

*This is, and has been, a work in progress. Started in 2016 for use on my new 2017 Honda Ridgeline with a much larger bed. Then modified for my 2022 Maverick, ECB, Lariat, AWD, 4K tow, FX4. Off the shelf items were used/alterd when practical.*

Spreading the load between the hitch and bed is the reason for the extra hardware, there is virtually no bike weight on the tailgate. The spreader plate/'tailgate bridge' also provides a secure point to attach the bike ramp without requiring the use of a safety strap.

My intent for the design of this system was to be able to carry a bike on trips with my 'significant other'. This would allow us to address different interests while traveling, I could go riding and my 'SO' could use the truck for transportation to do other things of interest, or just follow me. We are in our senior years, and a lighter bike suits my riding needs, it also makes loading/unloading much easier/safer.

It is a simple system, reasonably easy to fabricate, with parts that can be sourced locally and/or online. An inexpensive 2,500 pound winch, with wireless remote control (Bluetooth), allows me to load/unload the bike. I used two 90", folding ramps that allow the tailgate to be closed when they are folded and secured in the truck bed. I walk up one ramp and the other ramp is used for the bike. No bolts are required to mount any of the parts, the winch and wheel chock are secured with 1, half inch SS rod for each, using hairpin clips to lock the rods in place. A hitch pin is used to secure the 'tailgate bridge' to the hitch mount adapter. Fuel economy is only reduced by about 2-3 MPG, and the truck still has adequate power for passing and use at higher elevations.

This system was originally designed for use on a 2017 Honda Ridgeline RLT (front wheel drive). It also seems to fit on all FWD/AWD models up to 2019. The load (bike) carried with this system is a 2019 Honda CB500XA, the bike/hardware load is about 500 pounds.

**Larger/Heavier bikes will require much stronger hardware/materials, and a larger truck.**

**CAUTION/DANGER - THE WINCH/BIKE/HITCH HARDWARE AND MOUNTING POINTS MUST BE CHECKED/VERIFIED TO DETERMINE IF THEY ARE CAPABLE OF HANDLING THE LOAD YOU PLAN TO USE THEM FOR.**

Bed length/ bike wheel base, and the load (bike) weight in relation to the truck load limits, are of critical importance when making the decision as to the truck/bike combination to be used. If the load you wish to carry is near the limits of the vehicle, you may need to make additions to your suspension to help compensate. I considered adding some type of load compensation/leveling components, but there were none available at the time (mid 2019) for the 2017-19 Ridgeline.

These photos are from the 2017 Ridgeline version, which I altered to fit the 2022 Maverick. They allow some extra space for clarity due to the larger bed. The Ridgeline version had well over 70,000 miles of testing, it was first used on a trip from Columbia, SC, to Moab, UT and back.

A wheelchair battery will handle the required current load with a minimum of large gauge wire being needed. Can trickle charge overnight, or use the truck to charge, either with the 12V system, or the included Lariat trim AC outlets.



*Winch on base, with wiring, wheelchair battery and wireless remote.*

As long as the battery is fully charged, have never had any issues with the battery needing a recharge while in use. Even with several loading/unloading before recharging.

Wireless remote, included with the winch package, is a major benefit for ease of use. I attach it to the left grip with a strip of velcro on the back of the remote, and a band of velcro wrapped around the grip. Remote is used for both loading and unloading the bike.







*Folding Condor wheel chock and mounting rail, Chock mounts with one pin. 2017 Ridgeline version.*



*One pin mounted Winch, battery, and wiring. 2017 Ridgeline version.*





*Ready to load. 2017 Ridgeline version.*



*Condor Pit Stop Model Motorcycle Wheel Stop Chock PS-1500 Aluminum*



## PARTS LIST

**Pit Stop/Trailer Stop Motorcycle Wheel Chock (Part #: PS-1500)** <https://www.condor-lift.com/product/pit-stop-trailer-stop-part-ps-1500/>

I removed the front crosspiece for mounting on rail. Highly recommend this product, it is well made, doesn't rust, and will hold your bike securely in place until you can attach the straps. Well worth the money.

