



4/10/13

**2005-13 TOYOTA TACOMA
4WD & PRE-RUNNER
4" SUSPENSION SYSTEM
P/N: 10-47405**

INSTALLATION INSTRUCTIONS

NOTE: Each lift kit, and options to lift kits, are packaged separately. Therefore installation procedures are covered in separate instructions. Familiarize yourself with each specific set of instructions before beginning.

Part List

<u>Item</u>	<u>Description</u>	<u>Qty.</u>	<u>Illus.</u>
Box 1 of 5			
20-57405-1	Front Crossmember	1	12, 14
20-57405-2	Rear Crossmember	1	9, 13, 14
Box 2 of 5			
20-57405-5D	Spindle (Drvr.)	1	17
20-57405-6P	Spindle (Pass.)	1	
Box 3 of 5			
20-57405-14	Lateral Compression Strut	2	22
20-51099-22	Bracket, Rear Strut Mount	2	22
20-71097	Hardware Pack (Bushings)		
15-11148	Bushing, Red-Large	8	22
20-830918	Sleeve, .75"OD x .095w x 2.75"	4	22
20-71110	Hardware Pack (Compression Strut)		
13-30034-Z	Washer, 1/2" SAE Flat	12	22
13-10038-Z	Nut, 1/2"-13 Nylon Insert Lock	4	22
13-20069-Z	Hex Bolt, 1/2"-13 x 4"	4	22
13-10514-Z	Nut, 1/2"-13 Top Lock Gr. C	2	22
13-21703-Z	Hex Bolt, 1/2"-13 x 3"	2	22
Box 4 of 5			
20-57405-3	Diff. Mount (Drvr.)	1	11
20-57405-4	Diff. Mount (Pass.)	1	11
20-57405-8	Skidplate	1	21
20-57405-9	Bumpstop Drop (Drvr.)	1	20
20-57405-10	Bumpstop Drop (Pass.)	1	
20-830658	Rear Tapered Block, 4"	2	24
13-90126	U-Bolt, 9/16"-18x2-1/2"x10"	4	24
20-68188	Hardware Pack (U-Bolt)		
13-30330	Washer, 9/16" Flat	8	24
13-10423	Nut, 9/16"-18 Fine High	8	24

20-68305	Hardware Pack (Universal)		
13-20447-Z	Hex Bolt, #10 x 1/2" Unslot.	4	
15-10966	Clamp, 3/8" x 3/8 x .203	4	
15-11395	Plastic Tie, 6"	4	
15-11447	Plastic Tie, 8"	2	
15-11460	Plastic Tie, 11"	2	
20-71019	Hardware Pack (Rear Crossmember)		
20-57405-13	Nut Strip, Rear Crossmember	1	13
13-30408-Z	Washer, 3/8" Flat Hardened	3	13
13-30151-Z	Washer, 3/8" Split Lock	3	13
13-21534-Z	Hex Bolt, 3/8"-16 x 1"	3	13
20-57405-11	Washer, Centering Tab	4	13
13-23731-Z	Hex Bolt, 9/16"-12 x 5"	2	13
13-10397-Z	Nut, 9/16"-12 Top Lock	2	13
20-71032	Hardware Pack (Front Crossmember)		
20-832283	Washer, Centering Tab	4	12
13-21859-Z	Hex Bolt, 3/4"-10 x 4-1/4"	2	12
13-10644-Z	Nut, 3/4"-10 Top Lock	2	12
20-71045	Hardware Pack (Skid Plate)		
13-30408-Z	Washer, 3/8" Flat Hardened	4	21
13-30151-Z	Washer, 3/8" Split Lock	4	21
13-22938-Z	Hex Bolt, 3/8"-16 x 1-1/4"	4	21
20-71058	Hardware Pack (Diff. Mount)		
13-30382-Z	Washer, 1/2" Flat Hardened	4	14
13-10514-Z	Nut, 1/2"-13, Top Lock	2	14
15-11148	Bushing, Red-Large	4	11
20-832725	Sleeve, 3/4" x .095 x 2.25" Lg.	2	11
13-22249-Z	Hex Bolt, 1/2"-13 x 3-1/2"	2	14
20-71071	Hardware Pack (Bumpstop Drop)		
13-30642-Z	Washer, 10mm Flat	4	20
13-30577-Z	Washer, 10mm Split Lock	2	20
13-10865-Z	Nut, 10mm x 1.25, Top Lock	2	20
13-23744-Z	Hex Bolt, 10mm x 1.25 x 20mm	2	20
13-30408-Z	Washer, 3/8" Flat Hardened	4	20
13-30151-Z	Washer, 3/8" Split Lock	2	20
13-22938-Z	Hex Bolt, 3/8"-16 x 1-1/4"	2	20
13-10553-Z	Nut, 3/4"-16 Top Lock	2	20
20-71084	Hardware Pack (Sway Drop)		
20-57405-7	Sway Bar Relocating Pack	2	18
13-23757	Allen Bolt, 10mm-1.25 x 20mm	4	18
13-23744-Z	Hex Bolt, 10mm-1.25 x 20mm	4	18
13-30642-Z	Washer, 10mm Flat	4	18

20-71123	Hardware Pack (Park Brake)		
13-10155-Z	Nut, 5/16"-18 Nylon Insert Lock	2	25
13-21157-Z	Hex Bolt, 5/16-18 x 3/4"	2	25
13-30187-Z	Washer, 5/16" SAE Flat	4	25
20-57405-16	Park Brake Cable Bracket	2	25
20-71136	Hardware Pack (Rear Brakeline)		
20-57405-17	Rear Brakeline Bracket	1	
13-30187-Z	Washer, 5/16" SAE Flat	2	
13-21157-Z	Hex Bolt, 5/16-18 x 3/4"	1	
13-10155-Z	Nut, 5/16"-18 Nylon Insert Lock	1	
20-71149	Hardware Pack (Front Brakeline)		
20-57405-12	Front Brakeline Drop	2	19
13-30187-Z	Washer, 5/16" SAE Flat	4	19
13-21157-Z	Hex Bolt, 5/16-18 x 3/4"	2	19
13-10155-Z	Nut, 5/16"-18 Nylon Insert Lock	2	19
20-69891	Hardware Pack (Carrier Bearing Spacers)		
13-23367-Z	Hex Bolt, 10mm x 60mm	2	
13-30629-Z	Washer, 10mm Flat	2	
13-30577-Z	Washer, 10mm Lock	2	
20-833479	Spacer, Carrier Bearing	2	

