



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 3 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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Whats Included

Box 1 – (1) 3P Unit MAIN, (2) Spring Bar Bushings (Pre-installed)

Box 2 – (1)Yoke, (1)Yoke Hardware pre-installed, (2)Vertical Jacks, (2)Sprink Link Bars, (1)Jack Hardware

Box 3 – (1)Hitch Bar Receiver Side, (1) Hitch Bar Hitch Side, (1) Hitch Bar Hardware

Box 4 – (2)Spring Bars, (1)Frame Bracket, (1)Manual, (1)Spring bar Hardware Kit, (1)Frame Bracket Hardware Kit

Required Tools

Torque Wrench 20-200ft-lbs, Sockets and open ended wrenches: 9/16", 5/8", 3/4", 15/16", 1-1/8", Measuring Tape, grease gun, all-purpose marine grade grease.

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.

IMPORTANT!!!

Take the time to do your measurements.

- The more accurate the measurement, the easier it will be for you to adjust and identify areas to correct.
- This manual includes specific pages to log your measurements for reference.
- If calling in for support with the adjustable hitch bar or weight distribution questions, please have these measurements for reference.

Measurements

On LEVEL GROUND, take the following pre hitched 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)

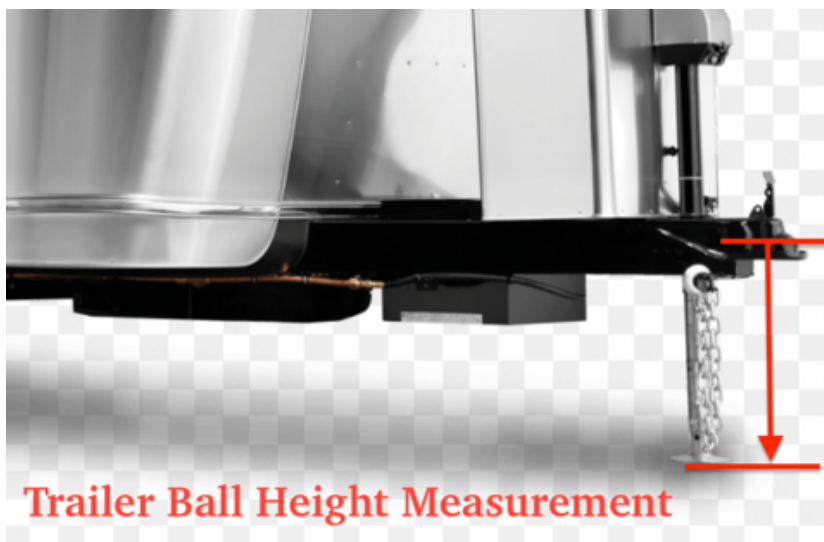
These measurements will be used for reference later when setting up weight distribution. The goal is to have your trailer parallel to the ground, front to rear, when hitched. *A bubble level will not give you the accuracy needed.*

HITCH BAR MEASUREMENTS

WITH TRAILER MEASURED LEVEL (PARALLEL TO GROUND) AND TOW VEHICLE AT REGULAR RIDE HEIGHT, NOTE THE FOLLOWING MEASUREMENTS.



Receiver
Height



Trailer
Height

USE THE ABOVE MEASUREMENTS ON PAGE 7 TO DETERMINE ADJUSTABLE HITCH BAR CONFIGURATION. $\text{TOW VEHICLE} - (\text{COUPLER HEIGHT} - 5.5'') = \text{HITCH DROP OR RISE.}$

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

NOTE: Tow vehicle rear end will settle with weight applied and may factor into the overall drop required. Figure at least 1.0" settle to Tow Vehicle.

Assembly and Installation (Photos of ALL Hitch Bar configurations available on pages 11-14)

***Goal of hitch bar assembly is to have your trailer measuring parallel to the ground when hitched up and ready to tow.**

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 = _____ *(You can use this number to reference photos on pages 10-14.)*

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. Adding or subtracting washers may be required once initial weight is applied to tow vehicle,

this is to fine tune the Hitch Bar orientation and does NOT have to be completed to finish the install. Hitch Bar may have a downward pitch to it, this is OKAY.

