



Owner's Manual
BioLet 30 NE

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Specifications

Capacity

- 3 people - full-time use (4 people with auxiliary fan)
- 4 people - part-time use (6 people with auxiliary fan)

Weight Limit

350 lb

Measurements and Weight

	Shipping	Installed
Depth	44"	29"
Width	16"	15.75"
Height	26.5"	25"
Seat Height	20"	20"
Weight including vent kit and initial starter mulch	67 lb	59 lb

Introduction

Thank you for your purchase of a BioLet 30 NE. With proper installation and maintenance we are certain it will offer you the convenience and reliability you would expect from the manufacturer of the best selling septic-free toilet in the world. **Please, read these instructions carefully**, as they will give you vital information about installing and maintaining your BioLet.

***** Please remember: State and Local regulations always supersede instructions in this manual. Always check with your local health authorities and building inspectors for regulations governing composting toilets prior to installation of your BioLet. *****

Description

The BioLet 30 NE is a biological composting toilet that uses the process of aerobic decomposition to transform human fecal waste and toilet paper to a hygienically safe product (humus) that may be safely utilized if disposed of in a manner described in this manual or by your local health authorities.

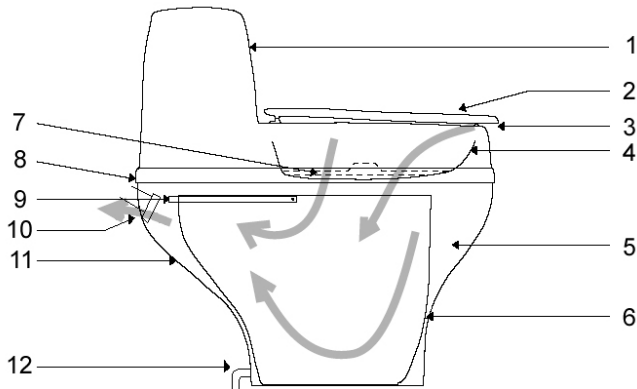
Due to the absence of electricity, the BioLet 30 NE does not have a heat source to aid in the evaporation process. Therefore, a drain tube **MUST** be installed to evacuate excess liquid. This liquid should be disposed of in a manner described in this manual or by your local health authorities.

Package Contents

- | | |
|---|--|
| 1 - BioLet 30 NE Composting Toilet | 1 - 22" section 108 mm black vent pipe, belled 1 end |
| 1 - 8 gallon bag Starter Mulch | 1 - 26" section 108 mm black vent pipe, non-belled |
| 1 - Secondary compost bin | 2 - 22" sections Styrofoam insulation |
| 1 - Bowl Cap | 1 - 108 mm X 54 mm reducing coupler |
| 5 - 2' sections 54 mm white vent pipe, belled 1 end | 1 - 3' section of drain hose |
| 1 - 2' section 54 mm white vent pipe, non-belled | 1 - Roof flashing |
| Mounting hardware | 1 - Insect netting |

BioLet reserves the right to alter dimensions and design without notice

Toilet Components



1. Top part
2. Seat
3. Compost Cover Button
4. Compost Cover
5. Compost Chamber
6. Compost Bin
7. Bowl Cap
8. Mounting holes
9. Bin handle
10. Air Outlet
11. Unit Base
12. Drain Outlet

Installation

Tools Required

- Standard screwdriver
- Phillips screwdriver
- Drill
- 2 1/4" hole saw
- 1 1/4" drill bit
- Jig saw or keyhole saw
- Hammer
- Roofing nails
- 100% adhesive silicon calking (do not use latex silicon)
- Plum bob or weighted string
- Pencil

Precautions

- Always wear goggles and protective clothing while operating hand and power tools.
- Observe all precautions and operating instructions provided by the tool manufacturer.
- Ensure there are no electrical wires, water pipes or gas pipes in the area you are cutting or drilling.

