Draught Beer Line Cleaning – BA Guidelines

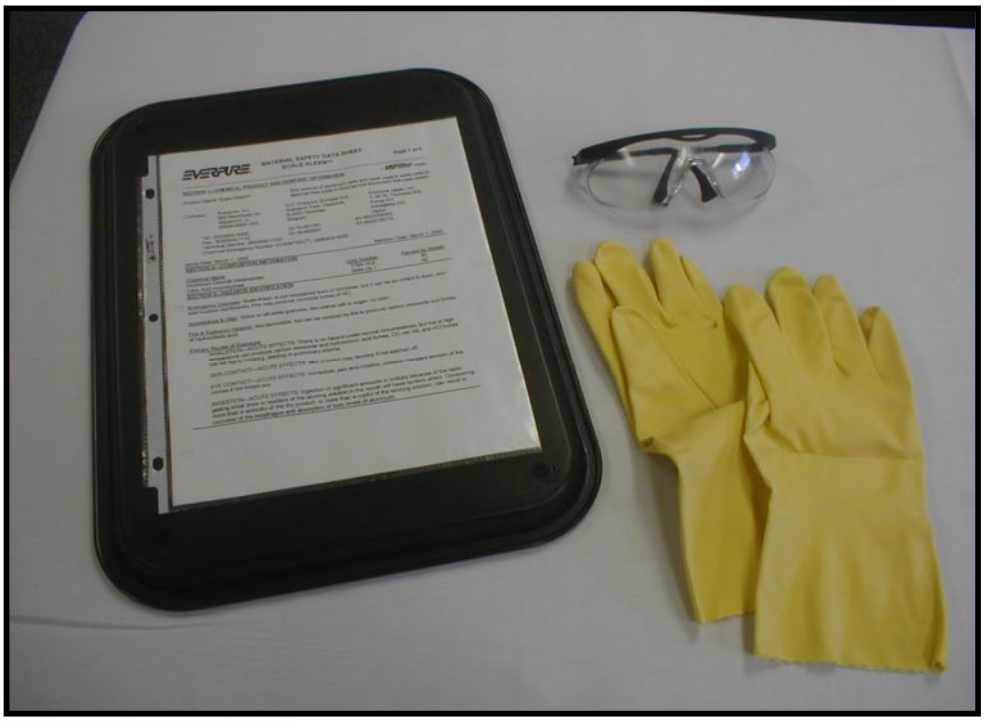
Distributor Draught Tech Training

Course Outline

- Draught Line Cleaning - Guidelines
  - Cleaning Safety
  - System Design and Cleanliness
  - Cleaning Frequency
- Cleaning Chemicals
  - Caustic Chemical
  - Acid Chemical
  - Rinsing
- Cleaning Method
  - Recirculation – electric pump
    - Step-by-Step Procedure
  - Static – pressure pot
    - Step-by-Step Procedure
  - Other Methods
- Draught Hardware Cleaning
  - Replacement

Draught Line Cleaning - Guidelines

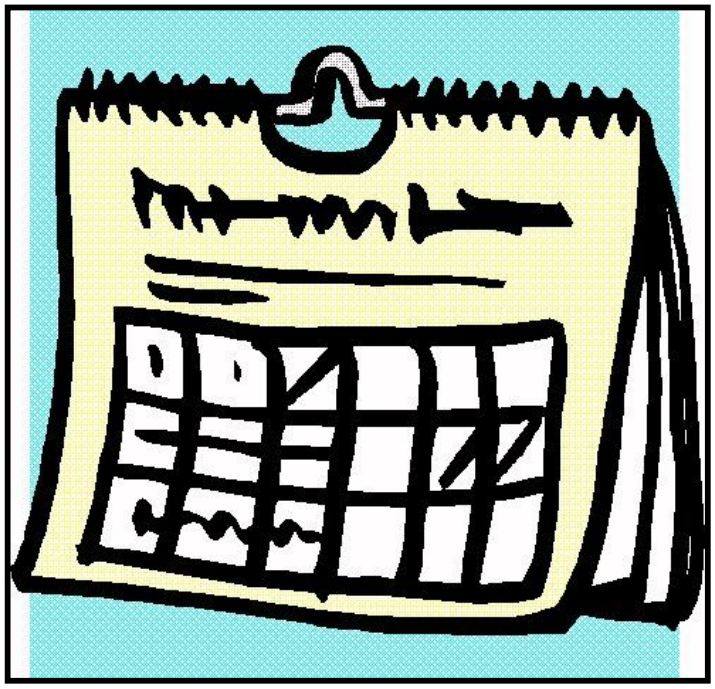
- Cleaning Safety
  - Line cleaning involves working with hazardous chemicals
    - Line cleaners
      - Use safety equipment when handling line cleaning chemicals
        - » rubber gloves
        - » eye protection
      - Have Material Safety Data Sheets (MSDS) on person at all times when handling line cleaning chemicals and follow all procedures



