



# Homestead Tiny House **Owner's Manual**

This information is provided to help you understand your new tiny house.

Please see <https://www.homesteadtinyhouse.com/resources> for the latest information



Welcome to your new Homestead Tiny House home! This is a guide to help you understand your new home and to achieve the ultimate happiness with it.

Tiny houses are delivered by a transport company. Most delivery services, including Homestead Tiny House, will put the tiny house in place, but will not level the house nor attach the utilities. This is the responsibility of the new homeowner.

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## 1 Resources and Documentation

The Homestead Tiny House website is a good source for your tiny house setup.

See <https://www.homesteadtinyhouse.com/resources>.

Your documentation will be in a kitchen drawer or cabinet. This will include any product guides and appliance manuals.

**Note:** Please register your appliances for the warranty.

## 2 Manufacturer's Limited Warranty

Manufacturer's Limited Warranty does not apply to any product failure or defects arising from

- (i) damage caused by abuse, misuse, neglect, failure to provide maintenance (such as cleaning the gutters, draining the water heater, touching up the caulk or grout, or dealing with pests), or failure to maintain adequate ventilation and humidity levels in the tiny home,
- (ii) normal wear and tear, deterioration of construction materials within expected levels, including warpage or shrinkage within industry standards, or changes due to weather conditions, natural disasters, or soil movement or settling;
- (iii) damage caused by third parties "act of God", such as earthquakes, floods, animals, or lightning strikes;
- (iv) damage caused by client, or third parties hired by client to work on the tiny home;
- (v) housing costs and living expenses if the client has to move out while covered repairs are being made to the tiny home;
- (vi) home appliances or equipment that are part of the tiny home, such as your refrigerator, stove, dishwasher, heaters, which come with warranties provided by their manufacturers (such manufacturer-provided warranties represent Client's sole remedy with respect to the defects related to those products);
- (vii) temperatures inside the tiny home being allowed to exceed 100 degrees or go below 55 degrees Fahrenheit,
- (viii) pipes are not being emptied when the tiny house is vacated for any period of time;
- (ix) not installing a "skirt" around the base of the tiny house; or
- (x) damaged caused in transporting or re-locating the tiny home.



### 3 Abbreviations used in this manual:

- **Amp** = Amperage, the strength of the electrical current.
- **HTH** = Homestead Tiny House.
- **PSI** = pressure, as pounds per square inch.
- **P-trap** = A “P” shaped pipe in sink drains that prevent wastewater gas from exiting the sink.
- **RV** = Recreational Vehicle.
- **THOW** = Tiny House On Wheels.
- **V** = volts, a unit of electromotive force.

### 4 Summary

Before you receive your tiny house:

- Check the local codes and regulations for the location of the tiny house.
- Have a level pad to park the tiny house.
- Arrange for electricity, fresh water, and wastewater for the home.
- If trailer based:
  - The tiny house will need to be leveled. Instructions are in a following section. Raise it enough to take pressure off the tires.
  - Shield the tires from the sun to prevent dry rot.
- If skid-based:
  - The house needs to be leveled on a solid footing or foundation.
  - The green ground wire will need to be grounded to a grounding rod. This is covered in **Grounding the Tiny House** on **page 12**.
- The house will need a source of water. This is covered in **Fresh Water** on **page 14**.
- Before the house is connected to a water source you will need to connect the tiny house to a septic, sewer, or holding tank. This is covered in **Wastewater** on **page 12**.
- The tiny house will need to be connected to an electrical source. This is covered in **Tie-downs and Anchors**
- **Your** tiny house should be anchored to the ground to prevent damage from tornados, high winds, and hurricanes.



You can use ground anchors or concrete anchors and attach them to the tiny house.

The preferred method for your area can be found using an Internet search.

- **Electricity and Electrical Hookup on page 10.**
- The tiny house should be protected from lightning strikes. This is covered in **Grounding the Tiny House on page 12.** This is done by driving a metal rod into the soil and attaching a wire from the rod to the metal part of the trailer. These are available from home improvement stores.
- This is a new house, built with fresh lumber, transported to the location. Some settling and shrinkage will occur. It is suggested that you check the caulking at delivery, three months, six months, and annually thereafter.