Before installing your BioLet

- Check with your local health authorities and building inspector for regulations governing the installation of your BioLet.
- Ensure there is generous air flow into the bathroom. A 1" gap under the bathroom door or a vent in the wall will ensure sufficient airflow to the toilet. Overhead vents and open windows should be used with caution as these may cause a negative pressure in the room and promote a back draft into the room through the toilet causing the presence of an unpleasant odor.
- Ensure the temperature in the room where the toilet is to be installed can be maintained above 64°F during periods while the toilet is being used.
- Ensure the floor under the toilet is level and insulated or heated.
- Ensure the vent pipe will be able to extend at least 6" above anything within 10' of it or above the peak of the roof whenever possible. (See the "Installation" and "Theory of composting toilets; maintaining aeration" sections below)
- Ensure your installation can be achieved with the addition of no more than 2 – 45° angles.
- Verify that the total run for the vent pipe is less than 30' in a straight up installation or 27' if 2 – 45° angles are required. Consult with BioLet USA technical support if a longer run is required.

******IMPORTANT******

Installation of the vent pipe is **CRITICAL** to the operation of your BioLet Composting Toilet.

If you must vary the installation from these instructions in **ANY WAY**, please contact technical support at 1-800-524-6538 **PRIOR** to installation.

Straight run through ceiling and roof

1. Position the toilet 2 ¼" from the wall.
2. Determine how and where you are going to run the drainage tube using the "Drainage Recommendations" section as a guide.

*****IMPORTANT*****

Whenever possible, turn the drain tube nipple straight down and pass the drain tube through the floor directly below the nipple. Ensure placement of the drain tube allows for a constant downward slope to promote proper flow of the liquids. Ensure drain tube does not kink wherever bends are necessary.

3. Drill a 1 ¼" hole in the floor or wall to accommodate the drain tube.
4. Using a plumb-bob or a weighted string, find and mark the spot on the ceiling directly above the center of the ventilation outlet on back of the toilet.
5. Drill a 2 ¼" hole in the ceiling where you just made a mark in Step 2.
6. Drill a 2 ¼" hole in the roof above the hole in the ceiling.
7. Remove the top of the unit and insure that the rubber pipe connector is all the way on the nipple inside the toilet so the flange fits square against the nipple housing.
8. Insert 1 length of 54mm, white, belled pipe **into** the rubber connector on the back of the toilet with the belled end up.
9. Install the drainage tube attaching it to the connector on the back of the toilet.
10. Place the large white spacing cylinders between the pre-drilled holes on the rear of the unit and the wall and screw the long (3 ½") mounting screws through the assembly. (****NOTE** if the screws do not line up with the studs in the wall, be sure to first install the wall anchors.**)
11. Insert the next white, belled pipe into the pipe installed in the back of the toilet. Repeat until the end of the white pipe extends through the roof.
12. Cut the last pipe so only the bell of the pipe is sticking above the roof.
13. Seal the hole in roof using the silicone to caulk around the pipe.
14. Remove the 54mm white pipe and insulation from inside the 108mm black pipe, keeping the reducing coupling attached to the white 54mm pipe with no bell.
15. Slide non-belled black pipe into belled end of other black pipe.
16. With the bell facing downward cut the black pipe so it fits the angle of the roof and the other end extends at least 6" above anything within 10 feet if it. Wherever possible, extend the vent pipe above the peak of the roof. (The total length of the black piping must be at least 2'; 4' on roofs with less than a 3/12 pitch.)
17. Cut the insulation to the angle of the roof as done with the black pipe in step 14.
18. Slide the roof flashing over black pipe with the top of the flashing away from the cut end of the pipe.

