Riptide

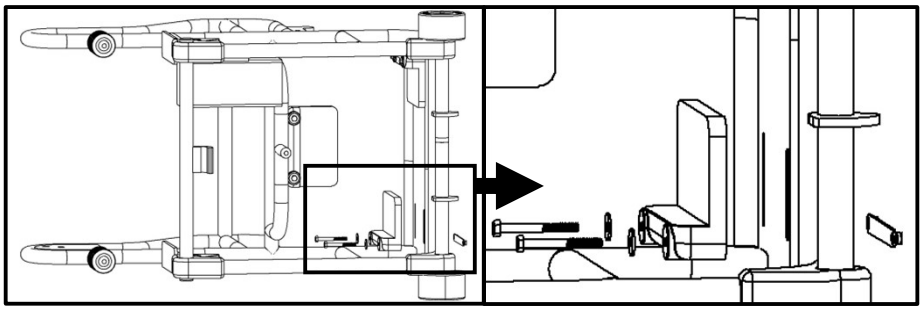
Pool Vacuum System

800-735-3029
Sales@riptidevac.com

Cart Assembly Instructions

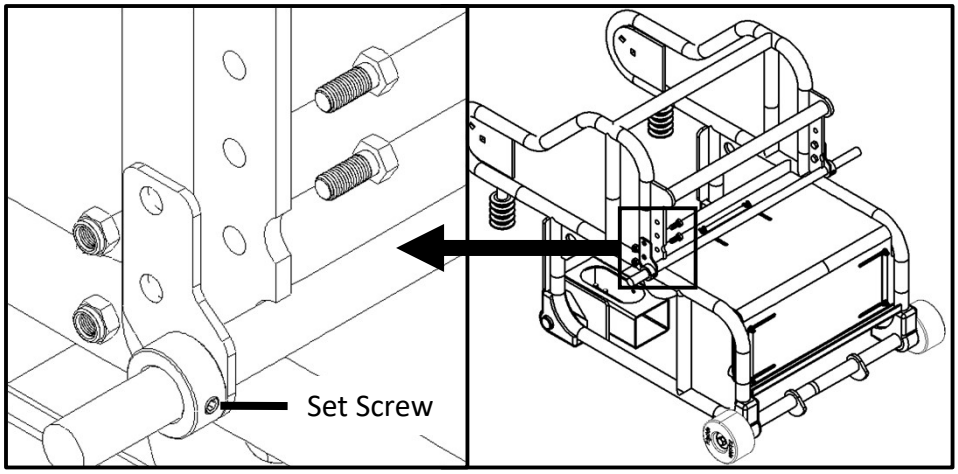
Step 1 Install Orange Battery Pads

1. Lay the cart frame on its side.
2. Assemble the three orange battery pads onto the cart as shown.
3. Before tightening select a battery. (See the section on battery selection.)



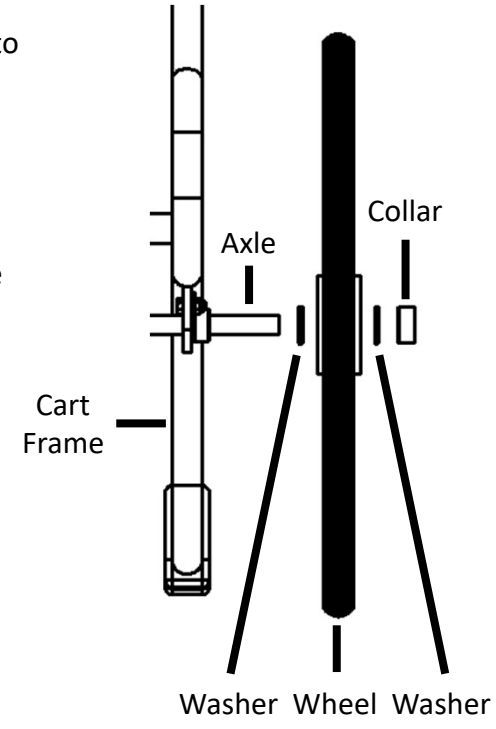
Step 2 Install The Axle

1. Slide both axle hangars onto the axle.
2. Bolt the axle hangars onto the cart (bolt heads must be toward the inside of the cart and the nuts on the outside.)
3. Tighten the set screw to keep the axle from spinning in the hangar.



Step 3 Install The Wheels

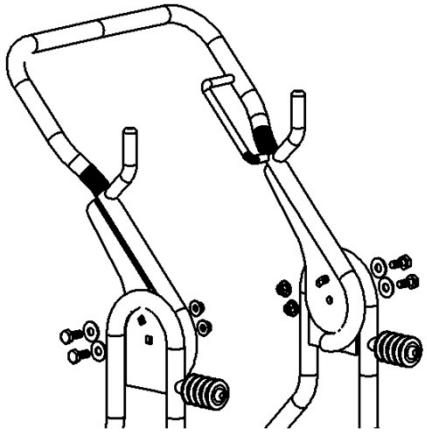
1. Install one washer onto each end of the axle and slide it up to the axle hangar.
2. Apply anti-seize (included) to the ends of the axle.
3. Install the wheels onto the axle.
4. Install another washer onto each end of the axle.
5. Install the collar.
6. Tighten the set screw on the collar very tightly to ensure the wheel doesn't fall off.



Cart Assembly Instructions (continued)

Step 4 Install The Handlebar

1. Insert the bolts with the heads and washers on the outside as shown. The nuts go on the inside with no washers.
2. Before Tightening see the section on battery selection, the handlebar height is adjustable which allows you to achieve a well balanced cart with any battery.
3. When tightening, hold the nut and turn the bolt, (turning the nut will damage the powder coating.)



Installing the Cord Clip

The cord clip allows you to store the plug snapped onto the clip during transport.

Using plyers, snap the cord onto the cord clip.

The cord clip will be installed centered on the handlebar.

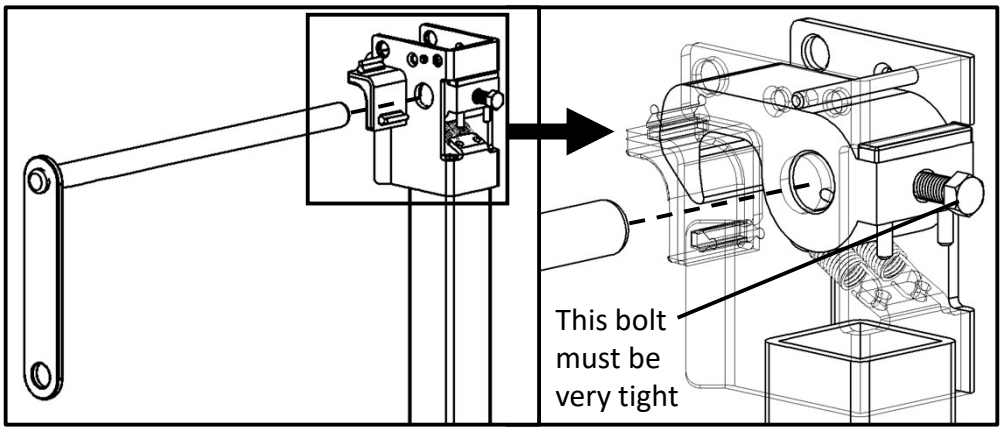
Before completely tightening the six screws rotate the cord clip so it lays across the coil of cord as shown. Make sure the cord can lock into the clip completely before it hits the coil.