This the current (07/10/2025) winch, battery and cable info:

**BADLAND ZXR 2500 lb. ATV/Utility Winch** with Wire Rope and Wireless Remote Control • SKU: 56258  
• <https://www.harborfreight.com/2500-lb-atvutility-winch-with-wire-rope-and-wireless-remote-control-56258.html>

**BADLAND ATV/UTV Synthetic Rope & Fairlead Kit** • SKU: 63139 • <https://www.harborfreight.com/atvutv-synthetic-rope-fairlead-kit-63139.html>

Be sure to use a *Deep Cycle* rated battery.

**ML18-12 - 12V 18AH CB19-12 SLA AGM Rechargeable Deep Cycle Replacement Battery** - Mighty Max Battery brand  
[https://www.amazon.com/dp/B00K8E4WAW/ref=pd\\_lpo\\_sbs\\_dp\\_ss\\_2?pf\\_rd\\_p=1944687542&pf\\_rd\\_s=lpo-top-stripe-1&pf\\_rd\\_t=201&pf\\_rd\\_i=B007GCDDOA&pf\\_rd\\_m=ATVPDKIKX0DER&pf\\_rd\\_r=9RV684FHFVHHCH1GDHWW](https://www.amazon.com/dp/B00K8E4WAW/ref=pd_lpo_sbs_dp_ss_2?pf_rd_p=1944687542&pf_rd_s=lpo-top-stripe-1&pf_rd_t=201&pf_rd_i=B007GCDDOA&pf_rd_m=ATVPDKIKX0DER&pf_rd_r=9RV684FHFVHHCH1GDHWW)

**1HYCLAT Red 6-10 Gauge Battery Quick Connect/Disconnect Wire Harness Plug Connector Recovery Winch Trailer** <[https://www.amazon.com/dp/B01KHQQY7E/ref=sspa\\_dk\\_detail\\_2?psc=1&pd\\_rd\\_i=B01KHQQY7E&pf\\_rd\\_m=ATVPDKIKX0DER&pf\\_rd\\_p=21517efd-b385-405b-a405-9a37af61b5b4&pd\\_rd\\_wg=sit2B&pf\\_rd\\_r=WK3E73NBWBVZTKBQ8EAP&pf\\_rd\\_s=desktop-dp-sims&pf\\_rd\\_t=40701&pd\\_rd\\_w=Tyyr3&pf\\_rd\\_i=desktop-dp-sims&pd\\_rd\\_r=52e06008-e1b0-11e8-9562-55116dfa5b52](https://www.amazon.com/dp/B01KHQQY7E/ref=sspa_dk_detail_2?psc=1&pd_rd_i=B01KHQQY7E&pf_rd_m=ATVPDKIKX0DER&pf_rd_p=21517efd-b385-405b-a405-9a37af61b5b4&pd_rd_wg=sit2B&pf_rd_r=WK3E73NBWBVZTKBQ8EAP&pf_rd_s=desktop-dp-sims&pf_rd_t=40701&pd_rd_w=Tyyr3&pf_rd_i=desktop-dp-sims&pd_rd_r=52e06008-e1b0-11e8-9562-55116dfa5b52)>

Crossbar for mounting the winch and chock is 3"x 5"x 3/8" aluminum. I was fortunate as my fabricator friend had it leftover from a previous project, and let me have it for a very fair price. Another type of metal angle of similar dimensions could be substituted.

## Maverick Version

Several revisions have been necessary to reach this point, where possible most of the material was reused in order to keep development cost down. This is the reason for extra holes and scruffy look. Almost everything is aluminum or stainless steel, mostly to prevent rust/corrosion, but lighter is always better, especially as you get older.

The spreader plate/'tailgate bridge' is fabricated from aluminum, and is wider than necessary for most tires, but it helps stabilize and spread the load at both ends. It is also wide enough to use as a connection point for attaching the bike ramp so you won't need to use a tie-down to keep it from detaching from the truck while loading/unloading.

It is offset to the left to allow the 'tailgate bridge' plate to sit squarely on the bed ridges. Also allowed extra room on the right side for stashing the ramps when not in use, and gives slightly better visibility to the right rear side.

Measurements for the spreader plate/'tailgate bridge':

12.5" Wide    32" Long    2" High



Hitch mount load arm, 26" extension, 12" rise. Fabricated with 2" Square steel tubing. Recommend a gusset, as shown, for strength. Could not find aluminum stock in the size required, so had to use steel. Reduced weight at this location would be better.



