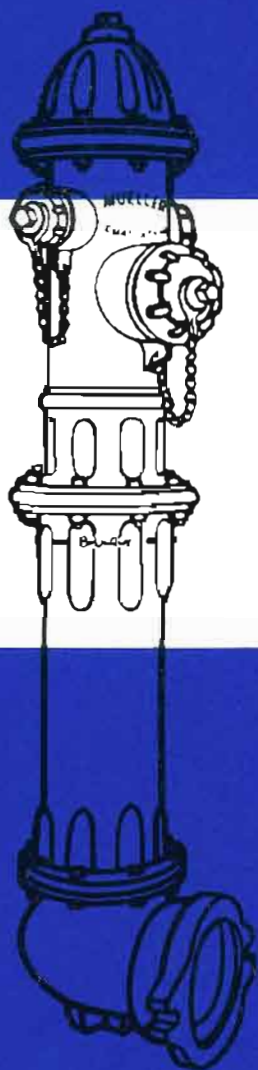


# OPERATING INSTRUCTIONS

for the  
**MUELLER**<sup>®</sup>



## IMPROVED FIRE HYDRANT

FORM 8520 REVISED



**MUELLER CO.**

*Dependable Since 1857*

MAIN OFFICE & FACTORY, DECATUR, ILLINOIS

# MUELLER®

## MAINTENANCE and OPERATING INSTRUCTIONS

FOR THE

## IMPROVED FIRE HYDRANT

**MAIN OFFICE and PLANT**  
500 West Eldorado Street  
Decatur, Illinois 62522  
[www.muellercompany.com](http://www.muellercompany.com)



1. Read and follow instructions carefully. Proper training and periodic review regarding the use of this equipment is essential to prevent possible serious injury and/or property damage.
2. Do not exceed the pressure ratings of any components or equipment. Exceeding the rated pressure may result in serious injury and/or property damage.
3. Safety goggles and other appropriate protective gear should be used. Failure to do so could result in serious injury.

**Mueller Co.**

# IMPROVED FIRE HYDRANT

## INSPECTION AND MAINTENANCE

To insure their readiness for instantaneous use, all fire hydrants should be inspected and tested at six-month intervals.

Inspect visually for damaged or missing parts.

Unscrew one nozzle cap slightly and tighten the others. Open the main valve. Tighten the one loose nozzle cap when water starts flowing. If hydrant has oil filler plug, remove it to check and make sure all "O" Rings are in good condition. Check stem packing and all gaskets for leaks. Close the main valve.

If stem packing leaks remove bonnet and either replace the two "O" Rings or tighten the two stuffing box stud nuts. Inspect and clean the stem, and replace it if it is corroded or pitted. Replace bonnet. Check the oil level. Retest for leaks.

Remove one nozzle cap and open main valve and flush the barrel and the hydrant lateral. Close the main valve.

Remove all nozzle caps. Clean and lubricate the threads.

Examine the inside of the barrel to make certain that the drain valves have completely drained the water from the barrel. If the water fails to drain from the barrel it may be caused by one or more of the following conditions:

1. Water table in ground higher than drains.
2. When hydrant was installed no coarse gravel was put around the drains and the ground is of such nature that it will not readily absorb water.
3. Drains stopped up by some foreign substance.
4. Failure to leave the cap off the hydrant to allow air to enter so barrel will drain.

NOTE: The following procedure can be used to open most blocked drain valves.

1. If the water level does not drain and remains in the barrel at a level just below the nozzles, recap the nozzles hand tight and then back them off  $\frac{1}{4}$  turn.
2. Open the main valve and fill the barrel as completely as possible.
3. Tighten the nozzle caps and close the hydrant to within two or three turns of full closure for several seconds.
4. Close the main valve completely and recheck hydrant drainage. Repeat this procedure if necessary.

The above procedure introduces full line pressure to the drain valves and provides the best method to clean the drain valves with water pressure.

Replace nozzle caps and oil filler plug.

Use A-24099 brass sleeve when removing or replacing bonnet or stuffing box having "O" Ring seals.

Loosen the two stuffing box stud nuts when removing stuffing box plate with conventional packing and tighten these two nuts after replacing this type of stuffing box plate.

If it is necessary to remove a bonnet having filler plug, make sure in replacing it that the filler plug hole is aligned with the offset portion of the oil reservoir. This bonnet is so designed that it cannot be brought flush with the barrel flange except when in the correct position. If sealed oil reservoir type is used the position of the filler plug hole is not important.