Transport Rack Assembly Instructions

Step 1 Attach Release Handle

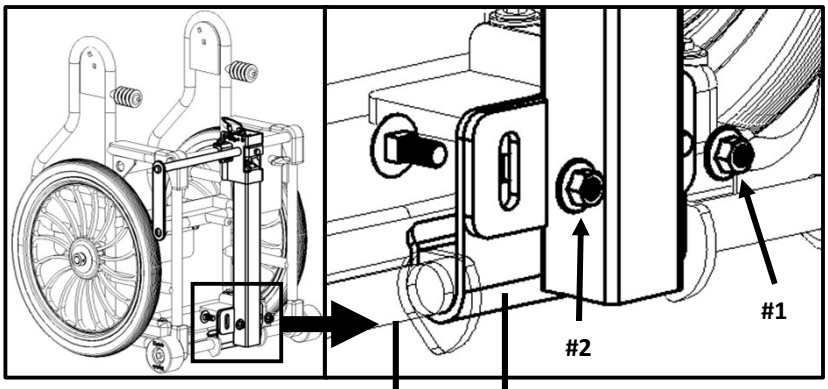
1. Install the orange rod through the black bracket and orange dog as shown. The end of the rod must stick all the way through the black bracket ¼ to ½ inch.
2. Tighten the bolt. (It must be very tight.)

Note: The rod can be installed from either side it can also be rotated to the top so you will push it to release.



Step 2 Attach Bottom Bracket

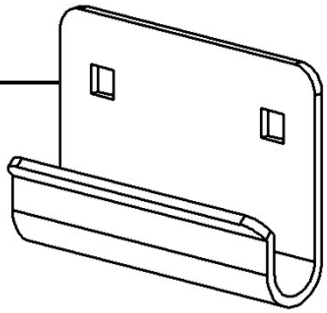
1. Latch the Transport Rack onto the cart.
2. Adjust the bottom hook bracket tight to the bottom rod on the cart, hold in place as you tighten the bolts.
3. Tighten nut #1 first and nut #2 second.
4. Make sure the carriage bolts are very tight.



Bottom rod on cart

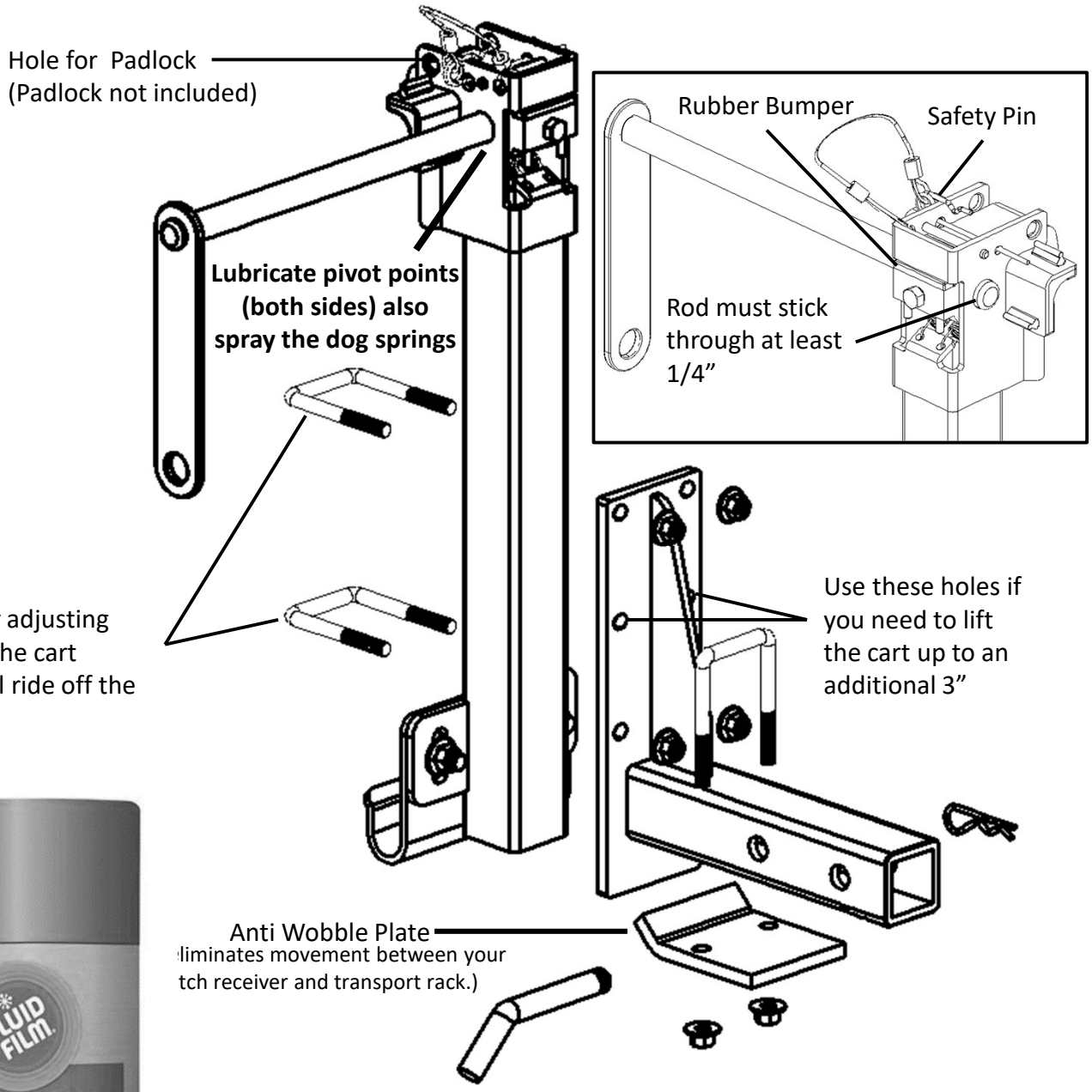
Bottom hook bracket slides up tight to the rod on the cart. Hold in place as you tighten the bolts.

