

IOWA FIRE HYDRANTS

INSPECTION
AND
MAINTENANCE
MANUAL



AWWA

COMPRESSION TYPE

... MODERN ...

EFFICIENT ...

DEPENDABLE

plus simplicity
in maintenance

CLOW

Water Systems Group
Clow Corporation

Inspection and maintenance of IOWA Fire Hydrants

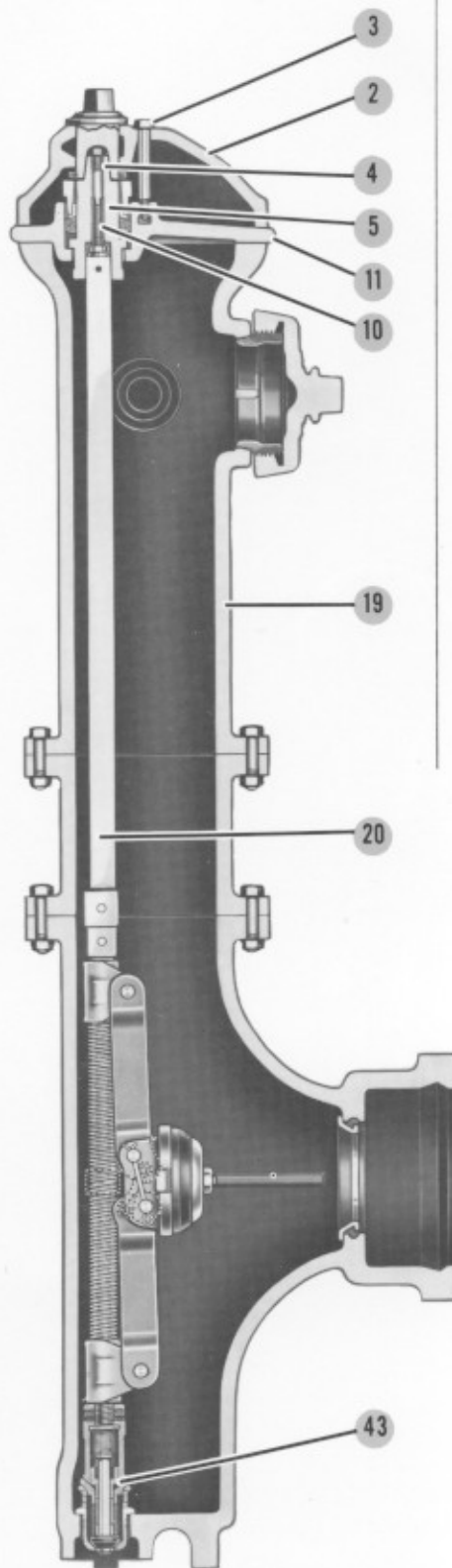


Only two handtools are needed for the complete removal and reassembly of working parts in the Iowa Fire Hydrant—an ordinary adjustable wrench and a standard screwdriver.

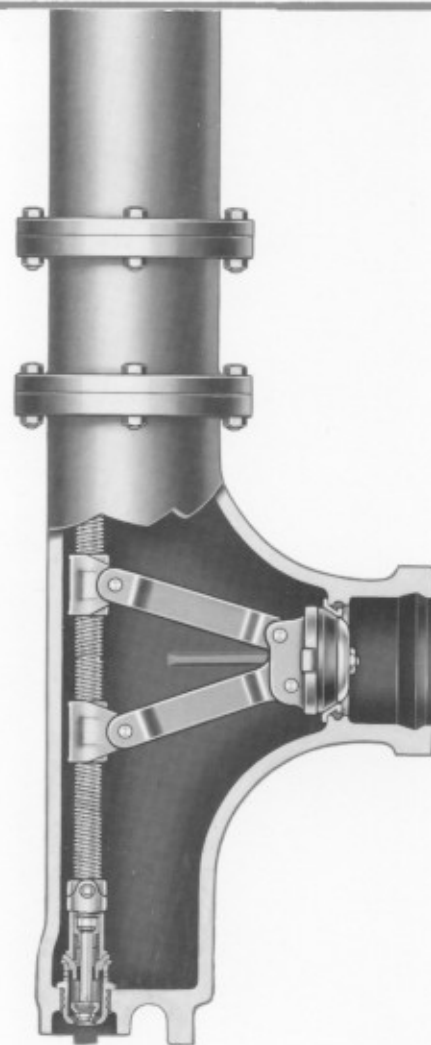
All parts are easily removed and replaced from the top, eliminating any need for special tools or heavy, cumbersome wrenches.

