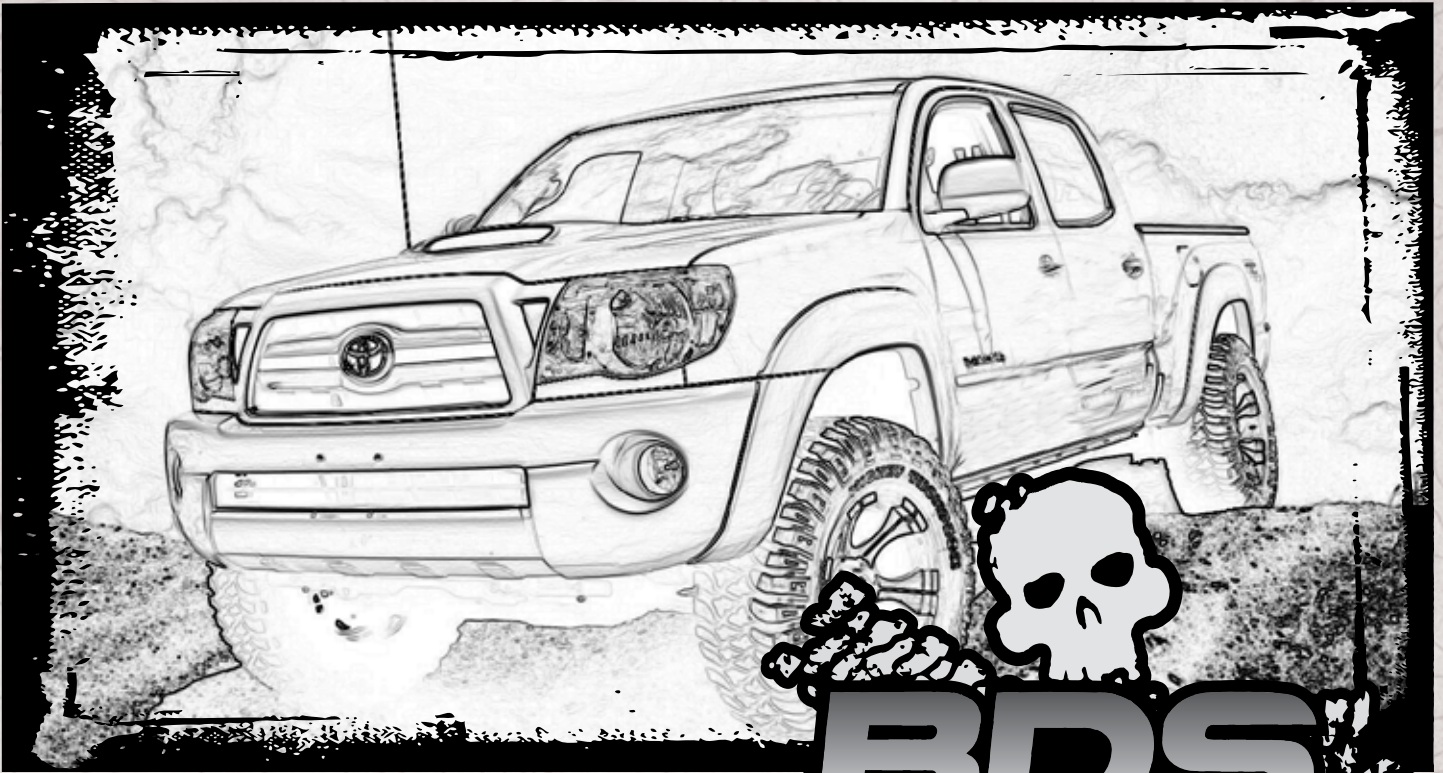


Installation instructions

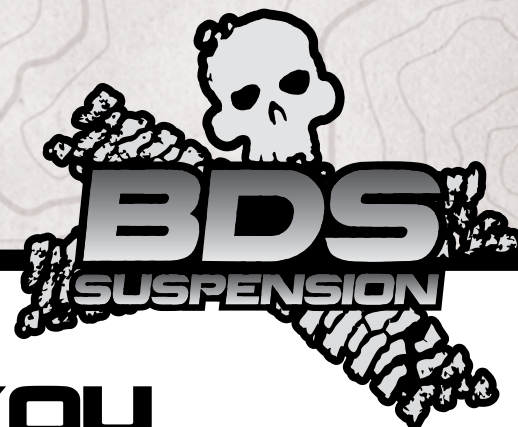


Part#: 028601, 028611

4" & 6" Suspension System

Toyota Tacoma 4WD | 2005-2016

Read And Understand All Instructions And Warnings Prior To Installation Of System And Operation Of Vehicle.



THANK YOU

Your truck is about to be fitted with the best suspension system on the market today. That means you will be driving the baddest looking truck in the neighborhood, and you'll have the warranty to ensure that it stays that way for years to come.

Thank you for choosing BDS Suspension!

BEFORE YOU START

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.

