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Halo Jumper Owner's Manual



- EJ-HAL-JMP-01 – Halo 2 Jumper
- EJ-AJS-01 – Mobile Airborne Jump Simulator

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Revision 1.22
July 2010
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US PAT# 6,083,142, 6,390,952 and patents pending

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Congratulations!

Congratulations on your purchase of an Extreme Engineering Halo 2 Station Jumper. Your Halo Jumper has been designed and engineered by the company who invented and innovated numerous recreational equipment products including: mobile and stationary climbing walls, the Extreme Auto-belay™ safety climbing system, the PowerBelay™ safety rappelling system and Jumper systems.

Your Halo Jumper is the best in the industry!

Extreme Engineering® Jumper products are designed with safety, ease of operation and durability built in. It will provide you with years of service.

Your Halo Jumper is easy to tow, set up, operate and take down. If you follow these instructions carefully and completely, you'll be assured of safe and reliable operation.

**BE SURE TO READ AND FOLLOW ALL SAFETY
INSTRUCTIONS FOUND IN THIS MANUAL**

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Version Update Information

- 1.22 06/09/10
Minor correction for jacks in travel position.
Minor update to inflatable jump pad positioning.
Added jump pole marking for spreader bar location
Replaced Harness instructions with new Flyer Harness
- 1.21 10/26/09
Minor corrections and changes.
- 1.2 10/26/09
Removed improper auto-belay entry.
- 1.1 10/05/09
Added missing pictures and verbiage modifications as a result of the added pictures.
- 1.0 09/09/09
Original

1. Safety first! Read Before Proceeding



CAUTION This is a safety alert symbol. It is used to alert you of potential personal safety hazards. Please read all safety messages that follow this symbol to avoid injury or death.

Always make safety your number one priority when setting up, operating, and taking down your Jumper.

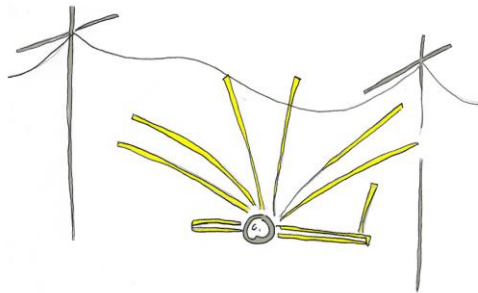
1.1. Safety Rules



CAUTION For your safety, read and follow all safety rules and safety instructions in this Owner's Manual before operating your Jumper.



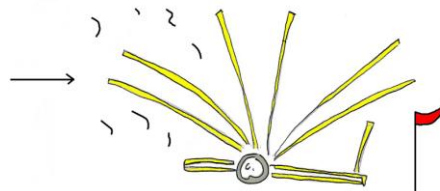
CAUTION Do Not set up or operate the Jumper near overhead electrical lines, roof eaves, trees, or other overhead obstructions or hazards. Allow a minimum of 24 feet for clearance.



No!
Nein!
Non!
No!
Nyet!



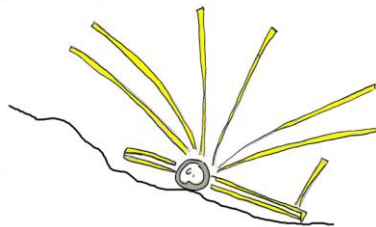
CAUTION Do Not set up or operate the Jumper in windy conditions (winds with gusts of 30 mph or more).



No!
Nein!
Non!
No!
Nyet!



CAUTION Set Up and operate the Jumper only on a level surface.



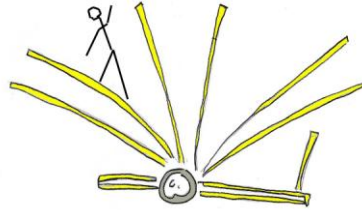
No!
Nein!
Non!
No!
Nyet!



CAUTION Set Up and operate the Jumper only on solid surfaces. Extend the jacks only onto solid ground or surface.



CAUTION **Do Not** climb on the poles or pole supports. **Do Not** stand on top of the poles or supports.



CAUTION Although it is possible to set up the Jumper by a single operator, Extreme Engineering highly recommends a second operator to help with setup. This second operator can look for and warn of potential issues or hazards that may not be seen by one operator. As well, the jump poles are long and heavy. Two persons can insert them and remove them from the lift tubes far easier and safer than one person.



CAUTION Keep the area clear of people, cars, etc. during setup, operation and takedown. **Do Not** walk under or allow anyone to walk under the jump poles while they are in use, being raised or lowered.



CAUTION **Do Not** allow anyone to climb anywhere on the Jumper or jumper poles. All jumping participants must be harnessed and the harness attached to the pole slings with the carabiners at all times during their jump time.



CAUTION Inspect the Jumper before each day's use.

The Maintenance Section of this User's Guide includes comprehensive details for making a complete inspection. Read that section carefully.

If you find any problems during the inspection which you cannot resolve, **Do Not** operate the Jumper until the problem is corrected.

Visit Extreme Engineering's technical support web site at www.extremeengineering.com or contact Extreme Engineering's Technical Support at 916-663-1560 for help in correcting any problems.

2. Pre-Travel Checklist



CAUTION For your safety, read all instructions before towing the Jumper.

2.1. Tow Vehicle Safety Check

- Check the air pressure in all tires including spare tire. Check for sufficient tread depths and tire damage on all tires.
- Check fuel and oil levels.
- Check dash gauges and warning lights with key on without engine running and with engine running.
- Check that all promotional items, lights, displays are secure and travel ready.
- Check the towing hitch and towing ball for proper attachment and tightness on towing vehicle per towing hitch manufacturer's specifications
- Check towing ball for proper size (2 5/16") and for abnormal wear.
- Ensure the weight limits of the tow vehicle's towing hitch is greater than the total load weight and tongue weight of the Jumper.
- Ensure the towing capacity of the tow vehicle is greater than the weight of the Jumper.

2.2. Jumper Safety Check

- Check the towing coupler mounting bolts for proper tightness.
- Check the towing coupler for damage or unusual wear.
- Check the pole travel lockdown pins are in place for towing with a hitch pin through the hole at the end of each lockdown pin.
- Check all tires (including spare tire if equipped) for proper air pressure.
- Check tires for legal tread wear depth.
- Check wheel lug nuts for proper tightness.
- Check the lift pump for proper oil level.
- Check for oil leaks from all hydraulic hoses and fittings from the lift pump to the hydraulic lift rams. **Note:** There may be oil residue found at the fill cap area of the lift pump oil reservoir tank. The fill cap is a breather cap and may allow a small amount of oil to escape from the tank during travel.
- Check for grease at the lift tube aluminum block hinges where the lift tube assemblies attach to the jumper base frame.
- Check the lift pump batteries for sufficient level of charge.
- Inspect the jump poles for damage.
- Look for and remove any debris caught under the trailer.
- Remove wheel blocks for departure.

3. Prepare For Towing

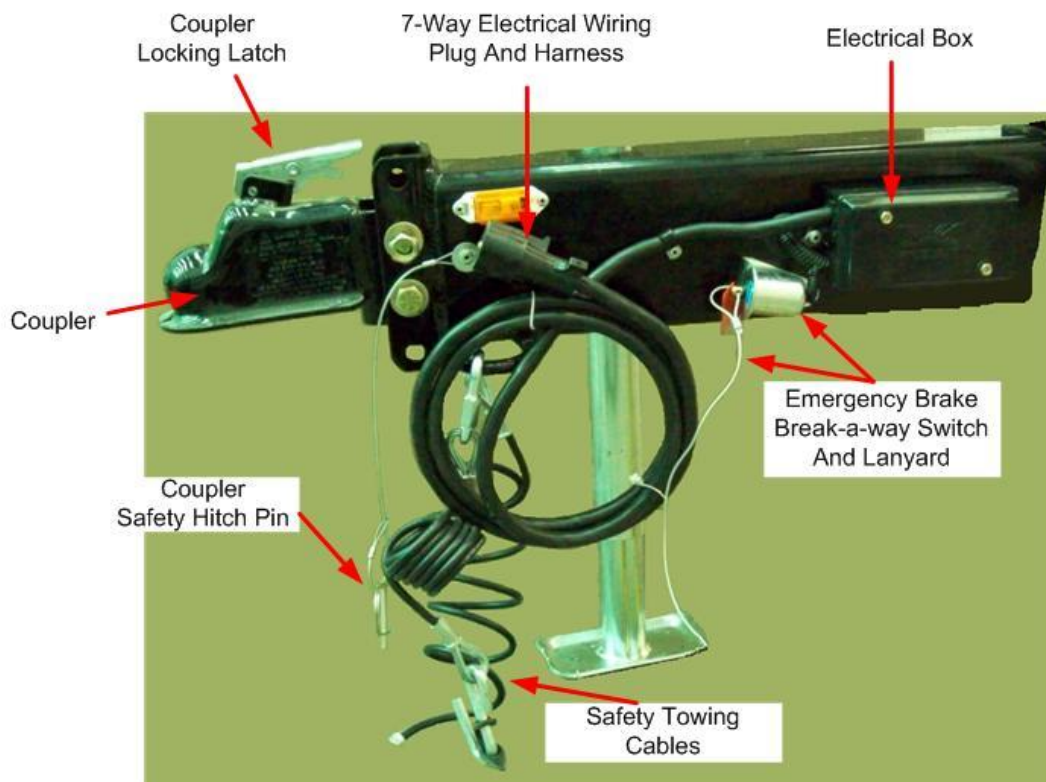


CAUTION For your safety, read all instructions before attaching the Jumper to the tow vehicle.

- **Extreme Engineering recommends a solid Tow Vehicle Hitch Receiver** for towing the Jumper. Ensure the solid receiver is properly inserted and attached per the towing hitch manufacturer's specifications and requirements. Check the towing hitch and towing ball for proper attachment and tightness on the towing vehicle per towing hitch manufacturer's specifications.
- **Ensure vehicle towing capacity and the towing hitch limits** are greater than the total weight and tongue weight of the Jumper.
- **Check towing ball for proper size (2-5/16") and for abnormal wear.**



CAUTION Do Not tow the Jumper without the proper size towing ball. The towing ball must be a 2-5/16" diameter ball. A ball smaller than this can allow the trailer to unhitch even with the coupler locking latch and safety pin in place during towing.



Jumper Towing Components

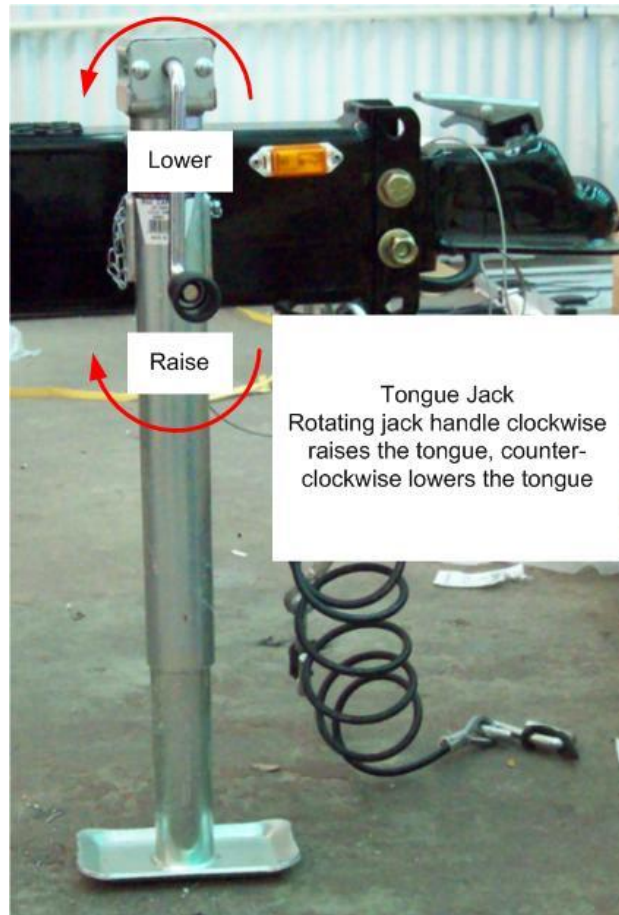
3.1. Attach Jumper To Tow Vehicle

- **Back the tow vehicle into position** so that its towing ball is positioned under the jumper's trailer tongue. If you have a second operator, have him or her stand by the trailer to guide you into position. Position the tow vehicle's hitch as close as possible to the tongue of the trailer with the trailer coupler as close to directly above the towing ball as possible. Position the vehicle to minimize having to manually move the trailer into place.

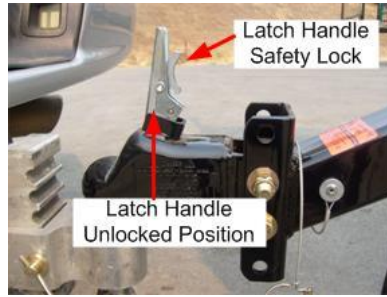


CAUTION Avoid having to manually position the trailer! If you must, do so only for the last few inches. **Do Not** attempt to pull the trailer by hand, as this could result in serious injury.

- **Lower the coupler down onto the tow ball** once the tow vehicle's tow ball is properly aligned with the coupler. Using the front jack mounted to the tongue, turn the jack handle counter clockwise until the coupler is fully engaged over the tow ball. Continue to turn the jack handle until the foot of the jack is clear of the ground and can be rotated 90 degrees to its travel position.



- **Lower the Coupler Latch Handle** to the fully down position. **Ensure the Latch Handle Safety Lock inserts into its locking slot** on the coupler body underneath the latch handle. If the latch is in its proper position, you should not be able to lift the latch handle without first releasing the latch handle safety lock lever.



CAUTION Do Not tow the Jumper without the latch handle in the locked position.

- **Locate the Safety Hitch Pin** through the hole on the side of the coupler where the coupler latch handle mounts to the coupler body. **Slide the Safety Hitch Pin Clip over the pin** of the safety hitch pin to prevent the coupler latch handle from being accidentally released.



Coupler Hitch Pin attached to towing tongue with lanyard.



Coupler Hitch Pin location for towing.



Slide the Coupler Hitch Pin Clip over the end of the pin to lock in place.