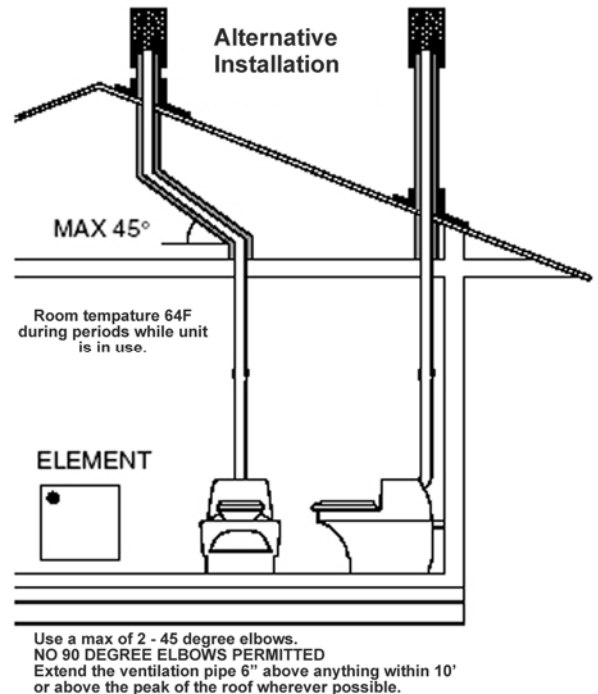
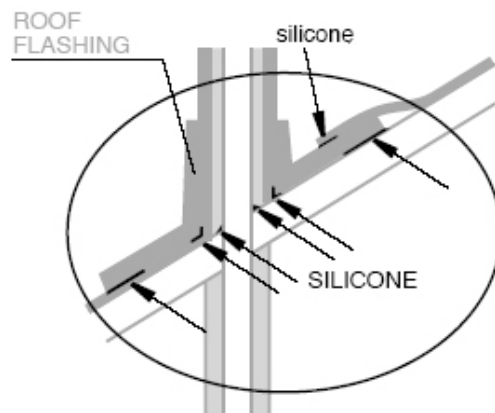


Figure 2



19. Reinsert white pipe and insulation into the black pipe with the reducing coupling toward the uncut end.
20. Place the black pipe over the white pipe that extends from the roof, ensuring that the white pipe inside the black pipe securely joins with the pipe extending from the roof.
21. Slide roof flashing down so it lies evenly on the roof, slipping its flanges under the shingles along the top edge.
22. Outline the flashing on the roof.
23. Raise the flashing and apply silicone sealant inside the outline.
24. Slide the flashing back down, sliding the flange under the shingles along the top edge and press it firmly into the sealant. When the flashing is properly placed the top part of the flashing should be under the shingles and the lower portion should be on top so water sheds easily.
25. Secure the top of the flashing with corrosion resistant nails or staples at each corner and along the sides at 4" – 6" intervals.
26. Exposed nails or staples should be sealed with silicone sealant.
27. Slide the reducing coupling down till it fits over the black pipe.
28. Cut off the white 55mm pipe even with the top of the reducing coupling.
29. Slide the insect netting down over the top of the reducing coupling. Secure it in place using a hose clamp.

***** IMPORTANT *****

Wherever the ventilation pipe passes through an unconditioned area (i.e. attic space) it needs to be insulated. Use a pipe wrap with an insulating value of at least R11.

A rain cap is not necessary. If one is desired, use ONLY the BioLet authorized wind directional cap (Part# wind) that can be obtained from BioLet or your authorized dealer. Any other cap may hinder the airflow from the toilet and cause a reduction in the performance of the unit.

Through the exterior wall using 45° elbows.

54mm 45° elbows (part# 820021) and 108mm outside pipe kits (part# 506) may be purchased from BioLet or your authorized dealer.