### IMPORTANT

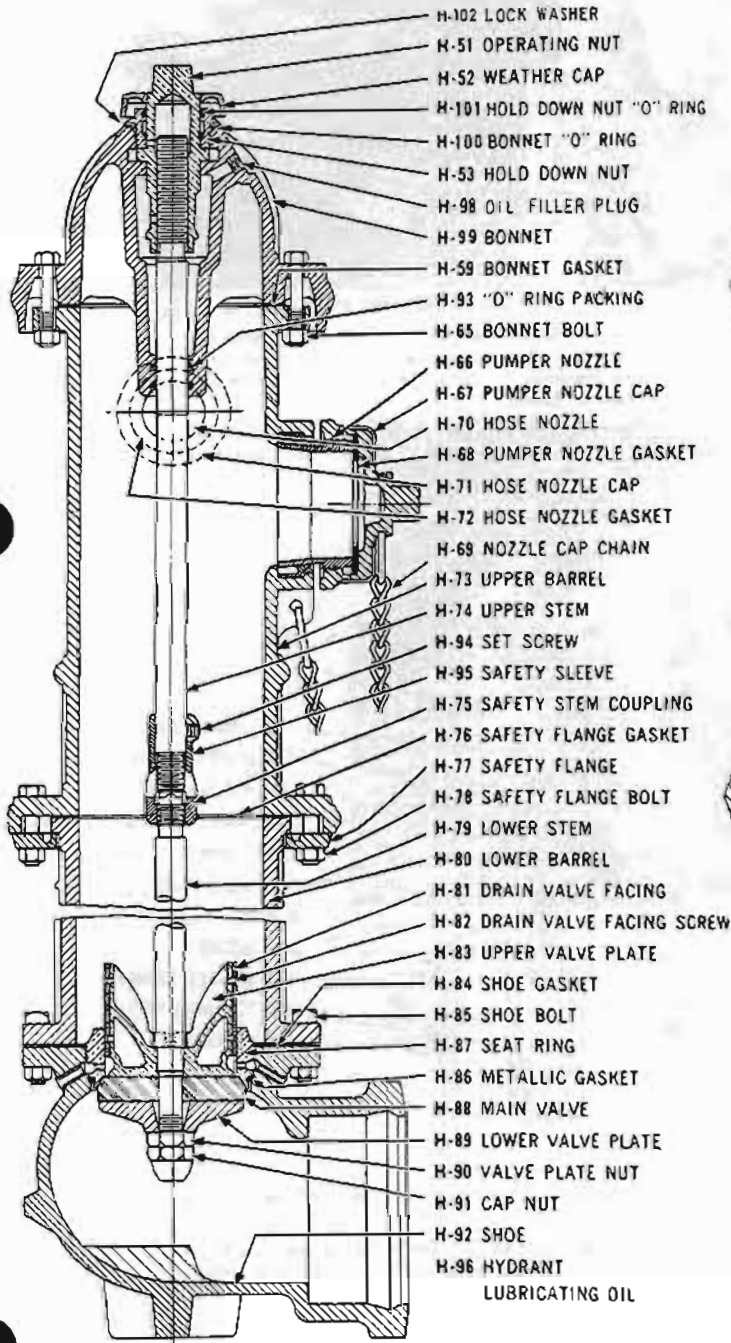
Initial installation of the hydrant **must be made properly** so the safety flange will function in the ground properly. It should be backed up by concrete or some similar substance to prevent the ground from giving away when the hydrant is struck.

For additional information on hydrant anchorage, blocking, and drainage see AWWA Standard C-600-64.