## Hitch Extender Details







Do not recommend the gusset brace, you can't make it taller as it will hit the tailgate exterior when lowered.





The hitch pin location is critical as it needs to be no longer than necessary to just allow the tailgate to be lowered. Every bit of additional length only increases the extended load to the rear of the truck. Not good for the suspension, or the handling.





On the bumper you can see a schrader valve on each side. In order to keep the rear suspension from settling to much, and help maintain the standard ride height, added an air bag spring kit: **Air Lift 1000 Air Spring Kit For Coil Springs | Rear Axle | SKU AIL60859** <[https://www.truckspring.com/products/Air-Lift-1000-Air-Spring-Kit-For-Coil-Springs-Rear-Axle\\_AIL60859.aspx](https://www.truckspring.com/products/Air-Lift-1000-Air-Spring-Kit-For-Coil-Springs-Rear-Axle_AIL60859.aspx)> 2022 Ford Maverick AWD. Only takes about 5-10 psi to keep the bed level. Opted for the manual inflate in order to keep costs down, thus



the need for a protected and accessible location. Installed two schrader valves as I wanted to be able to compensate for side to side load variances, as well as front to back. Air lines are connected side to side with an accessible cutoff valve. Found that most of the time my loads do not require side to side adjustments, so leave the valve open which allows using either valve for adding air.



New ramps from Tractor Supply: **Reese Arched Center-fold Loading Ramp**, 12 in. x 90 in., 1,500 lbs. Capacity, Pair • Item # 2409486 • <https://www.tractorsupply.com/tsc/product/reese-arched-center-fold-loading-ramp-12-in-x-90-in-1-500-lbs-capacity-pair-2409486>



## Load Transfer Plate Details



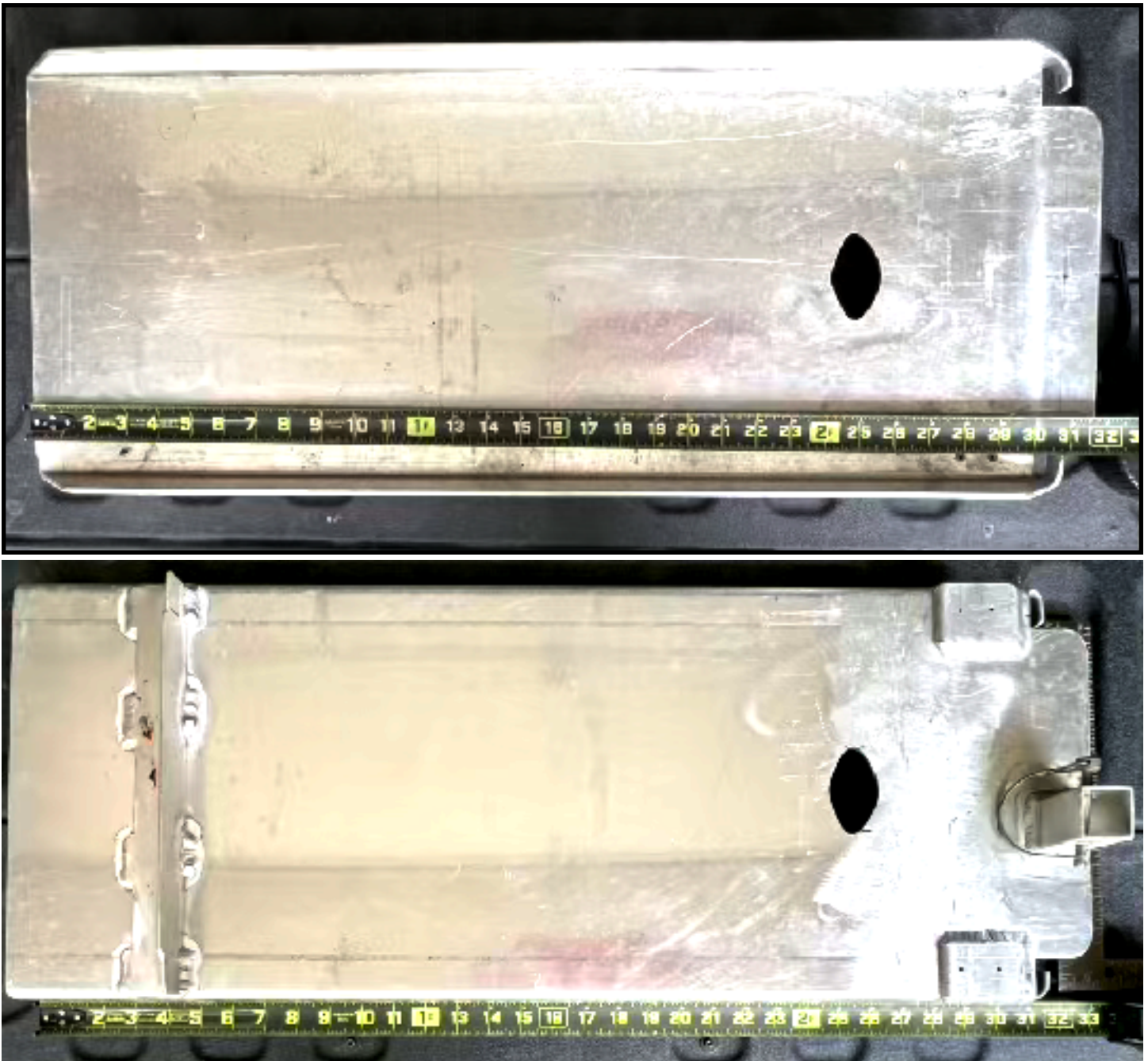
*Aluminum cross mounting rail at front of bed, is attached to the bed using the front hold down ring mounts with longer SS 8mm bolts, stock rings are on top, and the rail stays in the bed all the time.*