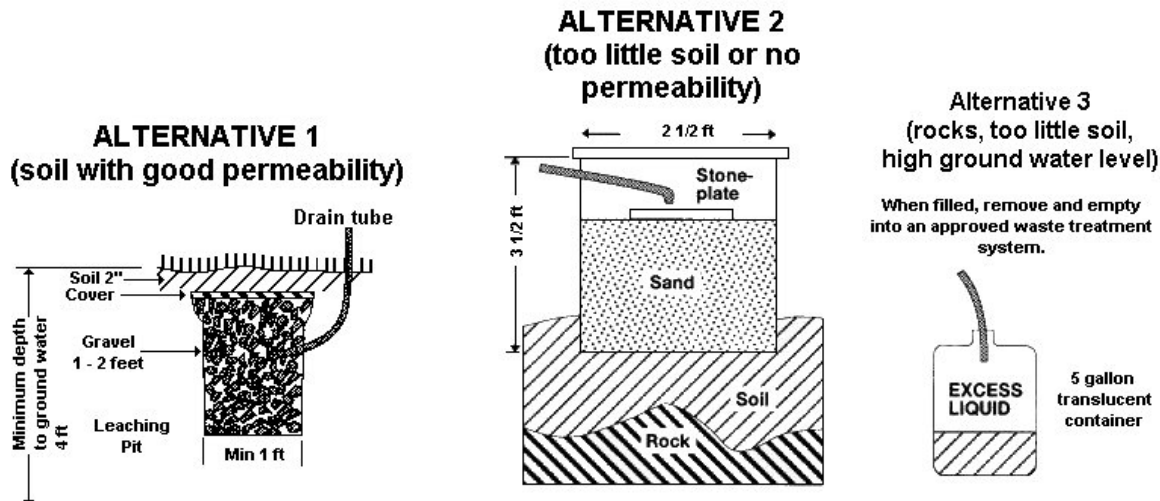
1. Remove the top of the unit and remove the rubber connector from the nipple inside the unit.
2. Position the toilet 3/8" away from the wall.
3. Determine how and where you are going to run the drainage tube using the "Drainage Recommendations" section as a guide.

*****IMPORTANT*****

Whenever possible, turn the drain tube nipple straight down and pass the drain tube through the floor directly below the nipple. Ensure placement of the drain tube allows for a constant downward slope to promote proper flow of the liquids. Ensure drain tube does not kink wherever bends are necessary.

4. Drill a 1 1/4" hole in the floor or wall to accommodate the drain tube.
5. Mark the place on the wall where the pipe coming out of the unit at a 45° angle will pass through.
6. Drill a 2 1/4" hole at a 45° angle through the wall where marked in the previous step.
7. Take a non-belled white pipe and pass it through the hole you drilled in the previous step.
8. Reposition the toilet 3/8" away from the wall and connect the non-belled white pipe to the nipple (which you removed the rubber connector from in Step 1.)
9. Install the drainage tube attaching it to the connector on the back of the toilet.
10. Place the small white spacing cylinders between the pre-drilled holes on the rear of the unit and the wall and screw the short (1 1/4") mounting screws through the assembly. (****NOTE** If the screws do not line up with the studs in the wall, be sure to first install the wall anchors.**)
11. Outside the structure cut the pipe sticking through the wall to desired length.
12. Insert the male stub of the 45° elbow into the pipe protruding through the wall.
13. Insert the other male stub of the 45° elbow into the non-belled end of a 54mm white pipe.
14. Wrap the pipe in step 11 in insulation and tape the seams using duct tape.
15. Slide the non-belled 108mm black pipe over the insulated pipe in step 12.
16. Continue the pipe upward as in the "Straight run through ceiling and roof" procedures above insulating each pipe as in steps 12 & 13 in this procedure. The remaining 108mm black pipes should be assembled with the belled end down.

Drainage recommendations



The drainage system to be chosen depends entirely on the soil condition, ground water level and local regulations. Always consult your local health authorities before installing your drainage system.

Starting the toilet

1. Insert the composting bin inside the toilet with the curved end facing forward.
2. Place the carrying handle in the down position to the rear of the toilet.
3. Open the included 8-gallon bag of starter mulch and add about 1 quart of water to it. (just enough to keep the mulch from dusting)
4. Mix the water with the mulch to evenly distribute it throughout the bag.
5. Place approximately 2" of starter mulch into the bin.
6. Replace the top on the toilet.
7. Your BioLet is now ready to use.

Theory of composting toilets

There are 4 factors that affect the efficiency of a composting toilet:

Moisture

In optimum conditions, the composting material has the consistency of a well-wrung sponge – about 45% to 70% moisture. When below 45%, there is not sufficient moisture for the microorganisms to function, and above 70%, saturated conditions begin to develop, and oxygen depletion becomes a limiting factor.

Maintaining moisture

Since the BioLet 30 NE does not have a heater, the moisture content needs to be maintained by proper ventilation, addition of proper mulch, frequent mixing of the compost and a good flow from the drain tube.