Draught Line Cleaning - Guidelines

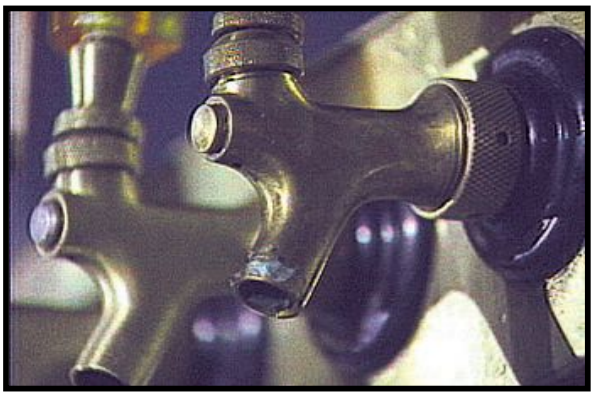
- System Design and Cleanliness

- Cleaning Frequency
  - Draught lines
    - Cleaned every two weeks with a caustic line cleaning chemical.
    - Cleaned quarterly with an acid line cleaning chemical in addition to the regular caustic cleaning.

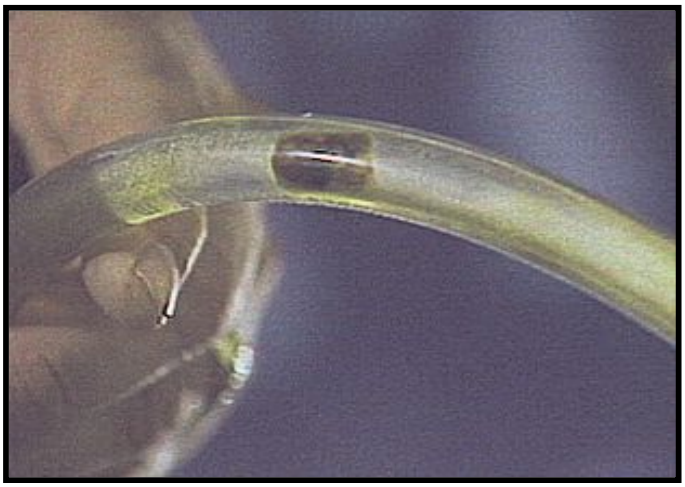


Chemical Usage – Caustic Chemical

- Caustic Chemical
  (Every 2 Weeks)
  - Is used
    - To remove organic growth from the line, hardware and fittings
      - yeast and bacteria
    - To prevent possible growth of beer-spoiling bacteria
      - lactobacillus, pediococcus, and pectinatus



  - An appropriate caustic line-cleaning chemical uses (as a base)
    - Sodium Hydroxide
    - Potassium Hydroxide
    - or a combination of the two



Note: NO chemical containing any amount of chlorine is allowed.

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Chemical Usage – Caustic Chemical (Continued)

- Caustic chemical solution strength
  - 2% for lines less than 7 years old
  - 3% for all lines over 7 years old or any line where a flavor change is imparted

- Solution to be mixed with warm water between 80ºF and 125ºF
  - 15 minute solution cycle when using a recirculation pump
  - 20 minutes for static, or pressure pot cleaning

Note: BA-approved chemicals will list mixing instructions for a 1%, 2%, 3%

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Chemical Usage – Acid Chemical

- Acid Chemical ***(Every 90 Days)***
  - Acid line cleaner is used to remove inorganic materials from the interior line, hardware and fittings
    - "beer stone"

  - Chemical is to be specifically formulated for cleaning draught lines.
    - Typical straight solutions or blends of nitric, hydrochloric, or phosphoric acid.

