



AEROBIC TREATMENT SYSTEMS

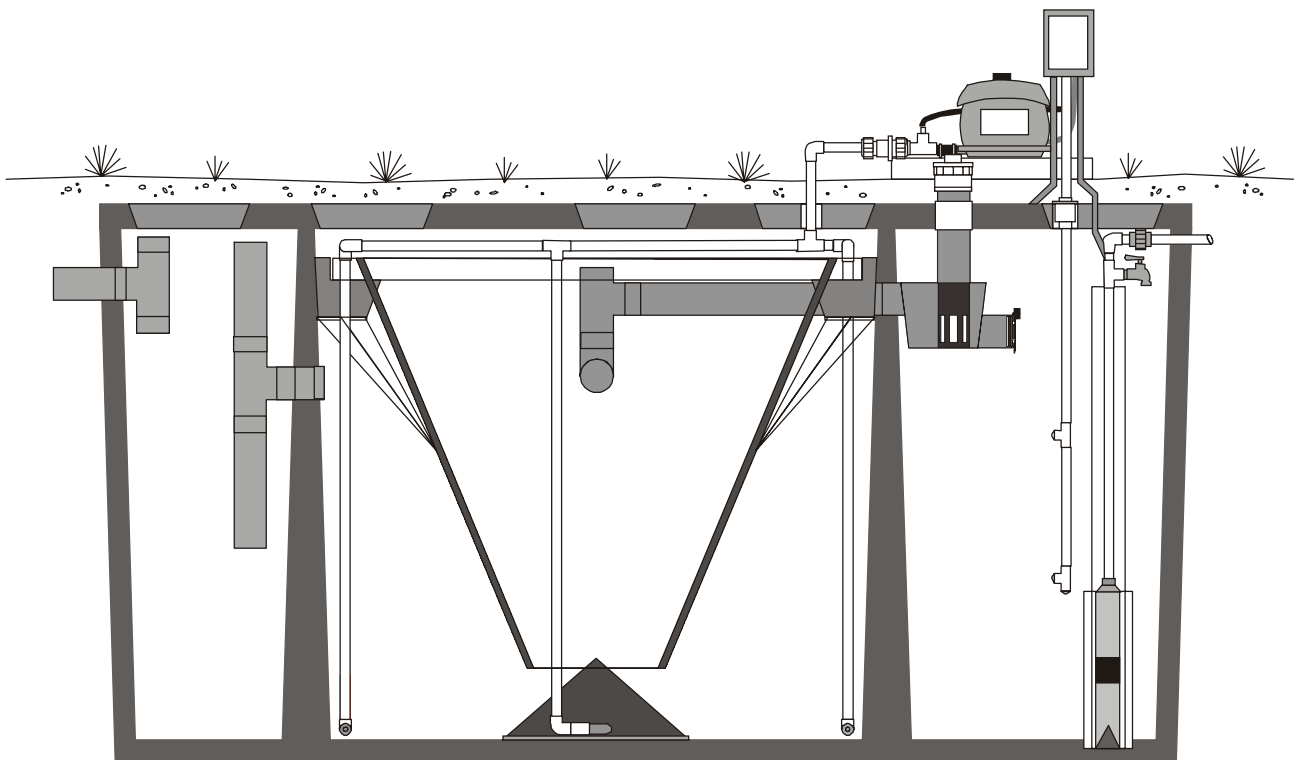
HOOT Aerobic Systems, Inc.

2885 Highway 14 East Lake Charles, Louisiana 70607
(337) 474-2804 phone (337) 477-7904 fax

Homeowners Manual



This Product has been tested in accordance with the criteria set forth in the ANSI/NSF Standard 40 and is hereby certified as a Class I Aerobic Wastewater Treatment Plant.



