

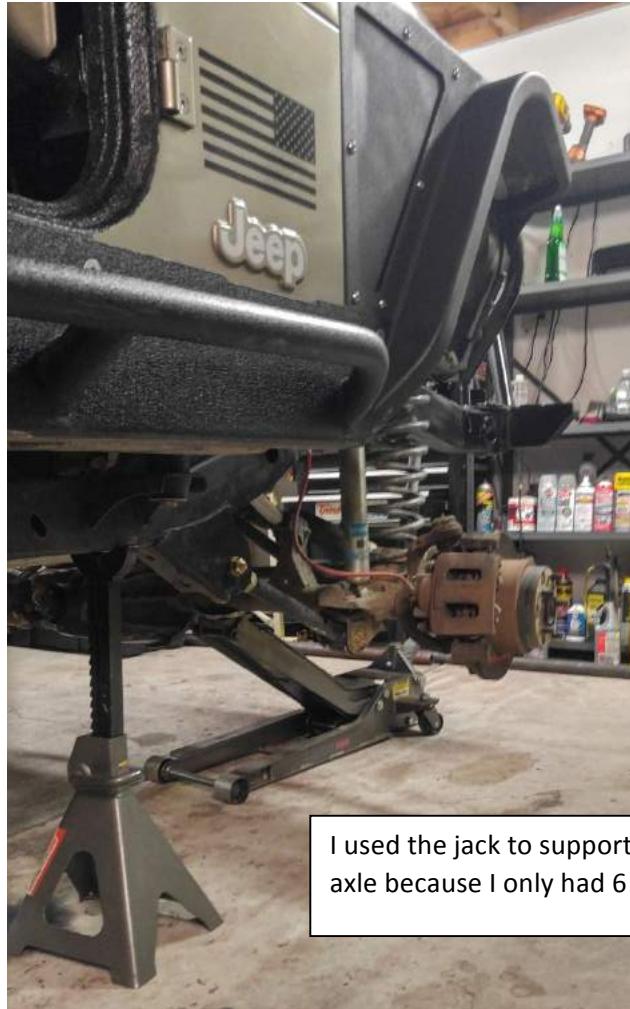
Savvy Mid Arm, Savvy Under Armor, Savvy Rear Tailgate Aluminum

About a month ago I purchased Savvy's new Mid Arm Kit. I wanted to do a write up for Marty and the boys of Savvy Off-Road and hopefully give future Jeepers an insight on the installation process and what they may have to look forward to. I am in no way affiliated with Savvy but have had several of their products over the last few years to include their Springs, Short Arm Kit, Modular Under Armor (Tummy-Tuck) and Aluminum Tail Gate Cover. This is my first write-up so forgive my misspelling and grammar.

A two post lift would be ideal, but I didn't have one in my Jeep shop (aka back garage). Get the jeep off the ground and supported with 4 good size jack stands. The bigger the stands the better because you will want as much room under the Jeep as possible to have room to work.