Box 5 of 5

F4-BE5-E122-T0	Front Shock	2	
F4-BE5-B110-T5	Rear Shock	2	

INTRODUCTION

Installation by a professional mechanic is recommended. Use of the appropriate tools, a Toyota service manual, and a shop hoist can greatly reduce installation time.

Prior to installation, carefully inspect the vehicle's steering and drive train systems, paying close attention to the tie-rod ends, rack & pinion unit, ball joints and wheel bearing preload. Also check steering-to-frame and suspension-to-frame attachment points for stress cracks. The overall vehicle must be in excellent working condition; repair or replace worn parts.

Read instructions carefully and study illustrations before attempting installation. **RCD Suspension** is not responsible for damage, failure or injury resulting from improper installation or parts substitution of this kit.

Check parts and hardware against the parts list to assure that your kit is complete. Report any shortages to RCD Suspension at (1-619-588-4723). The parts and hardware supplied are of high-grade material and must not be replaced by inferior parts or failure may result. Do not begin installation if parts are missing.

Separate parts according to the areas they will be used. Placing the hardware with brackets before you begin will save installation time.

This kit is supplied as a bolt-on assembly. Do not weld anything to the components and do not weld the components to the vehicle.

All components in this kit come with a protective coating. Do not plate (i.e. chrome, cadmium, zinc etc.) or otherwise alter the finish in any way. This could decrease the structural strength of the components.

Secure and properly block vehicle prior to beginning installation.

Always wear safety glasses when using power tools.

Foot-Pound torque readings are listed on the Torque Specifications chart at the end of the instructions unless specifically stated in an instruction. **DO NOT USE AN IMPACT WRENCH TO TIGHTEN ANY OF THE BOLTS.**

PLEASE NOTE

WARNING: DO NOT USE WHEEL SPACERS

Front-end realignment is necessary.

Speedometer recalibration is necessary if larger tires (10% more than stock diameter) are installed.

System is designed to accommodate up to a 33" x 12.50" (or metric equivalent) tire on a wheel size of 17" x 8" with a maximum of 4.5" backspacing.

System is designed to work with factory "VSC" systems. VSC systems may be more sensitive than stock under certain driving conditions.

Special tools are required for safe removal and installation of the ball joints, and tie-rods. These tools can be purchased from your Toyota Dealer.

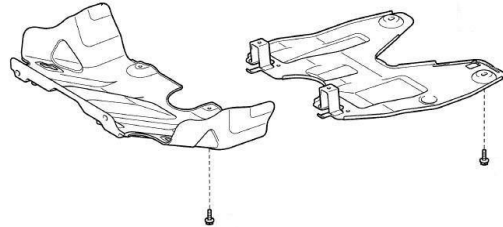
Ball Joint Tool 09628-62011
Spring Compressor 09727-30021

Front Installation Instructions

1. Raise the vehicle. If working without a shop hoist, support vehicle with suitable safety jack stands. Put vehicle in gear, set emergency brake and block rear wheels, both in front and behind tires. Loosen front wheel lug nuts. Place floor jack under the lower control arm's front crossmember and raise vehicle. Place safety jack stands under frame rails, behind front wheel wells, and lower the frame onto the stands. Once securely on jack, stands remove floor jack. Remove front wheels.

2. Remove the skid plate and skid plate brackets. **(Illustration 1)**

Illustration 1



3. Beginning with the drivers side, unclip the ABS sensor line and disconnect at the knuckle. Remove the screw attaching the brakeline to the knuckle. **(Illustration 2)**
4. Remove the bolts holding the Caliper Anchor Bracket to the Steering Knuckle **(Illustration 2)**. Pull the Bracket and Caliper assembly away from the Brake Rotor and hang out of the way with a length of wire, careful not to damage the brake lines.
DO NOT let the Caliper hang from the brake line.
5. Remove the Brake Rotor from the Hub and set aside. **(Illustration 2)**
6. Remove Axle Hub Grease Cap. **(Illustration 2)**
7. Remove the axle to wheel hub nut. **(Illustration 2)**