Note: Nitric acid is not compatible with Nylon 11 (Valpar Brew master Tubing – Micro/Matic)

  - Mix solution strength as recommended by the manufacturer
  - Solution is mixed with warm water between 80ºF and 125ºF
    - 15 minute solution cycle when using a recirculation pump
    - 20 minutes for static, or pressure pot cleaning

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Rinsing

- Rinsing
  - To Start
    - Rinse lines with fresh water before the use of any chemical
  - When Finished
    - Rinse all chemical from the line with clean, cold water until:
      - There is no chemical residue remaining
        - » This is to be tested with pH strips
      - There is no solid matter in the rinse water

Note: Chemical solution should never be rinsed from draught lines with beer.

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Recirculation – electric cleaning pump

- Cleaning solution is recirculated through the line for 15 minutes

- Cleaning flow rate is 2 gallons per minute (2X beer flow rate) ***Goal is any rate higher than normal flow rate.***

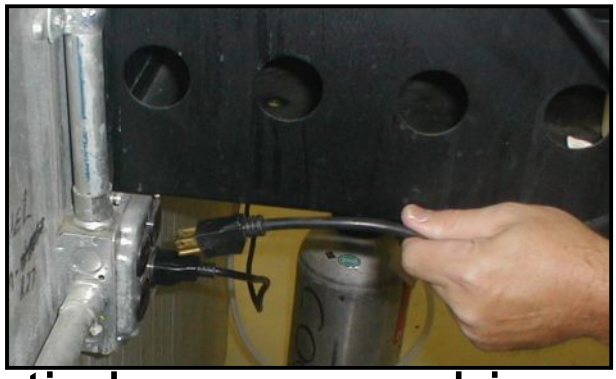
  Note: 2 gal per minute will fill a 60oz beer pitcher in about 15 seconds

- Pressure during recirculation not to exceed 60 psi.
- The flow should be the reverse of the beer flow

Electric Pump - Step-by-Step Procedure

Before beginning:

- For glycol chilled systems, shut off the glycol recirculation pump, to prevent solution or rinse water from freezing in the lines.



- For pneumatic beer pump driven systems, turn off the gas supply to the pumps.

- Lines that are “split” or “T’d should be cleaned as separate lines

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Electric Pump - Procedure (continued)

- Begin by connecting two tapping devices with a cleaning coupler (Do not engage the tapping devices)

- If cleaning four lines, connect a second set of lines with another cleaning coupler, creating a second “loop.”

- Cleaning more than four lines at once is not recommended, as it will be difficult to achieve the proper chemical flow rate.
- For series kegs, connect the tapping devices attached to the gas lines and place series caps with check ball lifters on all other tapping devices.

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Electric Pump - Procedure (continued)

- Remove both faucets from their “Shanks.”
  - When cleaning two lines, attach the “out” hose from the pump to one shank and a drain hose or spare faucet to the other shank.
  - When cleaning four lines, attach the “out” hose from the pump to one shank, connect the other shank in the loop to a shank in the second loop with a “jumper” hose and attach a drain hose or spare faucet to the remaining shank in the second loop.
    - When cleaning four lines ensure that the drain hose and “out” hose from the pump are not on the same coupler “loop.”

- Fill a bucket (“water bucket”) with warm water and place the “in” hose into the water.
  - Turn pump on and flush beer into a second bucket (“chemical bucket”) until the line runs clear with water.
  - Shut pump off and discard the flushed beer.

Electric Pump - Procedure (continued)

- Turn pump back on allowing warm water to run into the clean chemical bucket.
  - Measure the flow rate of the liquid by filling a beer pitcher or some container with a known volume. Flow rate should be a minimum of 2 gallons (256 oz.) per minute.
    - If cleaning four lines and flow rate is too slow, remove the extra loop and clean those lines separately.
  - Allow bucket to fill with just enough water to cover the inlet hose of the pump.
  - Add the appropriate amount of line cleaning chemical to achieve 2%-3% caustic in solution based on age and condition of beer line.