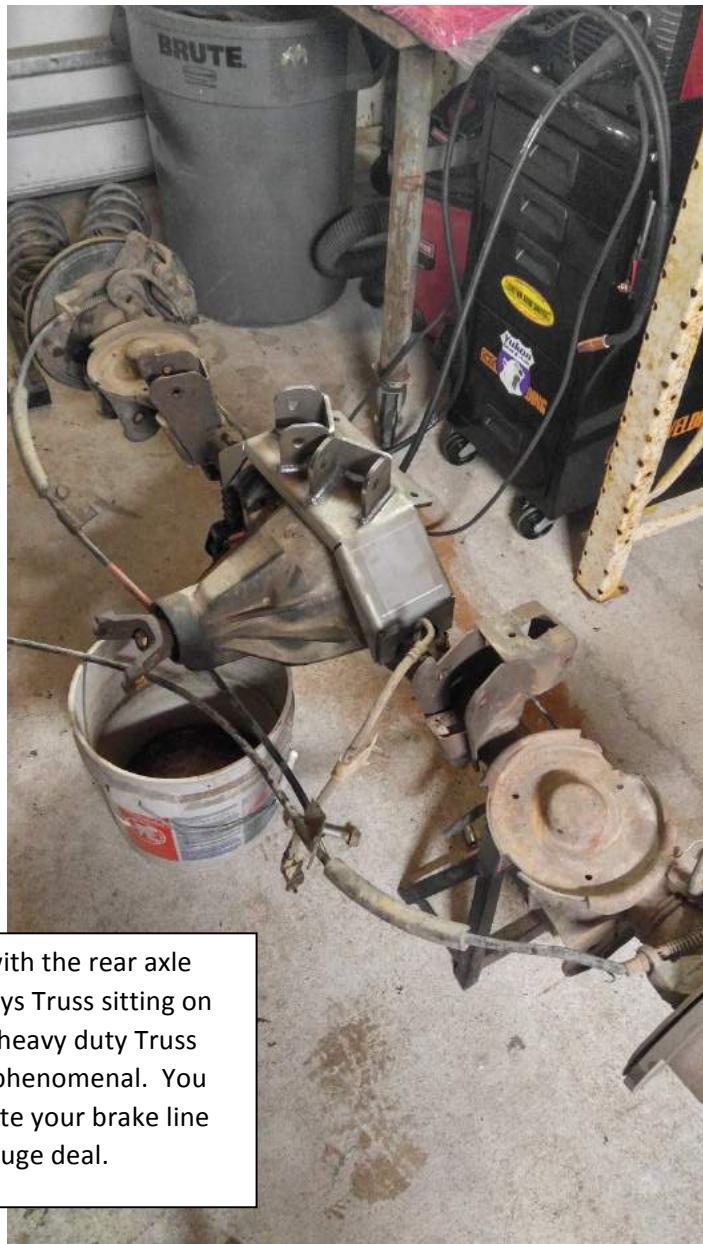
Once you feel you have the Jeep securely supported, you'll want to jack up the axles and place jack stands under the axles to relieve some pressure from connected components.



I used the jack to support the front axle because I only had 6 Jack Stands.

I started with the rear end. You can look up a youtube video to see how to remove your axles. It's a pretty simple process. Think I got both removed by myself in less than 3 hours. Took me almost as long to get the jeep jacked up, supported, remove the wheels, driveshafts and tummy tuck.

Once you have the axles removed, put them somewhere you can easily work on them. Now is an excellent time to do some routine maintenance and go over everything. I have pinion seals and bearings that needed to be replaced and a bad ball joint.



Here is a picture with the rear axle removed and Savvys Truss sitting on the axle. This is a heavy duty Truss and placement is phenomenal. You will have to re-route your brake line but this wasn't a huge deal.

Here the front axle is removed. I had to get some more jack stand and put the axle on them as well



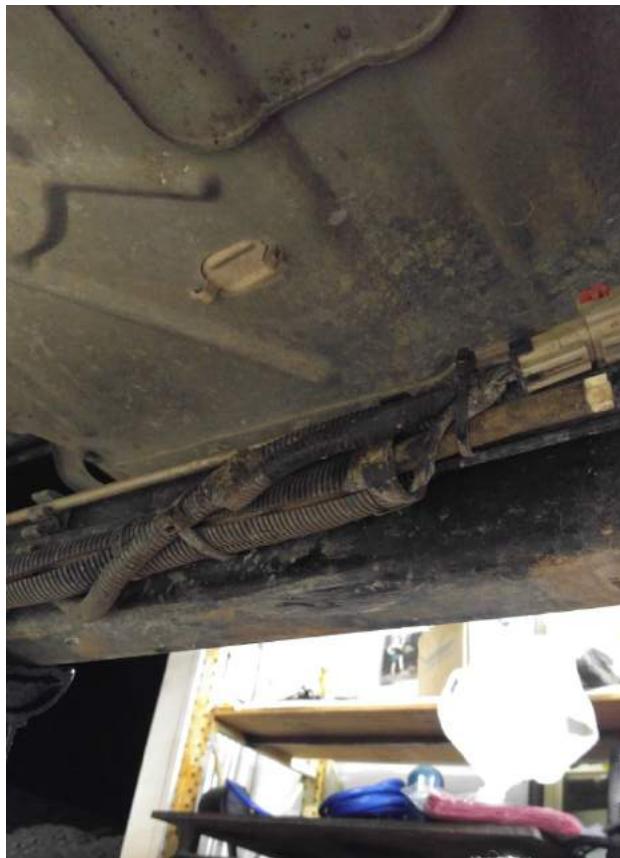
Now the fun begins. It's time to start cutting the stock brackets off. Hopefully you have a plasma cutter. A cut off wheel will work just fine, but a lot more time consuming.



