# The Ultimate Trailers OHT Owners Manual (2019)

Contents:

Wiring Your Tow Vehicle

It is important that these steps are done properly before you pick up your OHT. If you have any mechanical or electrical questions about any detail give us a call at 1-800-499-1694

There are some things we need to take care of in the tow vehicle prior to picking up your trailer at our facility or your local dealership. We have had some customers in the past forgo these things and end up frustrated because they cannot properly pull their trailer or use it to its full capability. This is a circumstance we do our best to avoid. Taking care of these things prior to picking up your trailer will make it a very easy and enjoyable process. Most motorcycle dealerships or small shops lack to proper licensing to work on your tow vehicle and lack the expertise when it comes to hitch wiring.

In the trailer industry the most common format for the 7-pin connection is called the Bargeman style. Some European vehicles such as Porsche and BMW will have a slightly different layout then what is seen as the standard in America. It is very important to use the tester we provide, if the plug is set to a different layout, it's a simple fix to change the pole position. We recommend visiting your local dealership for this.

Most modern vehicles intended for towing come with a round 7 pin connection that is compatible with our trailers. In most cases, when you plug in the tester we provide, all of the necessary lights on the tester will activate, (vehicle should be running). In this case the only thing you need to do is check a fuse under your hood.

There are a couple of different ways to locate the fuse we are looking for. The easiest way is to take your vehicle to a local dealership and ask them to locate and verify that the fuse for 12v is rated for 25 amps or more. Verify that you have power with your tester once the dealership is done and your tow vehicle is ready for use.

If you prefer to do it yourself, refer to your tow vehicles owner's manual or the fuse box itself underneath your hood. The fuse will have an abbreviated name such as 12v-aux or trailer battery power but this can vary based on the make of the vehicle. If you can verify that the fuse is rated for 25 amps or more than your tow vehicle is ready for use.

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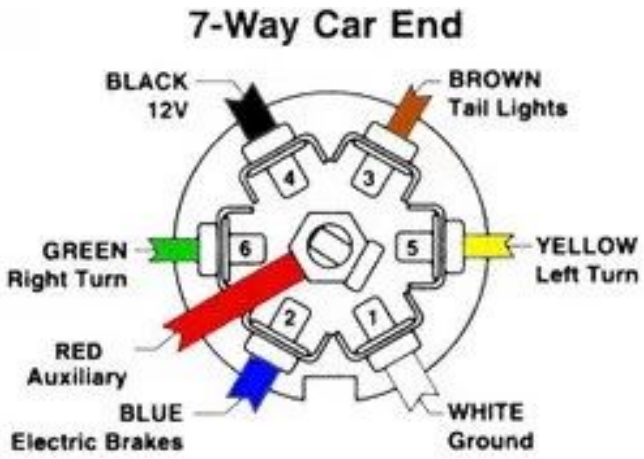
Make sure that whoever wires your tow vehicle is aware during installation that they need to wire the 7 pin connection in the following pattern. Insist on them checking the pins with a voltmeter to ensure proper wiring.

The auxiliary pin in the center location of the plug is not used in our trailers.



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In some circumstances all of the lights on the tester will come on besides the 12v and the electric brakes. if this happens, first follow the previously listed instructions regarding the fuse necessary for 12v to function. If the trailer you ordered has electric brakes, the light on the tester is sometimes faint due to regulation from the brake controller. If you don't already have a brake controller you will need to have one installed on your tow vehicle before you receive your trailer or the brakes will not function.

If you wish to circumvent professional help, or you have an older tow vehicle, upon request we can supply a wiring kit with a built-in fuse. We highly recommend following the previously listed steps before you move on to installing this kit as it is unnecessary on newer vehicles and can void the warranty on the tow vehicles wiring.

# The Ultimate Trailers 12v Wiring Kit Installation

## This is only necessary if you wish to circumvent the previously explained process

## Included parts

-25ft 12g wire with 25 amp resettable circuit breaker and ringlet connection

-spade connection

-Wiring tester

-zip ties

1. Disconnect your positive battery cable
2. Slip in the ringlet connection onto the positive battery terminal and reconnect the power to the vehicle. Use zip ties as needed to keep the fuse connection away from any moving parts or things that get hot in the engine compartment.
3. Find a good path, preferably as far away from the engine block as possible along the bottom of the vehicle to zip tie the wire too. The frame of vehicles generally have a lot of holes that are nice to zip tie the wire to.
4. Open up the female 7 pin connection on the tow vehicle and remove the 12v wire, use electrical tape to attach it back to the main harness and protect it from water or hanging down.
5. Cut of the 12g wire with enough length to fit into the back of the female 7 pin receptacle and crimp on the spade connection
6. Place the connection onto the proper pin according the previously noted wiring diagram.
7. Double check that no wire is hanging down and test receptacle for a solid 12v connection with our included vehicle tester and you are all done.

# Trailer Hitch, Ball and Coupler Nut

Whenever you are at the facility installing your wiring, it is a good time to make sure that your hitch and ball are properly set up. All vehicles have a maximum towing weight and a maximum tongue weight that you should be aware of before towing. This information can be found in your tow vehicles owners manual. You should always keep both of these weights much lower then the maximum capacity.

All of our trailers are designed with 2'' ball sized coupler. The height of that ball should be between 14-17'' from the ground for level towing of the trailer. We recommend carrying an extra receiver with you that is 10'' from the ground for emergencies.

If for some reason you ever lose air while on a trip, the higher receiver can be replaced with the lower which will raise the tail end of the trailer enough as to not drag while you get it somewhere safe to start troubleshooting.