FOR YOUR SAFETY

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.

BEFORE INSTALLATION

- Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
- Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.
- 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.
- 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.
- Secure and properly block vehicle prior to installation of BDS Suspension components. Always wear safety glasses when using power tools.
- If installation is to be performed without a hoist, BDS Suspension Co. recommends rear alterations first.
- 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.



TIRES AND WHEELS

This kit is designed to work with 18x9 or 20x9 rims with 4-1/2" backspacing. Max tire size is 35x12.50 for 6" kits, 33 x 12.50 for 4" kits. Front wheel well modification is required to clear a 35" tire, see end of instruction sheet.



BEFORE YOU DRIVE

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.

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.

Perform head light check and adjustment.

Re-torque all fasteners after 500 miles. Always inspect fasteners and components during routine servicing.

CONTENTS OF YOUR KIT

Part #	Qty	Description
02450	1	Drv Knuckle
02451	1	Pass Knuckle
02469	2	Weld On Steering Stop
02468	2	Sway Bar Offset Brackets
02454	1	Front X-Member (2005-2015)
02455	1	Rear X-Member (2005-2015)
02930	1	Front X-Member (2016)
02931	1	Rear X-Member (2016)
02456	1	Diff Skid
02457	1	Drv Side Diff Bracket
02458	1	Pass Side Diff Bracket
02459B	2	Bump Stop Bracket
02460E	4	Cam Washer (Frt) (2005-2015)
02461E	2	Cam Washer (Rear) (2005-2015)
02932	1	Front Cam Plate (2016+)
02933	1	Rear Cam Plate (2016+)
02462	2	Upper Strut Spacer (6in)
01278	2	Strut Preload Spacer (6in only)
02467	2	Upper Strut Spacer (4in)
02463	1	Brakeline Brkt - Drv Side
02464	1	Brakeline Brkt - Pass Side
799	1	Bolt Pack - Rivet Nut Installation
	1	1/2"-13 x 2" bolt grade 8
	1	1/2" SAE flat washer
	1	1/2" star washer external tooth
	1	9/16"-18 hex high nut
664	1	Bolt Pack - 1 (2005-2015)
	2	3/4"-10 x 5" bolt - grade 8
	2	3/4"-10 Prevailing torque nut
	4	3/4" SAE Washer
	2	9/16"-12 x 5-1/2" bolt - grade 8
	5	9/16"-12 Prevailing torque nut
	10	9/16" SAE Thru-hardened washer
	3	9/16"-12 x 4-1/2" bolt - grade 8
	2	M14-1.50 x 35mm bolt - class 10.9
	2	9/16" SAE Washer
	8	1/2"-13 x 1-1/4" bolt - grade 8
	8	1/2" SAE Thru-hardened Washer

Part #	Qty	Description
689	1	Bolt Pack - 1 (2016+)
665	1	Bolt Pack - 2
	6	M10-1.25 x 25mm bolt - class 8.8
	6	3/8"-16" x 1-1/4" bolt - grade 8
	2	3/8"-16 Serrated edge flanged nut
	6	3/8"-16 Prevailing torque nut
	8	3/8" SAE Washer
	2	3/8" USS washer
	4	5/8"-11 x 2" bolts - grade 8
	4	5/8" SAE Washer
666	1	Bolt Pack - 3
	2	5/16"-18 x 1" self threading bolt
	4	5/16" SAE Washer
	2	5/16"-18 Nylock nut
	2	5/16"-18 x 1" bolt - grade 5
	2	3/32 x 1-1/4" cotter pin
	2	1/8 x 2" cotter pin
	4	Wire clamps
629	1	Bolt Pack - Strut Spacers
	6	10mm-1.50 prevailing torque nut
	6	3/8" USS flat washer
75	5	Sway Bar Spacer Sleeves
3624RB	6	Differential Flanged Bushings
15	3	Sleeves
95105A169	2	Rivet Nuts
	4	Zip Ties
	2	Loc-Tite Tubes
M03415-BK-01	2	Urethane Bumpstops

Rear Box Kit

4KBW96	2	4" Tapered Rear Block (4" only)
3KBW96	2	3" Tapered Rear Block (3" only)
962961138Q	4	9/16" X 2-9/16" X 11-3/8" Sqr
W96S	8	9/16" Sae Washer
N96FH	8	9/16" High Nut
01623	1	90 Degree Brakeline Bracket @ Axle
YJTC5	2	Carrier Bearing Drop Kit
W12USS	8	1/2" USS Washer - Clear Zinc
668	1	Rear Kit Bolt Pack
02466	2	Rear E-Brake Cable Bracket



TROUBLESHOOTING INFORMATION FOR YOUR VEHICLE

1. CV shaft seals that press into the knuckle are reused with this kit. Take care not to damage them during removal and reinstallation.

