

HOOT AEROBIC TREATMENT SYSTEMS

®

HOOT Aerobic Systems, Inc.

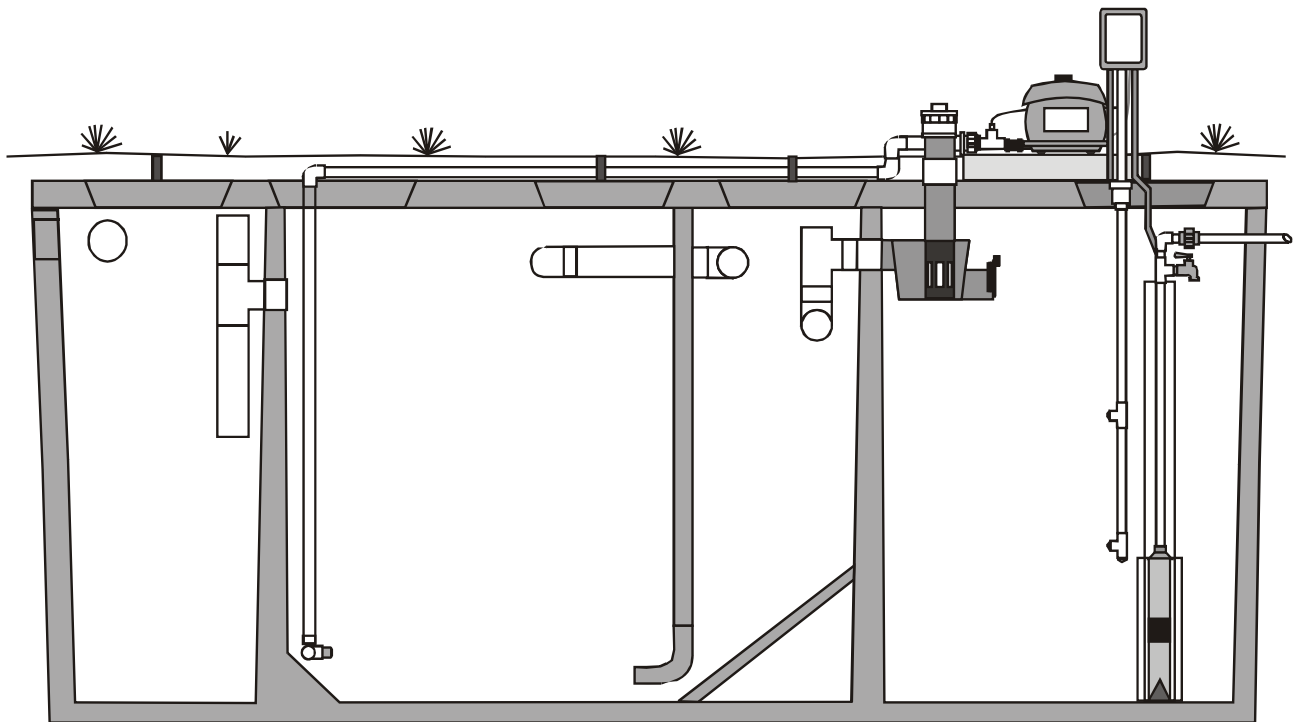
2885 Highway 14 East Lake Charles, Louisiana 70607
(337) 474-2804 phone (337) 477-7904 fax

LA-Hoot Homeowner's Manual

This manual covers the LA -500 TPS



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 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 • Automatic Toilet disinfection products • 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 or WHOLE HOUSE REVERSE OSMOSIS SYSTEMS** • 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 DISCONNECTED AND LOCKED OUT ON THE SYSTEM. FAILURE TO DO SO COULD CAUSE SEVERE INJURY OR DEATH

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Overview of Sewage Treatment