Not all trailer balls are shaped at exactly two inches,  they are made at many different facilities and tolerance from the manufacturer will vary somewhat. In order to compensate for this the coupler has an adjustment nut on the bottom of the tongue. Use a ¾ inch socket to ensure that this nut is properly tightened onto the ball at all times. Do to vibrations on the road we recommend regularly checking on this nut prior to long trips

Always cross your safety chains when connecting, in case of hitch failure this created a saddle to catch the tongue so that you can safely guide the trailer off of the road.

# Balancing Tongue Weight

Before you get on the road with your trailer loaded it is important to balance the tongue weight. When the weight of a trailer is too far back, the sway of the trailer can increase with wind or road vibrations to the point that the trailer will disconnect from the receiver, and even go as far as to flip. This being said, always balance your tongue weight when loading different vehicles. The desired tongue weight for our trailers is between 150-275 lbs

## Calculating Tongue Weight

1. Connect the trailer to the back of the tow vehicle
2. Lower deck and load up bikes, make sure bikes are secure
3. Raise deck
4. Choc wheels
5. Disconnect coupler and fold down jack
6. Place a small or bathroom scale under trailer jack and check weight
7. If weight is between 150-275 that's perfect
8. If the weight is more than 275, reconnect the trailer, unload the bikes, loosen the wheel chocks and move them back by a few inches, repeat the process of putting the jack on a scale and use this same method until weight is achieved.
9. If the weight is under, use the same process in opposite, scooting he chocks forwards.
10. Some vehicles such as Spyders and Slingshots, will have preset positions for balanced weight. If you have any questions give us a call.

# Trailer Sway, Understanding and avoiding it.

Most people who've driven a trailer have experienced at least a few heart-pounding moments when their trailers started to sway and they worried they might lose control of the vehicles. One way to help ensure disaster won't strike, especially if you're pulling a very large load, is to use a weight distribution system.

To understand how sway in trailers works, we need to familiarize ourselves with two terms. The first one is gross trailer weight (or GTW), which, as you can probably guess, describes the total weight of the trailer, including cargo, and anything else you've got in there. The second term is tongue weight. Tongue weight is the portion of the load (generally between about 10 and 15 percent of the gross trailer weight that's far enough forward in the trailer that it presses down on the hitch. Tongue weight (or TW) also includes any weight that's behind the rear axle of the towing vehicle. So if you plan on loading up the trunk, you'll need to factor that in.

When you're towing a trailer with a standard rear-mounted hitch, your trailers tongue weight is transferred to the rear axle of your tow vehicle. As a result, the back end of the vehicle may be forced lower and the front end raised. If this happens, your vehicle's rear axle will bear the weight of not only the trailer, but much of your tow vehicles weight as well. Less weight on the front axle of your vehicle can cause diminished performance in terms of steering, traction and stopping power. It can also increase trailer sway. And your view of the road may be limited due to the awkward angle. The opposite is also true of too little relative tongue weight. In those situations, a trailer will be more prone to sway, and it can swing back and forth out of control. Because of these two factors, you can see why finding the delicate balance between tongue weight and gross trailer weight is so vital.

Here is an example of how trailer sway works that we recommend to anyone who isn't already familiar with it. https://www.youtube.com/watch?v=i2fkOVHAC8Q

Sway control systems that reduce sway rely on friction to keep your trailer from shifting, preventing sway from increasing only after it has begun.

The best way to reduce sway for safe towing will always be to first make sure that the tongue weight is balanced. (see balancing tongue weight article or explanation in owner's manual.
Independent Friction Sway Control

An independent friction-style (or bar-style) sway control bolts onto your trailer frame at one end and hooks up to a small hitch ball that mounts to the system head at the other end. By attaching to both the weight distribution system and the trailer frame,

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the sway-control unit can supply tension to help keep the trailer in line. An interior bar telescopes in and out as your trailer moves. As soon as your trailer begins to move out of line, the friction pads inside the unit make contact with one another and create resistance to help reduce any further side-to-side movement.

· It is recommended that you remove the friction-style sway control before backing up to ease reversing and prevent damage to your system.

· When towing in slippery conditions - such as on wet, icy, or snow-covered roads or on loose gravel - turn the on/off handle of the sway-control unit counterclockwise until all tension is removed from unit. Failure to do so could prevent the tow vehicle and trailer from turning properly.

When Installing an anti-sway system, it is important to note that some welding is required on the receiver of the vehicle in order to mount the anti-sway kit.

The owner's manual and instructions for the sway bar we use can be found here

https://manuals.harborfreight.com/manuals/96000-96999/96462.pdf

# Electric Brakes

If you have decided to add the option of electric brakes to your trailer, you might want to take a look at this article. As more states are beginning to lawfully require brakes its becoming a more common occurrence to need to go over this information and these procedures.

Always have your brake controller installed by a professional, we have seen some instances of the controller not being properly installed which can lead to a wide array of mishaps. From no power whatsoever to the brakes all the way to a complete lock up. To avoid this just make sure to have the work done by someone you can trust to do it right.

There are many different brake controllers available on the market, the one we use is from a company called primus. We chose it because it has a pretty simple installation process, and a very easy to manage control system for our size of trailers. If it is installed correctly you should be able to set it to the "1" setting and go.

The brakes generally have a brake in period of about 200 miles, it's not uncommon to not feel much effect from them during this period of time, as the computer system is adjusting to the loads, vehicle breaking etc.

