

CLOW

Clow Valve Company

902 South 2nd St.
Oskaloosa, IA 52577

Telephone: 641-673-8611
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INSTALLATION, OPERATION AND INSPECTION MANUAL MEDALLION FIRE HYDRANT

GENERAL: Inspect all hydrants at time of delivery for shipping damage and to confirm compliance with specifications. Hydrants are fully tested per the appropriate standards and properly packaged by the manufacturer. The hydrants should be stored in such a manner to protect them from the weather. Water and debris should not be allowed to collect in the hydrant. Any packaging should be replaced if removed for inspection. Proper slinging and handling methods should be used when moving hydrants. AWWA standard M17 (Installation, field testing, and maintenance of fire hydrants) is a good reference.

- INSTALLATION:**
1. Check that the hydrant and end joints are clean. Again check for damage to the hydrant. Open and close the hydrant to insure proper operation. Close hydrant before placing in trench.
 2. Prepare pipe ends according to manufacturer's instructions. Install hydrant per proper methods according to end joint type. All piping should be properly supported to avoid line stress on the hydrant and adjacent valves.
 3. Suggested installation practice for "break flange" hydrant styles.

For hydrants intended to fail at the ground line joint on vehicle impact, it is good practice to install with extra care to ensure that there is adequate soil resistance. In loose or poor load-bearing soil, it is suggested that concrete blocking be installed around the hydrant barrel at or near the ground line.

TESTING: Tighten all caps except one for venting air. Turn the main valve to fully open. After all air has escaped and water appears, tighten cap and check nozzles, flange connections and seals for leakage.

Fully close the main valve and remove one hose nozzle cap. Place palm of hand firmly over the 2 ½" nozzle opening. A strong suction will indicate hydrant is draining properly.

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INSPECTION AND MAINTENANCE

Fire hydrants should be flushed, inspected and tested twice a year (spring and fall), to ensure satisfactory operating condition.

Visually inspect for damaged, loose or missing parts.

With the main valve fully closed, remove nozzle caps and check for water in the barrel. The presence of water indicates one of the following:

- A. Leakage of the main valve.
- B. Drains are below ground water table level.
- C. Drains obstructed by soil or other foreign material.
- D. Nozzle caps replaced prior to allowing barrel to drain.

While nozzle caps are removed, check for thread damage. Wire brush nozzle and cap threads and apply antiseizing lubricant.

Replace nozzle caps and check for free action of cap chains. If chains bind, open cap loop until rotating action is free.

RECOMMENDED SPARE PARTS

Bonnet O'ring (M32), Op Nut O'ring (M1), Thrust Nut O'ring (M28),
Main Valve Repair Kit, Break Flange Repair Kit

RECORDS

1. Inspection records are an integral part of a good maintenance program.
2. A printed 5 x 8 record card for each valve and hydrant in the system is most convenient.
 - a. Identification of each valve and hydrant is essential. Setting up a numbering system is one of the first steps to take. A reasonably simple method is to assign a number to each street intersection, then identify each valve or hydrant numerically or alphabetically between intersection numbers.

For instance: I9-I10 would be the number of second valve from street intersection number 9 in going toward street intersection number 10.

Another convenient device is to assign only odd numbers to existing hydrants. When hydrants are added later, they can be given numbers which will fit in the numerical sequence.

- b. Location should be recorded first. Measurements must be made from property lines or street center lines; not power poles, fence lines, or the like.

VALVE RECORD

NO. _____

Location _____ FT. _____ of _____ Prop. Line of _____
and _____ FT. _____ of _____ Prop. Line of _____

Size _____ Make _____ Type _____ Gearing _____ Bypass _____

Opens _____ turns to Operate _____ Depth to Nut _____

Remarks: _____

MAINTENANCE AND INSPECTION RECORD

Date	Work Done	O.K.	By	Date	Work Done	O.K.	BY
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Clow Valve Company

PRODUCT DATA SHEET **PROCEDURE FOR REMOVING VALVE ASSEMBLY FROM** **CLOW MEDALLION HYDRANT** (Refer to Data Sheets 2545-7, 8 9)

Before commencing disassembly procedure, shut off water in main controlling flow to hydrant inlet.

1. Open hydrant partially to relieve pressure in line, then close hydrant completely.
2. Remove weather cap hold down screw (M-25) and weather cap M-26).
3. Remove thrust nut (M-27), with thrust nut wrench, by turning clockwise. Note: on open right hydrants, set screw (M-58) must be removed before thrust nut can be removed.
4. Remove operating nut (M-3) and thrust bearings (M-2), by turning counter-clockwise on open left hydrants and clockwise on open right hydrants.
5. Insert hydrant wrench over upper stem (M-7) and lower into bonnet (M-30) until socket engages hex jam nut (M-4). Remove nut by turning in same direction as operating nut (M-3). Note: Omit this step if stop is in shoe.
6. Slide the bonnet assembly sleeve over the threads of the upper stem (M-7) and lubricate the outside to protect the o-rings from thread damage when removing/replacing the bonnet (M-30).
7. Remove bonnet bolts and nuts (M-29) and then remove bonnet (M-30) from top of nozzle section (M-33).
8. Lower hydrant wrench, with guide attached, over upper stem (M-7) until slots in wrench are engaged with upper stem pin (M-8) on upper stem (M-7).
9. Insert operating nut (M-3) (remove thrust bearings (M-2) inside of wrench and thread it onto upper stem (M-7). (This will secure the wrench to the stem).
10. Center wrench in nozzle section (M-33), adjust guide to fit inside opening of nozzle section (M-33) and lift wrench to assure fully closed seat, then tighten thumb screw.
11. Unscrew seat ring (M-19) by turning counter-clockwise approximately five full turns. Valve assembly can now be lifted out of hydrant.