TECH TIPS

INSTALLATION INSTRUCTIONS

INSTALLATION INSTRUCTIONS

1. Park vehicle on a clean, flat, and level surface. Block the rear wheels for safety.
2. Raise the front of the vehicle. Place jack stands under the frame rails to support vehicle.
3. Remove the factory skid plate, keep all hardware. (Fig 1)

SPECIAL TOOLS

Welder

Sawzall

FIGURE 1



4. Remove the skid plate mounting bracket rails; keep all hardware (7 bolts) (Fig 2).

FIGURE 2



5. Disconnect the brake line bracket from the steering knuckle and disconnect ABS wire from the bracket. Disconnect the brake calipers from the knuckle. Hang the caliper out of the way. Do not allow the caliper to hang from the brake line. Keep all hardware. (Fig 3)

FIGURE 3



6. Disconnect the ABS wire from the upper control arm, backside of the steering knuckle, and steering knuckle bracket. Disconnect the ABS sensor from the steering knuckle. Use care not to damage the sensor. If it is difficult to remove, wait until the hub is removed and press from the inside of the hub bore. Retain hardware. (Fig 4a, 4b)

FIGURE 4A

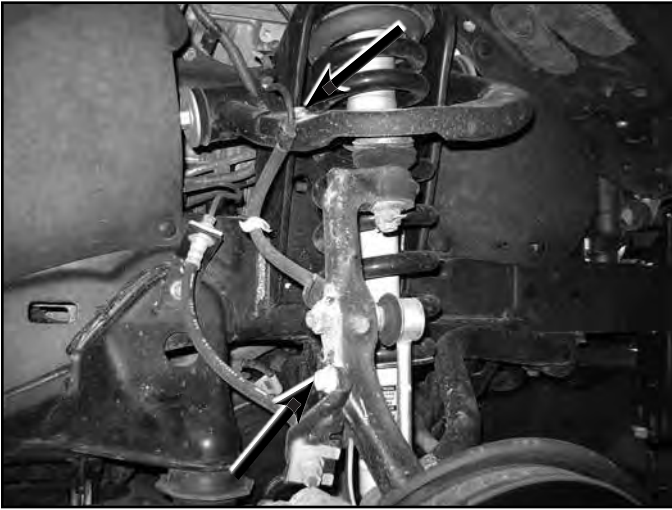


FIGURE 4B



7. Disconnect the sway bar link from the steering knuckle. Do not damage the threads or the hex that is in the end of the sway bar link. (Fig 5)

FIGURE 5



8. Remove the sway bar from the vehicle; remove the hardware that attaches the horse shoe shaped brackets to the frame. These 4 bolts will not be reused. (Fig 6)

FIGURE 6



9. Remove the CV dust cap. Remove cotter pin, castellated cap, and CV nut. (Fig 7a, 7b)

FIGURE 7A



FIGURE 7B



10. Remove the cotter pins on the upper balljoint and tie rod end. Remove nut, then loosely reinstall several turns by hand. Dislodge the taper by striking the side of the knuckle with a hammer as shown. (Fig 8)

FIGURE 8



11. Remove the lower ball joint to steering knuckle mounting hardware. It will not be reused. Remove the steering knuckle assembly from the vehicle. It may be necessary to use a punch and hammer to dislodge the CV from the hub.
12. Remove the lower strut bolt and control arm cam bolts. Keep all hardware for reinstallation later.
13. Clean the lower ball joint steering stops from any rust / debris. Weld the steering stops on as shown. (Fig 9a & 9b)

FIGURE 9A



FIGURE 9B



14. Wait for arms to cool and coat with paint to prevent rust.
15. Remove the factory bump stops, they will not be reinstated. (Fig 10)

FIGURE 10



16. Support the strut, remove the 3 nuts on strut studs, remove from the vehicle. Keep nuts for reinstallation. (Fig 11)

FIGURE 11

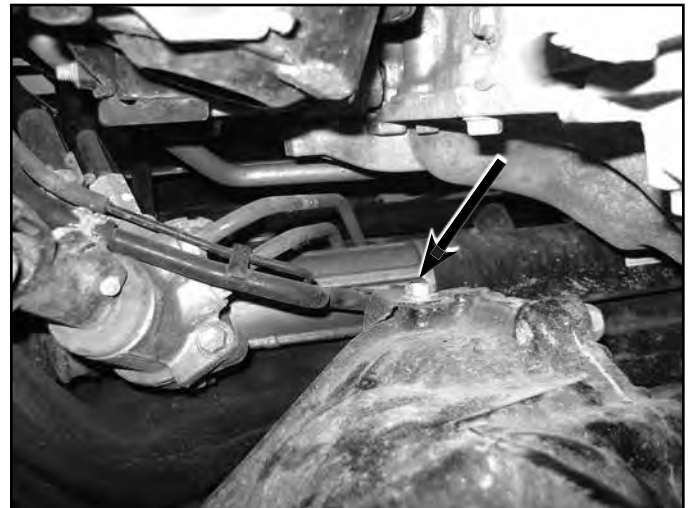


17. Remove the hardware that attaches the front drive shaft to the differential. Retain all hardware.
18. Disconnect the wiring harness from the differential, it is easiest to disconnect above the passenger's side mount. Remove the nut on top of the differential that attaches the diff. breather and vacuum line. Disconnect vacuum and breather line from differential. Retain bolt. (Fig 12a, 12b)