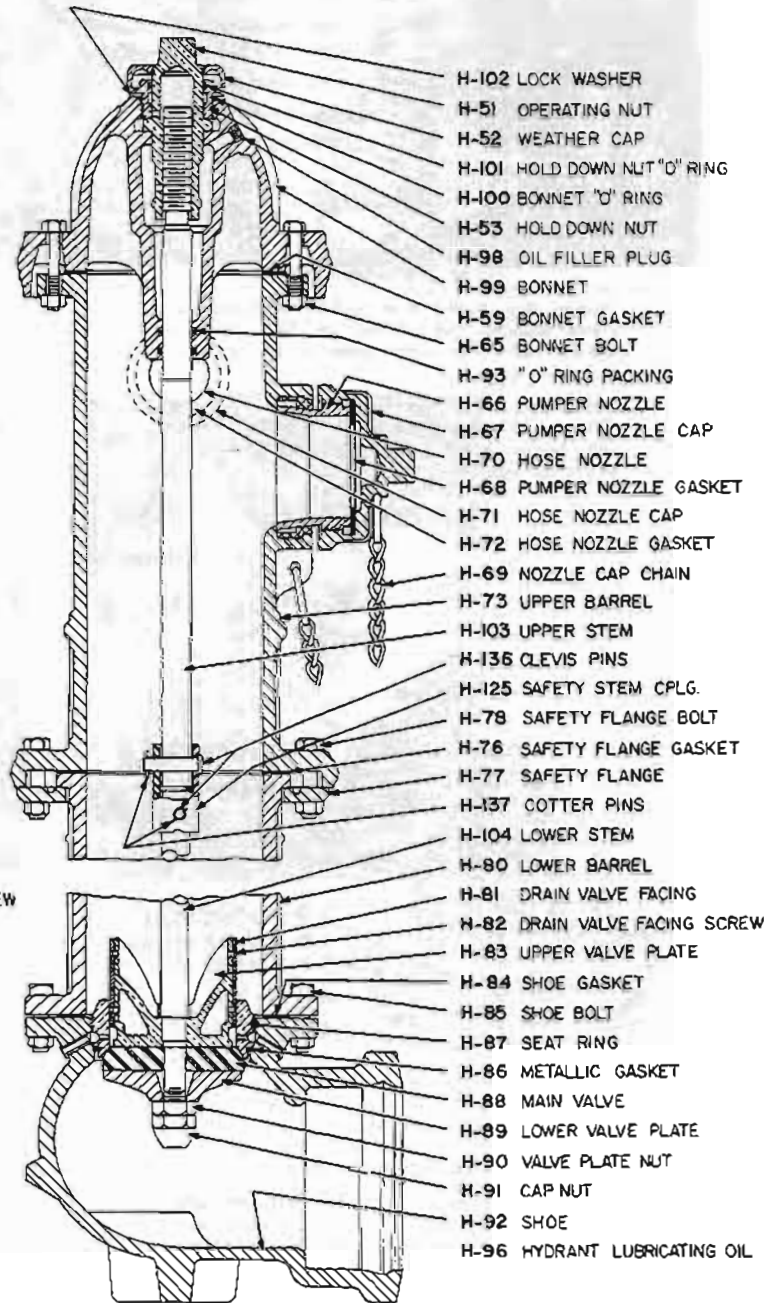
# IMPROVED FIRE HYDRANT

## PARTS

IMPROVED HYDRANT WITH  
BRASS SAFETY STEM COUPLING

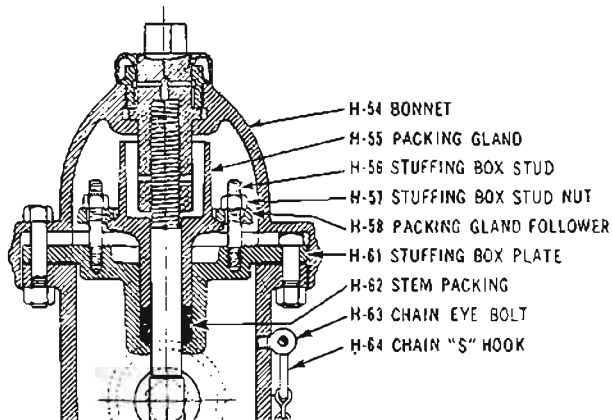


IMPROVED HYDRANT WITH  
STEEL SAFETY STEM COUPLING



# IMPROVED FIRE HYDRANT

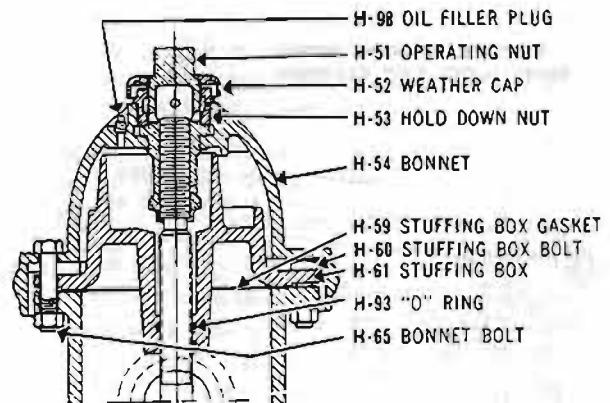
## BONNET PARTS



1934 THROUGH 1947

Above: Bonnet section of hydrant with conventional packing and without oil filler plug in bonnet. All other parts same as on drawing below.

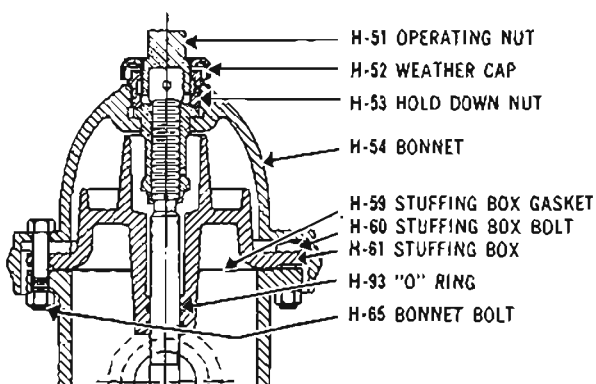
Appearance same as 1948 through 1953. No filler plug. If nozzle chains are attached to eye-bolt, bonnet is this style, unless changed. Packing is conventional.



1954 THROUGH 1961

Above: Bonnet section with "O" ring seals and oil filler plug in bonnet. All other parts same as drawing at right. Year date is marked on side of barrel.

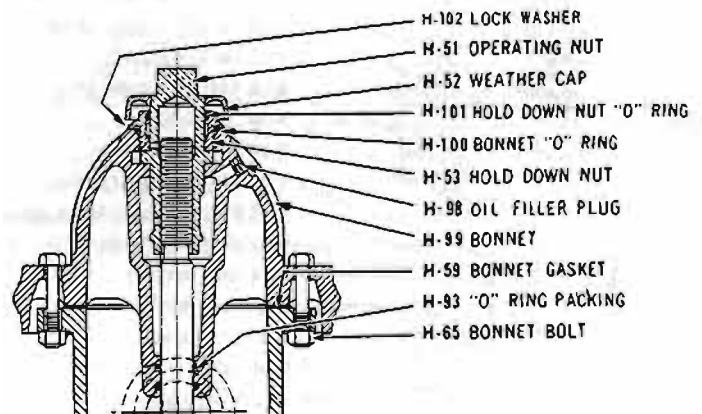
Oil reservoir changed in shape to allow addition of oil without disturbing bonnet. Oil filler plug in vertical position.



1948 THROUGH 1953

Above: Bonnet section with "O" ring seals and without oil filler plug in bonnet. All other parts same as drawing at right. Year date is marked on side of barrel.

No oil filler plug. Nozzle chains are attached below each nozzle. "O" rings now used in place of conventional packing.



Above: Hydrant with sealed oil reservoir — 1962 style.

Hydrant bonnet is marked SR on top of flange. Oil filler plug is set on an angle. Lock washer was added in 1965. Year date is marked on side of barrel.



## FACING OF HOSE NOZZLES

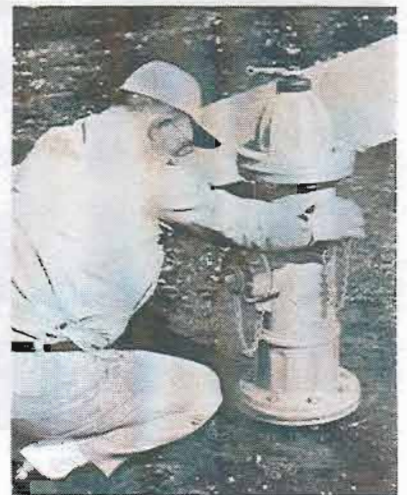
# IMPROVED FIRE HYDRANT



1. Loosen nuts on safety flange bolts.



2. Turn operating nut slightly in the opening direction to relieve compression between barrel sections.



3. Rotate upper barrel section as desired.



4. Tighten operating nut, turning in closing direction.



5. Tighten safety flange bolts.

# IMPROVED FIRE HYDRANT

(SEALED OIL RESERVOIR MARKED SR)

## REMOVING MAIN VALVE



1. Remove weather cap, hold down nut and operating nut from bonnet. Lubricate A-24099 brass sleeve and slide over threaded stem end to prevent "O" ring damage. Unbolt bonnet and remove. Remove brass sleeve.