Clow Valve Company
PRODUCT DATA SHEET
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CLOW MEDALLION HYDRANT
(Refer to Data Sheets 2545-7, 8 9)

12. Bolt into place the two new extension flanges (M-60) using new bolts and nuts (M-46). Note: Extension flanges have no grooves. Flanges should fit snugly around barrel. Tighten bolts and nuts evenly to a minimum of 75 foot/pounds torque.
13. Assemble upper stem (M-7) and safety stem coupling (M-10) to extension stem (M-62) and retain it with coupling pin (M-11) and coupling cotter pin (M-9). Note: Stem coupling is assembled with pin hole closest to the edge towards the bottom.
14. Place new flange o-ring (M-47) into recess on barrel extension flange (M-63). Clean sealing surface of nozzle section (M-33). Lower nozzle section (M-33) carefully onto barrel extension flange (M-63). Be sure that it is concentric with barrel extension flange and that o-ring is centered.
15. Bolt into place the two safety flanges (M-49) using bolts and nuts (M-46). Note: Groove in safety flange should face upward. Flanges should fit snugly around barrel (M-50). Tighten bolts and nuts evenly to a minimum of 75 foot-pounds torque.
16. Check bonnet o-ring (M-32). Lubricate exterior of brass upper stem sleeve (M-5) on upper stem (M-7). Slide bonnet assembly sleeve over threads of upper stem and lubricate. Slide bonnet (M-30) over upper stem and assemble bonnet bolts and nuts (M-29) hand tight.
17. Screw hex jam nut (M-4) onto upper stem (M-7). Tighten with hydrant wrench to 100 foot/pounds torque. Note: Omit this step if stop is in shoe.
18. Fill bonnet reservoir with lubricant. Remove bonnet assembly sleeve.
19. Insert one thrust bearing (M-2) into bonnet (M-30) recess. Screw operating nut (M-3) onto upper stem (M-7). Insert one thrust bearing (M-2) on top of operating nut (M-3).
20. Slide thrust nut (M-27) over operating nut (M-3) and tighten to 75 foot/pounds torque. Note: Be sure o-ring seals on operating nut and thrust nut are in good condition and lubricated before assembling. If open right hydrant, replace setscrew (M-58).
21. Replace weather cap (M-26) and tighten weather cap hold down screw (M-25) to 25 foot/pounds torque.

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22. Tighten bonnet bolts and nuts (M-29) evenly to a minimum of 75 foot-pounds torque.
23. Loosen one hose nozzle cap slightly to bleed air. Open hydrant fully. Tighten the hose nozzle cap when water starts flowing and check all joints for leakage. Close hydrant fully. Remove hose nozzle cap to allow hydrant to drain. Replace hose nozzle cap when drained.

Clow Valve Company
PRODUCT DATA SHEET
**PROCEDURE FOR INSTALLING MAIN VALVE SEAT
REPAIR KIT ON CLOW MEDALLION FIRE HYDRANT**

1. Remove valve assembly from the hydrant. (Refer to procedure for removing valve assembly, data sheets 2545-7, 8, 9, & 10).

Note: For following procedures, a suitable holding fixture, such as a pipe vise, will be required.

2. Remove lower valve plate (M-24), lower valve plate lock washer (M-22), and main valve seat (M-21) from lower stem (M-12).
3. If drain valve facings need replacing, continue with this step, if not, proceed on to step 4.
 - A. Remove upper valve plate (M-17) from lower stem (M-12).
 - B. Remove seat ring (M-19) from wings of upper valve plate (M-17).
 - C. Replace two drain valve facings (M-16) with new drain valve facing pins (M-15).
 - D. Slide seat ring (M-19) onto upper valve plate (M-17). Be sure the two wings on the upper valve plate (M-17) engage the two slots on the seat ring (M-19). (See illustration on 2545-22 for proper orientation of seat ring).
 - E. Slide upper valve plate (M-17) and seat ring (M-19) onto lower stem (M-12), engaging slots on upper valve plate with lower stem pin (M-13) on lower stem (M-12).
4. Replace upper (M-18) and lower (M-20) seat ring o-rings on seat ring (M-19).
Note: O-rings are different sizes. Upper seat ring o-ring is slightly larger than lower seat ring o-ring.
5. Install new main valve seat (M-12), lower valve plate lock washer (M-22) and lower valve plate (M-24). Tighten to 300 foot-pounds torque.
6. Lubricate o-rings and threads on seat ring and reinstall the main valve assembly.