## 5 Unpacking the Tiny House

The tiny house will be unheated during the move. It is best to change the temperature slowly, 10 degrees at a time, over a period of time. This allows the house to change the temperature slowly, preventing stress from expansion and contraction from rapid temperature fluctuations.

The tiny house will have several items stowed to protect them while the house is being moved.

When you receive the house, the following should be in a kitchen drawer or cabinet:

**1) Striker plates for the doors**

These need to be installed by the homeowner once the house is leveled.

**2) The Mr. Cool Remote**

This need to be installed by the homeowner in the location of their choice.

Use the screws included with the remote to avoid hitting wiring in the walls.

**3) Appliance warranty manuals.**

These need to be registered by the homeowner.

Another drawer or cabinet should contain items for customer installation:

**4) Carbon monoxide detector** if the house uses LP gas.

This need to be installed by the homeowner in the location of their choice.

**5) Light bulbs**

For the light fixtures.

**6) Adhesive grip tape** for use as non-stick tread tape for the loft ladders, if applicable.

This can be installed by the homeowner, if desired.

Under the kitchen sinks:

**7) Exterior light**

This needs to be installed once the house is parked. Make sure that the power is off, and the switch is in the off position. Remove the round cover plate by the door and install the exterior light. Save the cover plate.

Each time you move the house you should remove the exterior light and cover the junction box with the cover plate for protection

**8) Cans of touch up paint**

You will have a can for exterior, interior, and cabinet paint.

**9) Kitchen sink accessories**

**10) A 12-foot quick connection gas line,** if the house uses LP gas.

This is used to connect the house to a propane source. The connection will be by the outside water heater or on the side near the kitchen. You will need a propane regulator between your tank and the quick-connect hose.



**12-foot Quick Connect Gas Hose**



Under the bathroom sink is:

- 11) **The toilet tank lid**, wrapped for transport  
This needs unwrapped and placed on the toilet tank.

Under the sink or staircase is:

- 12) **Kitchen light globes**  
These need to be installed

Remove packing materials:

- 13) Remove the blue masking tape from the cabinet drawers and doors.
- 14) Remove the pink foam blocks that wedge the sliding doors to prevent movement.
- 15) Remove the folded pieces of cardboard wedges that shim the refrigerator and washer/dryer to prevent movement.
- 16) Unscrew and remove the wooden retaining stop in any sliding door track.

Outside:

- 17) Remove the tape from the vents.
- 18) Remove the cardboard shield from the front of the air conditioner that protected the unit during transport

## 6 Transportation Issues and Your House

Your house went through an earthquake during the moving process. Although we do our best to prepare the house for travel, some items may need addressed.

- 1) **Paint**
  - Your interior and exterior walls and trim pieces are primed with 1 coat and painted with 2 coats of latex paint.
  - The primer is not stain-blocking, so knots in the wood may show through after time. This is normal.
  - If this is not the desired look, a stain-blocking primer can be applied over the affected areas. After the primer has cured, touch-up the areas with the appropriate paint color.
- 2) **Sap**
  - It is normal to see sap coming from parts of the wood. As wood is stored horizontally, the sap collects in pores and pockets. When the wood is installed, the board is now in a vertical position, and the sap may drain from its pocket.
  - To fix this, remove the excess sap with a scraper taking care not to indent or scratch the wood too deeply. Apply an appropriate wood filler to fill in the area and allow time for it to fully cure. Lightly sand with a 220-grit

sandpaper, getting the surface smooth. Apply primer and 2 coats of the appropriate paint.

### 3) Trim Separation

- During transport and over time, your house may have trim boards that become separated. This is normal.
- To fix this, sand around the area to expose bare wood. Apply an appropriate wood filler to fill in the area and allow time for it to fully cure. Lightly sand with a 220-grit sandpaper getting the surface smooth. Apply primer and 2 coats of the appropriate paint.
- If trim boards become separated from an exterior or interior wall, be certain that the board is securely fastened to the wall. If not, take the necessary steps to secure it. Then apply a flexible and paintable caulk. Do not use silicone. Allow time for the caulk to fully cure. Most of the time, a clear caulk can be used so repainting is not necessary.