If, after this break in period of time you still do not feel any active braking, we recommend checking out this next bit of information on brake in procedure, we do our best to set the brakes perfect in the shop, but occasionally they need just a little more tightening after breaking in.

## Electric Brake Adjustment Procedure

The first step that you will want to take is to jack the trailer up on properly rated jack stands. Make sure the trailer is suspended securely before adjusting the brakes. Once you have the trailer on jack stands you will want to move to the back of the brake backing plate. There is a rubber plug at the bottom of the backing plate. Remove the plug and you should see the teeth of a star gear inside the brake assembly. This is the brake adjuster. You will want to use a flat head screwdriver or a brake adjustment tool to turn the star gear wheel. Rotate the star wheel up until it becomes difficult to turn the hub and drum. Rotating the star wheel up will press the brake shoes against the drum. Once the drum becomes hard to turn, back the star wheel off about 10 clicks or until you can spin the drum with a slight drag from the brake shoes. Repeat these steps on the other wheel. Next, you will want to hook up your truck and trailer, drive around and apply the manual override from your in-cab brake controller. This is the break-in period. You will want to start around 40 mph and use the manual override only to slow down the truck and trailer. You may need to do this 20 to 30 times without using the truck brakes. This will allow the brake shoes and magnet to seat into the drum. After the first 200 miles it is

recommended to adjust the brakes again. After that, you will want to adjust the brakes every 3,000 miles.

## Changes for 2019 Units

**Air Lines**

In past years, we have used an airline system similar to what you would see in a mechanics shop that utilized threaded brass fittings and a pliable hose. While this was a very durable system, when something went wrong it could be challenging to replace in a bind. Now, fittings are all zinc-plated brass push lock style. This is what is normally used for the brake lines on semi-trailers. The line is easily clipped and re-inserted into the fitting in case of line breakage, verses our previous system which required special tools and hard to find small brass parts.

**Compressor Plate**

Our new compressor plate design is much sturdier. We've also added a splash-mitigation system into it and the fender to prevent water and debris from damaging the compressor and ride height switch. In addition, we've moved the dump valve manifold to the inside of the compressor plate. That prevents it from ever hitting high center medians, sides of garage doors etc.

**Overall Width of OHT3**

A large percentage of our customer base like to store their trailer indoors. This was a bit of a challenge with our wider trailers and owners were running into challenges fitting those into smaller garages. After some research and prototype development, we have engineered a solution that maintains the same deck width of 71'' while shrinking the *overall* width by 10 inches, from 102 inches to a svelte 92 inches. This makes the trailer much more suitable for narrower garages and storage facilities, satisfying a long-sought request from owners who like to store their power toys on the trailer and indoors.

**Electrical Changes**

Over the past few years we have been developing a plug-and-play system for our trailers. The motivation was elevating the simplicity of repair or replacement in the event something gets damaged. We wanted to make it easier to do required repairs and replacements, without having to undertake serious electrical work. *We are proud to announce that the entire trailer fits this standard now!* Not only have we modified designs in the trailer to better protect the electrical wiring, but if anything ever goes wrong, the problem is easy to find and fix, following the electrical troubleshooting steps in the owner's manual.

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**Offloading Amperage from Ride-Height Switch**

If you are already familiar with our trailers, you know there is a lever-activated switch that completes the circuit to the compressor that raises and lowers the deck. We have added a 12-volt relay to stop amperage from going through the switch. What that means for you is a longer-lasting switch mechanism. And, in the event the relay ever *does* need to be replaced, that can be done faster and easier now.

# Trailer Components

- Hubs- The hubs are 5 lug style with a 1750 lbs load capacity never go more than 10000 miles without servicing and repacking bearings (1750x2=3500 lbs total capacity) Seal I.d.- 1.72. Inner Bearing I.d.-1.375 . Outer bearing I.d. 1.0625
- Swing arms- Our proprietary independent swing arm suspension features one swing arm on each side of the trailer, it utilizes 1, 3/4x10'' bolt and a ¾ lock nut to attach it. Inside of the pivot tube there are 2 brass pushing in each swing arm. Swing arm bushing-o.d.1'' I.d.- .750 flange is 1.125
- Air Springs- The trailer uses firestone double convoluted air springs. Their compressed height is 3.5'' At ride height, the bag sits between 9-11'' the weight limit of each bag is 2200 lbs. The air inlet hole is ¼'' npt
- Air manifold-Underneath the passenger side fender there is an air manifold with 3 brass push lock connections and a dump port. The brass pieces can be removed or replaced with a 9/16 wrench.
- Air lines- The air lines are ¼'' DHT push lock air line
- Compressor- The compressor is attached with 4, ¼''x 1'' bolts, ¼'' washers and ¼'' nylock nuts, it is a firestone model #24-3582-9285. Voltage-12 Amperage-18 max pressure-150 psi. Max duty cycle (72 degrees @100 p.s.i.) flow rate 60 psi
- Shock Absorbers- We use Gabriel premium shock absorbers Attached with 2, 7/16x3.5 inch bolts. 2, 7/16x2.5'' bolts and nylock nuts
- Chassis- The chassis is made out of 3/16 angle and 14g sheet metal. The air bag rail is made of 2x2 3/16'' box tubing and the suspension rail is 2x3x3/16 box tubing
- Rear Deck- The rear deck is made out of the same materials as the main chassis. It attaches to the main deck with 2, 1/2x 1.5 inch bolts and 2 nylock nuts. There are also four holes for stabilizing bolts running between the main chassis and rear deck. We recommend using the 7/16 hardware provided to tighten down this junction. The rear

deck also contains the wiring harness for the third brake light and side marker lights. There are sections on the bottom of the deck to secure the wiring up. It plugs into the main chassis harness towards the back of the chassis harness with a 3 pin connection. There are also support channels that attach to the bottom of the main chassis and the bottom of the main deck. These are secured with 2, 7/16x1.25 inch bolts, washers and lock washers.