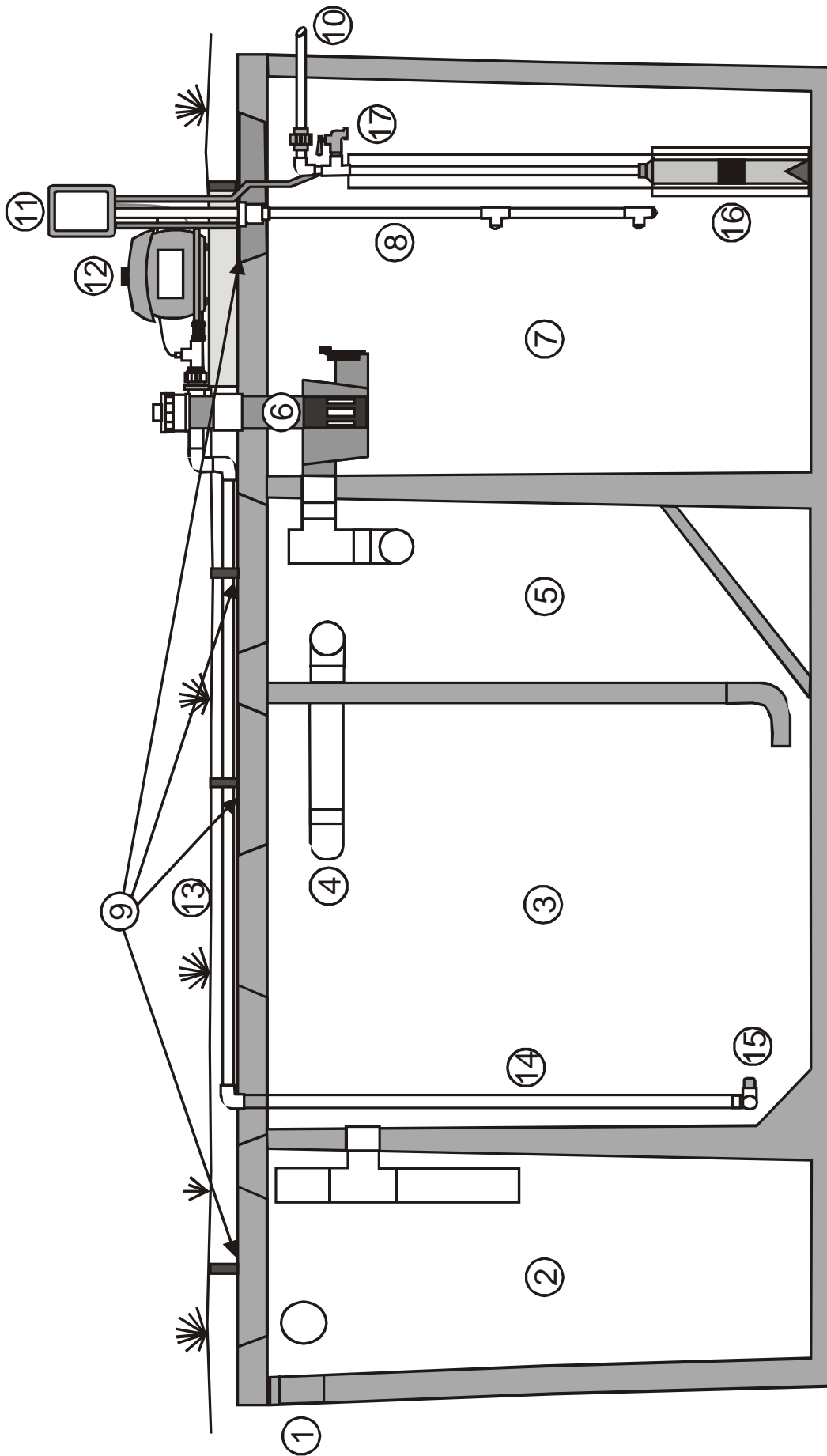
The treatment system is comprised of four components, namely a pretreatment tank, aeration chamber, final clarifier and a disinfection device. The pre-treatment tank aids in the anaerobic decomposition of the influent and provides a storage area for non-biodegradables which are inadvertently added to 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.

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. If properly serviced, the system should produce effluent equal to that of the system that was tested. The HOOT Aerobic System had an arithmetic mean BOD₅ of 9 and a Suspended Solids arithmetic mean of 9.

The effluent quality was found to meet or exceed state and federal standards for all other required parameters.

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. **Skimmer** - used to clean off top of clarifier during service visit
5. **Clarifier** - a still chamber where solids settle out and the clear effluent rises
6. **Chlorinator** - kills any remaining biological activity in the water entering the pump tank.
7. **Pump Tank** - where the treated and disinfected effluent is stored prior to discharge
8. **Probe** - determines water level to control effluent pump
9. **Access Port** - used by service personnel to service and inspect system
10. **Discharge Line** - to the disposal method prescribed by law or chosen by installer
11. **System Controller** - monitors the system and controls the effluent pump
12. **Troy Air Linear Air Blower** - long life, efficient linear blower which compresses atmospheric air and under pressure delivers it to the tank
13. **Air Manifold** - delivers the air from the line to the stones for diffusion into the sewage
14. **Aeration line** - delivers the air from the pump to the manifold
15. **Aeration Stone** - air is finely diffused from the stone into the aeration chamber
16. **Effluent Pump** - how the treated water is discharged from the system
17. **Sampling Port** - place obtain samples for effluent evaluation, and to control pressure at the spray heads



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 correction and can not be immediately remedied, you, the installer/inspector, will inform the homeowner, 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.

