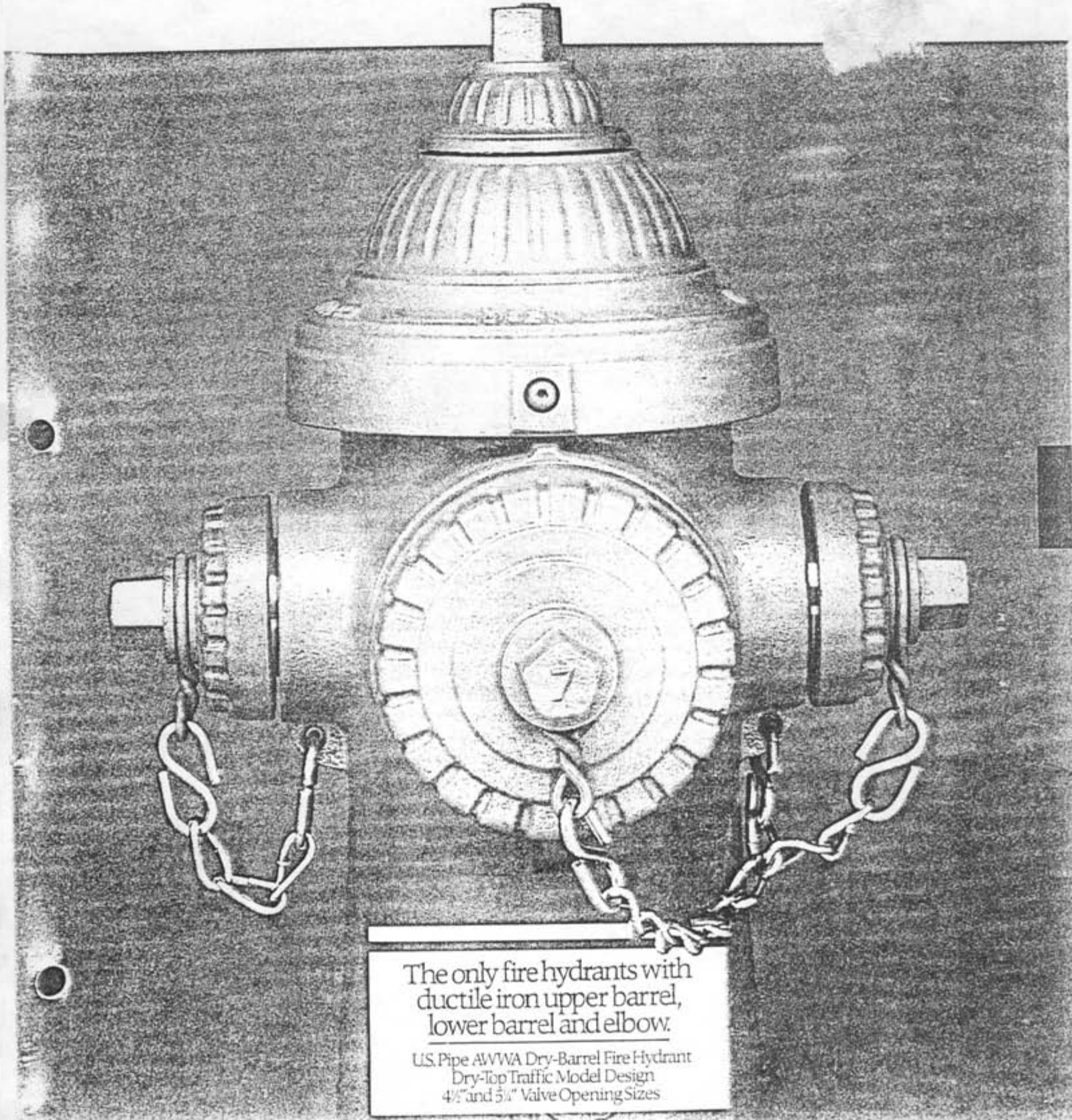
U.S. PIPE

METROPOLITAN™ 250
Fire Hydrants



The only fire hydrants with ductile iron upper barrel, lower barrel and elbow.

U.S. Pipe AWWA Dry-Barrel Fire Hydrant
Dry-Top Traffic Model Design
4½" and 5¼" Valve Opening Sizes

METROPOLITAN™ 250 Fire Hydrants

Design and Construction Features

The classic style and simple design of the METROPOLITAN 250 Fire Hydrant incorporates all the quality features of the highly regarded A. P. Smith and U.S. Pipe lines of fire hydrants. The METROPOLITAN 250 Fire Hydrant offers important new features which are the result of new ideas and materials that have proved themselves in over 10 years of service.

Ductile Iron components allow the hydrant to be upgraded from 150 psig to 250 psig. This is reflected in both the Underwriters Laboratories, Inc. and Factory Mutual Research ratings of 250 psi working pressure. Each METROPOLITAN 250 hydrant is factory-tested to 500 psi.

1 **DUCTILE IRON OPERATING NUT WITH WEATHER-SHIELD**—Weatherproofs the hydrant. High strength Ductile Iron for durability and wear resistance. Tamper resistant alloy steel locking pin fastens it to the revolving nut.

2 **BRONZE HOLD DOWN NUT**—Totally enclosed by skirt of weathershield and locked to bonnet for extra security.

3 **THRUST WASHER**—Assures easy operation by reducing friction. Made of tough, reliable Delrin® for permanence and strength.

4 **BRONZE REVOLVING NUT**—Direct connection between operating nut and stem threads. True dry-top design is double O-ring sealed.

5 **LIFETIME LUBRICATION**—Grease chamber filled with all-temperature grease assures positive lubrication each time the hydrant is operated.

6 **BRONZE STEM SHEATH**—Provides smooth bronze-to-bronze noncorrodible sealing surface for reliable, positive sealing by O-rings.

7 **STREAMLINED CURVES**—Both body and nozzles have sweeping curves to provide maximum flow and minimum head loss.

8 **TRAVEL STOP NUT**—Checks downward movement of valve rod in opening. The rod cannot be placed in compression if the hydrant is "over opened."

9 **DUCTILE IRON UPPER BARREL**—Superior to cast iron in resisting severe traffic impact damage.

10 **RUGGED DUCTILE IRON BONNET**—Securely fastened to upper barrel with interlocking "breech lock" lugs for tamper resistance. Easily removed for access to main valve.

11 **BONNET LOCKING SCREW**—Tamper resistant, assuring security of bonnet by preventing rotation of bonnet.

12 **THREADED-IN NOZZLE**—O-ring sealed and mechanically secured with nozzle locks.

13 **NON-KINKING CHAINS**—Heavy duty, rust-proofed chains are secured to caps with a unique lok-twist which allows free turning of the cap, or hydrant can be ordered without chains (not shown in illustration).

14 **"PROTECTOP" GROUNDLINE COUPLING**—Time proven design assures reliable fracture and quick repair after traffic impact. The coupling can be easily removed to install extension section or loosened to rotate hydrant to any position after installation.

15 **VALVE ROD COUPLING**—In traffic impact, the precision groove assures clean breakage in two sections. Coupling pins are securely retained by stainless steel retainer rings. The two coupling sections will stay connected to the rod ends and not drop into the bottom of the hydrant if impact occurs.

16 **DUCTILE IRON LOWER BARREL**—Centrifugally cast Ductile Iron pipe, with 9.05" outside diameter. Cast extra thick so the minimum thickness at the two connecting grooves exceeds total barrel thickness required by AWWA C502. Ductile Iron lower barrel resists the kind of impact damage that will break an ordinary cast iron flanged lower barrel. All deep bury hydrants have stronger one piece lower barrels.

17 **TYTON JOINT®**—Connection between lower barrel and elbow is superior to a flange, because underground bolts and nuts are eliminated and no dissimilar metals are exposed to the soil. Joint is contained in thickened housing which holds four large stainless steel locking keys to rigidly secure the entire assembly. Keys readily removed to disassemble the joint while the hydrant elbow is in place.