Illustration 2

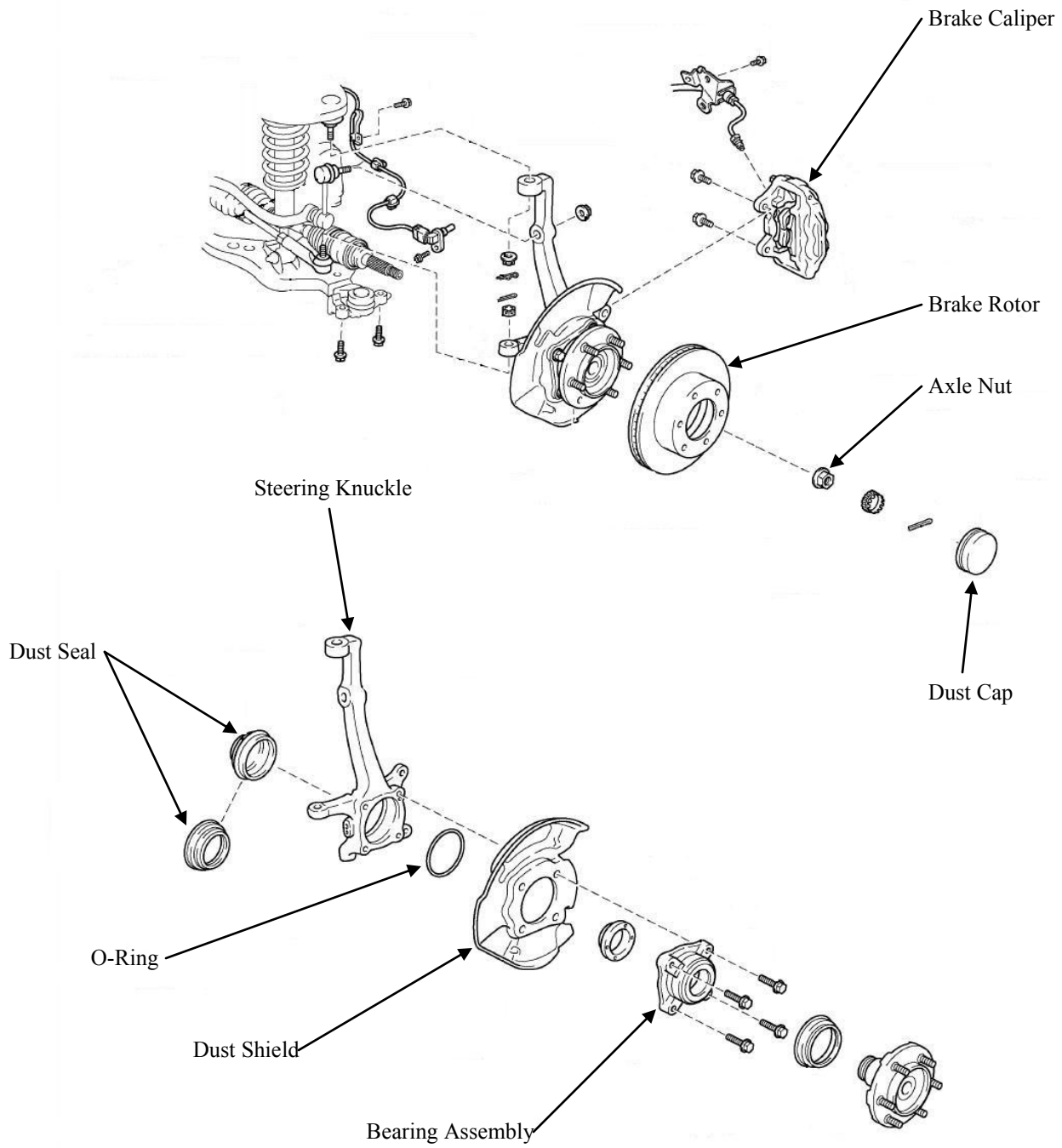
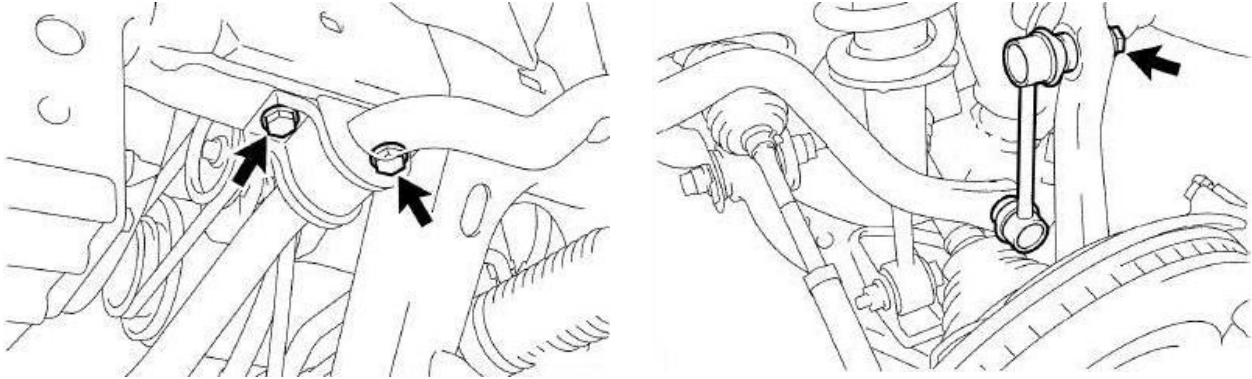


Illustration 3



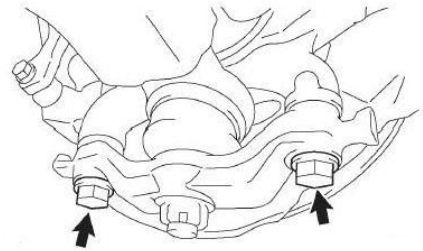
8. Disconnect and remove Sway Bar with Links from vehicle.
(Illustration 3)

9. Remove the nut from the steering Tie Rod. Separate the Tie Rod from the Steering Knuckle. **(Illustration 2)**

10. Remove the nut from the Upper Ball Joint. Separate the Upper Ball Joint from the Steering Knuckle. **(Illustration 2)**

11. Remove the two bolts attaching the Knuckle to Lower Ball Joint Bracket. **(Illustration 4)**

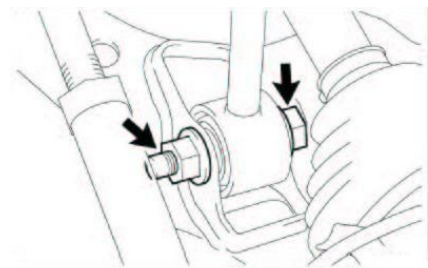
Illustration 4



12. Remove Steering Knuckle and set aside.

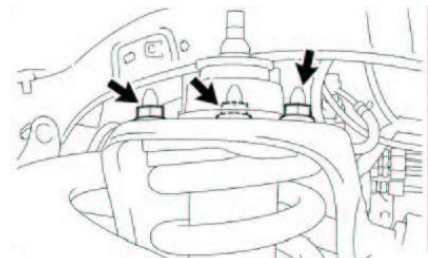
13. Disconnect Front Strut from Lower Control Arm at bottom, and from Frame at top, and remove. **(Illustration 5)**