Step 13: Use a 15/16" socket and 15/16" open end wrench to tighten ALL three bolts on the hitch bar to 200ft-lbs. **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 (+2.5" - 3.5") offset between Tow Vehicle number and Hitch Box number.



Hitch Bar Assembled Plates DOWN (+6.5" - 7.5") Offset between Tow Vehicle number and Hitch Box number.



***REFER TO PAGES 11-14 for every acceptable Hitch Bar configuration**

Hitch Bar Configurations

Plates UP

(Tilt Pin should always be on top)



0 to 1" Difference



+1" to 2.5" Difference



+2.5" to 3.5" Difference



+3.5" to 4.5" Difference

Plates DOWN

(Tilt Pin should always be on top)



+4.5" to 5.5" Difference



+5.5" to 6.5" Difference



+6.5" to 7.5" Difference



+7.5" to 8.5" Difference

Trailer RISE (Plates DOWN)

(Tilt Pin should always be on top)



0" to 1" Difference



+1" to 2.5" Difference



+2.5" to 3.5" Difference



+3.5" to 4.5" Difference

Trailer RISE (Plates UP)

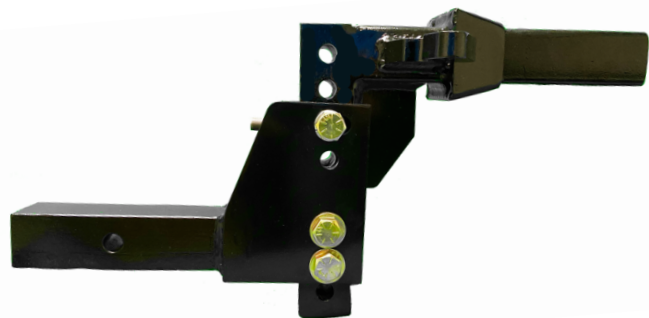
(Tilt Pin should always be on top)



+4.5" to 5.5" Difference



+5.5" to 6.5" Difference



+6.5" to 7.5" Difference



+7.5" to 8.5" Difference

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.

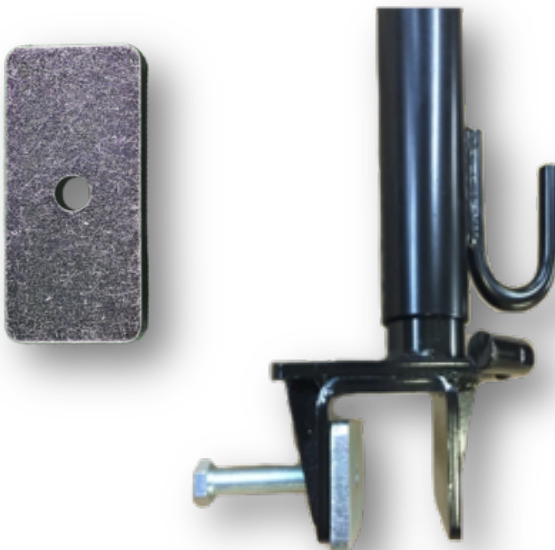
Step 3: Place the front edge of the Jack Bracket down on top of the trailer frame at your line you marked in step 1.

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.