Proper installation of Coupler Hitch Pin and Hitch Pin Clip set for towing.



CAUTION Do Not tow the Jumper without the Coupler Hitch Pin properly set in place on the coupler latch handle.

- **Attach the two Towing Safety Cables** to the tow vehicle's hitch.



Left Side Safety Cable



Right Side Safety Cable



CAUTION Do Not tow the Jumper the safety towing cables properly attached to the towing vehicle.

- **Attach the Electrical Plug** from the Jumper to the towing vehicle. The Jumper uses a 7-way round RV plug (shown in the example below). Ensure the plug is fully inserted into the tow vehicle's electrical socket. Ensure the socket cover safety catch on the 7-way style is firmly in place down over the rear of the plug to prevent the plug from falling out during travel.

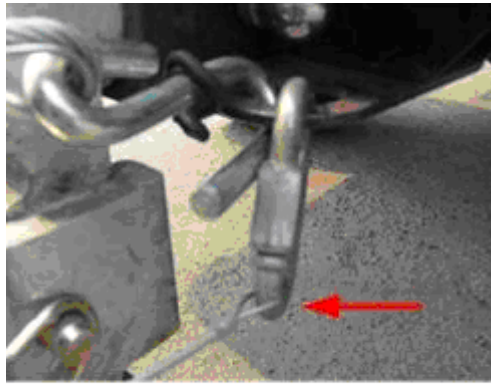


Electrical Towing Plug properly inserted into tow vehicle socket with socket cover safety catch down over trailer plug

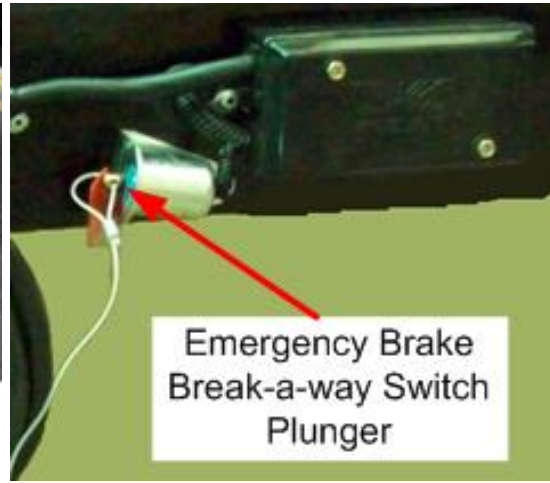


CAUTION Do Not tow the Jumper without the electrical plug attached to the towing vehicle.

- **Attach the Emergency Brake Break-a-way Lanyard** to the tow vehicle. The lanyard must be attached to the tow vehicle, not the towing safety cable. Ensure the emergency brake break-a-way switch pull tab is fully inserted into the break-a-way switch.



Emergency Brake Break-A-Way Lanyard Attachment



Emergency Brake Break-a-way Switch Plunger



CAUTION Do Not tow the Jumper without the emergency brake lanyard attached.

- **Verify operation of tow vehicle and jumper lights.** The jumper tail lights and yellow side marker clearance lights should be on when the tow vehicle's parking light or headlight switch is in the on position. The jumper brake lights operate when the tow vehicle's brake pedal is depressed. Both of the jumper brake lights will flash when the tow vehicle's 4-way emergency switch is turned on. The jumper left and right turn signals should operate with the respective left and right turn signals of the tow vehicle.



CAUTION Do Not tow the Jumper without operational tail lights, brake lights and turn signal lights.

- **Perform a secondary visual inspection.** Ensure all towing components are properly attached and/or connected prior to towing the Jumper.

3.2. Pre-Travel Safety Inspection Details

- **Position all Jacks to the travel position.** For the front jack, pull the jack pin out, rotate the jack 90 degrees and re-insert the jack pin to hold the jack in the travel position. For the two side jumper stabilizer jacks, pull the jack pin out, remove the jacks from the stabilizer arms and place them onto the travel jack spud in the horizontal position as shown in the below picture. Alternatively the jacks can be completely removed and stored in a toolbox on the Jumper or in the tow vehicle for travel.



Tongue Jack in Travel Position

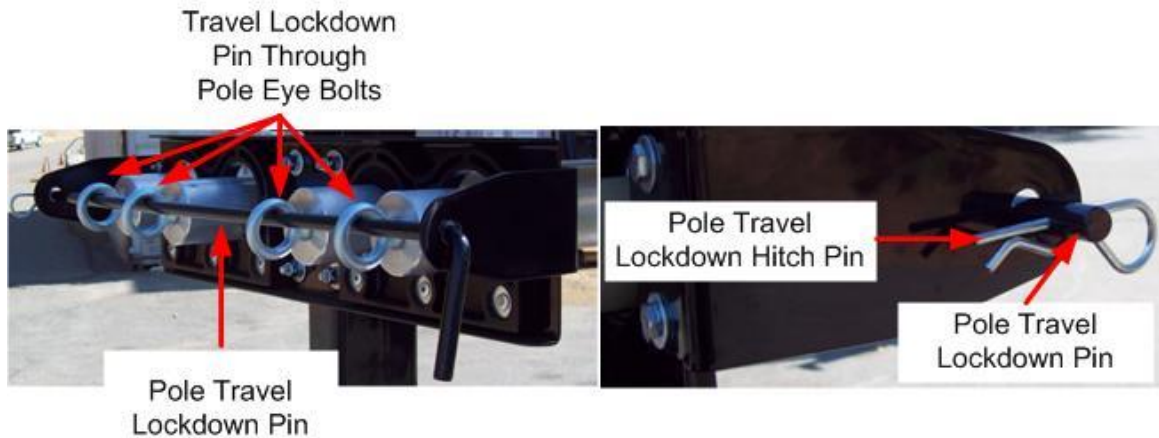


Stabilizer Jack in Travel Position

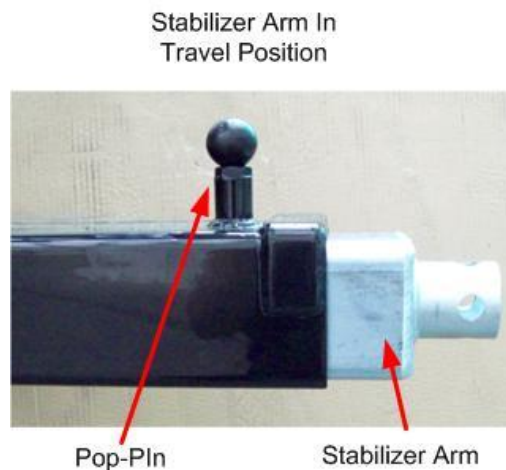


CAUTION Do Not tow the Jumper with a jack not in the travel position.

- **Ensure the Pole Lockdown Pin holding the jump poles are properly in place for towing.** There is one pole lockdown pin that is placed through the brackets on the pole carrier as well as the eye bolts at the end of each pole. There is a hitch pin that is placed through the hole on the lockdown pin to prevent the lockdown pin from being removed during travel.



- **Ensure the stabilizer arms are in the travel position.** The stabilizer arms are to be pushed all the way into the jumper base until the spring loaded pop-pin drops down into the hole to prevent the arms from extending out during travel. Lift up on the pop-pin to allow the stabilizer arm to be pushed in to the travel position. If the stabilizer arm will not push in or pull out, the pop-pin is in the proper position for travel.

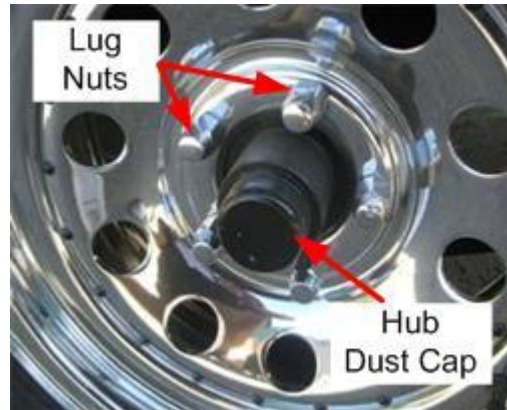


CAUTION Do Not tow the Jumper without the stabilizer arm pop-pin in place to prevent the stabilizer arms from extending out during travel.

- **Inspect all Wheel Lug Nuts, Tire Pressures and Tread Depths, Hub Dust Caps and Suspension.**
 - The wheel lug nuts are to be torqued to 90 ft-lbs.
 - For factory supplied tires, the tire air pressure should be 50 psi with a cold tire. Always check air pressure on a cold tire. A tire that has been driven can increase up to 4 psi or more when hot. If you no longer have factory tires, use the tire manufacturer's recommended tire pressure for proper inflation

requirements. If you are not sure what the tire air pressure should be on your tires, any local tire shop can help determine what that pressure should be.

- Check all tire tread depths for equal to or exceeding minimum legal tread depths. There are tire wear tread indicators in place on all tires in various areas around the circumference of the tire between the tire treads. If these tire wear indicators are at the same height as the tread, the tires must be replaced.
- Ensure the all hub dust caps are in place on all axles.
- Check all mounting points of the suspension. Check to ensure the spring mounting shackles/bolts and u-bolts are in place and tight.



CAUTION Do Not tow the Jumper with missing/loose lug nuts, improper tire air pressure, required minimum tire tread depth, missing hub dust caps or missing/loose spring mount components.

➤ **Inspect Fenders, Toolboxes and Spare Tire.**

- Check the toolbox mounting points. Each toolbox is pop-riveted to the toolbox arms at each corner of the toolbox. The toolbox arms are mounted to the main base backbone frame with u-bolts. Ensure the u-bolts are tight and the pop-rivets are all in place.
- The spare tire bracket is mounted with u-bolts and the tire is mounted to the bracket with two lug nuts.
- The fenders are bolted to fender brackets located under the front and rear sections of the fender. The fender brackets are mounted to the front and rear of the main trailer base pan on each side.



CAUTION Do Not tow the Jumper with non-secured or improperly mounted fenders, toolboxes or spare tire.

➤ **Inspect Hydraulic Pump/Hoses/Lift Rams**

- The pump is mounted to the jumper base with two bolts. The bolts are located underneath the base mount plate. Ensure the bolts are in place and securely tightened.
- The hydraulic lift rams are mounted to the jumper base and the lift tube assembly with clevis pins at each end. There is an external retaining ring on each outside end of the clevis pins holding the lift rams in place.
- Check for leaks at all hydraulic fittings, hose connections and lift rams.



CAUTION Do Not tow the Jumper with non-securely fastened hydraulic pump and lift rams. Do Not operate the Jumper if there are leaks in the hydraulic hoses, fittings or lift rams.

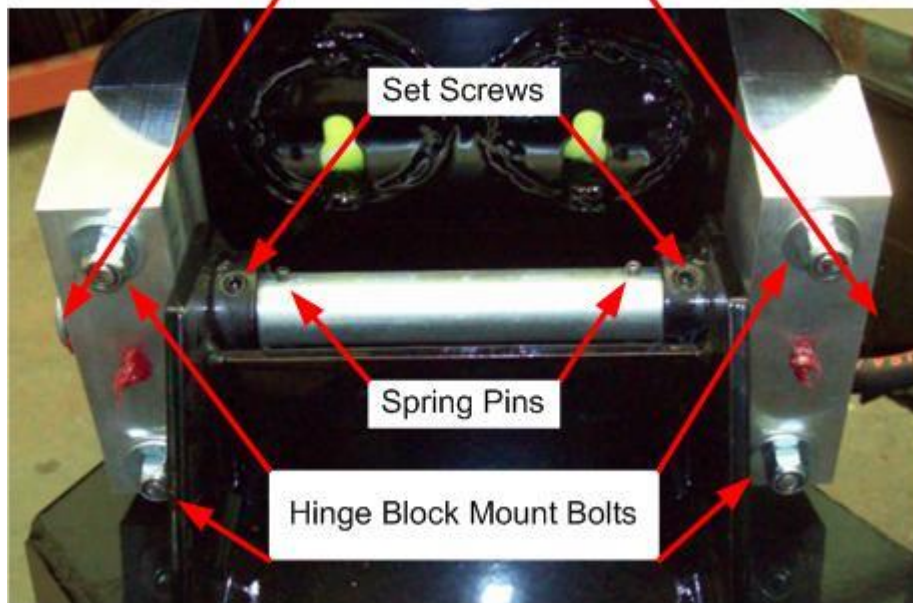
- **Insure the Hydraulic Lift Pump has sufficient oil.** The oil level is typically half way on the oil reservoir. Never let the oil drop below the 1/4 level on the tank when with all hydraulic rams fully extended. When adding oil, use Dexron III Automatic Transmission Fluid.



CAUTION Do Not operate the Jumper with an insufficient oil level in the reservoir tank.

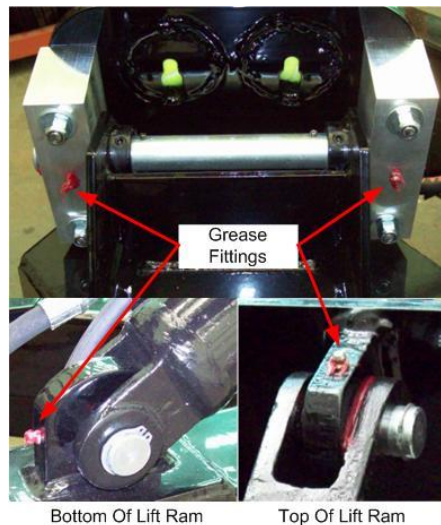
- **Inspect Lift Tube to Jumper Base Mounting Bolts.** Ensure the bolts which hold the hinges to the lift tube assemblies are not missing and are properly tightened. Check for retaining clips on the outside of the main hinge pin (one at each end), set screws and spring pins which prevent the main hinge pin from moving.

Retaining Clips
Each End Of Hinge Pin



CAUTION Do Not tow or operate the Jumper with loose or missing lift tube hinge block mounting hardware, spring pins, set screws or retaining clips.

- **Periodic greasing of Lift Tube Hinge Blocks zerk fittings.** Using a grease gun, pump grease into each zerk fitting on each aluminum hinge block. There are two hinge blocks per lift tube assembly. The fittings should be greased on a monthly basis. Apply grease until you can see new grease extruding from either side of each hinge block.