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Electric Pump - Procedure (continued)

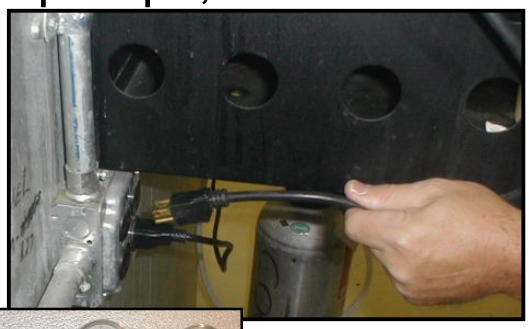
- Remove the “in” hose from the water bucket and place into the chemical bucket.
  - There should now be a closed loop.
  - Water should be draining into the same bucket that the pump is pulling from.

- Allow solution to recirculate for a minimum of 15 minutes.
  - While waiting, clean your faucets.
  - Fill water bucket with cold water.

Electric Pump - Procedure (continued)

- Begin your rinse by removing the “in” hose from chemical bucket and placing it into the water bucket (filled with cold water).

- Continue pumping cold water from the water bucket into the chemical bucket (shutting off pump and dumping chemical bucket as needed) until all chemical has been pushed out of the draught lines and there is no solid matter in the rinse water.
- Finish up by shutting off the pump, detaching the cleaning coupler and replacing the faucets.
- Be sure to return all system components to their original functional settings; i.e., turn back on glycol pumps, turn on gas supply to pneumatic beer pumps, etc.



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Step-by-Step Procedure – Jockey Boxes

- When cleaning jockey boxes, the water in the lines must be blown out to prevent mold growth.
  - If the recirculation pump is capable of being run dry:
    - Before breaking down recirculation loop, remove inlet from rinse water with pump running so air pushes out all of the rinse water in the lines.
- If the recirculation pump is not capable of being run dry:
    - After breaking down the recirculation loop and reattaching faucets, tap an empty cleaning canister and use the gas pressure to blow all of the water out of the lines.

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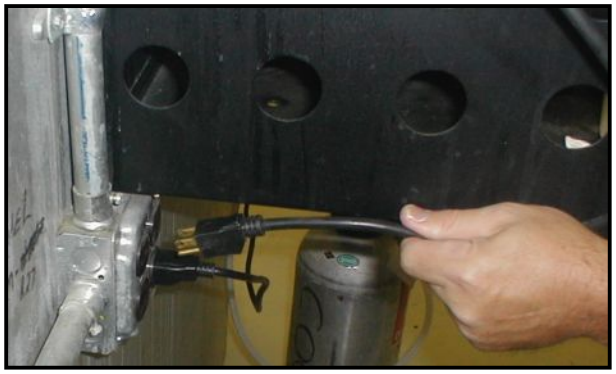
Static – pressure pot

- While recirculation/ chemicals with an electric cleaning pump is recommended on all systems, a pressurized cleaning pot may be used in place of a recirculation pump on draught lines less than 15 ft. in length.

- Chemical solution should remain in the draught line for a minimum of 20 minutes.

Static Pressure Pot – Procedures

- If the system is glycol chilled, it is recommended to shut off the glycol recirculation pump, if possible, to prevent solution or rinse water from freezing in the lines.



- If the system is driven by pneumatic beer pumps, turn off the gas supply to the pumps.

- All legs in ‘split lines’ (lines that are ‘teed’ in the cooler or under the bar to feed more than one faucet from a single keg) must be cleaned as completely separate draught lines.

Static Pressure Pot – Procedures
(continued)

- Fill the cleaning canister with clean water.
- Un-tap the keg and tap the cleaning canister. Engage the tapping device.
- When cleaning series kegs, connect the tapping devices attached to the gas lines and place series caps on all other tapping devices.
- Open faucet until the beer is flushed out and clear water is pouring.
- Un-tap the canister and fill the canister with cleaning chemical mixed to the appropriate strength to achieve 2% - 3% caustic in solution based on age and condition of beer line.