Bottom hook bracket



Transport Rack Assembly Instructions (Continued)

Step 3 Assemble The Rest of The Transport Rack



Fluid film is a great product to lubricate and prevent rust on your transport rack. If you spray the rack when it is new and every couple of months from then on it will stay rust free. It can be purchased online or at some auto parts stores.

Keep the pivot points lubricated.

Battery Selection

Choosing the right type and size battery for your needs is essential, you must use a **DEEP CYCLE** battery not a starting battery. We recommend a group 27 (this is the size of the battery) you can expect 5 to 6 hours of run time with this battery.

Deep cycle batteries should be used all day and charged every night with a good automatic battery charger capable of delivering at least a 10 amp charge to provide the longest possible life.

It's important to **select a battery that doesn't leak acid when it is laid on it's side.**

Battery Charger Selection

You will need a 12 volt automatic battery charger that will deliver at least 10 amps to the battery.
DO NOT USE A TRICKLE CHARGER. A trickle charger will not fully charge the battery over night.

Load Testing the Battery

We recommend that all Riptide users own a load tester. Fig 1

This simple tool will determine if your battery is good or bad within 10 seconds, it is the only test we know of that will give absolute and conclusive test results.

Check your battery anytime you feel your Riptide isn't functioning at full power.

This is the only tester that will be needed to determine if your battery is in good condition.

The one pictured is available on Amazon for $22.

Fig 1

Adjusting the Battery Compartment

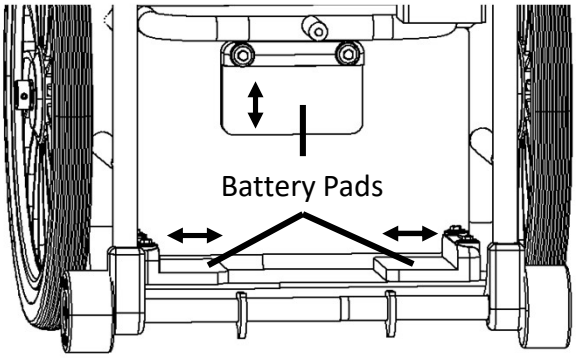
1. After selecting an appropriate battery for your needs slide it into the battery compartment. (See battery selection previous page)

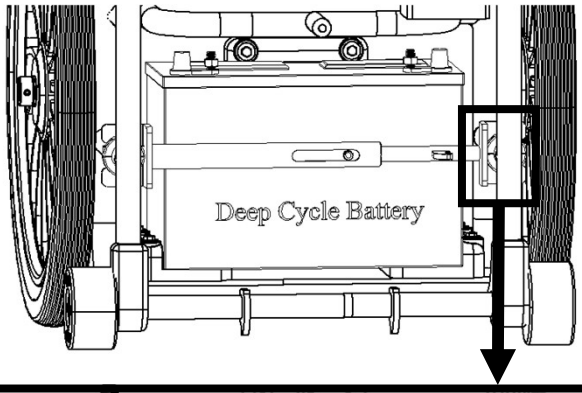
2. Adjust the orange battery pads tight to the sides of the battery and tighten the bolts.

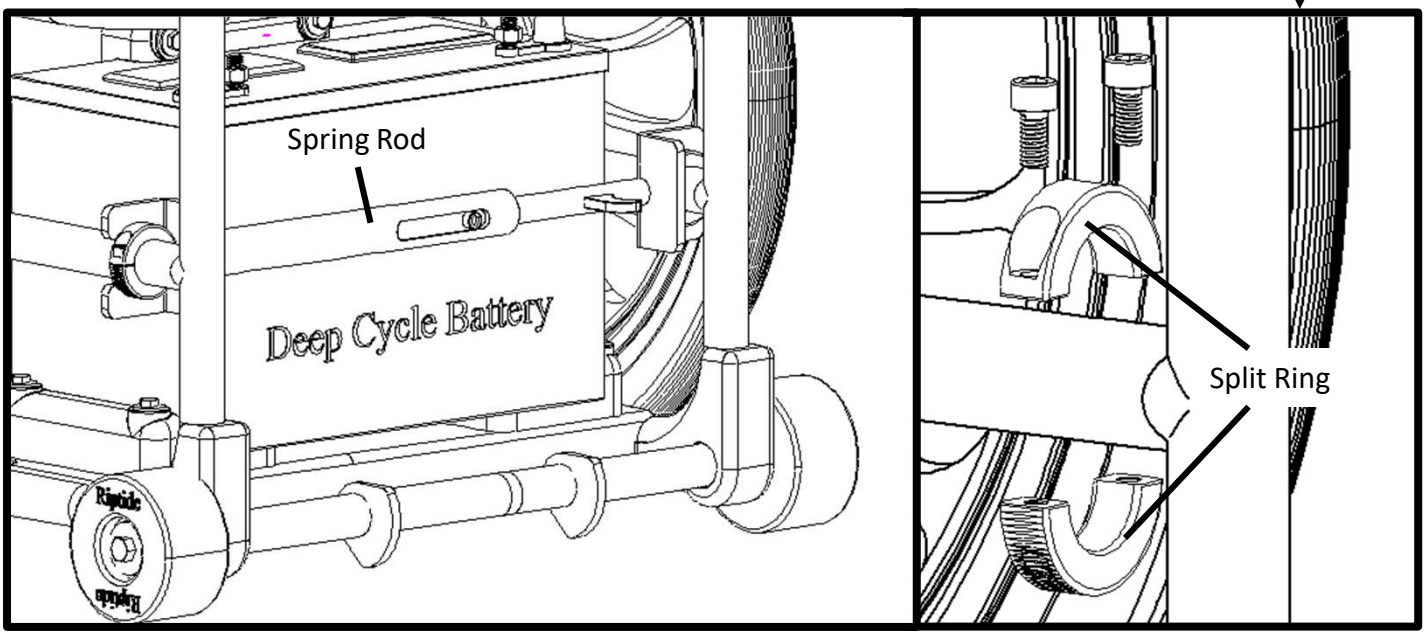
3. Adjust the top orange battery pad to hold the battery down and tighten the bolts

4. With the battery in place, install the split rings and the spring rod, adjust the split rings to hold the rod tight to the battery.

5. Attach the battery terminal to the battery. The red wire must attach to the (+ Positive) and the black wire attaches to the (– negative) terminal.