### 4) Flooring

- We have taken extra care to install the flooring to manufacturer standards. However, extreme fluctuations of temperature and humidity can cause the flooring to separate or buckle. Please take extra care to slowly acclimate the tiny house to the condition of your choice. Gradually raising or lowering the temperature will allow the materials to slowly respond to the changes.

## 7 Tiny House Leveling - Trailer

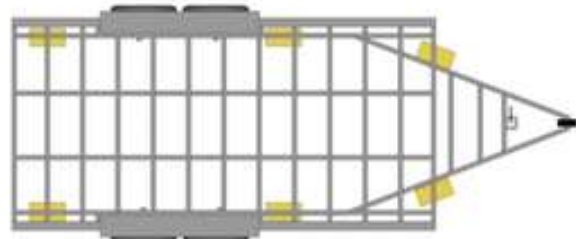
The tiny house should have a firm base to sit upon so that it doesn't sink over time.

A concrete pad is ideal but packed gravel will also provide a stable base. Concrete pavers or cement blocks are good to use at contact points if you are using a gravel pad.

When supporting a tiny house trailer, it's essential to raise the trailer enough that most of the weight is off the tires and axles, but not so much that the tires can spin freely.

For tiny house trailers 16 to 28 feet in length, we recommend 6 support jacks. As seen in Fig.1 to the below, 2 jacks are located at the rear of the trailer, 2 in front of the wheel wells and 2 angled jacks on the a-frame

Fig. 1



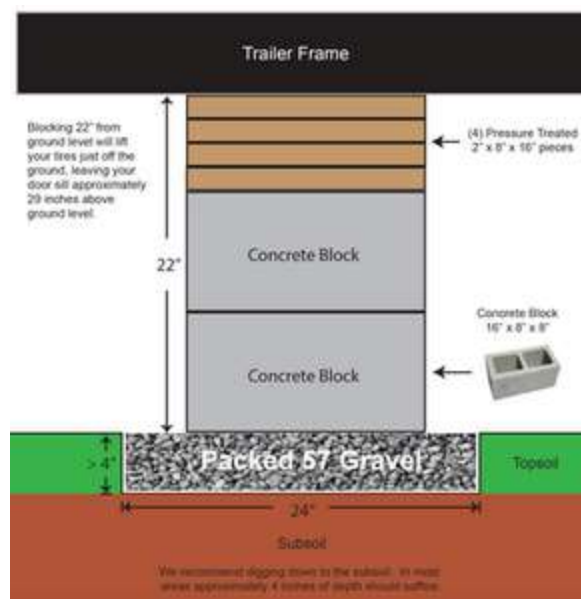


Cinder block used in conjunction with pressure-treated 2x6 lumber make for a solid support jack. Fig. 2 illustrates a combination of these 2 materials to gain the appropriate height to support the trailer.



**NOTE:** The above illustrations are for a 16' tiny house trailer and may not represent your specific case.

Blocks can be placed by first lowering the tongue to its lowest level and placing one blocking system, as shown below, under the trailer frame on both sides of the back end of the trailer. Do not place a support under any piping or plumbing.



Next, raise the tongue to its highest position and place blocking under both front sides. Lower the tongue onto the front blocking.

Use plastic shims to level with greater precision.

### 7.1 Tiny House Leveling – Skid-Based House

The Longmont and other skid-based houses are built on 4"x6" pressure treated timbers that run the length of the house. Setting the house on a level concrete pad should provide level. If the house is to be set on piers, cement block, or crusher run, then the contact points should be leveled before placing the house.

## 8 Tie-downs and Anchors

Your tiny house should be anchored to the ground to prevent damage from tornados, high winds, and hurricanes.



You can use ground anchors or concrete anchors and attach them to the tiny house. The preferred method for your area can be found using an Internet search.

## 9 Electricity and Electrical Hookup

In most cases, the Homestead Tiny House has a 50-amp receptacle to connect to a power source to power the house. This receptacle has a twist lock system to securely attach the line that brings power to the house.

**Note:** The plumbing and wiring is run in a zone that starts 16" above the floor up to 36" above the floor. Be extra careful when working in this zone. Wiring to the outlets and switches will run along the studs and joists. They are centered on the studs but still require caution.