2. Insert seat wrench so it engages lugs on seat ring. Screw seat wrench stem extension on to hydrant stem until pin engages top of seat wrench. (If non-adjustable type, use operating nut instead of seat wrench stem extension.) Shut off water at the gate valve. Turn wrench counterclockwise to unscrew seat ring.



3. Lift stem, complete valve mechanism, and seat wrench as a unit from hydrant barrel.



4. Remove lower stem nuts while stem and valve assembly is still in seat wrench. Replace damaged or worn parts.

5. Reassemble and use the seat wrench to hold valve assembly while tightening lower stem nuts firmly to stem. Put on a new copper-asbestos gasket. To do this, place gasket in one side of groove in seat ring with sear of gasket facing outward. Working in both directions with the thumbs, push the gasket outward and downward until gasket is snugly seated into groove.



6. Loosen seat wrench extension (or operating nut) so seat ring has same float in seat wrench. Replace complete working parts and seat wrench assembly in hydrant barrel.



7. Screw seat ring in place by turning seat wrench clockwise. Turn water on at gate valve. Remove seat wrench.



8. Check bonnet gasket. Attach the A-24099 brass sleeve, if it had been removed, to upper stem and lubricate outside to protect "O" ring seals from thread damage. Place bonnet onto upper barrel and assemble bonnet bolts only hand tight. Remove brass sleeve. Reassemble operating nut and remove oil plug in side of bonnet. Pour Mueller hydrant lubricant into oil reservoir until it is level full with plug. Replace oil plug.



9. Replace hold down nut being sure "O" Ring seals are in good condition at thread shoulder on outside of hold down nut and an inside where contact is made with operating nut. Replace weather cap. Tighten bonnet bolts. Check gasket tightness by opening one hose cap slightly before opening hydrant to bleed air. Open hydrant until barrel fills with water, tighten hose cap, open hydrant fully. Check gaskets, and then turn operating nut to fully closed position.



## REMOVING MAIN VALVE

# IMPROVED FIRE HYDRANT

(ALL MODELS PRIOR TO 1962)



1. Remove four bonnet bolts and turn operating nut in the opening direction until free of the stem. Remove bonnet.



2. Remove four bolts in stuffing box. Lubricate A-24099 Brass Sleeve. Slide Sleeve over threaded area of stem to protect "O" rings from damage by threads. Lift stuffing box off carefully. Remove brass sleeve.



3. Insert seat wrench so it engages lugs on seat ring. Screw seat wrench stem extension on to hydrant stem until pin engages top of seat wrench. (If non-adjustable type, use operating nut instead of seat wrench stem extension.) Shut off water at the gate valve. Turn wrench counter-clockwise to unscrew seat ring.



4. Lift stem, complete valve mechanism, and seat wrench as a unit from hydrant barrel.



5. Remove lower stem nuts while stem and valve assembly is still in seat wrench. Replace damaged or worn parts.

6. Reassemble and use seat wrench to hold valve assembly while tightening lower stem nuts firmly to stem. Put on a new copper-asbestos gasket. To do this, place gasket in one side of groove in seat ring with seam of gasket facing outward. Working in both directions with the thumbs, push the gasket outward and downward until gasket is snugly seated into groove.



7. Loosen seat wrench extension (or operating nut) so seat ring has some float in seat wrench. Replace complete working parts and seat wrench assembly in hydrant barrel.



8. Screw seat ring in place by turning seat wrench clockwise. Turn water on at gate valve. Remove seat wrench.



9. Check stuffing box gasket. Lubricate A-24099 Brass Sleeve. Slide Sleeve over threaded area of stem to protect "O" rings from damage by threads. Place stuffing box in position and bolt to barrel. Remove Brass Sleeve. Pour Mueller Hydrant Lubricant into oil reservoir until THREE-QUARTERS of an inch from top.

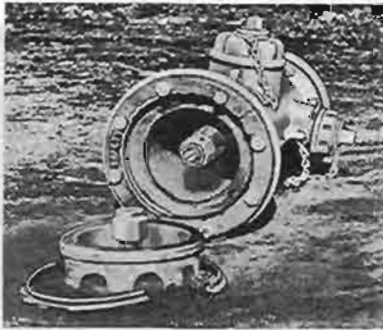


10. Replace bonnet. Turn operating nut in closing direction to engage stem. If bonnet has filler plug, make sure that the filler plug hole is aligned with the offset portion of the oil reservoir. Bolt in place.



# IMPROVED FIRE HYDRANT

## REPLACING SAFETY FLANGE AND IRON SAFETY COUPLING



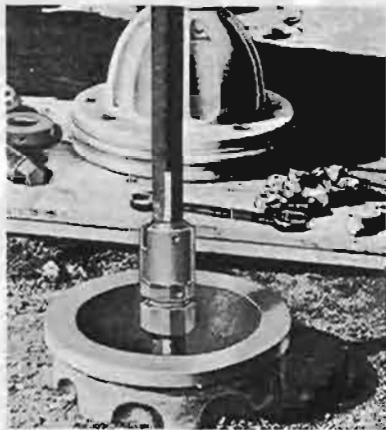
1. Mueller Improved Hydrant with upper barrel knocked over by truck. Note broken pieces of safety flange lying on ground.



