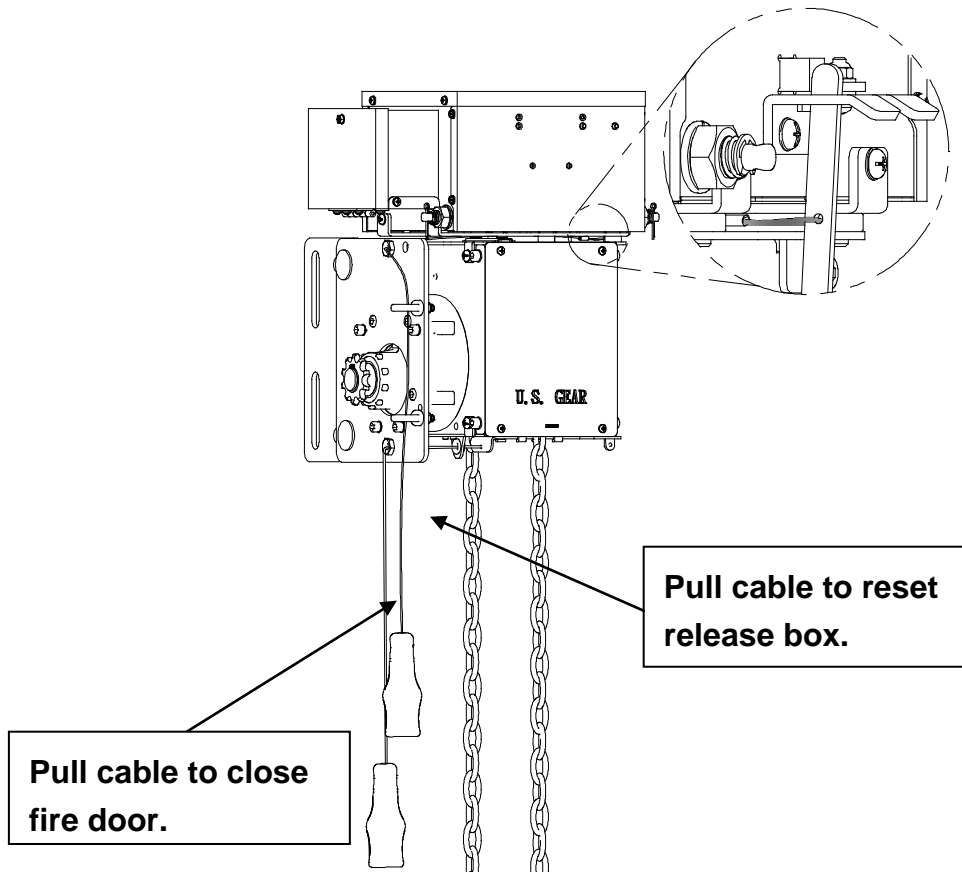
*AR Series alarm release is designed for 24VAC and 24VDC alarm connection. A 10 second delay in closing is provided for alarm release. If other types of alarm connection or functions are needed, consult wiring diagram for changes and alterations.*

## **ALARM RELEASE INSTALLATION**

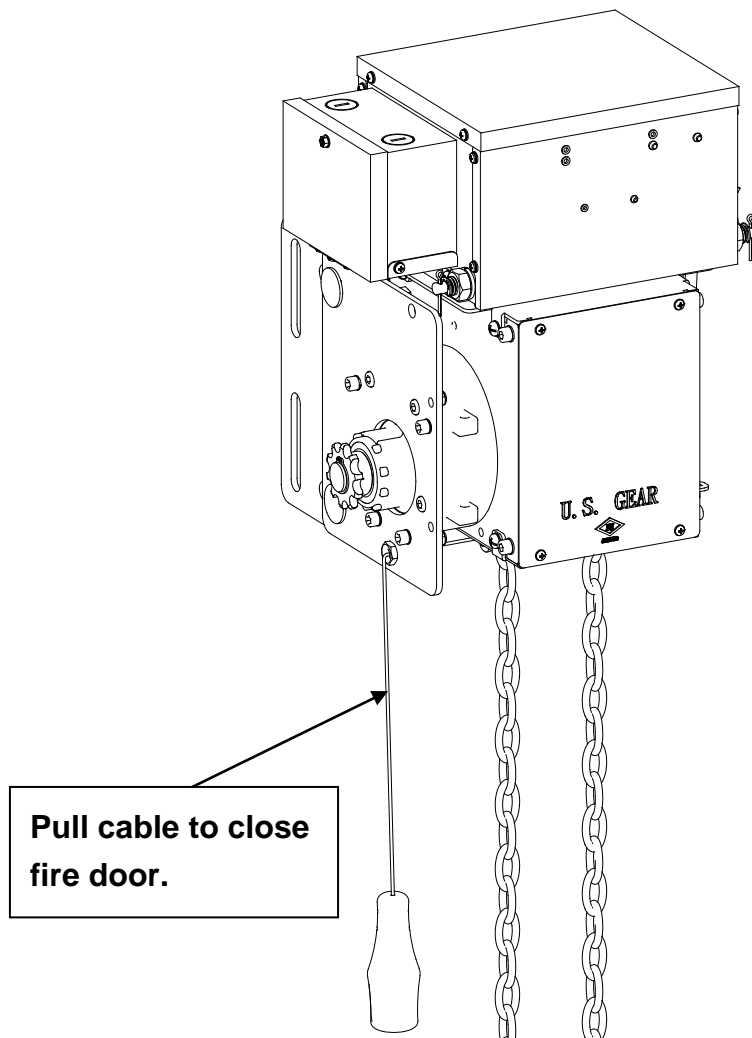
***Note: Refer to the alarm release installation instructions for details.***