### 9.1 The Receptacle

(Included in your purchase)

Most of our tiny houses come with an RV style 50-AMP twist locking, recessed male receptacle. It consists of 2 hot terminals, 1 common terminal and a ground. The ground connector is located on the inner wall of the outlet, so when the twist action occurs, the ground on the male connection is mated up with its counterpart on the 50-AMP female plug. There is a ring on the plug with a twist locking connector that screws into the receptacle that locks the plug into place.



**50-Amp Receptacle**

(Included)



**50-Amp Connecting Cable**

(Not included)

## 9.2 The Cord

(Not included in your purchase)

Cords can come in a variety of lengths and end connections. We highly recommend one with a 90-degree transition, mainly because it will reduce the amount of weight and stress on the connections.

## 9.3 Electric Service Pole

(Not included in your purchase)



**Service Pole Box**

(Not included)

The access point where you get your power to electrify your tiny house is called the electric pole box. This is the location where the electrical wire from your utility company terminates to a location that you can plug your house into. Typically, this will have a circuit breaker that is suitable to run your tiny house, usually 50 amps. It may also have other receptacles such as a 115v GFCI outlet.

This electrical box should be grounded by the installing company. If the box is installed properly and the power cord has good plugs on it, then your house will be grounded through the electric service box. Any wear or damage on the cord or pole should be fixed immediately.

**Tip:** Most electric service boxes have a circuit breaker for protection. A good practice is to turn off the circuit breaker, plug in the cord, then turn the circuit back on. This will prevent arcing.

#### **9.4 Grounding the Tiny House**

(Not included in your purchase)

The tiny house should be grounded to protect it from lightning strikes. An eight-foot copper ground rod is pounded into the soil and connected to the metal trailer with a ground wire. These ground rods can normally be bought at hardware and home improvement stores for \$20 or less.

**Skid-based houses like the Longmont do not have a metal trailer for grounding. Green grounding wire is connected to the internal wiring and is coiled on the outside of the house. This must be attached to a grounding rod driven into the soil to protect the house from shorts.**

### **10 Water and Wastewater**

Water is an important necessity for a Tiny House. We take every bit of care to ensure our water and wastewater systems are safe and efficient. Along with our focused attention to detail, our water systems are inspected by NOAH, the National Organization of Alternative Housing, on each tiny house that we produce. Read more about NOAH on our web site at <https://www.homesteadtinyhouse.com/post/noah-certified>.

When you receive your tiny house, it will be plumbed and ready to hookup to water and sewage but will require a few steps before attaching the house to a waste system.

#### **10.1 Wastewater**

Water that goes into the tiny house needs to be controlled when it exits. Houses with a conventional toilet will be plumbed to remove the blackwater from the house. This uses a 3" PVC fitting, terminating under the trailer at the edge of the house. The gray water from the sinks, shower, and washer/dryer will also connect to this 3" pipe.

This 3" pipe needs to be connected to a sewer or septic system. The homeowner is responsible for the connection from the house to a wastewater system. There are several options.

### 10.1.1 Hard Connection to Septic Tank or a County/City Sewage System

If your site is within the city or county limits with access to a county/city system you can have a plumber connect the Tiny House to that system. You can connect directly into the sewer or septic system.

### 10.1.2 Soft Connection to a Campground System

If you have a tiny house that has a typical campground sewer or septic system, a bayonet coupler can be installed in the 3" PVC pipe. This allows a standard 3" RV flexible sewer hose to connect the tiny house to the septic system.

Turn and lock the 3" sewer hose into your installed bayonet lugs, turn, and lock for secure attachment.

### 10.1.3 Soft Connection to a Holding Tank

An RV blackwater storage tank can be used for blackwater storage. This is a small tank that can be detached and rolled to a waste dump for emptying. These are available at RV or camper dealerships. These require the installation of the bayonet coupler to allow a hose to connect from the tiny house to the holding tank with a standard 3" RV flexible sewer hose.

**PLEASE NOTE:** Other fittings and hoses may be required. We do not offer anything past the 3" PVC outlet from the tiny house. RV and camper dealerships are good sources for the parts needed for tiny house blackwater systems.