FIGURE 12A



FIGURE 12B



19. Support the front differential with a jack. Remove the rear differential mount from the differential. Disconnect the mount from the frame. Retain all hardware. The nut has thread locker from the factory, a small amount of heat may be required to allow removal. Use caution.
20. Remove the 2 forward bolts that attach the differential brackets to the frame. Carefully remove the differential from the vehicle. (Fig 13a, 13b, 13c)

FIGURE 13A



FIGURE 13B



FIGURE 13C



21. Measure $\frac{1}{4}$ " inside of the factory weld seam (or about 3-1/4" from the inside edge of the cam slot) and make a cut line all around the factory crossmember. Make a vertical cut. (Fig 14a, 14b, 14c)

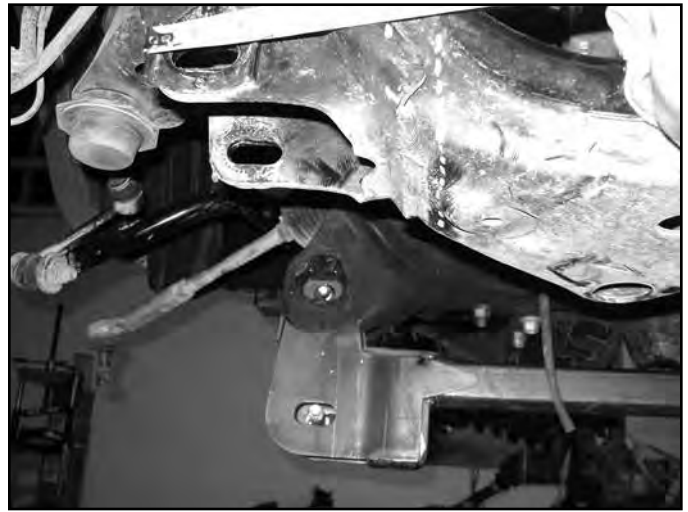
FIGURE 14A



FIGURE 14B



FIGURE 14C



22. Measure over 7-1/4" from the first cut line and make another mark around the entire cross member. This should be on the center of the large circles. Make a vertical cut and remove the section from the vehicle. (Fig 14d, 14e)

FIGURE 14D



FIGURE 14E



23. Remove all sharp edges and burrs, coat with paint to prevent rust.
24. Install the rear cross member with new 9/16" bolts 2005-2015 models, or 5/8 bolts 2016+ models , with washers and cam plates. There is a recessed area in the cam plate. Install the cam plate with the recessed notch above one of the crossmember bolts. (Fig 15a) The cam plates are installed only on the front side of the crossmember.

FIGURE 15A



25. Mark the center of the rear slots and temporarily remove the rear crossmember to drill 11/16" holes at the marks. A step drill is highly recommended. (Fig 15b)

FIGURE 15B



26. Install the rivet nuts into the cross member. See detailed rivet nut installation instructions at the end of this instruction sheet.
27. Install 3/8" bolts into the sway bar relocation brackets, without washers on the head of the bolt. Install the sway bar offset brackets with new 10mm bolts, no washers required the brackets will offset the sway bar towards the front of the vehicle. If installing optional Fox remote reservoir coilovers, install the remote reservoir bracket between the bracket and the frame. Hardware is located in bolt pack # 665. (Fig 16a, 16b)

FIGURE 16A



FIGURE 16B



28. Disconnect the sway bar link from the sway bar. Cut out the template at the end of the instruction sheet. Place over the end of the sway

bar. Trim / grind away approximately $\frac{1}{4}$ " of material to give enough clearance between the sway bar and new steering knuckle. (Fig 17a, 17b)

FIGURE 17A



FIGURE 17B



29. Install the sway bar onto the relocation brackets with new $\frac{3}{8}$ " nuts and washers, make sure the sway bar is above the tie rod ends. Tighten to 35 ft-lbs. Install sway bar links into the sway bar.
30. Install the factory skid plate brackets with a new spacer at the front mount (only required at the front mount) 3 places. Use factory hardware (Fig 18a). If installing the TRD skid plate (optional factory silver one), the spacers cannot be installed. The skid plate internal braces must be clearance to allow the sway bar to swing through, mark area to be trimmed and remove material. Swing sway bar through to make sure there will not be contact. (Fig 18b)

FIGURE 18A



FIGURE 18B



31. Install the factory skid plate back on with factory hardware.
32. Install the front cross member with new $\frac{3}{4}$ " bolts, washers, nuts, and cam lock plates. Make the recessed area above the bolt head if possible, it may be necessary to rotate the cam to get it to install easily. Cams are required on both front and rear side of the front cross member. Run the bolt from rear to front. (Hardware is in bolt pack # 664)
33. Grease and install new polyurethane bushings into the differential brackets. Install new sleeve into the end of the brackets (3 places)
34. Install the new differential brackets (Drv front & Pass front) onto the differential with the factory hardware on the driver's side. Use new 14mm hardware on the passenger's side (#664). Leave hardware slightly loose. (Fig 19a, 19b)