2. Unbolt and remove broken Safety Flange from upper barrel. Remove Weather Cap, Hold Down Nut and Operating Nut from bonnet. Lubricate A-24099 Brass Sleeve and slide over threaded stem end to prevent "O" Ring damage. Unbolt bonnet from upper barrel. Slide upper stem out of bonnet. Remove broken Stem Coupling from upper stem by placing a narrow faced chisel between lug part containing set screw and strike a sharp blow with hammer to break off lug. Unscrew remaining coupling part from stem or break coupling part from stem with hammer. Unscrew lower part of coupling from lower stem or break away with hammer.



3. Draw a chalk or pencil mark on lower stem in line with tongue and a similar mark on upper stem in line with the groove. Screw new Coupling down until it shoulders on lower stem. Engage upper stem with Coupling and screw down until it contacts lower stem. Back up the upper stem just enough to line up the marks drawn on the stems. Hold upper stem stationary and rotate Coupling upward until tongue and groove lock firmly together. Tighten set screw.



4. Stem Coupling threads may be re-lubricated with Esso Nebula EP-2 or a comparable grease applied through the hole in Safety Stem Coupling.



5. Place flange gasket on exposed flange of lower barrel. Place upper barrel carefully in position on lower barrel. Be sure that it is concentric with lower barrel and that gasket is centered.



6. Check bonnet gasket. Attach the A-24099 Brass Sleeve, if it had been removed, to upper stem and lubricate outside to protect "O" Ring seals from thread damage. Place bonnet onto upper barrel and assemble bonnet bolts only hand tight. Remove Brass Sleeve. Reassemble Operating Nut and remove Oil Plug in side of bonnet. Pour Mueller Hydrant Lubricant into oil reservoir until it is level full with Plug. Replace Oil Plug.



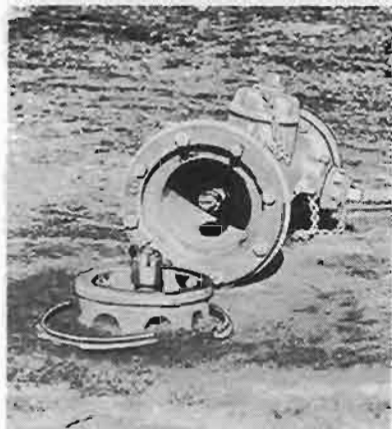
7. Replace Hold Down Nut being sure "O" Ring seals are in good condition at thread shoulder on outside of Hold Down Nut and on inside where contact is made with Operating Nut. Replace Weather Cap. Tighten bonnet bolts. Check gasket tightness by opening one hose cap slightly before opening hydrant to bleed air. Open hydrant until barrel fills with water, tighten hose cap, open hydrant fully. Check gaskets, and then turn Operating Nut to fully closed position.

Bolt into place the two halves of Safety Flange with circular groove facing upward, and with Safety Flange snugly fitting around lower barrel.

# REPLACING SAFETY FLANGE AND BRASS SAFETY COUPLING

# IMPROVED FIRE HYDRANT

(ALL MODELS PRIOR TO 1962)



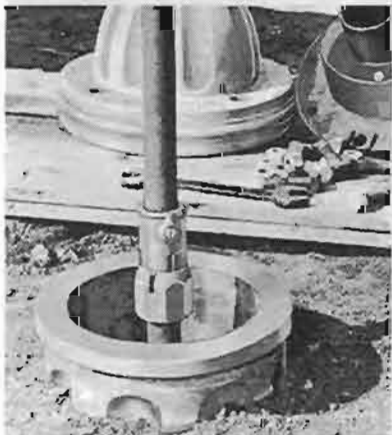
1. Mueller Improved Hydrant with upper barrel knocked over by truck. Note broken pieces of safety flange lying on ground.



2. Remove bonnet assembly, stuffing box, and stem from upper barrel. Before removing stem from stuffing box, lubricate A-24099 Brass Sleeve and slide Sleeve over threaded area of the stem to prevent damage to "O" rings.



3. Remove damaged coupling and sleeve. Screw new safety stem coupling on to lower stem down against shoulder. Slip safety sleeve over lower end of upper stem section. Screw upper stem into safety stem coupling until it contacts the lower stem.



4. (left) Turn safety stem coupling and upper stem so that slot in safety stem coupling aligns with the tongue and groove of stems. Hold upper stem in alignment and screw safety stem coupling upward until tongue and groove of stems firmly lock together. Tighten with wrench. With safety stem coupling in place, slide safety sleeve downward so that lower end of sleeve surrounds upper end of safety stem coupling. Be sure safety sleeve projections fit into safety stem coupling slots. With safety sleeve in place, tighten set screw in sleeve.



5. Place flange gasket on exposed flange of lower barrel. Place upper barrel carefully in position on lower barrel. Be sure that it is concentric with lower barrel and that gasket is centered.



6. Check stuffing box gasket. Lubricate A-24099 Brass Sleeve. Slide Sleeve over threaded area of stem to protect "O" rings from damage by threads. Place stuffing box plate in position and bolt to barrel. Remove Brass Sleeve. Pour Mueller Hydrant Lubricant into oil reservoir until **THREE-QUARTERS** of an inch from top.



7. Replace bonnet. Turn operating nut in closing direction to engage stem. If bonnet has filler plug, make sure that the filler plug hole is aligned with the offset portion of the oil reservoir. Bolt in place.

