



**ProPride 3P Hitch**

**Pivot Point Projection™ Design**

# **INSTALLATION And OPERATION INSTRUCTIONS**

**IMPORTANT: Keep these instructions in your trailer.**

Dear Friend,

Welcome to the ProPride family!

We understand that whenever a product is purchased from us the customer has shown confidence in our ability to produce and service a product that will provide an exceptional experience. We appreciate that confidence and thank you for it.

Our intent is to meet every expectation you might have so please follow the installation instructions in these pages in order to build a solid foundation for outstanding towing performance. By following these step-by-step instructions you will install the entire 3P hitch in under 2 hours and be on your way to the safest, most enjoyable towing experience possible.

Once you have installed the hitch please read the operation instructions. Keep in mind that this hitch will require a little bit of a learning curve to understand. Don't let that frustrate you as we are only a phone call away to help with any questions you may have. After a few outings you will become familiar with operating the hitch and it will all be easy.

Once again, thank you for your confidence. If you should have any suggestions to make these pages more useful please send them to us.

Sincerely,

Sean T. Woodruff

President

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## **Pre-Installation**

Before beginning the installation of your new hitch you should remove any old equipment you have on the trailer.

Also, remove your gas bottles and set them aside. This is necessary when you get to the Frame Bracket installation.

Many people take this opportunity to clean up the tongue of the trailer by removing any rust and touching up the painted steel.

\*Find a video of installation by searching “ProPride Hitch Installation Instructions” on YouTube.

## Measurements:

On LEVEL GROUND, take the following measurements

### Tow Vehicle:

#### *Wheel well gap*

FRONT Right \_\_\_\_\_

FRONT Left \_\_\_\_\_

REAR Right \_\_\_\_\_

REAR Left \_\_\_\_\_



Measure from bottom of fender well to ground on all four tires and note

### Travel Trailer:

#### *Frame Rail*

FRONT \_\_\_\_\_

REAR \_\_\_\_\_



Measure from the bottom of the frame to ground in front and back of trailer (Should be same number)

These measurements will be used for reference later when setting up weight distribution.

# Adjustable Hitch Bar



## Tools for Assembly

15/16" Socket / Ratchet

15/16" Open End Wrench

## Parts for Assembly

Hitch Bar - Receiver End (Above Right)

Hitch Bar – Hitch End (Above Left)

Adjustable Hitch Bar Hardware Kit

## Assembly and Installation

**Step 1:** Determine your tow vehicle receiver height. Measure from the ground to the top of your tow vehicle hitch receiver opening. Tow Vehicle = \_\_\_\_

**Step 2:** Determine your trailer ball height. Measure from the ground to the top of the coupler on your trailer. Trailer = \_\_\_\_

**Step 3:** Determine your hitch box height. Subtract 5-1/2" from the trailer measurement you determined in step 2. Hitch Box = \_\_\_\_

**Step 4:** Determine if the Hitch Bar Receiver End plates are installed UP or DOWN. If your Tow Vehicle number is GREATER THAN or EQUAL TO your Hitch Box number use 4A or 4B. If your Tow Vehicle number is LESS THAN your Hitch Box number use 4C or 4D. Note: The Hitch Bar Receiver End is shown in the picture above with the side plates facing UP.

### **Tow Vehicle Higher Than Hitch Box**

- A. If your Tow Vehicle number from step 1 is 4" or MORE THAN (higher off the ground) your Hitch Box number from step 3, use the 5/8" Hitch Pin to pin the Hitch Bar Receiver End in your tow vehicle receiver with the side plates DOWN. If not proceed to 4B.
- B. If your Tow Vehicle number from step 1 is LESS THAN 4" OR EQUAL TO your Hitch Box number from step 3, use the 5/8" Hitch Pin to pin the Hitch Bar Receiver End in your tow vehicle receiver with the side plates UP. (Like shown in the picture above)

### **Tow Vehicle Lower Than Hitch Box**

- C. If your Tow Vehicle number from step 1 is 4" or LESS THAN (lower to the ground) your Hitch Box number from step 3, use the 5/8" Hitch Pin to pin the Hitch Bar Receiver End in your tow vehicle receiver with the side plates UP. If not proceed to 4D.
- D. If your Tow Vehicle number from step 1 is LESS THAN your Hitch Box Number AND LESS THAN 4" OR EQUAL TO your Hitch Box number, use the 5/8" Hitch Pin to pin the Hitch Bar Receiver End in your tow vehicle receiver with the side plates DOWN.