FIGURE 19A



FIGURE 19B



35. Reinstall the factory differential mount (Driver's side rear) with the factory bolts. Leave slightly loose.
36. Install the differential into the vehicle. Attach the differential to the front cross member with new 9/16" bolts, washers, and nuts (#664).
37. Install the rear cross member with new 9/16" bolts, washers, nuts, and cam plates. The cam plates only fit on the front side of the cross member. Run the hardware from rear to front. Rotate the cams so that at least one side has the recessed area above the bolt. It may be necessary to have them both rotated so they are mirror images about the centerline of the vehicle. The cams can be a tight fit into the cam slot, this is by design to keep the cross member from sliding. (Hardware is in bolt pack #664).
38. Attach the differential to the rear cross member with 9/16" x 4-1/2" bolt, washer, and nut (#664) on the passenger's side. Use factory nut to attach the differential to the cross member on the driver's side rear mount. (Fig 20)

FIGURE 20



39. Remove the differential breather tube assembly from the vehicle and bend upward to clear the steering shaft. Reinstall with factory hardware. Tighten to 15 ft-lbs. (Fig 21a & 21b)

FIGURE 21A



FIGURE 21B



40. Reattach the differential wire harness on the passenger side. Use a zip tie to secure wires if necessary. Attach the vacuum line and differential breather to the differential.
41. Install new bump stop relocation brackets with new 10mm hardware. Align with existing hole and attach with 3/8" hardware. Install new bump stop into the relocation bracket with 3/8" serrated edge flanged nut. (Hardware is in bolt pack # 665), tighten all hardware to 35 ft-lbs. (Fig 22)

FIGURE 22



- 42. Attach the driveshaft to the front differential with factory hardware. Tighten to 65 ft-lbs.
- 43. Install the lower control arms with the factory cam assemblies.
- 44. Tighten all 9/16" hardware (differential and rear cross member) to 95 ft-lbs. 3/4" front crossmember bolts to 155 ft-lbs. 12mm driver's side rear differential nut 64 ft-lbs, driver's side factory differential mount to the differential to 64 ft-lbs. Tighten 14mm differential hardware to 80 ft-lbs.
- 45. 6" kit only: Place the strut assembly into a strut compressor. Only use a high quality wall mounted style strut compressor. Make alignment marks for disassembly and reassembly of the strut. Remove the strut nut, bushings, and top hat. (Fig 23a)

FIGURE 23A



- 46. 6" kit only: Place the preload spacer between the rubber isolator and the top hat. Reassemble the entire strut assembly with factory hardware. (Fig 23b)

FIGURE 23B



- 47. 4" & 6" kits: Install the strut spacers on top of the struts with factory nuts, tighten to 47 ft-lbs. The flat edge will face 'out' when installed in the vehicle. (Fig 24a, 24b)

FIGURE 24A



FIGURE 24B



48. Install the struts into the vehicle with new 10mm nuts and washers (BP # 629). Swing the lower control arm up and connect to the strut. Attach with factory lower control arm bolt. Do not tighten at this time. If installing optional Fox coilovers, attach with hardware included in box kit at the upper mount. Install the long spacer to the 'front' side of the coilover assembly so the coilover is as far rear-ward as possible, use factory lower bolt. Attach reservoir to bracket with included hose clamps. Tighten Fox hardware to 35 ft-lbs.
49. Transfer the backside hub seal over to the new steering knuckles. (Fig 25a, 25b)

FIGURE 25A



FIGURE 25B



50. Remove the factory unit bearing and dust shield from the OE steering knuckle. The bolts will not be able to be completely removed from the hub, thread them out enough to disengage them from the steering knuckle.
51. Measure over 2-1/2" from the edge of the dust shield and make a vertical mark. Connect this line to the edge as shown. Trim and remove this section from the dust shield. Deburr any sharp edges. (Fig 26a, 26b)

FIGURE 26A



FIGURE 26B



52. Install the hub and dust shield into the new steering knuckles. The dust shield must be installed. Failure to do so will damage the ABS sensor. Use loc-tite on the hub bolt threads. Tighten to 60 ft-lbs
53. Install the new steering knuckle into the vehicle. Install the CV through the hub assembly. Attach to upper control arm with factory nut. Attach to lower control arm with new 5/8" x 2" bolts with washers and loc-tite on threads. Tighten the lower 5/8" bolts to 120 ft-lbs.
54. Tighten upper ball joint nut to 81 ft-lbs. Reinstall the factory cotter pin. Do not loosen the nut to get the factory cotter pin to reinstall.
55. Install and tighten the CV nut to 173 ft-lbs. Install the castellated nut cap and new cotter pin.
56. Attach the sway bar to the steering knuckle with the 1/2" long spacer (#75) as shown. Use an allen wrench to thread the link into the knuckle. **Optional Fox coilovers, check for clearance from the coil to the sway bar end link, it may be necessary to trim off the excess stud on the sway bar link to avoid contact through full suspension cycle.** Tighten the sway bar link into the knuckle securely. Do not strip out the internal hex. (Fig 27)