The HOOT Aerobic Treatment System

Declaration of Warnings

WARNING! TO PREVENT MALFUNCTION OF YOUR SEWAGE SYSTEM, DO NOT DISCHARGE THE FOLLOWING MATERIALS INTO THE SYSTEM: Plastic Materials ! Cloth ! Cigarette Stubs ! Paper towels ! Large quantities of acids or caustics, soaps or cleaning materials which have a high or low pH factor (Use low suds detergents) ! Throw-away Diapers ! Rubber products ! Kleenex, some toilet tissues which do not decompose readily in water ! Rainwater from Gutters ! Excess grease or fatty materials (Use garbage disposal sparingly) ! Oily materials, motor oils, grease, kerosene, gasoline, Paints, etc. ! **BACKWASH WATER FROM WATER SOFTENERS OF ANY TYPE** ! Other materials which do not disintegrate in water ! A/C Discharge ! Sump pump discharge

WARNING! TO FUNCTION PROPERLY, THE HOOT SYSTEM MUST BE MAINTAINED BY A QUALIFIED PROFESSIONAL AT LEAST EVERY SIX (6) MONTHS FOR THE LIFE OF THE SYSTEM. FAILURE TO MAINTAIN THE HOOT SYSTEM VOIDS THE LIMITED WARRANTY AND MAY CAUSE SERIOUS BODILY INJURY OR ILLNESS TO PEOPLE AND PETS AND MAY CAUSE SERIOUS DAMAGE TO THE HOOT SYSTEM OR OTHER PROPERTY.

DANGER! ONLY A QUALIFIED PROFESSIONAL SHOULD ATTEMPT TO REPAIR OR FIX THE HOOT SYSTEM. ATTEMPTED REPAIR BY ANYONE OTHER THAN A QUALIFIED PROFESSIONAL MAY CAUSE SERIOUS BODILY INJURY OR DEATH TO THE HOMEOWNER OR OTHER PERSONS AND MAY CAUSE SERIOUS DAMAGE TO THE HOOT SYSTEM AND OTHER PROPERTY.

DANGER! DO NOT DISCONNECT THE POWER TO THE HOOT SYSTEM. DISCONNECTION OF THE POWER FROM THE SYSTEM MAY CAUSE SERIOUS ILLNESS OR DEATH TO THE HOMEOWNER AND OTHER PERSONS AND MAY CAUSE SERIOUS DAMAGE TO THE HOOT SYSTEM AND OTHER PROPERTY.

WARNING! IN CASE OF IMMINENT FLOOD, IMMEDIATELY TURN OFF THE ELECTRICAL POWER TO THE HOOT SYSTEM AT THE INDEPENDENT BREAKER LOCATED ON THE HOUSE. FAILURE TO TURN OFF THE ELECTRICAL POWER MAY CAUSE SERIOUS INJURY OR DEATH TO THE HOMEOWNER AND OTHER PERSONS AND MAY CAUSE SERIOUS DAMAGE TO THE HOOT SYSTEM AND OTHER PROPERTY.

WARNING! IF THE UNIT FAILS TO FUNCTION PROPERLY, DO NOT USE THE BATHROOM FACILITIES UNTIL QUALIFIED PERSONNEL FIX THE PROBLEM. USE OF THE BATHROOM FACILITIES DURING A SYSTEM FAILURE MAY CAUSE SERIOUS INJURY, ILLNESS, OR DEATH TO PERSONS AND MAY CAUSE SERIOUS DAMAGE TO THE HOOT SYSTEM AND OTHER PROPERTY.

WARNING! DO NOT ALLOW CHILDREN TO PLAY ON OR AROUND THE AEROBIC TREATMENT SYSTEM, THE SPRINKLER SYSTEM, OR OTHER OVER-LAND DISCHARGE AREA. ALLOWING CHILDREN TO PLAY IN THESE AREAS MAY CAUSE SERIOUS BODILY INJURY, ILLNESS, OR DEATH TO THE CHILDREN AND OTHER PERSONS AND MAY CAUSE DAMAGE TO THE HOOT SYSTEM AND OTHER PROPERTY.