**Step 5:** Insert the Tilt Adjustment Pin and (2)-Washers (2 extra washers are provided) in the upper tilt adjustment pin hole. **Note:** If your side plates are facing down the hole is in the end of the 2"x2" bar. If your side plates are facing UP the hole is through the spacer between the side plates. TILT PIN WILL ALWAYS BE AT THE TOP.



**Step 6:** Hitch Bar Hitch End assembly. If you used 4A or 4B above your Hitch Bar Hitch End will be like shown in the parts picture above with the adjustment holes facing UP. If you used 4C or 4D above your Hitch Bar Hitch End will have the holes facing DOWN.

**Step 7:** What is the difference between your Tow Vehicle number and your Hitch Box Number? Difference = \_\_\_\_\_

**Step 8:** Slide your Hitch Bar Hitch End up or down between the side plates until the difference between the top of the Hitch Bar Receiver End and the top of the Hitch Bar Hitch End is approximately EQUAL TO the difference figured in step 7.

**Step 9:** Insert the 5/8 x 4" Hex Pivot Bolt into the LOWER pivot hole in the side plates and through the Hitch Bar Hitch End holes that line up when you have the proper offset from step 8. Place the 5/8 Split Lock Washer on the pivot bolt and snug fit the 5/8 Hex nut. This is only snug fit at this time and will be wrenched tight later. **Note:** This step uses the HOLE in the side plate and NOT THE SLOT. The SLOT is the lowest location for a bolt on the side plate but in this step we use the HOLE above the slot.

**Step 10:** Raise the Hitch Bar Hitch End by hand until it contacts the Tilt Adjustment Pin.

**Step 11:** Insert (2) 5/8 x 4-1/2" Adjustment Bolts into the slots in the side plates. Use (2) 5/8 USA Thick Flat Washer for each bolt. One washer under the head of the bolt and one on the thread end of the bolt. Snug fit the 5/8 Hex nut on each adjustment bolt.

**Step 12:** With all three hex bolts snug fit raise the Hitch Bar Hitch End by hand until the slack in the Tow Vehicle receiver is taken out. The Hitch Bar Receiver End will be tight up against the top of the 2x2 receiver at this point. Take note of the Hitch Bar Hitch End. Is it approximately parallel to the ground? If not, adjustment washers can be added or taken away from the adjustment pin to make the Hitch Bar Hitch End more parallel to the ground. This is to fine tune the Hitch Bar orientation and does NOT have to be completed to complete the install.

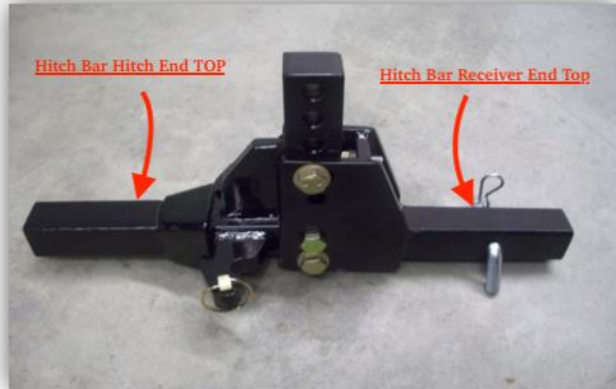
**Step 13:** Use a 15/16" socket and 15/16" open end wrench to tighten ALL three bolts on the hitch bar. These bolts CANNOT be too tight. The tighter, the better.

**Note:** The OCL wrench provided is a 15/16" socket with a breaker bar that can also be used to torque these bolts.

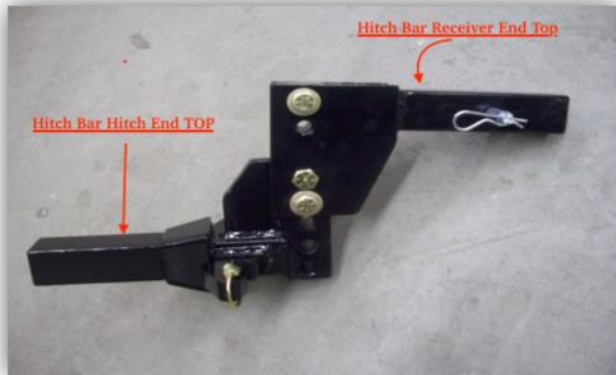
### Assembled Hitch Bars Sample

#### Pictures

**Hitch Bar Assembled Plates UP – No offset between Tow Vehicle number and Hitch Box number.**



**Hitch Bar Assembled Plates DOWN – Offset between Tow Vehicle number and Hitch Box number.**



# Weight Distribution Jacks



## Tools for Installation

Measuring Tape

9/16" Socket / Ratchet

3/4" Socket / Ratchet

## Parts for Installation

(2)- Weight Distribution Jacks

Weight Distribution Jack Bracket Hardware

## Installation

**Step 1:** Measure from the center of the trailer coupler along the frame to 26". This can be +/- 1-1/2" if the gas bottle cover or some other part is in the way of exactly 26". Mark the frame at this location on each side.