Illustration 5



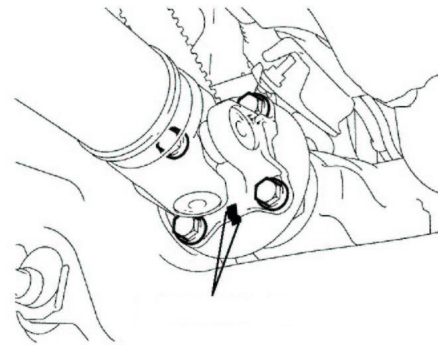
14. Remove the lower control arm pivot bolts and remove lower control arm.

15. Repeat steps 3 thru 14 on opposite side.



16. Locate the front drive shaft U-joint to differential yoke. Place an index mark for installation reference on both the drive shaft U-joint and differential yoke. Remove the hardware from the yoke and slide the shaft rearward to disengage. (Illustration 7)

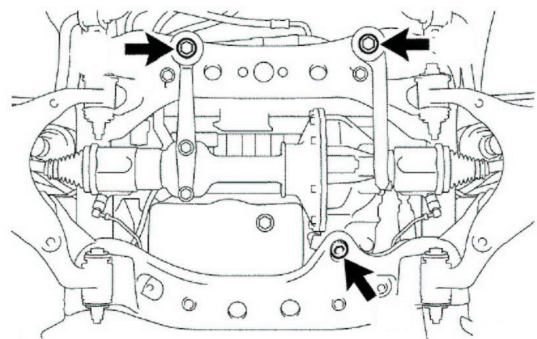
Illustration 7



17. Disconnect the electrical connector and vent hose from differential assembly.

18. Support front differential assembly with a floorjack. Remove the two bolts at bottom of front crossmember and the socket head nut at the rear. Slowly remove the differential assembly from vehicle, and lower it to the floor. (Illustration 8)

Illustration 8

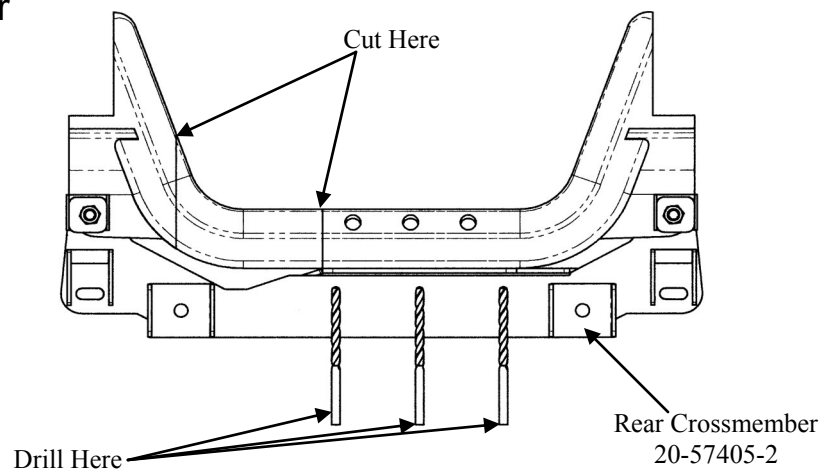


19. Temporarily install Rear Crossmember (RCD 20-57405-2) for reference when marking the frame for the differential cutout. Mark the frame just inside the lower control arm pocket weld on the drivers side and in line with the top plate of the RCD Crossmember. Also mark the three 13/32” holes to be drilled at the rear edge of the Crossmember.

Illustration 9

20. Remove the Crossmember to cut the frame.

21. Using a suitable cutting tool, cut out the section of the frame as marked.



22. Drill the three 13/32" holes as previously marked. Paint all bare metal surfaces.

23. Remove the two front mounting brackets from the Differential. **(Illustration 10)**

24. Insert the Bushings (15-11148) and sleeves (20-832725) into the Diff Brackets (RCD 20-57405-3, 20-57405-4). **(Illustration 11)**

25. Install the two brackets (RCD 20-57405-3, 20-57405-4) using the original hardware. Torque to 120 ft. lbs. **(Illustration 11)**

Illustration 10

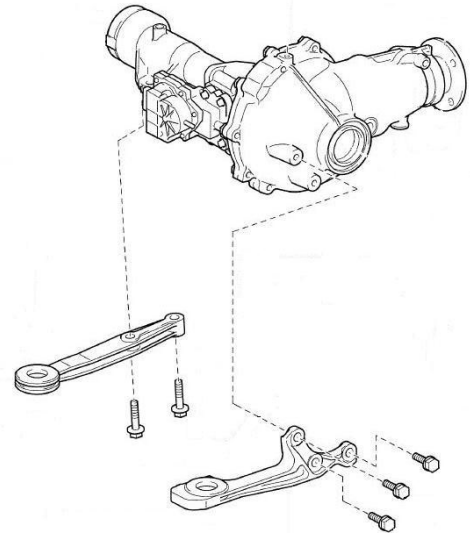
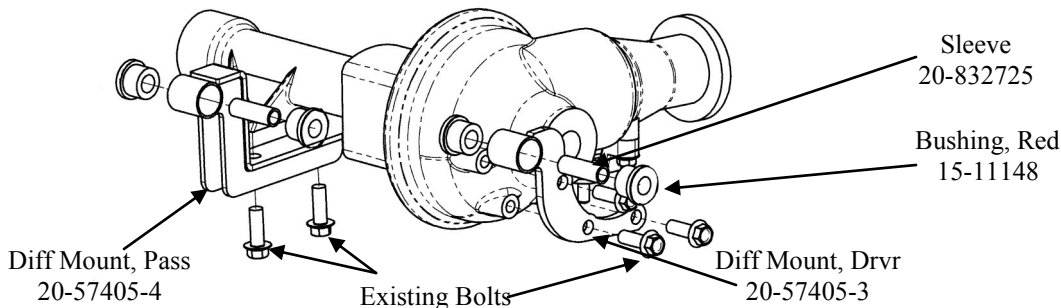