- Tongue- The tongue is made out of 2.5''x2.5''x3/16 box tubing that are welded to a coupler. The coupler weight limit is 5000 lbs. There is a hole in the side of the coupler to attach the safety chains, the bolt is 3/8x4'' with two washers and a nylock nut. The tongue attaches to the bottom of the main chassis with 2, g8 ½''x4.5'' bolts, and nylock nuts. If the trailers is an x model the tongue will be two feet longer and need to be placed under the deck prior to placing the front deck attachment.
- Jack- The Jack we use is called the ultimate jack, it is zinc plated and has a 2500 lbs lifting capacity with a range of 14''
- Brakes- The brake drum assembly is identical to the hub assembly for the most part, we recommend changing the shoe pads in the drum every 25000 miles. Never go over 10000 without servicing trailer bearings.
- Tires/Wheels- We offer optional Aluminum Wheels and Radial Tires on our trailers.
- Wire splitters, and connections- We have isolated the trailers wiring into sections in order to make it easier to replace in case of failure, Check the wire diagrams section of this manual for a full layout. There are a total of 8 harness pieces. The tongue, chassis splitter, Tail light run, drivers side run, passenger side run, each fender harness and the relay harness
- 12v Relay-

# Trailer Maintenance

There isn't much work involved in maintaining one of the ultimate trailers but some knowledge of basic procedure can prevent small challenges turning into costly or dangerous failure of parts. There are also some things in this section that may help you to maintain the cosmetic value of the trailer and keep it looking like new for years to come.

Coupler latch-Follow the procedure from trailer hitch ball and coupler nut any time there is play or movement in between the ball and the coupler latch. We also recommend occasionally putting a small dab of grease into ball shaped section of the coupler.

Safety chains-Take a look at your chains every once and a while to make sure they haven't been dragging, if they show any signs of this, twist the chains together before attaching them to the hitch. Always make sure there is a sufficient amount of slack to allow the trailer to turn behind the vehicle. Serious damage can occur if the chains are to tight.

Jack-Always fold the jack up when towing, fold it back with the wheel facing the spare tire and use the hand crank to crank the jack's wheel into the spare. On the OHT4 models, always remove the caster from the bottom of the jack and crank the jack all of the way up before beginning your tow.

Spare Tire- check the bolt the holds the spare tire in, make sure the wing nut is tightened against the lock washer on the bottom of the tongue.

Fiberglass-Over time, the fenders and Rock shield tend to catch rocks and other road debris, fortunately fiberglass is one of the easier materials to repair. For most deep gouging or cracks in the structure of the parts, we recommend visiting a local body shop and inquiring as to whether or not they think it’s fixable. If it isn't give us a call and we can ship out replacement parts. Over time if the unit is stored outside and uncovered, you will see sun spotting similar what happens to boats when left in the same fashion. While it isn't structurally compromising it also isn't necessarily aesthetically pleasing either. To remove it use a wool buffing pad and a buffer turned on medium speed with some basic rubbing compound. This will restore the fiberglass to a nearly new condition.

Deck Paint-Depending on how the trailer is used and were it is stored, over time the deck of the unit can become scratched. If back tires of motorcycles or cars is spun too much on the deck it can cause damage to the powder coating. When damage does occur, there are a couple of different options for repair. The first thing we recommend for small touch ups is rust-oleum bed liner in a spray can. It has a good amount of sand in it which fills small gouges in the

paint very well. If the trailer has been owned for a long time and the deck is well worn or the unit was bought used, we recommend buying the same brand and type of paint in a gallon can. Use paint rollers and make sure you get good coverage across all areas. If rust is severe sanding may be required.

Wire harness-Occasionally Check underneath the trailer to make sure that no wiring is hanging down, we do our best to make sure there are good paths holding up the harness' but occasionally sticks or other debris can catch and pull things around which can cause serious damage and even fire. Make sure that the section of wire near the tongue connection is always supported by the clip we supply

Electric Brakes- We recommend having the brake shoes replaced every 25000 miles, the drum houses the bearings which we recommend having serviced or replaced at no more than 10000 miles

Hubs- Always track your mileage and have hubs serviced by a trailer facility at no more than 10000 mile to avoid serious failure and damage to the unit.

Air compressor filter- We supply 2 replacement filters with the trailer. In order to replace them it is necessary to follow the procedure to remove the passenger side fender and unscrew the filter housing from the compressor.

Ride Height Switch-We recommend torquing the bolts of the ride height switch at 25 lbs, every 3500 miles to ensure that it doesn’t come out of position. The easiest way to do this is to follow the procedure for removing a fender to expose the ride height switch. While the fender is off, be sure to inspect the nearby wiring and parts for excessive wear, or damage before replacing the fender

# Troubleshooting Sections

## Pneumatic Troubleshooting Symptoms

- Trailer lowering within 24 hours when disconnected from power
- Trailer rapidly lowering when dump valve is closed
- Dump valve will not release air
- Cracked or broken fittings
- Broken air line

If you trailer is lowering quickly, and will not maintain ride height. There is most likely a broken fitting, hose or something is out of position. In order to see all of the fittings it is best to start by raising the passenger side of the trailer. If the pneumatics have completely failed, raise the trailer by placing a jack underneath the passenger side, otherwise you can use the auxiliary fill port. The goal being to the passenger side tire off the ground. Then, you will want to remove the fender. (See Fender Removal)