4. Jumper Setup



CAUTION For your safety, read all instructions before pulling the tow vehicle away from the Jumper. Prior to positioning the Jumper, read and follow the safety instructions found at the beginning of this manual.

4.1. Position The Jumper

- Using the tow vehicle, position the Jumper in the location where it will be operated. Ensure there is an adequate operational area entirely around the Jumper and overhead for raising and lowering the jump poles.

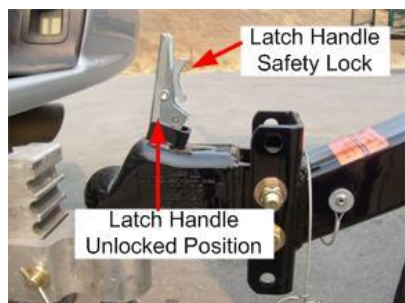


CAUTION **Never** place the Jumper in an area to be operated in close proximity to overhead obstacles, such as trees or building roof eaves, that may interfere with operation of the Jumper. **Never** place the Jumper in close proximity of overhead electrical power lines, of any type, at any time.

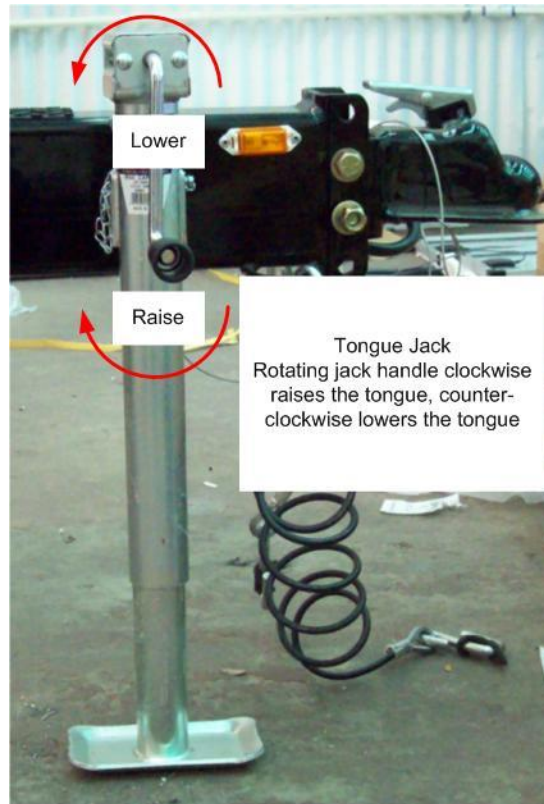
- **Block the wheels of the trailer** with blocks or wheel chocks to keep the Jumper from moving when unhooked from the tow vehicle. Place the blocks on the proper side of one of the tires, on both sides of the Jumper. The blocks should be placed on the downhill side of the tires to prevent the Jumper from rolling downhill while not attached to the tow vehicle.

4.2. Unhitch Tow Vehicle

- **Reset the front jack for removal of the Jumper from the tow vehicle.** Pull the pin holding the tongue jack in the horizontal travel position. Rotate the jack 90 degrees to the vertical position with the foot of the jack near the ground. Replace the pin holding the jack to the tongue.
- **Unhook all towing components.** Disconnect the Electrical Plug, the Emergency Brake Break-a-way Lanyard, the Towing Safety Cables and the Safety Hitch Pin.
- **Lift the Coupler Latch Handle.** Remove the coupler safety hitch pin from the coupler latch handle. Pull up on the Latch Handle Safety Lock and then lift the Coupler Latch Handle 90 degrees to the fully vertical position.



- **Raise the coupler up off of the tow vehicle hitch ball.** This is accomplished by rotating the jack handle on the jack counter clockwise. Rotate the jack handle until the coupler is completely up off of the ball. Ensure there is enough clearance between the ball and the bottom of the coupler to allow the tow vehicle to be driven away without catching the coupler.



- **Park the tow vehicle.** Move the vehicle away from the operational area.

5. Prepare For Operating The Jumper



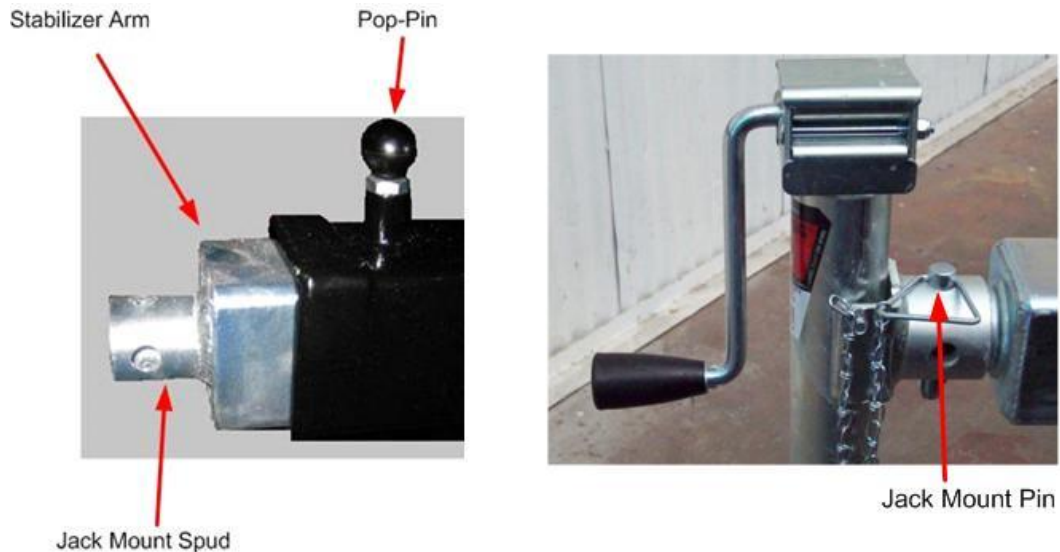
CAUTION For your safety, read all instructions before setting up the Jumper for operation.

- It's a good idea to have a crowd control barrier around the Jumper. You might use stanchions to keep waiting participants out of the jumping area and to provide a place for them to line up while waiting.
- Set up a cashbox and table near the crowd control area at one side of the Jumper.
- The cashbox and table should be adjacent to a "harness area," so one operator can both collect money and harness the participants. If you use tokens or tickets, the operator will still need to collect these. (See the Operating Techniques section below.)

- Establish your method of entrance control. This includes how tickets are used, supervising the entrance point to the line, etc.
- Make sure your operators are clear on your procedures.
- Make sure you are in compliance with any applicable rules and regulations at the site or event.
- You should have a plan established for handling contingencies like medical or other emergencies, even though these are unlikely to occur. Make sure every member of your crew knows this information.

5.1. Stabilizer Arms/Jacks

- Pull up on the spring loaded pop-pin holding the stabilizer arm in the travel position. Pull the stabilizer arm out a couple of inches while holding the pop-pin up and then let go of the pop-pin. Pull the stabilizer arm out of the base until the pop-pin drops down into the hole at the rear of the stabilizer arm. Be careful not to pull the stabilizer arm all the way out of the base frame. If the stabilizer arm is in the proper extended position, it should be locked in place unable to be slid in or out of the base frame. Place one stabilizer jack on each stabilizer arms. Place the jack over the mounting spud at the end of the stabilizer arm. Place the jack in a vertical position and push the jack mounting pin all the way through the holes of the jack and the stabilizer arm mounting spud.



- Crank the jack handle clockwise to extend the jacks. Extend the jacks until they contact the ground. If the jacks do not reach the ground before being fully extended, place blocks between the jack foot and the ground to achieve contact with the ground. The jacks will need to be firmly on the ground with a slight upward pressure on the stabilizer arms. **Do not** attempt to raise the trailer with the stabilizer jacks attached to the stabilizer arms. Damage may occur to the arms if this is done.



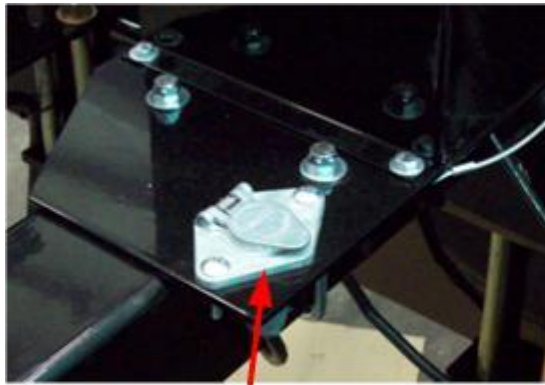
CAUTION For your safety, keep hands and feet clear of the stabilizing jacks while raising and lowering the jacks.



Proper positioning of Stabilizer Arm and Jacks for operation.

5.2. Jump Station Lift Controllers

- Raise and hold the lift controller socket cover open and insert the lift controller plug into the lift controller socket. The controller plug will only insert in one direction. Align the raised alignment edge on the controller plug with the recessed alignment groove on the controller socket. Either controller can be plugged into either socket. Each jump station has its own lift controller and operates independently from the other jump station.



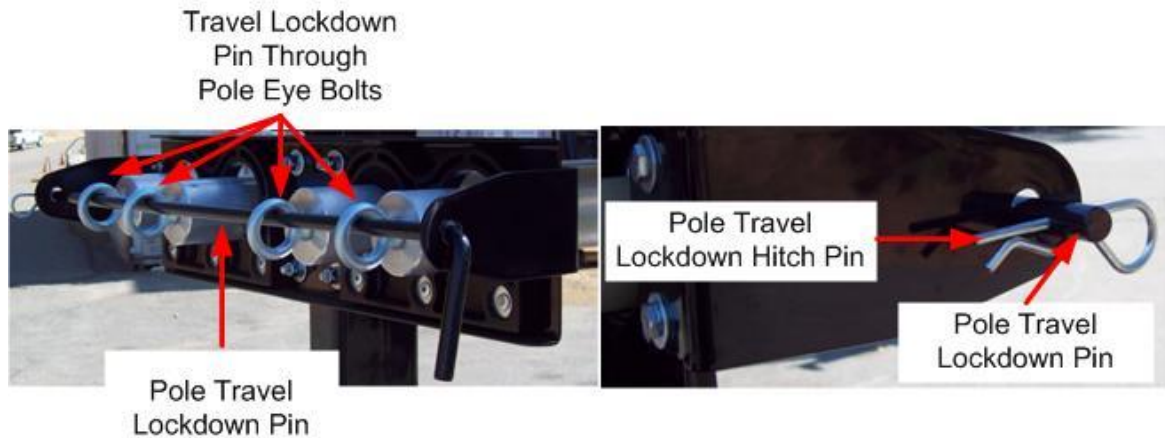
Lift Controller
Socket



Lift Controller Plug
Inserted into Socket

5.3. Jump Poles

- Remove the hitch pin from the end of the pole lockdown pin and pull the lockdown pin out from the poles and holding brackets. As the poles weigh 75 pounds each, Extreme Engineering recommends using two persons to remove and place the poles into the lift tubes. Remove one pole at a time and place the end without the eye bolt into a lift tube. Repeat this operation for all jump poles.



- Rotate the jump poles until the eyebolt is perpendicular to the ground.



5.4. Jump Pole Spreader Bars

- Place the spreader bar on the black line at the halfway point of the jump poles. This location is 12' from the tip of the eye bolt at the end of the jump pole. Clamp the spreader bar down onto the jump pole by tightening the thumbscrew. Tighten both sides of the spreader bar. New poles have a black line at the spreader bar location.



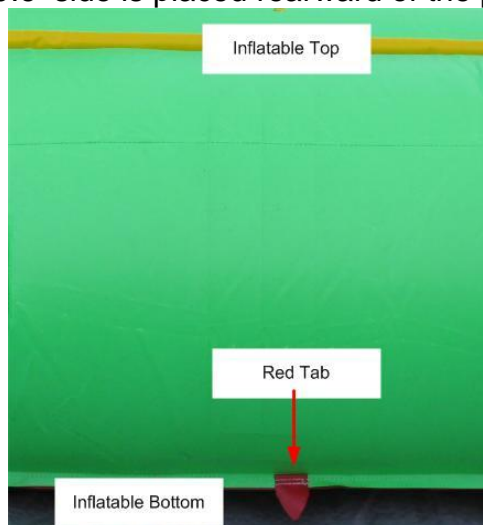
5.5. Jump Slings

- The carabiner with the blue and red swivel attached at one end of each jump sling is attached to the eye bolts located at the ends of the jump poles. The swivels are not to be attached at the jump harness. Make sure the carabiners are securely locked through the eyebolts and swivels.

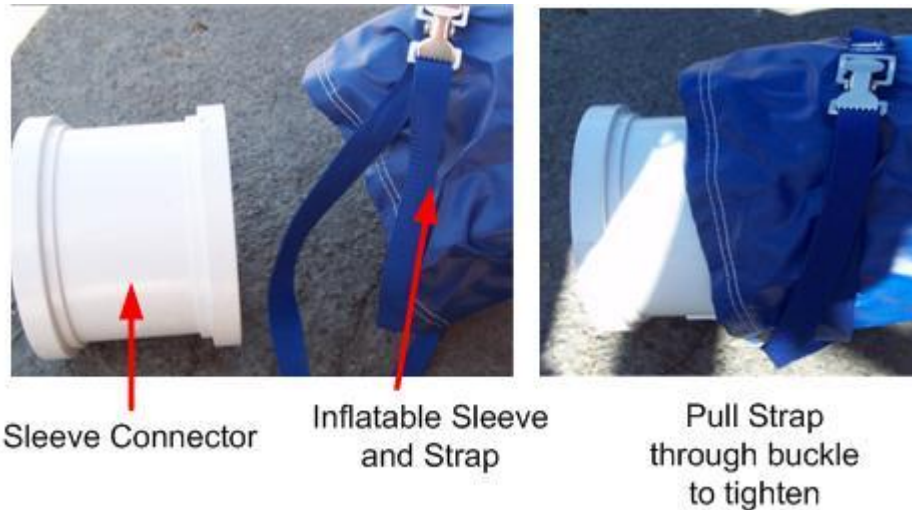


5.6. Inflatable Jump Pads

- Extreme engineering recommends placing a protective tarp under the inflatable pads to protect the pads from damage as a result of possible sharp objects that may exist on the surface where the pads will be used. The protective tarps are not provided by Extreme Engineering.
- Place a jump pad under the end of the poles at each jump station where the jump slings hang from the jump poles. The positioning of each pad is relative to the red tab sewn onto the side of the pad. The red tab is located at the bottom side of the inflatable pad. Orient the pad such that the red tab is at the bottom. The red tab is also located 4.5' from one end of the pad, 9.5' from the opposite end of the pad. Orient the pad to place the 4.5' end of the pad forward of the pole ends where the jump straps hang, the 9.5' side is placed rearward of the poles ends.