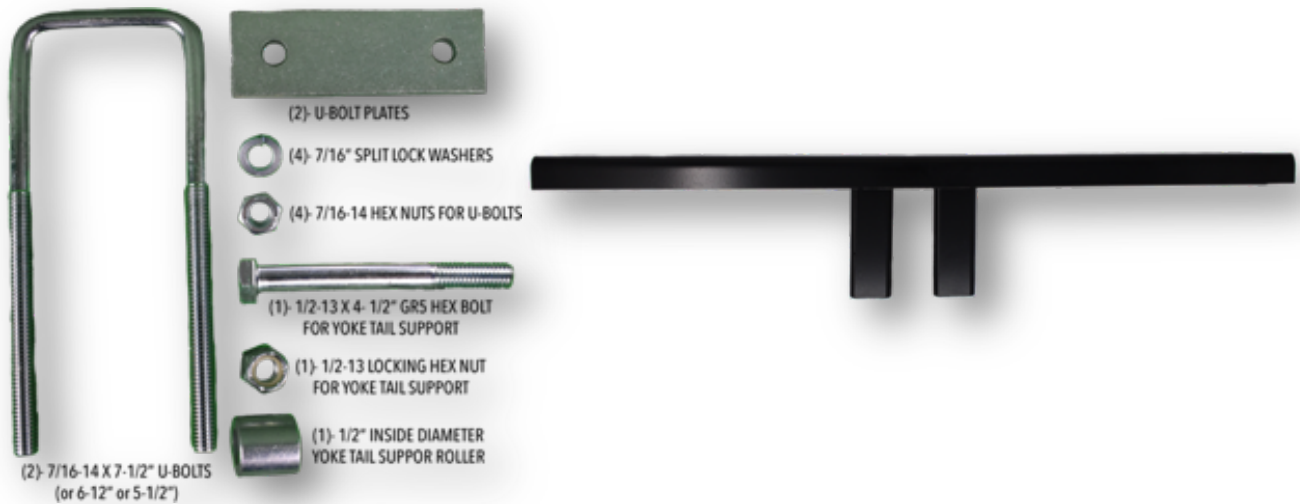
Note: Shim plate **MUST** be used if there is a gap between frame and Jack base. Shim plate may be modified to fit different applications. Place the shim on inside of jack base, then lower onto frame for easier install.

Optional 1/2" x 4 1/2" Bolts included for C-Channel frame application. (May be left over at the end)



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" to use as a point of reference. ***(The final placement will vary on where the center of the Yoke tail ends up, could be up to 1.5-2.0" different)*** 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 the 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 in-line with the coupler.

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.

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.**

****When reinstalled, propane tank tray may require spacers or longer screws to sit above ubolts.**

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.



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



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.

Spring Bar
Retainer Disk



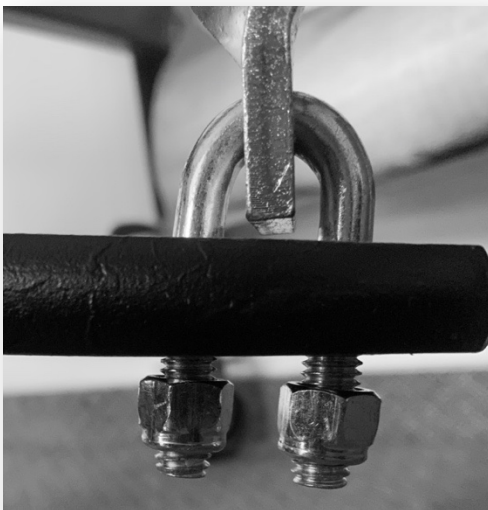
Step 6: With the tail end of the Spring Bar facing the trailer, insert the Spring Bar Bushing back into the bottom of the Main Hitch Head and replace the 3/8 bolt and lock nut. Tighten the lock nut firmly.

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" Lock Nuts on the bottom side of the Spring Bar. Tighten the lock nuts where a few threads show on the bottom. ***The link should be able to move freely on the u-bolt. (Fig 1)***

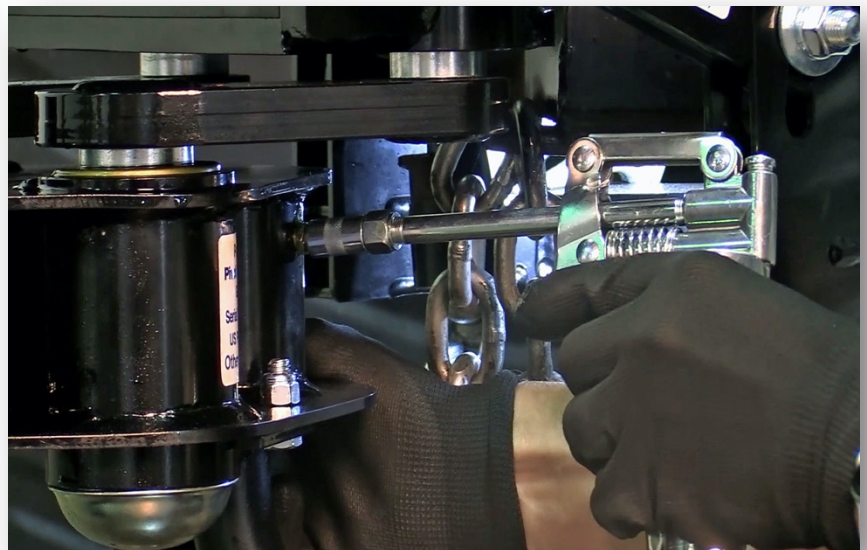
Step 8: Repeat steps 2-7 for the other side.