**Step 2: Note:** Jacks are Universal LEFT OR RIGHT. They can be mounted on the LEFT OR RIGHT of the frame.

**Step 3:** Place the front edge of the Jack Bracket down on top of the trailer frame at your line you marked in step 1.

**Step 4:** Insert the U-Bolt from the bottom of the frame UPWARD through the two holes in the Jack Bracket. Use the split lock washer and nut on the top side of the plate and tighten with 9/16" wrench or socket. Do not put too much torque on these bolts. No more than 30 ft-lbs is needed. More may result in the bottom of the u-bolt bending around the bottom of the frame. This u-bolt does not require a lot of force for the jack to work.

**Step 5:** Insert 1/2 x 3-1/2" Adjustment Bolt in the threaded hole on the inside of the bracket. Pass the bolt through the hole in the shim plate and snug this bolt up against the inside of the frame. It does not need to be tight. Overtightening the adjustment bolt will spread the jack bracket. These bolts will need to be retorqued a couple times before the torque sets.

**Note:** Shim plate may be modified to fit different applications

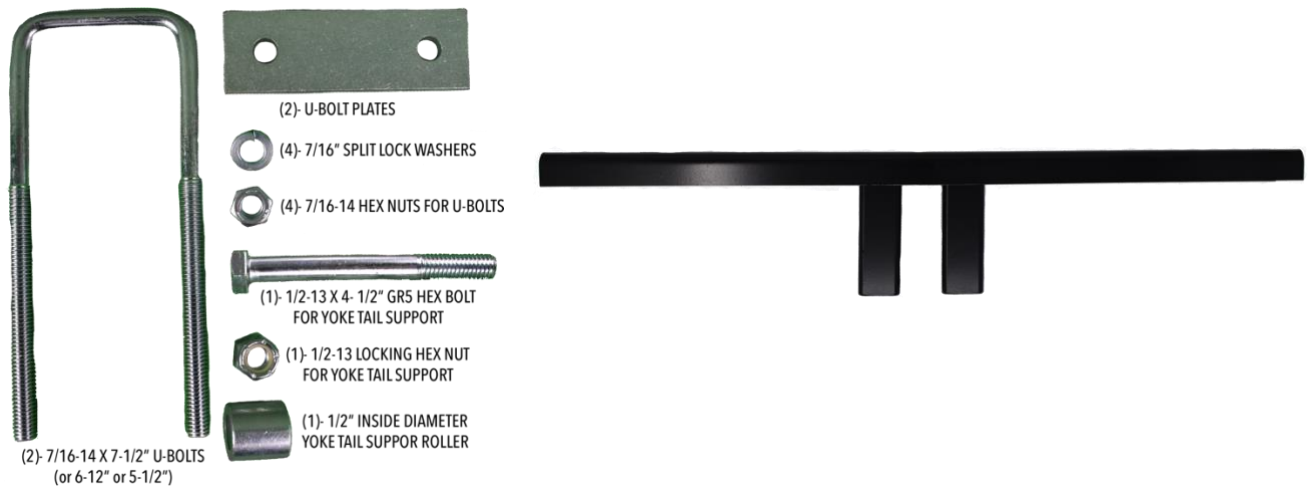
**Optional** 1/2" x 4 1/2" Bolts included for C-Channel frame application.





**Step 6:** Complete steps 3, 4 and 5 for the other side jack.

## Frame Bracket



### Tools for Installation

Measuring Tape

11/16" Socket / Ratchet

### Parts for Installation

Frame Bracket

Frame Bracket Plates (2)

Frame Bracket Hardware

### Installation

**Step 1:** Measure from the center of the trailer coupler along the frame to 22". This measurement can be  $\pm 1/2"$ . Mark the frame at this location on each side. This is the point at which the U-Bolts slide down over the top of the frame. Loosely install center bracket at this time, final torque will be performed after yoke tail test fitment.

**Step 2: Note:** If the trailer has a gas bottle tray screwed to the frame at this location remove it temporarily. If the tray is welded it is necessary to drill two holes for the u-bolt to slide down through the tray (this is very uncommon.) Be sure to drill at 1" away from the edge of the tray so the bottles do not sit on top of the u-bolts. **Note: Before drilling or permanently mounting center bracket, wait to test fit yoke tail for correct distance.**

**Step 3:** Slide the U-Bolts over the top of the frame pointing down.

**Step 4:** Raise the Frame Bracket upward against the bottom of the frame and insert the 4 U-Bolt ends through the slots in the Frame Bracket.