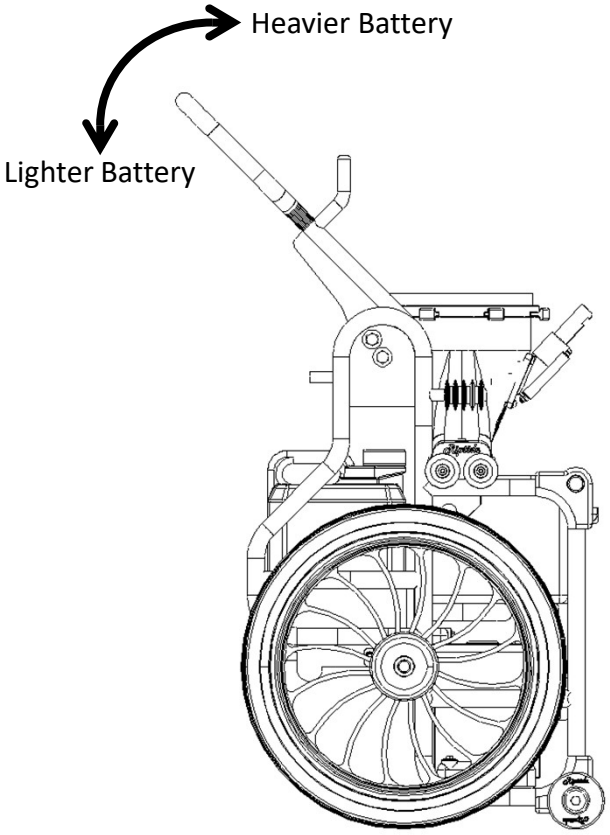






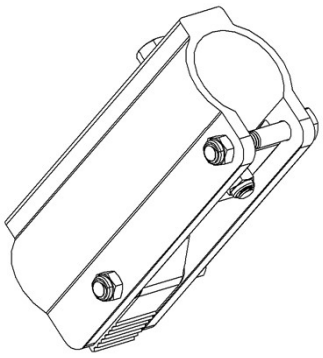
Adjusting the Handlebar height
To balance the cart

1. Install the battery.
2. load the cart with everything you will normally carry.
3. Adjust the handlebar to achieve a comfortable height/balance.

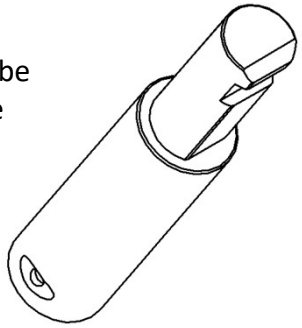


Accessories (Purchased Separately)

Pole Coupler
The Pole coupler attaches to the end of the pole, it allows the pole to attach to the vacuum head by simply pushing it on. Push the button to remove it.

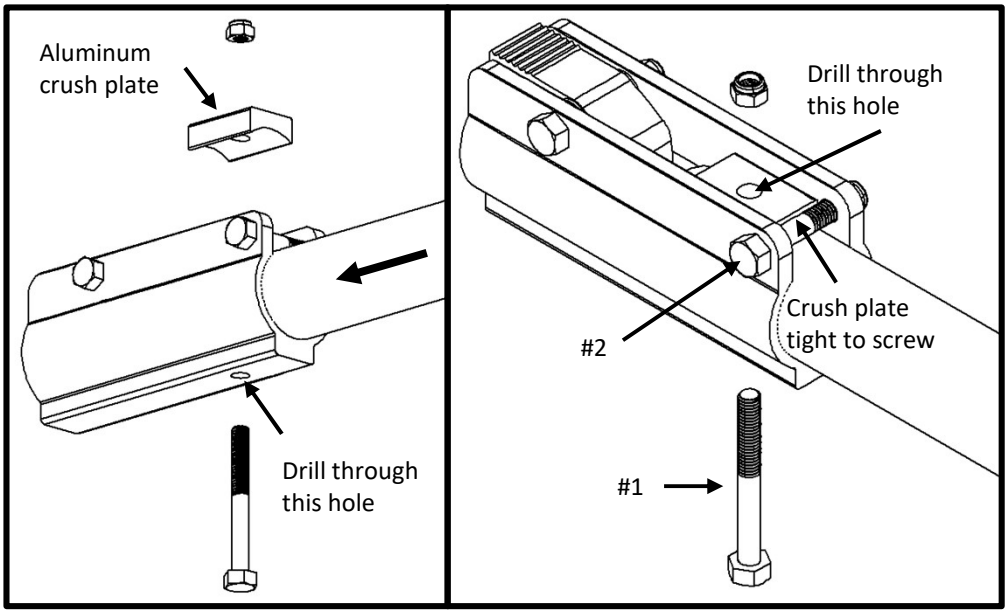


Adapter
Allows a pole with a coupler attached to be used with a leaf rake or a brush.



Attaching the Coupler To The Pole

1. Slide the pole into the pole coupler.
2. Using a ¼" bit, drill through the hole in the coupler and into the pole, (only go through one side of the pole.)
3. Place the aluminum crush plate tight against the bolt, drill through the hole and into the pole.
4. Install and tighten bolt #1.
5. Lightly tighten bolt #2, there should be no space between the coupler and the sides of the crush plate.

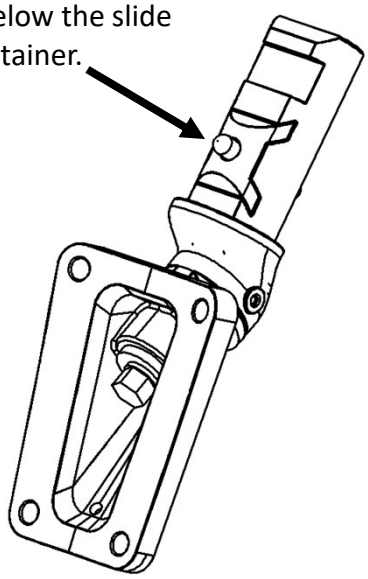


Steering Knuckle

Your Riptide vacuum is equipped with a stainless steel steering knuckle which has solid stainless steel pole pins. We have included an extra pole pin set and retainer. The steering knuckle has been designed to allow a pole to be connected with the pole pins or the pole pins can be removed to use our proprietary pole coupler. (pole coupler sold separately)

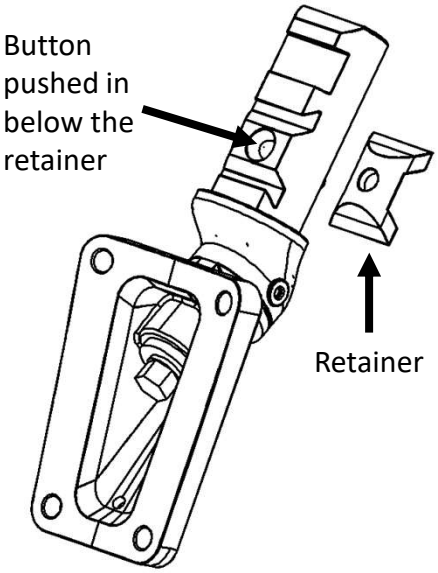
Removing the pole pins for replacement <u>OR</u> to use the pole coupler

Use a tool (allen key, screw driver, etc.) to push in the button below the slide retainer.

