

COMMON ERRORS WHILE TESTING BACKFLOW ASSEMBLIES

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WAC's

- 246-290-490
- 246-292-034 Duties of the BAT
- 246-292-036 Field test report content

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246-292-034

- WAC 246-292-034 Duties of a BAT. (1) A BAT shall inspect, field test, maintain, and repair backflow prevention assemblies, backflow prevention devices, and air gaps that protect the public water system and report the results as required in WAC 246-290-490(7). (2) A BAT must be equipped with and capable of using a field test kit, all tools, and other equipment needed to inspect and field test backflow prevention assemblies, and to inspect air gaps and AVBs. (3) **When conducting inspections and field tests of backflow preventers, a BAT shall: (a) Use procedures that: (i) Meet the requirements in WAC 246-290-490 (7)(d); and (ii) Are consistent with the field test procedures used on the BAT's most recently passed practical exam;** (b) Accurately perform inspections and field tests; (c) Record inspection and field test results completely, accurately, and legibly on a backflow preventer inspection and field test report that meets the requirements in WAC 246-292-036; (d) Accurately interpret inspection results and determine whether or not the backflow prevention assembly is properly installed; (e) Accurately interpret the field test results and determine if a backflow prevention assembly passed or failed the field test; (f) Accurately interpret air gap inspection results and determine if the air gap is an approved air gap at the time of inspection; and (g) Accurately interpret inspection results and determine if an AVB is properly installed and operating properly. (4) A BAT shall submit a completed backflow preventer inspection and field test report in an original, copy, facsimile, or electronic format to the owner of the backflow preventer and to the purveyor.

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Field test procedures USC 10th Edition

- All makes and sizes of Backflow preventors
 - 1/2" to 12"
 - RPBA
 - RPDA
 - RPDA type 2
 - DCVA
 - DCDA
 - DCDA type 2
 - PVBA
 - SVBA
- All makes and models of test kits
 - 5 valve
 - 3 valve
 - 2 valve

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**THERE ARE
NO SHORT CUTS!**

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SLOW DOWN

Not all failures are catastrophic.

Ensure all information is correct

Make, model, serial number, and size

Location

downstream hazard*

do not depend on paperwork from purveyor

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DCVA

- NIIO
- Flushing test cocks
- Compensator
 - Needle valve
 - Solid
- Flushing test kit
- Sight tube
 - Is atmospheric above check assembly
 - Must not be smaller than opening in test cock
 - Must seal properly on test cock
 - Must be able to see through it

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DCVA

- Elevate
 - Mid-line of gauge* to atmospheric line on site tube or test cock
- Isolate
 - Always close SOV #2 first
 - Then close SOV #1
- Hesitate
 - Is gauge moving
 - Are you holding gauge correctly
 - Low side and vent hoses removed or wrapped around gauge
 - Not blocking low side connection on manifold

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DCVA

- *Slowly* open test cock needed to test the check valve
- Allow gauge to stop
- Allow water to stop, or is no more than a drip
- Capture data
- Return assembly to condition found or what owner requests

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PVBA

- NIIO
- Remove air inlet canopy
- Flushing test cocks
- Compensator*
- Flushing test kit*
- Elevate, same level as air inlet valve
- Isolate
- Hesitate

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PVBA

- *Slowly* turn high side bleed no more than $\frac{1}{4}$ turn*
- Record when air inlet opens
- Remove high side hose
- Allow water to drain from body of assembly
- Observe air inlet open
- Document

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PVBA

- Elevate to water level on downstream side
- Isolate
- Hesitate
- *SLOWLY* open test cock #2
- Record value when flow of water stops or is no more than a drip and gauge stabilizes

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SVBA

- NIIO
- Remove air inlet canopy
- Flushing test cock and vent screw
- Compensator*
- Flushing test kit, you may fill the area on top of the air inlet to help determine the opening point

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SVBA

- Elevate to vent valve opening
- Isolate
- Hesitate
- *Slowly* loosen vent valve screw*
- When water stops flowing or is no more than a drip and the gauge stabilizes, not the pressure differential for the check valve

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SVBA

- Maintain elevation of test kit
- *SLOWLY* open high bleed valve no more than $\frac{1}{4}$ turn
- Note when air inlet opens, this can be observed when water starts to flow out of vent valve
- Ensure air inlet is fully open*

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RPBA

- NIIO
- Flush test cocks in proper order*
- Connect hoses and flush test kit in proper order*
- Close SOV #2 while flushing test kit
- Stop flushing test kit in proper order*
- Hesitate
- Make mental note of ASP of #1 check valve*

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RPBA

- Open high side control valve @ 1 turn
- *SLOWLY* open low control no more than a $\frac{1}{4}$ turn*
- Record opening when relief valve starts to vent
- Close low control

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RPBA

- Purge vent hose
- Connect to test cock #4
- Open test cock #4
- Re-establish pressure on test kit
- Hesitate
- Open bypass needle valve
- Note reading on gauge for check valve #2 if steady it should be recorded as "closed tight"
- There is no numerical value for check valve #2

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RPBA

- If reading drops to opening of relief valve, open low bleed and re-establish gauge to ASP of #1 check valve. If gauge stabilizes record check valve #2 as “closed tight”
- This is known as 2nd check, 2nd chance.
- Re-establish pressure on test kit and record reading for check valve #1

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DETECTOR ASSEMBLIES

- DCDA & DCDA II, bypass is tested first
- RPDA & RPDA II, main assembly is tested first

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SUBMITTING TEST REPORTS

- WAC 246-242-034
- (c) Record inspection and field test results completely, accurately, and legibly on a backflow preventer inspection and field test report that meets the requirements in WAC 246-292-036;
- (4) A BAT shall submit a completed backflow preventer inspection and field test report in an original, copy, facsimile, or electronic format to the owner of the backflow preventer and to the purveyor.*

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FIELD TEST REPORT

- (2) The completed backflow preventer inspection and field test report must contain facility and hazard information including: (a) Facility name; (b) Service address; (c) Name and contact information of the facility owner or owner's representative; and (d) Description of downstream hazards or premises, such as the categories identified in WAC 246-290-490, Table 13, [if known to the BAT](#). (3) The completed backflow preventer inspection and field test report must contain backflow prevention assembly or AVB information including: (a) Description of physical location; (b) Assembly type; (c) Manufacturer; (d) Model; (e) Serial number, if applicable; (f) Size;

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