**Step 5:** Slide the Frame Bracket Plates on the ends of the U-Bolts and into the Frame Bracket channel. Snug fit the 7/16 Lock Washers and Hex Nuts up against the plates.

**Step 6:** Center the two Frame Bracket down tubes directly behind the coupler.

**Frame Bracket Top View**

**Loosely Installed**



**Frame Bracket Bottom Side View**

**Loosely Installed**



**\*\*Leave frame bracket loose for now, it will be tightened later when yoke is installed and checked for proper alignment.**

**Note: Set aside the 1/2 x 4-1/2 Hex Bolt, Support Roller Sleeve and 1/2 Hex Lock Nut for use during Yoke installation.**

## Main Hitch Unit



### Tools for Installation

Over-Center-Latch Wrench

(This is the 15/16" Socket and Breaker Bar provided)

All Purpose Grease

### Parts for Installation

Main Hitch Unit

**Step 1:** Slide the Main Hitch Unit on to the end of the Hitch Bar that is installed on your tow vehicle.

**Step 2:** Latch one of the Over-Center-Latches (OCL) onto the hitch bar tab using the 15/16" socket and breaker bar (OCL Wrench) provided. Insert 7/16" Lynch Pin into tab hole.

Top View of Main Hitch Unit on Hitch Bar with one OCL latched. The other OCL is rotated out to the side for reference. Also shows OCL wrench on OCL. This picture shows the Main Hitch Unit with the coupler. This has not been installed yet for your installation. Only reference the OCL latched on the hitch bar.



**Step 3:** Grease the hitch ball with all-purpose grease.

**Step 4:** Align the tow vehicle as straight as possible with the front of the trailer.

**Note:** This is the alignment when you are towing down the road. Try to be centered.

**Step 5:** Raise the trailer tongue approximately 3-4" above level.

**Step 6:** Back the tow vehicle until the hitch ball is under the coupler. Keep the tow vehicle and trailer in alignment.

**Step 7:** Lower the trailer coupler down onto the ball but until it is seated. No downward load on the hitch ball at this point. Latch the coupler onto the hitch ball.

## Weight Distribution / Spring Bars



(2)- 3/8-16 U-BOLTS FOR  
SPRING BAR LINK ATTACHMENT



(4)- 3/8" HEX NUTS



(2) SPRING BAR RETAINER DISKS

### INSTALLED ON MAIN HITCH UNIT

(2)- 3/8-16 X 1" GR5 HEX BOLT FOR SPRING BAR BUSHING

(2)- 3/8-16 HEX LOCK NUTS



### Tools for Installation

9/16" Socket / Ratchet

9/16" Open End Wrench

All Purpose Grease

### Parts for Installation

(2) – Spring Bars

(2) – Spring Bar Inner Bushings

(pre-installed in Main Hitch Head)

(2) – Spring Bar Links

Spring Bar Hardware

**Step 1:** Slide the center of hole (3 total) of the Spring Bar Link over the hook on the Weight Distribution Jack. Spring Bar Links are shown above at the top center of the picture. The hole at the bottom is twisted 90 degrees to the top three holes. Repeat on the other side.

**Step 2:** Remove the Spring Bar Inner Bushing from the bottom of the Main Hitch Unit with a 9/16" socket and a 9/16" open end wrench. Remove one side first and leave the other side installed at this point. This part is shown in the above picture bottom between the spring bars.

**Step 3:** Liberally grease the end of the spring bar with all-purpose marine grease.

**Step 4:** Slide the Spring Bar Inner Bushing you removed in step 2 down over the end of the spring bar. Insert the spring bar in the plate end of the bushing.

**Step 5:** Line up the slot in the bushing with the slot in the spring bar. Insert one Spring Bar Retainer Disk through the slot on the bushing and into the slot on the spring bar. **Note:** The grease will help to hold it in place but make sure it doesn't drop out when you insert the spring bar back into the bottom of the Main Hitch Unit.

**Spring Bar Inner Bushing with Spring Bar Installed with slots aligned**



**Spring Bar Inner Bushing with Spring Bar and Retainer Disk Installed – No Grease for picture clarity. The retainer disk is a tiny steel disk in the hardware bag.**



**Step 6:** With the tail end of the Spring Bar facing the trailer, insert the Spring Bar Bushing back into the bottom of the Main Hitch Head and replace the 3/8 bolt and lock nut. Tighten the lock nut firmly.