The advanced design of the Iowa hydrant provides minimum friction losses, maximum water delivery. Superior engineering, construction and materials assure operational dependability through the years and when maintained by regular periodic inspection of internal working parts, continued efficiency is sustained.

Ease of maintenance is one of the many advantages of the Iowa Fire Hydrant—systematic inspections, following the simple procedures outlined here, will assure its dependability for generations.



MAIN VALVE OPEN Drain Valve Closed



MAIN VALVE CLOSED Drain Valve Open

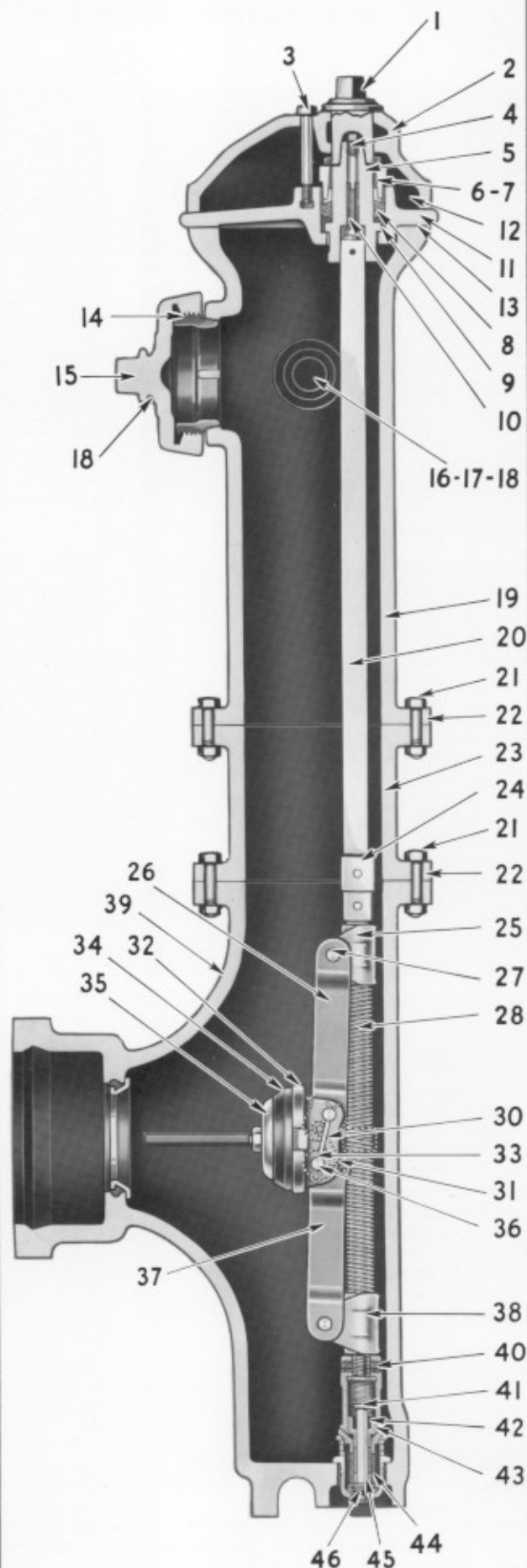
Iowa Fire Hydrants Parts List

Part No.	Part	Number Required	Material
1	Operating nut and retaining ring	1	Cast iron and bronze
2	Dome	1	Cast iron
3	Dome bolt	1	Steel
4	Cap screw	1	Bronze
5	Operating sleeve	1	Cast iron
6	Stuffing box follower and gland	1	Cast iron, bronze bushed
7	Follower bolts	2	Steel—nuts bronze
8	Stuffing box packing		Lubricated
9	Stuffing box packing ring	1	Bronze
10	Adjusting screw	1	Bronze
11	Head	1	Cast iron
12	Head bolts and nuts	8*	Steel
13	Head gasket	1	
14	Pumper nozzle	1	Bronze
15	Pumper nozzle cap	1	Cast iron
16	Hose nozzle	1	Bronze
17	Hose nozzle cap	1	Cast iron
18	Nozzle chain	1 Set	Steel
19	Stand pipe	1	Cast iron
20	Square operating rod	1	Steel
21	Flange bolts and nuts	8*	Steel
22	Flange gasket	2	
23	Extension piece	1	Cast iron
24	Coupling and pin	1	Bronze
25	Top stem nut	1	Bronze
26	Upper operating arm	1	Cast iron
27	Operating arm pins and cotter pins	2	Everdur bronze
28	Threaded stem	1	Bronze or Stainless
30	Connecting link	1	Bronze
31	Connecting link pins	2	Everdur bronze
32	Gate, cap screw and nut	1	Cast iron—stainless
33	Gate pins	2	Everdur bronze
34	Main valve	1	Rubber
35	Gate washer	1	Cast iron
36	Cotter pins for gate	2	Brass
37	Lower operating arm	1	Cast iron
38	Bottom stem nut	1	Bronze
39	Bottom, seat ring, and drain barrel	1	Cast iron—bronze
40	Drain valve holder	1	Bronze
41	Drain valve lifter stem	1	Bronze