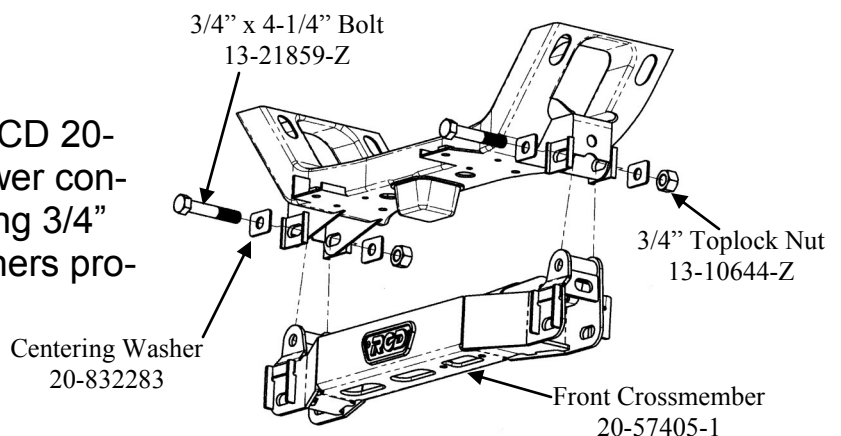
Illustration 11



26. Raise Differential assembly into position.

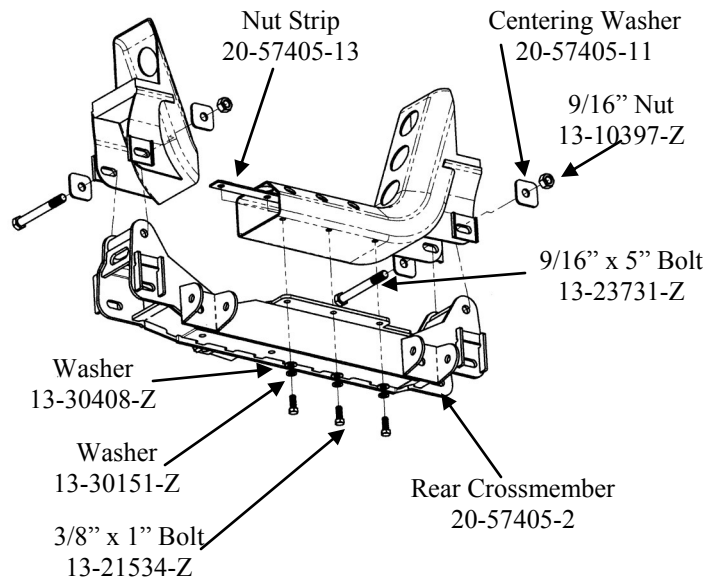
27. Install Front Crossmember (RCD 20-57405-1) into existing front lower control arm mounting pockets using 3/4" hardware and Centering Washers provided. Do not tighten at this time. **(Illustration 12).**

Illustration 12



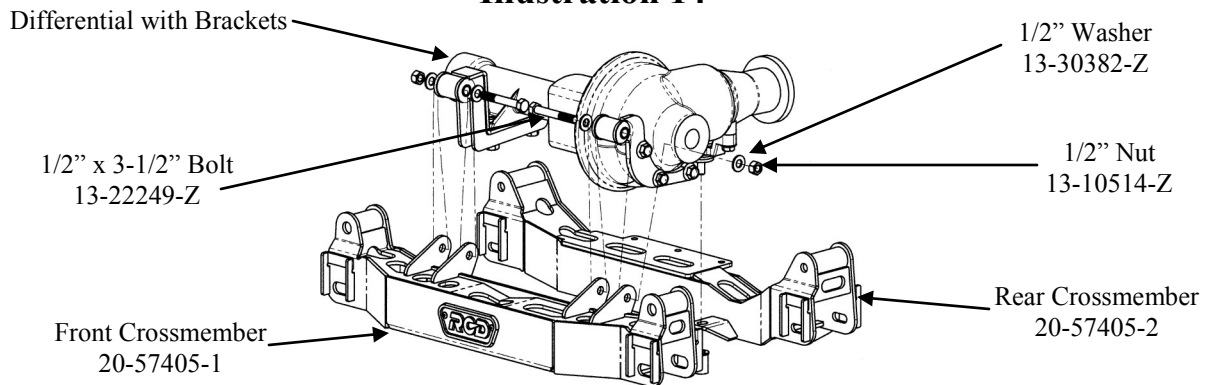
28. Install Rear Crossmember (RCD 20-57405-2) into existing rear lower control arm pockets using 9/16" hardware and Centering Washer provided. Do not tighten at this time. **(Illustration 13)**

Illustration 13



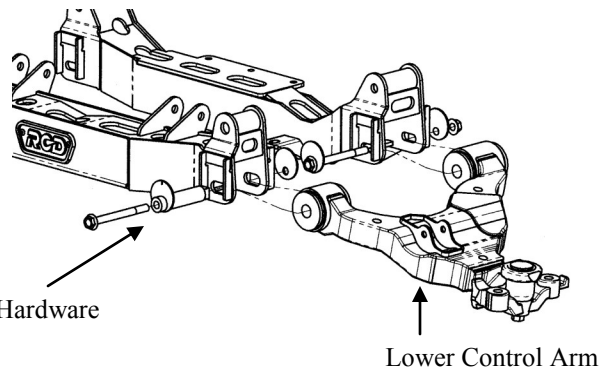
29. Insert the two 1/2" bolts attaching the Differential to the Front Crossmember and the original nut at the rear of the Differential. Torque the 1/2" bolts to 90 ft. lbs. and the socket head nut to 64 ft. lbs. **(Illustration 14)**

Illustration 14



30. Align marks made on the front drive shaft U-joint and differential yoke and reconnect the front drive shaft to the differential.