Bolt into place the two halves of safety flange with circular groove facing upward, and with safety flange snugly fitting around lower barrel.

# IMPROVED FIRE HYDRANT

(SEALED OIL RESERVOIR MARKED SR)

## REPLACING SAFETY FLANGE AND BRASS SAFETY COUPLING



1. Mueller Improved Hydrant with upper barrel knocked over by truck. Note broken pieces of Safety Flange lying on ground.



2. Unbolt and remove broken Safety Flange from upper barrel. Remove Weather Cap, Hold Down Nut and Operating Nut from bonnet. Lubricate A-24099 Brass Sleeve and slide over threaded stem end to prevent "O" Ring damage. Unbolt bonnet from upper barrel. Slide upper stem out of bonnet. Remove damaged Stem Coupling and Sleeve from upper and lower stem.



3. Place new Safety Stem Coupling Sleeve part onto upper stem. Screw new Safety Stem Coupling part onto lower stem as far as threads permit. Screw upper stem into Safety Stem Coupling until it contacts the lower stem.



4. Turn Safety Stem Coupling and upper stem so that slot in Safety Thimble aligns with the tongue and groove of stems. Hold upper stem in alignment and screw Safety Stem Coupling upward until tongue and groove of stems firmly lock together. Tighten with wrench. With Safety Stem Coupling in place, slide Safety Sleeve downward so that lower end of sleeve surrounds upper end of Safety Stem Coupling. Be sure Safety Sleeve projections fit into Safety Stem Coupling slots. With Safety Sleeve in place, tighten set screw in Safety Sleeve.



5. Place flange gasket on exposed flange of lower barrel. Place upper barrel carefully in position on lower barrel. Be sure that it is concentric with lower barrel and that gasket is centered.



6. Check bonnet gasket. Attach the A-24099 Brass Sleeve, if it had been removed, to upper stem and lubricate outside to protect "O" Ring seals from thread damage. Place bonnet onto upper barrel and assemble bonnet bolts only hand tight. Remove Brass Sleeve. Reassemble Operating Nut and remove Oil Plug in side of bonnet. Pour Mueller Hydrant Lubricant into oil reservoir until it is level full with Plug. Replace Oil Plug.



7. (left) Replace Hold Down Nut being sure "O" Ring seals are in good condition at thread shoulder on outside of Hold Down Nut and on inside where contact is made with Operating Nut. Replace Weather Cap. Tighten bonnet bolts. Check gasket tightness by opening one hose cap slightly before opening hydrant to bleed air. Open hydrant until barrel fills with water, tighten hose cap, open hydrant fully. Check gaskets, and then turn Operating Nut to fully closed position.

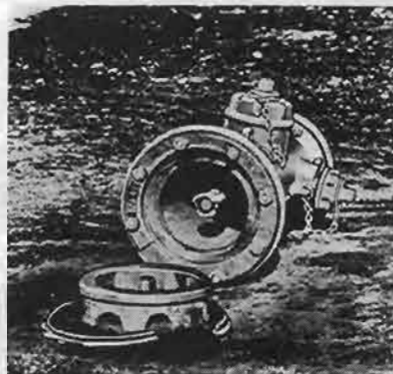


# REPLACING SAFETY FLANGE AND SAFETY STEM COUPLING

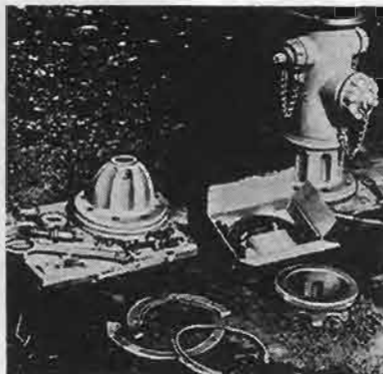
(STEEL COUPLING)

# IMPROVED FIRE HYDRANT

(SEALED OIL RESERVOIR 1962 STYLE)



1. Mueller Improved Hydrant with upper barrel knocked over by truck. Note broken pieces of Safety Flange lying on ground.



2. Remove stainless steel cotter pin from stainless steel clevis pin. Remove stainless steel clevis pin and safety stem coupling from upper stem. Unbolt and remove broken Safety Flange from upper barrel. Remove Weather Cap. Hold Down Nut and Operating Nut from bonnet. Lubricate A-24099 Brass Sleeve and slide over threaded stem end to prevent "O" Ring damage. Unbolt bonnet from upper barrel. Slide upper stem out of bonnet.



3. Remove stainless steel cotter pin from stainless steel clevis pin in lower stem (throw away the old clevis pin and cotter pin).



4. Assemble new safety stem coupling to upper stem with new stainless steel clevis pin and new stainless steel cotter pin. Safety stem coupling should be installed with notches towards the lower stem. NOTE: "This End Up" stamped on coupling.

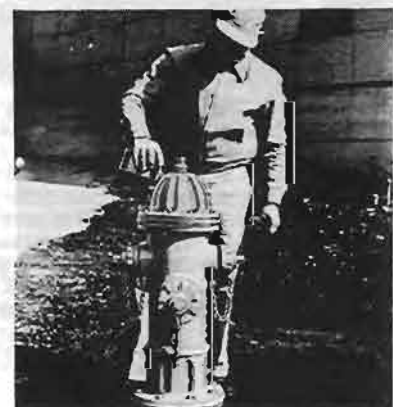


5. Assemble upper stem and new safety stem coupling onto lower stem and retain it with new stainless steel clevis pin and new stainless steel cotter pin furnished with safety stem coupling.



