

# The C-Head® Owner's Manual

## Contents of this package

Your C-Head will include the following items.

1. C-Head housing, includes body, toilet seat with lid
2. Collection container
3. Ventilation adaptor hood with screw-in lid
4. 12 ft of ventilation hose and PVC fittings
5. Churn handle
6. Sealing lid (not shown)
7. One gallon water jug



## Not included are the following items.

1. Five gallon bucket and locking lid (disposable container)
2. Active or passive ventilation mechanism (12 volt fan or solar vent or dorade cowling)
3. Peat moss or other composting medium

## **How your C-Head works**

Understanding how your C-Head works will help you with the installation. Briefly, the C-Head is comprised of four main components;

1. The housing, toilet seat and lid
2. The collection containers with the churn handle
3. The ventilation hood adaptor and hood lid
4. The ventilation hose and fittings.

Your C-Head toilet separates the liquid and solid waste and dehydrates and initiates composting of the solid waste by moving air through the system. Initially the waste is collected inside the C-Head housing unit in a five gallon collection container where it is processed. When the collection container becomes full (and this is determined by how difficult it is to turn the churn handle) the contents are transferred to a disposable five gallon container where the dehydration and composting continues. When the disposable container is full, it is emptied onto a composting mound or treated with chlorine bleach and capped off with a secure lid and disposed of using the local trash disposal system.

## **Installing the system**

When moving your C-Head, insert your hand into the front viewing slot or under the front bottom edge of the housing and place your other hand at the back corner with your fingers under the housing lid. Check the contents against the packing list. A small screw-in snap on the underside of the toilet seat has been removed for shipping. You will find it in a small plastic bag in the larger plastic bag of parts. Simply screw it back in place and keep the seat snapped to the housing lid, except when cleaning. (Refer to the section on Cleaning your C-Head.)

## **Types of installation**

There are several ways to install the C-Head system. You should determine how you are going to use your C-Head in order to determine the best installation.

1. Are you going to use it occasionally, such as on weekends?
2. Are you going to use it for longer periods; from a week to a month at a time?
3. Are you going to be using it on a full time daily basis?

**Weekends** – If you are only going to be using your C-Head on week-ends or for just a few days at a time, then you almost certainly do not need to install a ventilation system. As a rule, as long as the waste is covered with peat moss, the smell will be mitigated completely and the dehydration and composting process will proceed without active ventilation. It depends on the temperature and humidity of the area you are in, as well. There may be some slight noticeable musty smell if the weather is very humid or if you must keep the cabin closed. There should never be any type of sewage smell.

If you are installing your C-Head in an RV, camper or horse trailer, then a simple passive venturi system should be adequate if required at all. A stack with [a Camco Cyclone](#) or a [360 Siphon](#) on the top should draft the air out of the housing and the smell along with it.

**Week to Month** – If on the other hand, if you plan on taking seasonal extended trips and using the C-Head on a more consistent basis, then you may need to install a ventilation system from the toilet but probably not from the ventilation hood and disposable container.

**Full time Liveaboards** – If you are going to be using your C-Head daily and continuously, then you may want to install the system in a method that ventilates both the main housing and the disposable container. One method is to daisy chain the system with the ventilation hose running from the housing to the adaptor hood and then to the solar vent. Here are some drawings of variations on ventilation.

### **The Vent Hood Adapter**

The vent hood adapter is an appliance that comes with the C-Head that allows you to store your waste onboard using a disposable 5-gallon bucket and lid. The screw-on top allows you to open it conveniently without splattering condensation around, as would a snap-on lid. And by extending the top of the bucket four inches, you can fill the disposable bucket to the brim. This usually takes over a month to fill with two people using the toilet daily. When full, remove the vent hood with a snap on lid if you are taking the waste home for composting, or treat the waste with a cup of Clorox liquid bleach and seal with a locking lid for disposal.

### **Use of the C-Head in a Shower Stall**

If you are installing your C-Head inside a shower stall and it does not have the shower seal option installed, then it is best to keep it covered while you are showering. A fitted fabric cover is the best option but a plastic bag can be used also. This is to prevent water getting into the inside and into the solid waste bucket specifically. If you choose to leave it uncovered while showering, it should be wiped down after getting wet.

### **Handling peat moss or other fibrous materials**

There are many substances that are suitable as a composting medium; sawdust, wood shavings, coconut husks, corncob cat litter, hamster bedding, etc. Sphagnum moss is very inexpensive and once you get the hang of it, it is easy to work with. At first you will probably sprinkle it all over everything every time you touch it, and that can be frustrating. It will hose off easily enough but you can avoid this problem with careful handling. Here's my method.

Peat moss will come in a plastic bag either compressed or loose. It really isn't necessary to carry around the whole bag. A 5-gallon bucketful will last a long time. Cut open the bag and pour it into the bucket on land or in an area where any spillage won't matter.

You may also choose to use a different container if you find one that fits somewhere nicely on the boat. We actually use a rectangular rubber bin that fits right where the old holding tank used to be.



Nut Jars! Either go to Costco/Sam's Club/BJs and buy a couple jars of nuts and eat the nuts or go to Wal-Mart/K-Mart/Target/etc or a container store and buy some wide mouth plastic quart jars. The jar you received with your C-Head can be purchased from either Wal-Mart or Dollar Tree.