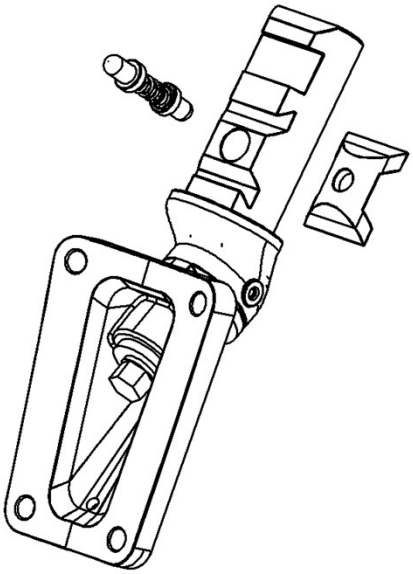


Remove the slide retainer

Button pushed in below the retainer



Remove the pole pins



Bag Options and Use

There are several different bags available, the hole size in the cloth is measured in microns, the higher the number the larger the hole that is in the cloth. Bags are available in 60,75,100,200 and 400 micron. There is also a heavy net bag available, the net bag is the only one that will work for a pool with heavy algae. It will be necessary to experiment with different bags to find the best one for your situation.

Available Bags:
Heavy Net Bag (3/16 inch holes) this is the only bag that will work with algae, it removes the large debris and allows the algae and fine debris to pass through so it can easily be vacuumed to waste without clogging your vacuum hose with the leaves and large debris.
Coarse (400 Micron) Leaves and large debris.
Medium (200 Micron) Leaves and general debris
Standard (100 Micron) General debris and sand.
Ultra Fine (75 Micron) Fine sand and granular particles.
Extreme Fine (60 Micron) Very fine particles, some pollen.

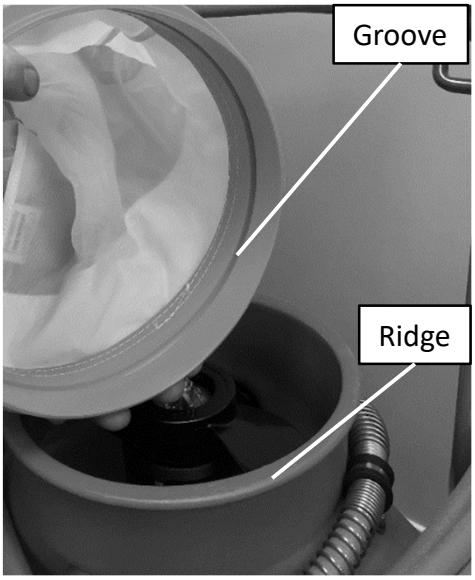
Reduced Suction

The most common reason for reduced suction occurs when a bag becomes clogged, in this scenario the bag will have a lot of pressure and appear hard. When the bag is clogged water can't pass through it so water moving into the vacuum head is reduced, when a bag becomes totally clogged water can be forced backward out through the intake.

Attaching/Removing a Bag

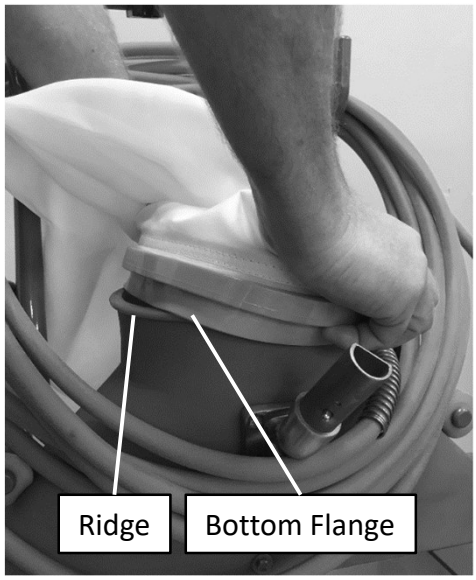
The bags are very easy to attach when done properly, if you don't find yourself attaching the bags effortlessly with the following instructions please visit our website to view an instructional video.

The groove in the bag ring snaps onto the ridge on the vacuum. **Note: Do not put the orange ring below the ridge.**



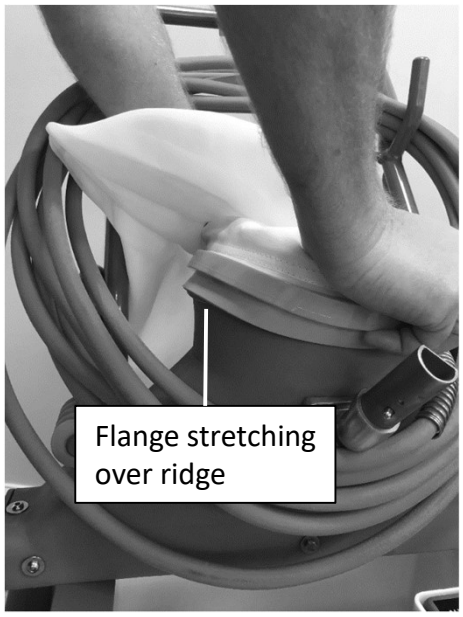
Starting on the opposite side from where you are standing, snap the ridge into groove.

Slide your hands back to the center of the ring and push down, this will bend the ring in the middle and the bottom flange will stretch over the ridge.



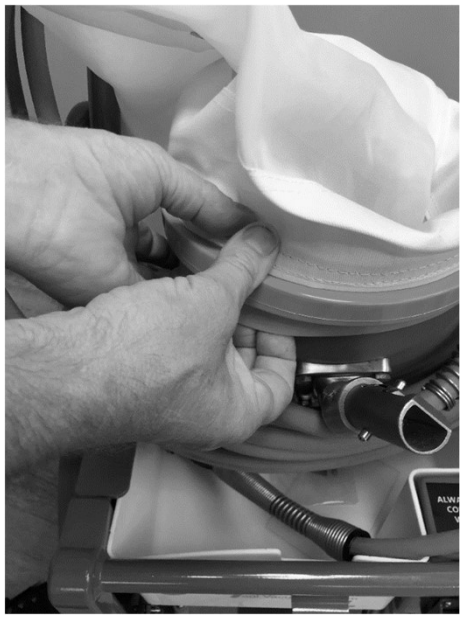
Keep pushing down until the bottom flange stretches over the ridge and snaps on.

PUSH DOWN ON CENTER OF RING.

