



Operating Instructions

CENTURY FIRE HYDRANT B-50-B18 HYDRANT B-50-B24 HYDRANT



Barrie, ON, L4N 8Z9

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CENTURY, B-50-B18 AND B-50-B24 FIRE HYDRANTS

Installation, Operation, Inspection and Maintenance

INSTALLATION

NOTE: The following information is supplemental to the AWWA M-17 manual.

When hydrants are received, they should be handled carefully to avoid damage to the flanges or operating mechanism. Hydrant valve should be kept closed and nozzle caps should be in place to prevent entry of foreign matter prior to installation. Hydrants to be stored should be protected from the elements if possible.

Hydrant should be located to give minimum hazard to or from traffic. Place hydrant back from the curb line to prevent damage to or from overhanging vehicles. On main thoroughfares place hydrants far enough from intersections to avoid damage from accidents. Place hydrants so they are readily visible and accessible.

It is recommended practice to install an auxiliary or secondary gate valve in the lateral between the hydrant and the main to permit inspection and repair of hydrant without shutting down mains.

Before installation of hydrant, clean piping, hydrant base, and drain ring of hydrant of any foreign material.

It is recommended that a firm footing be used in setting the hydrant such as stone slabs on undisturbed soil. The hydrant should also be anchored to oppose the force due to pressure tending to force the hydrant off the end of the lateral. Several methods such as strapping, blocking or restraining type of joint may be used.

If a draining type of hydrant is to be installed, provision should be made to carry off drainage. An acceptable method is to excavate around the hydrant to allow placement of approximately ½ cubic yard of crushed stone to level about five inches above the drain ring. The stone should be covered with roofing or tar paper before backfilling to prevent plugging of the drainage pit.

Both drainage stone and earth fill above the stone should be tamped to give firm support to the hydrant barrel.

When first installed, the hydrant should be operated from the fully-closed to fully-open position and back to make sure no obstructions are present.

After the hydrant is installed and the line has been hydrostatically tested, the hydrant should be flushed. Proper drainage can be verified by placing palm of hand over nozzle after hydrant has been closed. Drainage rate should be sufficiently rapid to create a suction.

Nozzle caps should be sufficiently tight to prevent removal by hand.

OPERATION

Hydrants are designed to be opened and closed without the use of "cheaters". Excessive leverage may damage the hydrant, therefore:

- Check direction of opening as marked on the hydrant cover.
- To open, remove a cap and turn the operating nut until the valve hits the stop in the opening direction. **Do not force the hydrant in the opening direction beyond full open as indicated by sudden resistance to turning.** If water does not flow when the hydrant is open, it is probably due to a closed valve upstream from the hydrant.
- To close, slowly turn the operating nut until the valve closes off the flow. **It is not necessary to close this style of hydrant with great force.** Once the flow has stopped, loosen the operating nut in the opening direction to take the strain off the operating parts of the hydrant and to make it easier to open the hydrant when needed again.
- **Fire hydrants are not a throttling device and therefore should be operated in the fully-open or fully-closed position.**

INSPECTION

To assure proper operation of the hydrant, regular inspections should be carried out. All hydrants should be inspected twice yearly, in the spring and fall. When hydrants have been used during freezing weather, they should be inspected after each use.

Inspection should cover the following items:

External Condition – Note condition of operating nuts, caps, flanges, chains and paint.

Valve Leakage – Use aquaphone to verify that there is no leakage past hydrant valve.

Barrel or Drain Leakage – Remove a cap and open hydrant so barrel fills with water. Replace cap. Open hydrant fully with nozzle caps in place. Note, if there is leakage at the nozzles, cap gaskets or barrel gaskets. Use aquaphone to check leakage through drains.

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Installation, Operation, Inspection and Maintenance

Non-Draining Hydrants – Non-draining (plugged) hydrants should be clearly identified. Unauthorized use of non-draining hydrants can result in damage or may render the hydrant inoperable – additional supervision of these hydrants is required during freezing conditions.