18 **DUCTILE IRON VALVE TOP PLATE**—Auxiliary travel stops located above valve guides. Plate is securely fastened to rod with shear-proof, rustproof locking pin. Durable drain valve faces seal drain holes. Drain valves are pressure activated for positive sealing when hydrant is open.

19 **COMPRESSION MAIN VALVE**—Opens against pressure and closes with pressure. Recessed Ductile Iron bottom plate prevents rubber valve distortion.

20 **BRONZE ELBOW BUSHING**—Provides non-corrodible surface for proper sealing of seat ring O-rings. The bronze surface of the bushing allows a seat ring to be replaced with the assurance that the O-rings will seal properly because the bronze surface remains smooth and free of roughness and corrosion.

21 **BRONZE SEAT RING**—Designed with threads above the drains. Seat ring threads engage a bronze threaded subseat.

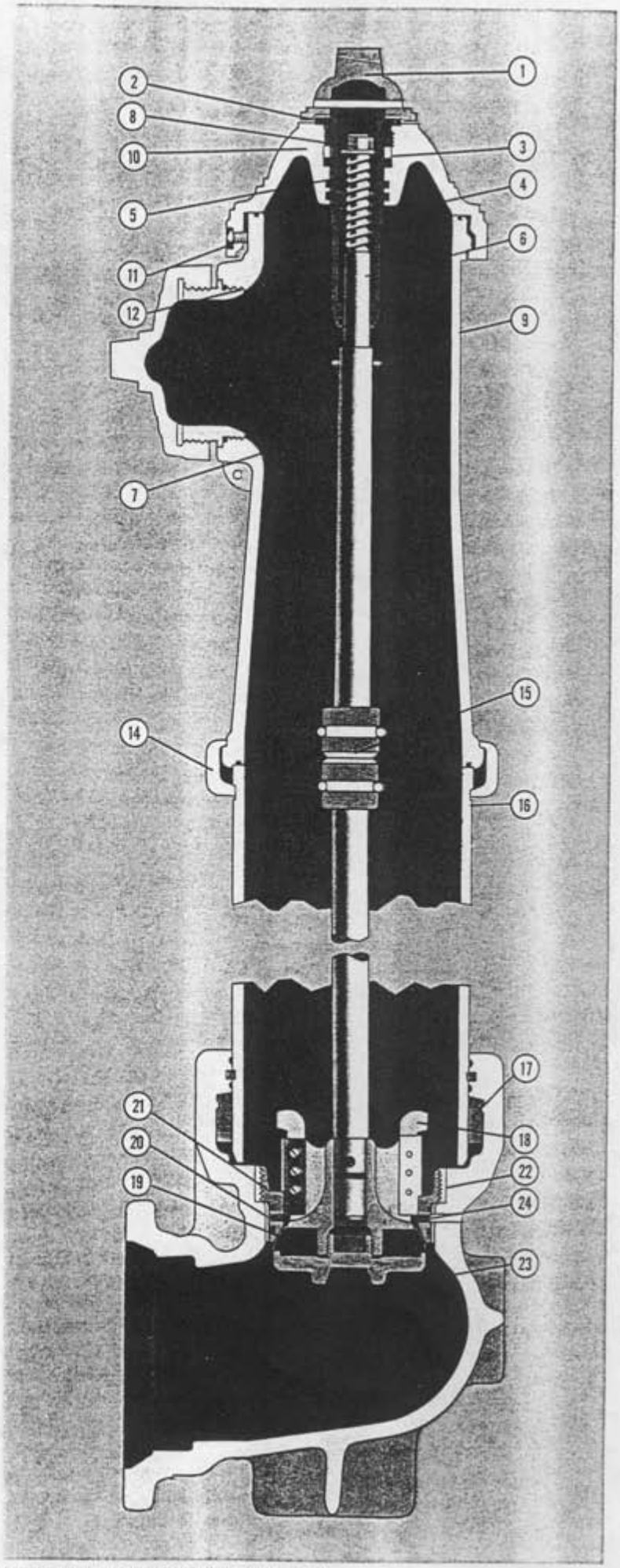
22 **BRONZE SUBSEAT**—Is an integral part of the hydrant elbow. Provides bronze-to-bronze thread engagement for the seat ring.

23 **DUCTILE IRON ELBOW**—Hydraulically contoured and designed for minimum turbulence and maximum full flow. Large flat surfaces for setting and blocking. Epoxy coated when specified.

24 **BRONZE DRAIN—An all bronze channel** is formed by the seat ring and elbow bushing to assure nonclogging drainway which leads to double drains in the sides of the elbow. Location of drain holes at lowest possible elevation assures complete drainage of **all** water in the hydrant. Drains are force flushed during opening and closing of main valve.

■

All U.S. ***METROPOLITAN 250*** *Fire Hydrants have the* ***upper barrel, lower barrel*** *and* ***elbow*** *made of* ***Ductile Iron*** *for greater strength, and damage resistance. This is* ***standard*** *with the* ***METROPOLITAN 250*** *Fire Hydrant.*



METROPOLITAN™ 250 is a trademark of U.S. Pipe & Foundry Co.
DELRIN® is a registered trademark of DUPONT.
TYTON JOINT® is a registered trademark of U.S. Pipe & Foundry Co.

4½" Valve Opening Size

5¼" Valve Opening Size

The 4½" valve opening hydrant is designed with the same features as the 5¼." Many of the parts are interchangeable.

The lower barrel is made of Ductile Iron having an outside diameter of 6.90." Ductile Iron provides the extra strength to resist traffic damage.

U.S. Pipe's Assurance of Quality

All U.S. Pipe fire hydrants are designed and manufactured to meet all requirements of AWWA Standard C502. Each hydrant is hydrostatically tested to 500 PSI at the factory in accordance with the AWWA Standard.

Available Styles

Both 4½" and 5¼" valve opening hydrants are available in 2-way (2 hose nozzles) and 3-way (2 hose nozzles and one pumper nozzle).

Inlet Connection

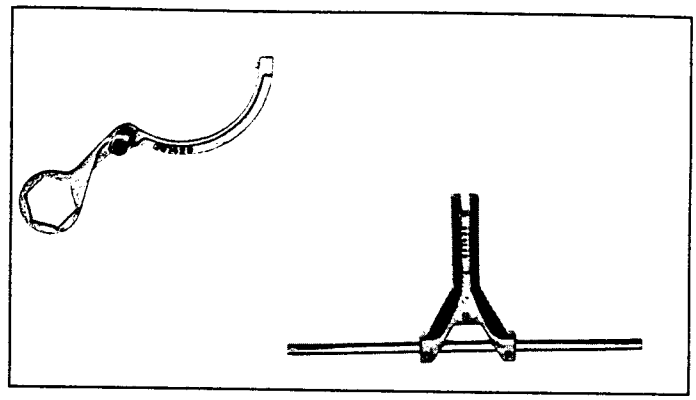
4½" Mechanical Joint (both standard and oversize) 6" Flanged.

5¼" Mechanical Joint (both standard and oversize) Flanged, TYTON JOINT,® RING-TITE® and Hub.

UL and FM Listed

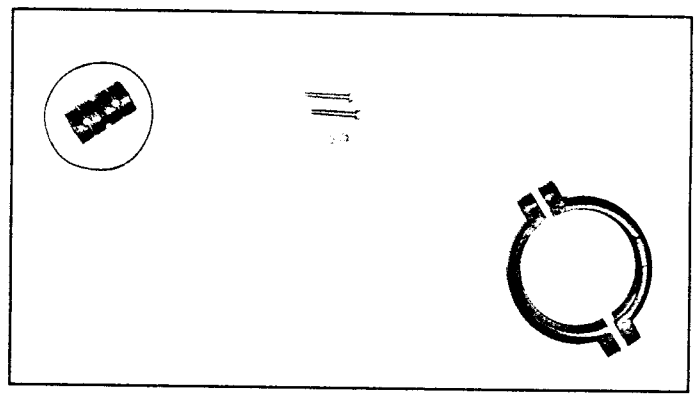
Both the 4½" and 5¼" METROPOLITAN 250 Fire Hydrants are listed by Underwriters Laboratories, Inc. (Extinguisher card No. EX 2235 [N]) and Factory Mutual Research for 250 psi working pressure.