Use a small plastic cup or flour scoop (that you keep in the compost container) to fill up the quart jars and store them in the head area. The mouth of these jars fits nicely inside the opening of the C-Head and you can pour out half at a time without spilling any. Once you clear this hurdle, managing the composting material becomes fun and easy.

If you are looking for an alternative to peat moss and coconut coir (and one that is compact) look at equine pine wood pelletized bedding.



**Coconut Coir**



**Horse Pine Pellet Bedding**



**Pine Pellets**

It is available at almost any horse tack store and Tractor Supply stores for about \$7 for 40 pounds. It is very inexpensive and easy to store. Just add a small amount of water

and it turns to dry pine sawdust. It doesn't really compost but desiccates, since it lacks bacteria, but it works great for covering and dehydrating the solid waste.

## **Pest control**

If you have livestock or live in an area that is prone to flying insects or you keep a lot of fresh fruit onboard your boat, you can eliminate the prospect of them migrating to your toilet by adding diatomaceous earth to the mixture. It is usually obtained at any garden or home improvement store in the pool supply section. A twenty dollar 24 pound bag will give you a two year supply if you add one cup to the collection container mixture when you recharge it. It also seems to aid in reducing the musty odor of compost. It is non-toxic to humans in anything less than massive doses but lethal to insects. It works mechanically so it does not lose its potency and insects cannot develop a resistance to it. Only use this if they become a problem.

DE is bulky, heavy and dusty and does not break down, so it is around for a long time. Also for gardeners, some insects that it kills are beneficial such as black soldier flies and their larva, which control the housefly population and break down the waste significantly. DE has also been known to kill earthworms.

An alternative method of complete control is by using a “Hot Shot No Pest Strip2” placed inside the housing of your C-Head or BoonJon toilet. It is not recommended that you leave the No Pest Strip inside the toilet longer than needed. Even though the product is contained inside the C-Head housing, you should also allow some ventilation in the toilet area (bathroom), as much as possible. The instructions state that it should not be used in an area where people will be present for more than four hours a day, but this is using the full evaporation rate of the strip inside a house where ventilation is restricted to the interior of the structure. If you live on a boat, chances are that you are getting a lot of ventilation from open hatches, so there should be little concern. The DOT hazard placard indicates 1-1-0-0 which is pretty benign. But here is how you do it.



1. Wear rubber gloves. Cut the end off of the foil package and remove the strip, which is a plastic tower with holes in it running from top to bottom.
2. Slide the foil package back over the top exposing only the bottom area about a half of an inch, so that you are restricting the evaporation rate of the strip. Raise the cover to expose more of the strip if needed.
3. Tape the package covered strip to the inside wall of the housing if you are in a moving vehicle, or simply set it in the back corner of the toilet housing outside the solid waste collection container.

4. You will see immediate results but after 10 days, the gnat egg population will have been completely eradicated, so remove the strip and place it in a sealable plastic bag for reuse in the future.

The active ingredient is Dichlorvos, an organophosphate. Organophosphates are chemicals commonly used in insect control but they are toxic and can be absorbed through the skin. In addition to killing flying insects, they also kill roaches and other invasive insects. Here are the [MSDS](#) and [CDC](#) links. Humidity found inside the collection container will quickly break down Dichlorvos and render it harmless. Restricting the evaporation by covering most of the strip should have a significant effect in limiting exposure to the chemical. The small space inside your C-Head or BoonJon housing will only require a very small amount of the chemical in order to be very effective and will contain the evaporation until the humidity breaks it down. The end result is an easy and inexpensive means of pest control.

A third possibility is to put two moth balls in the small basket located on top of the solid waste collection container. You will need to remove and replace this basket whenever you empty the toilet to prevent it from falling out. Use basically the same precautions with moth balls as you would with organophosphates. In every case, read the directions. Use your own judgment and act responsibly.

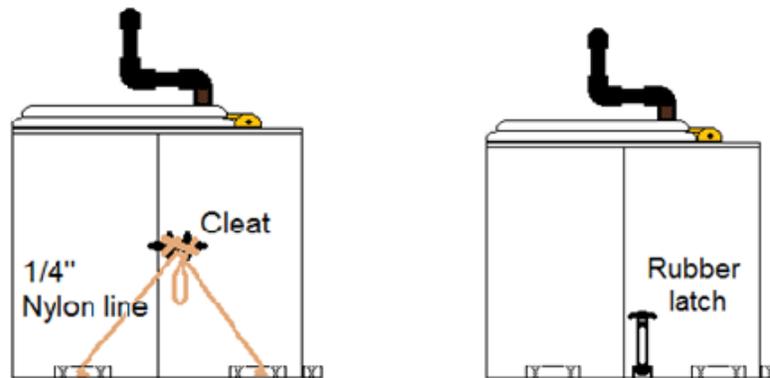
### **Anchoring Methods**

You will need to install the C-Head housing first. It may be easier to handle your C-Head by removing the housing lid assembly before installing the housing. Do this by removing the three screws in the FRONT half of the two hinges (6 screws total) and carefully removing the housing lid assembly. Set it aside being careful not to damage the urine diverting funnel. You will have determined beforehand where your C-Head will fit in your boat, RV or camper. By law, even though the C-Head is designed to be portable, it must be anchored when used in a boat to secure it against spills due to heavy seas or collision.

