

INSTALLATION INSTRUCTIONS

FIELD DIFFERENTIAL REPLACEMENT

FOR FIRESTAR® DOOR MODELS 700, 700C

This installation manual provides the trained door technician information required to replace a differential.
READ COMPLETE INSTRUCTIONS BEFORE PROCEEDING WITH REPAIR.

Refer to the FireStar®, Model 700, 700C Rolling Fire Door Installation Instructions for additional safety warnings and precautions.
Manual may also be used as a reference for any items that are not addressed by this document.

Installation Manuals can be accessed at <https://www.Wayne-Dalton.com/Documents/FireStar-700-700C-Install.pdf>.

This manual is intended **ONLY** for professional use by a trained door systems technician.

Illustration to the right shows the complete fire door chain hoist assembly on a door. The circled portion is the differential assembly that needs to be replaced. The arrow points to the hoist drive chain that needs removed.

Please follow the standard work below when replacing units. Failure to do so may result in severe or fatal injury.

Refer to the FireStar®, Model 700, 700C Rolling Fire Door Installation Instructions for additional safety warnings and precautions. Manual may also be used as a reference for any items that are not addressed by this document.

⚠ WARNING

Rolling Fire Doors are large, heavy objects that move with the help of chain hoist. Since moving objects and chain hoist can cause injuries, your safety and the safety of others depends on you reading the information in this manual. If you have any questions or do NOT understand the information presented, call technical support at 1-800-764-1457 (Option 3).

In this section and those that follow, the words "**DANGER**", "**WARNING**", and "**CAUTION**" are used to stress important safety information. The word:

⚠ DANGER indicates an imminently hazardous situation which, if not avoided, is likely to result in death or serious injury.

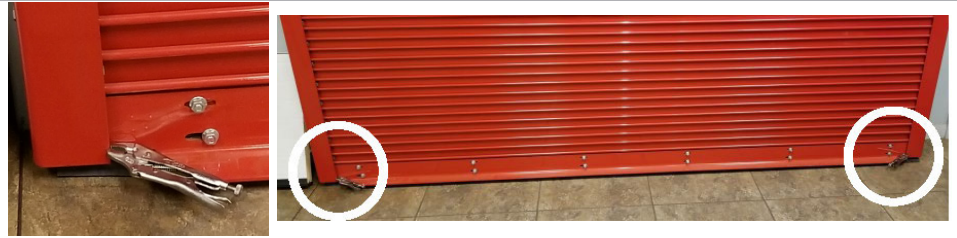
⚠ WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION indicates a potentially hazardous situation which, if not avoided, may result in injury or property damage.

The word **NOTE** is used to indicate important steps to be followed or important considerations.



1. Lower the door to the fully closed position.
2. Release the test handle so that the drop arm releases, disengaging the chain hoist. Move the chain to ensure it is disengaged.
3. Place C-Clamps on the guides directly above horizontal leg of the Bottom Bar on both sides to secure the door in the closed position.



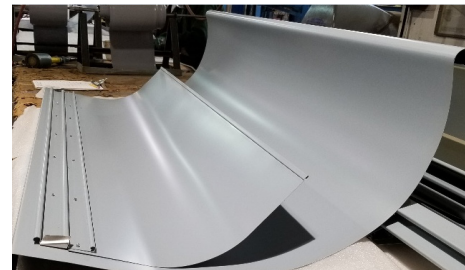
⚠ WARNING

Door may have enough tension to raise the door during repair work. This may result in the door opening while working on the bracketry which could cause serious or fatal injury.

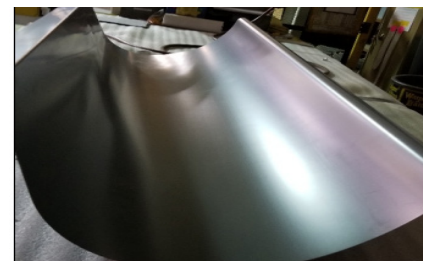
⚠ CAUTION

C-Clamps or vice grips must be placed on the guides to secure the bottom bar ensuring the door cannot rise during repair work. Failure to secure the door could result in uncontrolled door opening causing severe or fatal injury.

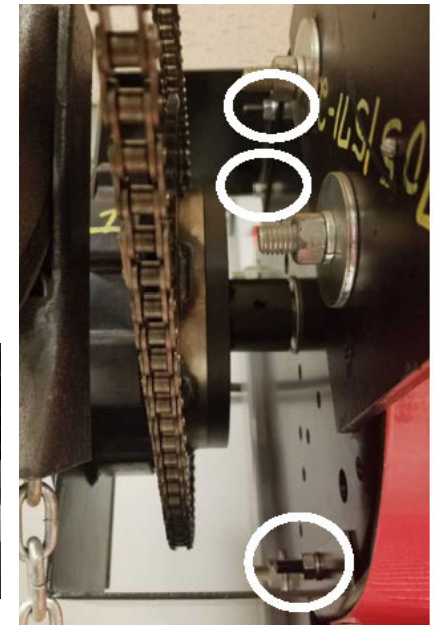
4. Remove the hood. If hood has a flame baffle, secure the baffle with the screws provided.
5. Disconnect fuse link from the drop arm.
6. Loosen the two set screws on hub of the differential assembly.
7. Remove the three bolts that mount the assembly housing to the bracket plate and set bolts/nuts/washers aside in a safe place.