Slight valve leakage on non-draining hydrants can result in damage and/or inoperable hydrants.

It is advisable to check non-draining hydrants for water in the barrel several hours after the initial inspection and pump-out has been completed.

Proper Drainage – Close hydrant and remove a nozzle cap. Drainage rate should be sufficiently rapid that a suction can be felt when palm is placed over nozzle opening.

Check for presence of water in the hydrant barrel by using a plumb line or other suitable method.

NOTE: Water in the barrel of a non-draining hydrant is an indication of leakage in the area of the main valve and complete servicing of hydrant will be required.

Water in the barrel of a drain type hydrant is an indication of obstructed drain passage or a high water table condition. Note condition and proceed with inspection – if drains are verified to be functioning properly, consideration should be given to converting hydrant to non-draining type.

MAINTENANCE

If needed, add grease by removing the lubricating screw in the top of the operating nut (do not use excessive greasing pressure).

Replace any damaged caps, chains, etc., as noted on inspection of external condition. If hydrant requires painting, this should be done after all maintenance has been completed.

If valve leakage has been noted, valve rubber and seat gasket should be inspected and replaced if damaged. (See directions for removal of internal parts.) Replace any defective cap gaskets.

With "Leaded-In" type nozzles, a heavy blow on a nozzle cap may cause loosening of the nozzle. If leakage has been noted at the leaded joint, remove cap and re-caulk nozzle. If nozzle has been damaged, "Leaded-In" type can be replaced by melting out lead

joint of existing nozzle and re-pouring and caulking joint for new nozzle. Resilient sealed nozzle may be replaced using kit available from Mueller Canada.

If leakage through drains has been noted with hydrant in open position, drain lever washers should be replaced. (See directions for removal of internal parts.)

If hydrant does not drain or drains very slowly, the drains should be flushed. Remove a cap and open hydrant so barrel fills with water. Replace cap. Open the hydrant valve approximately two turns. This unseats the hydrant valve and allows the hydrant barrel to be pressurized while still holding the drain open. Check for proper drainage.

Lubricate nozzle cap threads with No.1 multi-purpose grease. Since the bearing housing is sealed with O-rings, it is not normally necessary to grease the operating head.

Century Hydrants – Drive cover pins through cover into bearing housing and lift cover over operating nut. Cover pins can be easily removed from clearance hole in bearing housing and re-used.

REMOVAL OF INTERNAL PARTS

IF REMOVAL OF INTERNAL parts is required, the following sequence must be followed:

- Shut off water in line leading to hydrant.
- Open hydrant valve.
- Remove cover.
- Cover is held in place by bonnet pins. Remove pins and lift cover over operating nut.
- Remove housing bolts.
- Remove complete housing (operating nut, housing cover, thrust bearing and housing) as a unit by continuing to turn operating nut in opening direction until hydrant rod threads are disengaged. Carefully lift complete housing from hydrant to prevent damage to O-rings.
- Place seat wrench over the rod. Turn to left (**counter-clockwise**) to unscrew hydrant seat from drain ring.
- Remove seat wrench from hydrant rod.
- Lift out hydrant rod with completely assembled working parts attached.
- Before threading hydrant seat into drain ring, lubricate threads and face of seat gasket lightly.
- To re-assemble, reverse above procedure.

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Internal Parts Removal and Hydrant Valve Rubber Replacement

HYDRANT VALVE RUBBER REPLACEMENT

Figure 1 (illustrated below) is current production method.

Figure 2 was supplied prior to August, 1984.

NOTE: Valve ball top (P/N 450) as currently supplied on hydrant assemblies (Figure 1) can also be used for Figure 2. Valve ball bot.tom (P/N 485) as currently supplied is not interchangeable, however, valve ball bottoms supplied on replacement part orders will be suitable for either Figure 1 or 2.

PROCEDURE

- Place valve rubber (P/N 515) on valve top (P/N 450) and position on hydrant rod end.
- Lubricate O-ring (P/N 41301) and slide carefully over rod threads.