6. Place flange gasket on exposed flange of lower barrel. Place upper barrel carefully in position on lower barrel. Be sure that it is concentric with lower barrel and that gasket is centered.

Bolt into place the two halves of Safety Flange with circular groove facing upward, and with Safety Flange snugly fitting around lower barrel.



7. Check bonnet gasket. Attach the A-24099 Brass Sleeve, if it had been removed, to upper stem and lubricate outside to protect "O" Ring seals from thread damage. Place bonnet onto upper barrel and assemble bonnet bolts only hand tight. Remove Brass Sleeve. Reassemble Operating Nut and remove Oil Plug in side of bonnet. Pour Mueller Hydrant Lubricant into oil reservoir until it is level full with Plug. Replace Oil Plug.



8. (left) Replace Hold Down Nut being sure "O" Ring seals are in good condition at thread shoulder on outside of Hold Down Nut and on inside where contact is made with Operating Nut. Replace Weather Cap. Tighten bonnet bolts. Check gasket tightness by opening one hose cap slightly before opening hydrant to bleed air. Open hydrant until barrel fills with water, tighten hose cap, open hydrant fully. Check gaskets, and then turn Operating Nut to fully closed position.



# IMPROVED FIRE HYDRANT

(ALL MODELS PRIOR TO 1962)

## INSERTING EXTENSION SECTION



1. Hydrant twelve inches too short because of a planned grade level change. Remove four bonnet bolts and turn operating nut in the opening direction until free of stem. Remove bonnet.



2. Remove four bolts in stuffing box. Lubricate A-24099 Brass Sleeve. Slide Sleeve over threaded area of stem to protect "O" rings from damage by threads. Lift stuffing box off carefully. Remove brass sleeve.



3. Unbolt safety flange and remove upper barrel.



4. Unscrew set screw in safety sleeve. Screw safety stem coupling down against shoulder. Slide safety sleeve up and unscrew upper stem from safety stem coupling. Unscrew safety stem coupling from lower stem. Screw extension stem coupling down on lower stem against shoulder.

5. Screw extension stem into extension coupling until it contacts extension coupling. Align tongue and groove of stems with hole in extension stem coupling. Screw extension stem coupling upward until tongue and groove of stems firmly lock together. Tighten with wrench, then screw in set screw in extension stem coupling.

**Note:** When inserting extension section using iron safety coupling, follow steps one, two and three of this page. Loosen set screw in iron safety coupling. Hold upper stem stationary and rotate iron safety coupling downward until tongue and groove of stems disengage. Unscrew upper stem from iron safety coupling and unscrew iron safety coupling from lower stem. Assemble extension stem to lower stem with an iron extension coupling by following steps three and four on Page 10. Assemble upper stem to extension stem with an iron safety coupling by again following steps three and four on Page 10. Then follow steps seven thru ten on this page.



6. Using slotted safety stem coupling, assembly upper stem to extension stem, following the instructions given in Steps 3 and 4 of "Replacing Safety Flange" on Page 9.



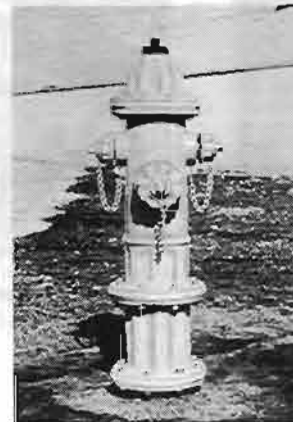
7. Attach extension barrel to lower barrel with solid flange halves (without groove) and bolts, being sure flange gasket is in place.



8. Attach upper barrel to extension barrel with safety flange halves (with groove) and bolts, being sure flange gasket is in place.



9. Check stuffing box gasket. Lubricate A-24099 Brass Sleeve. Slide Sleeve over threaded area of stem to protect "O" rings from damage by threads. Place stuffing box in position and bolt to barrel. Remove Brass Sleeve. Pour Mueller Hydrant Lubricant into oil reservoir until **THREE-QUARTERS** of an inch from top.



10. (left) Replace bonnet. Turn operating nut in closing direction to engage stem. If bonnet has filler plug, make sure that the filler plug hole is aligned with the offset portion of the oil reservoir. Bolt in place.

# INSERTING EXTENSION SECTION

# IMPROVED FIRE HYDRANT

(SEALED OIL RESERVOIR MARKED SR)



1. Hydrant twelve inches too short because of a planned grade level change. Remove weather cap, hold down nut and operating nut from bonnet. Lubricate A-24099 brass sleeve and slide over threaded stem end to prevent "O" Ring damage. Unbolt bonnet from upper barrel and remove. Remove brass sleeve.



2. Unbolt safety flange and remove upper barrel.

3. Unscrew set screw in safety sleeve. Screw safety stem coupling down against shoulder. Slide safety sleeve up and unscrew upper stem from safety stem coupling from lower stem. Screw extension stem coupling down on lower stem against shoulder.



6. Attach extension barrel to lower barrel with solid flange halves (without groove) and bolts, being sure flange gasket is in place.



7. Attach upper barrel to extension barrel with safety flange halves (with groove) and bolts, being sure flange gasket is in place.

**Note:** When inserting extension section using iron safety coupling, follow steps one and two of this page. Loosen set screw in iron safety coupling. Hold upper stem stationary and rotate iron safety coupling downward until tongue and groove of stems disengage. Unscrew upper stem from iron safety coupling and unscrew iron safety coupling from lower stem. Assemble extension stem to lower stem with an iron extension coupling by following steps three and four on Page 10. Assemble upper stem to extension stem with an iron safety coupling by again following steps three and four on Page 10. Then follow steps six thru nine on this page.