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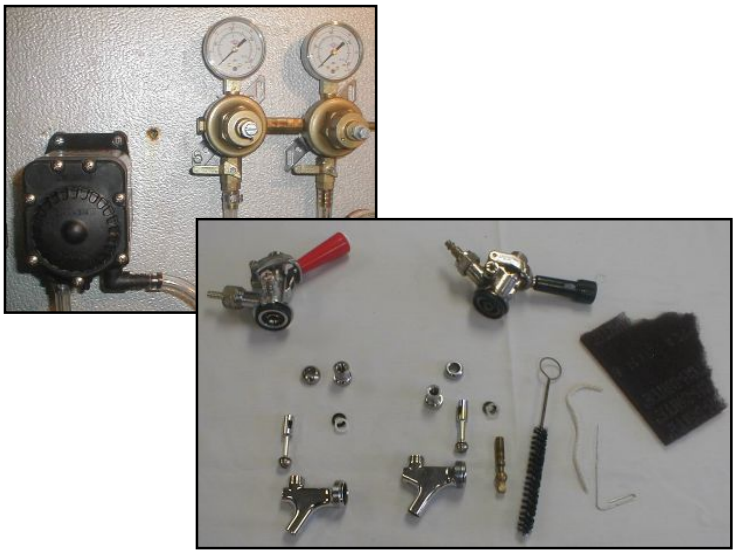
Static Pressure Pot – Procedures (continued)

- Tap the canister again.
- Open the faucet until the water is flushed out and chemical solution is pouring from the faucet.
- Shut off the faucet and un-tap the canister.
- If the system is driven with pneumatic beer pumps, shut off the gas supply to the pumps to turn them off.
- Remove the faucet and clean.
- Replace faucet and re-tap the canister.



Static Pressure Pot – Step-by-Step Procedures (continued)

- Pull through solution again to replenish the contents of the draught line. Chemical should be replenished at least twice during the cleaning process.
- Allow to soak a total of 20 minutes.
- Un-tap canister, empty and rinse.
- Fill the canister with clean, cold water and re-tap.
- Open the faucet and rinse until the entire chemical has been flushed out and there is no solid matter in the rinse water.
- Finish by un-tapping the canister, re-tapping the keg and pouring beer until it dispenses clear.
- Be sure to return all system components to their original functional settings; i.e., turn back on glycol pumps, turn on gas supply to pneumatic beer pumps, etc.

Draught Hardware Cleaning

At every cleaning:

- All faucets should be completely disassembled and detailed.
- All keg couplers or tapping devices should be scrubbed clean.

Every 90 days:

- All FOB-stop devices (aka: beer savers, foam detectors) should be completely disassembled and hand detailed.
- All tapping devices should be completely disassembled and detailed.

  Lines should be cleaned with an acid line cleaning solution in addition to the regular caustic cleaning.

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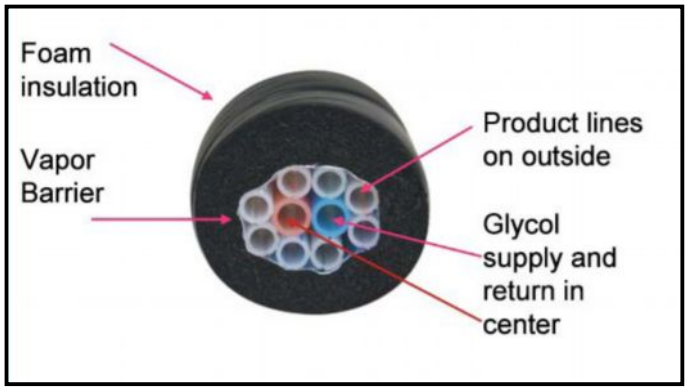
Replacement

- All vinyl jumpers and vinyl direct draw lines should be replaced every other year.
- All glycol trunk lines should be replaced in the following instances:
  - When the system is ten years or older.
  - When flavor changes are imparted in a beer's draught line from an adjacent draught line.
  - When a soiled line is chronically producing flavor changes in the beer.



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