- The primary pad has two sleeves, the short sleeve is attached to the inflatable blower. The long sleeve is attached to the sleeve connector (connectors may vary from the example shown in the picture below) which will also connect to the long sleeve of the second pad. The sleeves are held in place onto the inflator and the sleeve connector using a strap and buckle sewn onto the sleeves. Once the inflator and two pads are properly connected, the inflator can now be plugged in and turned on. The inflator will inflate both jump pads. The inflator must be turned on at all times while operating either jump station. If the inflator is turned off, the pads will deflate.



Inflatable Blower
with Sleeve
Attached

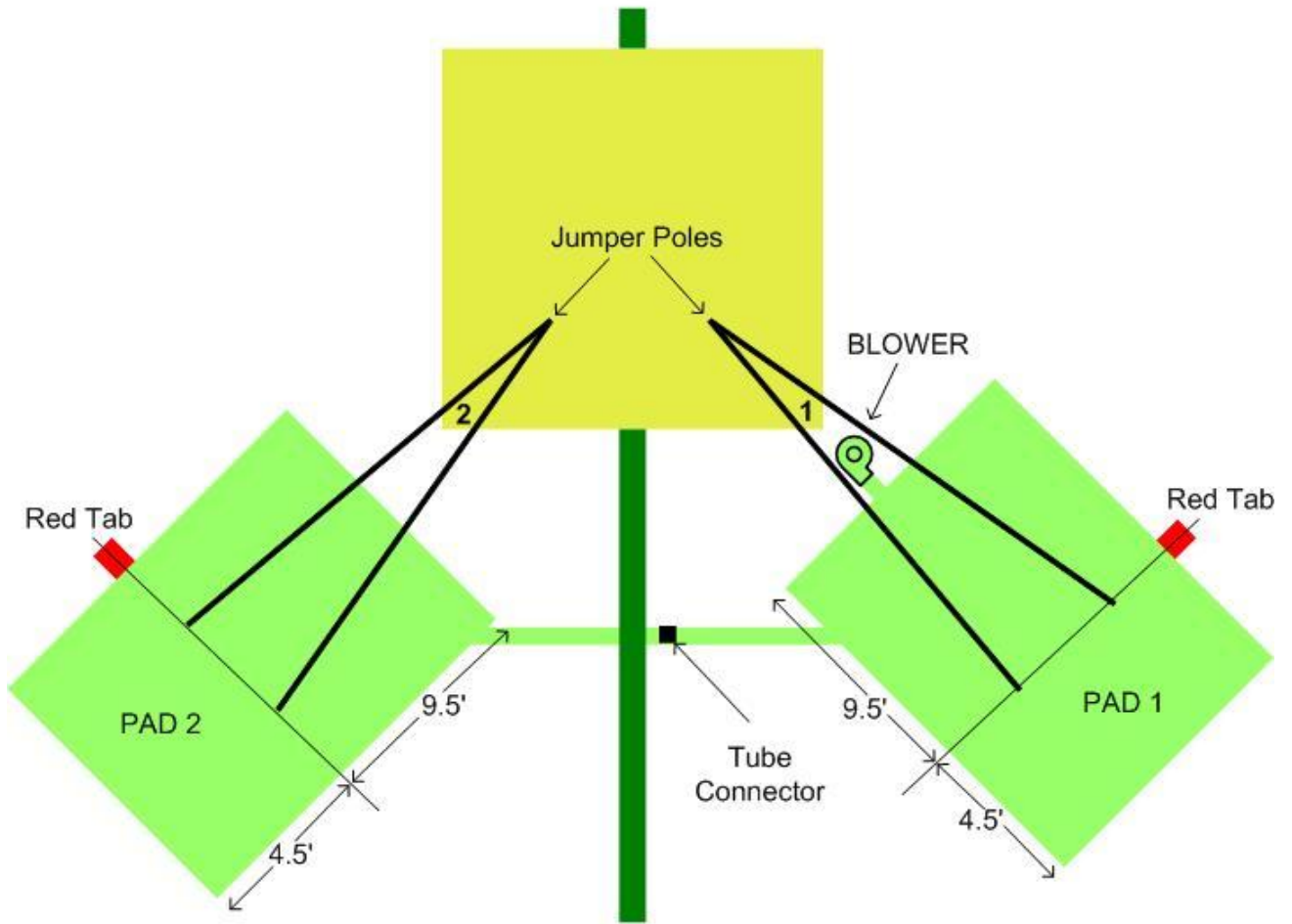


CAUTION Make sure there are no sharp objects on the surface where the jump pads are being placed. These objects can create holes in the jump pads causing them to deflate. Extreme Engineering is not responsible for holes or cuts in the pads due to improper preparation of the surface where the pads will be used.

DO NOT operate the Jumper without inflated jump pads.

Halo Jumper Inflatable Pad Setup Diagram

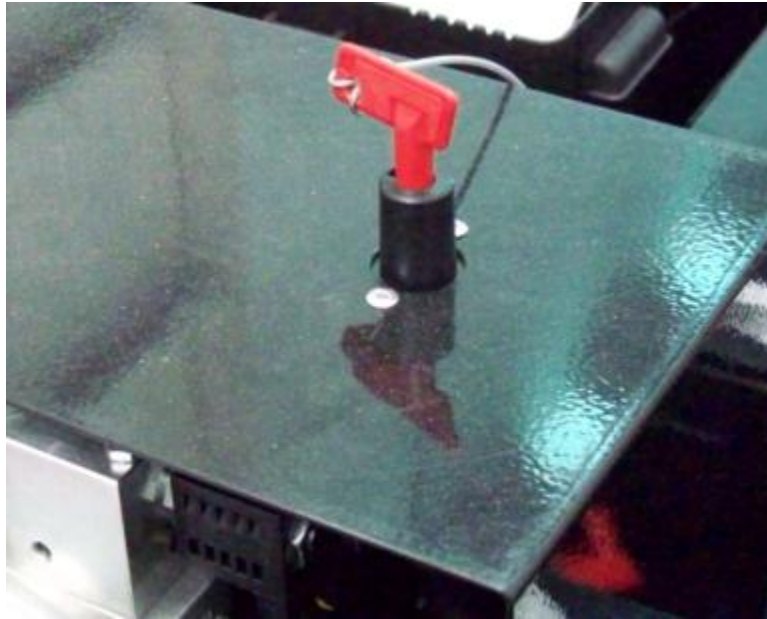
REAR



FRONT

5.7. Turn on Lift Pump

- Turn on the power to the lift pump as the last operation in setting up the Jumper for operation. Insert the red switch key and rotate it to turn on power to the pump.



5.8. Flyer Jump Harness

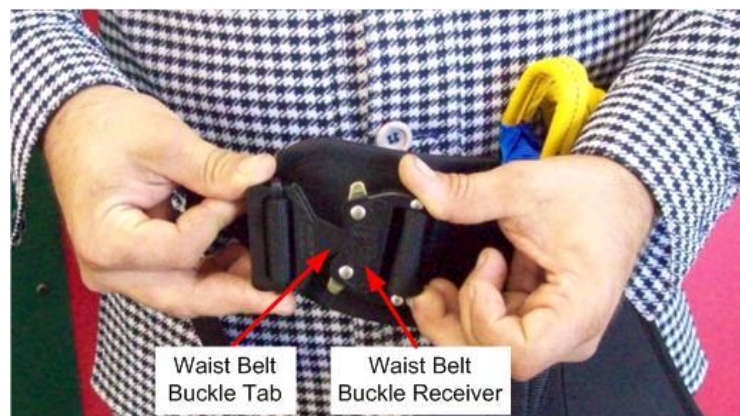


Waist Belt Buckle

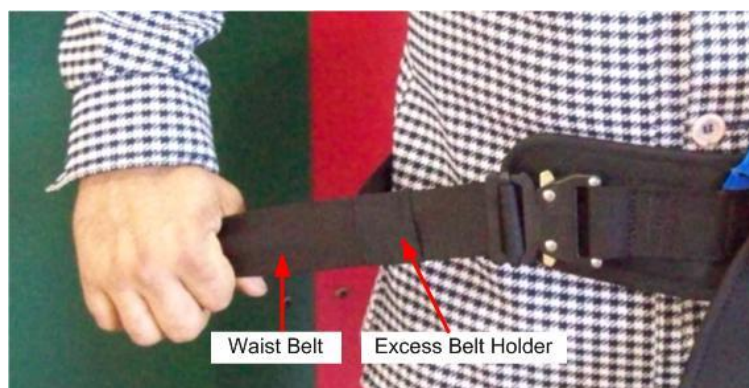
Separate the harness waist belt buckle and place the waist belt around behind the participant.



Insert the waist belt buckle tab into the slot on the waist belt buckle receiver. Fully insert the buckle until it stops. Pull out on the buckle to ensure the buckle is fully engaged and will not release on its own.



Pull on the end of the waist belt to tighten the jump harness until it is tight around the waist and is above the hips. It may be necessary to grab the waist belt in front of the excess belt holder to properly tighten the waist belt. Do this by moving the belt holder toward the loose end of the waist belt, grab the waist belt between the holder and the buckle and pull to tighten the harness. The excess belt end can then be pulled through the waist belt holder to keep the loose end of the belt out of the jump participants way.



Wrap the leg padding snugly around the leg. Line up the velcro strips as the first step in adjusting the leg padding. The leg buckle must also be attached. **Do Not use the velcro only for the leg padding.** See the next step for the leg belt.



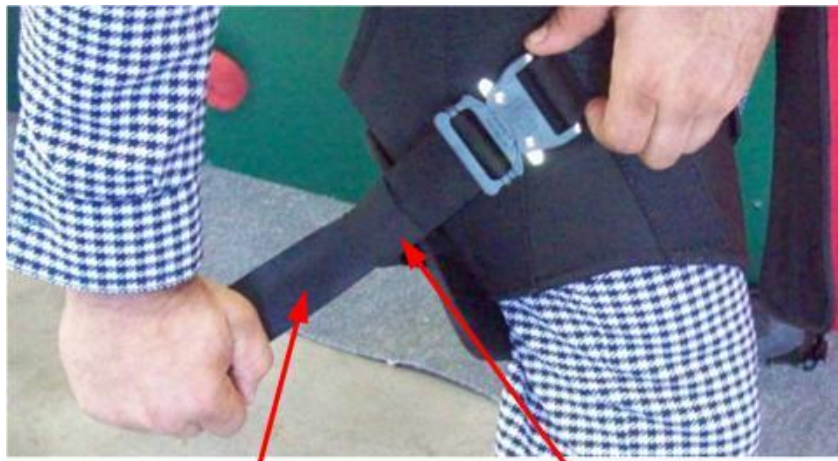
The leg belt buckles operate exactly as the waist belt buckle. **Insert the leg belt buckle tab into the slot on the leg belt buckle receiver.** Fully insert the buckle until it stops. Pull out on the buckle to ensure the buckle is fully engaged and will not release on its own.



Buckle Tab
fully inserted into
Buckle Receiver

Buckle Receiver

Pull on the end of the leg belt to tighten the jump harness until it is tight around the leg padding. It may be necessary to grab the leg belt end in front of the excess belt holder to properly tighten the leg belt. Do this by moving the holder out toward the loose end of the belt, grab the leg belt between the holder and the buckle and pull to tighten the harness. The excess belt end can then be pulled through the excess belt holder to keep the loose end of the belt out of the jump participants way.

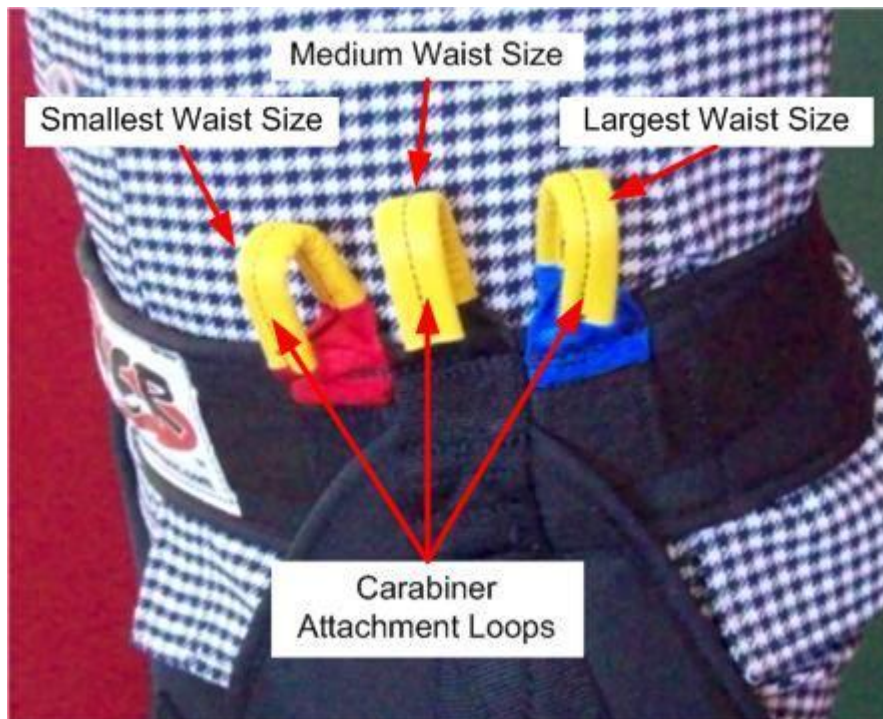


Leg Belt

Excess Belt Holder

The jump harness is now ready to be attached to the jump slings.