**For AR-A1 and AR-A2 Alarm Release:**



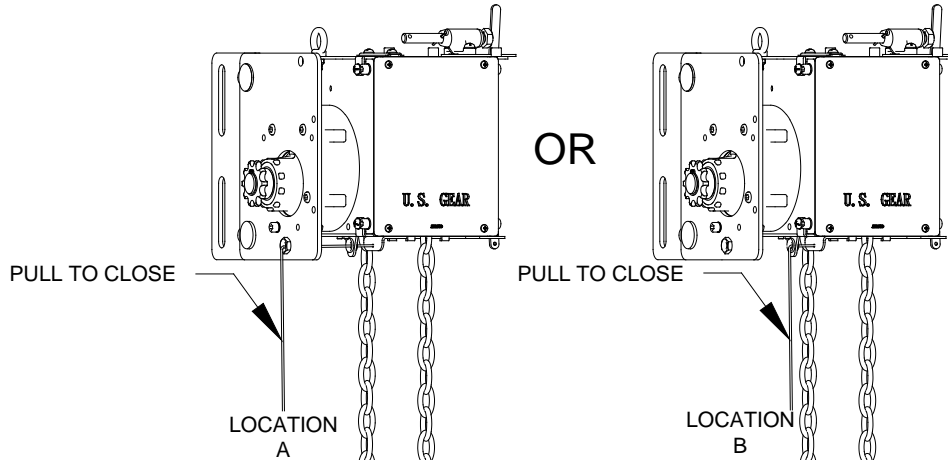
For AR-B and AR-C Alarm Release:



## **OPERATING INSTRUCTIONS**

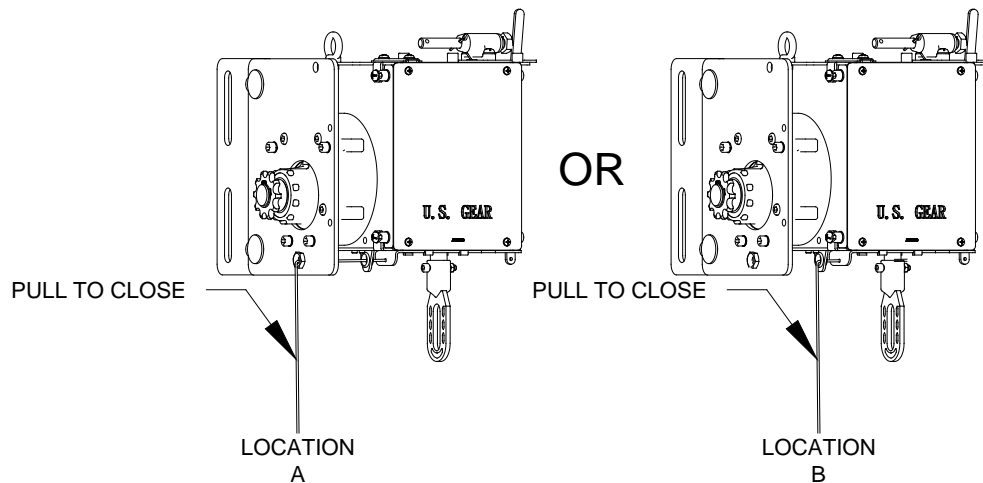
Pull hand chain or turn crank handle to open door. Pull down on release cable to close door. To stop door closing, let go of the cable.

**PULL HAND CHAIN TO OPEN THE DOOR. PULL RELEASE CABLE TO CLOSE.**



*Use a hand-over-hand motion when pulling on the hand chain to open. Exercise caution when pulling on the hand chain and maintain control of it. When the hand chain is not being used, it should be inserted in the chain keeper adjacent to the door guide. The chain keeper may be padlocked.*

**TURN CRANK HANDLE TO OPEN THE DOOR. PULL RELEASE CABLE TO CLOSE.**



*Use one hand to hold the crank handle and the other hand to turn it. Exercise caution when turning the crank handle and maintain control of it. When the crank handle is not being used, it should be removed from the crank gear box and stored in a safe and secure location.*

\*Change close cable location to A or B as needed.

## **MAINTENANCE INSTRUCTIONS**

The brake is a self-adjusting brake. It is maintenance free. The brake assembly requires no additional adjustment for its lifetime.



### **WARNING**

**Disconnect alarm power supply to the operator before servicing.**

Check the following items at the intervals listed:

CHECK LIST	DESCRIPTION	EVERY 3 MONTHS	EVERY 6 MONTHS	EVERY 12 MONTHS
Drive Chain	Check for excessive slack. Check & adjust as required Lubricate.	•		
Sprockets	Check set screw tightness	•		
Fasteners	Check & tighten as required		•	
Bearings & Shafts	Check for wear & lubricate	•		
Drop-test	Inspect door, drop-test for proper operation and full closure per NFPA-80			•

- ❖ Inspect and service whenever a malfunction is observed or suspected.
- ❖ Before servicing, always disconnect alarm power to the operator.
- ❖ All replacement parts must be obtained from the door manufacturer per NFPA-80.



### **WARNING**

**Do not place hands or tools in or near the operator when the door is opening or closing or when testing.**

**DROP TEST THE DOOR BY RELEASING THE FUSIBLE LINK AT LEAST ONCE A YEAR TO VERIFY PROPER FUNCTION OF THE FUSIBLE LINK MECHANISM.**