

4-1/2" AMERICAN-DARLING® MARK 73-5 PARTS LIST



Part No.	Qty.	Description	Material
73-39-9	8	Barrel Bolt and Nut	Plated Steel
73-40	1	Valve Top	Ductile Iron
73-40-1*	2	Valve Top Facing	Polyethylene
73-40-2*	4	Facing Screws	Steel
73-40-4	1	Valve Top Clevis and Clip Pin	Stainless Steel
73-41	1	Hydrant Valve	EPDM Rubber
73-42	1	Valve Bottom	Ductile Iron
73-46-2	1	Flanged Base	Ductile Iron
73-46-2A	1	Vertical Entry Base	Ductile Iron
73-46-5	1	Mechanical Joint Base	Ductile Iron
73-46-PE	1	Mechanical Joint Plain End Base	Ductile Iron
73-46-TY	1	TYTON® Base	Ductile Iron
73-46-6AA	1	ALPHA™ Restraint Joint Base	Ductile Iron
73-46-6AX	1	ALPHA™ XL Restraint Joint Base	Ductile Iron
73-144	1	Weather Shield	Rubber
73-145	1	Rod Sleeve	Bronze
73-146	2	Sleeve O-ring	Buna N
73-36-1	2	Hydrant Seat O-ring	Buna N

* parts use in MK73 & MK73-1 only

Notes

- Size and shape of nut on operating nut and cap, threading on nozzles and caps, and the direction of opening made to specifications.
- Cap chains are not furnished unless specified.
- Working pressure 250 psig. Factory test pressure 500 psig.
- Hydrant meets or exceeds the ANSI/AWWA C502 standard.
- Upper barrel can be rotated 360°.
- UL Listed and Approved by FM Approvals at 250 psig in allowable configurations.
- Certified as complying with Certified to NSF/ANSI 61 and NSF/ANSI 372, which exhibit compliance with the U.S. Safe Drinking Water Act
- National Standard and other common cap configurations are constructed of ductile iron. Other offerings may be constructed of gray cast iron.
- Nominal turns to open is 19 1/2.
- TYTON® is a registered trademark of United States Pipe and Foundry Co., LLC.
- ALPHA™ is a trademark of Romac Industries, Inc. (U.S. Patent 8,894,100)

ALPHA restraint joints will accommodate the following pipe types and sizes:

ALPHA

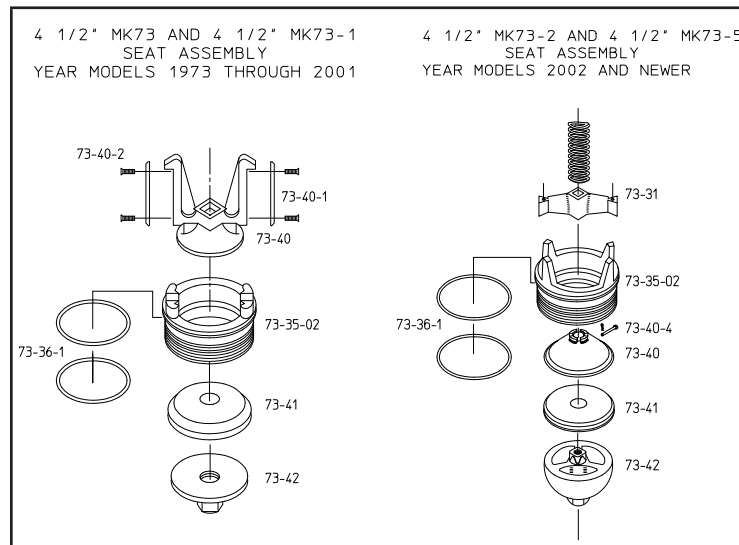
- Ductile iron per AWWA C151
- PVC per ASTM D1785 (Schedule 40 and 80)
- PVC per ASTM D2241 (SDR 21)
- PVC per AWWA C900
- HDPE per AWWA C906 (SDR 9, 11, 13.5, and 17)

ALPHA XL

- Gray iron (Class A, B, C, and D)

Nominal Size (in)	ALPHA OD Range (in)	ALPHA XL OD Range (in)
6	6.60 - 7.00	6.90 - 7.10

MARK 73, 73-1, 73-2 & 73-5 VALVE COMPARISON



Spare Parts

Spare parts shall include the following:

O-ring for housing, O-ring for housing cover, O-ring for nozzles, barrel flange gasket, base flange gasket, main valve seat gasket or O-ring, hydrant valve and cap gaskets.