The inward facing 'ears' at the rear of the 'tailgate bridge' are there to retain the bike loading ramp.

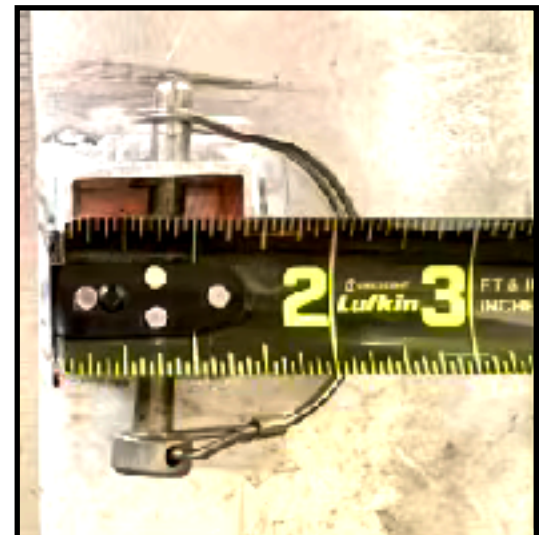
The 'fin' in the 2nd photo on the bottom, is to align the front mounting location with the rear edge of the bed, and to help stabilize the two contact locations.

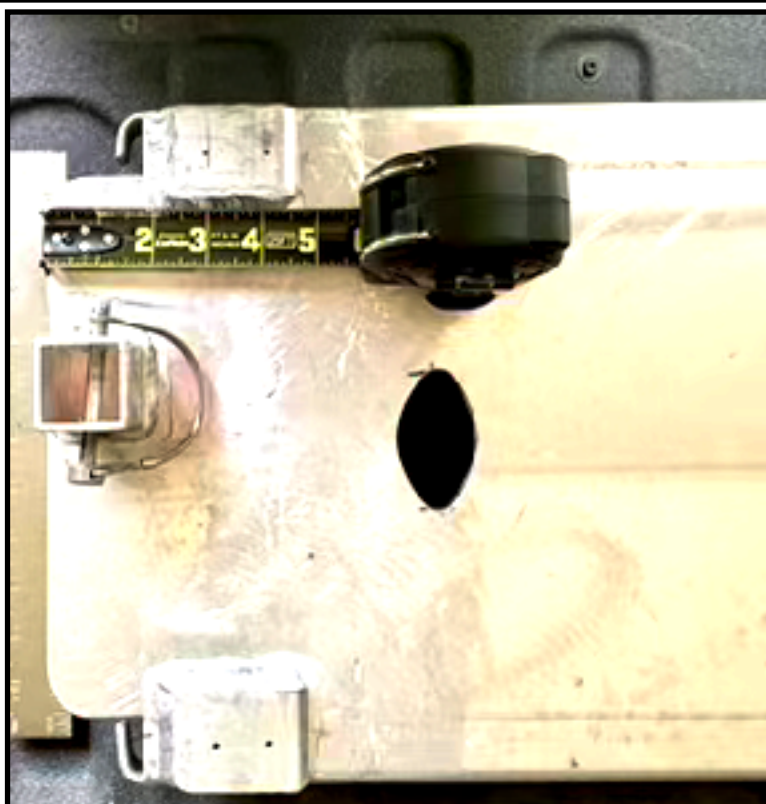
As mentioned previously, the 'tailgate bridge' plate is offset to the left to allow to sit squarely on the bed ridges.