DANGER! DO NOT OPEN CONTROL PANEL WITHOUT ELECTRICITY DISCONTINUED AND LOCKED OUT ON THE SYSTEM. FAILURE TO DO SO COULD CAUSE SEVERE INJURY OR DEATH

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Overview of Sewage Treatment

The treatment system is comprised of four components, namely a pretreatment tank, aeration chamber, final clarifier and a disinfection device. The pre-treatment tank aids in the anaerobic decomposition of the influent and provides a storage area for non-biodegradables which are inadvertently added to the system. The aeration chamber is the heart of the activated sewage treatment plant. By means of a blower, oxygen is incorporated into the sewage. This introduction of oxygen is done in such a manner as to intimately mix the organics of the sewage with the bacterial populations in the aeration chamber. Reduction of the organics is accomplished by these organisms. Movement of sewage in the aeration chamber causes the activated sludge that settled in the final clarifier to be re-introduced into the aeration chamber. As the solids settle out in the clarifier, a clear odorless effluent is produced which passes through the disinfection device, and into the pump tank for discharge at a later time. All HOOT systems have a minimum of a ½ days flow above the alarm to give ample time for service personnel to arrive and correct any problem which may occur.

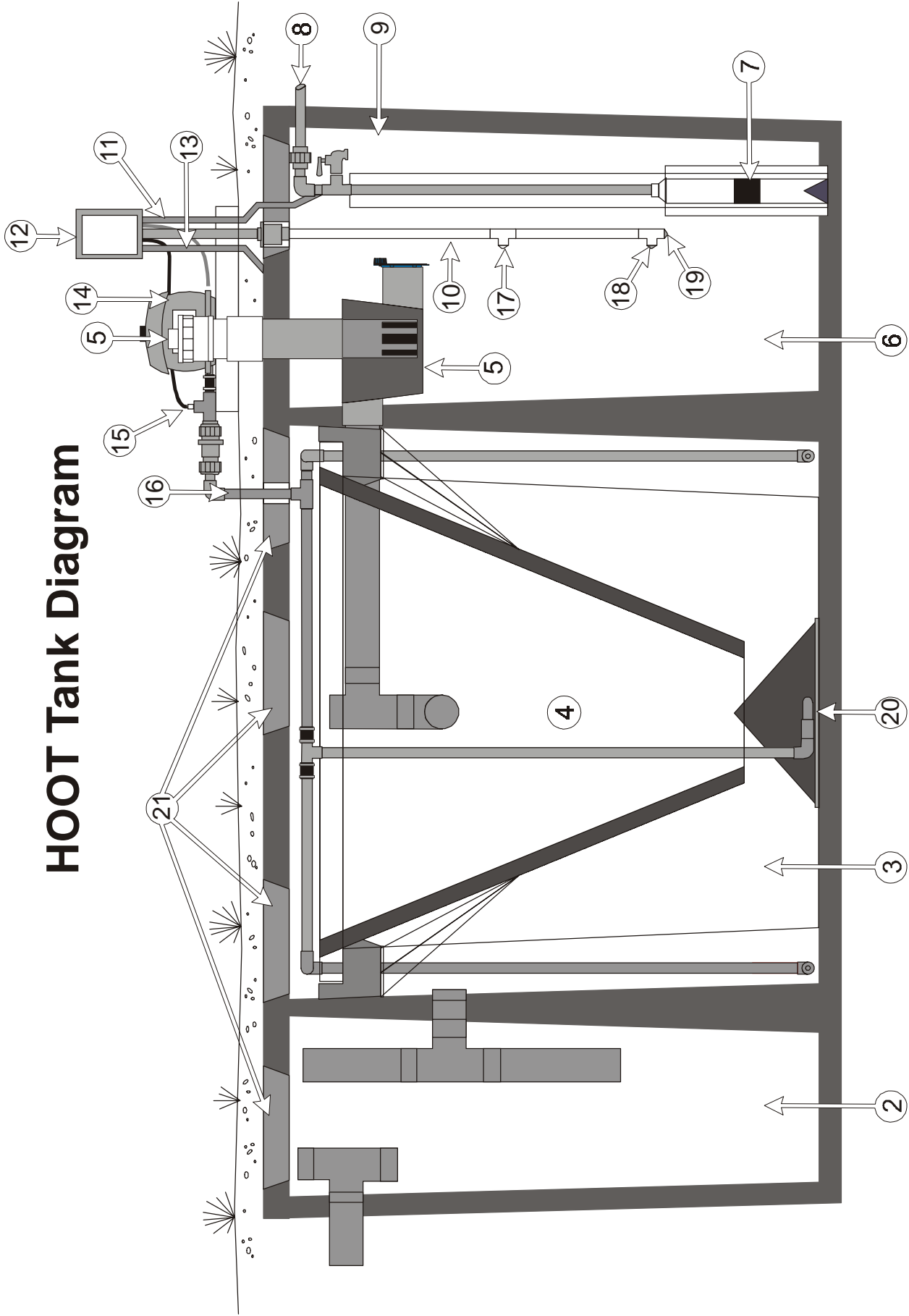
The ANSI/NSF Standard 40 requires a minimum removal efficiency for the performance of Aerobic Wastewater Treatment Systems. For a system to be certified as a Class I Treatment unit the arithmetic mean of all effluent samples collected in a seven day period must be less than 45 mg/L. The HOOT Aerobic System had an arithmetic mean BOD₅ of 3.1 and a Suspended Solids arithmetic mean of 2.7 with both averaging 97% removal efficiency.