Traffic model hydrants also include traffic repair kits.

4-1/2" AMERICAN-DARLING® MARK 73-5 TRAFFIC DAMAGE REPAIR

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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.

Should a hydrant be struck by a vehicle such that the upper barrel is separated/broken from the lower barrel, the following procedure should be followed to reassemble the hydrant and make it operational. (A traffic damage repair kit for

1. Although it is possible to repair break features of the hydrant under pressure, the extent of a traffic impact may be unknown. It is considered safe practice to close the auxilliary valve ahead of the hydrant, or use another means to cut off flow and pressure to the hydrant.
2. Inspect the upper barrel (73-18-60) to determine if any of the components are fractured. Traffic impact usually results in a fractured traffic flange (73-29-45), broken or bent flange bolts (73-39-9), a fractured rod coupling (73-29-30) and damage to the gasket between the upper and lower barrels (73-38-1). Should cracking or fracture of any component occur, it should be replaced.
3. The operating nut (73-1) should be rotated to verify that it turns smoothly and easily and that the hydrant rod is centered in the barrel. (Should there be any binding or difficulty in turning the operating nut, the upper barrel should be disassembled and inspected for damaged parts.)
4. Remove the broken coupling (73-29-30) and verify that the upper valve rod (73-30-11) is not bent or damaged.
5. Inspect the lower barrel (73-19-SR) and clean any dirt or debris from the gasket seating surface.
6. Inspect the lower barrel flange (73-29-13) to determine that it will receive the new bolts contained in the traffic damage repair kit.
7. Turn the operating nut to place the hydrant in the full open position; this will extend the upper hydrant rod and ease the replacement of the rod coupling (73-29-30). Remove the broken rod coupling segment from the lower valve rod and verify that the rod end will receive the new coupling.
8. Orient the new rod coupling such that the end with the word "TOP" is placed on the upper hydrant rod such that the hole in the coupling aligns with the half hole on the hydrant rod. Lock coupling in place with stainless steel coupling pin (73-29-31) and clip pin.
9. Lift the upper barrel assembly and position it over the lower barrel while aligning the hydrant rod coupling on the upper hydrant rod with the lower hydrant rod such that the hole in the coupling aligns with the half hole on the lower hydrant rod. Slide the coupling over the lower valve rod and insert coupling pin and clip pin. Lift upper barrel assembly to ensure upper and lower rods are connected to coupling.
10. Turn operating nut in the closing direction which will lower the upper barrel onto the lower barrel. Rotate the hydrant to position the hose and pumper nozzles in the desired orientation to the curb. Be careful to position the barrel gasket (73-38-1) to achieve full coverage of the end faces of the upper and lower barrels. Install new traffic flanges (73-29-45). (Note: While lowering the upper section onto the lower section, a pinch point exists. Keep fingers clear.)
11. After nuts have been started on all bolts, tighten the flange bolts in an alternating pattern to a torque value of between 55 and 60 ft-lbs.
12. Once the hydrant has been reassembled, it is essential that it be operated to determine that it is fully functional via the following procedure.
13. Open the auxiliary or secondary gate valve in the lateral to allow water pressure to the hydrant.
14. The hose and pumper caps should be tightened and the operating nut turned in the open direction. After cracking the valve seat open, the operating nut should rotate freely without binding.

Traffic Damage Repair Kit Parts

Traffic Damage Repair Kit Parts		
73-29-31	2	Rod Coupling and Clip Pin
73-29-30	1	Breakable Rod Coupling
73-29-45	2	Traffic Flange
73-38-1	1	Barrel Gasket