Residuals Pump Out of System

The Hoot Aerobic System is a sewage digestion system that uses a mechanical process of aeration to accelerate the digestion process that would normally take place in the soil. Over time, there will be a build up of non-biodegradable materials or residuals that will necessitate the system being pumped out. The pump out of the system will be based on a level of settleable solids in the aeration chamber or evidence of solids carry over into the pump tank. Qualified service personnel will check for these levels during their inspection and will advise you when the system will need pumped out. This level will be affected by the number of residents in the home, their health and eating habits, use of paper products, quantity of garbage disposal use and non-biodegradables added to the system.

Most systems that plumbed to single family residences, and are properly designed will go for a period of 2 to 4 years between pump outs. Factors mentioned above, and others not anticipated can cause the frequency between service to be longer or shorter. In all cases, it is advised to have the system pumped out when it is recommended. If the solids level is ignored, the system may malfunction, fail to treat the sewage properly and cause damage to pump and other components that will likely cost 2 to 3 times what a pump out would cost. Damage to these components from failing to pump out the system regularly would not be covered by any initial or extended warranty.

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. Electrical diagrams are made available only to our authorized service personnel for their use in servicing our systems.

Homeowner Trouble Shooting

The Hoot system has been designed for trouble free long life operation.

Homeowners should ensure that their blower is free from grass and other plants and that it is placed on a concrete pad. This should be kept clean of not only grass, but dirt and mud as well. If it is not, then the blower will overheat and shorten its expected life. Fire ants will form a mound over the blower if this condition is allowed to continue. Any damage resulting from overheating caused by ants will be evident and not covered by the manufacturers warranty.

There are three alarms indicated by the Hoot Aerobic System Controller:

A **Steady SYSTEM ALARM** red light indicates a problem with the Aeration Delivery System. The only homeowner repair to this problem that can be made is to the air pressure sensing line. Be sure that it has not become detached from the blower, or has not been kinked or twisted in a manner that would cut off air to the control panel. If it has, either re-attach or un-kink and the problem alarm should immediately clear. If not, then there is a problem with the aeration system that needs the attention of qualified repair personnel.

A **Flashing SYSTEM ALARM** red light indicates a High Water Level in the system. The pump has already been turned on and is not able to lower the level in a reasonable amount of time. If the alarm goes away on its own, then you may have added a large volume of water to the system and it overcame the pumps ability to lower the water level. This also can be an indication of a pump that is clogged and working below its potential and must be immediately serviced to prevent complete failure. There is nothing a homeowner can do to repair the pump and service personnel should be immediately contacted. Check for running water in the home, hung up toilets, etc. and discontinued water use in the home until repairs can be made. The system does contain a half day storage flow, however, once this space is used up, water can begin to back up into the home, potentially causing damage to floors, walls, etc. and a possible health hazard to those who might come in contact with the overflow water.

A **Flashing SYSTEM OK** green light is normal for the first 30 seconds when a system is powered up. After that, a flashing SYSTEM OK green light indicates a low level of chlorine tablets. The optional chlorine level sensor may be purchased at the time of initial purchase or can be added after operation has begun at an additional charge. Contact your installer or service provider for details.

Any alarms will require attention by authorized repair personnel. There are no user serviceable parts and components are made specifically for the treatment of wastewater. Both the standard covering the use of the system and local regulations require repairs be made by persons who have been certified by the manufacturer to make repairs.

During the first few weeks of system operation, the system must establish itself and it is common for odors to develop around the system and its components. After the first month of operation, these should go away. A normally functioning system will have a damp, musty type odor. Foul odors can be present and the system indicate that the mechanical components are properly functioning. Please be certain that you are not using any of the materials specifically mentioned to cause problems with the system on the first paragraph of page one of this manual. If you are, discontinue their use and the problem within a few weeks

should clear up by itself. If you are not using any of the items, or you have discontinued their use and the problem has not corrected itself, then call your service provider for assistance.