The C-Head should be secured from shifting laterally with either angle metal, plastic or wood brackets that surround the base of the housing and are attached to the floor. The unit is held down using a tie down system to prevent it from lifting up and out of the bracketed area. The C-Head comes with six to eight rubber non-skid feet that may suffice instead of using brackets. The installation will dictate whether or not brackets are needed. A tie down will still be required. The rubber feet may be easily removed if needed by simply peeling them off the base.

Another method that has more of a nautical appeal would be cleat and line. Here a loop of line is attached to the cabin sole and fed through the hole in a cleat attached to the side of the housing (use a ½” back-up block inside) and then tied off with a figure eight. Both are quick and easy ways to detach the entire housing and support the idea of its “portability”. Portable toilets, constructed of rigid materials and designed to have the waste manually carried away, do not require certification by the USCG and are an

acceptable waste management system by law enforcement on almost all bodies of water in the USA.



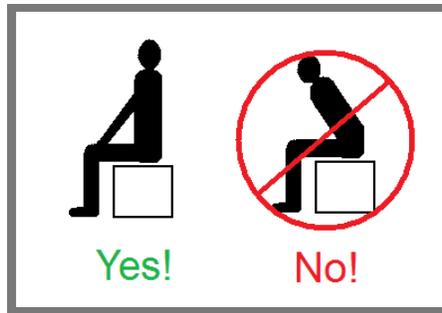
You can also bolt the toilet housing directly to the floor where feasible. Put a 1/4" machine bolt in each of the four corners of the back half of the toilet. Remove the rubber pads on the bottom of the toilet so that you have two hard surfaces mating. Be sure that the bolts are close to the corners so as to not interfere with the collection containers. Use a fender washer with the bolt. Drill a pilot hole 3/16" in diameter and self tap the bolt into it. The length of the bolt should be the thickness of the material that makes up the floor plus 1/2" to account for the thickness of the bottom of the toilet housing. With fiberglass be sure to shave away the edge of the hole with a counter sink bit, just deep enough to remove the gelcoat only. This will prevent spider cracks when the bolt taps into the hole.

### **Using the C-Head**

As with any composting, moldering or desiccating head, separation of the liquid and solid waste is imperative. The C-Head is designed to make body alignment as easy as possible. For best results, men should always use the C-Head in the sitting position as opposed to standing.

In the case of women, the first uses of the C-Head may require special attention, but after a few uses, you should develop a feel for proper alignment and you will become more comfortable and confident as time passes.

When urinating (both men and women), you should hear a trickle. If you don't, be sure to check the level of the gallon jug. The sound diminishes as the jug becomes full.



Always sit upright on the toilet seat. Don't lean forward. The opening to the collection container is designed for this type of seating arrangement. If some solid waste is left on the sides of the opening, simply wipe it off with a small piece of toilet paper and discard the paper in the hole or a trash receptacle. Spray your favorite non-caustic household cleaner into the funnel and around the rim occasionally to keep odor away and to sanitize the surfaces. You may also opt to use a deodorizer such as Zepp or Febreze occasionally. Simply spray inside the funnel a squirt or two prior to sitting down.

Toilet paper can be discarded in the collection container; however this can be unsightly and will cause you to empty the collection container more often. If you discard it in the toilet, use the least amount possible. It is better to discard your toilet paper in a small waste basket lined with plastic grocery bags and covered with a lid just as many people do with a holding tank system.

Put the sealing lid in place, close the toilet seat lid and insert the churn handle and rotate it relatively quickly in a clockwise direction for about 15-20 full turns. The handle is best started and finished in the **three o'clock position**. The white arrow head on the churn handle indicates the direction to turn it. **Churning in the wrong direction can damage the churn.**

As the collection container begins to fill up, turning the churn handle will meet more resistance. You will develop a feel for when it is time to empty the collection container by the level of resistance. Usually the collection container will be about half full when it needs to be emptied. The C-Head is easy to empty and you should just empty it anytime you feel you need to. Don't make it a contest to see how much it will hold.

If for some reason, a large amount of urine enters the solid waste collection container, the compost will become wet and smelly. To remedy this situation, add peat moss to the collection container and churn it until the compost is of a consistency that can be poured out into the disposable container. Once transferred, cover the mixture with additional peat moss. Otherwise, seal and discard the container. Rinse out the collection container before refilling with peat moss.

Again, separation of the waste during use is critical but not difficult to attain with usage.

Now to address a couple of special and sensitive issues:

Vomiting – vomit overboard or in an empty 5-gallon bucket, not in the toilet.

Diarrhea – Diarrhea is a problem regardless of which waste management system you have. With a holding tank system, the frequency associated with diarrhea can cause you to fill your holding tank more quickly than would normally be the case. With composting systems, chronic diarrhea can cause a mess that will have to be cleaned up. If you are using the C-Head system, the solution is relatively simple. During the time you are experiencing diarrhea, remove and empty the solid waste collection bucket from the toilet and set it aside for the time being. Take a 13 gallon tall kitchen trash bag and open it with air and then use your arm to stuff the bag into the toilet through the opening on the top. Double bag if you are afraid of it leaking. Pull the mouth of the bag around the toilet seat as if it were a trash can and tuck it under the rim slightly.