**Step 7:** Attach the tail end of the Spring Bar to the Spring Bar link bottom hole with the 3/8" U-Bolt. Use 3/8" Flat Washers and Lock Nuts on the bottom side of

the Spring Bar. Tighten the u-bolt firm and then back the nut off 1/2 turn. *The link should be able to move freely on the u-bolt.*

**Step 8:** Repeat steps 2-7 for the other side.

**Note:** There are grease zerks installed in the Spring Bar OUTER Bushing to grease your spring bars periodically without the need to remove them. You should grease the spring bars every 1000 miles or if you hear any noises coming from your hitch during turns.



## Yoke



### Tools for Installation

3/4" Socket / Ratchet

3/4" Open End Wrench

1-1/8" Socket / Ratchet

1-1/8" Open End  
if Socket not available

### Parts for Installation

Yoke

Yoke Hardware (shipped loosely installed in Yoke)

**Step 1:** Remove the 3/4" hardware from the front of the Yoke. Shown above at bottom of picture. Do not remove inner steel bushing. Leave inserted in bronze bushing. **Note:** Pay attention to the order of the hardware. E.g. – Washer under the head of bolt. Also, there is a 3/4" washer between the arm and the main head. This is not shown in the picture but is now included with every hitch yoke.

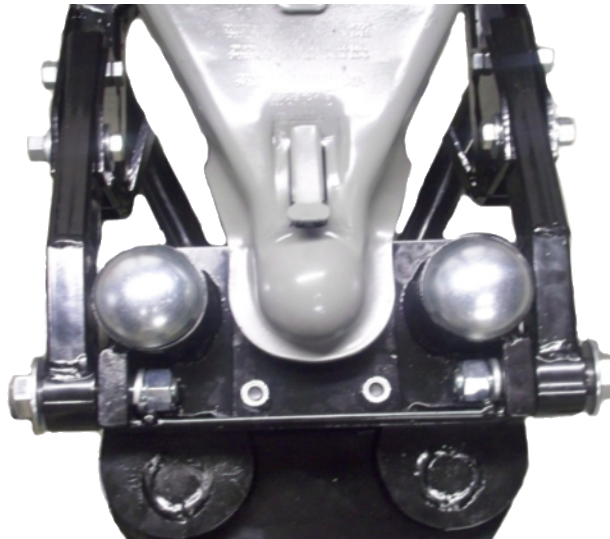
**Step 2:** Remove your hitch cover. (2) – 1/2" Bolts under the cover attach it to the Main Hitch Unit. Set aside and reinstall after Yoke is installed.

**Step 3:** Slide the Yoke under the trailer A-frame and behind the tongue jack. Bushings that you removed the hardware from should face the Main Hitch Unit. Top of picture above, Yoke tail, will point toward the trailer.

**Step 4:** Raise the front of the Yoke to align the bushings on the front of the Yoke with the holes in the side of the Main Hitch Unit. These holes are on each side of the hitch ball.

**Step 5:** Insert the 3/4" bolts, with the 3/4" flat washer under the head, through the Yoke bushings and into the 3/4" hole on the side of the Main Hitch Unit. Place the 3/4" split lock washer on the inside of the Main Hitch Unit and thread the bolt into the 3/4" hex nut. Once the bolt engages with the nut the nut block welded into the inside of the Main Hitch Unit will aid in tightening the bolts.

**3/4" Yoke Hardware shown installed in Main Hitch Unit with cover off.**



**Step 5:** Tighten the two 3/4" Bolts on the main VERY TIGHT. These bolts MUST BE TIGHT. Torque to **175 ft-lbs.** Repeat on both sides of Yoke.

**Step 6:** Unlatch the one Over-Center-Latch (OCL) from the hitch bar.

**Step 7: Note:** Trailer tires should be chocked before this step or whenever you unhitch from the trailer. Pull the tow vehicle forward to clear the Hitch Bar from them Main Hitch Unit hitch box.

**Step 8:** Raise the Yoke tail (pointing toward the trailer and the top of the picture above) to between the two downward tubes of the frame bracket. The frame bracket down tubes should be at the midpoint of the Yoke tail. You may need to adjust the frame bracket forward or back to accomplish this. The frame bracket is adjustable for different frame angles.

**Step 9:** Insert the 1/2 x 4-1/2 Yoke Tail support bolt through the down tubes with the Yoke Tail Support Roller under the Yoke Tail and between the tubes. Tighten the 1/2 " Locking Nut on the support bolt to take up any slack in the bolt.

**Note: If the Yoke Tail can be moved from side to side, tighten the nut more on the Yoke Tail Support Bolt. Check this after a few miles of towing.**

**Step 10:** Loosen the side bolts on the Yoke. The trailer side bolt is a pivot bolt. The bolt in the slot, toward the tow vehicle, should be adjusted up or down until there is approximately 1-2" between the Yoke and the bottom of the trailer A-frame.