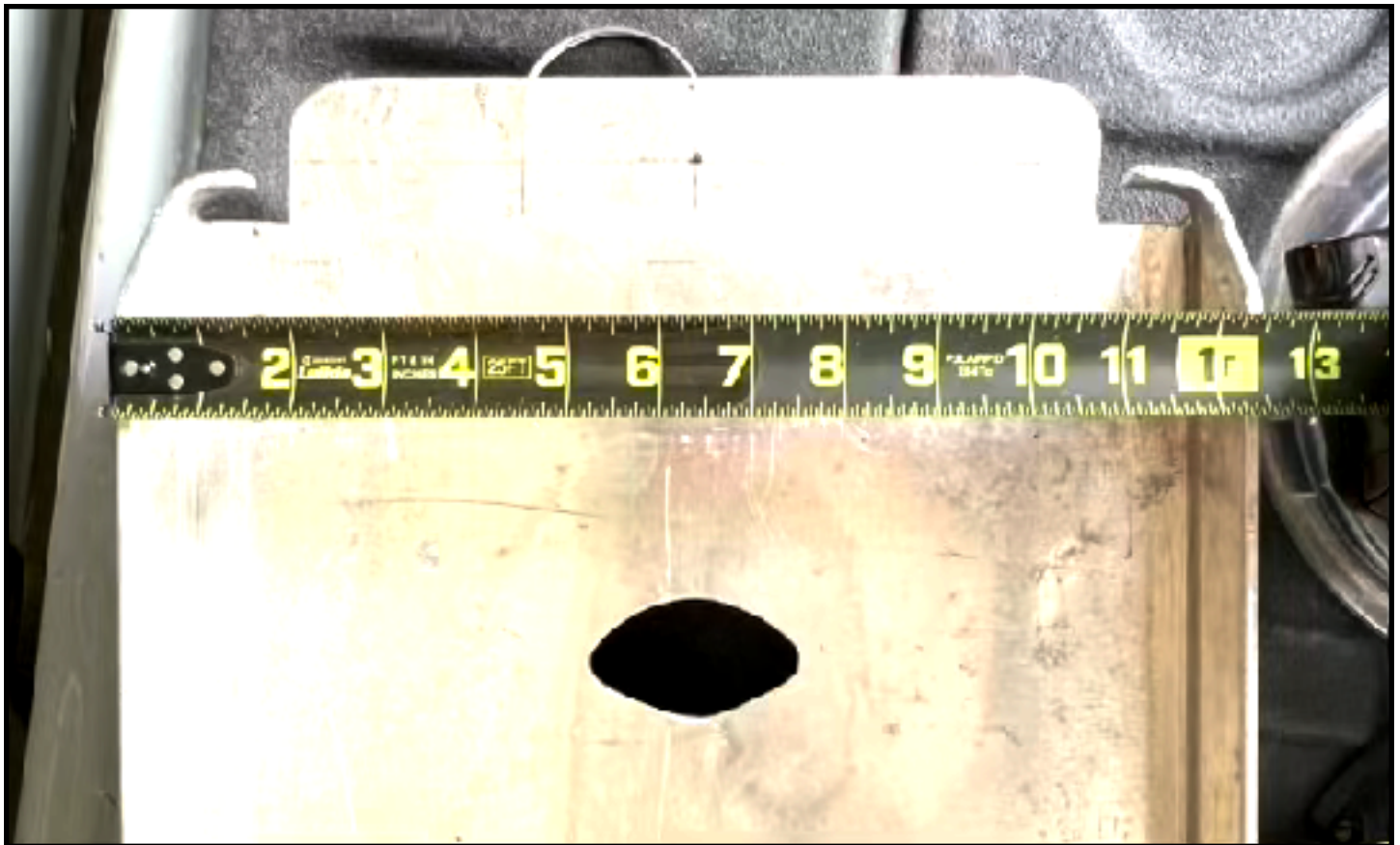


Square pieces on right side in above photo were used as spacers to raise the rear the plate to be level with the bed. Mine are .5", but probably would be different for each vehicle.