BAFFLE HOOD



REGULAR HOOD



⚠ WARNING

If assembly is not properly supported/controlled during removal it may be dropped causing severe or fatal injury.

⚠ CAUTION

To avoid possible injury, persons with lifting limitations should not perform step 8. Two installers may be needed to remove the assembly in step 8.

8. Pull assembly off and place entire assembly on a flat surface. If the governor key comes out of the hub, place it in a safe location for use later.

9. Disconnect the hoist drive chain by removing the master link and set chain/link aside in a safe place.

10. Remove bolt directly above drop wheel. Set aside drop wheel, washer, and bolt in a safe place.

11. Separate governor bracket from differential assembly.

12. Swap field unit with the replacement unit. Make sure to remove the governor key from original unit and insert into replacement unit. (See picture)

13. Place governor bracket back onto differential assembly ensuring key is in place.



⚠ WARNING

Improper installation may result in chain coming off and door dropping. If chain has greater than 1/2" of slack it may come off of the sprockets allowing the door to free fall. This could result in severe or fatal injury.

⚠ CAUTION

Roller chain must be set such that it has between 1/4" and 1/2" of slack.

14. Reconnect the hoist drive chain using the master link removed in step 9. Check/adjust chain slack to between 1/4" and 1/2".

NOTE: EXCESSIVELY TIGHT ROLLER CHAIN CAN PREVENT DOOR FROM DROPPING PROPERLY DURING DROP TEST OR IN CASE OF ACTUAL FIRE.

15. Place drop wheel back onto the governor shaft and secure with bolt and washer.

Parts Sent For Repair:

Fuse Link Kit, Master Link and Drive Chain, Differential Assembly, Baffle Screws

⚠ WARNING

If assembly is not properly supported/controlled during removal it may be dropped causing severe or fatal injury.

⚠ CAUTION

To avoid possible injury, persons with lifting limitations should not perform step 16. Two installers may be needed to replace the assembly in step 16.

16. Ensuring that the key is still in the differential hub or on the drive shaft of the door, slide the entire assembly back onto the shaft. Make sure that the differential hub does not bottom out on the drive shaft. Maintain a 1/4" minimum clearance between the inside of the differential hub and the end of the drive shaft.

NOTE: EXCESSIVELY TIGHT ROLLER CHAIN CAN PREVENT DOOR FROM DROPPING PROPERLY DURING DROP TEST OR IN CASE OF ACTUAL FIRE.

17. Attach housing to the bracket plate using the bolts that were removed in step 6 and tighten the set screws in the differential hub. Set screws should be tightened snugly by hand with a hand or ratcheting allen wrench.

18. Inspect cables, pulleys, and fuses. Replace as needed. Refer to installation instructions for details on this step.

19. Reconnect fuse link cable to the drop arm. Adjust cable tension as needed.

20. Reinstall hood. If flame baffle, remove screws used in step 2 above.

21. Using the chain hoist raise door until the Bottom Bar contacts the stops.

22. Operate door several times to ensure it is in good working condition.

WARNING

Winding bar can dislodge while add/removing tension. Winding bar must fit snugly into holes in adjusting wheel. Do not use loose fitting bar or screwdriver which could dislodge resulting in possible severe or fatal injury.

WARNING

Failure to pin adjusting wheel to bracket lug will result in rapid descent of door when operated causing possible serious injury or fatal injury.

WARNING

Door descends rapidly during test procedure. Keep all persons clear of opening or severe or fatal injury could occur.

CAUTION

Ensure that the proper winding bar is being used and that it fits snugly in adjuster holes causing severe or fatal injury.

CAUTION

Adjusting wheel must be pinned to bracket lug when desired tension is reached causing severe or fatal injury.

CAUTION

Rope off opening and keep persons from entering area during test drop. Secure the area.

23. Hoist the door to the full open position such that the Bottom Bar is resting on the Bottom Bar stops. Place a clamp on each guide no more than 6" below the Bottom Bar. Make certain that the clamping force is sufficient to stop the door when it begins to fall. Release the test handle so that the drop arm releases disengaging the chain hoist. Move the chain to ensure it is disengaged. Gradually remove spring tension so that the door drops to the clamps. If door drops too fast add spring tension. Lock the adjusting wheel with pin in the closest hole when desired tension and drop speed is reached.

24. Perform required drop test per NFPA 80.

25. Two drop tests are required by all means of activation.

26. Return one completed drop test form to customer care at origin plant. Retain one copy for repairing company. One copy must be maintained on file for AHJ.

Return completed drop test form to:

14512 Lincoln Way East
Dalton, Ohio, 44618

Tech Support 800-764-1457 (Option 3)