



Part#: **018300**

Product: **3" Front Spacer, 2" Rear Coil Spring Kit**

Application: **Toyota FJ Cruiser**

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## **READ AND UNDERSTAND ALL INSTRUCTIONS AND WARNINGS PRIOR TO INSTALLATION OF SYSTEM AND OPERATION OF VEHICLE.**

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**SAFETY WARNING** BDS Suspension Co. recommends this system be installed by a professional technician. In addition to these instructions, professional knowledge of disassembly/ reassembly procedures and post installation checks must be known.

**PRODUCT SAFETY WARNING** Certain BDS Suspension products are intended to improve off-road performance. Modifying your vehicle for off-road use may result in the vehicle handling differently than a factory equipped vehicle. Extreme care must be used to prevent loss of control or vehicle rollover. Failure to drive your modified vehicle safely may result in serious injury or death. BDS Suspension Co. does not recommend the combined use of suspension lifts, body lifts, or other lifting devices.

You should never operate your modified vehicle under the influence of alcohol or drugs. Always drive your modified vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Always wear your seat belt.

### **PRE-INSTALLATION NOTES**

1. Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/ reassembly procedures of OE and related components.
2. Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.
3. Larger rim and tire combinations may increase leverage on suspension, steering, and related components. When selecting combinations larger than OE, consider the additional stress you could be inducing on the OE and related components.
4. Post suspension system vehicles may experience drive line vibrations. Angles may require tuning, slider on shaft may require replacement, shafts may need to be lengthened or trued, and U-joints may need to be replaced.
5. Secure and properly block vehicle prior to installation of BDS Suspension components. Always wear safety glasses when using power tools.
6. If installation is to be performed without a hoist, BDS Suspension Co. recommends rear alterations first.
7. Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle attitude. Always measure the attitude prior to beginning installation.

### **POST-INSTALLATION WARNINGS**

1. Check all fasteners for proper torque. Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members. Verify clearance between exhaust and brake lines, fuel lines, fuel tank, floor boards and wiring harness. Check steering gear for clearance. Test and inspect brake system.
2. Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members. Inspect rear brake hoses at full extension for adequate slack. Failure to perform hose check/ replacement may result in component failure. Longer replacement hoses, if needed can be purchased from a local parts supplier.
3. Perform head light check and adjustment.
4. Re-torque all fasteners after 500 miles. Always inspect fasteners and components during routine servicing.

## PARTS LIST

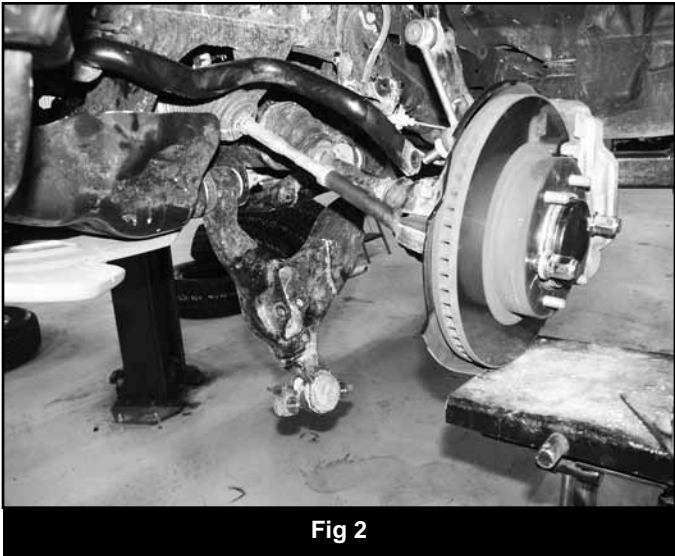
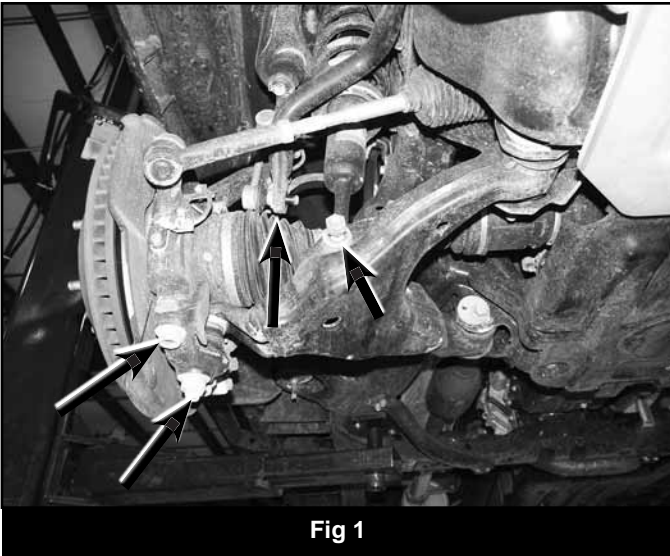
Part #	Qty	Description
01414	2	Strut Spacer
117300006	4	Stem Washer
SB12BK	4	Stem Bushing
518	1	Bolt Pack
01434	2	Rear Sway Bar Links
SB58RB	2	Sway Bar Link Bushing
62147	2	1.375 x 0.075 x 1.375 Sleeve