The hole in the center is not necessary, only there so a cable lock could pass through.

As configured the rollup bed cover does not need to be removed to load/carry the bike. When the bike is unloaded, the winch, chock, and other related bike loading hardware can be put in the bed, and the cover closed for security and weather protection. This setup also allows the use of the winch and ramps for other applications.

## LOOKING FOR A TAILGATE LEVELER?

Did check my truck on level concrete, no sag or lift at rear when unloaded. Rear edge of the tailgate is not level with the bed, drops about 1.25", see attached photo.



*This was/is a multiple headache issue, took several revisions to reach an acceptable solution. Still not 100% satisfied, but works OK until I, or someone, can come up with something better.*

May have a solution for those who are looking for a simple way to bring the 'Mav' tailgate level with the bed when the cables are on the upper posts. Know it may not satisfy everyone's needs, but you can modify the concept to suit your needs, and if you want to make something else, the measurements and insights could prove to be helpful. This only works using the upper tailgate posts. Do not have a solution for the droop when using the lower posts.



When I started, discovered the factory cables need to be 7/16" longer to level the tailgate with the floor. Do be advised, on my truck, the center of the tailgate has a slight crown that is higher than the two outer edges (long sides). This required a spacer plate on the rear edge of the 'tailgate bridge' to keep it from rocking side to side.

Also found, that on my truck, the left cable has less tension, when the tailgate is down on the lower posts, than the right. Not sure if it is in the cables, the mounting points or the tailgate, was going to swap them from left to right to see if that made a difference, guess what? They are specific to each side and cannot be swapped.

Two good reasons for raising the tailgate, it helps stabilize and spread the load for the load spreader plate. And keeps the ramp attachment points from being too out of phase.

This is my solution. Used a machine threaded, SS, J-Bolt, and a SS, female threaded lifting eye. Some shrink tubing as limit stop, shrink tubing also keeps the threads on the J-bolt from damaging the taillight lens. Red cable tie denotes the left side [old Navy guy]. This is necessary because of the previously mentioned sag problem between the sides.

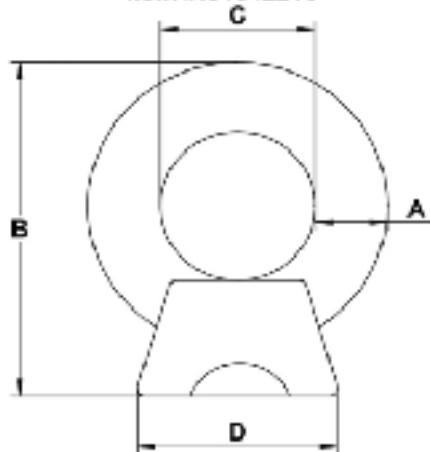
The bike ramp attaches about 2.5-3" farther back than the walk ramp. This puts its lower but closer to the tailgate, so bringing the tailgate up minimizes the difference.

You will need 2 lifting eye nuts, and 2 you can use Galv, SS or Plated, SAE or metric that have similar dimensions. Eye diameter [C] must be .75 inch, and larger is not better.



1/4" Stainless Steel Eye Nut with 5/16"-18 UNC Tap

Item #:51812210



Eye Thickness (A): 1/4 inches  
 Threads Per Inch (TPI): 5/16"-18 UNC  
 Overall Height (B): 1.56 inches  
 Eye Diameter (C): 0.75 inches  
 Shoulder Width (D): 0.63 inches

This is what I used, but is showing "Currently unavailable. We don't know when or if this item will be back in stock", but will give you a starting point to try and find something similar.

[https://www.amazon.com/dp/B01AYI74WE?ref=ppx\\_yo2ov\\_dt\\_b\\_fed\\_asin\\_title](https://www.amazon.com/dp/B01AYI74WE?ref=ppx_yo2ov_dt_b_fed_asin_title)

Couldn't find a galvanized, or SS J-Bolt that would work, so had to use this.