42	Drain valve lifter	1	Bronze
43	Drain valve lifter guide	1	Bronze
44	Drain valve washer	1	Bronze
45	Drain rubber valve	1	Rubber
46	Drain valve lifter washer nut	1	Bronze

* 4 1/4" hydrant requires 4.

Specify both part number and size of main valve opening when ordering.

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Directions for Removal and Reassembly of Iowa Fire Hydrant Internal Parts

Circled part numbers at left and right are keyed to instructions below.

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



Unscrew single dome bolt 3 and lift off dome 2. Unscrew series of head bolts 12 and remove head 11.



Grasp square operating rod 20 and lift to remove working parts from hydrant barrel. Note position of all parts before disturbing.



Examine parts carefully to see that they are in good working condition.

Although seldom necessary, it is a wise practice while the hydrant is apart to make certain the drain is clear by driving a 5/8" dia. steel rod down through the drain barrel opening. The ability to clear the drain without digging is one of the superior features of the Iowa hydrant design.



Unscrew lifter guide 43 to attain full open position of the drain valve assembly, then turn guide back one full turn. Adjust to position it in line with the assembly.



With drain lifter guide 43 in line with the assembly, lower and insert into channel at hydrant bottom, taking care to hold drain valve snugly against back of the hydrant during lowering. If guide 43 is not in line, it will not enter the channel located at the back of the hydrant bottom and the assembly will not slide into proper position.



Replace complete head assembly 11 over operating rod 20 and bolt to standpipe 19 in original position. Unscrew bronze cap screw 4 from 5, insert screwdriver and turn adjusting screw 10 down against top of operating rod 20, then back off one-half turn. Replace cap screw 4. Examine packing 8 and replace if necessary.