Illustration 15

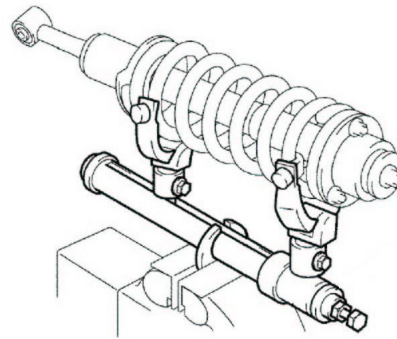


31. Connect the differential vent hose and electrical connector.

32. Install lower control arms into the front and rear crossmembers using existing hardware previously removed. Do not tighten at this time. **(Illustration 15)**

33. Using an external coil compressor, compress the coil on the stock shock. **The spring is under EXTREME PRESSURE, make sure you use a proper spring compressor and fully understand how to operate it. See page 6 for Toyota's external coil compressor part number.** Once tension is removed off end plate loosen and remove nut on end of shock shaft. Slowly release tension on coil compressor until the coil is completely free. **(Illustration 16)**

Illustration 16



34. Make sure coil seat is securely resting on snap ring of new front Bilstein Shock (50-BE5-E122-T0) provided and place original coil onto the new shock. The end of the coil should sit in a pocket shaped especially for it on the new coil seat. Use the coil compressor and compress the coil enough to put the existing top seat for the coil and new hardware on to shock shaft. Use the 12mm x 1.25 pitch Nyloc Nut provided with the new shock to secure all top hardware. Once tightened, slowly remove coil compressor.

35. Position new shock assembly back into original location. Make sure once the top three bolts are in position that the bottom eyelet is oriented so that it will fit into the lower control arm and the bolt will fit. Install existing nuts onto top studs on shock mount and torque to 47 ft. lbs. Raise lower control arm into position and install existing lower shock bolt. Torque to 101 ft. lbs.

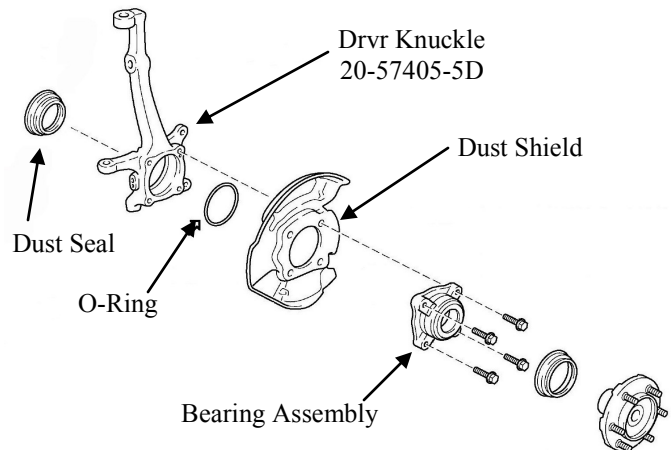
36. Remove the splash shield, hub and bearing assembly from existing front spindles. Reinstall the splash shield, hub and bearing assembly to new Front Spindles (20-57405-5D Drvr. and 20-57405-6P Pass.) **(Illustration 17).**

NOTE: Make sure that hub and bearing assemblies are reinstalled on the same side they were removed from. Apply Loctite compound to existing hardware. Torque bolts to 59 ft. lbs.

37. Connect driver side front spindle assembly to the upper and lower control arm ball joints. Torque upper ball joint nut to 81 ft lbs. Torque lower ball joint bracket bolts to 118 ft. lbs.