4. Screw extension stem into extension coupling until it contacts lower stem. Align tongue and groove of stems with hole in extension stem coupling. Screw extension stem coupling upward until tongue and groove of stems firmly lock together. Tighten with wrench, then screw in set screw in extension stem coupling.



5. Using slotted safety stem coupling, assemble upper stem to extension stem, following the instructions given in Steps 3 and 4 of "Replacing Safety Flange" on Page 8.



8. Check bonnet gasket. Attach the A-24099 brass sleeve, if it had been removed, to upper stem and lubricate outside to protect "O" Ring seals from thread damage. Place bonnet onto upper barrel and assemble bonnet bolts only hand tight. Remove brass sleeve. Reassemble operating nut and remove oil plug in side of bonnet. Pour Mueller hydrant lubricant in to oil reservoir until it is level full with plug. Replace oil plug.



9. Replace hold down nut being sure "O" Ring seals are in good condition at thread shoulder on outside of hold down nut and on inside where contact is made with operating nut. Replace weather cap. Tighten bonnet bolts. Check gasket tightness by opening one hose cap slightly before opening hydrant to bleed air. Open hydrant until barrel fills with water, tighten hose cap, open hydrant fully. Check gaskets, and then turn operating nut to fully closed position.

# IMPROVED FIRE HYDRANT

(SEALED OIL RESERVOIR 1962 STYLE)

# INSERTING EXTENSION SECTION

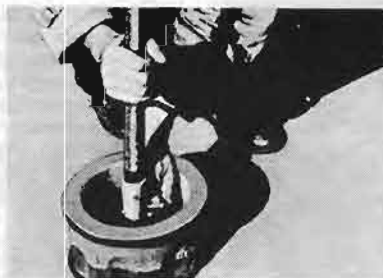
(WITH STEEL SAFETY STEM COUPLING)



1. Hydrant twelve inches too short because of a planned grade level change. Remove weather cap, hold down nut and operating nut from bonnet. Lubricate A-24099 brass sleeve and slide over threaded stem end to prevent "O" Ring damage. Unbolt bonnet from upper barrel and remove. Remove brass sleeve.



4. Assemble upper stem and safety stem coupling onto extension stem and retain it with stainless steel clevis pin and stainless steel cotter pin. MAKE SURE SAFETY STEM COUPLING IS INSTALLED WITH NOTCHES TOWARDS THE LOWER STEM. WORDS "THIS END UP" TOWARDS THE UPPER STEM.



2. Unbolt safety flange and remove upper barrel.

Remove upper stem and safety stem coupling by removing the lower stainless steel cotter pin and stainless steel clevis pin.



5. Attach extension barrel to lower barrel with solid flange halves (without groove) and bolts, being sure flange gasket is in place.



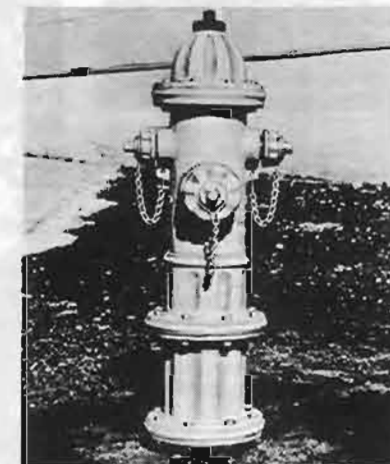
7. Check bonnet gasket. Attach the A-24099 brass sleeve, if it had been removed, to upper stem and lubricate outside to protect "O" Ring seals from thread damage. Place bonnet onto upper barrel and assemble bonnet bolts only hand tight. Remove brass sleeve. Reassemble operating nut and remove oil plug in side of bonnet. Pour Mueller hydrant lubricant into oil reservoir until it is level full with lubricant. Replace oil plug.



3. Place extension stem and extension coupling on lower stem and retain it with stainless steel clevis pin and stainless steel cotter pin.



6. Attach upper barrel to extension barrel with safety flange halves (with groove) and bolts, being sure flange gasket is in place.



8. Replace hold down nut being sure "O" Ring seals are in good condition at thread shoulder on outside of hold down nut and on inside where contact is made with operating nut. Replace weather cap. Tighten bonnet bolts. Check gasket tightness by opening one hose cap slightly before opening hydrant to bleed air. Open hydrant until barrel fills with water, tighten hose cap, open hydrant fully. Check gaskets, and then turn operating nut to fully closed position.



## FILLING OIL RESERVOIR

# IMPROVED FIRE HYDRANT



1. For all hydrants having oil hole in bonnet, remove filler plug and check oil level.



2. For sealed oil reservoir style (marked SR) oil should be level full with plug. (For other hydrants having oil hole in bonnet, insert dip stick into hole until it rests on bottom of oil reservoir.) Remove dip stick and note if oil is up to mark.



3. If oil is low, add oil using a small funnel or oil can in oil hole. (For hydrants other than SR, check level again with dip stick. Repeat until oil is up to mark on dip stick.) Replace filler plug in oil hole.



1a For hydrants without oil hole in bonnet use the following alternate procedure. Remove four bonnet bolts.



2a. Turn operating nut in opening direction until free of stem.



3a. Remove bonnet. Properly adjust packing if not "O" ring type.



4a. Replenish Mueller Hydrant Lubricant, if necessary, to within three-quarters of an inch from the top of oil reservoir.



5a. Replace bonnet. Turn operating nut in closing direction to engage stem. Bolt in place.

To make your own dip stick bend a one-inch loop in the end of a heavy wire or small brass rod 12" long. File a small line all around the rod  $2\frac{1}{8}$ " from opposite end. This line will indicate proper oil level when hydrant is closed.