Temperature

The typical temperature range for most composting toilets is 68°F to 112°F. Lower temperatures result in a moldering process that takes a significantly longer period of time to compost and therefore requires a much larger composting chamber.

Maintaining temperature

Since the BioLet 30 NE does not have a heater, the temperature needs to be maintained by maintaining ambient room temperature and by the natural heat generated during the composting process. Therefore, ambient room temperature of at least 64°F needs to be maintained during periods while the toilet is being used.

Aeration

The aerobic organisms responsible for the composting process require free atmospheric or molecular oxygen to survive. Without oxygen, they will die and be replaced by anaerobic microorganisms that will slow the composting process and generate odors. For composting toilets to work most effectively, the materials being composted should be unsaturated with liquids, and have a loose texture to allow air to circulate freely within the pile.

Maintaining aeration

Since the BioLet 30 NE does not have a ventilation fan, maximum aeration can be achieved by: 1) Keeping the product inside the composting chamber in a loamy consistency. 2) Proper installation of the ventilation pipe. Keep in mind that the addition of any angles in the vent pipe will reduce the airflow. 3) Ensure a good flow of air to the bathroom from the living area. 4) Proper mixing of the product inside the composting chamber. 5) Addition of an auxiliary 12VDC ventilation fan (part# 811020-30) that can be ordered from BioLet or your local authorized dealer.

Carbon to Nitrogen ratio (C:N)

Microorganisms require digestible carbon as an energy source for growth, and nitrogen and other nutrients for protein synthesis. When measured on a dry weight basis, an optimum C:N ratio for aerobic bacteria is about 25:1.

Maintaining C:N

A small handful of starter mulch per person per day or approximately 1 quart per person every week is a good rule of thumb to maintain a helpful C:N ratio, absorb excess moisture, and maintain pores in the composting material.

Use and Care

To ensure that your BioLet 30 NE will operate at its peak potential and that the end product (Humus) will be hygienically safe to handle and to recycle on your property, pay close attention to the following directions.

Precautions

- Always observe good biohazard safety practices when working on the BioLet. Wear goggles, disposable rubber gloves and clothing to prevent contact with unprocessed human excrement. Unprocessed human excrement contains potentially dangerous human pathogens, which may cause illness.
- **NEVER put cigarettes or other burning or glowing materials into your BioLet!**
- Do not put sanitary napkins, food scraps, or animal excrement in your BioLet. Your BioLet is intended for the disposal of human urine, fecal matter and toilet paper ONLY. Introduction of other materials may hinder the composting process or decrease the capacity of your toilet

Adding starter mulch

It is very important to add starter mulch to your toilet on a regular basis in order to promote aeration, add carbon and to improve the compost's ability to absorb liquid. During regular operation add a minimum of 1 quart of starter mulch per week per person. Therefore, one should make it a habit to add about 1/2 cup of starter material after each fecal use.

Approved mulches

Use of only BioLet approved starter mulches is recommended. Approved mulches will carry the BioLet logo. Using any other mulch may cause a decrease in the efficiency of your toilet and may void the warranty on mixer parts if their failure is determined to be caused by usage of unapproved mulch.

Homemade mulch

If you desire to make your own mulch you can use the following recipe for 10 gallons of starter mulch:

- 6 ½ gal – Blond high fibrous, Canadian sphagnum peat moss (**ALL PEAT MOSS IS NOT THE SAME**)
- 3 ½ gal - Pine wood shavings (obtainable from nearly any livestock feed store as livestock bedding) **DO NOT USE SAWDUST OR CHAINSAW CHIPS**
- 2 cups – Good rich garden soil from first 6" layer of soil (**ENSURE FROM AN AREA WHERE PESTICIDES ARE NOT USED**)
- 1 pound – Dry molasses.
- 1 pound – Hulls of buckwheat, wheat, peanuts or cocoa.
- 1 pound – Coarse Perlite

Keep your mixture dry and allow it to breathe. Except for when starting your BioLet, do not dampen. The mulch will mix in and dampen with bathroom use.

***** IMPORTANT *****

BioLet USA cannot guarantee the operation of your unit unless you are using approved mulch.