FIGURE 27



57. Install the brake rotor and caliper onto the knuckle with factory hardware. Tighten to 91 ft-lbs.
58. Trim the two tabs from the brake line mounting bracket. (Fig 28a, 28b)

FIGURE 28A



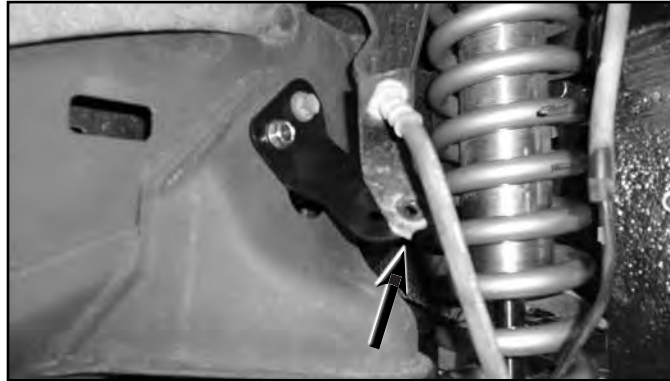
FIGURE 28B



59. Attach the brake line bracket to side of the steering knuckle with factory bolt.

60. Clearance the original brake line bracket locating hole to $\frac{1}{4}$ "~ $\frac{9}{32}$ ". Install the brake line relocation bracket with factory bolt and $\frac{5}{16}$ " self threading bolt. Attach the brake line to the relocation bracket with new hardware. Trim the original locating tab from the bracket. (Hardware is in bolt pack #666) (Fig 29)

FIGURE 29



61. Attach the ABS wire to the upper control arm with new wire clamp and factory bolt. Attach to the bracket on the side of the steering knuckle with OE clip, adjust the clip as needed. Attach to the backside of the knuckle with new clamp and factory bolt. (Clamp is located in bolt pack #666) (Fig 30a, 30b)

FIGURE 30A



FIGURE 30B



62. Attach the ABS sensor to the steering knuckle with the factory bolt. Make sure there is no debris on the sensor before it is installed. Tighten to 73 in-lbs.
63. Carefully deform the clamps to hold the wire tight. Do not over compress the ABS wire.
64. Attach the tie rod to the steering knuckle. Tighten to 41 ft-lbs . Install new cotter pin, do not loosen nut to get the cotter pin to install.
65. Double check all differential hardware for proper torque.
66. Install new skid plate with $\frac{1}{2}$ " x $1\frac{1}{4}$ " bolts and washers. Tighten to 65 ft-lbs. (Bolt pack # 664) (Fig 31)

FIGURE 31



67. Center the front cross member cam. Adjust the rear cam to be 'out' slightly (approx 45 degrees). Snug but do not torque the hardware at this time.
68. Install new wheels with the correct style lug nuts to work with aluminum aftermarket rims. Toyotas have short lug studs, make sure there is proper thread engagement. (Fig 32)

FIGURE 32

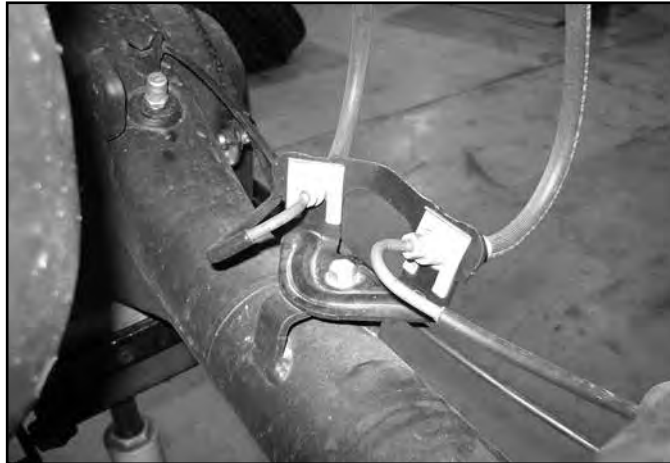


- 69. Lower the vehicle to the ground and bounce the suspension to settle the vehicle.
- 70. Torque the lower control arm hardware to 155 ft-lbs. Tighten the lower strut hardware to 61 ft-lbs.
- 71. See end of instruction sheet for front wheel well trimming to clear 35" tire.

Rear Installation

- 72. Block the front wheels and raise the rear of the vehicle. Support the frame rails with jack stands.
- 73. Remove the rear wheels.
- 74. Support the rear axle and remove the rear shocks. Save the lower mounting hardware.
- 75. Disconnect the brake line bracket from the rear axle (Fig 33).