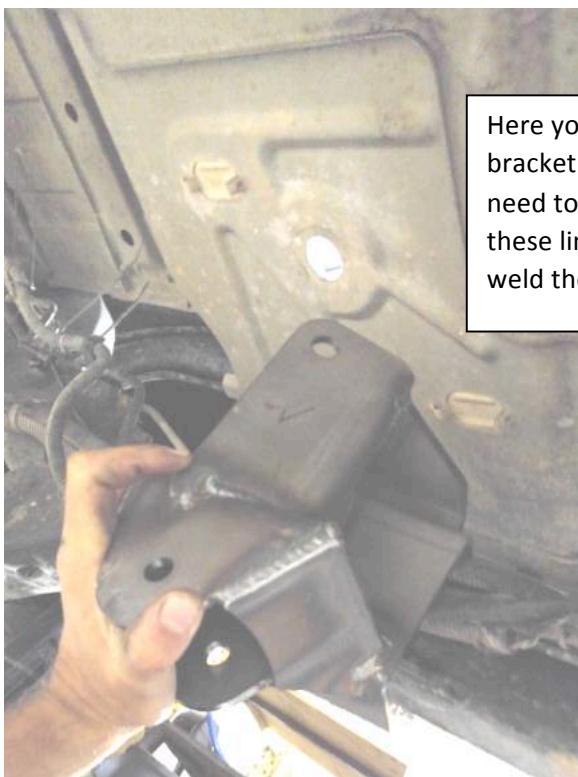
This was the most time consuming process to cut all control arm brackets off the frame and grind everything smooth.



Be careful cutting around brake lines, locker lines and electrical lines.



You will have to un-clip all these lines. I pushed them all up in between the frame and the body. I have a body lift for the tummy tuck which gave plenty of clearance for lines and hoses.



Here you can see about where the bracket will go and why the lines need to be relocated. Do not forget these lines when it comes time to weld these brackets on.

Once I got all the control arm brackets removed from the frame and got everything ground down and clean I went back to the rear axle.



I removed this bracket that holds the brake line to the axle. It may not seem the brake line will have enough to be rerouted, but if you carefully work with the line it will bend around the diff cover.



You can see how I have the brake line in front of the diff cover for now. The bracket you see on top of the diff cover is what you will use to align the rear truss. I put this bracket on and tightened the bolts only tight enough to hold it in place but still able to move the bracket.