Emptying the Compost Bin

In a full-time residential setting, the compost bin should be emptied when the bin is about 3/4 the way full or once every 6 months, whichever comes first. In a part-time cabin/cottage setting, the compost bin should be emptied when the bin is about 3/4 the way full or once a year whichever comes first.

1. Remove the top of the toilet by lifting straight up.
2. Straighten the carrying handle on the bin into an upright position.
3. Remove the primary bin and move it outside to finish composting.
4. Place the secondary bin into the unit with the curved end facing the front of the unit.
5. Place the carrying handle in the down position to the rear of the toilet.
6. Pour in enough Starter Mulch to make a 2" covering inside the bin.
7. Replace the top of the unit, ensuring it is evenly sitting on the base.

If the secondary bin contains humus, dispose of it by adding it to an existing outside compost pile for finishing or when an existing compost pile is not available, by mixing it with soil or compost and trench it in around ornamental trees and plants and cover it with a minimum of 5" topsoil, or dispose of it in a manner approved by your local health authorities.

Shutting down your toilet

If your BioLet is going to be idle and not used for periods of two days or more:

Add about one quart of humus starter per week that you will be away or one gallon (whichever is less) and mix it well into the compost.

When you are ready to use the toilet again:

- Press on the seat to open the compost cover.
- Visually inspect the material inside to ensure it is moist.
- If necessary add enough water to moisten the material.
- Mix the material as described in "Mixing the Compost" above.

In case of paper build up

If a build-up of toilet paper occurs, sprinkle a small amount of water over it to make it dissolve and mix into the compost.

Cleaning

Use a sponge or sponge style toilet brush and liquid soap or some other mild detergent when cleaning your BioLet. Never use scouring powder or other strong detergent that could scratch the surface.

Insect control

The presence of insects in and around your BioLet is frequently an indication of excess moisture. If there is excess moisture you will need to remedy this situation to be able to completely remove the insects from your toilet. Use of mulch not authorized for use in your BioLet may also introduce insect larvae into your toilet.

To rid your toilet of insects: Insert a Hot-Shot No Pest Strip (blue and white envelope type package), Spectracide Bug Stop Pest Strip (green and yellow envelope type package) or similar product containing Dichlorvos as the ONLY active ingredient inside the unit but outside the compost bins. These items are readily available at you local hardware store or department store in their garden centers.

Helpful hints

- Keep a small sealed container, with starter mulch and a ½ cup measurer in it, next to the toilet for convenience of adding mulch after each fecal use.

- Hang a sign above the toilet, for the convenience of guests, that states ‘To “flush”: Add ½ cup starter mulch after each fecal use.’
- For male urination, the gentlemen may either sit or stand close enough to the toilet so their knee applies a little pressure to the toilet seat and opens the compost cover.

Troubleshooting

Odors in bathroom

If you detect a pungent or ammonia odor in your bathroom there is a possibility of insufficient airflow from your toilet. Please check the following:

- All vent pipe connections airtight?
- Is the vent pipe **inside** the rubber connector on the back of the toilet?
- Vent pipe ends at least 6” above anything within 10’ (see “Installation”)?
- Vent pipe unobstructed?
- Is the vent pipe insulated in all unconditional (i.e. attic) areas?
- If there is a ventilation fan in the ceiling or wall of your bathroom, do not use it. The fan will draw air from the bathroom, causing a back draft through the toilet.
- If there is a window in your bathroom and the air is drawn out through it, you should close the window.
- If the odor is detected during periods when there is a breeze outside. Install an approved wind directional cap (part# wind) that is available from BioLet or your local authorized dealer.

Odors outside the structure

The presence of odors outside the structure is a positive indication that the vent pipe is in an area of air turbulence above the roof. The vent pipe must be raised to get the top above the air turbulence.

Excess moisture in the toilet

If you detect excess moisture inside the toilet:

- Check that there is a good flow of liquid from the drain tube.
- Ensure the mulch is not compacted and causing a “damming effect”, preventing the liquid from getting to the drain.
- Ensure you are using the toilet within its limits of 3 people full time use (4 people with auxiliary fan) and 4 people part-time use (6 people with auxiliary fan).