38. Rotate tie rod so that stud is pointing down and attach the tie rod to the front spindle. Torque nut to 67 ft. lbs.

Illustration 17

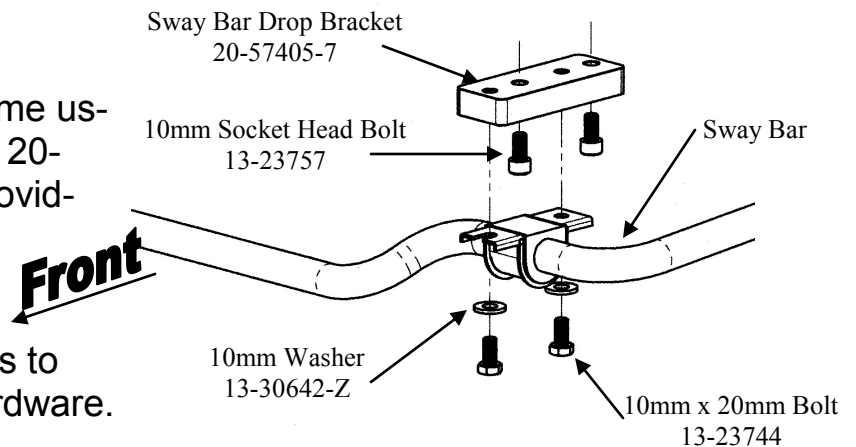


39. Torque axle hub to 173 ft. lbs.

40. Install Anti-sway bar to frame using Sway Bar Drops (RCD 20-57405-7) and hardware provided. **(Illustration 18)**

41. Attach Sway Bar End Links to knuckles using original hardware. Torque to 52 ft. lbs.

Illustration 18



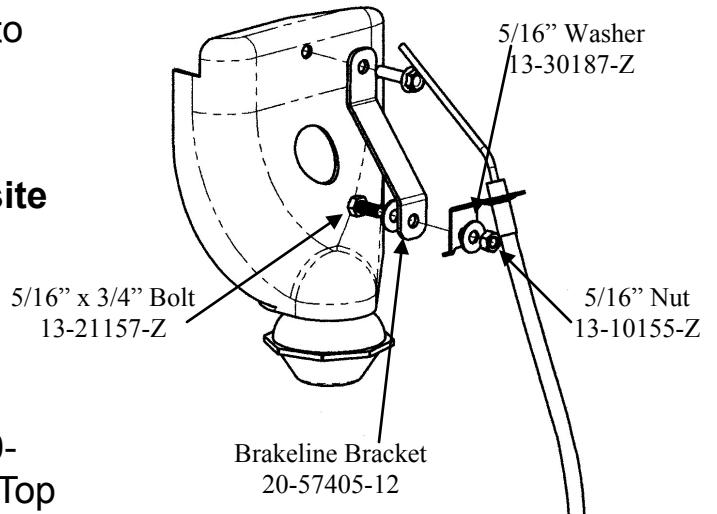
42. Disconnect Front brakeline mounting bracket at frame and install Front Brakeline Drop (RCD 20-57405-12) to frame using original hardware. Re-bend brakeline to line up with hole in Drop Bracket. Attach with hardware provided. **(Illustration 19)**

43. Install brake rotor. Reattach the front caliper with existing hardware. Torque caliper mounting bracket hex bolts (to spindle) to 91 ft. lbs.

44. Repeat steps 32 thru 42 on opposite side.

45. Unscrew all bumpstops from stock location. Install in hole on both New RCD Bumpstop Extensions (20-57405-9, 20-57405-10). Use 10mm Top Lock Nut and washer provided. **(Illustration 20)**

Illustration 19



46. Install RCD Bumpstop Brackets to frame using 3/8 inch hardware provided. **(Illustration 20)**

Illustration 20

47. Install RCD Skid Plate (20-57405-8) using 3/8 inch hardware provided. **(Illustration 21)**

48. Install Red Bushings (15-11148) and Sleeves (20-830918) into both ends of the Lateral Compression Struts (20-57405-14). Attach Lateral Compression Strut to Strut Mount bracket located on rear crossmember using hardware provided. **(Illustration 22)**
Do not tighten at this time.

