



Stop!!!!!!!

Caution

Modifying a vehicle for off-road use, whether it is center of gravity, suspension or steering, will change the way it handles both on and off road. Reaction, ride and possible premature wear on parts are possible. Extreme caution is recommended when encountering off camber or abrupt maneuvers. Avoid sharp turns that may result in a vehicle's loss of control and/or possible roll-over causing serious injury or death. Height modifications may increase a vehicles susceptibility to roll-overs. Know your provincial, territory, or state lift/modification laws. Not all modifications may be legal for road or safety certification in your area. Knowing your provincial, territory, or state laws is the responsibility of the purchaser and/or vehicle operator.

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## **4.5" Alter Ego Suspension Lift Installation Instructions for 99+ Tracker/Vitara/Grand Vitara**

**Zuki Nation always recommends having a licensed professional install any kits or parts.**

**Please read all instructions carefully before installing any kit or parts.**

**When installing hardware and super flex joints apply anti seize to threads or bolt shafts when going through sleeves**

**Lift was designed for a 3.75-4.25" backspace wheel, if you are using a different backspace wheel the wheel may contact the back of the control arm at full lock. If this happens adding some material (1/8" is usually more than sufficient) will need to be added to the steering stop.**

### **Front**

1. Secure front of vehicle under jack stands making sure you have enough room to work.
2. Remove front tires.
3. Remove strut brace under hood.
4. Remove front drive flanges.
5. Remove snap rings and washers on CV shaft.
6. Remove brake line clips on strut and frame.
7. **\*\*IF YOUR VEHICLE HAS ABS\*\*** Unbolt ABS sensor from frame and unplug connector under hood, using a pair of plyers pop the plastic clip out that holds the wiring to the inner fender.
8. Remove calipers (leave brake lines attached) and secure them out of the way, remove brake rotor.
9. Remove sway bar end links (a-arms) and remove sway bar.
10. Place floor jack underneath a-arm and apply small amount of pressure. Remove tie rod nut (17mm) and hit knuckle with hammer to release tie rod from knuckle. Loosen and remove two 17mm bolts attaching strut to knuckle. Remove ball joint castle nut (19mm or 7/8") and hit knuckle with hammer to release ball joint from knuckle. Remove knuckle from vehicle. Slowly release pressure off floor jack to release pressure on coil. With a-arm completely dropped out remove coil. Repeat for passenger side. Once both coils are removed and control arms hung out move to under the hood, unbolt both struts x3 14mm nuts and remove struts from vehicle.
11. Remove both front control arms.
12. Unbolt driver side CV shaft from differential (x3 14mm bolts).
13. Drain front differential.
14. Using a flathead screwdriver or pry bar, pry between the passenger side cv shaft and differential while turning the cv shaft in the differential. This will release the circlip inside and remove passenger cv shaft.
15. Unbolt front driveshaft from front differential and tie up with bungee cord or mechanics wire to frame.
16. Unbolt centre differential mount from differential and frame, using a pry bar pry the mount out towards the rear of the vehicle. It is difficult but will wiggle out.
17. Remove breather line from top of front differential and undo the lower air actuator line on the pumpkin of the differential.
18. Loosen the 17mm bolt that holds the driver side differential bracket in place, leave this bolt in place for now but threaded all the way out.
19. Support differential with floor jack or a second person to hold it, remove the 4 14mm bolts that go through the passenger side differential bracket to the differential housing.

20. Now remove the 17mm bolt holding the drivers side differential bracket in the truck, this will release the differential from the truck and you can lower it or lift it out of the truck, remove driver side differential bracket from differential once it is out.
21. Remove the passenger side differential bracket from the frame held in with 17mm bolt.
22. With the differential on the floor you can now prep it for reinstallation (not all front casings are the same and some require die grinding on the bottom to clear the front crossmember). If your differential has a piece of aluminum that runs from the pinion to the front of the third member that hangs down it must be ground the clear the crossmember. (Pictured for reference) You can use a die grinder with an aluminum bit for this. If you have a steel case front differential you will not need to clearance.