Accessories & Options



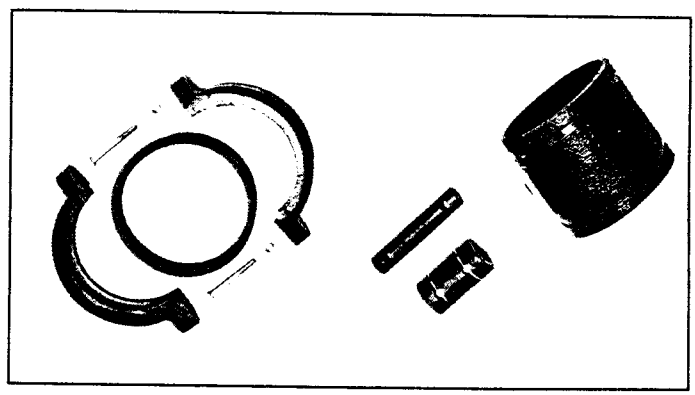
Extension Kits*

Extension of the METROPOLITAN™ 250 Hydrant to adjust for changes in ground elevation is easily done without digging. Kit includes the barrel and rod units from 6" to 36" long in 6" increments (longer units available on special order), plus rod and barrel couplings complete with gaskets and fasteners.



Traffic Repair Kit*

Consists of breakway coupling for barrel and rod with gaskets and fasteners.



Disassembly Tool Kit

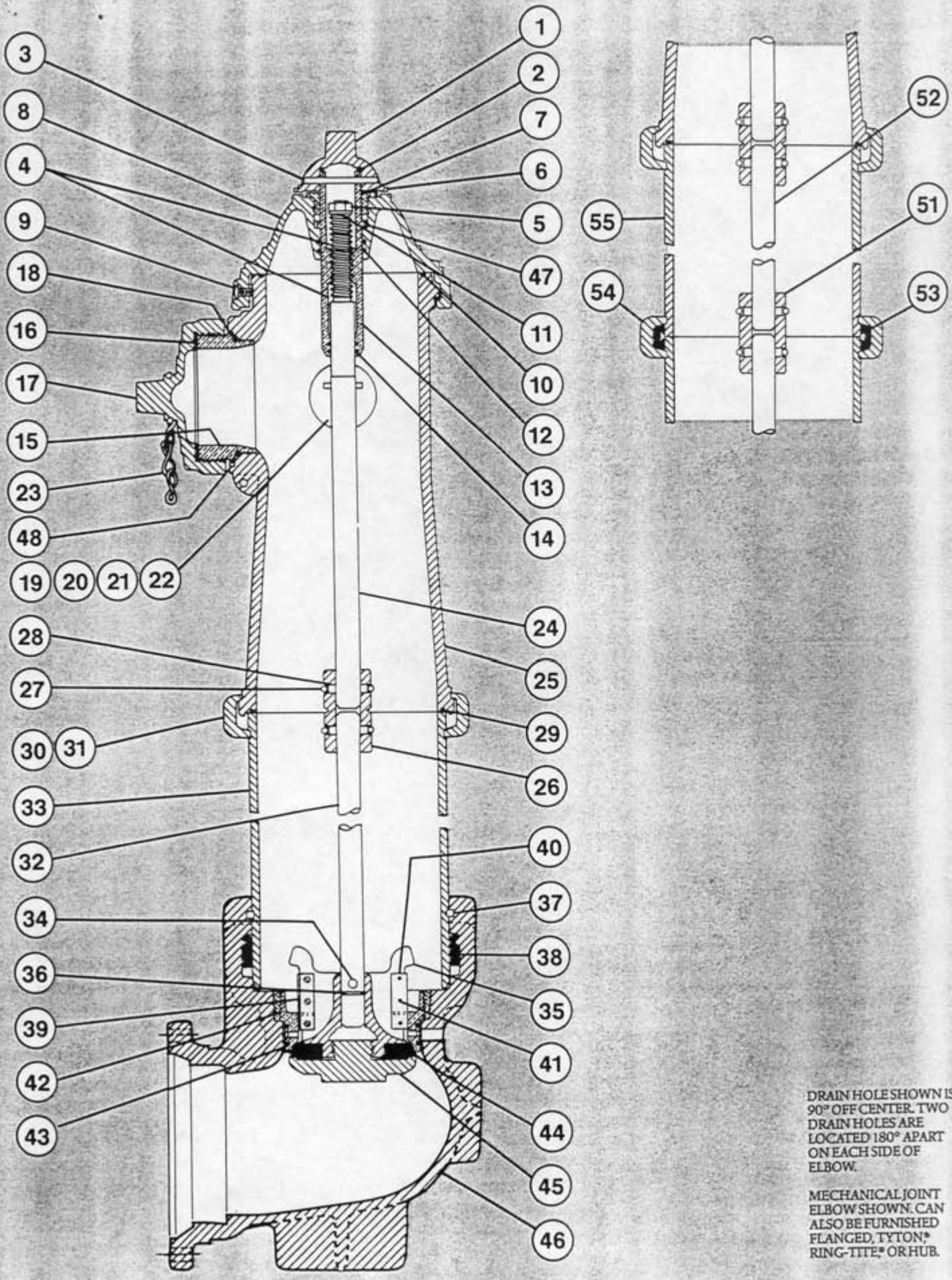
Consists of a lightweight seat removal wrench, a combination spanner and two allen wrenches. The combination spanner wrench takes the place of three ordinary tools: a strap wrench for bonnet removal, a thinwall ¾" deep socket for removing the travel stop nut, and a wrench for removing the hold down nut and valve bottom plate.

Directions for Ordering

When ordering the METROPOLITAN 250 Fire Hydrant, please specify the following:

1. Quantity required.
2. Size of main valve opening (5¼ or 4½).
3. Number and size of nozzles.
4. Operating nut size and shape.
5. Nozzle thread detail (NST or other).
6. Opening direction.
7. Depth of bury-distance from groundline to the bottom of the hydrant inlet (same as depth of trench).
8. Type and size of inlet connection.
9. Color code. Unless otherwise specified the hydrant will be painted fire engine red from the groundline up.

**Must specify size hydrant—4½" or 5¼" valve opening.*



DRAIN HOLE SHOWN IS 90° OFF CENTER. TWO DRAIN HOLES ARE LOCATED 180° APART ON EACH SIDE OF ELBOW.

MECHANICAL JOINT ELBOW SHOWN. CAN ALSO BE FURNISHED FLANGED, TYTON,® RING-TITE,® OR HUB.

METROPOLITAN™ 250 Fire Hydrants

All parts for the METROPOLITAN 250 Fire Hydrant are completely interchangeable with parts of previously manufactured METROPOLITAN™ Fire Hydrants.