Take a hand full of medium and drop it into the opening. After using the toilet, put the toilet paper inside the bag and add more medium to cover the waste inside. Replace the sealing lid and close the seat lid.



Continue to use the toilet in this method until the diarrhea has passed. You can urinate in the bag as well; however you may have to lift the edge of the bag to get the urine to flow out of the urine funnel and into the bag. Add enough medium to absorb the fluid. Remove and replace the bag daily or as needed.

When the illness passes, pour a half cup of chlorine bleach into the mix, seal and discard the contents in a sealed bucket as soon as possible. This preparation can be done before hand if you know you are sick and then you will not be caught off guard by urgency.

Flies – As previously noted, an occasional problem with composting toilets is fruit flies, sewer flies and gnats. All of these pests develop because they use moist fermenting waste to lay their eggs in. Once they become established, the source must be completely cleaned. It is important to not let them get established.

This problem is reduced with the C-Head for several reasons:

1. The C-Head is emptied more often, removing any eggs and larvae before they can turn to flies and reproduce.
2. The C-Head is a dehydrating system which removes the moisture needed to support the flies, and which facilitates the removal of almost all of the medium when emptied. The collection container is easy to rinse out if needed.
3. Should an infestation begin, the C-Head can be quickly and easily cleaned to destroy all the eggs and larvae. If you are using your C-Head on a boat, simply empty the collection container, then tie a line to it and drop it overboard to soak for several hours, then allow it to dry and reinstall. *Never dispose of food scraps in a composting toilet. This is a primary source of fly infestation.*
4. Finally, a sure fire way to avoid infestations in the future is to place a **Hot Shot No Pest strip** inside the housing between the collection containers and against the side. It can be left in place even while removing the containers to empty them. One strip will last from months up to a year depending on exposure. You should ventilate the toilet housing if you use a No Pest strip continuously.

### **Disposing of solid waste**

Once the composting waste material has filled the disposable container to within two inches of the top (the bottom rim of the vent hood), remove the vent hood and place it in a new bucket. If you are going to dispose of the waste, pour one cup of liquid chlorine bleach into the mixture and then simply snap a locking lid tightly over the top using a hammer or heavy item. Take an awl or screwdriver and poke a hole into the lid for the escape of the gasses. Discard the container as soon as possible in as secure a place (such as a dumpster) or set it out for curb side service just prior to pick up.

If you are going to compost the waste further, *do not use chlorine bleach* and use a “snap on” lid instead of a locking lid. Set aside until you can move it ashore to a composting mound.

## **Safety Note**

Peat moss and other organic matter are subject to spontaneous combustion when stored wet in very large amounts. It is virtually impossible for a five gallon container full of peat moss to spontaneously ignite and there are no recorded incidents of this happening that I am aware of. If this were a serious hazard then we would have frequent fires at most garden suppliers where bags and mounds are stored in the rain and direct sunshine. Nevertheless, as a matter of general safety, it is probably wise to never store composted waste in a place where high temperature extremes are likely to occur such as an engine room.

Wash your hands each time you handle the contents inside the housing.

## **Disposing of liquid waste**

At an average normal rate of one to two quarts/liters a day, the one gallon container system on the C-head will have to be emptied daily or every other day for a crew of two persons. The gallon jug can be capped off and stored to be replaced with a new jug, or the urine can be transferred to another larger container for storage, or taken ashore and disposed of, or in some cases, where legal, dumped overboard.

Using one-gallon containers allows the use of small spaces to store it in, until it can be properly disposed of. As long as it is capped and treated with CampaChem or some other deodorizer and not allowed to sit for long periods of time, odor will not be an issue and the older gallon jugs can be easily replaced with new empty water jugs.

The best system for urine odor control is to pour an ounce of Thetford CampaChem (formaldehyde free) down the funnel each time you empty the urine jug or pee tank. This will totally eliminate any urine odor. Some people say that sugar does the same thing but it takes a large amount and is more expensive. Controlling the odor makes transferring the urine into a toilet less offensive to bystanders.

Unless you use it for gardening, urine should always be emptied out of the gallon jugs into a receptacle designed to accept human waste, if possible, such as a toilet or urinal. The jugs should be recapped before they are discarded, even if they are crushed. Using sanitary practices will insure the popular support for composting toilets as a safe and clean alternative to liquefying waste for disposal.

If your C-Head is equipped with an EUD, read the EUD instructions carefully with respect to disposal of the urine.

## **Cleaning your C-Head**

Note that there is a snap that connects the toilet seat to the housing lid. This snap will snap together whenever you sit on the toilet but you should try to remember to snap it closed every time you unsnap it (usually for cleaning) for safety purposes. The snap prevents the housing lid from slamming down uncontrollably, should you try to lower it by holding only the toilet seat.

You may use any of several standard household cleaners and degreasers that are available on the market. The collection container should be washed occasionally. The collection container is all plastic except for a few stainless steel fasteners. You may choose to fill it with water prior to cleaning it to soften up dried out waste. A standard toilet bowl brush should work fine.