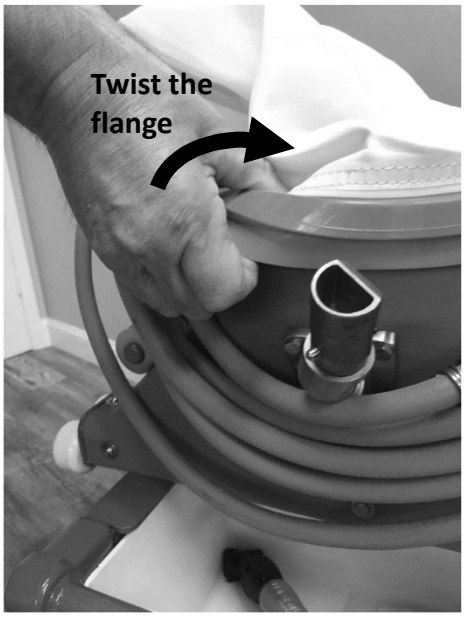


Removing the bag

Put your two thumbs together and push on the top flange, place your fingers under the bottom flange and **TWIST THE FLANGE, do not pull up**, keep twisting the flange until the bag releases from the ridge on the vacuum head.



TWIST, DON'T PULL UP AND THE BAG WILL RELEASE.



THE CORD MUST BE UNPLUGGED EVERY TIME BEFORE WINDING IT UP!

The Riptide SL Vacuum System is designed with the feature of being able to unplug the vacuum from the cart to provide the benefit of eliminating damage done to the cord from twisting when winding it up.

Because no plugs of the necessary quality exists on the market we have designed our own proprietary plug that provides superior electrical contact and due to the unique design, if the cord is pulled on it actually forces the contacts together even tighter.

The ability to unplug the vacuum from the cart provides additional benefits:

1. The head can be used with a battery box outfitted with the same plug (sold separately.) This allows the vacuum to be used on pools with no cart access.

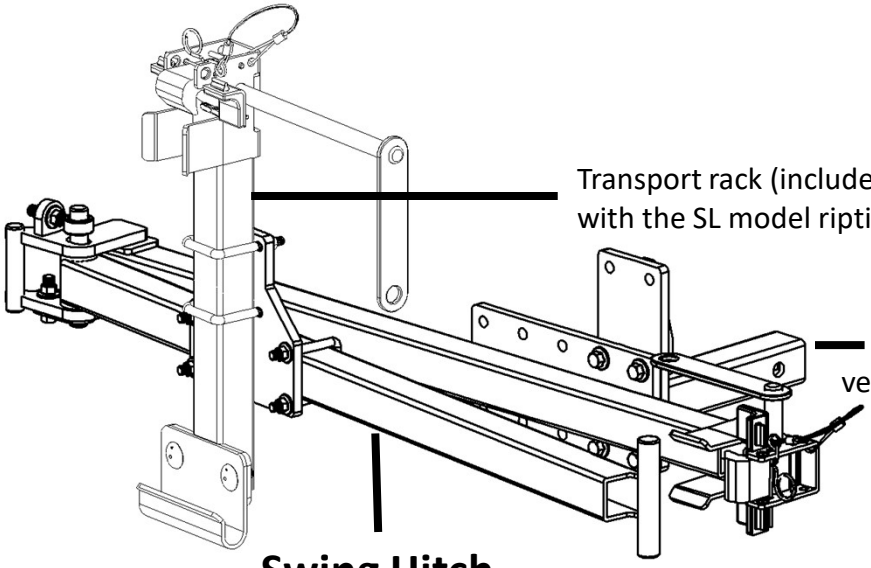
2. Companies with several Riptides can have extra vacuum heads on hand which will simply plug right into any cart, this will help ensure no down time so service techs can always leave the shop on time and maintenance of the original head can be performed at your leisure.

To further this effort of reducing or eliminating down time we also designed the control panel to bolt onto the cart with two bolts so it can be changed in just a few minutes. We sell the control panel complete with the switch and plug and it is prewired so you can just bolt it on and attach the cables to the battery.

Accessories

(Sold Separately)

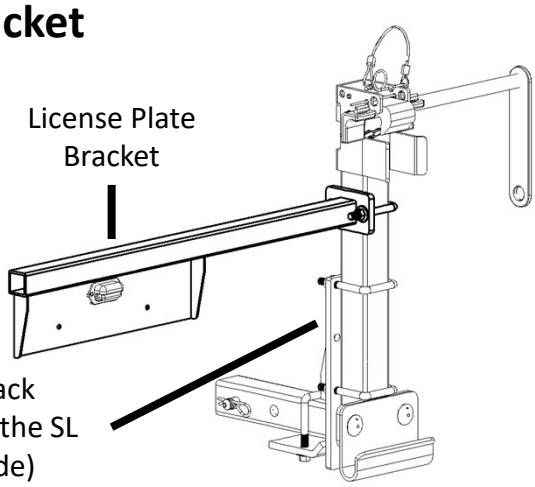
The Swing hitch is a device that allow the Riptide to be left in the transport rack and swung out of the way to allow access the bed of your truck or van. It also allows the transport rack to be offset which is very helpful when mounting on a van because it allows unimpeded use of the active door and it can be swung out of the way to gain access through both doors.



Swing Hitch

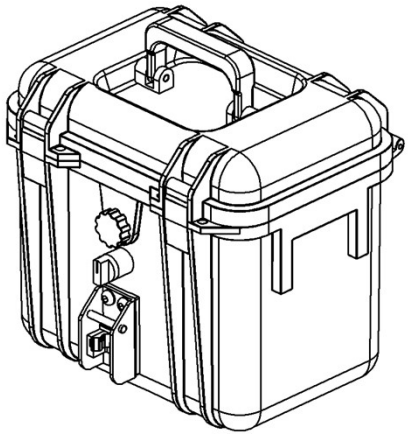
License Plate Bracket

Our license plate bracket attaches to the transport rack and moves the license plate off to the side, it includes a light but no wiring.