Parts List All Materials Conform to AWWA C502-85

Part No.	Name of Part	Qty. Req'd	Material
1	Operating Nut	1	Ductile Iron
2	Operating Nut Seal	1	NBR Rubber
3	Operating Nut Locking Pin	1	Steel
4	Lubricant (In Chamber)		Grease
5	Travel Stop Nut	1	Steel
6	Hold Down Nut	1	Bronze
7	Hold Down Nut Screw	1	Steel
*8	Bonnet	1	Ductile Iron
9	Bonnet Locking Screw	1	Stn. Stl.
10	Bonnet Seal	1	NBR Rubber
11	Travel Stop Washer	1	Steel
12	Bonnet–Revolving Nut "O" Rings	2	NBR Rubber
*13	Revolving Nut	1	Bronze
14	Inner Revolving Nut "O" Rings	2	NBR Rubber
15	Pumper Nozzle	1	Bronze
16	Pumper Nozzle Cap Gasket	1	SBR Rubber
17	Pumper Nozzle Cap	1	Ductile Iron
18	Pumper Nozzle Gasket	1	NBR Rubber
19	Hose Nozzle	2	Bronze
20	Hose Nozzle Cap Gasket	2	SBR Rubber
21	Hose Nozzle Cap	2	Ductile Iron
22	Hose Nozzle Gasket	2	NBR Rubber
23	Chain Assembly	1	Steel
*24	Valve Rod Upper, Including Bronze Sheath & Rod Pin	1	Steel
**25	Standpipe Upper	1	Ductile Iron
26	Valve Rod Coupling (Frangible)	1	Cast Iron
27	Coupling Retaining Rings	2	Stn. Stl.
28	Rod Coupling Pins	2	Stn. Stl.
**29	Standpipe Coupling Seal	1	NBR Rubber
**30	Standpipe Coupling (Frangible)	2 Halves	Cast Iron
31	Standpipe Coupling Bolt & Nut	2	Steel
32	Valve Rod Lower (Specify Bury)	1	Steel
**33	Standpipe Lower (Specify Bury)	1	Ductile Iron
34	Top Plate Pin – Shear Proof	1	Steel
**35	Valve Top Plate	1	Ductile Iron
36	Valve Rod Lower "O" Ring	1	NBR Rubber
**37	Elbow Locking Key	4	Stn. Stl.
**38	TYTON® Gasket	1	SBR Rubber
39	Drain Valve Facing	2	NBR Rubber
40	Guide Plate	2	Stn. Stl.
41	Drain Valve Screws	6	Stn. Stl.
**42	Seat Ring	1	Bronze
**43	Seat Ring "O" Rings	2	NBR Rubber
**44	Main Valve	1	SBR Rubber
**45	Valve Bottom Plate	1	Ductile Iron
**46	Elbow, Includes Bronze Sub-seat, Bronze Elbow Bushing & Plastic Drain Hole Liner	1	Ductile Iron
47	Anti Friction Bearing	1	Delrin 500
48	Nozzle Locks	3	Bronze

*Must Specify Direction To Open. **Must Specify Size Hydrant — 4½" or 5¼" Valve Opening.

Extension Kit***

Part No.	Name of Part	Qty. Req'd	Material
51	Extension Rod Coupling Ass'y w/Stn. Stl. Pins & Rings	1	Cast Iron
52	Rod Extension (Specify Length)	1	Steel
53	Extension Coupling Gasket	1	SBR Rubber
54	Standpipe Coupling with Stainless Steel Nuts & Bolts	1	Cast Iron
55	Standpipe Extension (Specify Length)	1	Ductile Iron

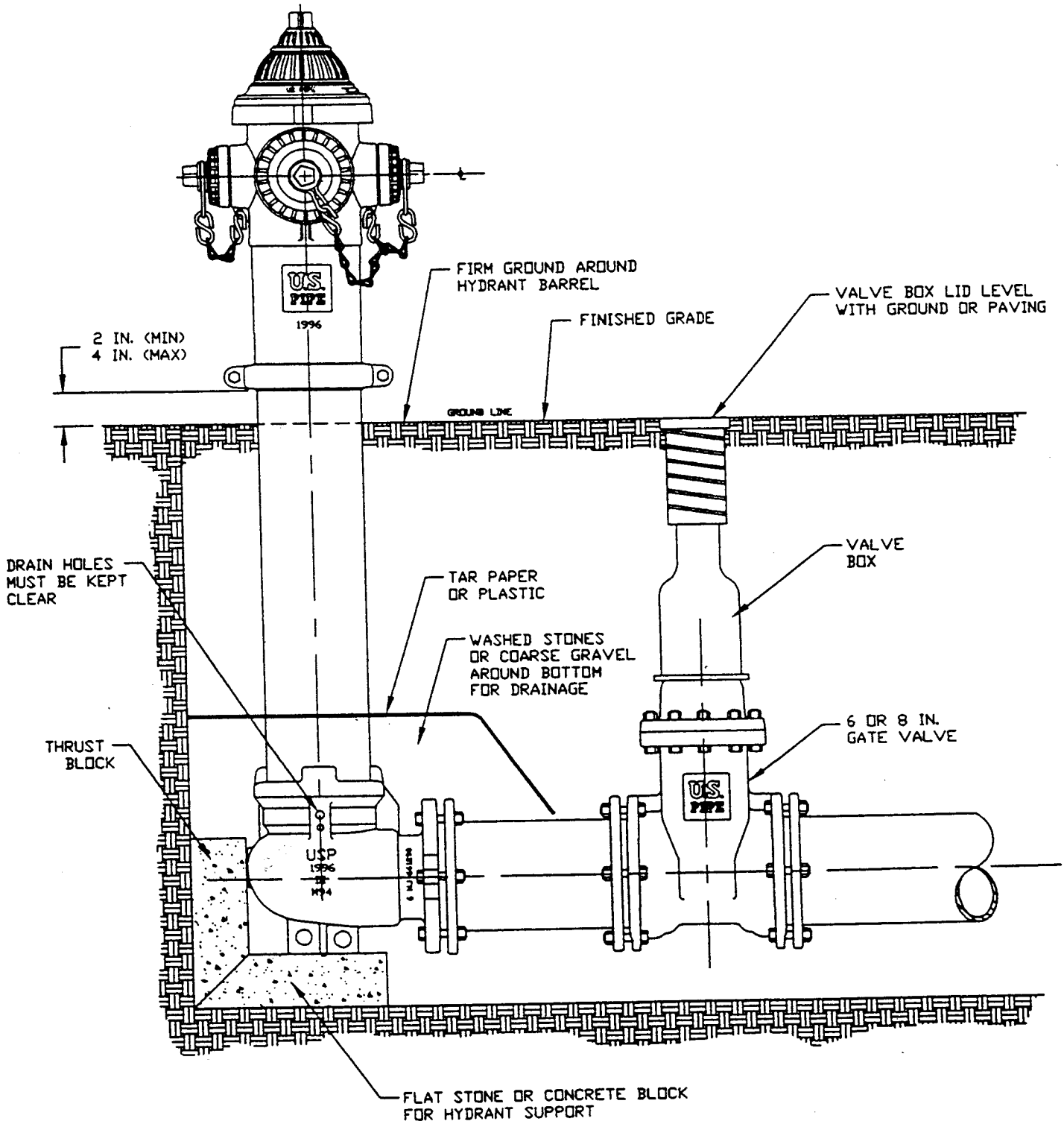
***Must Specify Size Hydrant — 4½" or 5¼" Valve Opening and length (standard extensions are 6," 12," 18," 24," 30," 36"). Longer lengths are available on special order.

Traffic Repair Kit**

Part No.	Name of Part	Qty. Req'd	Material
26	Valve Rod Coupling (Frangible)	1	Cast Iron
27	Coupling Retaining Rings	2	Stn. Stl.
28	Rod Coupling Pins	2	Stn. Stl.
29	Standpipe Coupling Seal	1	NBR Rubber
30	Standpipe Coupling (Frangible)	2 Halves	Cast Iron
31	Standpipe Coupling Screw & Nut	2	Steel

**Must Specify size Hydrant — 4½" or 5¼" Valve Opening.

METROPOLITAN® Fire Hydrant
Standard Fire Hydrant Installation Detail



U.S. PIPE METROPOLITAN® Fire Hydrant
User Installation Guide

This guide has been developed to assist the user of dry barrel fire hydrants in the proper inspection, handling, storage, installation and testing of this product. Fire hydrants are manufactured and tested according to AWWA Standard C-502. This standard requires each fire hydrant to be tested at the factory to ensure that it operates properly and does not leak except as authorized through the drain valve.

Delivery Inspection

At the time of delivery, examine the entire shipment for shortages, breakage, external damage, etc. Note all problems on delivery ticket and have the driver acknowledge them by signing all copies.

Make sure hydrant conforms to specifications as ordered. Check carefully:

- Main valve size
- Nozzles and threads
- Depth of bury
- Inlet size and type
- Operating nut size and direction of opening

After unloading hydrant, cycle it to full-open and close positions to check for possible internal damage during shipment. When the main valve is open, check for damage and tightness.

Unloading, Handling and Storage

Do not drop hydrant when unloading, because serious damage could result.

When handling hydrants, always lift them with a sling.

Do not drag or skid hydrants or roll them over nozzles.

Do not use cap chains for lifting.

Avoid stress loads on the ground line flange.