**Note: The Yoke should be approximately parallel with the trailer frame.**

**Yoke pictured under trailer frame 1-2"**



**Step 11:** Tighten the side Yoke bolts shown in the picture above to **60 ft-lbs.**

**Step 12:** Assure Center Frame Bracket is centered, and yoke tail centered on roller. Tighten frame bracket u-bolts to **55 ft lbs.**

## **Final Installation Adjustments**

**Number 1:** Adjust the OCL latch screws so that they snap tightly over center and into the hitch bar. These screws are installed by the factory but can be lengthened (unscrewed) if the OCL latch is too loose and does not snap over center onto the hitch bar.

**Number 2:** Check that the **hitch bar bolts** are tight and torqued. These should be as tight as you can get them. **200 ft-lbs** or more of torque.

**Number 3:** Check that the **3/4"** Yoke bolts to the main are tight. **175 ft-lbs** of torque.

**Number 4:** Check that all other bolts and nuts are tight. Reference **PAGE 27** for all specifications.

**Note:** If you did not start with the trailer and tow vehicle on level ground you should hitch up and tow it to level ground to check that the trailer and hitch are level. If you are not on level ground you can check that the trailer and tow vehicle are parallel to the ground by measuring a point at the front of the trailer and the rear of the trailer when hitched. If they are close to equal you will be level when towing.

# **Hitching and Unhitching**

## **Hitching**

**Step 1:** Chock your trailer tires.

**Step 2:** Back your tow vehicle slowly toward the front of the Main Hitch Unit until you are about 2" from the hitch.

**Step 3:** Adjust the tongue jack until the hitch bar is approximately centered in the 3"x3" hitch box opening.

**Step 4:** Back slowly into the Main Hitch Unit inserting your Hitch Bar Hitch End into the hitch box. When the wedges are seated in the hitch box you will have approximately 1/8" of the wedge showing out of the front of the hitch.

**Step 5:** Latch the Over-Center-Latch (OCL) on to the Hitch Bar Tab on each side. Use the OCL Wrench included with the hitch (15/16" Socket and Breaker Bar).

**Step 6:** Insert the 7/16" Lynch Pin in the Hitch Bar Tab and snap the wring down over the tab on each side.

**Step 7:** Raise the Weight Distribution Jack with the 3/4" Ratchet Wrench included with the hitch. Raise the Jack on each side until you either lift the trailer off of the tongue jack or you raise it to your desired ride.

**Step 8:** Raise the tongue jack.

**Step 9: IMPORTANT – IMPORTANT – IMPORTANT** – Route your tow chains **UNDER** the Main Hitch Unit and **BETWEEN** where the Spring Bars insert in the bottom of the Main Hitch Unit. When you are straight in line with your trailer the chains are the longest they ever need to be. When routed properly they should hang about 1" from the bottom of the Main Hitch Unit. **\*See Page 25 for photo.**

**Step 10:** Route your electrical connection over the top of the Main Hitch Unit and plug it into the vehicle.

**Step 11:** Hook up your emergency brake cable.

## **Unhitching**

Unhitching properly will make your next hitch up go more smoothly. Hitching up is largely a result of how you previously unhitched. Once you make it routine to follow these steps, the Main Hitch Unit will be set for your next hitching.

You can unhitch at any angle in relation to your trailer. Once you have unhitched just leave the Main Hitch Unit hitch box facing in the direction you unhitched so you will be able to hitch up at the same angle.