Once clean wipe down the inside of the C-Head housing with a light solution of Clorox and water or use Lysol spray with bleach. For best results, spray the inside of the collection container with silicon spray after it has dried. This will make the next cleaning easier and help prevent waste from sticking to the sides of the container. Use only a mild detergent on the outside of the housing; **never use solvents or abrasives!**

If a urine spill happens from overflowing or a failed container, soak up the urine with a rag or sponge and rinse out the pan with water. Then wipe down the inside of the housing with a light mixture of Clorox and water or a household cleaner.

## **VENTILATION**

Ventilation is a complicated issue; complicated by the immense variation of applications. I recommend that you try using your C-Head *without* ventilation first. **Ventilation is not needed for odor control as is the case with non-urine diverting systems.** Ventilation is usually only necessary if you are having problems with the build-up of condensation on the underside of the sealing lid, or want to use a No Pest strip continuously. If condensation is the problem, the simplest solution to control it is to just empty and recharge the solid waste collection container. Condensation is only ever a problem as the container nears its maximum capacity.

If you do decide to ventilate your system, break down the installation into two phases; venting the C-Head housing and venting through the boat or camper wall.

You can ventilate the C-Head housing two ways; either through just the housing, or through the housing and into the back of the collection container.

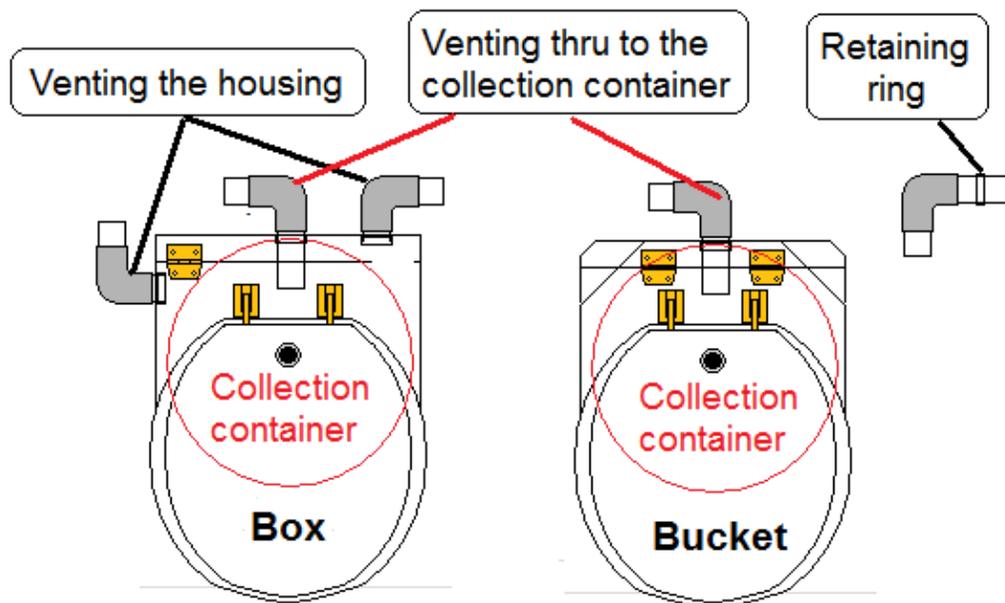
### **Venting through just the housing**

First, remove the urine and solid waste collection containers. Next remove the housing lid assembly by removing the 6 screws in the front half of the two hinges and lifting the housing lid assembly off the housing, setting it safely aside. Now follow these step by step instructions.

1. Determine the location of the C-Head and install two to four anchor brackets (not supplied) to secure the housing base. The C-Head needs to be installed with its back close to a wall or a vertical surface, to help support the lid when it is open.
2. Determine where you want to attach the ventilation hose on the housing; the back or side. Cut a 1 3/8-inch hole 6 inches down from the top edge of the housing and 2 to 3-inches away from any corner.

3. Install the supplied elbow and nipple pipe by inserting it into the vent hole and sliding the retaining ring over the nipple pipe to secure it. The nipple pipe should be cut flush with the retaining ring inside of the housing.) The elbow should rotate as needed. It is best to cut the hole off the centerline of the back of the **box model** as the collection container may block the vent intake.
4. Re-install the solid waste collection containers inside the housing. Insert an empty gallon water jug so that it is centered and the handle towards the back with one of the flat sides visible through the sight window. This will allow you to monitor how full the jug is.
5. Reinstall the housing lid assembly.

### Ventilating through the back and sides



### Venting through the housing and into the collection container

1. Determine the location of the C-Head. The C-Head needs to be installed with its back close to a wall or a vertical surface to help support the toilet seat lid when it is open, but far enough away to allow for the ventilation fixtures.
2. To ventilate the system through the collection container, you will have to cut the hole in the back of the C-Head housing *in the center* from the left and right side. In the standard height models (18 inches) cut a 1 3/8-inch diameter hole centered exactly 5-inches down from the top edge of the housing lid (not the toilet seat lid!).
3. Temporarily install the collection container and make sure that it is seated correctly to the back. Close the housing lid to secure the collection container in place. Drill a hole into the back of the collection container using the same 1 3/8-

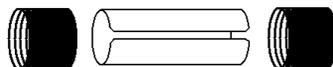
inch hole-saw, using the hole in the housing as your guide. **Do not cut through the collection container bucket, but only allow the pilot bit to puncture the collection container.**

4. Remove the collection container and using the pilot hole you just made, cut a larger hole in the back of the collection container using a 1 3/4-inch hole saw.
5. Install the supplied elbow (with the long nipple) by inserting the long end into the vent hole from the back and sliding the retaining ring over it to secure it to the housing. The elbow should rotate as needed to align with the vent hose.
6. Re-install the collection containers inside the housing. Insert an empty gallon water jug so that it is centered and the handle towards the back with one of the flat sides visible through the sight window. This will allow you to monitor how full the jug is.
7. Close the housing lid carefully.