Store hydrants on blocks with the hydrant inlet facing downward. Make sure the main valve is closed tight and the nozzle caps are in place.

When stocking hydrants, separate them with adequate timber blocking.

Inspection Before Installation

Make sure hydrant conforms to job or utility specifications. Check carefully:

- Main valve size
- Nozzles and threads
- Depth of bury
- Inlet size and type
- Operating nut size and direction of opening
- Make sure all nuts and bolts are tight

Cycle hydrant to full-open and close positions. Check main valve seat for damage and tightness.

Fully close hydrant main valve before installation.

Installation

Make sure hydrant elbow and main lateral pipe are clean and free of foreign matter before connecting the joint.

Install an auxiliary valve (hydrant shut-off) in hydrant lateral whenever possible.

Support hydrant inlet with firm foundation to prevent settling, using flat stone, cement block or whatever is specified.

Set hydrant plumb.

Restrain hydrant movement with appropriate thrust blocking or approved mechanical restraining method to prevent pipe joint separation.

Check drain holes in hydrant elbow to make sure they are free from obstruction.

Provide drain area around hydrant elbow at a level several inches from the drain holes, using clean, washed stones or coarse gravel. Material should not be smaller than the drain hole diameter or larger than egg-size. Do not use sand.

Cover drainage stone with 8-mil-thickness polyethylene or similar water-proof material to prevent dirt from clogging the drainage area.

Backfill pipe only. Leave hydrant elbow exposed to permit checking for leaks at elbow joint during testing.

If the installation requires that the hydrant be rotated to face in a particular direction, or raised with extension sections, refer to instructions before attempting to do this work.

U.S. PIPE METROPOLITAN® Fire Hydrant
User Installation Guide

DO NOT USE a hydrant as a means of flushing, venting or purging a newly installed pipeline. Debris passing through the hydrant can damage the valve and seat so the hydrant will not seal properly.

Testing
Close the hydrant main valve during hydrostatic pressure testing of the system.

If testing on the hydrant is required, close the auxiliary valve on the lateral, and pressure test the hydrant and lateral through a nozzle opening with the main hydrant valve fully open. Allowable leakage of five ounces per minute through the drain holes is permissible, according to AWWA Standards, plus allowable leakage through auxiliary valve (if a double disc valve is used).

Installation Completion
Backfill and tamp around hydrant.

When installing traffic model hydrant, make sure that final grade location is at ground line below the breakable coupling. If backfill material cannot be compacted sufficiently to support lower standpipe section and prevent shifting from vehicle impact, pour an appropriate concrete pad around the hydrant. Finished surface must be at ground line.

After final installation is complete, exercise and flush hydrant to ensure proper operation.

General
The METROPOLITAN Fire Hydrant is designed to provide the features found to be most useful to the people involved with maintenance and repair of fire hydrants. These include keeping the number of parts to a minimum, and designing the hydrant so it is repairable by one man. The seat removal wrench is the only special tool required. If the other disassembly tools are not available, the bonnet can be removed with a strap wrench, and the travel stop nut can be removed with a thinwall 3/4" socket. Other parts can be taken apart with ordinary wrenches.

Maintenance
METROPOLITAN Fire Hydrants are made to the requirements of AWWA C-502 *Standard for Dry Barrel Fire Hydrants.* All fire hydrants should be regularly inspected to assure they operate properly. Annual inspections are recommended.

The AWWA Manual M17 outlines maintenance procedures that should be observed in a comprehensive maintenance program that covers the various types of hydrants in a typical water system.

Inspection of METROPOLITAN Fire Hydrant
1. Check condition of paint and examine for external damage. See that operating nut, nozzle caps and chains are in good condition, and that ground line coupling is tight and undamaged.

2. Remove one nozzle cap to vent air and open hydrant fully. Close hydrant and replace cap tightly. Reopen hydrant and check for leakage at location of all seals and "O" Rings. Remove operating nut #1 by driving out operating nut locking pin #3. Observe the hole in the top of the bronze revolving nut and see if water is coming up and out the lubricant chamber. If so, the "O" Ring seals #14 are damaged and need to be replaced.

3. Note whether drains have closed properly while hydrant main valve is open. If drains are not closed water will appear around the outside of the lower barrel.

4. Close hydrant. Remove nozzle cap. If water continues to flow from nozzle, the main valve is leaking. Do not apply excessive force to the operating wrench in an effort to close the valve. Foreign matter may be trapped between the valve and the valve seat ring. Further tightening may damage them. Flush foreign matter free by opening and closing the hydrant. If hydrant still does not shut off, remove and replace the valve and/or valve seat ring.

5. Observe rate of drainage. Be sure hydrant drains completely. If drainage is not complete, replace cap. The drain valve opening may then be flushed by opening the hydrant two to three turns. This unseats the valve and allows water to flush through the drain openings, clearing them.

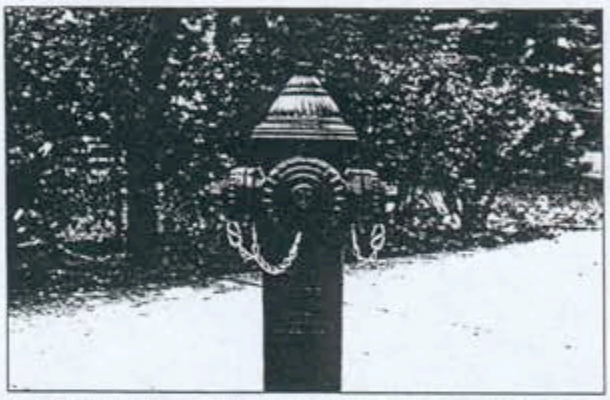
6. With main valve closed, remove all nozzle caps, examine gaskets, grease cap threads and reattach caps.

U.S. PIPE METROPOLITAN® Fire Hydrant
Disassembly and Assembly

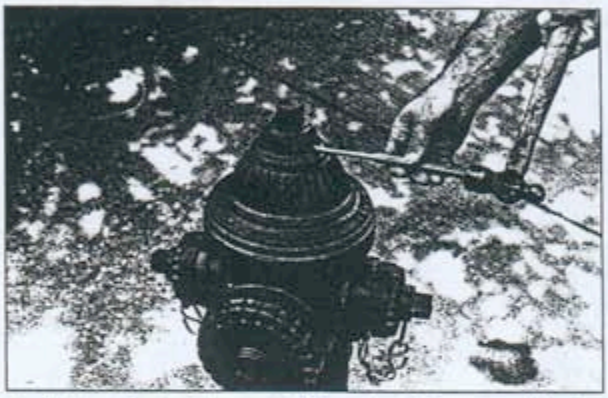
One man, using standard disassembly tools, can easily and quickly remove all internal operating parts through the top of the hydrant without excavating.

Procedure for field disassembly and reassembly of METROPOLITAN fire hydrant.

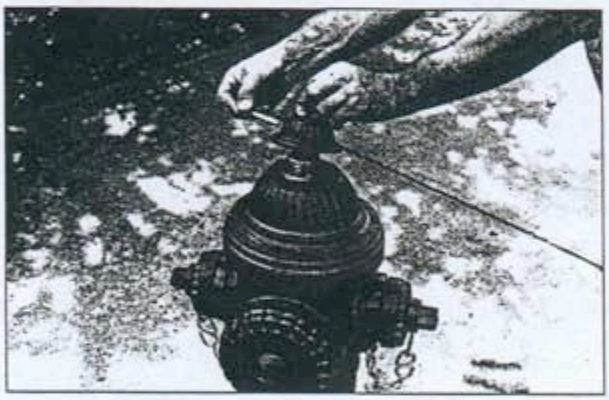
Close auxiliary valve or shut off water feeding hydrant.