23. Install driver and passenger side differential drop brackets loosely into truck, then lift differential into place and run all 7 bolts in **LOOSELY**. (Not all differential casings are threaded the same, some may require stacking two flat washers on each bolt due to them not being threaded deep enough from the factory).
24. Disassemble centre differential bracket by removing the 14mm bolt that retains the rubber bushings, remove metal sleeve from inside of bushings and cut sleeve down to 1 11/16<sup>th</sup>". Reinstall bushings into new supplied centre differential bracket and tighten to original frame side bracket with the original 14mm bolt. Reinstall centre differential bracket into truck bolting to the differential first and then to the frame.

**\*\*For 2002+ models with U shaped centre differential mount\*\***

Unbolt centre 17mm bolt and remove, undo the two 14mm bolts that hold the rubber bushing to the crossmember and remove the bushing. Unbolt the U shaped bracket from the differential x2 17mm bolts. Bolt new U shaped bracket to differential, reinstall rubber bushing and bolt to crossmember, then reinstall 17mm bolt, use leftover 12mm 1.25 nut from upper strut bolt to secure.

25. Once all differential bolts are installed you may tighten them, failure to leave all the bolts loosely installed while fitting the differential into the brackets will result in misalignment of the differential and a large struggle to install the bolts through their brackets. This will inevitably strip your bolts and the differential housing.
26. Reinstall driver and passenger side CV shafts.
27. Fill the front differential with 80-90W gear oil.
28. Reinstall front driveshaft to front differential.
29. Reinstall breather hose to top of differential.
30. Reinstall air actuator line to pumpkin of differential.
31. Clean all debris and grit etc from driver side front knuckle and CV end.
32. Liberally apply wheel bearing grease to inside of the knuckle assembly and bearings.
33. Liberally apply wheel bearing grease to the end of the CV, paying special attention to both back shoulder areas.
34. Install supplied tubular front control arms, and then install ball joints to the control arms. **Ball joints go on the bottom of the control arm.** Ensure you install the drilled 14mm sleeve into the rearward bushing as it uses a 14mm bolt.
35. The front struts must be slotted for alignment purposes, mark the top hole of the strut (where it bolts to the knuckle) 3/16" back towards to body of the strut centered to the original hole and centre punch. Drill with a 7/16" drill bit, this will mate the two holes together with a small amount of material in between, die grind the two holes together to create a slot. If you do not wish to prep the struts yourself you can purchase a pre prepped set from us.



36. The knuckle must be prepped for alignment purposes, belt sand the back side of the knuckle where it bolts to the strut behind the top hole till it is flat with the rest of the knuckle, this will allow the knuckle to tilt further back into the strut. If you do not have a belt sander a grinder with a stone will work as well.



37. Install strut spacer onto factory strut mount using factory 10mm nuts. There is an alignment tab on the factory strut mount that needs to be cut off or flattened before you install strut spacer to mount. Install struts into vehicle using supplied 10mm nuts and lock washers. Ensure your 3 bolt strut brace pattern is at an angle towards the front of the vehicle so you can reinstall the strut brace.
38. **\*\*IMPORTANT\*\*** Install new polyurethane coil isolator to the lower control arm and coil with the the small wound end up, and ensure the bottom pigtail of the coil is pointed towards to ball joint . Hold a-arm up with your hand. Place floor jack underneath ball joint where it bolts to the arm, preferably only catching the furthest most inside bolt. (To the inside of the vehicle). Jack up a-arm to compress the spring. *\*Be careful\** This may cause the frame to temporarily lift off the jack stand on the side you are jacking up. This is not uncommon; the spring must be compressed heavily to install the knuckle assembly to the strut. Install the prepped knuckle assembly and thread on ball joint castle nut loosely and install factory 17mm strut bolt in bottom hole and supplied 12x70mm with flat washers, lock washer and nut on the top hole of the strut.
39. Lower the jack slowly, when the knuckle starts to tilt back towards the body of the strut tighten up the top and bottom bolt when the top bolt is  $\frac{3}{4}$  of the way back in the slot. This will give you an acceptable amount of camber to transport your vehicle to the alignment shop when the installation is complete. Completely release jack and lower vehicle back down to jackstand. Tighten up lower ball joint castle nut.
40. Reinstall brake rotor and brake caliper, clip brake line back into strut bracket.
41. Bolt ABS sensor back to strut and frame mounts, plug in under hood and reclip into the fender.
42. Reinstall CV shaft spacer and snap ring and full time drive flanges, manual locking hubs are recommended as drive flanges turn CV shafts 100% of the time causing excess wear on CV and differential components.
43. Reinstall tie rod to knuckle and tighten.
44. Repeat for passenger side.