FIGURE 33



- 76. Disconnect the emergency brake from the frame, disconnect the bracket from the leaf spring clamp, remove the clamp from the cable. Retain hardware. (Fig 34)

FIGURE 34



- 77. Remove the factory U-bolts and lower the rear axle. Loosen the u-bolts on the opposite side of the vehicle, but do not completely remove them. This will allow the axle to flex better for easier installation of the rear block.

78. Install new rear block with the small end of the block pointing towards the front of the vehicle. Attach the axle to leaf springs with new u-bolts and factory u-bolt plates. (Fig 35)

FIGURE 35



79. Repeat for opposite side of vehicle.
80. Snug the u-bolts, but do not torque to specification while the vehicle is in the air.
81. Install new shocks with factory hardware in the lower mount. Use new hardware included in the shock box for the upper mount.
82. Install new e-brake cable bracket on the side of the frame rails with factory hardware and 1/4" bolt, washers, and nut. The bracket will offset towards the outside of the vehicle (Fig 36). The e-brake will not be attached to the leaf spring clamp. (1/4" Hardware is located in bolt pack #668) Tighten to 15 ft-lbs.

FIGURE 36



83. Install new rear brake line relocation bracket with 1/4" hardware (Bolt pack #668) (Fig 37) Tighten to 15 ft-lbs.

FIGURE 37



84. 4" Rear Block Kit: Support the drive shaft. Remove the carrier bearing hardware and install carrier bearing drop with new 10mm x 50mm fully threaded bolts (Bolt pack #668). Crew cab long bed models will require (4) 1/2" USS washers per bolt to space the carrier bearing down. Crew cab short bed models will require (2) 3/4" long spacers. Adjustments may need to be made to the drop to get the ideal height. These are starting references and may need to be adjusted to eliminate any driveline vibrations.

85. 3" Rear Block Kit: Support the drive shaft. Remove the carrier bearing hardware and install carrier bearing drop with new 10mm x 50mm fully threaded bolts (Bolt pack #668). Crew cab long bed models will require (2) ½" USS washers per bolt to space the carrier bearing down. Crew cab short bed models will require (4) ½" USS washers per bolt. Adjustments may need to be made to the drop to get the ideal height. These are starting references and may need to be adjusted to eliminate any driveline vibrations. (Hardware is in #668) (Fig 38)

FIGURE 38



86. Install new wheels with correct style lug nuts and tighten to 81 ft-lbs.
87. Lower vehicle to the ground and torque the u-bolts to 110 ft-lbs.
88. Recheck all fasteners for proper torque. Check them again after 500 miles and at regularly scheduled maintenance intervals.

FRONT WHEEL WELL MODIFICATION TO CLEAR 35'S

89. Trim the rear of the inner fender along the pinch weld. Bend the pinch weld over the inner fender. (Fig39)

FIGURE 39



90. Trim the body mount as shown: Measure in 5" from the outside edge, measure over 1" from the center of the circle, trim and remove section from the body mount. (Fig 40a 40b)

FIGURE 40A



FIGURE 40B



91. Remove the inner fender fastener that attaches to the front fascia. Measure 1-1/2" towards the wheel, mark and drill hole to 5/16". Trim off the extra plastic over hanging where the original hole was located. Clearance the inner fender where it meets the front bumper cover to allow enough clearance. (Fig 41a, 41b)

FIGURE 41A



FIGURE 41B



92. Reattach the inner fender to the front fascia with factory bolt through the new hole. This will pull the front inner fender away from the tire.
93. Trim the front fascia to clear the tire. (Fig 42)

FIGURE 42



RIVET NUT INSTALLATION INSTRUCTIONS

Rivet Nut Sizing

1. Verify the correct size rivet nut for the application based on the thickness of material where the rivet nut is to be installed using the following chart.

Part Number	Thread Size	Body Length (in)	Material Thickness (in)		Drill Size (in)
			Min.	Max.	
95105A159	3/8-16	.690	.027	.150	17/32
95105A168	3/8-16	.805	.150	.312	17/32
95105A169	1/2-13	1.150	.063	.200	11/16
95105A170	1/2-13	1.300	.200	.350	11/16

Hole Preparation

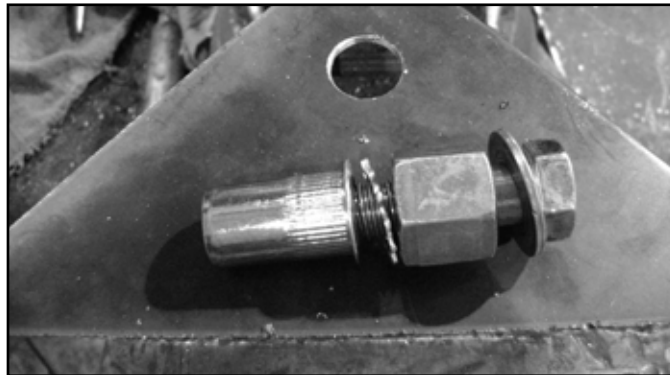
2. Drill hole to appropriate size for rivet nut installation. 1/2" Rivnuts require an 11/16" hole and 3/8" Rivnuts require a 17/32" drill. It is critical that this hole is drilled to the correct size. Remove any burrs that could keep the rivet nut from seating flat against either side of the hole surface.