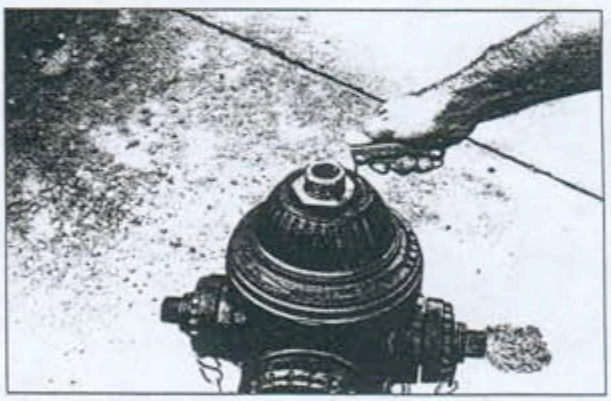
1. *Remove one hose cap and open hydrant two full turns to relieve pressure on hydrant.*



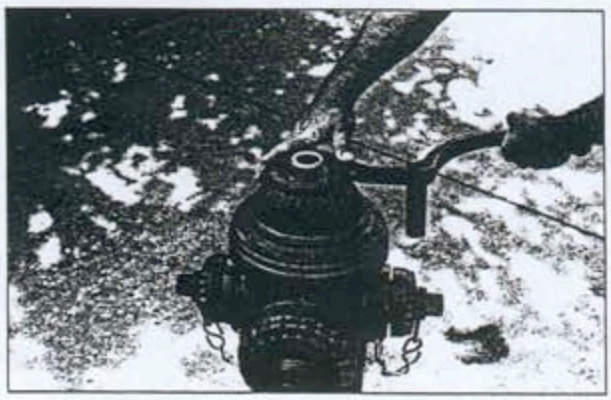
2. *Drive out operating nut locking pin #3 from rounded side of operating nut.*



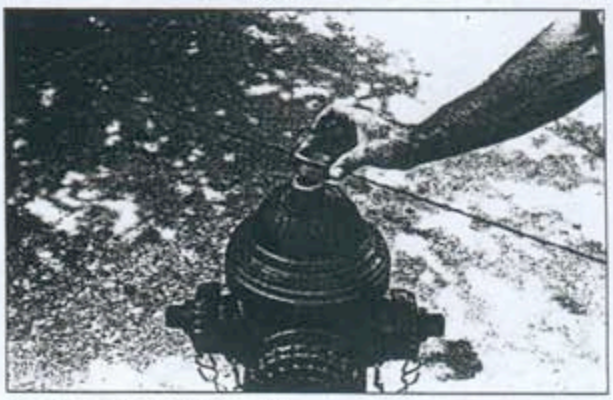
3. *Remove operating nut #1. Do not lose operating nut seal #2 which is up inside the operating nut.*



4. *With small allen wrench, loosen hold down nut screw #7.*



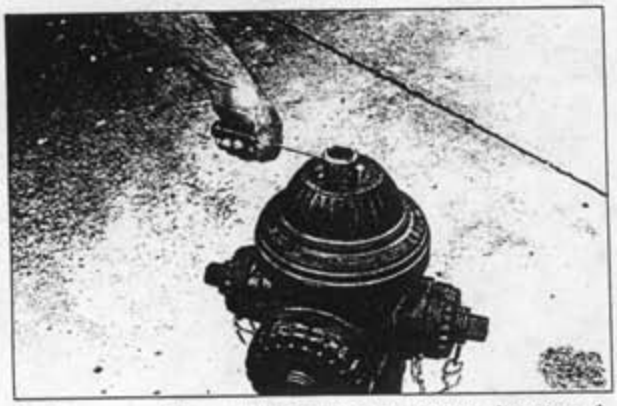
5. *Loosen hold down nut #6 using combination spanner wrench by turning counterclockwise.*



6. *Remove hold down nut #5.*

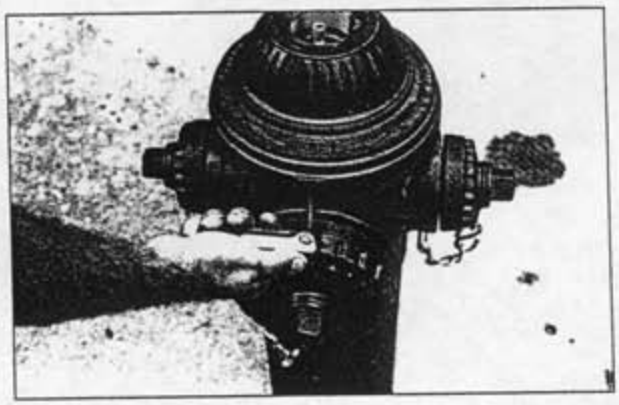
7. *Using socket of combination wrench or 3/4" thinwall socket, loosen travel stop nut #5.*

8. *Remove travel stop nut #5.*

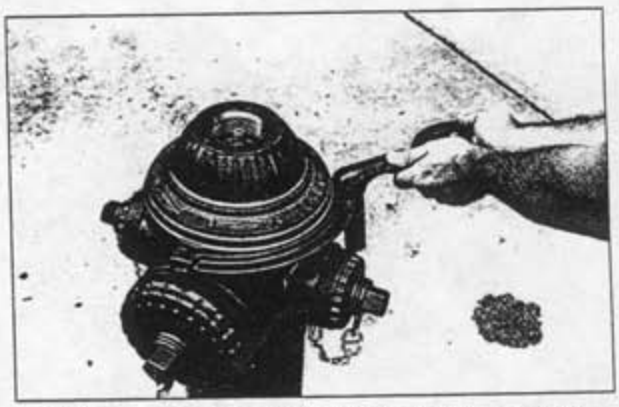


9. *Loosen revolving nut #13 turning in opening direction of hydrant (it is not necessary to separate anti-friction bearing #47 from revolving nut).*

10. *Remove revolving nut #13.*



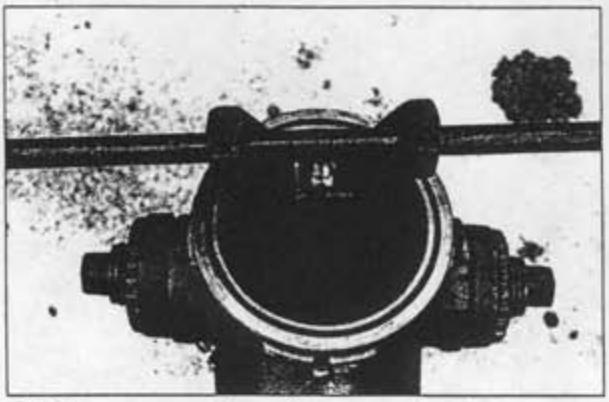
11. *Using large allen wrench, loosen and remove bonnet locking screw #9.*



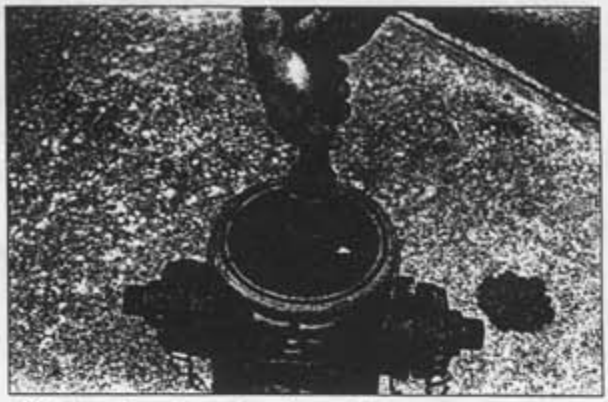
12. *With combination spanner wrench, rotate bonnet 22.5 degrees (1/8 turn) counterclockwise. Bonnet lugs will disengage.*

13. *Lift bonnet straight up and off the operating rod.*

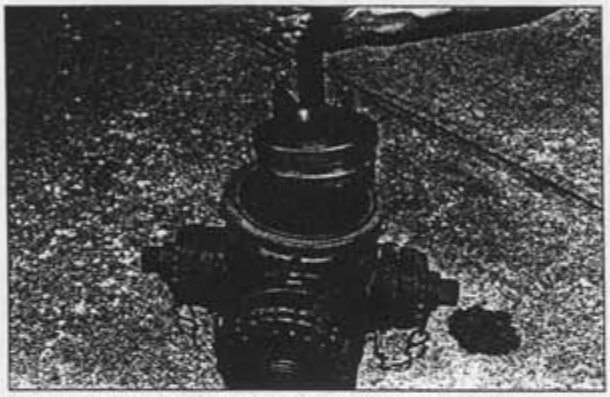
14. *Remove square bonnet seal gasket #10.*