3" RV flexible sewer hose



Portable RV Blackwater Storage Tank





**3" Bayonet x 3" Hub**



**Various RV Sewage Fittings**

(These items are not included)

## 10.2 Fresh Water

The input for fresh water into the house is a garden faucet with male threads. We recommend using a potable water safe hose. These are typically white or blue and can be purchased at your local hardware store or camping outfitter. Since most hoses have a male end and a female end you may need a Female-to-Female Hose Adapter on the faucet to connect your water hose to the tiny house. The unit may have one installed on the faucet already. If not, you can get one at a hardware store or garden center.

We also recommend an RV-style pressure regulator between the water source and the tiny house water connection. This will allow you to keep the pressure at 40-60 psi to prevent damage to your plumbing and appliances. These are available online, at RV/Camper dealerships, and hardware stores. The typical type connects to the house between the hose adapter and the hose, and costs \$25 to \$50.



**Faucet for Water Input**

(Installed)



**Potable Water Hose**

(Not included)



**Female-to-Female Hose Adapter**

(Included)



## 10.3 Longmont Shower Valve Access

The Longmont and other skid-based houses have a panel on the outside of the house that can be removed to allow access to shower plumbing, if need be.

## 11 Propane

If your tiny house has a tankless water heater, stovetop, and/or oven you will need to connect the house to a propane source. This can be the 20-pound tanks used for grills, the larger 33-pound tanks used by forklifts, or the large stationary 250 to 1000 gallon commercial tanks.

We provide a 12' quick-connect hose that connects to a quick-connection at the tankless water heater or outside the kitchen.

You need a regulator, preferably a two-stage regulator, to lower the propane tank pressure to one that is usable by the appliances. Normally this regulator screws on to the propane tank. You will need a 1/2" male quick-connect adapter to allow the tank to connect to the quick-connect hose. A regulator with an attached hose may not supply enough gas due to the extended length.

Any fitting should be sealed properly, either with gas-rated yellow Teflon tape, or gas-rated pipe thread sealant. Homestead Tiny House uses Rectorseal Tru-Blue pipe thread sealant because it is vibration resistant.

## 12 Composting Toilets

One option offered by Homestead Tiny House is a composting toilet. A composting toilet is very handy when you can't properly remove the wastewater, or black water, from the tiny house. In situations where a septic tank or city/county sewer aren't an option, a composting toilet is the best way to deal with waste and smell. Composting toilets use aerobic bacteria to decompose the waste to a useful form.

The waterless design requires no water for flushing. There is no odor, due to the separation of liquid and solid wastes. A ventilation hose is vented outside and one 12-volt power hook-up for a small fan is built into the unit to provide aeration and venting.

An organic material, like coconut fiber, sawdust, or sphagnum moss are added after each use to add to the composting material.

It is important to follow the manufacturer's instructions found in the kitchen drawer. Here is a synopsis.

A composting toilet is designed to separate the liquid from the solid. The liquid is channeled to a container that is removed and dumped regularly.

The bottom of the toilet is charged with an organic material to act as substrate for the aerobic bacteria. Sphagnum moss is the preferred host material, but coconut fiber and

sawdust will also work. The toilet adds the solid waste to the substrate and mixes it. The bacteria breakdown the waste and turns it into compost.

Once the toilet compost chamber is full it can have the chamber removed and the compost used in an ornamental garden. The chamber has a new batch of sphagnum moss added, then returned to the toilet for continued use.

Sphagnum moss is commonly used to breakdown the waste. This organic material is available at most garden or home improvement stores. It is usually available in a shrink-wrapped 3 ft cubic bale for \$10 to \$15. This quantity of sphagnum peat moss should sustain use of the head for a year or longer. The sphagnum peat moss should be standard organic, without additives.

Note: Please see the instructions from the composting toilet manufacturer for complete details.

### **13 Air Conditioning and Heat**

Homestead Tiny Houses generally include a HVAC unit (Heating, Ventilation, and Air Conditioner). Most Tiny House with Wheels use a two-part mini-split unit; the compressor is on the hitch and the air handler is installed inside.