Note: There are grease zerks installed in the Spring Bar OUTER Bushing to grease your spring bars periodically without the need to remove them. (Fig 2) You should grease the spring bars every 1000 miles or if you hear any noises coming from your hitch during turns.

(Fig 1)



(Fig 2)



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" (1-1/8" socket) 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.

Step 2: Remove your hitch cover. (2) – 1/2" (3/4" socket) 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 (1-1/8" socket), 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. Take this slow to ensure you do not cross thread the bolt.

3/4" (1-1/8" socket) Yoke Hardware shown installed in Main Hitch Unit with cover off.



Step 6: Tighten ONLY the **two 3/4" Bolts (1-1/8" socket)** on the main. These bolts **MUST BE TIGHT**. Torque to **175 ft-lbs**. Repeat on both sides of Yoke.

Step 7: Unlatch the one Over-Center-Latch (OCL) from the hitch bar.

Step 8: 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.

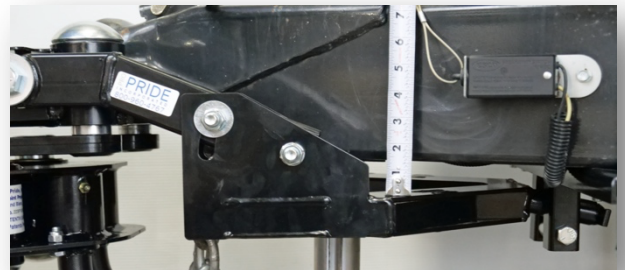
Step 9: Raise the Yoke tail (pointing toward the trailer and the top of the picture above) to between the two downward tubes of the frame bracket. *The frame bracket down tubes should be at the midpoint of the Yoke tail.* You may need to adjust the frame bracket forward or back to accomplish this. The frame bracket is adjustable for different frame angles.

Step 10: 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 (3/4" socket) on the support bolt to take up any slack in the bolt.

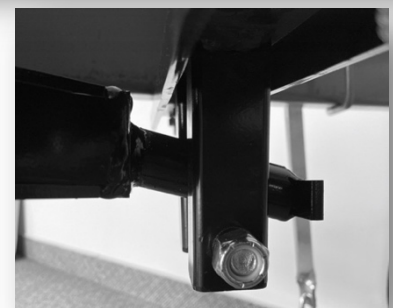
Note: *If the Yoke Tail can be moved from side to side, tighten the nut more on the Yoke Tail Support Bolt. Check this after a few miles of towing.*

Step 11: 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 12: Tighten the side Yoke bolts shown in the picture to the right to **60 ft-lbs.** (3/4" Socket)



Step 13: 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. If needed, adjust by ½ turns.

Number 2: Check that the **hitch bar bolts** are tight and torqued. These should be very tight, **200 ft-lbs** or more of torque.

Number 3: Check that the two ¾" (1-18" socket) **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 37** 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. Adjust your weight distribution jacks to about 2-3" high from the base.

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. **If the hitch head starts moving to one side, stop. See if you can latch one of the Over-Center-Latches to pull the bar in. If not, adjust the weight distribution jacks down slightly to match the pitch of the hitch bar.*

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 wing 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.

NOTE: Using IMPACT DRILL WILL cause shear pin to break and is NOT a recommended tool.

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 30 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. Kick the spring bar with your foot to recognize that there is not tension on it. At that point, STOP lowering the jack, approximately 2-3" high from base. 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.

****Picture how a wheel barrow functions, the weight distribution jacks being arms lifting up. As the jacks lift, the main hitch opening lowers the angle, as you lower the bars, the opening raises. Keeping jacks at 2-3" up gives you a more parallel opening to the ground.***

CHAIN ROUTING

CORRECT ROUTING



INCORRECT ROUTING



Hitch Weight Distribution Setup

This section will detail the basic setup process for adjusting the ProPride 3P weight distribution jacks. Below are the steps you will need to follow to ensure that your ProPride 3P Hitch is set up correctly. Should you change tow vehicles or trailers in the future you will want to do this again to make sure it is set up for the new tow vehicle or trailer.