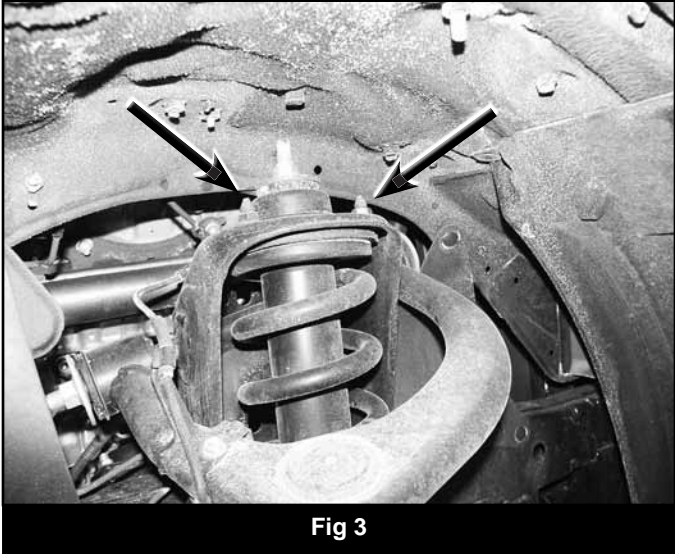
## INSTALLATION INSTRUCTIONS

### Front Installation

1. Park the vehicle on a clean, flat surface and block the rear wheels for safety.
2. Raise the front of the vehicle and support the frame with jack stands behind the lower control arms.
3. Remove the front wheels.
4. Disconnect the sway bar links from the sway bar (Fig 1). Retain hardware.
5. Support the lower control arm with a hydraulic jack
6. Loosen the lower control arm bolts. This will allow the lower control arm to swing out of the way. Note: The front mount requires that the bolt head be turned not the nut.
7. Remove the 2 bolts that attach the lower control arm to the lower ball joint (Fig 1).
8. Remove the lower strut bolt. (Fig 1)
9. Lower the jack and allow the lower control arm to swing down. (Fig 2)



10. Locate the driver's and passenger's top strut mounting nuts (Fig 3). Remove the three nuts that hold each strut to the frame. CAUTION: DO NOT remove the center strut nut. It is under extreme pressure. Remove the strut from the vehicle by lowering it straight down.

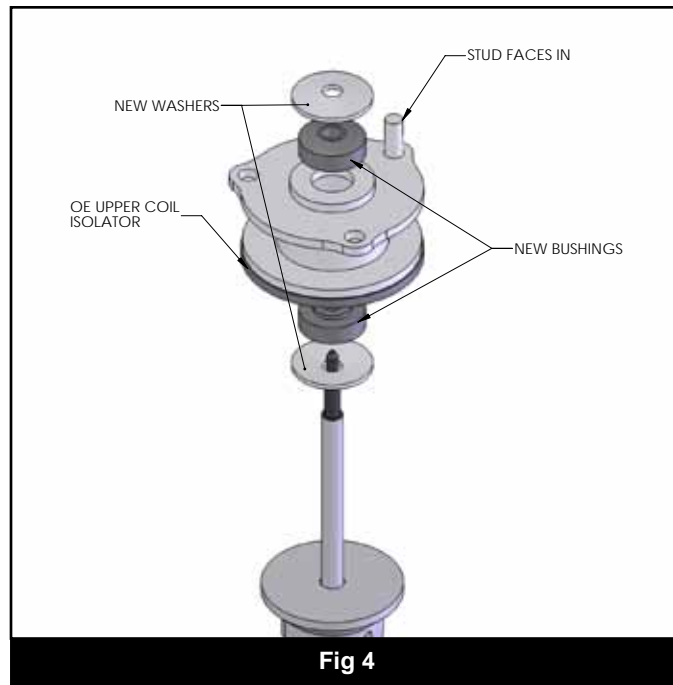


**Perform the following steps one side at a time, starting with the passenger's side.**

- 11. Mark the strut to indicate correct side (drv or pass). Retain hardware.
- 12. Remove the strut from the vehicle.
- 13. Mark the relationships between the top strut plate, coil spring, coil spring mount and strut. Also mark what side of the strut faces in. The mark on the top plate will need to be transferred to the new top plate provided to ensure the strut is reassemble correctly for proper alignment during installation.