**Step 1:** Chock your trailer tires.

**Step 2:** Lower your tongue jack until it takes the load off of the back of your tow vehicle.

**Step 3:** Unhook your chains, electrical and emergency brake cable.

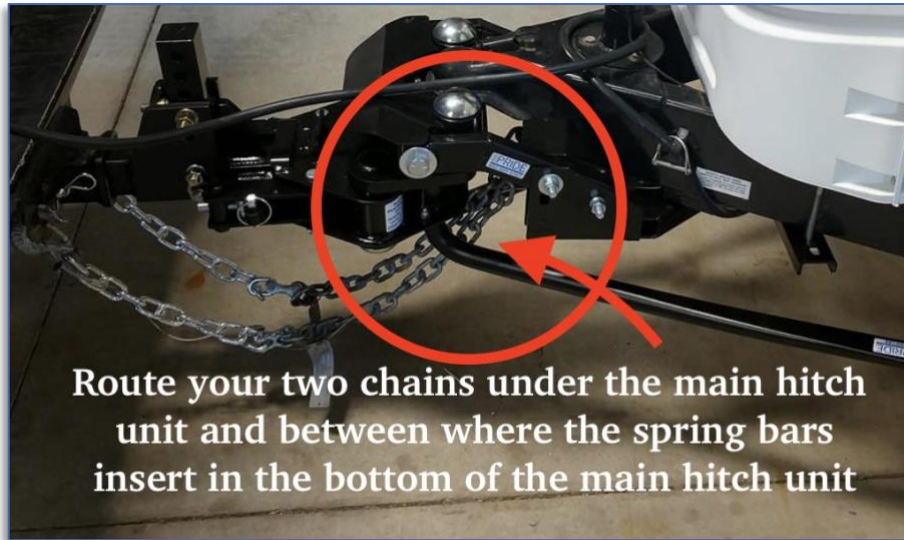
**Step 4:** Lower your Weight Distribution Jack until the Spring Bar becomes loose. This may not be when the jack bottoms out. Kick the spring bar with your foot to recognize that there is not tension on it. At that point, STOP lowering the jack. Repeat this on the other side.

**Note:** The Weight Distribution Jacks will lower in relation to how level the tow vehicle is when you are unhitching. You can unhitch when not level but just note that your jacks will not be all the way bottomed out.

**Step 5:** Unlatch the OCL on each side with the OCL wrench.

**Step 6:** Pull the tow vehicle away from the hitch. If you have released the tension from the spring bars the hitch bar should slide smoothly out of the front of the hitch.

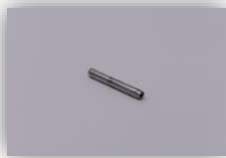
## CHAIN ROUTING



# Socket and Torque Spec



Uncommon part descriptions:



Shear Pin 5/32 x 1 1/4"

Weight Dist Jack

Spring Bar Link



Weight Dist Jack Cover

Upper Bearing Dust  
Cap



Lower Bearing Dust  
Cap

7/16" Lynch Pin



3/8-16 x 6-1/2" Jack  
Hardware U-Bolt

Tilt Adjustment Pin



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## HITCHING/ UN-HITCHING TIPS

### **Unlevel Lot? Angle of stinger/ main hitch head mismatched? Here's the process to make it work:**

1. Back up to within 6-12" of the hitch bar inserting into the hitch head.
2. Get out of the tow vehicle and look at the hitch bar. Notice the angle coming in relation to the hitch. Is it pointed up or down?
3. Take a mental snapshot of the angle, or an actual snapshot if you have a device handy.
4. Remove the hitch bar from the tow vehicle and place it in the hitch head.
5. Notice the angle of the hitch bar coming out of the hitch head.
6. Remember the previous angle of the bar coming out of the tow vehicle and compare it to what you see coming out of the hitch head.
7. Adjust the weight distribution jacks until the angle mirrors what you saw coming out of the tow vehicle. For example, the angle out of tow vehicle was UP so the angle out of hitch box needs to be DOWN to match it.
8. Remove the hitch bar from the hitch head and place it back in tow vehicle.
9. Back into the hitch box.