The effluent quality was found to meet or exceed state and federal standards for all other required parameters. According to these results, the HOOT unit is the most efficient wastewater treatment systems on the market today.

The HOOT Aerobic Treatment System Diagram

1. **Inlet** - where the wastewater enters the system from the home
2. **Pretreatment Tank** - where anaerobic digestion occurs and storage for non-biodegradable materials
3. **Aeration Chamber** - where air is introduced into the sewage for digestion
4. **Clarifier** - a still chamber where solids settle out and the clear effluent rises
5. **Chlorinator** kills any remaining biological activity in the water entering the pump tank.
6. **Pump Tank** - where the treated and disinfected effluent is stored prior to discharge
7. **Effluent Pump** - how the treated water is discharged from the system
8. **Discharge Line** - to the disposal method prescribed by law or chosen by installer
9. **Sampling Port** - used by service personnel to inspect effluent quality
10. **Probe** - turns on and off the pump based on water level
11. **Pump Wire** - from pump to the control panel
12. **HOOT System Controller** - operates and regulates the control of the system
13. **Power Line (30 Amp)** - independent breaker provided by homeowner, builder or qualified electrician, necessary for proper operation of the system
14. **Troy Air Linear Air Blower** - long life, efficient linear blower which compresses atmospheric air and under pressure delivers it to the tank
15. **Air Manifold** - delivers the air from the line to the stones for diffusion into the sewage
16. **Aeration line** - delivers the air from the pump to the manifold
17. **High Water Probe** - turns the pump on - also alarm probe if pump fails to come on
18. **Low Water Probe** - the off switch for the pump
19. **Probe Ground** - generates the low level signal in the water which is sensed by the probes
20. **Aeration Stone** - air is finely diffused from the stone into the aeration chamber
21. **15" Covers** - provide access to each component of the system for service. Are usually brought to grade level to meet local regulations and for serviceability.

HOOT Tank Diagram



Chlorine Maintenance

ADD CHLORINE light will come on when the tablet level is between 1 and 2 tablets remaining. According to state law, It is the homeowners responsibility to maintain a chlorine residual in the pump tank of at least 1.0 mg/L. This can be achieved by keeping tablets, designed for the disinfection of wastewater in your chlorinator. To add tablets, remove the tube and follower, and clean out old tablets and residue. HOOT recommends filling the tube with approximately 1 months supply or 3 to 5 tablets, depending on use. A general rule is 1 tablet, per person, per month. Regulations may require more to be added at a time. Monitor the chlorine use, as well as the light, to determine when to add tablets to the tube. Carefully lower the dispenser tube into the chlorinator and reinstall the follower. Do not drop a tube filled with tablets. Damage to the dispenser, tube or tablets will occur and will not be covered by the warranty.

Chlorine Misuse Warning

Improper chlorine use can cause sever damage to the probe, pump and other components integral to the Hoot System. It can also create hazardous health conditions for those with exposure to the application area. The proper chlorine tablets are available from every Hoot Installer. They are specially formulated for small waste water flows and are an anti-wicking Calcium Hypochlorite formula. They are EPA registered and minimize excess residuals in the environment which may prove harmful to human or other life.