Note: A high-quality wall mounted coil spring compressor (Branick or equivalent) is recommended for the installation. A rod style compressor is sufficient, but use extreme caution and inspect all components for signs of wear and/or fatigue before each use.

- 14. Compress the spring enough to relieve pressure from the strut rod nut. Remove the nut and remove the top washer, strut plate, rubber/plastic isolator and lower washer.
- 15. Transfer the mark on the OE top strut plate to the new one. Install the OE isolator on the new strut mount by lining up the alignment marks. Note: The welded stud will face 'in' on the vehicle.
- 16. Install the new strut mount/isolator on the strut with new bushings and cup washers (Fig 4). Compress the spring enough to install the bushing and stem washer on top and retain the assembly with the OE nut. Tighten nut to 30 ft-lbs.

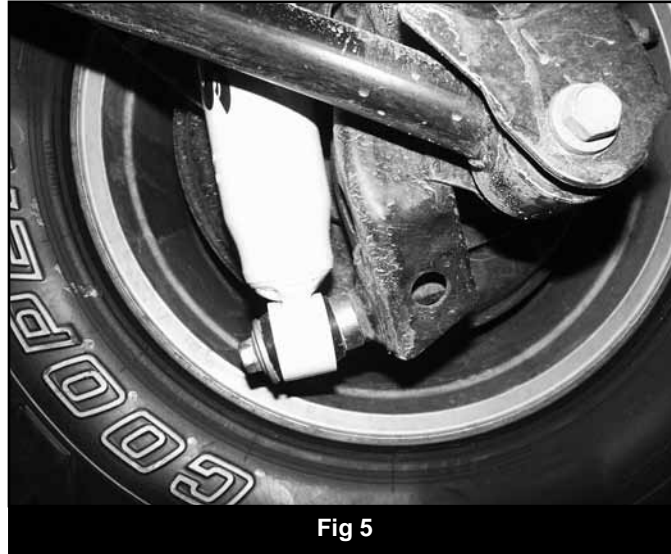


17. Release the spring compressor.
18. Install the modified strut assembly in the vehicle by aligning the one welded stud in the top plate with inside mounting hole. Fasten the strut to the frame with 7/16" x 1-1/4" bolts, nuts, and washers on the studs. Leave hardware loose. Note: It may be necessary to slightly clearance the mounting holes with a die grinder or 7/16" drill bit.
19. Attach the strut to the lower control arm with the OE hardware. Snug nut but do not tighten. Final torque will be done with weight of the vehicle on the suspension.
20. Attach the lower control arm to the lower ball joint with the OE bolts. Use Loc-tite on the threads. Torque hardware to 95 ft-lbs. Note: Use a jack to slightly compress the strut if necessary.
21. Torque the upper 7/16" hardware to 50 ft-lbs.
22. Repeat procedure on the driver's side.
23. With both sides complete, reattach the sway bar links to the sway bar with the OE hardware.
24. Install the wheels and lower the vehicle to the ground.
25. Bounce the front of the vehicle to settle the suspension. Torque the lower strut mount hardware to 175 ft-lbs.
26. Adjust and tighten the lower cam bolts. Have an assistant help adjust the toe before driving the vehicle to an alignment shop. A front end alignment **MUST** be performed.
27. Check all hardware for proper torque.
28. Check hardware after 500 miles.

## Rear Installation

29. Block the front wheels for safety.
30. Raise the rear of the vehicle and support the frame with jack stands.
31. Support the rear axle with a hydraulic jack.
32. Disconnect rear sway bar links, retain bushings / washers.
33. Disconnect rear shocks (retain hardware) and lower the axle.
34. Remove coil springs retaining insulators to be installed on new springs.
35. Install coil spring insulator on new spring and install into spring pocket.
36. Jack up rear axle high enough to install rear shocks.

37. Install new rear shocks with new bushings and washers. Attach the lower mount as shown with OE hardware and spacer washer. Tighten upper nut until bushings begin to swell. Tighten lower hardware to 65 ft-lbs. (Fig 5)



38. Install new sway bar links with new lower hourglass shaped bushing and sleeve. Attach with 12mm x 60mm bolt with 7/16" USS (large outside diameter) washers, and nut (BP #518). Attach top of sway bar link with OE bushings / washers and new 5/16" nylock nut. Tighten 5/16" nut until bushings begin to swell, torque 12mm hardware to 45 ft-lbs.
39. Lower vehicle to ground and bounce suspension to allow it to settle.
40. Recheck all fasteners for proper torque.
41. A front end alignment must be performed.
42. Recheck all fasteners after 500 miles and at regular scheduled maintenance intervals.