4-1/2" AMERICAN-DARLING® MARK 73-5 EXTENSION INSTRUCTIONS

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Procedure

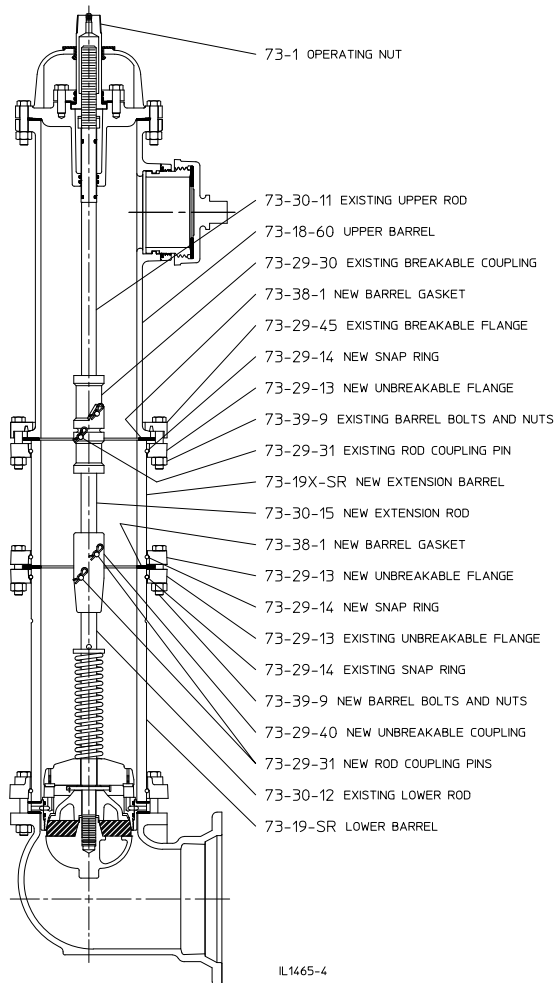


The 4-1/2" AMERICAN-DARLING MARK 73-5 hydrant is extended at the barrel flange above the ground line, eliminating the need for excavation.

Parts Required for Hydrant Extension

73-19X-SR	1	Extension Barrel*
73-29-13	2	Unbreakable Flanges
73-29-14	2	Snap Rings
73-29-31	2	Rod Coupling Pins
73-29-40	1	Unbreakable Rod Coupling
73-30-15	1	Extension Rod
73-38-1	2	Barrel Gaskets
73-39-9	8	Barrel Bolts and Nuts

*Extension barrels and rods are available in increments of 6 in., starting at 6 in. long.



NOTE: The use of extension lengths made by more than one extension kit is not recommended. When combined extension kit and existing trench depth exceeds 9 ft, replace existing lower rod with appropriate length lower rod instead of using rod extension. When combined length exceeds 12 ft rod guides are recommended for lower rod.

1. Close hydrant valve. It is considered safe practice to close the auxiliary valve ahead of the hydrant, or use another means to cut off flow and pressure to the hydrant. Always standing to the side of the hydrant and away from the direction of the hydrant caps, loosen one of the hose caps to relieve any pressure that may be present in the hydrant barrel. **WARNING: FAILURE TO RELIEVE PRESSURE CAN RESULT IN THE CAP BLOWING OFF, CAUSING SERIOUS INJURY OR DEATH.**
2. Remove existing barrel bolts and nuts (73-39-9).
3. Remove existing traffic barrel flange halves (73-29-45).
4. Raise upper barrel (73-18-60) from lower barrel (73-19-SR) by turning operating nut (73-1) in the opening direction and lifting the upper barrel at the same time to prevent the hydrant valve from opening.
5. Raise the upper barrel until there is sufficient separation from the lower barrel to permit removing of the lower rod coupling pin (73-29-31) and clip pin. **Block upper barrel in this position to ensure protection while removing the coupling pins.**
6. Safely remove lower rod coupling pin and clip pin. Lift and remove upper barrel assembly. **Use proper lifting techniques to avoid injury.**
7. Assemble new unbreakable rod coupling (73-29-40) to one end of the new extension rod (73-30-15) in position as shown. Insert a new coupling pin (73-29-31) and clip pin. Assemble other end of new unbreakable rod coupling to existing lower rod (73-30-12) using a new coupling pin (73-29-31) and clip pin.
8. Remove old gasket and place new barrel gasket (73-38-1) on lower barrel.
9. Place assembly on lower barrel making sure gasket and hydrant barrel inside diameters are aligned.
10. Assemble new barrel bolts and nuts (73-39-9). Torque in an alternating pattern to 80 ft-lbs.
11. Place new barrel gasket (73-38-1) on extension barrel. Lift upper assembly and attach existing breakable rod coupling (73-29-30) to new extension rod (73-30-15). **Use proper lifting techniques to avoid injury.**
12. **Block the upper barrel assembly as in Step 5** and insert a new coupling pin (73-29-31) and clip pin in the existing breakable rod coupling (73-29-30).
13. Lower upper barrel assembly to the extension barrel by turning operating nut in the closing direction, making sure gasket remains centered. Lift barrel flange and assemble breakable flange halves by using existing barrel bolts and nuts (73-39-9). Torque in an alternating pattern to 55-60 ft-lbs. Important: **Make sure gap between barrel flange (73-29-45) and new barrel flange (73-29-13) is equal around circumference of flanges.**
14. Safely shell test hydrant for joint tightness.