Environmental Protection Agency personnel are targeting the misapplication of chlorine products for more stringent enforcement. According to the E.P.A. the use of swimming pool chlorine in the treatment of waste water effluent is a violation of the Federal Insecticide, Fungicide, and Rodenticide Act Sections 136n-2g and 136j(a)g. The F.H.F.R.A . regulations essentially state anyone who is using a chlorine product for applications other than those stated on the product's labeling is potentially subject to fines or imprisonment. Individual users can be fined \$500.00 for the first offenses and \$2000.00 for subsequent violations.

Service Policy

The initial service policy, which covers the first two years of system operation, is included in the purchase price of every HOOT Aerobic Treatment System. During the first two years of system ownership, the homeowner is entitled to all service, sampling and inspection calls required by local regulatory officials. This will include a complete inspection of each component of the system, and any adjustments or servicing necessary to any electrical, mechanical and other component parts to ensure proper function. During the inspection, an effluent quality observation will be made as well. If there are any items which need corrected and can not be immediately remedied, you, the installer/inspector, will inform the home owner, in writing, of the conditions and the estimated repair date. Following the initial two year service policy, the installer, must make available, for purchase, a continued service policy comparable to the initial service policy. Our manufacturers will stock any and all replacement parts necessary to ensure that the HOOT Aerobic Treatment System will operate properly as long as you own your home. To service a HOOT System, a service representative must be certified on an annual basis by HOOT Aerobic Systems, Inc., or their qualified representatives.



TREATMENT SYSTEM INITIAL SERVICE POLICY

HOOT Aerobic Systems, Inc.

2885 Highway 14 East Lake Charles, Louisiana 70607
(337) 474-2804 phone (337) 477-7904 fax

Our Company, _____, will operate and maintain the Hoot Aerobic System located at _____, (legal description only) Permit # _____, for the period of 2 years beginning _____ and ending _____.

This contract will provide for all required inspections, testing and service of your HOOT Aerobic Treatment System. The policy will include the following:

1. _____ inspections a year/service calls (at least one every _____ months), for a total of _____ over the two-year period including inspection, adjustment and servicing of the mechanical, electrical and other applicable component parts to ensure proper function. This includes inspecting control panel, air pumps, air filters, diffuser operation, and replacing or repairing any component not found to be functioning correctly.
2. An effluent quality inspection consisting of a visual check for color, turbidity, scum overflow and examination for odors. A test for chlorine residual and pH will be taken and reported as necessary.
3. If any improper operation is observed, which cannot be corrected at the time of the service visit, you will be notified immediately in writing of the conditions and estimated date of correction.
4. The Homeowner is responsible for maintaining a chlorine residual of at least 1mg/L in the treatment system. This can be accomplished by using chlorine tablets designed for wastewater use, NOT SWIMMING POOL TABLETS. Upon visit, if the system needs chlorine tablets the service provider will add them and charge the customer. If the customer fails in their responsibility to add the chlorine tablets, they are in violation of law and appropriate action will be taken.
Initials of Installer _____ Initials of Homeowner _____
5. Any additional visits, inspections or sample collections required by specific Municipalities, Water/River Authorities, County Agencies the TNRCC or any other regulatory agency in your jurisdiction will be covered by this policy.

At the conclusion of the initial service policy, the Service Provider will make available, for purchase on an annual basis, a continuing service policy to cover labor for normal inspection, maintenance and repair. According to state law, all owners of aerobic systems must maintain a factory authorized service provider for the lifetime of the system.

The HOOT Homeowners Manual must be strictly followed or warranties are subject to invalidation. Pumping of sludge build-up, for reasons other than due to warranted mechanical failure, are not covered by this policy and will result in additional charges. By signing this form, both Installer and Homeowner agree to the terms of this policy. By signing this form, both the Installer and the Homeowner agree that the Homeowner has received a copy of the Homeowners Manual and the Installer has made a reasonable effort to explain all pertinent information to the Homeowner.

HOOT is not responsible for service, it is the SERVICE PROVIDER indicated below.

HOME OWNER

SERVICE PROVIDER

Name

Address

City
() -

Phone

Signature of Home Owner

Name of Service Company Representative

Address

City
() -

Phone

Signature of Service Provider and License #.

Homeowner Trouble Shooting

If both **AERATION PROBLEM** and **WATER LEVEL PROBLEM** occur, the photocell cannot tell the difference between daylight and darkness. This occurs when the computer “sees” that either day or night is greater than 32 hours. To correct this problem, redirect or turn off any overhead light that comes on at dusk, on at dawn.