Excess moisture in the composting bin

If you notice the material inside the composting bin is not loamy and appears to be holding excessive moisture:

- Are you mixing the material once a week?
- Ensure you are using approved starter mulch (see “adding starter mulch” in the “use and care” section above).
- Ensure you are adding a sufficient amount of starter mulch.
- Ensure there is sufficient ventilation from the toilet (see “Odors in the bathroom” above)
- Ensure you are using the toilet within its limits of 3 people full time use (4 people with auxiliary fan) and 4 people part-time use (6 people with auxiliary fan).
- If all else fails add 1 quart of coarse Perlite (available from most nurseries) to each gallon of starter mulch.

Warranty

Limited 3 Year Parts Warranty:

During the first full three years after the date of original purchase, BioLet USA will repair or replace any parts that are defective in material or workmanship due to normal noncommercial use in accordance with the owner's manual supplied by BioLet USA. Proof of date of purchase may be required by BioLet USA either in the form of a warranty registration card on file or copy of original invoice. After assessment by an authorized BioLet service technician, BioLet USA will ship replacement parts and instructions for replacement to the customer. Labor for the replacement of the defective parts is the responsibility of the customer. In the event the customer is unable to service the unit themselves they may elect, at their expense, to completely sanitize the unit and return it to BioLet USA for repair. Any unit received by BioLet USA for service that is not sanitized will be refused and returned at the customer's expense. No unit may be returned to BioLet USA for repair without an authorized Return Material Authorization (RMA). Any returns received without a proper Return Material Authorization (RMA) will be refused and returned at the customer's expense. This warranty extends to the replacement of defective parts only; any additional costs are the responsibility of the customer.

Limited Lifetime Body Warranty:

In addition to the Limited 3-year parts warranty described above, BioLet USA will replace unit body parts (top, seat, base, and tray door), which are defective in material or workmanship due to normal noncommercial use in accordance with the owner's manual supplied by BioLet USA for the lifetime of the original owner. In the event the exact replacement part is not available BioLet USA will supply the customer with modifiable parts or issue a credit equal to the value of the part to be deducted from the purchase of a new unit.

Exclusions and Exceptions of Incidental or Consequential Damage:

Neither the manufacturer, its agents, or dealers accept responsibility, legal or otherwise for incidental or consequential damage to property or persons resulting from the use of its products.

Some areas do not allow the above, so this exclusion may not apply.

This warranty gives you specific legal rights and you may have other rights which may vary from area to area.

This warranty is in lieu of all other warranties either expressed or implied and no person is authorized to enlarge our warranty responsibility, which is limited to the terms of this certificate. The company reserves the right to change, improve or modify its products without obligation to install these improvements on equipment previously manufactured.

BioLet Warranty Registration

To validate your warranty and help us serve you better please fill out and return this registration card or call our customer service department at 1-800-524-6538. Under **NO** circumstances will BioLet USA ever sell or give away this information. You will not receive mailings, telephone calls or email unless you indicate below that you would like to receive periodic information on updates and specials.

Date Purchased: _____

Purchased From: _____

Address: _____

City: _____ State: _____ Zip: _____

Model: _____

Serial #: _____

Owner's Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

Email: _____

I would like to receive periodic mailings or emails about product updates and specials from BioLet USA.

Address of Installation: _____

City: _____ State: _____ Zip: _____

Number of floors in building where installed? _____ Installed on which floor? _____

Type of vent installation? Straight up Angled inside Angled through the wall Other

I would like to participate in a 10 minute customer survey and receive a coupon for \$10 off a bag of starter mulch.

I would like to receive a free bag of starter mulch. I am sending you pictures of my installation and a brief letter about my buying and installation experience. I understand that all pictures will become the property of BioLet USA and give my permission for BioLet USA, Inc. to use my pictures and letter for the purposes of advertising and referral.

Signature: _____

Date: _____

Fold Here

Business Reply Mail

Affix
Postage

**BioLet USA, Inc.
53671 Lafayette Township Rd 508
Fresno, OH 43824**