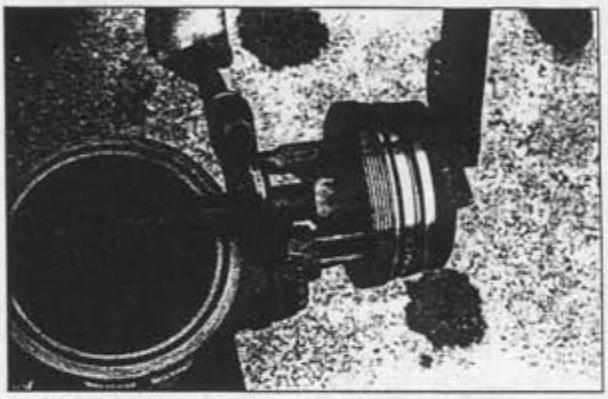
15. *Using seat removal wrench to unscrew (turning counter-clockwise) main valve rod assembly which includes bronze seat ring #42.*



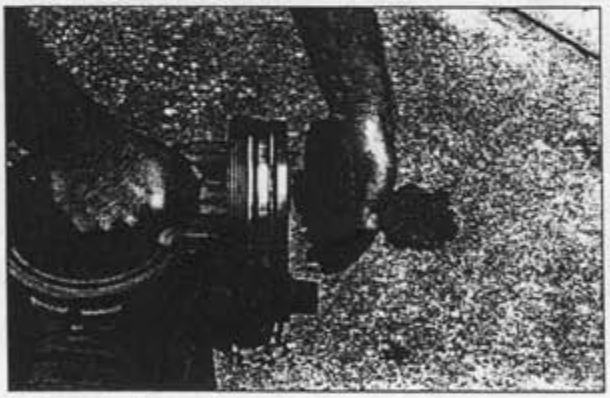
16. *Lift up the main valve rod assembly using part #24.*



17. *Remove main rod and valve assembly as a unit.*



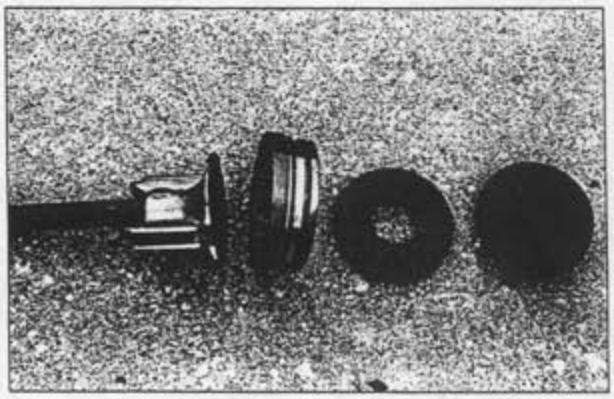
18. *Hold the lower rod #32 with a pipe wrench and unscrew the valve bottom plate #45.*



19. *Unscrew bottom plate #45.*

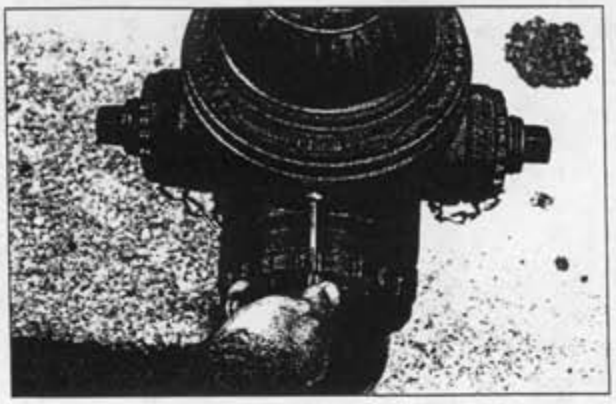
20. *Remove and examine rubber main valve #44 and replace if damaged.*

21. *Remove seat ring #42 by sliding down off guides on valve top plate #35. Replace if damaged. Also replace set ring "O" rings #43 if damaged.*



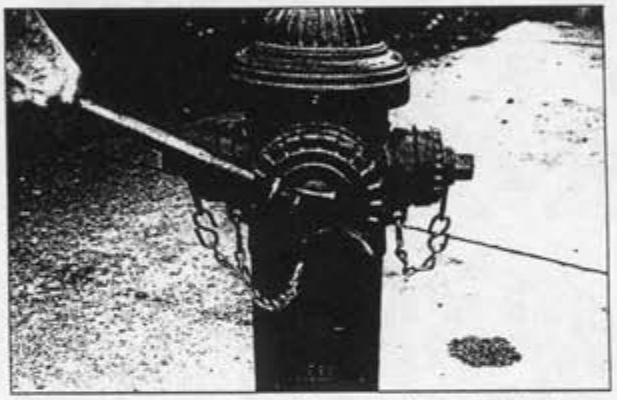
22. *Lay out components. Replace damaged components. Clean, then grease all parts using a FDA approved lubricant such as Beacon 290. After lubricating, reassemble parts and securely tighten bottom plate #45.*

23. *Reversing above procedure, reinstall valve assembly, fully threading it into the subseat. You may pull up on rod, closing valve, and opening auxiliary valves to pressurize the elbow and check for any leaks.*



24. *Replace the bonnet seal #10. Grease threads on valve rod. Replace bonnet, turning clockwise into position. Grease threads on bonnet locking screw #9 and replace. Be sure bonnet is centered so locking screw sets in the "V" of the locking slot in the upper barrel.*

25. *Regrease the upper and lower chambers of the revolving nut #13. Replace revolving nut and bearing #47. Replace travel stop nut #5. Replace hold down nut #6 and tighten securely. Tighten hold down nut screw #7. Replace operating nut #1 and pin #3.*



26. *Check pressure tightness of assembled parts by following steps 2, 3 and 4 of inspection procedure. Then open hydrant and flow. Close and check for proper draining.*

27. *Hydrant closed and back in service.*

Rotating Hydrant to Face in Desired Direction

1. Shut off auxiliary valve to hydrant.
2. Open hydrant main valve 3 turns.
3. Loosen, but do not disassemble, bolts and nuts on frangible ground line coupling #30.
4. Rotate hydrant to desired position.
5. Tighten bolts and nuts on frangile coupling, be sure they're drawn up evenly on each side.
6. Close hydrant main valve.
7. Open auxiliary valve to hydrant.

U.S. PIPE METROPOLITAN® Fire Hydrant User Installation Guide

Restoring to Service After Traffic Knockover

The hydrant can be restored to service without removing bonnet or valve rod assembly. Use traffic repair kit consisting of breakaway coupling for barrel and rod with gaskets and fasteners. The kit includes parts #26, 27, 28, 29, 30 and 31.

1. Remove broken valve rod coupling, pins and retaining rings from rod ends.

2. Replace standpipe coupling seal #29 if damaged. Fill groove with grease so seal stays in place during assembly or use gasket cement.

3. Clean all mating parts as necessary. Turn operating nut to fully "open" position so bottom of upper rod slides out as far as possible.

4. Take new rod coupling #26, and slip the stainless steel retaining rings up out of their grooves so the pins can be removed. Leave the rings up out of position.

5. Place the rod coupling over the top of the lower rod #32, replace lower pin and slide retaining ring down so it snaps back into its groove, holding the pin in place.

6. Set the hydrant upper section #25, with the upper rod extended, down over the lower barrel. Guide the bottom of the upper rod into the rod coupling, align holes and install pin. There is enough space to reach in and do this. Slide the stainless steel retaining ring down into its groove, holding the pin in place.

7. Turn the operating nut in the closing direction. This will lower the top section over the bottom section. Align the hydrant to face in the proper direction. When the top is centered over the bottom, continue to close until snug.

8. Assemble the ground line coupling #30, being sure that the bottom of the coupling is in its groove and there is uniform engagement of the top half of the coupling on the shoulder of the upper section.