 *Note: If the correct drill size is not available, it is possible to drill the hole to an available smaller size and slowly grind it out to until the rivet nut fits tight.*

Rivet Nut Installation Tool Assembly

3. For a 3/8" rivet nut, place the provided 3/8" SAE flat washer on the 3/8" x 1-1/2" bolt, followed by 7/16" hex nut and then a 3/8" serrated washer. **Figure 1** Thread this tool assembly into the rivet nut.
4. For a 1/2" rivet nut, place the provided 1/2" SAE washer on a 1/2" x 2" bolt followed by a 9/16" high nut and 1/2" serrated edge lock washer. Thread this tool assembly into the rivet nut as shown. **Figure 1**

FIGURE 1 - 1/2" RIVET NUT SHOWN



Rivet Nut Installation

5. Place the installation tool with the rivet nut threaded on the end into the appropriately sized hole.
6. For a 3/8" rivet nut, hold the nut closest to the rivet nut still with an 5/8" wrench and tighten the 3/8" bolt with a 9/16 wrench to set the rivet nut. Be sure to hold the rivet nut flush to the surface and square to the hole as it is tightened. **Figure 2**

 *Note: If available, an impact gun is recommended for tightening the bolt to ensure the rivet nut remains square to the hole and to ease holding the nut from spinning.*

7. For a 1/2" rivet nut, hold the nut closest to the rivet nut still with an 7/8" wrench and tighten the 1/2" bolt with a 3/4" wrench to set the rivet nut. Be sure to hold the rivet nut flush to the surface and square to the hole as it is tightened. **Figure 2**

FIGURE 2 - 1/2" RIVET NUT SHOWN



Torque Specifications

8. 3/8" rivet nuts will approach 40 ft. lbs for maximum grip strength. Do not exceed 45 ft-lbs when setting the rivet nut.
9. 1/2" rivet nuts will approach 90 ft lbs for maximum grip strength. Do not exceed 100 ft-lbs when setting the rivet nut.

 *Note: If using the recommended impact gun, use caution to not exceed the recommended torque specifications.*

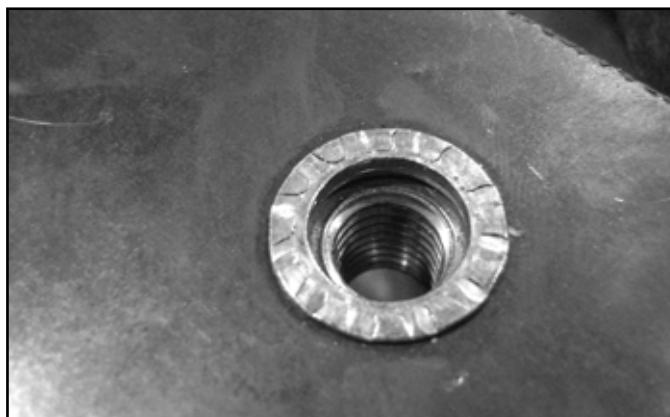
Rivet Nut Tool Removal

10. Once the center bolt is tightened, remain holding the nut from spinning with the wrench and loosen the center bolt to remove the installation tool.

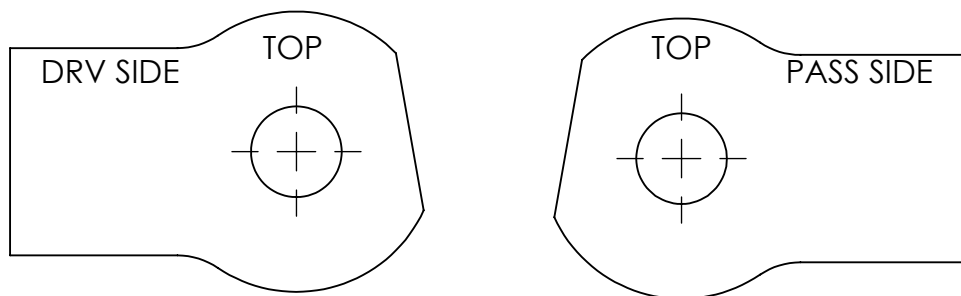
 ***IMPORTANT* It is very important to hold the nut as the bolt is loosened because the grip of the star washer will try to spin the rivet nut and ruin the installation.**

11. Verify proper installation by checking for consistent rivet nut deformation to see the threads are square and centered to the rivet nut. **Figure 3.**

FIGURE 3



SCALE 1:1
DO NOT SCALE



**DO NOT GRIND AWAY MORE THAN
1/4" FROM EDGE**