The purpose of the weight distribution jacks is to remove some of the weight added to the tow vehicle's rear axle and place some of it on the tow vehicle's front axle and some on the trailer axles. When properly set up, the trailer should be level or slightly nose down and the tow vehicle has settled (or squatted) evenly front to rear or slightly lower in the rear.

For optimum performance of the weight distribution hitch, the tow vehicle should be loaded similarly as to when you would be towing. That means that you should load all the people and cargo into the tow vehicle as if you were going on a trip with your trailer. It may also help to have a friend take the measurements outlined below, or find a friend that weighs about the same as you to simulate you in the tow vehicle while you take the measurements.

If the tow vehicle has an automatic suspension leveling system, you will need to deactivate it before coupling the trailer to the tow vehicle, but after passenger and or cargo weight has been added. You may optionally set the auto leveling system to the dynamic mode that is used when in tow at higher speeds to determine the receiver height to use for the hitch bar assembly.

If the tow vehicle has an air bag system, be sure to have this at its lowest operational setting.

Step 1: Level the trailer (Measuring parallel to the ground)

- Find a level piece of pavement to park on.
- With the trailer disconnected from the tow vehicle, use a tape measure and the tongue jack to level the trailer.
- Measure from the ground to some part on the trailer (like the frame) at the front and at the rear of the trailer.
- Use the tongue jack to raise or lower the front of the trailer until it is **parallel** to the ground. **(The trailer may not be “level”, but it needs to be parallel to the ground.)**

Step 2: Measurements

- Now that you have the trailer level, it's time to take some measurements on both the trailer and the tow vehicle.
- Use a piece of tape to mark each spot because you will need to take the measurements again later.
- Put a piece of tape at the spots you measured on the trailer to get it parallel to the ground.
- Put a piece of tape at the top of the front and rear wheel openings on one side

Write down your measurements here: (You should have these already)

- Tow vehicle front wheel opening height: _____
- Tow vehicle rear wheel opening height: _____
- Front of trailer height: _____
- Rear of trailer height: _____
- Measure from the ground to the top of the trailer coupler and write down the measurement here: _____

Step 3: Hitch it up

- Chock your trailer tires.
- Back your tow vehicle slowly toward the front of the Main Hitch Unit until you are about 2" from the hitch.
- Adjust Weight Distribution Jacks to 2"-3" to adjust the Main Hitch Units opening to match the in-coming hitch bar assembly.
- Adjust the tongue jack until the hitch bar is approximately centered in the 3"x3" hitch box opening.
- 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.
- 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).
- Insert the 7/16" Lynch Pin in the Hitch Bar Tab and snap the wing down over the tab on each side.
- 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.
- Raise the tongue jack.
- **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 30 for photo.**
- Route your electrical connection over the top of the Main Hitch Unit and plug it into the vehicle.
- Hook up your emergency brake cable.

****NOTE~The pitch of the main Hitch Unit can be controlled by the raising and lowering of the weight distribution jacks. RAISING the jacks will pitch the head DOWNWARD, LOWERING the jacks will pitch the head UPWARD. This can be helpful when hitching/unhitching when tow vehicle is not on the same plain as travel trailer.***

Step 4: Measure again

- Take the same measurements you did earlier and compare them to the originals, log these measurements on page 31 for reference.
- The “ideal” result is that the trailer sits level front to rear, the tow vehicle squats (lowers) a bit in the front (within $\frac{1}{2}$ ” of unhitched measurement), and the tow vehicle squats 1”-2” in the rear (depending on total tongue weight).
- If the ideal result has not been obtained, don’t worry, it rarely happens on the first try. Depending on where things are not ideal will determine where you need to make the adjustments.

Troubleshooting

Let’s start with the tow vehicle.