If you have re-directed or turned off an overhead light, you will need to reset the controller to clear the alarm. To do this, you simply need to turn off the power to the system at your panel box for 10 seconds and then turn it back on. If the problem re-occurs approximately 30 hours later, you have a problem with your photocell and you will need to call your qualified Hoot Service Provider for assistance.

If you do not have an overhead light, then there is a problem with the photocell and you need to call your qualified Hoot Service Provider.

If **AERATION PROBLEM** occurs there has been a problem with your air delivery system. This is the most critical part of the treatment system and the problem must be corrected as quickly as possible. There are two problems that a homeowner can correct:

1. The air line from the blower to the control panel has come loose or been disconnected.

Check first to see if the black line from the aerator is not pinched, and is properly installed into each end of the compression fittings. If this has been pulled loose, then turn off the power to the system at your panel box for 10 seconds and then turn it back on. If an aeration problem occurs again, then call for assistance.

If a **WATER LEVEL PROBLEM** and an audible alarm occurs, first determine if it is a problem also with an **AERATION PROBLEM** (See Above).

There are no homeowner repairs that can be made to the effluent delivery system. Please look directly at the panel and note whether the light is steady, slow or fast flashing. This will aid the installer in coming to the quickest resolution of your problem.

If **POWER FAILURE ALARM** occurs

- 1). Circuit Breaker to system - from house - is tripped.
- 2). Circuit Breaker at house panel box for remote breaker is tripped.

If **ADD CHLORINE** comes on

When the tablet level is between 1-2 tablets remaining, the **ADD CHLORINE** Indicator light will light and beep, and remain lit until chlorine has been added to the system. See directions on page 5 under **Chlorinator Maintenance**.

How The Night Pumper System Works

The system controls the pump based on a time clock principle. Each day at sun up, an internal clock begins a count down. 20 hours after sun up the system will pump out the tank. Upon initial start up of system, or after a power failure, the internal clock assumes daylight just occurred. The system starts the 20 hour clock till pump down. If night comes, and daylight then occurs before the 20 hours has passed, then the pump will automatically pump out at daybreak.

Water Over-Use

If at any time more than 360 gallons of water enter the system between pump cycles, (the maximum allowed for a 5 bedroom home) then the system must come on in a demand configuration mode. Thirty seconds prior to pumping, the system will turn on an audible alarm, with two short beeps in a row. After 30 seconds, the alarm will silence and turn the pump on for maximum of 4 minutes. If the level drops below the high probe, the pump will run an additional 4 minutes.

If this does not lower the level below the high probe the pump will jog 10 times and will pump for an additional 4 minutes. If this does not lower the water level below the high probe, a **WATER LEVEL PROBLEM** will occur with a **SYSTEM ALARM** red light and audible alarm. This might occur if a hot tub, Jacuzzi or other large volume of water is released into the system all at once. It should be noted that hot tub or Jacuzzi water should never be released into an aerobic system. This alarm is designed to tell the warn Home Owner that a large volume of water being released into the system all at once can disturb the process and should be metered in more slowly. If the system persistently comes on in a demand configuration, then it should be noted that the household either, uses too much water and is sized too small, is wasteful with water, or has running toilets, etc. It should also be noted that no Aerobic system can function correctly if too much water is run through the system. To determine if there is a plumbing leak check the clean-out located before the tank inlet by sprinkling a small amount of dry dirt or sand. If the dirt washes away, the width of the stream can indicate how much water is being wasted. A stream as little as 1/8" wide can indicate a leak of as great as 150 gallons a day.

Electrical System Warning

The HOOT Aerobic System features a custom designed control panel made of proprietary parts. Just like the rest of the treatment system, it may only be serviced by a certified HOOT Installer/Service Provider. Although an electrician may be employed by an installer to make the final hook-up, an electrician is not qualified to do service on our control panel unless under the direct supervision of a HOOT Certified Service provider.



HOOT LIMITED WARRANTY AND REGISTRATION

HOOT Aerobic Systems, Inc.