Attach the jump slings to the harness by placing the carabiner at the end of the jump sling (the end of the sling without the swivel, the swivel goes at the jump pole end) onto one of the three attachment loops. **Always select the carabiner loop that is nearest the side of the jump participant.** As shown in the following example, the closest loop to the side of the jump participant is the black loop. For the smallest waist size, that fits the jump harness properly, you would use the blue loop. For the largest waist size, that fits the jump harness properly, you would use the red loop.



An additional adjustment can be made to the waist belt padding for the smallest waist size that fits the harness properly. If you are using the blue carabiner attachment loop, there is a flap that can be folded inside the waist belt padding to make the padding smaller in size. Take the waist belt padding flap (right side only), fold it over to the inside at the folding line and tuck the flap under the holding loop.



Waist Belt Padding
Size Adjusting Flap

Folding Line

Flap Holding Loop



6. Operating The Jumper



CAUTION Read all instructions before operating the Jumper.

CAUTION The jumping is a physical activity and all possible care should be taken to ensure the safety of the jump participants, spectators, and operators. Always operate the Jumper according to the procedures described here.

6.1. Preparing The Jumping Participant

- Make sure the participant removes their shoes before stepping onto the jump pad. Shoes can damage the jump pad.
- Double-check all harness straps to ensure they were put on correctly and tightened.
- Double-check all carabiner connections attached to the jump harness, jump slings and jump poles.

6.2. Raising The Jumping Participant

- Before raising the participant, have the participant stand directly under the ends of the jump poles where the slings hang down. The participant will be standing on the jump pad across from the red locating tab on the jump pad.
- Inform the participant to not perform any flip maneuvers until they are fully in the air up off of the jump pad.
- Use the lift controller to raise the participant into the air. Pushing the toggle switch upward with your thumb will raise the jump poles and the participant. Pulling down on the toggle switch with your thumb will lower the poles and the participant.



CAUTION Do not remove the inflatable pads when a jump station is in use.

6.3. Lowering The Jump Participant

- Stop any upward or downward motions via the lift controller prior to lowering the participant. Inform the participant that you will be lowering them to the ground and to stop any kind of extreme maneuvers such as flips.
- Press the down button on the lift controller to lower the participant down to the jump pad.
- Remove the carabiners that attach the jump slings to the jump harness at the harness loops. Ask the participant to step off the jump pad so you can finish removing the harness from the participant.
- Remove the harness from the participant by unclipping the leg and waist belt strap buckles.

7. Operating Techniques

Make sure to keep the jumping area clear of spectators. The use of two employees is recommended for operating the Jumper.

Employee # 1

- Takes money, tickets or tokens (if applicable) from the participant.
- Helps the participant complete a release form (if applicable).
- Places the harness onto the participant.
- Sends the participant to employee # 2.

Employee # 2

- Is the only non-jumper in the jumping area.
- Attaches the jump slings to the jump harness on the participant.
- Supervises and advises the participants during their jump session.
- Raises and lowers the participants with the lift controller.
- Unhooks the participants at the end of their jumping session by removing the carabiners from the jump harness loops.
- Sends the just completed participants back to harness area for removal of the harness.
- Solves problems, issues and/or concerns during the jumping session.

CAUTION When not in use, either remove the jump slings from the jump poles or raise the jump poles high enough to place the jump slings out of reach from anyone.

8. Safety rules for the Operators

- **Do Not** climb on the jump poles.
- **Do Not** stand on top of the jumper base or trailer.
- **Do Not** stand underneath a jumping participant while jumping is in progress.
- **Do Not** remove the inflatable pads or turn off the inflatable blower while jumping is in progress.
- Don't leave the Jumper or jumping participants unattended while jumping is in progress.
- If you must leave the Jumper unattended when not in use, ensure the jump slings, the jump poles and the lift controllers are not accessible. The best solution is to keep one employee with the Jumper at all times.
- **Do Not** let a jump participant put on or take off the harness. An employee must be the only one who performs harness setup or removal on a jumping participant.
- **Do Not** place any part of your body near or at pinch points locations on the Jumper while during operation.



CAUTION **Do Not** wear loose clothing, such as scarves, neckties, baggy shirts, etc., while operating or inspecting the Jumper to prevent the possibility of becoming entangled in the Jumper's moving parts.

9. Safety Rules For Your Jumping Participants

It's a good idea to make participants aware of some simple rules. We suggest you reproduce these rules as a poster or handout for the participants and their parents or guardian to read. The following page can be copied for this purpose. Ready-made signs are also available from Extreme Engineering.

SAFETY RULES

Before You Start

- Always follow the instructions given by the operator.
- After you are placed into the harness, stay in the harnessing area.
- Wait until the operator tells you to proceed to the jumping area.
- **Do Not** step on the inflatable pad until informed to do so.

During Your Jump Session

- Stay above the inflatable pad when jumping. Always aim for the pad when descending downward toward the pad.
- **Do Not** grab and pull on the poles with your hands.
- Use only the jump straps to assist your jumping.
- **Do Not** jump without the jump slings attached to the jump harness.
- **Do Not** begin your jumping until you are raised up in the air.
- **Do Not** walk under jump poles.

ENDING YOUR RIDE

- **Stop** performing extreme movements, such as flips, when notified by the operator to stop jumping.
- When you are lowered down onto the pad, remain relaxed and land with your feet first on the pad.
- **Do Not** attempt to remove the harness or jump straps. An operator will remove these from you at the appropriate time after your jumping session has ended.
- Once the jump slings are removed from the harness and you are informed by the operator it is OK, go to the harnessing area for removal of the harness.
- Allow the operator to remove the harness from you.

10. Special Jumping Participant Situations

The vast majority of jumping takes place without any difficulty or interruption but sometimes a problem can occur. Here's what to do:

10.1. Participant Becomes Frozen During Jumping Session

- Ask the participant to remain calm. Inform the participant that you are going to lower them slowly and safely back down to the inflatable pad.
- Once the participant is back on the inflatable pad, remove the jump straps from the jump harness and send the participant to the harnessing area for removal of the harness.

NOTE Encouraging the participant to keep jumping typically does not solve a frozen jumper situation.

10.2. Participant Reports Discomfort With Harness

- Ask the participant to remain calm. Inform the participant that you are going to lower them slowly and safely back down to the inflatable pad.
- If the discomfort is caused by the harness, adjust the harness, and let the participant resume their jump session again.
- If the participant continues to report discomfort and is unable to resume for whatever reason, remove the jump straps from the jump harness and send the participant to the harnessing area for removal of the harness.

10.3. Participant Is Intentionally Reckless

- Ask the participant to take it easy. Choose one of the following options if they continue to be reckless:
 1. If you do not believe the adjacent jumping participants are endangered:
 - Inform the reckless participant to calm down and lower them down to the pad.
 - Unhook the participant's jump slings and send them to the harness area for harness removal.
 2. If you believe adjacent participants might be endangered:
 - Inform the reckless participant to stop jumping.
 - Inform the adjacent participants to stop jumping.
 - Lower the adjacent participants down to the pad and have them wait to resume their jumping session.

- Inform the reckless participant that they will be lowered to the pad. Lower the reckless participant down to the pad.
- Unhook the reckless participant's jump slings from the harness and send them to the harness area for harness removal.
- The adjacent participants may now be allowed to resume their jumping session.

10.4. Participant Is Too Light To Achieve Jumping Motion

- Ask the participant to stay calm and inform them you will be lowering them down to the pad.
- Lower the participant down to the pad.
- Remove the jump straps from the jump harness and send the participant to the harness removal area.

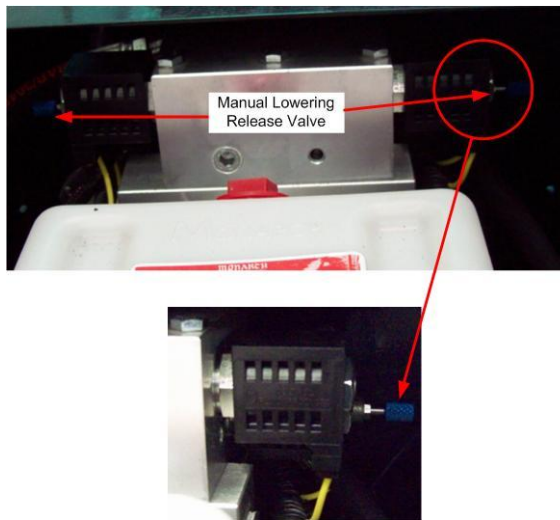
11. Additional Jumper Situations

11.1. Forgot To Attach Jump Slings to Jump Poles

- Ask the jump participant (if applicable) to stand next to the jump pad.
- Lower the poles if necessary.
- Attach the jump slings to the jump poles with the carabiner and swivel end of the sling.

11.2. Hydraulic Lift Stops Operating With Participant Suspended In Air

- Use the manual release valve located on the pump to manually lower the participant. Each jump station has its own valve. The valve on the left side of the pump operates the left jump station, the valve on the right side of the pump operates the right jump station. Pull out on the blue colored knurled knob, turn the knob ½ turn in either direction and let go. The knob should remain in the out position. While the knob is in the out position, this will manually release the hydraulic valve and lower the participant safely down to the pad. **Note:** If the manual release valve is left in the manual release position, the poles will not raise when pushing the controller toggle switch to the up position. For the poles to raise with the hydraulics, the manual release must be in the closed position.



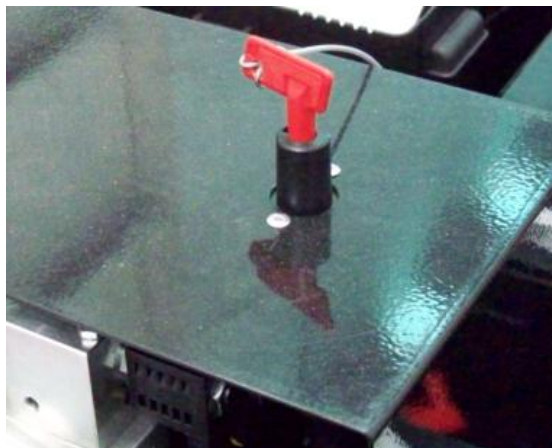
- Remove the jump strap carabiners from the jump harness and send the participant to the harness removal area.



CAUTION Do Not operate a jump station that does not raise or lower with the lift controller. The issue must be corrected prior to using the jump station again. Typical reasons for the hydraulics to stop raising and/or lowering is low battery power, wiring issues or the manual release valved is in the override position.

11.3. Electrical Malfunction

- Use the emergency on/off power switches to disable battery power to the pump.



- Follow the previous instructions in section 10.6 for participants suspended in the air.
- Stop all operations of the Jumper until the problem is corrected and the Jumper operates properly.

12. End Of Event Takedown



CAUTION For your safety, read all instructions before takedown of the Jumper.

CAUTION Keep the area clear of people, cars, etc., during all steps of the takedown.

- **Jump Harnesses.** Collect all jump harnesses from participants.
- **Lower poles.** Press the toggle switch down on the controllers to completely lower the poles.
- **Turn off lift pump.** Turn the pump electrical switch to the off position.
- **Remove lift controllers.** Remove the lift controllers by holding the socket cover away from the controller plug and pull on the plug. **Do Not pull on the wiring** attached to the plug as this can cause the wires to become disconnected inside the controller plug. Store the lift controllers appropriately.
- **Turn off inflatable blower.** Turn off power switch on the blower. Unplug the blower from the extension cord. Stow the blower and extension cord as appropriate.
- **Remove blower.** Remove the blower from the primary pad by loosening the velcro on the sleeve and carefully pulling the sleeve off of the pump connection.
- **Separate the pads.** Separate the primary and secondary pad sleeves from sleeve connector. This is accomplished by loosening the velcro on the each pad's sleeve and carefully pulling the sleeves off of the connector.
- **Clean any debris from the pads.** While folding or rolling up the inflatable pads, sweep away any dirt or debris that has become attached to the pads.
- **Clean the protective pad tarps (if used).** While folding or rolling up the protective tarps, sweep away any dirt or debris that has become attached to the tarps.
- **Stow away the blower, pads and tarps** as appropriate.
- **Remove Jump Straps.** Remove the jump straps from the jump poles by removing the carabiner that attaches them to the eye bolts on the jump pole ends.
- **Stow away the jump harnesses and straps.**
- **Remove the jump poles.** It is best to remove the poles from the lift tubes by two persons. It is very difficult to get the poles oriented properly to take the pressure off, remove the poles and prevent damage to the poles by a single person. To remove the poles, raise the end of the pole where the eye bolt is attached by

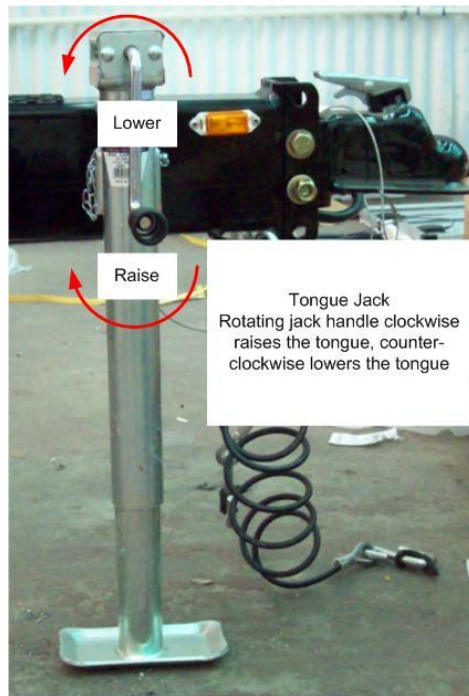
hand until pressure between the pole and the lift tube is released enough that the pole slides out of the lift tube. Carry the pole around to the front of the Jumper and carefully slide the poles through the holes in the pole carriers until the eye bolt is in position that allows the pole lockdown pin to be easily inserted when all poles are loaded into the carriers. Repeat this operation for all poles. Once all poles are in the pole carriers, slide the travel pole lockdown pin through the holding bracket, through all eye bolts at the ends of the poles and through the opposite side holding bracket. Place the hitch pin through the hole at the end of the lockdown pin to prevent the lockdown pin from removal during transport.