Most units have a remote-control unit that you can mount on the wall by the door. Check periodically to make sure the batteries are good in the remote.

If you walk into the house and find it hot, it should be set at the desired temperature, like 70 degrees, instead of setting it to 60 degrees. The unit is powerful enough to bring the temperature down quickly. Setting it at an extreme temperature will cause the unit to over work and cause the lines to freeze. If this happens you will need to turn it off for several hours and wait for the pipes to unfreeze.

Winter temperatures may require an auxiliary heat source when temperatures drop.

### **14 General Maintenance**

The Homestead Tiny House is built to provide years of happiness. There are somethings that will prolong your happiness.

- Lube the wheels and hubs before you move it, especially if it hasn't been moved in a while.
- Check the caulking and reapply caulk if the wood shrinks or shifts during moving.
- Keep the wood protected by keeping the paint fresh.
- Blow the Mr. Cool units air intake to keep it dust and debris free.
- Cover tires from dry rot



## 15 Winterizing

Homestead Tiny Houses are insulated in the floor, walls, and ceiling. However, the insulation may not be enough during freezing temperatures.

Winter temperatures will require an auxiliary heat source when temperatures drop.

If a house is occupied during winter, keep the heat on. Opening the cabinets during the coldest periods will allow heat to circulate near the plumbing. Extreme cold may require that you have a trickle of water coming from the faucets to keep the water moving so it doesn't pool and freeze. Additionally using electric pipe warming wraps will help keep the pipes from freezing.

External propane tanks may require an electric propane tank blanket to prevent the pressure from dropping below a usable pressure, due to cold.

If the house will be empty during the winter, you should drain the waterlines for the winter. Disconnect the water line that goes to the inlet faucet and let the lines drain through the faucet.

Make sure that you turn the water off at the toilet and flush until the tank is dry.

P-Traps at the sinks need drained. Put a bucket underneath them and unscrew the connectors. Dump the water into the bucket and replace the P-trap.

Blowing compressed air through the lines after the P-traps have been drained can clean all the lines.

A skirt around the house will lessen the wind and eliminate most wind-chill temperature drops.

## 16 Moving the House

A Tiny House on Wheels is mobile and can be moved from site to site. These houses are heavy and solid, and constructed with traditional house building methods. It is not designed like a camping trailer with aluminum frames and light materials to be on the road constantly.

### 16.1 Moving Preparation

Check tire condition, the air pressure, and check for dry rot

Lube the hubs so the wheels can spin without friction and heat.

Check the lug nuts, torquing them to 100 to 120 ft-lbs.

Remove the exterior light by the front door and cover the junction box with the cover plate that came with the house.

Remove the light bulbs, wrap, and stow. Remove the toilet lid, wrap, and stow.

Secure doors using 2" masking tape.

Use cardboard to shim appliances in place.

Drain the water from the lines to lighten the load and to prevent spillage.

### **16.2 Driving**

Use a truck rated for hauling. A tiny house can weigh 10,000 pounds for a 16-foot, to 14,000 pounds for a 28-foot house. This does not include any personal possessions. One needs to use a truck with sufficient power to tow this load.

Extended mirrors may be needed to allow the driver to see, since the trailer is 102" wide.

The tiny house is under the maximum height of 13' 6" so a permit is not needed to move the house.

## **17 Registration and RV Code advice**

The homeowner needs to register the appliances for the warranty. The pamphlets are in a kitchen drawer.

You may need a trailer license plate when you move your trailer. Your package has the MSO, or Manufacturer's Statement of Origin, used to get the tag and title for the house.

Anchor your house for protection from high winds, tornadoes, and hurricanes according to local code.

## **18 Additions to upgrade the tiny house experience:**

- A deck expands your living area. A full-length deck can have an open section and an enclosed section for rainy days or bug season.
- The deck may need to be free standing if you plan on moving the house.
- An awning can provide shade and rain protection for an open deck.
- A wooden planter box can be built to cover the hitch and tongue. Make sure that you don't block the air conditioner.
- A skirt around the house helps with temperature regulation. This is particularly important in the winter. Section **(ix)** of the warranty requires a skirt to protect the house from the chilling effects of the winter wind.