Twoafds



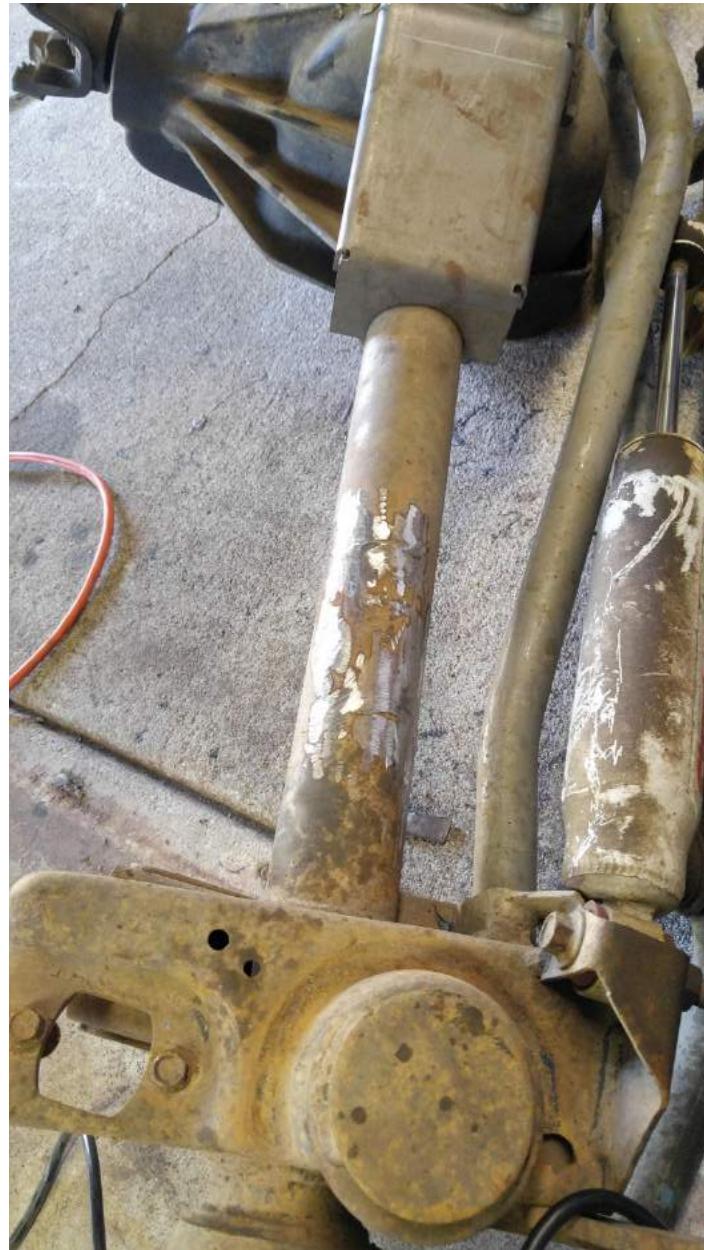
The top 2 bolts align the truss to the bracket I showed on the previous picture. I wasn't a huge fan of the tight bend of the brake line but it hasn't been a problem so far. Time will tell.