Intermittent use and Abandonment

Intermittent use of the system is not recommended. These systems are biological reactors and to maintain proper function must be used on a regular basis. If the system is not to be used for an extended period of time it should be abandoned using the following procedure. To properly abandon a system, you need to have the system pumped to remove all solids from the system. The system must then be refilled with water to the normal operating level and then disabled electrically.

Re-Start

If the system has been abandoned and power has been shut off to the system at any time, the system must be thoroughly pumped, filled with water and an inspection of all of the system components, including diffuser operation and backpressure on the system. If the system, with clean water reads a high back pressure, then the stones must be replaced or flushed according to our procedures for flushing.

Change of Ownership

Any time the system changes ownership and new residents are to use the system, even if there is no electrical interruption, it is strongly recommended that the system be pumped, cleaned out and re-started. The biological flora and fauna of the aerobic system are particular to the individuals using the system and a drastic change to the influent characteristics and load may seriously affect the performance of the system. Please note that this will also provide for a complete inspection of the system and its components and an opportunity to educate the new system owner of the type of system that they have, along with their duties and limitations of their system.

Chlorine Maintenance

According to state law, It is the homeowner's responsibility to maintain a chlorine residual in the pump tank to the state required level. This can be achieved by keeping tablets, designed for the disinfection of wastewater in your chlorinator. To add tablets, remove the tube, 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 to determine when to add tablets to the tube. Carefully lower the dispenser tube into the chlorinator. 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.

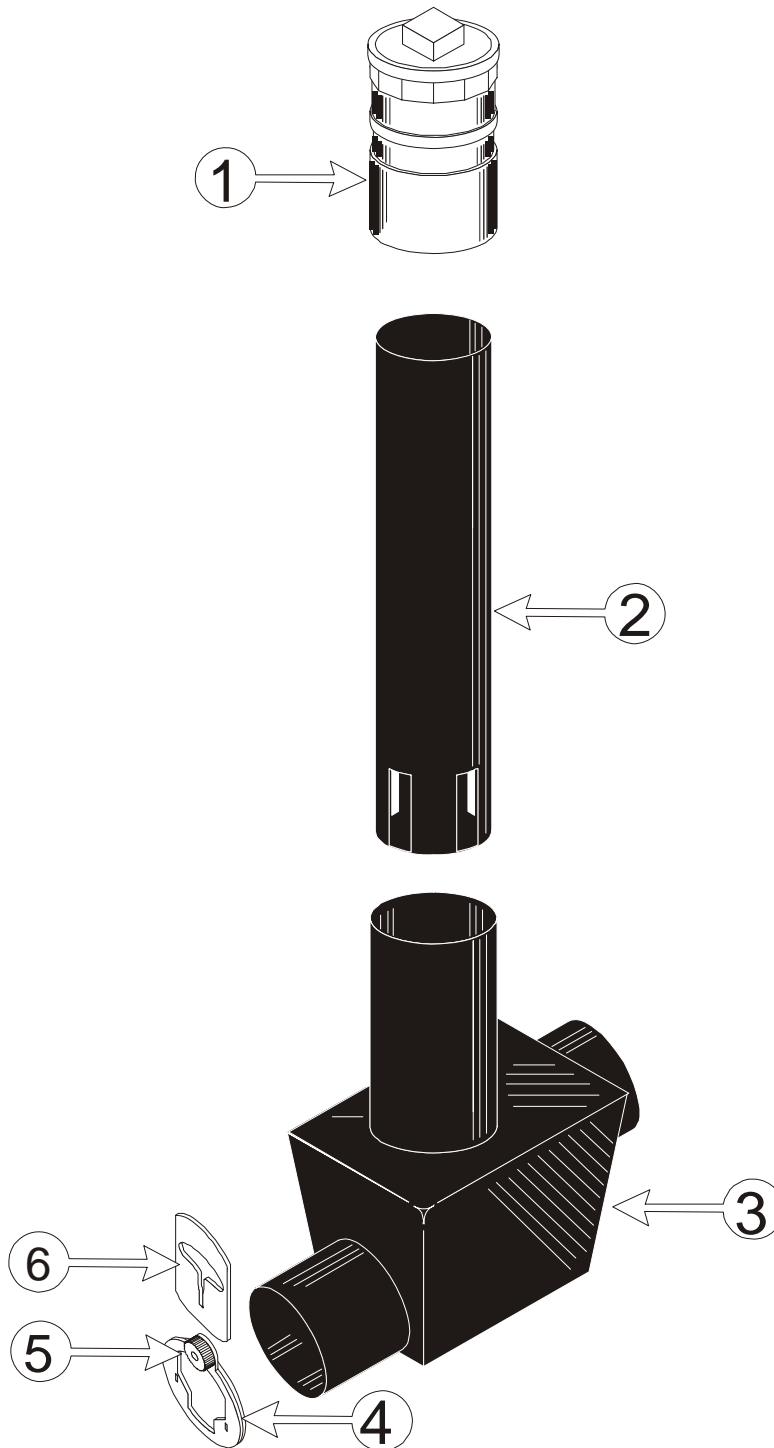
Be Careful when handling chlorine. It is corrosive and can cause burns to the skin and eyes. Follow all manufacturers recommendations located on the container.