- **A.** Does the tow vehicle squat correctly (a little or none in the front and the same or a little more in the rear)?
 - If yes, move on to **D**.
 - If not, go on to **B**.
- **B.** Is the front of the tow vehicle higher with the trailer attached than it was without the trailer attached?
 - If **not**, move on to **C**.
 - If **yes**, there is probably not enough tension on the spring bars. You will need to increase the height of the weight distribution jacks.
 - Depending on how much the difference is, will determine the amount raised.
 - Start by raising $\frac{1}{2}$ ” to 1”. After making the adjustment, re-measure and start again at **A**.
 - If this does not correct the problem, it may also be necessary to add washers to the tilt pin or readjust the height of the adjustable hitch bar.

- **C.** Does the rear of the tow vehicle drop more than 1"-2" with the trailer attached?
 - If **not**, move on to **D**.
 - If **so**, there may not be enough tension on the spring bars.
 - You will need to increase the height of the weight distribution jacks. The measurement of drop will determine the amount you will need to raise the weight distribution jacks.
 - Start by raising ½" to 1" increments and remeasuring. If this does not correct the problem, it may also be necessary to add washers to the tilt pin or readjust the height of the adjustable hitch bar.
 - After making the adjustment, re-measure and start again at **A**.
- **D.** Are the weight distribution jacks raised to 8" or lower?
 - If so, move on to **E**.
 - If **higher than 8"**, it may be necessary to add washers to the tilt pin located in the adjustable hitch bar to change the pitch of the STINGER. Add the washer/ washers, start again at **A**.
- **E.** Is the trailer parallel to the ground or slightly lower in the front than the rear?
 - If **so**, this should do it, but check out **F** below (just in case).
 - If **not**, move on to **F**.
- **F.** Is the trailer higher in the front than the rear.
 - If **not**, move on to **G**.
 - If **so**, you need to lower position of the adjustable hitch bar to accommodate the difference. See **Page 6** in the manual.

If you have gotten this far, that means the tow vehicle is sitting reasonably well.

- Lowering the hitch bar will change both front and rear trailer measurements. Ensure this change is absolutely necessary before applying the change.
- If you choose to make the change, re-measure and start again at **A**.

- **G.** Since you've gotten this far, the front of the trailer must be sitting lower than the rear, so here is the final question...
 - Is the height of the Hitch Bar adjustable by **less than** the difference in height between the front and rear of the trailer? Now that may sound confusing so let me give you an example.
 - If the trailer is **2" lower** in the front than the rear and the hitch bar can be adjusted in 1" increments, then you need to make that adjustment, re-measure and start again at **A**.
 - But if the trailer is only **1" lower** in the front than the rear and the Hitch Bar can be adjusted in 1" increments, then that's it!