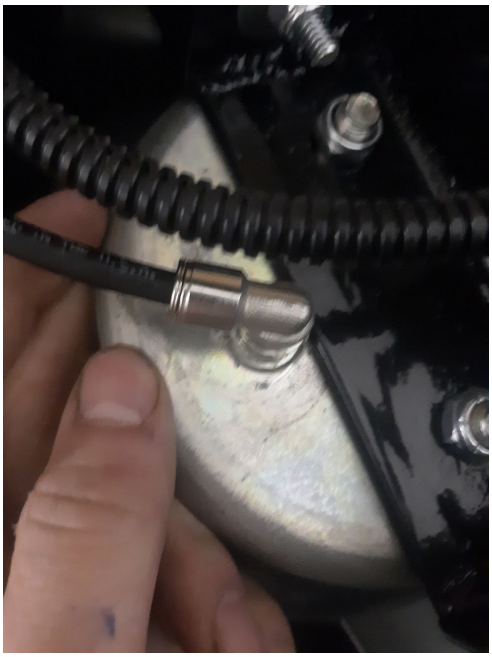
There are six sir line connection points throughout the Trailer. 4 of them are easy to see under the fender on the passenger side of the trailer next to the compressor. The other 2 are located on the bottom of each air bag.

We switched to a more rigid style of push lock hose at the beginning of this year that is much less susceptible to tearing. The most common thing that can go wrong with will be if a large piece of debris is pushed inside of the fender while on the road. While the compressor plate, and internal splash on the inside of the fender prevent most debris from entering the section of the trailer that houses the dump manifold and air line connections. If something large, such as a deflated semi tire is run over it tends to do some serious damage to the fender, and worst scenario the air lines.

If the trailer is rapidly losing air, the first 3 places that should be inspected are the Schrader valve, and the air line connections at the bottom of each air bag. If the Schrader valve has been damaged it may need to be replaced. However, if the valve is leaking. The cap can be used to tighten the internal nut.

If the air line connections at the bottom of either airbag has been damaged. To release the air line from the brass, push on the collar on the top of the connection and pull on the airline it may have enough excess line to cut away the damaged section and reinsert the line into the brass connection if it is undamaged. It is important to cut the airline as straight as possible,

and to leave at least 3/8'' to fully seat into the brass connection. If the brass connections are damaged, they will need to be replaced.



If a leak, or damage cannot be found in any of the 3 previously listed places. Follow the procedure for removing the passenger side fender. Take a look at the connections to the manifold, and to the compressor. These connection points should be inspected thoroughly for any cracks in the brass fittings or tears in the air line near them. If you can fill the trailer with air this may help you find the leak by listening to the air coming out. Another method for finding a leak is to fill a small spray bottle with soap and water and spray the connections which will bubble if they are leaking. Also spray the manifold and compressor connection. If you can establish that there are absolutely no leaking fittings then the compressor may be compromised and needs to be replace. (see compressor replacement

When replacing any fitting it is important to use loctite or, pipe thread stick to ensure proper sealing of the part.

When tightening fittings, never place a wrench over threads or receiving flange of the part or it can warp the brass part.

Tighten the new fittings half of a turn past snug, fill the trailer with air and use the same soapy water method from earlier to check for leaks, we recommend leaving the fender off overnight just in case anything needs to be slightly tightened. Tighten the parts by quarter turns until leak stops.

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# Fender Removal

Tools-9/16 wrench, Large Phillips head Screwdriver

1.Use the 9/16 wrench and Phillips head screwdriver to remove the outer retaining bolt.

2.Loosen the 3 nuts on the inside of the fender pinning it to the deck.

3.Reach underneath the fender just behind the airbag rail and unplug the chassis wiring harness from the fender harness

4. lift the fender from the back side, pushing slightly outwards away from the deck to swivel the fender on the front bolt.

5.Then lift the front of the fender and set fender aside.

6. Be sure to use the neoprene washers when replacing fender to prevent cracking

If you happen to be having an issue with the compressor not raising, please check out the ride height switch trouble flow chart on our website here-

# Ride Height Switch Troubleshooting

The Ultimate Trailers use a honeywell microswitch attached to a steel bracket that works in conjunction with the swing arm on the passenger side of the trailer.

Occasionally, this switch can come out of alignment which may cause the unit to not raise to the proper height or not engage the compressor whatsoever.

If you are experiencing either one of these problems the first thing you should do is fill the trailer with air via the auxiliary fill port next to the dump valve. If the trailer does not fill with this method, see pneumatic troubleshooting.

When troubleshooting the ride height switch it is best to have the trailer connected to power.

1.Raise the trailer to its maximum height with the auxiliary fill port and remove the passenger side fender (see fender removal)

2.Locate the red bracket next to the swing arm and in front of the shop absorber.

3.Attempt to manually trigger the switch, inspect the top of it to ensure that the wires are still attached to the poles on the switch. You should hear a clicking noise when you manually trigger the switch. If the swing arm is still up against the switch, fill it with some more air until the swing arm is clear of the side of the bracket.