Chlorine Misuse Warning

Improper chlorine use can cause severe 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 offense and \$2000.00 for subsequent violations.

HOOT Chlorination System



- 1. Chlorinator Cap
- 2. Chlorine Tube
- 3. Chlorine Contact Reservoir

- 4. Weir Frame
- 5. Flow Control Plate
- 6. Adjustment Knob



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.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aeration Plumbing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Filter.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Effluent Pump.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chlorinator.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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 if so equipped.

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

4. Tests Required and Results:

Test	Required	Results	Test Method
Chlorine Residual	<input type="checkbox"/>	_____	_____

5. Comments: _____

Signature of Inspector: _____ License # _____



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 two (2) 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 two (2) years from the date of purchase. This Warranty extends to the HOOT Service Provider ONLY. During the initial two (2) year service policy, the component will be replaced at no charge to the Homeowner. The warranty is immediately voided if the system is not maintained under a continual service contract from date of purchase.

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

SERVICE PROVIDER

Name

Name of Service Company Representative

Address

Address

City

City

() - _____
Phone

() - _____
Phone

Phone

Phone

Signature of Home Owner

Signature of Service Provider



TREATMENT SYSTEM INITIAL SERVICE POLICY

This Service Policy ("Agreement") entered into this ____ day of _____, _____, by and between _____ ("Home Owner") and _____ ("Service Provider")
Service Provider agrees to operate and maintain the Hoot Aerobic System located at _____
_____, (legal description only) Permit # _____, for the period of two (2)
years beginning _____ and ending _____, pursuant to the terms below:

This Agreement will provide for all required inspections, testing and service of your HOOT Aerobic Treatment System. Service Provider and Home Owner agree to the following:

1. Service Provider shall perform _____ 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 the control panel, air pumps, air filters, diffuser operation, and replacing or repairing any component not found to be functioning correctly.
2. Such inspections shall include 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 by Service Provider, which cannot be corrected at the time of the service visit, Home Owner will be notified immediately in writing of the conditions and estimated date of correction.
4. Home Owner agrees to maintain the state minimum chlorine residual in the treatment system. This can be accomplished by using chlorine tablets designed for wastewater use, NOT SWIMMING POOL TABLETS. Upon inspection by Service Provider, if the system needs chlorine tablets the Service Provider will add them and charge the Home Owner.
5. In the event that the Home Owner fails in their responsibility to add the chlorine tablets, it shall be considered a breach of this Agreement and the Home Owner's duties as agreed to in the Hoot Homeowners Manual. Additionally, such failure may be considered an unlawful act in some jurisdictions, and Service Provider will contact the appropriate governmental authorities to report such violation.
Initials of Service Provider _____ Initials of Homeowner _____
6. Home Owner agrees to maintain a factory authorized service provider for the lifetime of the system, as required by state law applicable to aerobic systems. Service Provider agrees to make available, for purchase on an annual basis, a continuing service policy to cover labor for normal inspection, maintenance and repair.
7. Service Provider agrees that within 48 hours of a request for service (weekends and holidays excluded), Home Owner's system will be visited by the Service Provider listed below or their authorized agent. If there are any items which need correction and can not be immediately remedied, the service provider will inform the Home Owner, in writing, of the conditions and the estimated repair date.
8. Any additional visits, inspections or sample collections required by specific Municipalities, Water/River Authorities, County Agencies the State or any other regulatory agency in your jurisdiction will be covered by this Agreement.

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

Home Owner agrees that HOOT Aerobic Systems, Inc. is not a party to this Agreement, and shall bear no responsibility for service or any terms, obligations, or duties contained herein.

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 #.

For Additional Information, Please Contact:



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