- **Collect additional items.** Collect all crowd control barriers and additional items used during the event and stow them appropriately.
- **Remove the stabilizer jacks.** Rotate the jack handles counter clockwise until the jacks are compressed enough to allow them to be removed from the stabilizer arms. Stow them away as appropriate.
- **Push in the stabilizer arms.** Pull the pop-pin up and slide the arm in a few inches. Release the pop-pin and then slide the stabilizer arm all the way in until the pop-pin drops down into the hole of the stabilizer arm. Ensure the pop-pin is all the way down to ensure the stabilizer arms cannot be push in or pulled out.
- **Back the tow vehicle into position.** Back the vehicle so that its towing ball is positioned under the trailer coupler. If you have a second operator, have him or her stand by the trailer to guide you into position. Position the tow vehicle's hitch as close as possible to the tongue of the trailer with the trailer coupler as close to directly above the towing ball as possible. Position the vehicle to minimize having to manually move the trailer into place.



CAUTION Avoid having to manually position the trailer! If you must, do so only for the last few inches. **Do Not** attempt to pull the trailer by hand, as this could result in serious injury.

- **Lower the coupler down onto the tow ball** once the tow hitch ball is properly centered under the coupler. Using the tongue jack, rotate the jack handle counter clockwise until the coupler is fully engaged over the tow ball. Continue to turn the jack handle until the jack can be rotated into the travel position.



CAUTION Do Not tow the Jumper with the tongue jack not in its travel position. This jack can be removed for travel as well.

Do Not tow the Jumper with the stabilizer jacks attached to the stabilizer arms.

- **Lower the Coupler Latch Handle** to the fully down position. **Ensure the Latch Handle Safety Lock inserts into its locking slot** on the coupler body underneath the latch handle. If the latch is in its proper position, you should not be able to lift the latch handle without first releasing the latch handle safety lock lever.



CAUTION Do Not tow the Jumper without the latch handle in the locked position.

- **Locate the Safety Hitch Pin** through the hole on the side of the coupler where the coupler latch handle mounts to the coupler body. **Slide the Safety Hitch Pin Clip over the pin** of the safety hitch pin to prevent the coupler latch handle from being accidentally released.



Coupler Hitch Pin attached to towing tongue with lanyard.



Coupler Hitch Pin location for towing.



Slide the Coupler Hitch Pin Clip over the end of the pin to lock in place.

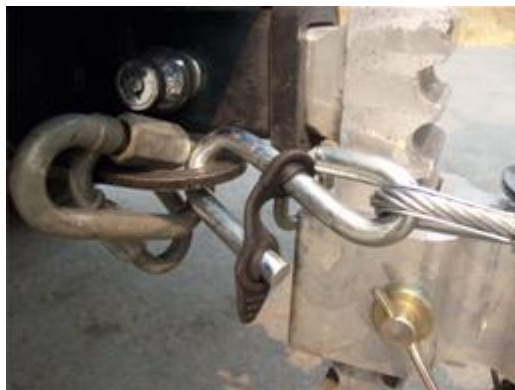


Proper installation of Coupler Hitch Pin and Hitch Pin Clip set for towing.



CAUTION Do Not tow the Jumper without the Coupler Hitch Pin properly set in place on the coupler latch handle.

- Attach the two Towing Safety Cables to the tow vehicle's hitch.



Left Side Safety Cable



Right Side Safety Cable



CAUTION Do Not tow the Jumper without the safety towing cables properly attached to the towing vehicle.

- Attach the RV 7-Way Electrical Plug from the Jumper to the tow vehicle. Ensure the plug is fully inserted into the tow vehicle's trailer electrical socket. Ensure the socket cover safety catch is firmly in place down over the rear of the plug to prevent the plug from accidentally falling out during travel.



Electrical Towing Plug properly inserted into tow vehicle socket with socket cover safety catch down over trailer plug



CAUTION Do Not tow the Jumper without the electrical plug attached to the towing vehicle.

- **Attach the Emergency Brake Break-a-way Lanyard** to the tow vehicle. The lanyard must be attached to the tow vehicle, not the towing safety cable. Ensure the emergency brake break-a-way switch pull tab is fully inserted into the break-a-way switch.



Emergency Brake Break-A-Way Lanyard Attachment



Emergency Brake Break-A-Way Pull Tab



CAUTION Do Not tow the Jumper without the emergency brake lanyard attached.

- **Verify operation of tow vehicle and Jumper lights.** The Jumper tail lights and yellow side marker clearance lights should be on when the tow vehicle's parking lights or headlights are on. The Jumper brake lights operate when the tow vehicle's brake pedal is depressed. Both of the Jumper brake lights will flash when the tow vehicle's 4-way emergency switch is turned on. The Jumper left and right turn signals should operate with the respective left and right turn signals of the tow vehicle.



CAUTION Do Not tow the Jumper without operational tail lights, brake lights and turn signal lights.

- **Remove the chalk blocks from the trailer tires and stow them.** Remove the chalk blocks and stow them in the toolbox or the tow vehicle.
- **Perform a secondary visual inspection.** Ensure all towing components are properly attached and/or connected prior to towing the Jumper. Walk completely around the tow vehicle and Jumper for a final inspection. Make sure that everything is secure and stowed properly before leaving the site.

13. Troubleshooting

If you have a problem with your Jumper, check the following table for solutions.

Problem and Solution
<p>Jacks don't extend or retract</p> <ul style="list-style-type: none"> • Dirty jack inner ram tube. Remove obvious dirt, and then spray a little silicon lubricant to loosen the jack and extend it. When fully extended, clean the inner ram tube carefully and apply a light coating of silicon.
<p>Poles won't raise or lower</p> <ul style="list-style-type: none"> • Controller malfunction. Make sure controller cable is not damaged. Wires may have been pulled loose in either the controller plug or the controller socket. • Loose connector on hydraulic pump. Check and tighten connector. • Battery is low. Check the battery and recharge if necessary. • Emergency Shut-off switch could be in the off position. Turn the switch to the on position.
<p>Jumper seems unstable</p> <ul style="list-style-type: none"> • Operating surface is not level. Make sure the setup surface is level. • Poor Jumper operating location. Move the Jumper to a more solid and level location. • Windy. If wind conditions exceed 30 mph, lower the poles and Do Not use the Jumper until the wind subsides. • Stabilizer jacks are not properly or fully extended. Extend, secure, and level as necessary.

- Spreader bars are not properly attached. Lower the poles and re-attach them in the proper location.
- Jump slings are not properly attached. Lower the poles and inspect the slings. Make sure you are using the same length of slings on both poles at a jumping station.

Brake lights/tail lights/turn signals don't work

- Connector loose or not connected. Make sure the trailer light/brake connector cable is firmly connected to the tow vehicle.
- Blown fuse in the tow vehicle. Inspect the fuse and replace it if necessary.
- Broken wire. Make sure the connector cable is not damaged.
- Broken or burnt-out light bulbs. Replace the broken or burned out bulbs.

14. Maintenance

Your Jumper will give you years of trouble-free service if you take care of it. For safety, trouble-free operations, and good appearance, follow the maintenance schedules provided here.

➤ **Log Book**

A maintenance log book is essential for tracking the use of your Jumper. If you record the usage date, number of daily cycles, and number of cumulative cycles, this record will allow you to anticipate when some maintenance. We have included a maintenance log sheet below that can be used to track your usage.

➤ **Maintenance procedures and inspection logs**

Read the inspection procedures on the following pages. Be sure to use copies of the inspection checklists provided in this manual to keep a record of your inspections.

➤ **Detailed description of inspection items**

Inspect the Jumper thoroughly before you take it out to an event. Your safety on the road, during setup and your customers' safety depend on it.

➤ **Hydraulic Hose**

Make sure the hoses are not leaking. If you find a leak, call Customer Service for assistance.

➤ **Pole lift system**

Raise and lower the jump poles. Make sure the poles lift smoothly and completely. If the poles don't raise or lower completely, or there are any hesitations in its motion, contact Customer Service. Check that all connectors on the hydraulic lift pump are properly tightened (power, and ground). Tighten if necessary.

➤ **Loose or broken parts**

Inspect the entire Jumper for loose or broken parts. Replace broken parts (call Extreme Engineering Customer Service to order) and tighten loose parts.

➤ **Jacks**

The Halo Jumper has a total of three jacks, two stabilizer jacks and one tongue jack.

Extend each jack out completely to clean the inner jack tube. Coat the tube with a light coat of silicon spray lubricant after cleaning.

➤ **Trailer Hitch, Tow Ball and Safety Cables**

Make sure the trailer hitch is of the proper weight capacity and the towing ball is a 2-5/16" diameter. Inspect the safety cable and its mounting hardware for wear. If at all questionable, replace it.



CAUTION: If you are in any doubt about the hitch or the safety cable, consult Extreme Engineering or an automotive or RV service center. This is critical for safe transport. A trailer becoming unhitched during transport can be a catastrophic.

➤ **Trailer towing coupler**

Make sure the bolts holding the coupler to the trailer are tight and torqued to the proper specification for the Grade 8 bolts.

➤ **Trailer wheels**

Make sure the lug nuts are tight and torqued to 90-100 foot pounds. Lug nuts should be checked every 500 miles.

➤ **Trailer lights**

Connect the trailer light and brake connector to the tow vehicle. Be sure the taillights, brake lights, running lights and turn signals are performing correctly.

Replace any broken or burnt-out bulbs. Keep spare bulbs on hand. When troubleshooting non working lights, remember to check the tow vehicle's fuses also and replace as necessary.

Check for broken light lenses and replace if necessary.

➤ **Loose or broken parts**

Inspect the entire Jumper for loose or broken parts. Replace broken parts (call Customer Service to order) and tighten loose parts.

➤ **Hitch pins**

Hitch pins are an additional safety measure for their intended use. Keep spares on hand. Only replace with equal quality.



CAUTION: For both use and transport, never modify, alter, or adapt your equipment with anything other than the correct keeper pins or safety snap pins! Doing so could create a serious hazard!

➤ **Harnesses**

Protect your harnesses from constant direct sunlight, heat and nylon-damaging substances such as acids, alkalis, oxidizing agents, and bleach. Hand-wash a dirty harness in cool water with a mild soap. Allow it to dry in a shaded area.

➤ **Carabiners**

Make sure the carabiners lock properly. All surfaces of the carabineers should be free of cracks, sharp edges, corrosion, burrs, or excessive wear. Be sure the gate and any locking mechanism closes freely and completely. Gate opening and closing should be quick and easy. If washing and drying does not remedy a gummed-up carabiner, replace it. Replace carabiners if they are worn or damaged.



CAUTION: If a carabiner does not pass inspection (even after cleaning), destroy and replace it with a new one. This is absolutely critical for safe operation. Always keep a spare carabiner on hand.

15. Cleaning And Other Special Care

➤ **Jumper**

Clean the Jumper as you would a boat, camper or recreational vehicle. Hose it off. Use a solution of warm water and dish soap to remove dirt from the Jumper.

➤ **Carabiners**

Keep carabiners dry and clean. Protect them from corrosion. **Do Not** store them in very humid or salty air, with damp equipment or clothing, or near corrosive chemicals. **Do Not** file carabineers for any reason. If notches appear, replace the carabineer. If a carabiner gate sticks, wash it in warm soapy water, rinse thoroughly and lubricate with either dry graphite or Teflon lubricant around the hinge area, inside the spring hole and locking mechanism.

➤ **Harnesses**

Hand-wash a dirty harness in cool water with a mild soap. Allow it to dry in a shaded area.

15.1. Protection From The Elements

Store the Jumper as you would a boat, camper or recreational vehicle.

- Storing the Jumper in a covered shelter or garage will keep it cleaner and preserve its appearance longer. Remember the solar panel charging system will not operate properly when inside a covered shelter or garage.
- Storing the Jumper outdoors is no problem. However, you may want to place a tarp over it to preserve the finish from excessive exposure to the sun. To prevent damage, the tarp needs to allow air circulation. Trapping moisture under a polypropylene tarp can lead to rust or corrosion damage of components.
- **Do Not** store harnesses for extended periods in direct sunlight

16. Quick Checklists And Log

On the next pages you will find condensed maintenance checklists, plus a maintenance log sheet, which you can photocopy and use.

16.1. Per-Use Maintenance Checklist

- **Jump slings** – Check webbing for fraying or broken strands. Check for kinks, wear or damage to the webbing.
- **Jump poles** – Check for cracks, chipping and/or fractures.
- **Hydraulic hoses** – Check for leaks at lift ram and pump connections and the hose.
- **Trailer lights**
Tail, brake, running, turn signal lights should be working.
- **Trailer tires**
Pressure at 50 psi or to manufacturer's specifications. Tread must be adequate, with no objects in treads. Also check the spare tire.
- **Hitch pins**
Be sure spares are on hand.

➤ **Harnesses**

Must be in good condition, not worn. When dirty, hand wash in cool water, and dry in a shaded area (not in direct sunlight).

➤ **Carabiners**

Check for bent, loose, or missing rivets. The gate/lock must close freely. If gummed up, clean with soapy water and dry. Periodic lubricating with only a few drops of light oil or graphite powder at the hinge points will free sticky mechanisms. If the hinge points or movement points do not operate freely even after light lubrication, replace the carabiners.

16.2. Periodic Maintenance Checklist

Thoroughly inspect the Jumper after every one (preferred) or two weeks of operation.

- ❑ **Do the per-use maintenance checklist first.**
- ❑ **Loose or broken parts.** Replace broken parts; tighten loose parts.
- ❑ **Trailer hitch.** Be sure the hitch, hitch lock, and light/brake cable all are operating correctly. Be sure the safety cable is OK.
- ❑ **Trailer coupler.** Make sure the bolts are tight.
- ❑ **Trailer wheels.** Make sure lug nuts are tight.
- ❑ **Trailer electric brakes.** Check for correct operation of the brakes and breakaway switch.
- ❑ **Jacks.** Extend all jacks and clean inner ram tubes. Coat with silicon spray lubricant.
- ❑ **Jump lift system.** Be sure the jump poles lift smoothly. Check that connectors on the hydraulic lift pump are tight (control cable, power, and ground). Tighten if needed.
- ❑ **Battery.** Check terminals for corrosion; clean if needed.
- ❑ **Clean the Jumper.** Wash with soap and water.
- ❑ **Pole lift system.** Be sure the poles raise and lower smoothly. Grease the zerk fittings on the aluminum hinge blocks. Check that connectors on the hydraulic lift pump are tight (control cable, power, and ground). Tighten if needed.
- ❑ **Jump Slings.** Check webbing for fraying or broken strands. Check for kinks, wear or damage to the webbing. **REPLACE IF ANY SIGNS OF WEAR.**

- **Jump poles.** Check for cracking, chipping and/or fractures.