- Slide plastic sleeve (P/N 294403) over rod end and use sleeve to position O-ring in recess in valve top.
- Position valve bottom on rod and run rod nut out (P/N 46140) into position.
- Using wrench, "snug" assembly together – **DO NOT OVER TIGHTEN** rod nut. Tightening of the rod nut should not cause noticeable bulging or distortion of the valve rubber.
- Tighten second rod nut into first for locking.

NOTE: When replacing valve rubber on Figure 2, care must be exercised to prevent rotation of valve assembly when tightening rod nut. Proper compression of gasket and effective sealing is not obtained if valve is allowed to rotate with the rod nut.

FIGURE 1

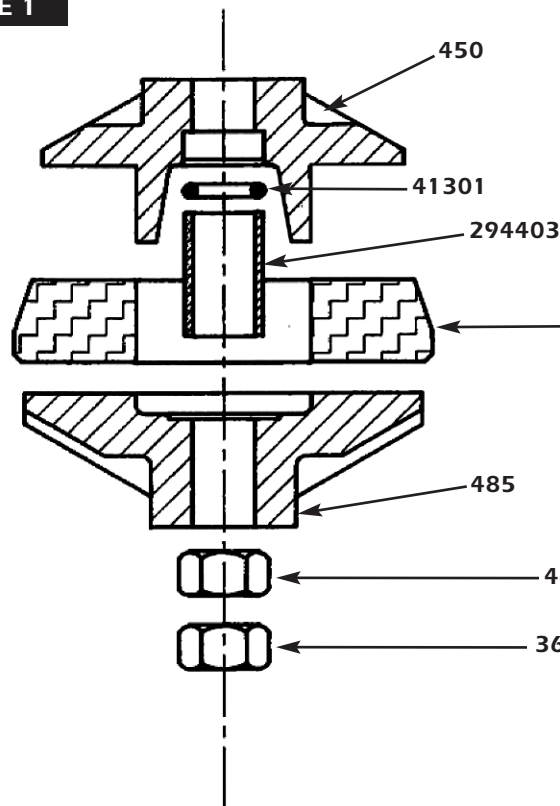
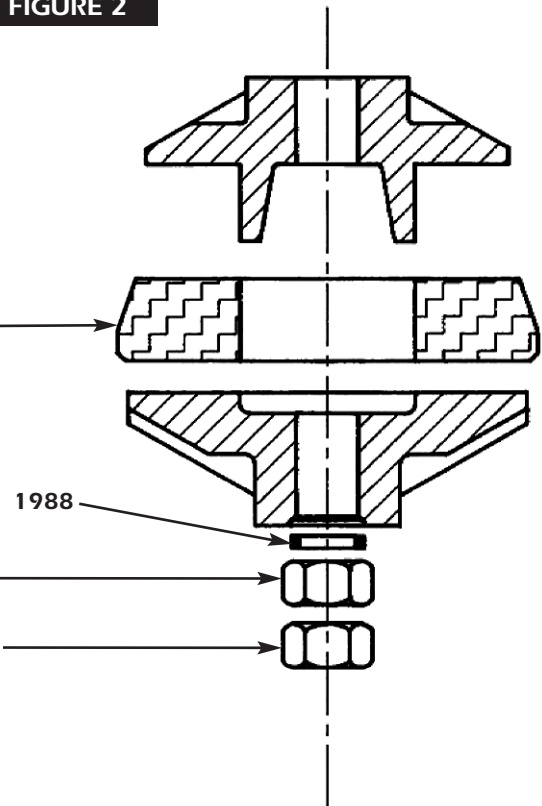


FIGURE 2



CENTURY, B-50-B18 AND B-50-B24 FIRE HYDRANTS

Hydrostatic Test, Storz Adapter and Storz Nozzle Installation

HYDROSTATIC TEST

- Remove a cap and open hydrant so barrel fills with water. Replace cap and open hydrant fully.
- NOTE any leakage at:
 - ground line (traffic connection);
 - bearing housing connection;
 - nozzle to barrel connections;
 - cap gaskets.
- Use aquaphone or other leak detection device to verify that there is no leakage below ground.