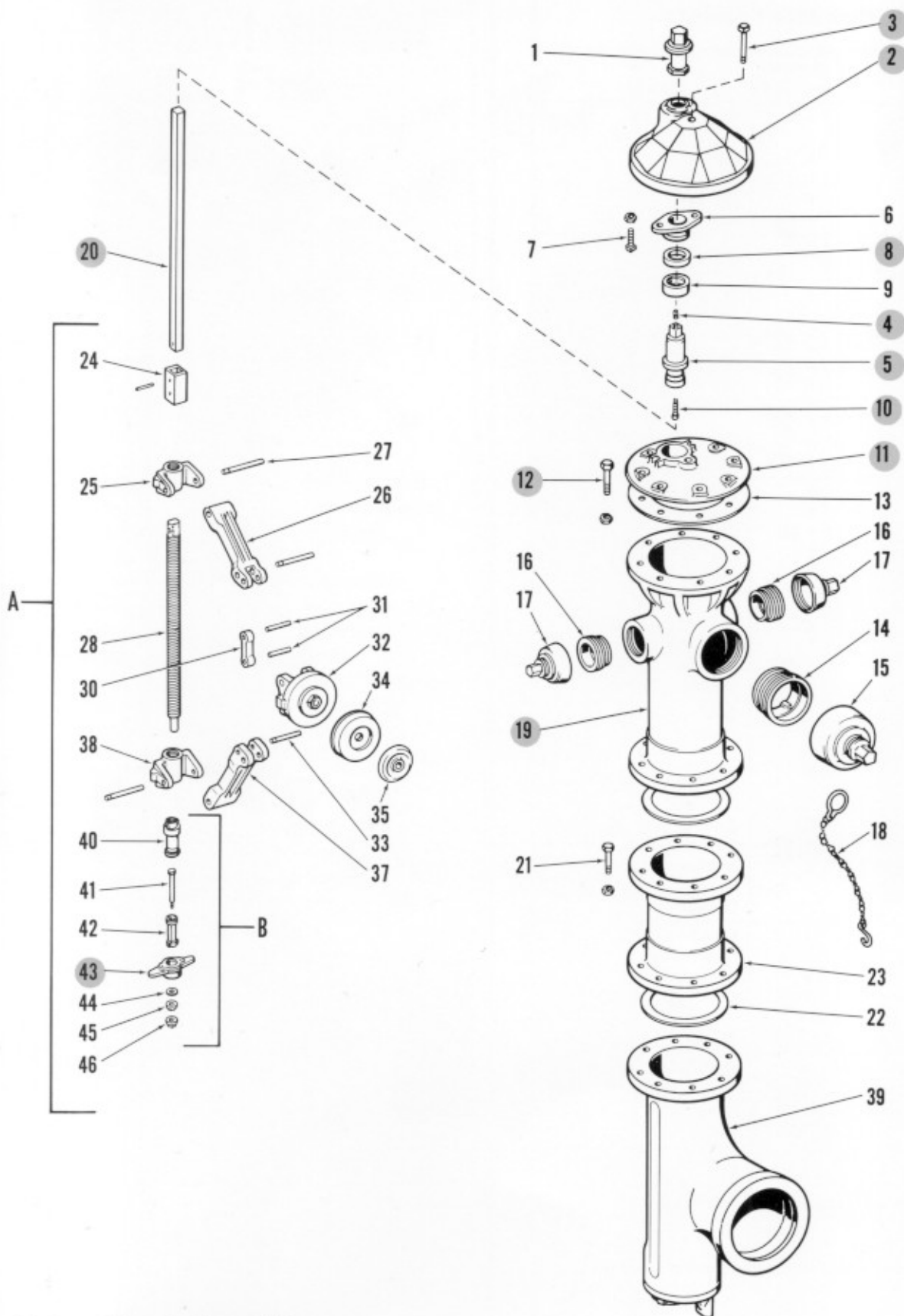
Replace hydrant dome 2, tighten bolt 3.



Close hydrant valve, open valve in the main controlling flow to the hydrant.

To test drain valve, remove one hose nozzle cap and open hydrant three turns. Allow water to rise to level of nozzle, then close hydrant. Place palm of hand firmly over the 2 1/2" nozzle opening. A strong suction will indicate hydrant is draining properly. If the water does not recede or suction cannot be felt, the drain needs to be unplugged as mentioned in step 3, or reassembly operations 4 and 5 have not been followed correctly. With drain functioning properly, replace nozzle cap, and open hydrant fully to test gaskets and packing for leaks.

Close hydrant—with inspection and tests now completed, the Iowa hydrant is again ready to continue protection of home, life and property, fulfilling the purpose for which it was designed and sold.



Hydrant Repair Assemblies

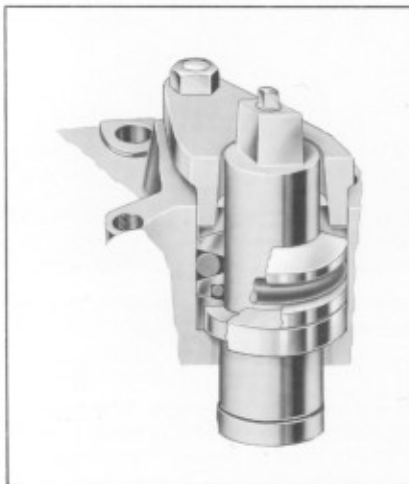
	Assembly	Parts
A	Complete Hydrant Valve Assembly Including Drain	24 thru 46, but not Part 39
B	Drain Valve Assembly	40 thru 46