4. If you don't hear a clicking sound but the switch feels sticky or the lever is broken then the switch needs to be replaced. If the switch clicks and you hear a small click from the compressor but it doesn't turn over then the compressor is bad or the electrical connection between the switch and the opposing plug. Double check the plug and if the problem continues the compressor needs to be replaced (see compressor replacement)

5. If the compressor engages when the switch is manually triggered then it is out of adjustment

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# Electrical Troubleshooting

-If you ever feel any heat, or see smoke coming from your unit disconnect it from power, a short has occurred and needs to be resolved.
-If the lights on the unit ever appear dim, this is also a sign of a short and the unit should be unplugged from power until the issue is resolved
-If you are experiencing any issues with wiring on the trailer we recommend starting your investigation at the front of the unit, make sure that the connections to the back of the tow vehicle. Make sure the slots in the trailer plug, and the pins in the tow vehicles receiving plug are clean, and not loose in the housing.
-Use the tester that we supply with the 12v wiring kit and make sure all necessary lights work. If they do not then an issue needs to be resolved within the tow vehicles wiring. It is generally a fuse.
-If the tester is fully functional, then the issue is in the trailer. If the trailer isn't raising, (see the ride height switch troubleshooting section), if one of the bulbs has failed, there are a couple different paths in identifying the issue.
- If the lights in the rear deck are failing, for the 2 small red bulbs we recommend replacing them, they can be found at any local trailer retailer such as uhaul
- If the led 3rd brake light has failed, we recommend you calling us for a replacement. It is wired in a proprietary way
-With the bulbs in the fenders, you can pop out the bulb with the grommet by pulling on the edge of grommet. Then with the bulb out, you can unplug the connection from the back it.
-Connect the trailer to power, activate the light in question and use a voltmeter to test the connection.
-If the connection works, then the bulb needs to be replaced. You can either call us to ship you a new one, or visit a local trailer parts retailer such as uhaul for a new one.
-If the connection does not show any voltage, then either the 3 pin connection on the bottom of the fender has come loose, or the wiring harness has somehow been damaged.
-check both connections underneath the fenders and on the rear deck, pull the connections a part and make sure they are clean. Then check the back of the tongue connection where it plugs into the chassis, follow the same method here insuring the plug is clean and well connected.
-retest the plug with a voltmeter, make sure there is a live connection coming from the tow vehicle
-If the light connection still shows no voltage, the the issue is in the wiring harness itself.
-with a connection from the tow vehicle, use a voltmeter to test the back of the tongue harness, If you can establish power here, move on to the trailer side of the 3 pin connections that connect to each fender
-Test each fender and the rear deck by activating the turn signal for each side and keep the

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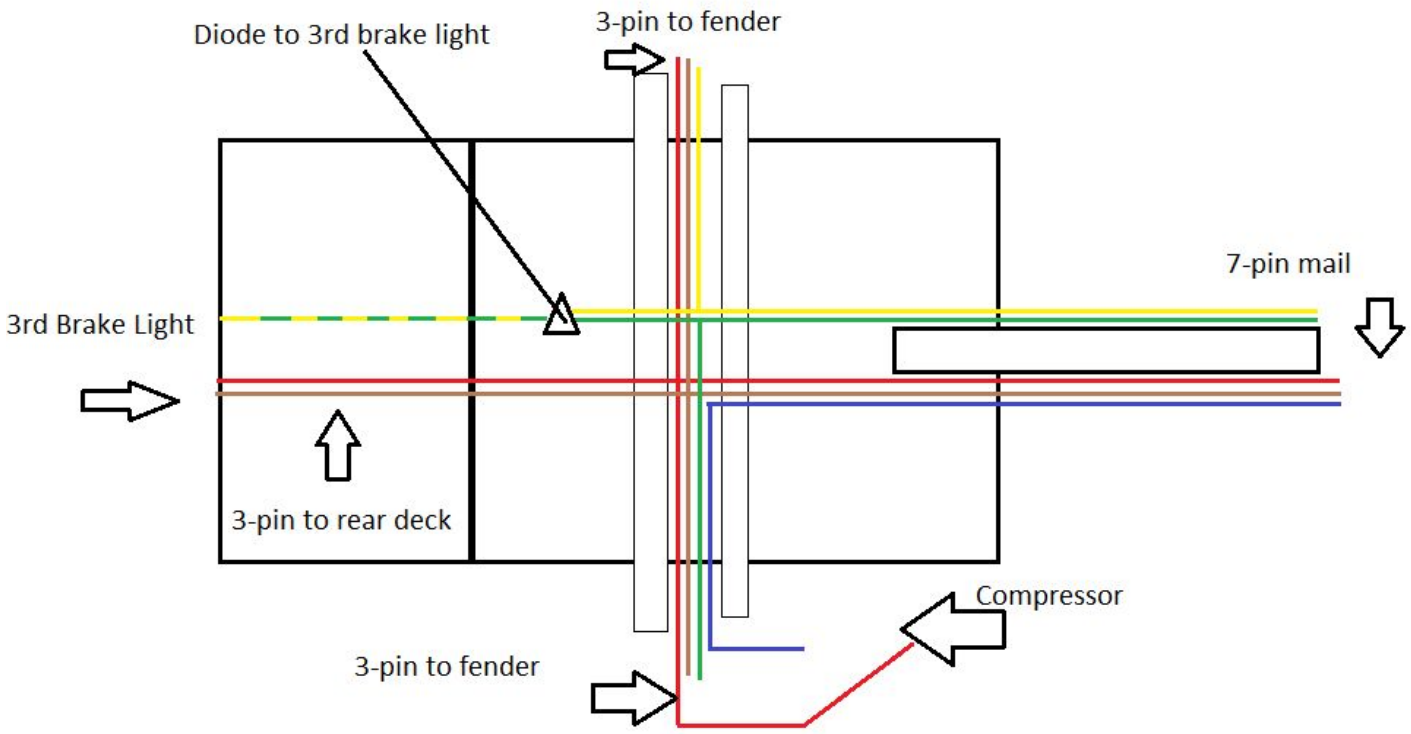
running lights on when connecting the voltmeter.
-If you do not get any power from the 3 pin connections coming from the main chassis, then the chassis harness has become compromised and needs to be looked at by an experienced electrician and fixed, or replaced which is the easier option if an electrician is unavailable. If you would like a replacement give us a call and we can ship you one. (See chassis wiring harness replacement)
-If there is power coming out of the main chassis plug, then the fender harness has been compromised and should be inspected by a licensed electrician or replaced. (See fender harness replacement)
- If you experience any other issues give us a call and we can help you sort it out.