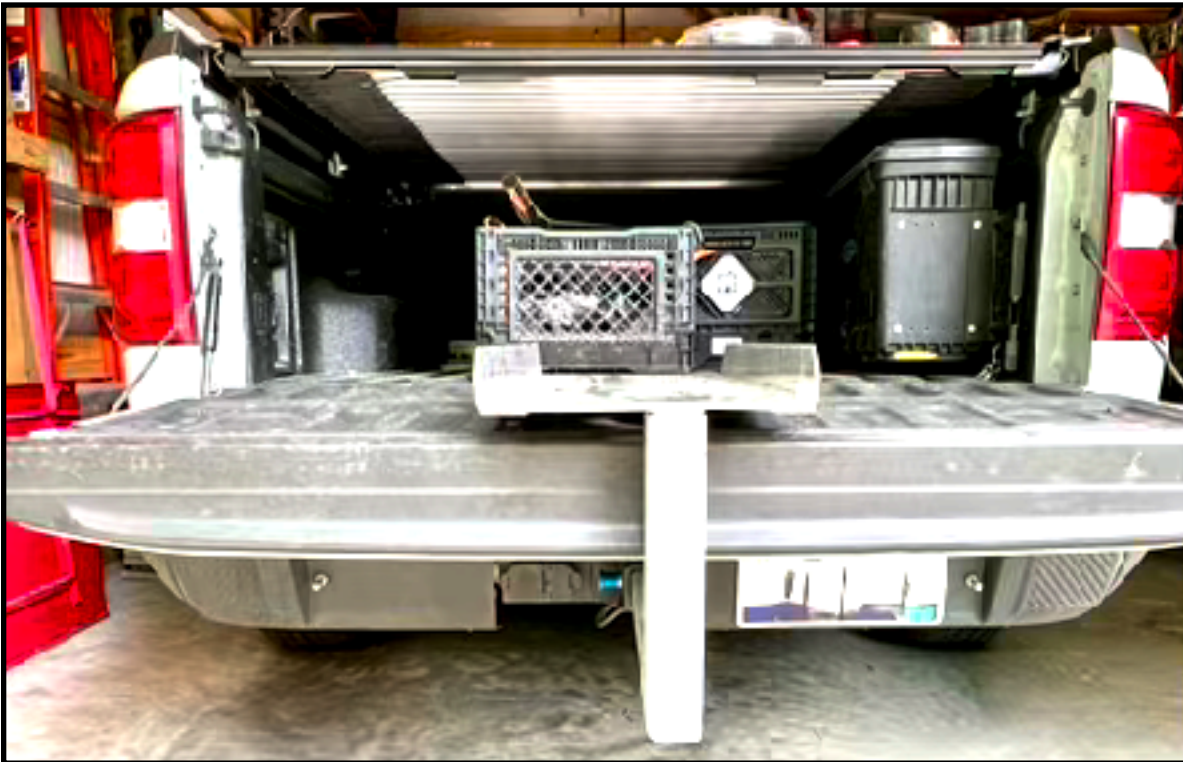
**National Hardware N232-926 2195BC J Bolt in Zinc plated**

[https://www.amazon.com/dp/B0CHN4L9CW?ref=ppx\\_yo2ov\\_dt\\_b\\_fed\\_asin\\_title&th=1](https://www.amazon.com/dp/B0CHN4L9CW?ref=ppx_yo2ov_dt_b_fed_asin_title&th=1)

I had to cut the J-bolts to length. If you leave them a little long so they screw up to almost touch the tailgate pin, this will keep them from 'dancing off the pin on rough roads.

Be advised each truck will probably be different, *this is a trial and error fitting*, you may go through a couple of J-bolts before you get it right. And the right side will most assuredly not be the same as the left side. Don't ask me how I know.

This is why I needed a way to level tailgate with the bed.







Do like 'Rock & Roll', just not when on a set of ramps holding onto 450 pound of MTC!

Feel free to contact me for additional info. However we might want to converse via another method if you wish to get greater details. Hope this has been useful, and wish you success should you do something like this.

~ *hpdl* (herr professor doktor lesmeister) 🤖