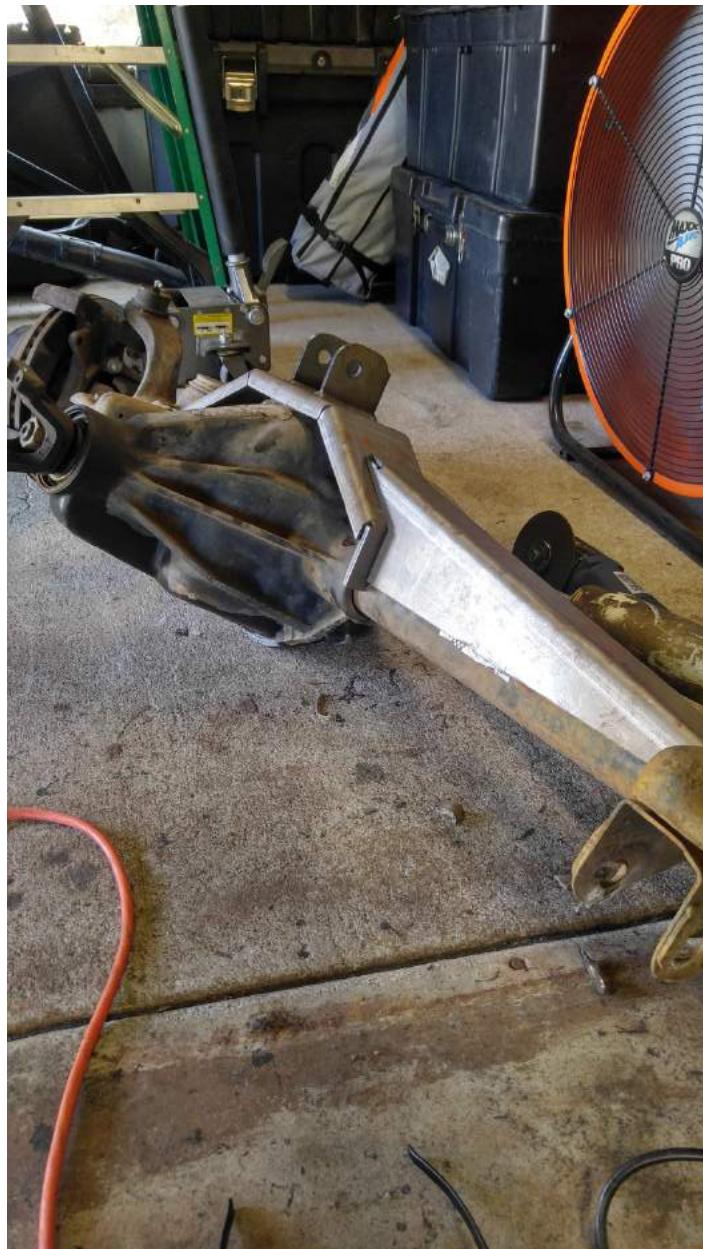
Here you can see where the upper control arm brackets were cut off the axle and the truss were welded to the axle. I was running short on time and didn't grind the old brackets smooth, but I will when I get back from my Colorado trip. Prior to welding this bracket to the axle Marty recommended I grind the top of the axle housing I believe a 1/16, but don't remember the exact measurement. See picture below.



Once I got the rear truss welded on and upper control arm brackets removed from the axle I began working on the front axle.



Again you have to remove the 2 upper control arm brackets from the front axle. This time I removed and ground clean and painted.



Again, the test fit was perfect. Marty gave me specific instructions on how to weld these brackets in place so I don't apply too much heat and end up warping the axle tubes. 1-1/2" welds and 1-1/2" spacing in between the welds in the pattern you would use to tighten head bolts. A Criss/Cross pattern starting from the outside and working your way in. I took several breaks making sure not to warp anything.



My welds weren't all pretty but they got the job done. Seems like the more beer I drank the worse my welds looked.



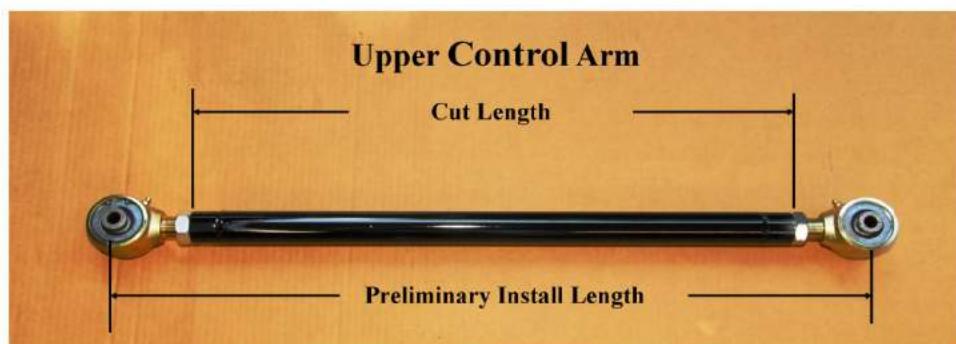
I will put the documents that I received from Marty for the placement of the brackets that still need to be welded to the frame. Be sure to prep the frame and grind everything down to bare metal for good weld penetration. Also these documents will give you an initial setup for control arm lengths.