ALWAYS REPLACE YOUR JUMP POLES EVERY 12 MONTHS, OR WHEN DAMAGE (CRACKING, CHIPPING, FRACTURING) IS FOUND. YOU, YOUR STAFF, AND YOUR CUSTOMERS DEPEND ON IT.



CAUTION: Always replace any suspect jump pole.. This is absolutely critical for safe operation. If you suspect a pole is damaged and are not sure, call Extreme Engineering Customer Service for assistance before operating the Jumper.

Only order new Extreme Engineering manufactured jump poles. We use the highest grade materials available.

- **Clean the Jumper.** Wash with soap and water, or spray at a car wash, like a boat or camper. Be careful not to use a high-pressure hose on any wiring or electronics.

17. Safe Towing Tips

We encourage you to be a safe, courteous driver when towing your Jumper. Keep the following in mind when towing your Jumper.

- Be sure that the lug nuts are tightened.
- Be sure to use the safety cable at all times.
- Be sure the tail lights, brake lights, and turn signals are functioning correctly.
- Be sure the trailer's brakes are working correctly.
- Be sure your trailer is properly registered with your state motor vehicle department.
- Always observe the posted speed limits for trailers when towing your Jumper. Be especially cautious (and reduce your speed) when encountering windy, snowy, or rainy conditions.
- Install extended side rear view mirrors on your towing vehicle. Your Jumper is over 24 feet in length and you'll need the mirrors to see traffic directly behind you.
- Signal before changing lanes. When you change lanes, be aware of traffic behind you and at your sides. Allow plenty of clearance before changing lanes.
- **Do Not** attempt to make tight left or right turns.
- Practice backing up where there is plenty of room before you try it in a real-life situation. (As with any trailer, turn the steering wheel the opposite direction of the direction you want the trailer to move).

18. Specifications

18.1. Jumper Specifications

Overall Length	
Height Raised	
Height Lowered	
Overall Width	
Trailer Base Width	
Jump Pole Length	24' (7.32 M)
Unladen Weight	
Maximum Gross Vehicle Weight	7000 Lbs (3175.15 Kgs)
Unladen Tongue Weight	
Trailer Type	Tandem Axle with Fenders
Axles	3,500 Lbs (1587.6 Kgs) maximum load PER Axle 4" Drop Heavy duty tapered roller bearings 4 leaf springs One rear brake axle One front idler axle
Brakes	Dual electric brakes on rear axle
Hitch Requirements	Class 3 – 5000 Lbs (2268.0 Kgs) Class 4 – 7000 Lbs (3175.15 Kgs) Maximum Gross Vehicle Weights
Coupler Specifications	12,000 Lbs (5443.1 Kgs) rated Type – Formed bolt-on Ball Diameter – 2-5/16" (58.75 Mm) Grade 8 Bolt Torque – 150 Ft-lbs (20.74 Kg-m)
Wheel Specifications	15" (381 Mm) diameter 4-1/2" (114.3 Mm) bolt pattern
Tire Specifications	ST205 / 75 D15 Carlisle, trailer rated (may change without notice) Load Range C Maximum Load 1820 Lbs (825 Kgs) at 50 PSI (345 kPa) Cold
Tire pressure	50 psi (345 kPa) Cold
Wiring	Standard RV 7-Way towing plug 12 Volt DC

18.2. Steel Framing And Weld Specifications

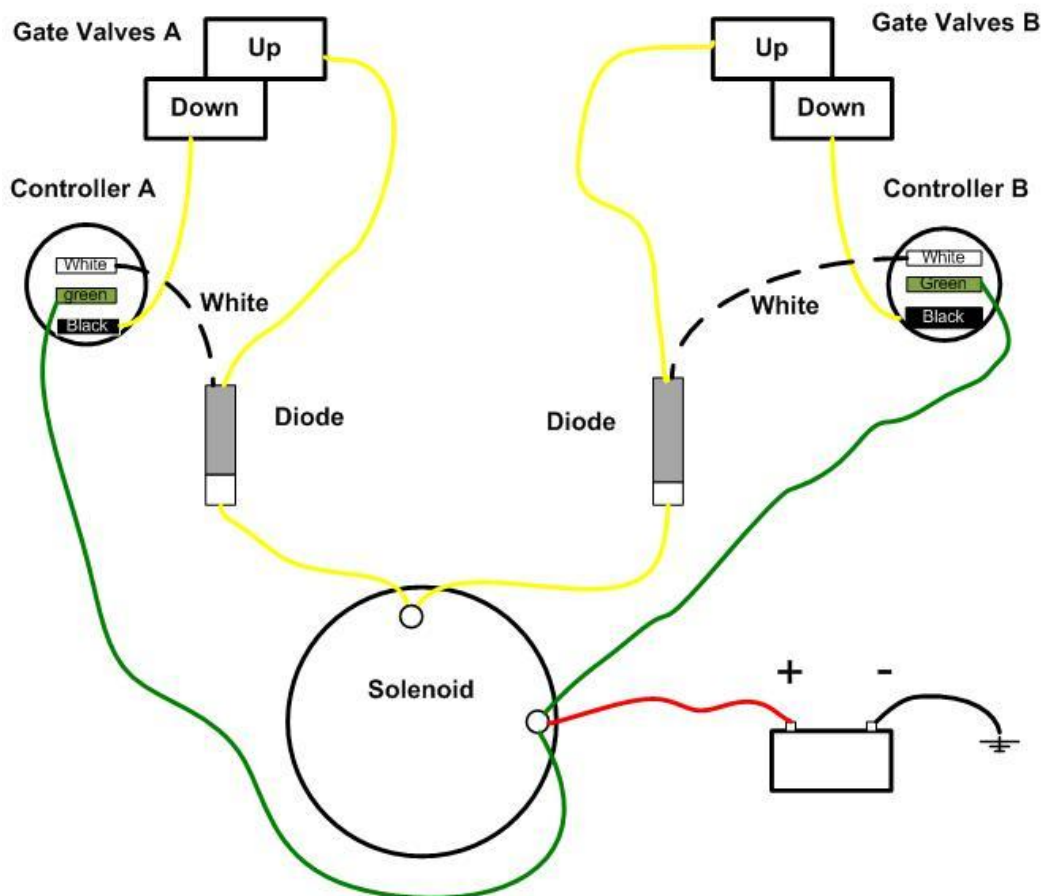
Steel Framing	Tubing is ASTM A500 Flat plate is ASTM A572
Welds	Welding is American Welding Society and A15C

18.3. Lift Pump Specifications

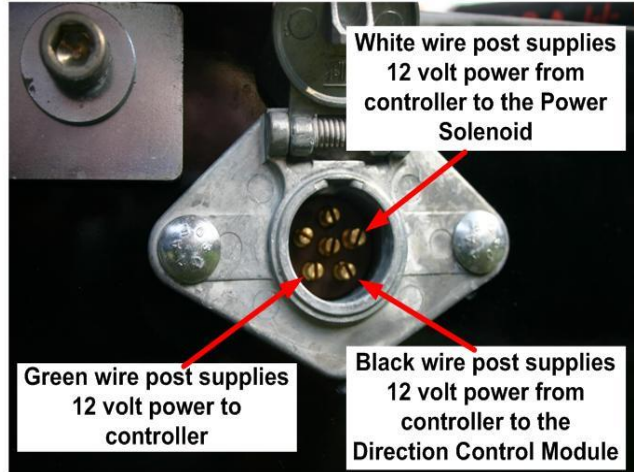
Lift Pump	12 Volt Dual Action Hydraulic Dexron III / Mercon Automatic Transmission oil Powered up only, gravity down
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19. Wiring Diagrams

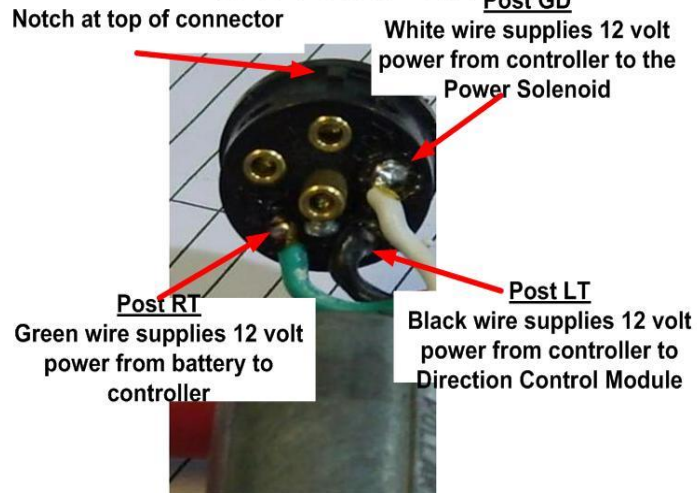
Halo Pump
Wiring Diagram

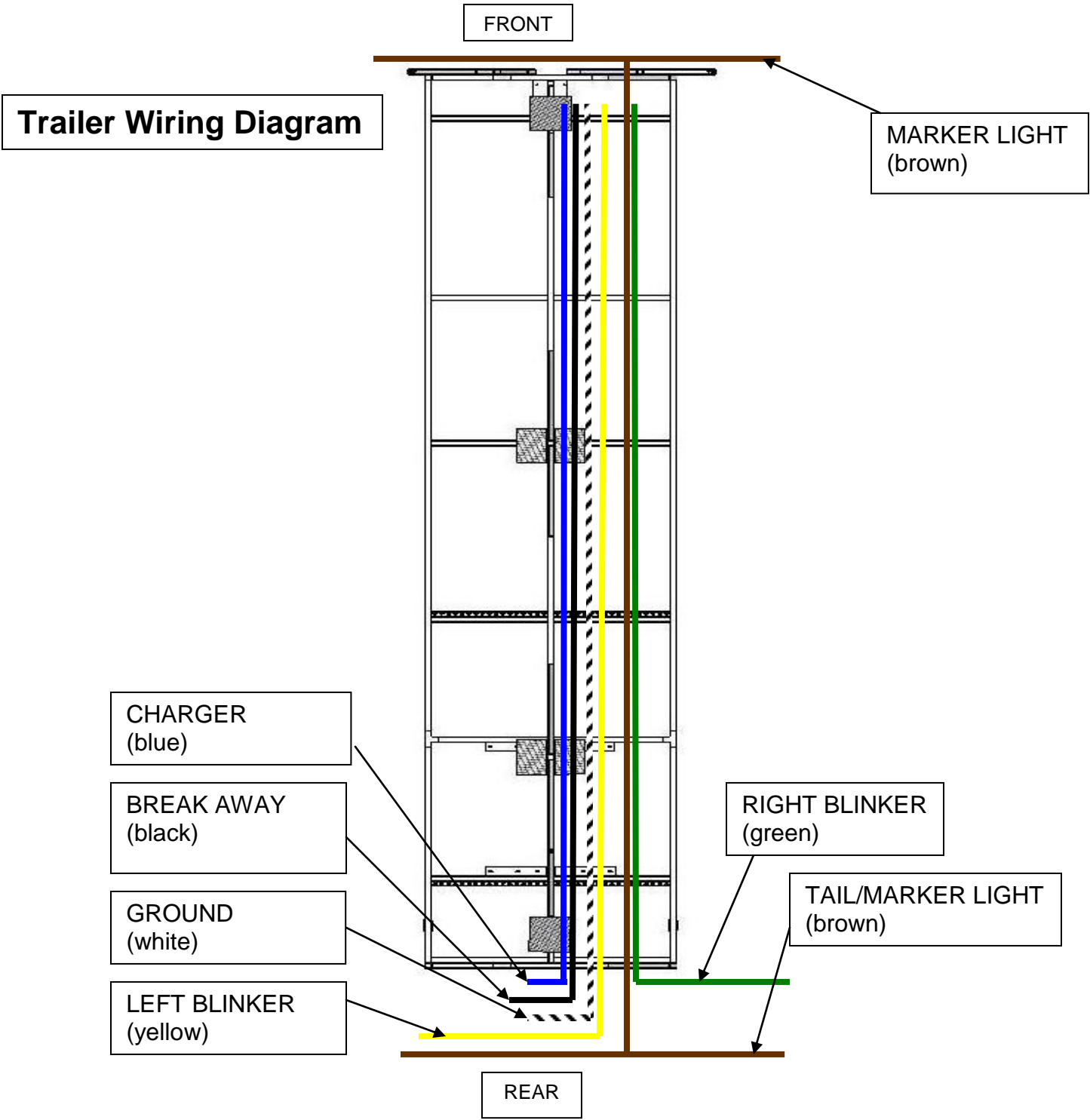


Trailer side Connector



Controller Side Connector





20. Battery Maintenance



WARNING: Testing electrical components can cause them to fail or burn out if the testing is not performed carefully and properly. Extreme Engineering is not responsible for any damages to electronic devices as a result of improper handling and/or testing of components.

WARNING: Performing battery maintenance requires extreme care. Always wear protective equipment (e.g. safety glasses/goggles) and clothing (e.g. gloves) when working around lead acid batteries. The battery acid is highly caustic and can cause severe injury as well as damage to clothing, paint and other materials if not properly handled. If you are unsure of proper handling and maintenance techniques for these types of batteries, have a trained professional perform the required actions.

WARNING: When replacing, repairing, or performing maintenance on batteries or electrical systems operated by the battery, always disconnect the negative (-) battery cable first prior to performing any other actions. This will prevent possible damage to electrical parts or self injury due to the potential of sparks that can be generated by the electrical power. Always re-attach the negative battery cable as the final action.

WARNING: Always perform maintenance on batteries in a well ventilated area and well away from all flammable liquids and vapors (e.g. paint, gasoline, aerosol spray cans, etc). Unexpected sparks from the battery or electrical components can cause flammable liquids and/or vapors to ignite causing severe fire hazards.

WARNING: Pressure buildup during charging can cause the battery to explode if the battery cell caps are not removed while charging.