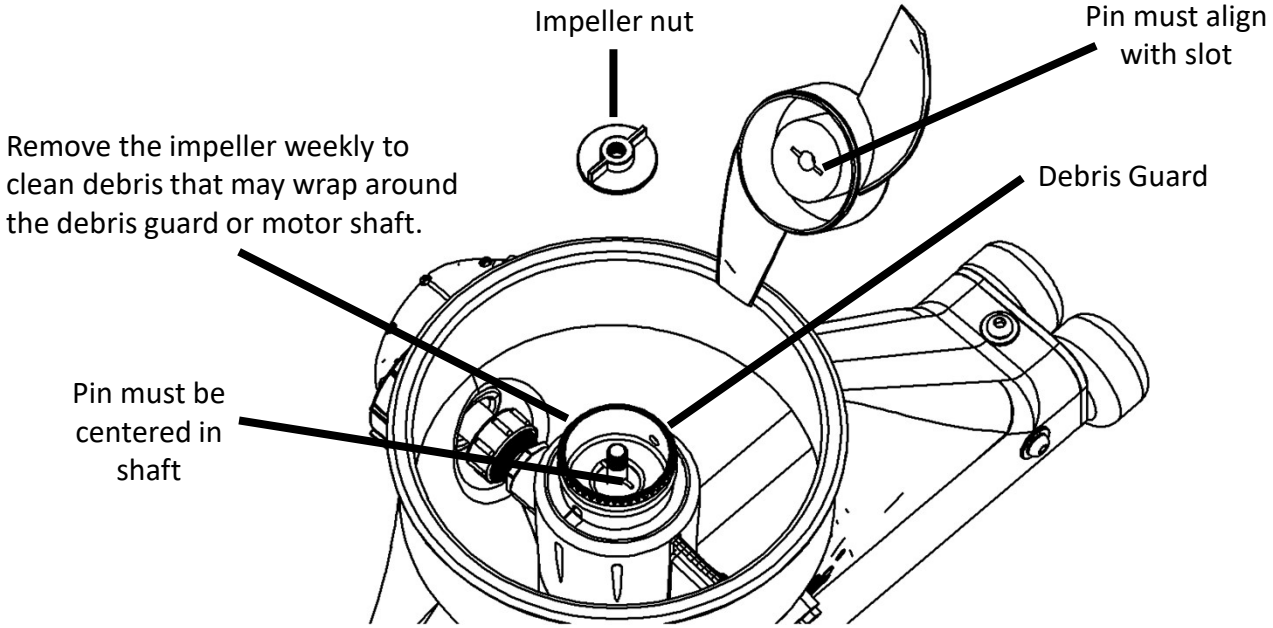
Battery Box

Our battery box will hold a 35 amp hour battery. It's a perfect solution for yards that don't have access for the cart.



Clean under the impeller

Your Riptide is equipped with our proprietary Debris Guard. The function of the Debris Guard is to protect the shaft seals of the motor which can be damaged from debris wrapping on the motor shaft.
The impeller pin must be centered in the shaft and it must align with the slot in the impeller when the impeller is installed.



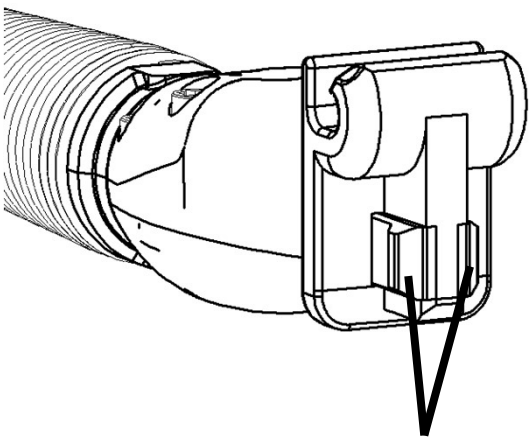
Cleaning the Plug Contacts

The plug is designed to provide problem free long term use but it will be necessary to clean the contacts periodically.

The plug on the end of the cord is open and can easily be cleaned with a typical stainless steel wire brush. (Fig1)

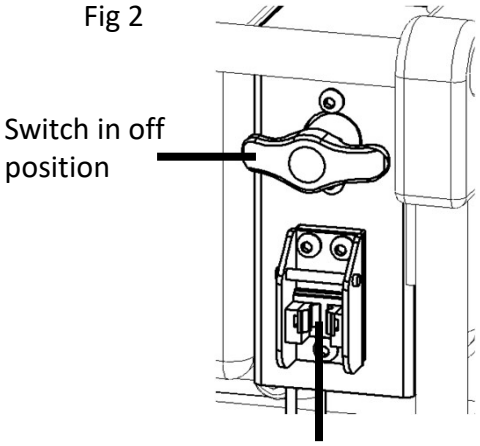
The contacts on the control panel are also open for easy cleaning, a common round wire brush designed for cleaning pipes is perfect for this job. (Fig 2) Make sure the switch is in the off position when cleaning.

Fig1



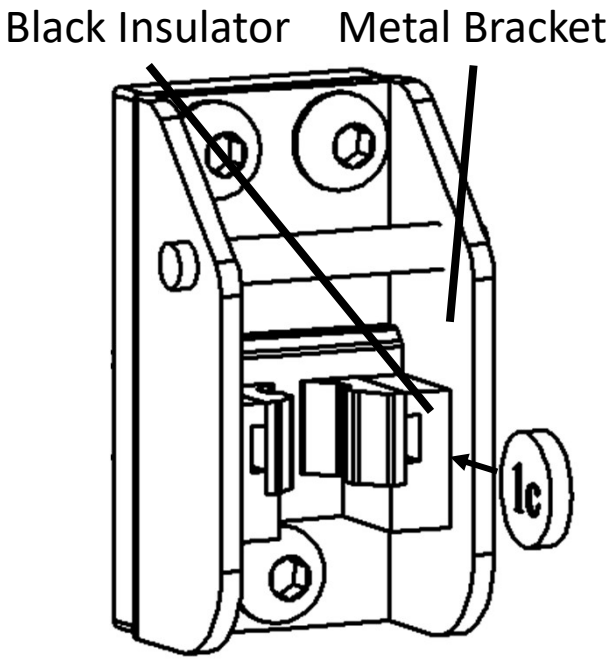
Keep Contacts clean on both sides

Fig 2



Clean contacts with a round wire brush. Insert the brush from the bottom

Shimming the Contacts



The plug contacts will wear and get loose over time, for this reason they were designed to be shimmed, a penny works well as a shim.

To shim and tighten up the contacts slip a penny between the black insulative material and the metal bracket this can be done on both sides. These contacts can also be purchased on the website www.riptidevac.com

Troubleshooting Terminology

Reduced Suction

The most common reason for reduced suction occurs when a bag becomes clogged, in this scenario the bag will have a lot of pressure and appear hard. When the bag is clogged water can't pass through it so water moving into the vacuum head is reduced, when a bag becomes totally clogged water can be forced backward out through the intake. There are several different bags available, the hole size in the cloth is measured in microns, the higher the number the larger the hole that is in the cloth. Bags are available in 60,75,100,200 and 400 micron. There is also a heavy net bag available, the net bag is the only one that will work for a pool with heavy algae.

