

Missoula Concrete Construction

Aspen Vault Toilet Maintenance Manual

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- 8) Paint and Caulking.
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Thank you for the purchase of your new Aspen Vault toilet. We're confident that this facility will give you many years of dependable service.

Please read this manual before you call us with questions or concerns.

Please call us with any problems encountered that are not covered in this manual.

Missoula Concrete Construction has manufactured and delivered hundreds of vault toilets for over 20 years and to the best of our knowledge they are all in service today.

1**VAULT PREPARATION AND MAINTENANCE.**

250 gallons of water should be added to the vault prior to use. This can be measured at 14 inches at the clean out hatch or 10 inches at the toilet riser.

Always leave water in the vault, even during winter months. This will help the plastic liner to hold its shape and prevent external water infiltration from “floating” or collapsing it. Freezing will not damage the vault.

It is normal to notice bulging or minor separation of the liner from the vault walls, especially during warmer months. This is due to the liner’s sensitivity to temperature changes. It in no way indicates a problem with in the integrity of the liner or its ability to protect the surrounding soil.

Frequency of pumping the vault varies with usage. When a waste “cone” extends above the water surface, flies will breed. If the cone cannot be submerged it may be time to pump the vault.

Caution your pump service not to use sharp metal tools when cleaning the vault as the liner may be damaged, thus voiding your warranty.

Adding chemicals to the vault, per SST technology, is not recommended. Studies have shown that this practice is not economical or practical. 27 tested products did not eliminate or reduce odors to an acceptable level. Proper venting and maintenance are the keys to odor control.

It has been our observation that vault toilet buildings, which are kept clean and well maintained, are the least likely to be vandalized or abused by the general public.

Wash the interior with disinfectant detergent and water, using a sponge or **soft** brush on walls, a toilet brush on the interior of the toilet riser, a stiffer bristle brush may be used on the floors as it has a rougher non-slip finish. (Long handles make this job a little more pleasant.)

Rinsing with the soft spray of a garden hose is acceptable. **High-pressure washers may damage the caulking in the corners of the room.**

Mop or squeegee the floor to remove excess water. **Do not leave standing water on the floor.**

Do not use abrasive cleaners or tools.

Do not use cleaners or polishes that contain oils or silicones, as they will prevent the adhesion of paint in the future.

Keep the paper holder full. The absence of toilet tissue will cause the vault to receive rags, newspapers, and other unsuitable materials. The absence of tissue is also a major cause of vandalism.

3 **LOCKSET FUNCTION**

The privacy lock is designed to work only when someone is inside the building. Pushing the button locks the door. The lock is released when the inside lever handle is turned. The door cannot be locked from the outside. Should someone inside need assistance; any key or flat metal object, which will fit into the exterior slot, will unlock the door.

Keyed locksets are available for seasonal locking, however, this will only encourage vandalism.

4 **LOCKSET REMOVAL AND REPLACEMENT**

When you received your Aspen vault toilet, you also received a box containing the instructions and special tools for removing or installing this hardware. Save these items for the future use (in the event of vandalism, etc.)

5**SPRING HINGE ADJUSTMENT**

Hinges are adjusted for proper closing at our plant, but occasionally need re-adjustment after freight and placement of the building. You will find a 5/32" hex wrench in the box, which you received with the building along with simple instructions. Make small adjustments on all (3) hinges until the door takes **at least** 3 seconds to move from an open position of 70 degrees to a point 3 inches from the latch. Be sure to replace the locking safety screw.



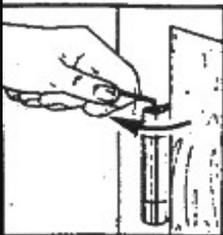


FIG. 1

TO INCREASE TORQUE (FIG. 1)

- Close Door
- Engage 5/32" Hex Wrench
- Rotate Clockwise to Increase Torque
- Do Not Exceed 6 Ratchet "Clicks"



FIG. 2

TO DECREASE TORQUE (FIG. 2)

- Close Door
- Engage 5/32" Hex Wrench
- Depress Wrench to Disengage Ratchet
- Let Wrench Rotate Counterclockwise to New Setting
- Allow Wrench to Rise



FIG. 3

INSTALL LOCKING SAFETY SCREW (FIG. 3)

- Install 6-32 5/8" Flat Recessed Head Machine Screw Packed With Hinge



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6 TROUBLESHOOTING

Excessive odor or insects

Venting properly requires a one-way airflow into the room, down the toilet riser into the vault, and up the “chimney”. Reversal of this airflow will fill the room with odors from the vault. Placing your toilet in an area with little or no air movement, turbulent air movement due to obstructions, or an area subject to downdrafts (such as the leeward side of a hill or cliff) can cause this reversed airflow. Also, a wall or door vent located downwind can create a vacuum in the room and odors from the vault will fill the room.

Do not place insect screens on wall or door vents, or on the vent stack. They become clogged with debris and cobwebs and prevent airflow. Regular cleaning and vault maintenance will keep insect problems at a minimum. (See sections 1 and 2.)

Minor Hairline Cracks

Minor hairline cracks in paint or concrete are normal and may or may not be visible for months or years after you receive your building. Possible causes include:

Shrinkage – concrete continues to cure and shrink long after its designed strength is reached.