### **Attaching the Ventilation hoses**

1. Attach the ventilation hose onto the elbow that vents the toilet housing.
2. Run the hose to a ventilating mechanism or run it to the disposable container vent hood. **The location and type of ventilation installation are at your discretion.**
3. Insert the vent hood into a disposable 5-gallon bucket and lock it to the disposable container using the side latches on the hood. Secure the bucket at its location if needed. A simple line or strap, secured to a bulkhead and tied or clipped around the upper portion of the disposable bucket should suffice. Make sure that you have adequate room around the top to pour the collection container contents into the vent hood. Store the disposable bucket in an area that is not subject to sustained temperatures above 90F degrees.
4. Connect the ventilation hose to the vent hood and then to the ventilation mechanism if odor from the disposable container becomes a problem.

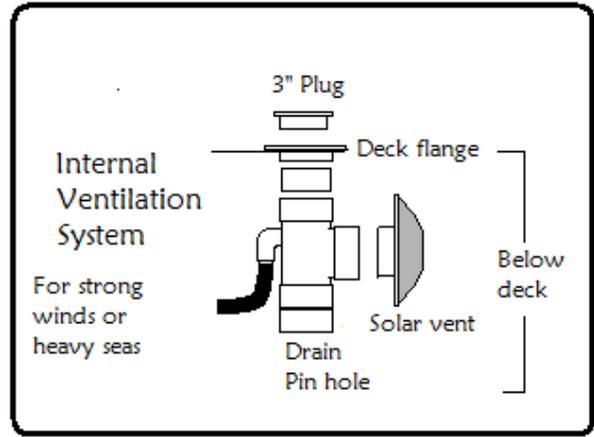
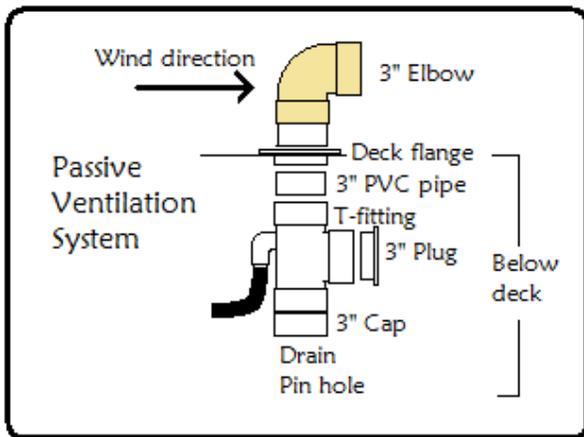
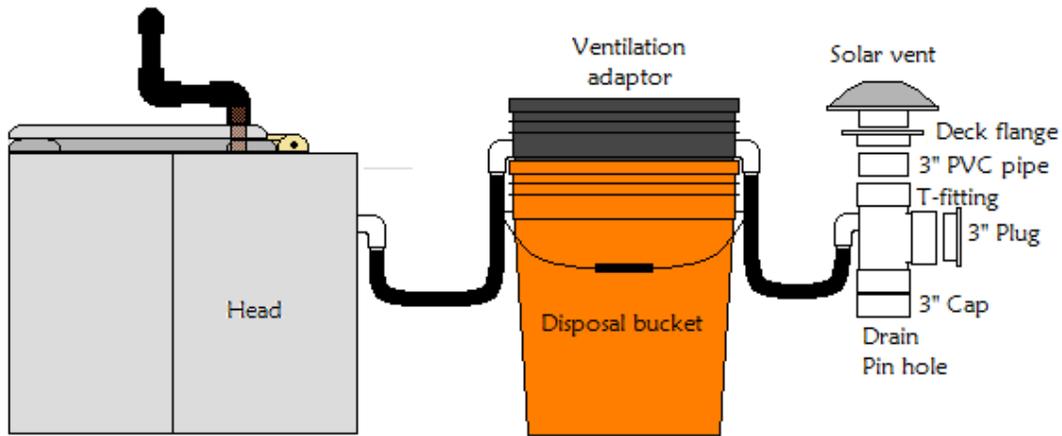
Next you will need to route the ventilation hose. The ends of the two supplied hoses are designed to fit over the existing barbs. If you need to shorten a section of hose, cut a piece out of the *middle* and then insert a sleeve and join the two sections with black electricians, Atomic or Gorilla tape, or epoxy glass. Do not just cut off one of the ends to shorten the hose.