**These steps will get the angles correct and make the hitch bar slide right in.**



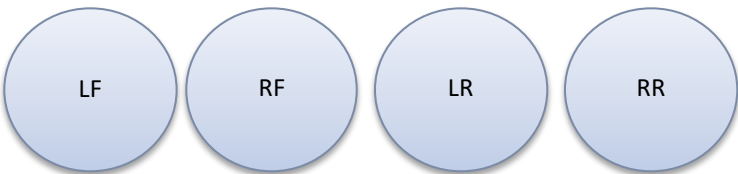
## Towing Definitions

- **Gross Vehicle Weight Rating (GVWR)** - The maximum allowable total weight of a vehicle or trailer that is loaded. It includes the weight of the vehicle or trailer itself plus the passengers, fuel and cargo.
- **Gross Trailer Weight Rating (GTWR)** - The maximum allowable load of a trailer that is loaded. It includes the weight of the trailer itself plus the fluids and cargo. Note: this is sometimes designated as the GVWR of the trailer.
- **Gross Combined Weight Rating (GCWR)** - The maximum total load of a towed combination.
- **Tongue Weight (TW)** - The static downward force exerted on the hitch ball by the trailer coupler.
- **Tow Rating** - The allowable weight limit for a tow vehicle. GCWR minus the GVWR of the tow vehicle.
- **Tow Angle** - The angle created between the tow vehicle and trailer when the trailer moves away from the centerline of the tow combination. A trailer in line with a tow vehicle has zero degrees of tow angle. A tow angle of zero to a maximum of ninety degrees allows the trailer to be towed around a corner.
- **Pivot Point** - The point at which the towed trailer pivots to create a tow angle.
- **Pivot Point Projection™** - Projection of the trailer's effective pivot point.
- **Weight Distributing** - The act of distributing the load exerted on the hitch ball, the tongue weight, onto the tow vehicle and trailer axles.
- **Wheelbase** - The horizontal distance between the center of the front axle and the center of the rear axle on the tow vehicle.
- **Friction Control** - Damping of trailer sway by a friction between two surfaces. The friction control works by "stiffening" the connection between TV and TT. This causes the combined mass and rotational inertia of the TV and TT to resist the forces which are attempting to make the TT "sway".
- **Overhang** - The horizontal distance from the center of the rear axle to the rear end of the tow vehicle.
- **Oscillating or Oscillation** - A movement back and forth between two limits over time.
- **Amplitude** - The displacement of the oscillation wave.
- **Yaw** - Yaw is the side to side movement of the trailer on the hitch ball.
- **Trailer Sway** - Oscillating tow angles. A tow angle created by turning a corner IS NOT trailer sway. Trailer sway is defined as OSCILLATING TOW ANGLES. That is multiple tow angles over a period of time. The trailer continues to oscillate away from the centerline of the tow combination at various amplitudes.

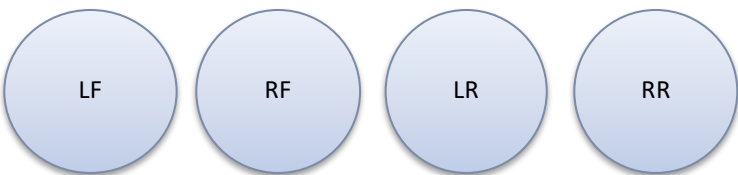
## MEASUREMENT LOG

### Tow Vehicle Bottom of Wheel Well to Ground

#### UNHITCHED

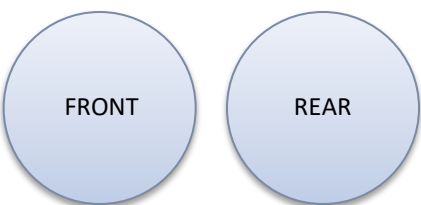


#### HITCHED

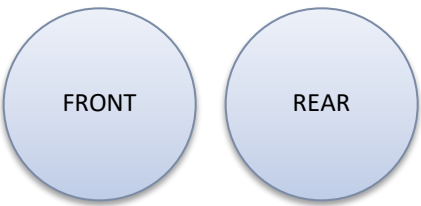


### Trailer Frame Bottom of Frame to Ground

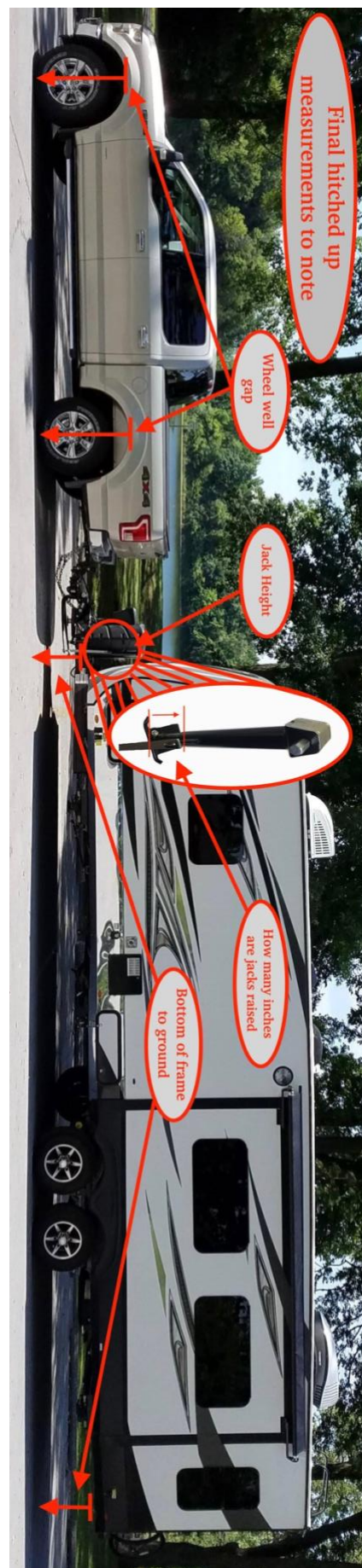
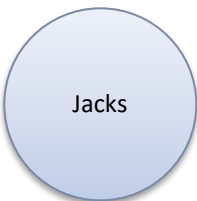
#### UNHITCHED



#### HITCHED



### WEIGHT DISTRIBUTION JACK HEIGHT



# NOTES