Thermal Expansion and Contraction

- When the sun warms a wall panel it bows outwards. Welds at various locations restrict this movement causing a slight hairline crack in the wall at the weld.
- The heavy metal window frames expand faster than the surrounding concrete. A hairline crack may appear off the corner of the window.

Minor Hairline Cracks (Cont.)

Freight Stress – can be more severe than most earthquakes or high winds. The building is strapped down to a flexible trailer that wants to twist and bend.

Cracks due to these causes are normally visible only on the interior of the building or floor slab and will be exaggerated by the paint. They are in no way an indication of structural failure.

Crack repair should be a part of your regular maintenance program to keep water from reaching the reinforcing steel, and to seal out odor causing bacteria.

1. Sand any loose paint from borders.
2. Force paintable latex caulk into crack and smooth with wet paintbrush or sponge. Allow to dry to touch.
3. Paint repaired area (see paint section).

Door won't latch or is difficult to unlatch.

Doors are adjusted for proper closing in the controlled environment of our plant, but occasionally need readjustment after placement in the field.

When the heavy steel door is warmed by direct sunlight it bows outwards. If the door bows enough to press the latch bolt against the strike plate in the frame, the door will be difficult to unlatch and will not latch when closed. Remove the strike plate and file the flat side of the hole until the latch operates easily. (This condition is rare in Aspen Toilets because of the shaded entry area. It is more common with pump-houses and other utility buildings.)

See also section 5 – Spring Hinge Adjustment

In the past 20 years, we have seen damage to our vault toilets by all of the following:

- Firearms
- Explosives
- Vehicle or machine impact
- Spray paint
- Fire
- Flood
- Large rocks
- Fallen trees
- Hammers / axes

To date we have not encountered a situation, which threatened the structural integrity of the building to the extent that it was not worth fixing.

Before attempting to repair or replace your damaged structure, contact us for inspection (by visit or photo), or replacement parts. In severe cases, for safety, protect the site from visitors.

8 **PAINT**

Missoula Concrete Construction uses the following top of the line paints in the production of “Aspen” vault toilets:

Interior Walls – Rodda Master Painter, White Base 54 3101 5, Interior semi-gloss, Color: White.
(www.roddapaint.com)

Interior Floor – Rust-Oleum, High Performance 5300 system 2 part, water-based epoxy, Color: Gray
(www.roddapaint.com)

Metal – Rodda Industrial Protective Coatings, Professional Maintenance, Neutral Base 75 8104 1, all purpose gloss equipment enamel, Color: Varies
(Normally custom matched to Rust-Oleum 7754 Anodized Bronze) (www.roddapaint.com)

Exterior Stain Enhancement – Rodda AC-Exterior Series, Neutral Base 51 1104 5, 911 Velvet Flat Latex Color: Varies. (www.roddapaint.com)

Simulated Shake Roof – boiled linseed oil thinned 10% with paint thinner.

Exposed Aggregate

- High Gloss – Diamond Clear Sealer
By: Euclid Chemical Co.
(800) 321-7628
- Satin – water based acrylic
Dayton Superior J-24
(800) 745-3708

Important – Use only water based (or water borne) paints on concrete walls or floors. Never use oil based paints or epoxies.

Caulking

Interior joints – “Sidewinder” by DAP

Exterior wall joints – silicon zed acrylic latex caulk by
GE Sealants

Roof Ridge – 100% silicon caulk by DAP (Bronze).

9 WARRANTY

Missoula Concrete Construction warrants that all goods sold are manufactured with the best of industry standards and that all materials and workmanships are as set forth in the specifications.

For a period of 3 years from the date of delivery, Missoula Concrete Construction will repair or replace, free of charge, any of its structures which are determined to be structurally unsound due to poor workmanship or materials. Determination must be in writing by a licensed structural engineer. Missoula Concrete Construction must be given the opportunity to inspect the site.

For a period of 7 years from the date of delivery, Missoula Concrete Construction will replace, free of charge, any LPDE vault liner which allows the migration of liquid contents from the vault to the surrounding soil due to defects in manufacturing.

Accessories are warranted to the extent of the individual accessory manufacturer's warranty.

This warranty shall not apply to:

1. Goods which have been improperly handled or improperly installed by others;
2. Goods which have been poorly sited (Such as in areas subject to flooding or high water tables.)
3. Goods which have been repaired or altered without Missoula Concrete Construction's written consent;
4. Goods which have been damaged by forces of nature in excess of design criteria, to include fire, flood, avalanche, landslide, tornado, etc.
5. Minor hairline cracks due to shrinkage, thermal expansion / contraction, or shipping.
6. Damage due to accidents, vandalism, or improper maintenance.

DISCLAIMER OF OTHER WARRANTIES

THE WARRANTY SET FORTH ABOVE IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. ALL OTHER WARRANTIES ARE HEREBY DISCLAIMED. MISSOULA CONCRETE CONSTRUCTION MAKES NO OTHER WARRANTY OF MERCHANTABILITY OF OR FITNESS FOR A PARTICULAR PURPOSE OR USE.

LIMITATION OF REMEDIES

In the event of any breach of any obligation hereunder; breach of any warranty regarding the goods or any negligent act or omission of any party, the parties shall otherwise have all rights and remedies available at law; however, in no event shall Missoula Concrete Construction be subject to or liable for any incidental or consequential damages.

Douglas G. Bauer

Douglas G. Bauer, President