2885 Highway 14 East Lake Charles, Louisiana 70607
(337) 474-2804 phone (337) 477-7904 fax

NO GENERAL WARRANTY: HOOT AEROBIC SYSTEMS, INC. DISCLAIMS ANY AND ALL WARRANTIES, EITHER EXPRESS OR IMPLIED, AND **EXPRESSLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

HOOT LIMITED WARRANTY: HOOT Aerobic Systems, Inc. ("HOOT") warrants faulty workmanship or construction of the HOOT treatment system for three (3) years from the date of purchase, subject to the following condition: If HOOT determines that the fault in workmanship or construction of the HOOT treatment system is not the result of improper installation, improper maintenance, failure to service, natural disaster, an act of God (including flood, lightning or fire ants), or tampering by any means, then, at HOOT's discretion, HOOT has the right to provide a replacement for such faulty component. The faulty component will be replaced with a rebuilt or new component to the Service Provider for the first three (3) years from the date of purchase. This Warranty extends to the HOOT Service Provider ONLY. During the initial 2 year service policy, the component will be replaced at no charge. During the third year, components will be provided only to a qualified HOOT Service Provider at no charge, however any and all installation charges will be the responsibility of the homeowner. All warranties are null and void if the system is not maintained under continual service contract.

SOLE REMEDY

HOOT's liability for any accident, injury, or damage to any person or property shall be limited to the purchase price of the HOOT Aerobic Treatment System. HOOT is not and shall not be liable for any incidental or consequential damages or injury, regardless of fault, to any person or property resulting from misdesign or mismanufacture of the HOOT Aerobic Treatment System, failure to warn, failure to label, or inadequate instructions in the manual. This clause is effective to the full extent allowed by law and shall be void where prohibited.

WARRANTY REGISTRATION

FOR THE ABOVE WARRANTY TO BE EFFECTIVE, THE HOMEOWNER AND ANY USER ATTEMPTING TO CLAIM ANY RIGHT UNDER THIS WARRANTY MUST COMPLETE THIS FORM AND RETURN A SIGNED COPY TO HOOT WITHIN THIRTY (30) DAYS FROM THE DATE OF INSTALLATION. The cost of pumping or cleaning of any component or compartment of the sewage treatment system, which becomes necessary for causes other than malfunction of the equipment, is the responsibility of the homeowner.

By signing this Service Policy, the Home Owner and the Service Provider agree to the terms of this policy. HOOT is not responsible for service, it is the SERVICE PROVIDER indicated below.

HOME OWNER

WARRANTY SERVICE PROVIDER

Name

Name of Service Company Representative

Address

Address

City

City

() - _____
Phone

() - _____
Phone

Phone

Phone

Signature of Home Owner

Signature of Service Provider and License #.



Service and Inspection Form

(This is an example only, please check State and Local Requirements)

This testing and reporting shall be completed, signed and dated after each inspection. One copy shall be retained by the maintenance company. The second copy is sent to the local permitting authority and the third copy is sent to the system owner along with an invoice for services by the maintenance company.

- 1. Actual Date of Visit: _____
- 2. System Inspection of: _____
- Owner: _____
- Address: _____
- City, St., Zip: _____

Inspected Items:	Operational	Inoperative	Not Applicable
Aerator.....	H	H	H
Aeration Plumbing.....	H	H	H
Air Filter.....	H	H	H
Effluent Pump.....	H	H	H
Chlorinator.....	H	H	H
OK System Light.....	H	H	H
Probe.....	H	H	H
Sprinkler/Drip Backwash.....	H	H	H
Photocell Test.....	H	H	H
Battery.....	H	H	H

Battery must be replaced once each year. Air Filter must be cleaned each service visit. Operation of effluent disposal system must be made each visit, including chlorine residual test, effluent pump operation and sprinkler operation/ drip backwash.

3. Repairs to system (list all components replaced): _____

4. Tests Required and Results:

Test	Required	Results	Test Method
BOD (Grab)	H	_____	_____
TSS (Grab)	H	_____	_____
Fecal Coliform	H	_____	_____
Chlorine Residual	H	_____	_____

5. Comments: _____

Signature of Inspector: _____ Installer II or WW Lic # _____

For Additional Information, Please Contact:



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