**Savvy Offroad
Mid Arm Suspension
Installation Guidelines and Notes**

Page 2



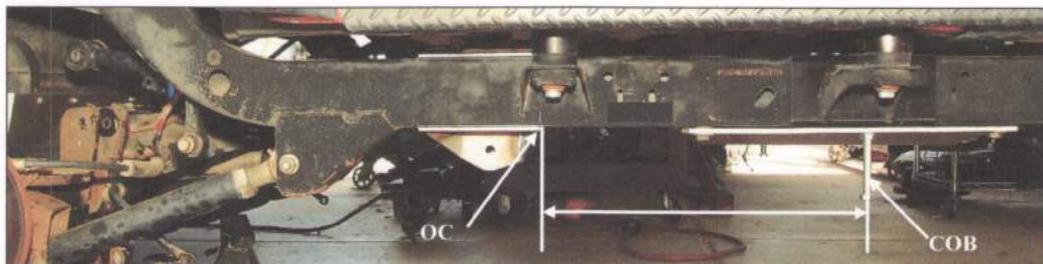
Year Model	Front Cut Length	Front Install Length	Rear Cut Length	Rear Install Length
97-02 TJ	20"	25.75"	21.00"	26.25"
03-06 TJ	20"	25.75"	21.00"	26.25"
04-06 TJ Unlimited	20"	25.75"	22.25"	27.50"



Year Model	Front Cut Length	Front Install Length	Rear Cut Length	Rear Install Length
97-02 TJ	20.50"	26.375"	25.00"	30.50"
03-06 TJ	20.50"	26.375"	25.00"	30.50"
04-06 TJ Unlimited	20.50"	26.375"	25.00"	30.50"

Savvy Offroad Mid Arm Suspension Installation Guidelines and Notes

Page 3



Use the picture as a reference to understand how to do the measuring to locate front and rear mounts on the frame. The picture shows the rear mount. The same method is used for the front, just reversed so you measure from the *rear* lower outer corner (OC) to the center of the bolt (COB).

Use the dimensions in the table which are measured from the same middle skid bolt for front and back mounts. Front mount location dimension is given from the center of the middle skid plate bolt (COB) to the rear outside lower corner of the mount (OC) when it is tight to the inner face of frame.

Rear mount location dimension is given from center of the middle skid plate bolt (COB) to the front outside lower corner of the mount (OC) when the mount is tight to frame.

Note— do not confuse or mix the years and models of the frame the kit is being installed on. The middle skid plate bolt is not in the same place on the 97-02 frame as it is on the 03-06 frame. Trim levels do not affect the frame dimensions. The TJ Sport frame is the same as the TJ Rubicon frame so all dimensions apply.

Note— It is imperative that you do not alter the dimensions. If you try to cheat some wheelbase in the front, you will run the upper mount into conflict with the firewall. If you try to cheat some wheelbase in the rear, you will move the mount forward to a spot that affects the angle and contact of the C channel to the frame and the angle it needs to sit at to be correct.

If you do manage to cheat some wheelbase, then the control arm lengths will be incorrect with regard to the amount of exposed thread on the Joint shanks and can lead to damage or bending of the shanks if proper thread engagement is not maintained.

Model	Year	Front Mount OC to COB	Rear Mount OC to COB
TJ	97-02	18.5"	12"
TJ	03-06	20.5"	10.0"
TJ Unlimited	04-06	20.5"	19.0"

The location of the bracket placement is an exact measurement and the initial setup of the control arms are a starting point. You will have to make adjustments for pinion angle and I also have some clearance issue with diff cover clearance on the front. You absolutely need to test and tune. Get your bump stops set up correctly, ensure your axles are sitting square and get a front end alignment. Here are pictures of this kit on my jeep. I haven't had the chance to test and tune, but will get this perfect very soon.





Another problem you may run into is your exhaust clearance. You will likely need to have your exhaust rerouted to clear the rear control arm.