9. Tighten the coupling bolt and nut evenly so the space on each side is equal.

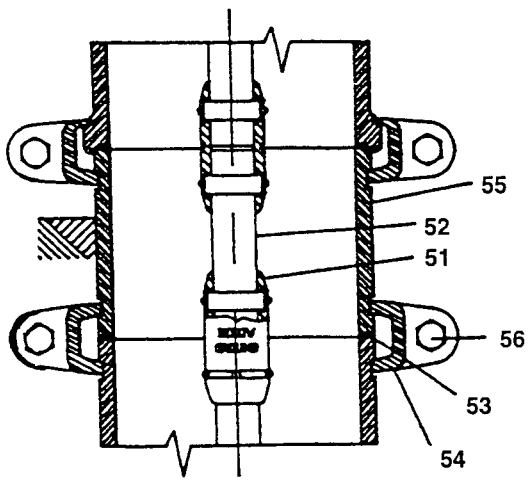
Installing Extension Section

The METROPOLITAN Fire Hydrant can be extended in 6" increments with the use of standard extension kits in units from 5" to 36" in length. Longer lengths are available on special order. The kit consists of one extension rod coupling, one rod extension, one extension coupling gasket, two standpipe coupling halves, one standpipe extension and two extension coupling bolts and nuts.

Install the extension section as follows:

1. Follow steps 1 thru 7 to removal of bonnet.

2. Remove standpipe coupling #30 and lift upper standpipe up over valve rod #24. Do not lose standpipe coupling seal #29.



Detail of Hydrant Extension

3. Slip lower stainless retaining rings #27 out of its groove, remove lower pins #28 and separate valve rod upper #24 with coupling from lower rod #32.

4. Install rod extension #52 between existing rod ends being certain the non-frangible coupling (without break groove) is below, and the frangible coupling (with groove) is above. Replace all pins and secure with stainless steel retainers.

5. Clean grooves in lower standpipe #33 and standpipe extension section #55. Place extension gasket #53 in groove in the extension. Grease may be applied to hold in place. Place the extension over the lower standpipe.

6. Install non-frangible coupling #54 with SS bolts and nuts so it engages both grooves equally.
7. Set hydrant standpipe upper on extension being careful that gasket #29 stays in place during assembly.

8. Reassemble frangible coupling #29 around lip of standpipe upper and groove in extension. Be sure there is uniform engagement all around and tighten the coupling bolts and nuts so any space between the two halves where the bolts go through is equal.

9. Reassemble extended main rod assembly according to instructions 26 thru 20 of the disassembly-reassembly procedure. Be sure parts are clean and wall greased before reassembly. If it is necessary to remove valve assembly to install extension sections, then follow instructions 13 through 20.

Replacing A Damaged Nozzle

1. Remove the nozzle cap of the nozzle to be replaced.

2. Drive out the nozzle wedge lock #48.

3. Utilizing a nozzle removal wrench, engage the lugs inside the nozzle. Turn clockwise. NOTE: If a nozzle removal wrench is not available, remove the gasket from the nozzle cap. Replace the cap and use a hydrant operating wrench to turn out the nozzle.

4. Lubricate the threads and "O" ring (part #18 or 22). Install the replacement nozzle by threading in the nozzle in a counterclockwise direction.

5. Replace the nozzle wedge lock and drive in place with a hammer and punch.

NOTE: If the nozzle does not remove easily, heat the nozzle internally with a torch. This will breakdown any thread locking sealant that may have been applied.

Information Necessary When Ordering Spare Parts

When ordering parts for the METROPOLITAN Fire Hydrant, please provide the following information:

1. Size of main valve opening (4-1/2" or 5-1/4"). This is cast in raised letters on the back of the standpipe upper section #25.
2. Opening direction clockwise (right) or counterclockwise (left).

3. Size and shape of operating nut (standard AWWA pentagon is 1-1/2" point to flat). Nozzle caps take same size and shape as specified for operating nut.

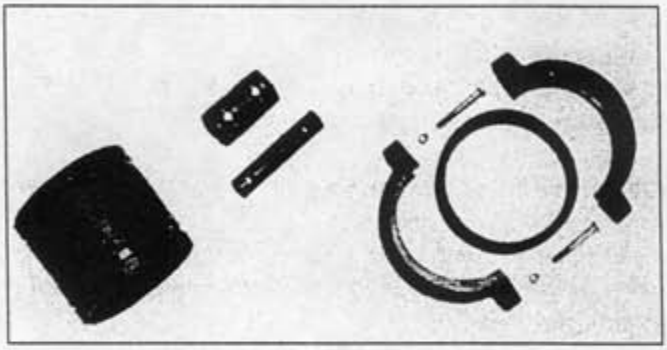
4. Size and thread detail for hose and pumper nozzle or caps. If other than National Standard, refer to previous orders or send drawings and complete thread detail or send sample nozzle.

5. Depth of trench (also called depth of bury). It is distances from groundline to bottom of the connecting pipe.

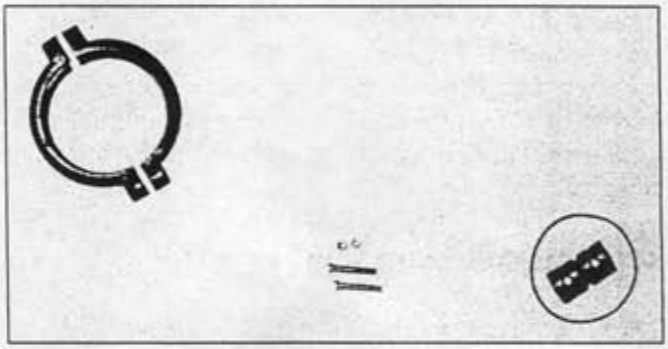
All spare parts are painted black except above groundline items which are prime coated for finish painting by customer.

METROPOLITAN® Fire Hydrant
Accessory Kits and Ordering

Accessories

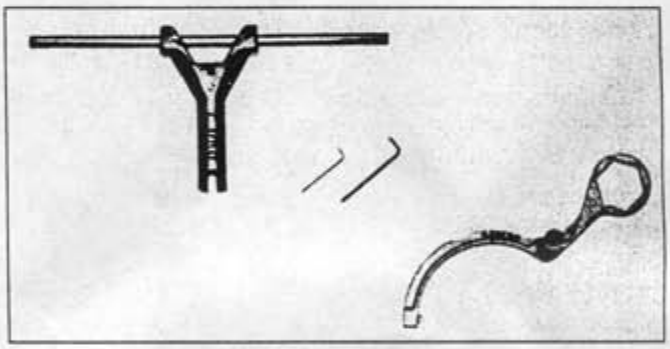


Extension Kits
Extension of the METROPOLITAN Hydrant to adjust for changes in ground elevation, is easily done without digging. Kit includes the barrel and rod units from 6" to 36" long in 6" increments (longer units available on special order). Extension Kit comes complete with nonbreakable rod and barrel couplings, gaskets and fasteners. Only a wrench and screwdriver are needed for assembly.



Traffic Repair Kit
Consists of complete breakaway coupling for barrel and rod with gaskets and fasteners. Hydrant can be restored to service with only a screwdriver and wrench without removing the bonnet.

Disassembly Tool Kit
Consists of a compact seat removal wrench, a combination spanner wrench and two allen wrenches. The combination spanner wrench takes the place of three tools for bonnet removal, for removing the travel stop nut and for removing the hold down nut and valve bottom plate.



Gasket Kit
All Bonnet "O" Rings
Revolving Nut "O" Rings
Thrust Washer
Bonnet Seal
Standpipe Seal

Main Valve Repair Kit
Seat Ring
Main Valve (Rubber)
Seat Ring "O" Rings

Directions For Ordering

When ordering the METROPOLITAN Fire Hydrant, please specify the following:

1. Quantity required.
2. Size of main valve opening (5-1/4 or 4-1/2).
3. Opening direction.
4. Operating nut size and shape.
5. Number and size of nozzles.
6. Nozzle thread detail (NST or other).
7. Depth of bury-distance from ground line to the bottom of the hydrant inlet (same as depth of trench).
8. Type and size of inlet connection.
9. Color code. Unless otherwise specified the hydrant will be painted fire engine red from the ground line up.