Low Power

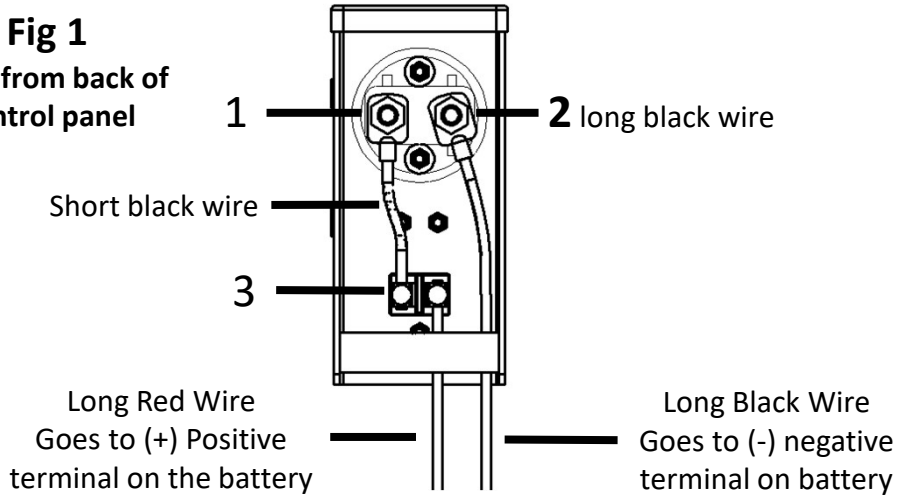
Low power and reduced suction are two totally different things, under a low power situation you will experience reduced suction but the bag may flop over and not inflate fully. A weak battery is the most common reason for low power. Make sure you are charging with at least a 10 amp automatic charger. It is also very important to have clean tight battery terminals.

Troubleshooting

Refer to figure 1 for the following tests, perform the tests in the order shown.
Before performing any tests check to make sure the impeller rotates freely.

1. Make sure all terminals and plug contacts are **clean and very tight** including the connections behind the switch and plug. (See cleaning plug contacts)
2. Slide the battery out of the cart onto the ground and **test it with a load tester.** (see load testing battery in the battery section.)
3. Remove the long black wire 2 from the back of the switch, this wire will become your test lead.
4. Do a "spark test" by touching the end of the black wire to the (+) positive battery terminal. There should be a good strong spark.
5. **Plug the vacuum into the control panel and turn on the switch before performing the following tests**.
6. Touch the long black wire to test point #1, if the vacuum turns on the switch needs to be replaced, if it doesn't turn on perform the next test. (If the switch is bad see bypassing the switch on page 15.)
7. Touch the long black wire to #3, If the motor turns on the short black wire needs to be replaced.
8. If you got this far and the motor hasn't turned on the problem is either the motor or the cord. Move on to Testing the Motor and Cord.

Fig 1
View from back of control panel



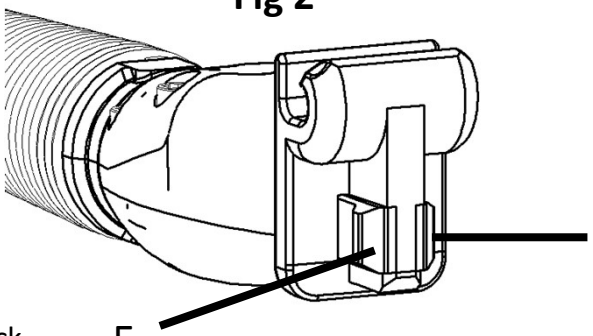
Troubleshooting (continued)

Testing the Motor and Cord

Refer to figure 2 for the following test

9. Verify that the problem is either the motor or the cord by touching contact 4 to the positive terminal on the battery then touching the long black wire to contact 5. If the motor doesn't turn on the cord or motor is confirmed to be the problem. (See testing the motor.)

Fig 2

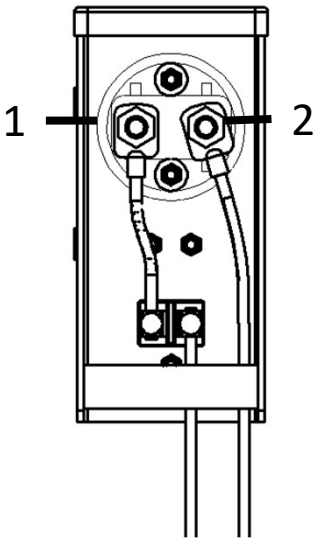


Testing the motor

10. Remove the impeller from the motor.
11. Unscrew the large black plastic grommet cap.
12. Using pliers, unscrew the water tight connection from the motor and pull the plug apart.
13. Plug the Riptide motor test cable into the motor then touch a wire end to each battery terminal. If you don't have a Riptide motor test cable use two pieces of wire. If you are using wire it is easier to attach each wire to the battery then touch the other end to the prongs on the motor. If the motor turns on the cable is bad if it doesn't the motor is bad.

Bypassing the switch

Fig 1
View from back of control panel

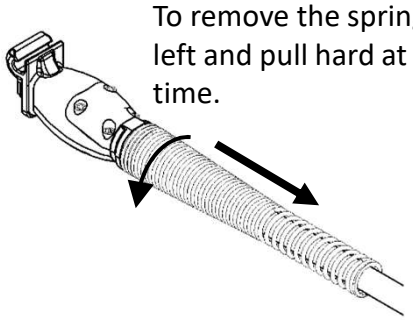


Switch bypass / Low power switch test (Fig 1,)
The vacuum can be restored to full performance while waiting for a new switch by removing the long black cable from terminal 2 and placing it on terminal 1 with the short wire, this effectively removes the switch from the circuit and you can simply unplug the vacuum to shut it off. Bypassing the switch in this manner is also the best test if the switch is suspected of causing a low power situation.

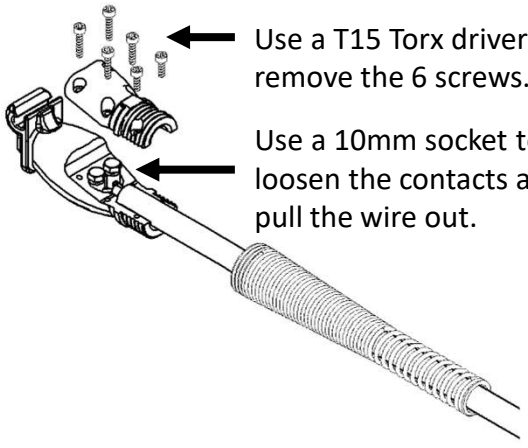
If the vacuum doesn't turn on when you bypass the switch the problem is likely either the motor or the cord.

Repairing the cord / installing a new plug

If it is determined that the cord is damaged it may be possible to repair it. Remove the spring by twisting it counter clockwise and pulling hard at the same time then use a size T15 Torx driver to remove the cover and expose the contacts. Cut a couple of inches off the cord then strip the wire as shown below and reconnect the contacts. If this doesn't work the cord will have to be replaced**. Note: The vacuum musty always be unplugged before coiling the cord onto the cart to prevent damage caused by twisting.**



To remove the spring twist to the left and pull hard at the same time.



Use a T15 Torx driver to remove the 6 screws.

Use a 10mm socket to loosen the contacts and pull the wire out.

Stripping the ends of the wire

Cut off the damaged portion of the cable and strip the ends of the wire as shown below and re assemble the plug onto the cord. The red wire goes on the left contact and the black goes on the right. **Note: The motor must spin counter clockwise, reversing these wires will cause the motor to spin backward.**