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CLOW MEDALLION™ HYDRANT

TEN-YEAR LIMITED WARRANTY

Clow Valve Company warrants that its Clow Medallion Fire Hydrant will be free from defects in material and workmanship under normal and customary use and maintenance for a period of ten (10) years from the date of purchase, provided the hydrant is installed and maintained according to Clow instructions, and applicable codes. The foregoing warranty does not cover failure of any part or parts from external forces, including, but not limited to, earthquake, vandalism, vehicular or other impact, application of excessive torque to the operating mechanism or frost heave.

Should any Clow Valve Company part or parts fail to conform to the foregoing warranty, Clow shall, upon prompt written notice thereof, repair or replace, F.O.B. point of manufacture, such defective part or parts. Purchaser shall, if requested, return the part or parts to Clow, transportation prepaid. Purchaser shall bear all responsibility and expense incurred for removal, reinstallation and shipping in connection with any part supplied under the foregoing warranty.

THE FOREGOING WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES NOT EXPRESSLY SET FORTH HEREIN, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS. IN NO EVENT SHALL CLOW VALVE COMPANY BE RESPONSIBLE OR LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL LOSSES, DAMAGES, OR EXPENSES.

CLOW MEDALLION HYDRANT ASSEMBLY EXPLOSION

DET.	QTY.	DESCRIPTION	MATERIAL
M-1	1	OPERATING NUT O-RING	NBR
M-2	2	OPERATING NUT THRUST BEARINGS	DELTRIN
M-3	1	OPERATING NUT	BRONZE
M-4	1	UPPER STEM JAM NUT (OPTION)	STAINLESS STEEL
M-5	1	UPPER STEM SLEEVE	BRONZE
M-6	1	UPPER STEM SLEEVE O-RING	NBR
M-7	1	UPPER STEM	CRS
M-8	1	UPPER STEM PIN	STAINLESS STEEL
M-9	2	SAFETY COUPLING COTTER PINS	STAINLESS STEEL
M-10	1	SAFETY STEM COUPLING	STEEL TUBING
M-11	2	SAFETY COUPLING PINS	STAINLESS STEEL
M-12	1	LOWER STEM	CRS
M-13	1	LOWER STEM PIN	STAINLESS STEEL
M-14	1	UPPER VALVE PLATE O-RING	NBR
M-15	4	DRAIN VALVE FACING SCREW	STAINLESS STEEL
M-16	2	DRAIN VALVE FACING	URETHANE RUBBER
M-17	1	UPPER VALVE PLATE	BRONZE
M-18	1	SEAT RING UPPER O-RING	NBR
M-19	1	SEAT RING	BRONZE
M-20	1	SEAT RING LOWER O-RING	NBR
M-21	1	MAIN VALVE SEAT	URETHANE RUBBER
M-22	1	LOWER VALVE PLATE LOCKWASHER	STAINLESS STEEL
M-24	1	LOWER VALVE PLATE	CAST IRON
M-25	1	WEATHER CAP HOLD DOWN SCREW	ZINC PLATED STEEL
M-26	1	WEATHER CAP	CAST IRON
M-27	1	THRUST NUT	BRONZE
M-28	1	THRUST NUT O-RING	NBR
M-29	4	BONNETS, BOLTS & NUTS	ZINC PLATED STEEL
M-30	1	BONNET	CAST IRON
M-31	2	STEM O-RINGS	NBR
M-32	1	BONNET O-RING	NBR
M-33	1	NOZZLE SECTION	CAST IRON
M-34	1	PUMPER NOZZLE LOCK	STAINLESS STEEL
M-35	1	PUMPER NOZZLE O-RING	NBR
M-36	1	PUMPER NOZZLE	BRONZE
M-37	1	PUMPER NOZZLE GASKET	RUBBER
M-38	1	PUMPER NOZZLE CAP	CAST IRON
M-39	1	HOSE NOZZLE LOCK	STAINLESS STEEL
M-40	2	HOSE NOZZLE O-RING	NBR
M-41	2	HOSE NOZZLE	BRONZE
M-42	2	HOSE NOZZLE GASKET	RUBBER
M-43	2	HOSE NOZZLE GAP	CAST IRON
M-44	1	CHAIN	ZINC PLATED STEEL
M-46	6	SAFETY FLANGE BOLTS & NUTS	ZINC PLATED STEEL
M-47	2	SAFETY FLANGE O-RINGS	NBR
M-48	1	BARREL UPPER FLANGE	DUCTILE IRON
M-49	2	SAFETY FLANGE	CAST IRON
M-50	1	BARREL	DUCTILE IRON PIPE
M-51	8	SHOE BOLTS & NUTS	ZINC PLATED STEEL
M-52	1	BARREL LOWER FLANGE	DUCTILE IRON
M-53	1	DRAIN RING O-RING	NBR
M-54	1	DRAIN RING	BRONZE
M-57	1	SHOE	DUCTILE IRON
M-58	1	THRUST NUT SETSCREW	STAINLESS STEEL