100 MM STORZ ADAPTER – INSTALLATION

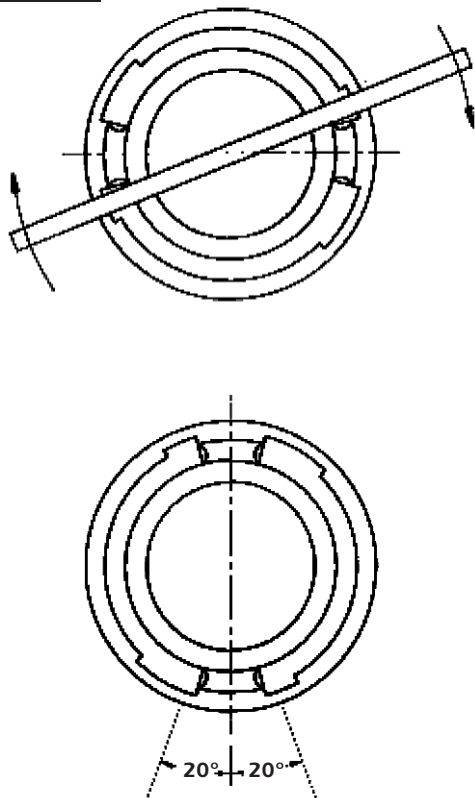
Storz adapter is supplied with the following items:

- 100 mm Storz x female nozzle thread adapter;
- set screws;
- 2 adapter gaskets ($\frac{1}{8}$ " thick and $\frac{1}{16}$ " thick).

Orientation of Storz lugs should be approximately vertical (Figure 3) to permit proper drainage (to avoid build-up of ice in "pockets"). The following assembly procedure is recommended:

- Inspect end face of pumper nozzle. Remove any burrs etc. that could damage adapter gasket.
- Insert $\frac{1}{16}$ " thick gasket only in Storz adapter and thread adapter onto pumper nozzle.

FIGURE 3



- "Snug" into position (using bar as illustrated in Figure 3), but **do not over tighten**.
- Note orientation of lugs. If acceptable, complete tightening of Storz adapter. If not acceptable, repeat using $\frac{1}{8}$ " gasket or $\frac{1}{8}$ " + $\frac{1}{16}$ " if necessary.
- Tighten set screws sufficiently to permit assembly of cap to outlet.
- Pressurize hydrant to verify adapter to pumper nozzle joint – retighten adapter if required.
- Remove set screws and run drill point into nozzle (use $\frac{5}{16}$ " drill). Replace set screws.

STORZ NOZZLE INSTALLATION – CENTURY/B-50B TYPE HYDRANT

This procedure applies to hydrants with model designation Century, B-50-B18, B-50-B24 and B-50-BM.

NOTE: Replacement, as described in this procedure, can only be performed on resilient seated pumper nozzles. Leaded-in type nozzles can be converted by utilizing a Storz adapter that threads onto the existing pumper nozzle.

PROCEDURE

- Remove pumper cap.
- Insert hydrant pumper nozzle wrench through pumper nozzle. Wrench is inserted completely through nozzle and pulled back to engage pocket on wrench with lugs on nozzle retainer.
- Turn wrench handle in a **clockwise** direction (facing nozzle). Continue turning while pulling lightly on wrench (to maintain engagement) until nozzle disengages retainer.
- Slide nozzle toward handle, reach into pumper port with one hand to hold retainer in position and remove wrench.
- Drop pumper nozzle from wrench, pick up Storz connector with wrench and re-engage wrench with lugs on nozzle retainer.

Position Storz connector in recess in upper barrel-lugs on Storz engage pockets in upper barrel recess.

Turn wrench in **counter-clockwise** direction to tighten Storz connector into position. Threading can be started by turning wrench with one hand on wrench shaft while positioning Storz connector with other hand. After thread has started, tighten firmly.

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Notes

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