Battery maintenance consists of the following actions:

- Check the liquid level in the battery for proper fill. If water must be added, **Do Not Use tap water.** Instead, use distilled water. The water level must cover the lead plates inside each compartment of the battery completely. These plates may be visible when the fill caps are removed. Most batteries provide a full level indicator inside at the bottom of the fill hole. **Do Not** overfill the battery cells. Each cell is a separate compartment inside the battery. Therefore, each cell must have their caps removed for checking and filling.
- Check all the battery cables and wires where they attach to the posts on the battery for corrosion and/or acid buildup. The cables, wires and posts should be kept free from this buildup. A solution of water and baking soda can be sprayed onto acid buildup to neutralize the acid. It may take several passes with spraying the solution before the acid is completely neutralized. Once the acid is fully neutralized, the cables can be removed from their attaching posts and any remaining acid can be removed by brushing it away with a wire

brush. Automotive stores sell sets of small green and red disks coated with an acid preventative solution which helps to control acid buildup.

- Check for damage to the outside of the battery casing. If damaged, replace the battery.
- Check for fluid leakage other than around the fill caps. If leakage is found, replace the battery.
- Periodic charging must be performed. It is recommended to charge the battery frequently, preferably after each day's use, with a Smart Charger battery charger.

20.1. Marine Deep Cycle Battery Required

Extreme Engineering utilizes a Deep Cycle, Group 27, 12 Volt DC, Marine Battery rated for use with boat trolling motors on all products.

The purpose of this type of battery is to supply electricity for a given period of time before it needs to be recharged. This is different than one designed for automotive engine starting which requires high current demands for a short period of time. The deep cycle battery cannot supply high current demands but can supply lesser current for a longer period of time without damage.

Operating for extended lengths of time at less than full charge with deeper discharges causes increased build up on the plates inside the battery. This build up prevents electricity from flowing and therefore provides less and less power over time.

Therefore, deep cycle batteries require maintenance:

- Recharge as soon as possible after each use and maintain the State of Charge at 100% to prevent permanent build-up on the internal battery lead plates.
- When in storage, continuous float charging (charging at low current, about 1 amp) is the best way to prevent build-up. Or recharge before the State-of-Charge drops to 80%. Build-up kills over 80% of deep cycle batteries.
- Reducing the average Depth-of-Discharge (DoD) will significantly increase a deep cycle battery's life. For example, a battery with an average of 50% DoD will last twice as long or more as an 80% DoD; a 20% DoD will last five times longer than a 50% DoD. Try to avoid DoD that are greater than 80%. Industrial, traction, and stationary deep cycle batteries with solid lead plates are designed for average of 80% DoD and most Marine/RV designed for average 50% DoD.
- Never discharge below 10.5 volts.

20.2. Battery Operation

A fully charged new battery of the proper type can provide from five and to eight lift/lower cycles between charging. Under normal usage, even with periodic maintenance and charging, the number of lift/lower cycles will reduce over time. Eventually, the battery will not be able to operate the Jumper at all and must be replaced. This is a normal condition.

When the voltage supplied from the battery begins to decrease below a specific level of voltage, this will result less efficient operation of the pump. This also causes excessive heat generation throughout the whole electrical system during operation. This excessive heat, can cause the electrical components, including the pump motor, to fail and require replacement. The reduced efficiency, excessive heat generation and possible component failure is not isolated to just Extreme Engineering products. This condition is the same for any product which utilizes this style of battery.

To ensure the Jumper operates properly, Extreme Engineering recommends replacement of the batteries when they no longer hold a sufficient charge, or will not maintain a least a 75% charge.

A weak battery can cause problems with raising and lowering the jump poles demonstrating symptoms similar to possible controller issues, pump issues or hydraulic issues. Before troubleshooting any of these other areas, have the batteries tested to ensure all cells are good, the electrolyte level is appropriate for the battery, and the battery can take and maintain a full charge for a proper period of time

20.3. Battery Charging

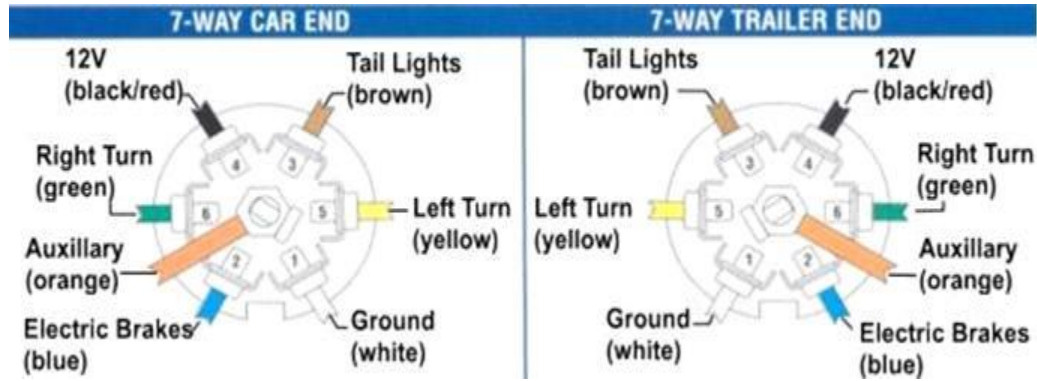
The Jumper contains a solar panel charging system. This will help to maintain battery charging when not in use. The solar charging system may not keep up with battery usage demand during operation depending on the length of the event hours and the number of raise/lower cycles during the event.

The batteries should be charged on a regular basis. Ideally, the batteries should be fully charged after every use. When charging with an external (not the solar panel system) charger, the negative (-) battery cable should be disconnected from the batteries while charging. Remove the battery cell caps to prevent pressure buildup inside the battery during charging. This pressure buildup can be significant enough to cause the battery to explode during charging.

For factory supplied batteries, if the battery charger has a setting for battery types, set it to the wet cell position.

Extreme Engineering adds the capability to maintain the battery charge from the tow vehicle on the Jumper during towing. This is accomplished through the electrical connection between the Jumper and the tow vehicle using the standard

Recreational Vehicle 7-Wire configuration via the black 12V (black/red) as seen in the below diagram.



RV 7-Wire Wiring Diagram

Note: Even though the battery may receive a charge voltage from the tow vehicle during towing, a battery may not be properly recharged to a sufficient level while the Jumper is being towed. To achieve a proper charge for the battery, the towing vehicle would potentially need to tow the Jumper for several hundred miles. Even then, the battery may not have a sufficient charge to operate the Jumper.

20.4. What Is And Why Use A “Smart Charger”

Extreme Engineering recommends using a battery charger that contains Smart Charger technology.

Why use a Smart Charger?

Smart Chargers do not have any timers. All decisions are based on the battery's voltage and current. The charger may stay in either of the below first two states as long as necessary to achieve a proper battery charge.

Smart Chargers output pure DC output which provides a faster, more complete and stable charge. Many conventional chargers output pulsating DC current which is significantly below rated amperage specifications.

A Smart Battery Charger has three distinct operating stages.

- At stage one (Bulk/Rapid mode), the charger limits the maximum charging current to a preset value while monitoring the battery voltage. Faster than conventional type chargers, even in freezing or high temperatures, the charger delivers maximum charging amperage to "wake up" any 12 Volt battery quickly. When it reaches a maximum safe predetermined voltage, digital sensors automatically move into stage two of the charging process.
- In stage two (Absorption mode), the charger elevates the voltage to a preset maximum value while monitoring the current. The charger maintains the maximum possible charge at a constant safe predetermined voltage. During

this stage two charging, the charging voltage remains constant, while the actual charging current is reduced to allow for the maximum proper internal chemical energy transfer. When the current decreases (tapers down) to a preset value, the charger enters stage three mode.

- In stage three (Maintenance mode), the charger will vary current from none to a preset maximum current while maintaining the battery at full voltage charge. Voltage is automatically maintained and reduced to a predetermined level while current is adjusted for a safe, effective 100% charge (step-down regulation mode). This is ideal for topping off batteries that have been in storage. The Maintenance mode Is Not a trickle mode. The charger will issue Zero current if the battery accepts proper charge during the first two modes. This feature allows the charger to be connected indefinitely and it will not overcharge (or trickle charge) the battery. With automatic shut-off at 100% charge, you can trust the charger to never overcharge any battery.

Note: The current must be allowed to decrease down to the chargers pre-defined amperage in order for the charger to enter the Maintenance mode. If your installation has a load on the battery in excess of this pre-defined amperage, the charger may stay in the Absorption mode and never enter Maintenance mode.

With some Smart Chargers, if you connect a battery that contains less than the charger's pre-defined minimum voltage (typically 6 volts), the charger may assume there is a defect in the battery and it will not attempt to charge. Likewise if you turn the charger on without a battery connected, the charger may not output any voltage/current. This is a safety feature which prevents output short circuits. They also have reverse hook-up protection to prevent short circuits.

Smart Chargers can compensate for temperature variations. At elevated temperatures, all voltages are lower. Likewise at colder temperatures, all voltages are higher. Normal operation of the charger assumes the battery and charger are in the same environment.

Always read and follow the manufacturer's instructions for your battery charger.

21. Limited Warranty

EXTREME ENGINEERING warrants to the first consumer purchaser that this product will be free from defective workmanship and materials. This warranty is nontransferable. Warranty is subject to the following conditions:

1. Extreme Engineering agrees that it will, at its option, either repair or replace a defective part or will, at its option, repair or replace the defective product, at no charge to the purchaser for labor for a period of ninety (90) days, at factory, from date of delivery, and at no charge to the purchaser for parts for a period of one (1) year from date of delivery (shipping and handling costs will apply). The consumer purchaser will have the following options when exchanging warranted parts: 1. The consumer purchaser will have to send the defective part or product back to Extreme Engineering's manufacturing plant. The defective part or product will be determined by Extreme Engineering if it is defective. Extreme Engineering will send a replacement part free of charge if the part or product is found defective. or 2. The consumer purchaser will initially be charged for the warranted part or product. Once Extreme Engineering receives the defective part or product the consumer purchaser will be credited back if the part or product is found to be defective. Consumables are covered for 30 days (harnesses, handholds, cables, pulleys, jump straps, vinyl straps, springs, etc.). You may contact Extreme Engineering for additional details on consumable items. We have a 90-day warranty on electronics, 30-days on labor, 90-day on parts. Auto-belay™ systems are warranted for the original purchaser(s) for one year (does not include Auto-belay™ cables or pulleys).
2. This limited warranty is valid only when the product is installed, operated and maintained in accordance with the Extreme Engineering Owner's Manual. Any deviation from these recommended procedures must be approved in writing by Extreme Engineering.
3. This limited warranty does not apply to any part which has been subjected to misuse, abnormal service or handling or which has been altered or modified in design or construction.
4. This limited warranty does not apply to changes in the exterior appearance of the Jumper. Custom painted products are not covered by Extreme Engineering's limited warranty.
5. Neither the sales personnel of the seller nor any other person is authorized to make any warranties other than those described herein or to extend the duration of any warranties beyond the time period described, on behalf of Extreme Engineering.
6. ANY IMPLIED WARRANTIES ARE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY, AS STATED ABOVE. EXTREME ENGINEERING DOES NOT ASSUME RESPONSIBILITY FOR CONSEQUENTIAL DAMAGE OR LOSS, INCLUDING LOSS OF USE OF VEHICLE, LOSS OF TIME, INCONVENIENCE,

EXPENSE FOR GASOLINE, TELEPHONE, TRAVEL, LODGING, LOSS OR DAMAGE TO PERSONAL PROPERTY OR LOSS OF REVENUES. Some states do not allow limitations on how long an implied warranty lasts or limitations on consequential damages, so the above limitation may not apply to you.

7. THE WARRANTIES DESCRIBED HERE SHALL BE THE SOLE AND EXCLUSIVE WARRANTIES GRANTED BY EXTREME ENGINEERING AND SHALL BE THE SOLE AND EXCLUSIVE REMEDY AVAILABLE TO THE ORIGINAL PURCHASER. Correction of defects, in the manner and for the period of time described here, shall constitute complete fulfillment of all liabilities and responsibilities, whether based on contract, negligence, strict liability or otherwise. In no event shall Extreme Engineering be liable, or in any way responsible, for damages or defects in the product which were caused by repairs performed by anyone other than an authorized servicer.
8. Extreme Engineering shall not be liable, or in any way responsible, for incidental or consequential economic or property damage. Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you.
9. Technical support is available to the original purchaser up to one year from the purchase date of an Extreme Engineering product. Technical support outside of the one year warranty period is available for a fee.

21.1. Warranty Claim

In the event of a warranty claim, please fill out the warranty claim page located on the last page of this manual. You may download a copy from Extreme Engineering's technical support page at www.extremeengineering.com. You may also call Extreme Engineering for a copy of the warranty claim form. The warranty claim form must be filled out and sent with the defective product. You may also fax a copy to Extreme Engineering's Customer Service Department at 916-663-9249. You may contact customer service at 916-663-1560.

Warranty claim service must be performed and approved by the Extreme Engineering Customer Service Department. Warranty replacement hardware systems and components or parts will be free of charge. Shipping and handling costs on defective items returned to Extreme Engineering are paid by the consumer purchaser. Labor cost to repair or replace will be limited to the amount of the original purchase price of the systems and components. The replaced warranty products or parts become the property of Extreme Engineering and must be returned to the Extreme Engineering Customer Service Department freight prepaid, unless prior arrangements have been made.

22. Replacement Parts

Purchase your replacement parts through our customer support center at:

(916) 663-1560

or visit our online store at:

www.extremeengineering.com

Always make sure that your extreme products are running at optimal performance.

23. Technical Support

If you require technical support and your product is still under warranty, contact customer service to schedule free technical support on your product. Technical support will respond within 24 hours once a claim is placed.

You may call customer service at:

916-663-1560

or request a phone call through our website at:

www.extremeengineering.com

under the technical support page.



Warranty Claim Form

Company Name:			Date:		
Customer Name:					
Address:					
City:		State:	Zip:		Country:
Phone:			Fax:		
Email:					
Product Name (Part Number):			Purchase Date:		
Sales Order Number:					
Detailed Description of Current Issue(s):					