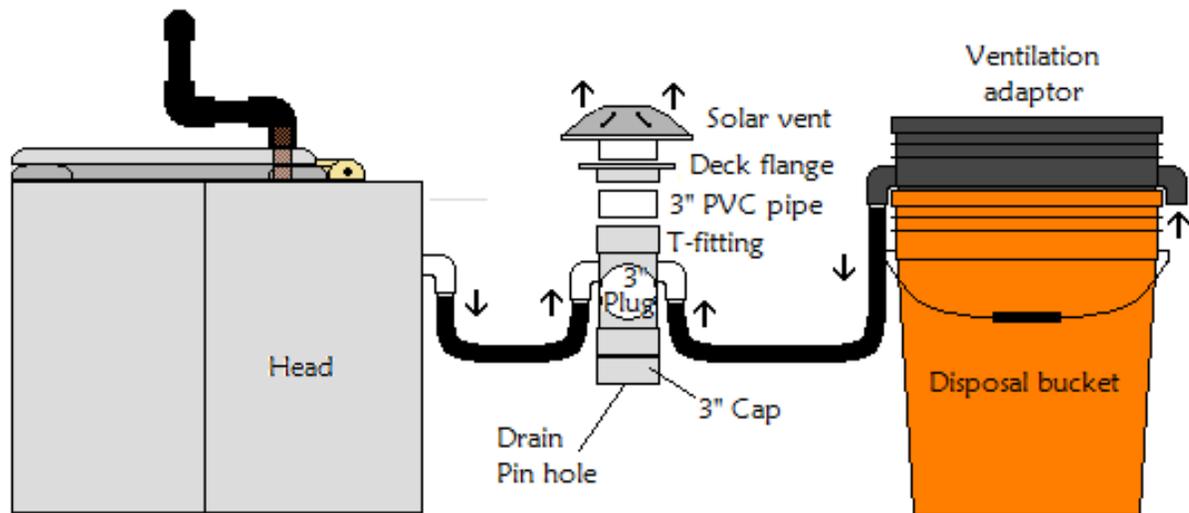


The package comes with one 12-foot section of hose that is actually two sections of 6 foot each. Several sleeves are supplied so you can add to one by using a section of the other. In all, you will need two sections, one to run from the housing to the adaptor hood and one to run from the adaptor hood to the solar vent or deck fitting. Since it is not possible to sell a ventilation kit for every kind of boat, you will be required to make

some adaptations yourself. If you are not handy with such installations, then we suggest you contract someone who is. If you have questions about your installation, call us and we will try to help you make the best decision. Be prepared to photograph and e-mail pictures of your situation.

## C-Head Portable Composting Toilet Ventilation systems





### **Venting outside the vessel or vehicle**

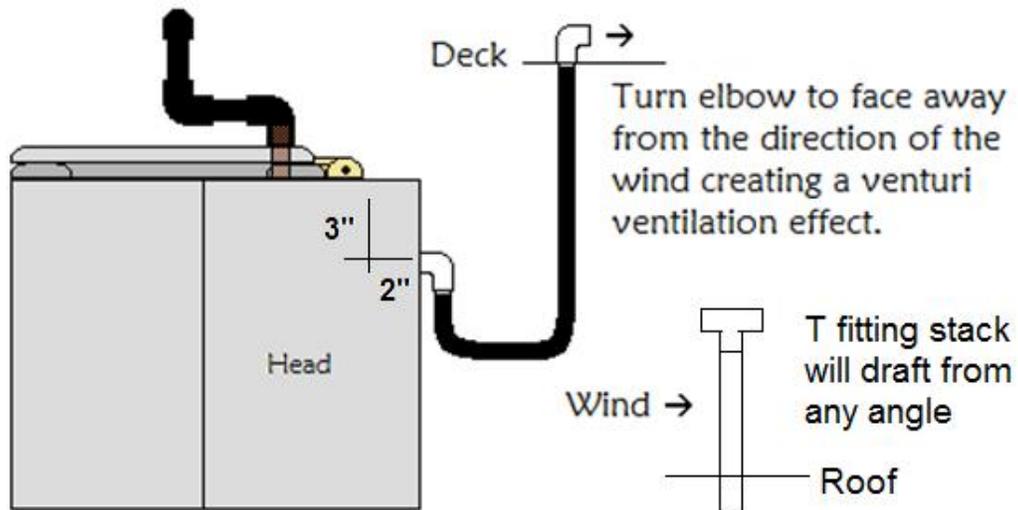
Since every installation is different and every owner has different skills and preferences, each ventilation system will have to be custom designed by the owners. In short, ventilate the C-Head housing by running the ventilation hose from the back or side of the housing to either the inside of an on deck locker (such as a sail locker) or through the deck or coach roof. If you vent to a locker then you will need to actively ventilate the system using a small 12-volt electric mini fan.