# Electrical Diagrams

## Chassis Harness



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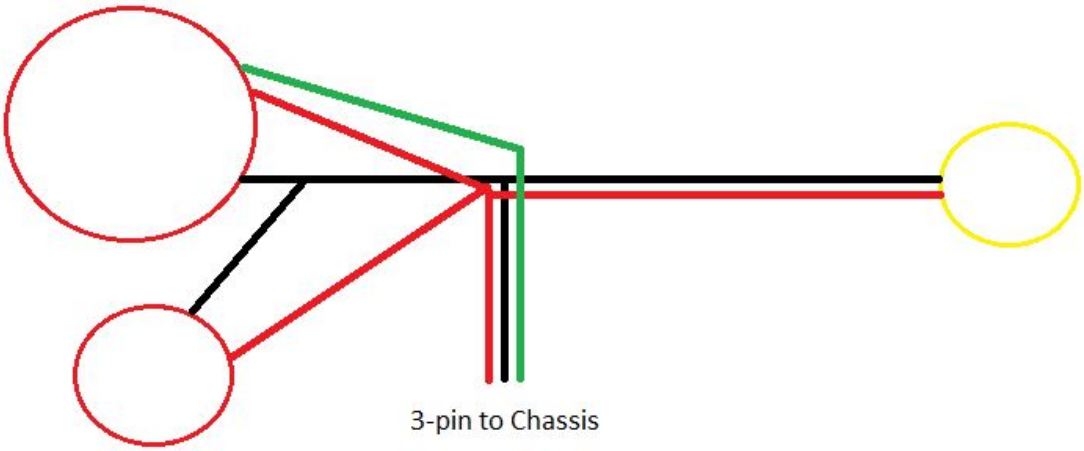
# Fender Harness Right



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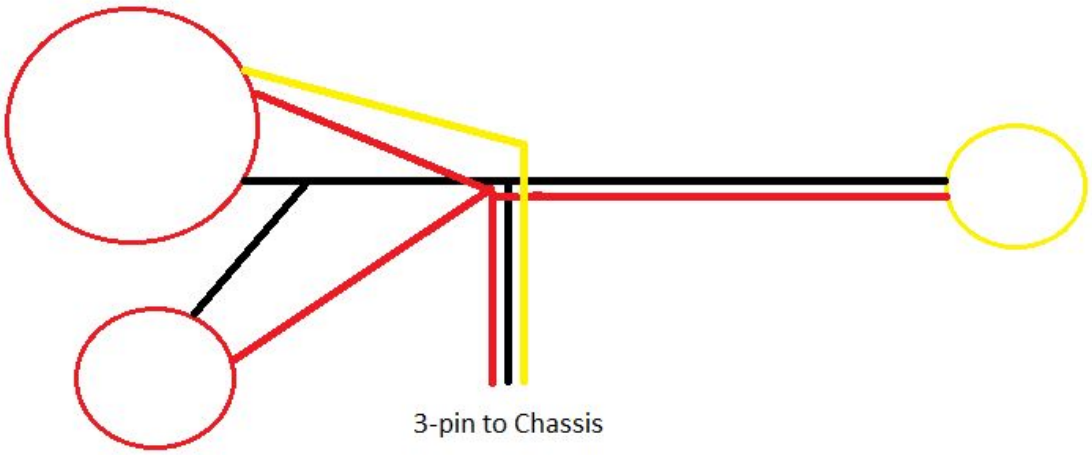
# Fender Harness Left



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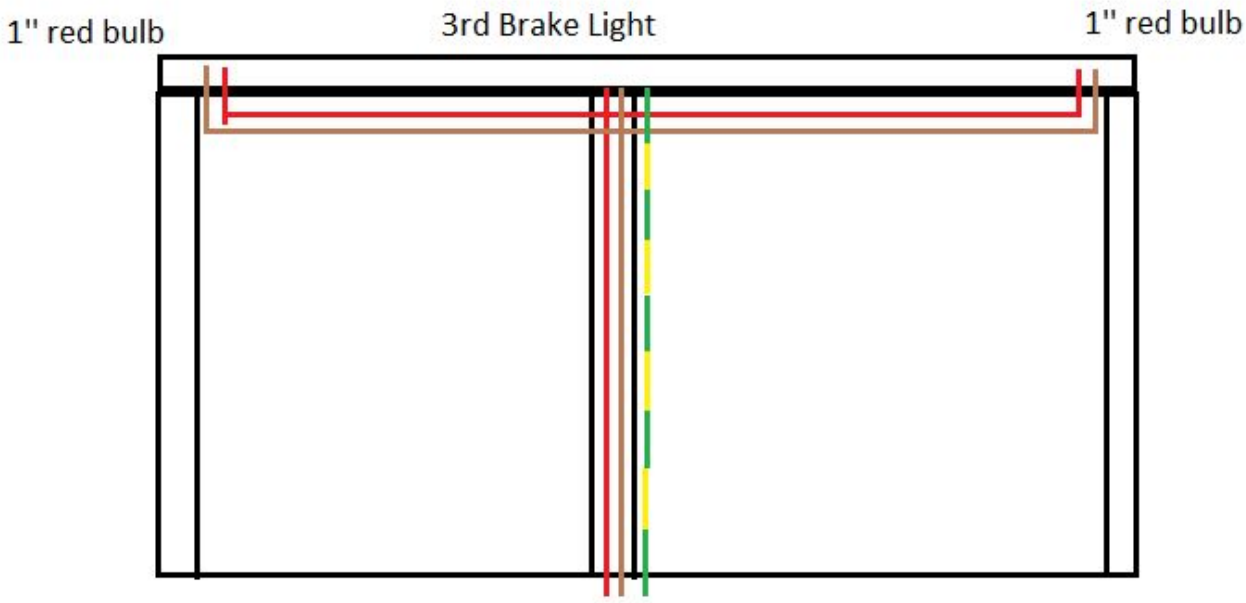
Rear Deck Harness