45. Reinstall sway bar (optional) Flip sway bar so the hoop is on the passenger side. Use supplied blocks to space the sway bar down where it mounts to the frame with the supplied hardware. Bolt end links loosely to the control arm with the pin facing outboard, put end links through sway bar and secure with nuts. Tighten end link down to control arm to compress bushings and then tighten end link to sway bar.
46. Double check all hardware to ensure it is tight.
47. Mount front tires and secure lug nuts.
48. Lower the vehicle onto front tires gradually until strut bar aligns with strut mounts, use supplied spacers and bolts to secure strut bar to strut mounts.
49. After completing the installation of the front your alignment will need to be set, in order to drive it to the alignment shop you must roughly set your toe to drive the vehicle. Do this by cracking the jam nuts on the tie rod assemblies and threading each side evenly until the front tires are pointed straight at ride height, this will be enough to get you to the alignment shop. Give the alignment shop our lift kit specifications, these differ from factory specifications but are required for our lift kit to ensure proper ride quality.  
CAMBER: 0.5 to 1 degree of POSITIVE camber on EACH front wheel. TOE: 1/16<sup>th</sup> Toe IN.

## Rear

1. Secure rear of vehicle on jack stands on the frame. Place floor jack on the center of the rear differential and jack up slightly to take pressure off the suspension.
2. Remove rear tires.
3. Remove driver and passenger side rear lower links. These may need to be cut out to be removed. Be careful not to cut the frame mounts.
4. Install rear lower links using factory hardware due to captured nuts. These will require 64mm sleeves and poly bushings to be installed
5. Repeat for the upper links, the upper links require the 49mm sleeves and poly bushings installed.
6. Install new extended brake line.
7. If your vehicle is equipped with the load sensing ABS proportioning valve that has a spring attaching to the rear axle, passenger side upper link mount, the spring mount will need to be relocated as high as possible straight above its normal location on the factory upper mount. Simply locate new position and drill a hole in the appropriate location and nut & bolt in place.
8. Remove Panhard bar from upper frame mount and loosen lower axle mount.
9. Install supplied Panhard drop bracket, mount with lower hole, then drill/ fit upper hole to match. Some massaging may be required to fit this bracket into the frame mount due to differences in the factory mount. Use supplied hardware.
10. Reinstall Panhard into new upper bracket.
11. Jack up rear of vehicle as high as safely possible, set on highest setting of jack stands. Place small amount of pressure on rear differential and remove rear shocks.
12. Take pressure off, lower jack and allow rear differential to lower completely. Pay attention to not over extend brake line. Remove rear coils. Install new rear coils, making sure pig tail matches the spring seat.
13. Install new rear shocks and small sleeves provided into lower shock bushings. On some models the shock may contact the brake line, if this happens slight manipulation of the hard lines may be required to gain clearance.
14. Install rear drive shaft spacer.
15. Tighten all link, Panhard, suspension shock bolts. Double check to make sure all are tight.
16. Extend rear differential vent tube. (If required)
17. Mount tires.
18. Remove from jack stands.

**Re-torque your suspension bolts after 400 kms and periodically check every few months or oil change to make sure bolts have not backed off.**

When the vehicle is all back together and on the ground, it will sit higher than the 4.5" specified. The ride will be firm initially. It will remain this way until the springs start to break in. When the springs are fully broken in you will have 4.5" of lift and a soft ride. Break in time varies.

