

## 4-1/2" AMERICAN-DARLING® MARK 73-5 TESTING



### Drainage Test for Dry Barrel Hydrants(Draining -Type)

**WARNING: FAILURE TO RELIEVE PRESSURE CAN RESULT IN THE CAP BLOWING OFF, CAUSING INJURY OR DEATH.**

1. Following the pressure test, close the hydrant main valve.
2. Carefully remove one outlet nozzle cap and place the palm of one hand over the outlet nozzle opening.
3. Drainage should be sufficiently rapid to create a noticeable suction.
4. If the hydrant fails the drainage test, replace and tighten the nozzle cap, partially open the hydrant (1 or 2-turns) with the outlet nozzle caps on to create a pressure that will flush and clear the drain assembly. If this fails to restore proper drainage, then the drain assembly should be removed and inspected. If the drain assembly is clear, then the problem may be that the drain outlets is are plugged from outside the hydrant. Repair will require digging down around the outside of the hydrant and clearing the drain outlets.

### Placing a Hydrant Into Service

1. After testing and backfilling, the hydrant should be safely flushed and tested to be sure that it is bacteriologically safe before it is put into service.
2. Tighten the outlet nozzle caps so they will not be excessively tight, but tight enough to prevent their removal by hand.
3. Clean the hydrant exterior to remove dirt accumulated during installation. Touch up any areas where factory coating was damaged during handling or installation. Use an appropriate top coating or contact factory for touch-up coatings.

## 4-1/2" AMERICAN-DARLING MARK 73-5 OPERATION, INSPECTION, AND MAINTENANCE

### Operation

AMERICAN Flow Control recommends you follow the general Inspection and Installation guidelines outlined in AWWA Manual M17 for Installation, Field testing, and Maintenance of Fire Hydrants and/or as recommended below. The thrust bearing hydrant requires a minimum of torque to operate. **WARNING: Special care should be taken in the installation, inspection and repair of pressure containing devices such as valves and hydrants. FAILURE TO FOLLOW PROPER PRACTICE AND GUIDELINES CAN RESULT IN SERIOUS INJURY OR DEATH. High pressure and water hammer, due to rapid opening or closing of a hydrant or valve, can also cause major damage to the hydrant, valve, water main, fire hose, or other attached equipment.** It is possible to damage the hydrant by forcing it beyond its limits of travel with excess torque; therefore:

1. Check direction of opening as marked on the hydrant cover.
2. To open, turn the operating nut until the main valve is fully open and the travel stop nut limits further opening. **Do not force the hydrant in the opening direction beyond fully-open as indicated by sudden resistance to turning.** If water does not flow when the hydrant is open, it is probably due to a closed valve upstream from the hydrant. Always open the hydrant completely, never only partially. A hydrant that is partially open will allow pressurized flow through the drain valve, which may wash away the soil from the area surrounding the base, or the partially open main valve may trap small stones or other debris between the valve seal and seat.
3. To close, turn the operating nut until the valve stops the flow. **It is not necessary to close this style of hydrant with great force.** Once the flow has stopped, turn the operating nut in the opening direction about 1/4 turn to take the strain off the operating parts of the hydrant. If the hydrant does not shut off completely, do not attempt to force the hydrant to close. Debris and small stones may be trapped in the valve seat and may be preventing the hydrant from closing. Partially open and close the hydrant several times to help dislodge the debris. If this does not work, safely remove the hydrant operating rod assembly, remove the debris and repair as detailed in subsequent sections of this manual.
4. **WARNING: FAILURE TO RELIEVE PRESSURE CAN RESULT IN THE CAP BLOWING OFF, CAUSING INJURY OR DEATH.** Make sure the auxiliary gate valve in the lateral between the main and the hydrant is closed and that the hydrant is not charged with pressure when removing caps.



### Inspection

1. It is recommended that hydrants be inspected twice per year to ensure their satisfactory operation. After each use (especially in cold weather) hydrants should be specifically inspected for drainage.
2. Routine inspection should cover the points outlined in AWWA Manual M17 and include (but not be limited to) the following points:
  - a. External inspection of paint, caps, chains, etc.
  - b. Checking traffic type hydrants for damage to the breakaway feature.
  - c. Using a listening device to check the main valve for leakage.
  - d. Statically testing the hydrant to look for leakage at gaskets, caps, O-rings and drains.
  - e. Verifying the hydrant drains properly.
  - f. Cycling the hydrant from full open to full close.
  - g. Check for routine lubrication needs which includes but may not be limited to loss of lubricant, nozzle caps and operating mechanism.
3. At time of inspection, flush the hydrant to remove any foreign material from the hydrant and the lateral. If necessary, flush the drains by filling the hydrant and then cycling open the main valve two times to force water out of the drains under pressure. If the hydrant is non-draining type, pump water out after flushing.

### Maintenance

**AMERICAN Flow Control strongly recommends that you follow routine maintenance on fire hydrants as outlined in AWWA Manual M17 for Installation, Field Testing, and Maintenance of Fire Hydrants. The ease of operation and the frequency of repair depends on the condition of the water system and the maintenance given. Dirt, gravel and other foreign material in the hydrant may prevent it from closing or draining properly, which may result in damage to the hydrant main valve. Under most operating conditions AMERICAN Flow Control recommends semi-annual lubrication and inspection of fire hydrants.**

**Note: Where grease is specified, use an AMERICAN Flow Control recommended food grade grease.**

1. Twice per year, open the hydrant completely and flush for several minutes. Open and close valve to make sure it works properly, and check for leaks.
2. Remove a cap and verify that the hydrant is draining properly. After the main valve is closed, the water in the hydrant should drain rapidly. If it does not, the drain ports may be clogged. To clear drain ports, install nozzle cap, and tighten until water tight, then open hydrant two or three turns for several minutes. This will leave drain port partially open and permit water pressure to wash out the obstruction. If this method is unsuccessful, remove the operating rod assembly and clean the drain mechanism. If neither of above methods permits water to drain, it indicates that the drainage area around the hydrant base should be rebuilt.
3. If it is necessary to add lubricant, turn operating nut back from tight closed position until it turns freely, then remove pipe plug in top of operating nut and pump food grade grease into operating nut. **DO NOT OVER PRESSURE LUBRICANT OR OVERFILL HYDRANT WITH LUBRICANT. FAILURE TO FOLLOW THESE INSTRUCTIONS WILL RESULT IN HARD OPERATION OF THE HYDRANT. SHOULD HARD OPERATION OCCUR REFER TO "TROUBLE SHOOTING GUIDE" DETAILED IN THIS MANUAL.**
4. Remove all nozzle caps, clean rust or corrosion from threads of nozzles and caps, and replace cap gaskets if necessary. Apply a light coat of grease to nozzle threads before replacing cap.