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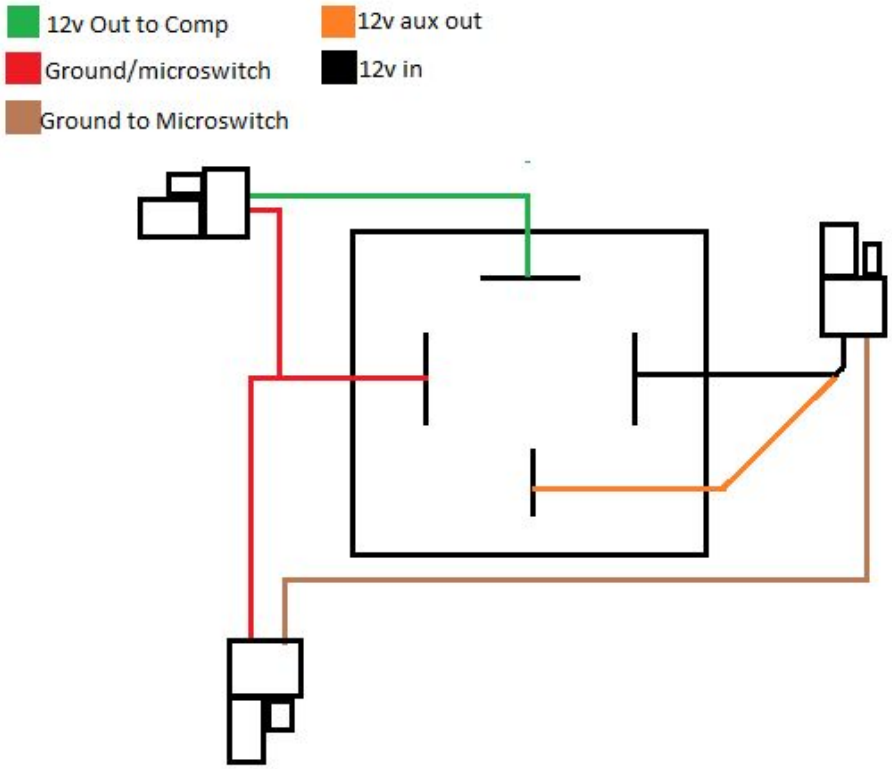
# 12 V Relay Diagram



# Trailer Fold up Storage Instructions

1. Make sure the trailer is on level ground, you will need a 9/16, ¾ and 5/8 wrenches. You will also need a jack and two people for a brief part of this process.
2. Place the jack underneath the front of the main deck and lift it until the wheel on the tongue is no longer touching the ground.
3. Remove the lower four nuts that hold on the Rock shield with a 9/16 wrench.
4. Remove the wingnut on the bottom of the spare tire bolt. Push up on the bolt and remove it from the tongue spare tire and Rock Shield.
5. Lift the Rock Shield off of the front of the trailer with a person on each side and set it aside.
6. If you have a front deck extension, remove the 4 retaining bolts with a 9/16 wrench. Lift the extension with a person on each side and set it aside.
7. Remove the two tongue retaining bolts with a ¾ wrench.
8. Unplug the back of the tongue harness and slide the tongue out. Set it aside with the bolts and nuts in its receiving holes so you don't lose them
9. Remove the jack from the front of the trailer and allow it to rest on the front end
10. With the back of the trailer raised, remove the deck support channels with a 5/8 wrench. Place the bolts back into the receiving brackets so you don't lose them, the channels can be attached to the back of the main deck once it is raised.
11. Remove any ratchet straps with a 9/16 wrench. If the strap has a bracket remove that with it.
12. With a long support angle iron in hand, raise the rear deck about halfway and install the angle iron onto the front bolt on the trailer which is used for the ratchet straps and the second bolt towards the front on the rear deck, place a nut and washer on each bolt and fully tighten.
13. Install the u brackets onto the bottom of the rear deck via the remaining two bolts on the sides of the rear deck.
14. If you purchased a caster kit, install it instead of the u brackets
15. With a person on each side of the trailer, lift it backwards and rock it onto either the u-shaped brackets or the caster kit depending on which you are using.
16. If you have a front deck extension, it can be placed on the rear deck, use a piece of cardboard to keep from damaging the traction coating.

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17. The rock shield can be attached to the main deck at this point if you still have the shipping brackets.
18. The tongue can also be attached with its mounting bolts and shipping brackets to the back of the trailer to consolidate as much space as possible