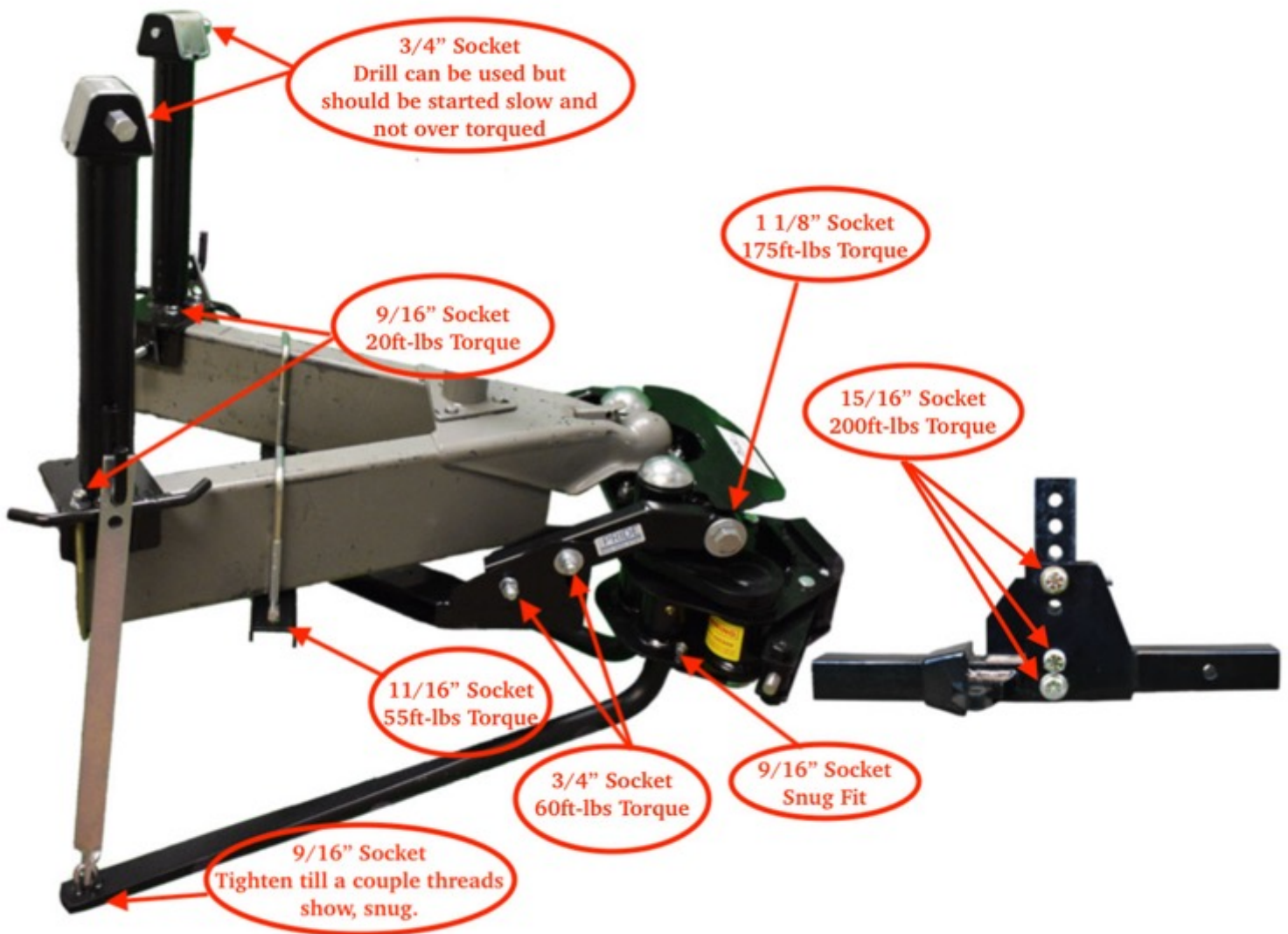
Make good notes as you make your adjustments so if you make a change and it makes things worse instead of better, you may need to make a different type of adjustment.

Congratulations! You have successfully set up the weight distribution side of your ProPride Hitch.

Now that you have everything hitched up and level, this would be a good time to see exactly how tall your trailer is.

- Measure from the ground to what you think is the highest point on the side of the trailer.
- Then climb up on the roof* to see if there is anything taller than where you measured to, like a roof-top air conditioning unit or vent cover.
- Add the appropriate distance and add a few more inches for a safety margin.
- Write this measurement down in your manual. You could also tape and stick it on the front windshield pillar (driver's side of course) or some other convenient place. This way, when you pull into a gas station or approach a low bridge or other structure, you'll know if your trailer will clear it or not.

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



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.

3P General Maintenance

- ***Keep it clean and free of debris. Treat your hitch like you treat your car and trailer!***
- ***Add Marine Grade Grease***
 - **Spring Bars**
 - Apply through zerk fittings, every 1000 miles or as needed. If you hear any noises coming from this area, check to make sure they are adequately greased. Grease should be slowly pumped in until you see it starting to appear where spring bar is inserted.
 - **Ball**
 - Apply enough to cover the ball. This should be done every 12-18 months or as needed.
- ***Lube/ condition (silicone spray) moving parts on main and jacks***
 - **OCL (Over Center Latches) and OCL Screws**
 - Apply spray, move OCL back and forth assuring smooth movement. Apply spray to the OCL screw (keep in mind position) screw in a couple turns each way to make sure they have smooth non-binding movement.
 - **Backside of Weight Distribution Jack (OIL hole)**
 - Insert tip of straw into OIL hole on backside of Weight Distribution Jack and spray in a couple pumps. Just enough to keep the welded outer sleeve beads moving smoothly along the inner sleeve groove.
- ***Chips or scratches to powder coat finish***
 - Clean effected spot thoroughly with soap and water to remove any existing corrosion, dirt or debris. (prep surface) If needed, lightly sand to remove. Apply Phantom Black or similar paint to effected area.