Google “mini 12-volt fans” and several sources will come up. Expect to pay between six and twenty dollars for a fan of this size. For a boat, you shouldn’t need one any larger than 2 ½ inches by 2 ½ inches. It does not need to move a large volume of air so choose one that has low wattage and low noise. If you vent the head through the deck or coach roof, then you have the option of:

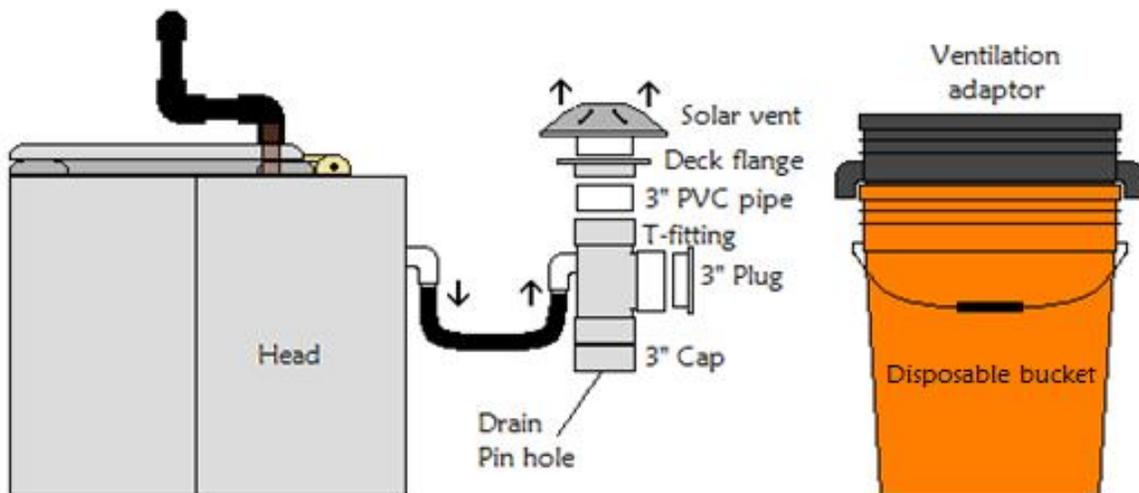
1. Active ventilation using a 12-volt mini fan
2. Active ventilation using a solar vent
3. Passive ventilation using a dorade box or cowling (works best for vessels that are continuously at anchor and have some breezes or wind)

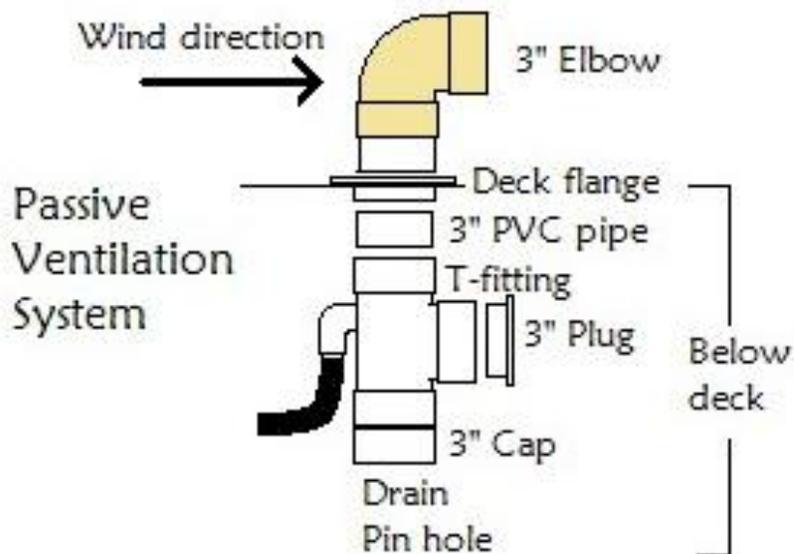
Active ventilation systems force air through the system using some kind of fan. Passive systems use the venturi effect to draft air through the system and require only a slight breeze to operate.

## Passive Ventilation System



Personally, I like the solar vent since it is virtually maintenance free and does not contribute to drawing down your batteries. You will however need to replace the solar vent with a cap when off shore in foul weather and you may need to replace it with a cowl when the winds are strong at anchor. Strong winds (30 knots sustained) can sometimes overpower the fan in a solar vent and cause the air to flow backwards, filling the cabin with a musty smell. Replacing it with a deck cowl or PVC elbow will instantly ventilate the cabin and remove the smell. A standard 3-inch PVC elbow with a short 6-inch section of pipe attached will fit perfectly into the flange provided by Nicro with their solar deck vents. We have used this method successfully for two years.





You do not need to actively ventilate the disposable container to avoid odor. Once the waste has gone through the initial processing in the collection container, it will not smell like sewage after that but it will smell musty when the container is opened. Simply clip the adaptor hood over the 5-gallon bucket so that it can breathe and that will keep the bugs out and the musty smell in. Accumulated waste from the collection container can be transferred into the disposable container continuously until the disposable container is full.

Without ventilation, however, condensation may form on the underside of the lid of the disposable container hood which can drip when you remove it. This is a nuisance and if you are living aboard permanently, you may want to ventilate the disposable container to avoid this. If you choose not to ventilate the disposable container, you should rap the lid sharply with your hand before opening it. This will cause the formed droplets to drop down into the bucket and then you can remove the lid without the mess.

### **Help us!**

As you can see, the C-Head is simple and safe, and once you learn the ropes, you will see how convenient it is compared to other systems. Please feel free to join the discussion group online through our Yahoo Group at: [http://groups.yahoo.com/group/C\\_Head/](http://groups.yahoo.com/group/C_Head/)

If you are especially proud of your installation, please post pictures on that site or make a video to assist others with their installations. Happy cruising, camping, riding or traveling and thanks again for purchasing the C-Head Portable Composting Toilet.

Copyright 2017.

All rights reserved on all content.