Parts and Accessories



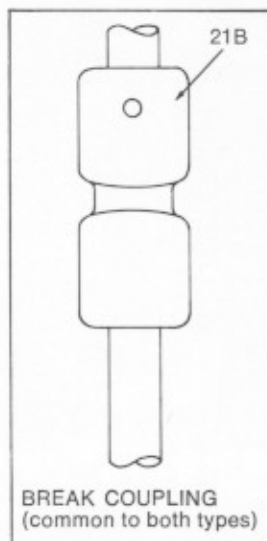
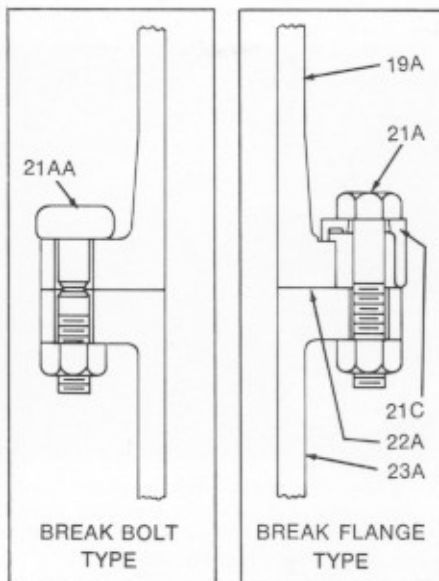
CONVENTIONAL STUFFING BOX CONSTRUCTION

Iowa hydrants, unless otherwise specified, are furnished with the conventional braided, graphited, asbestos packing—quickly and easily replaced whenever necessary.



O-RING SEAL STUFFING BOX

The O-Ring packing incorporates two specially designed O-Ring seals. This construction provides an excellent seal, and can be made part of any Iowa hydrant no matter when it was installed.

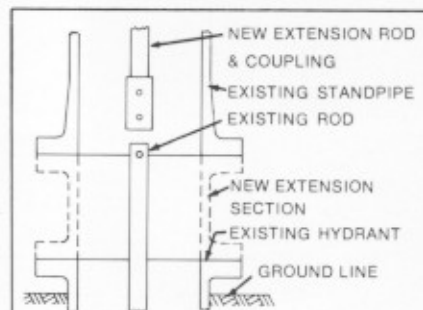


BREAK BOLT AND BREAK FLANGE HYDRANTS

Part No.	Part	Number Required
Break Bolt Type		
21AA	Break bolts, cast iron	8*
21B	Break coupling, cast iron	1
*4 1/4" hydrants require four (4) break bolts.		
Break Flange Type		
19A	Standpipe, Break Flange, cast iron	1
21A	Break Flange Bolts and Nuts, steel	8
21B	Break Coupling, cast iron	1
21C	Break Flange, cast iron	1
22A	Break Flange Gaskets	1
23A	Break Flange Extension Piece, cast iron	1

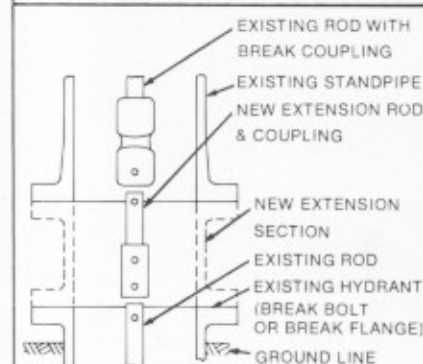
TO EXTEND INSTALLED IOWA HYDRANTS—(NO DIGGING OR WATER SHUT-OFF REQUIRED).

Iowa fire hydrants can be extended, without water shut-off and digging, by the use of an intermediate extension section. Available in lengths from 6" to 60" in 6" increments, sections are flanged at both ends and furnished with gaskets, bolts and nuts, extension rod, coupling and pins.



Procedure For Extending Ground Line Hydrants

1. Remove dome, head and standpipe.
2. Attach new rod with coupling to top of existing lower square operating rod.
3. Mount and bolt new extension section to existing pipe.
4. Replace standpipe and bolt to extension. Reassemble head and dome of hydrant as outlined under Inspection and General Maintenance Instructions steps 6 and 7.



Procedure For Extending Break Flange Type Hydrants

1. Remove dome, head and standpipe.
2. Disconnect existing break coupling from lower square operating rod.
3. Attach new extension rod with standard coupling to lower existing rod.
4. Mount and bolt new extension section to existing pipe.
5. Attach existing upper rod with break coupling, to top of new extension rod.
6. Replace standpipe and bolt to extension. Reassemble head and dome of hydrant as outlined under Inspection and General Maintenance Instructions steps 6 and 7.

CLOW
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