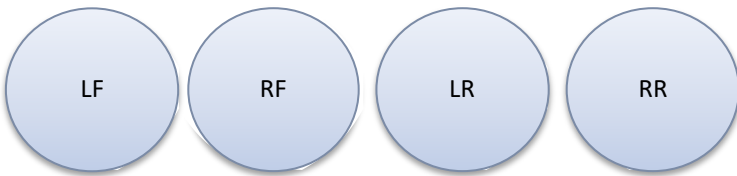


All in one Hitch Maintenance Kit Available at www.ProPrideHitch.com

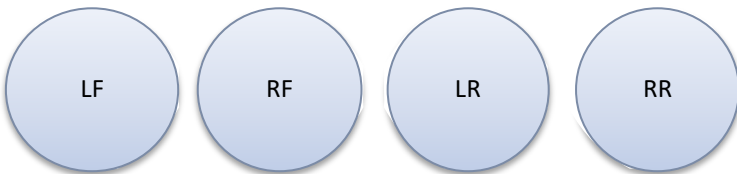
MEASUREMENT LOG

Tow Vehicle Bottom of Wheel Well to Ground

UNHITCHED

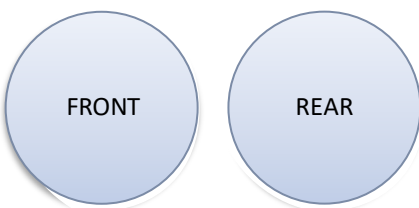


HITCHED

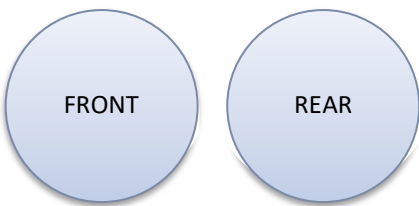


Trailer Frame Bottom of Frame to Ground

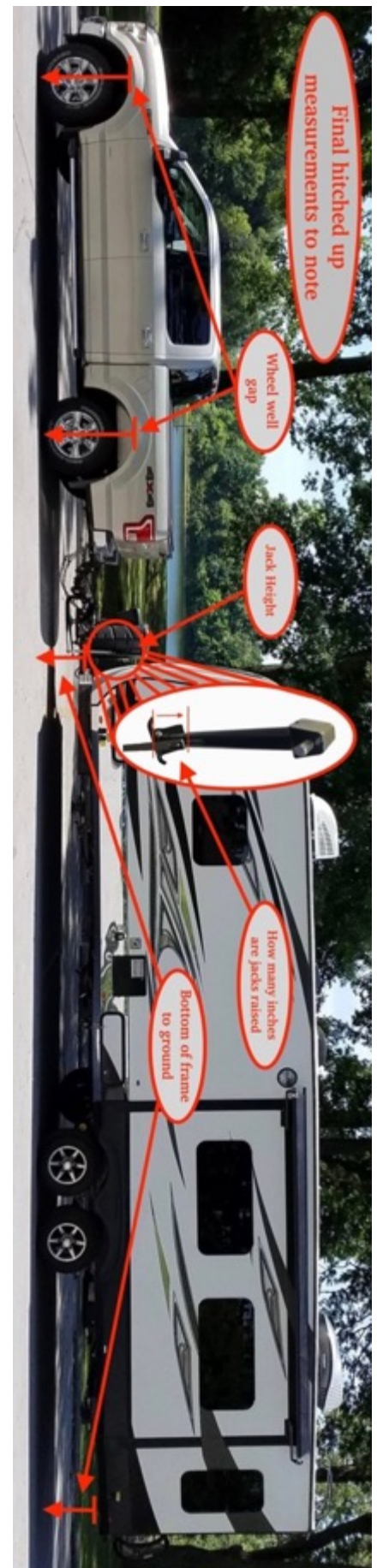
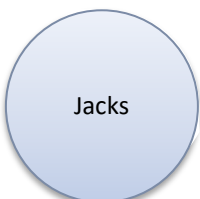
UNHITCHED



HITCHED



WEIGHT DISTRIBUTION JACK HEIGHT



NOTES