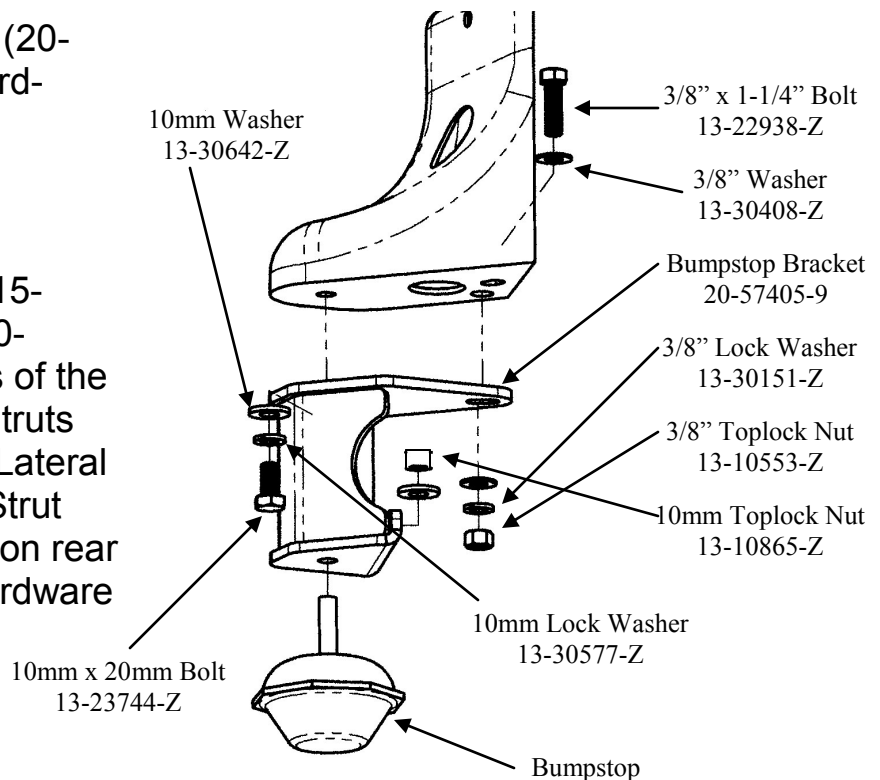


Illustration 21

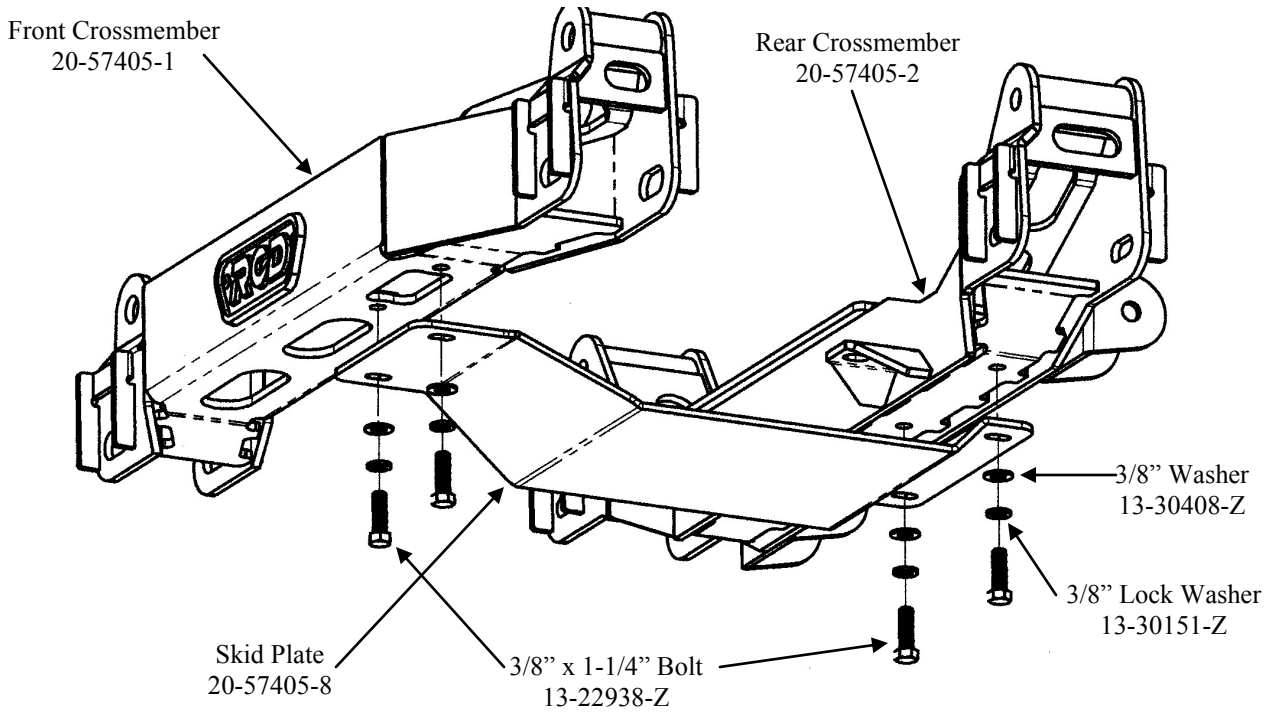
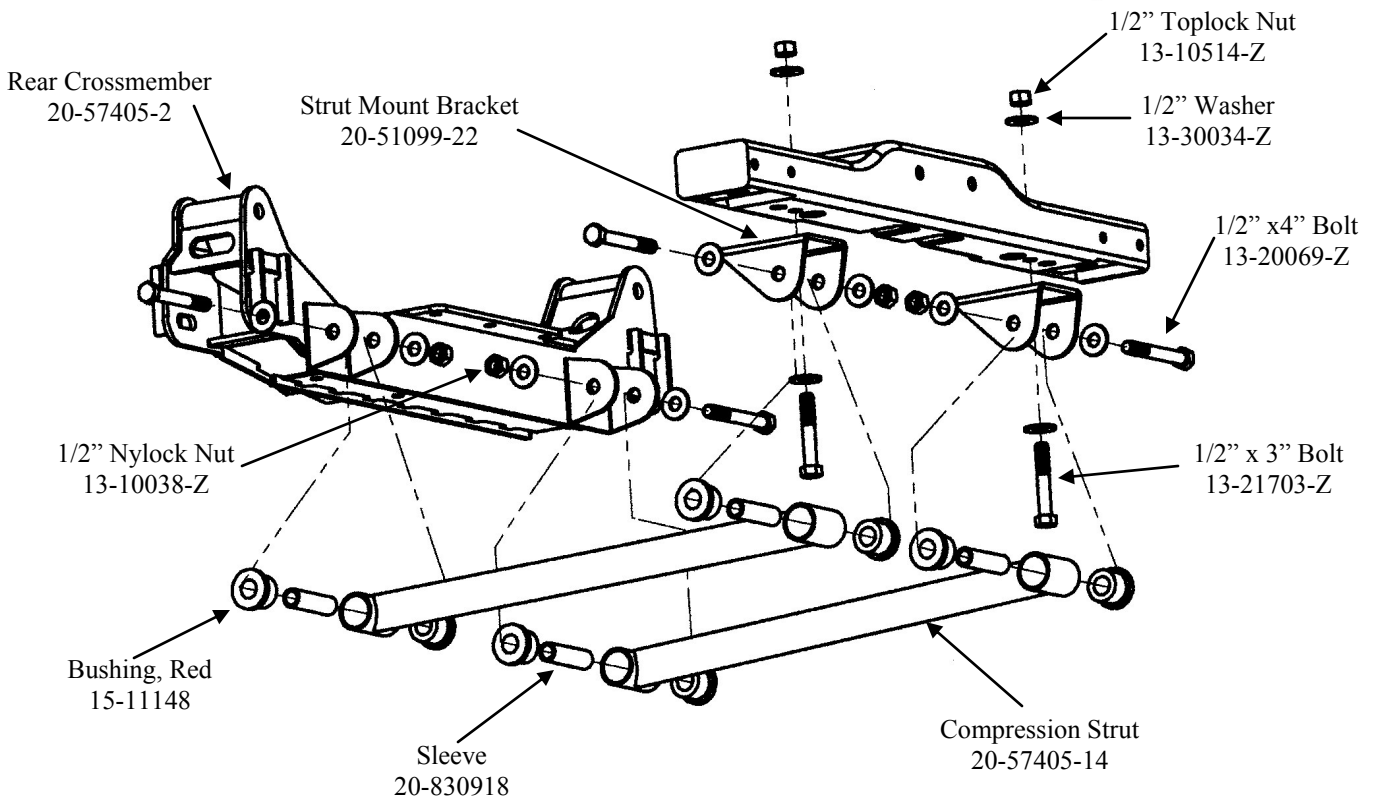


Illustration 22



Note that the struts have a slight offset to them. This offset should go to the inside.

49. Attach RCD Strut Mount Bracket (20-51099-22) to opposite end of the compression strut. Rotate the compression strut assembly upward until bracket contacts the bottom of the transmission crossmember. Use the bracket as a guide to mark and then center punch the mounting hole locations. Drill 1/2" hole at each of the marked locations. Install using the 1/2" hardware provided. Torque the nuts to 65 ft. lbs.

(Illustration 22)

50. Install the wheels and tires, and lower the vehicle to the ground. Torque lug nuts to 83 ft. lbs.

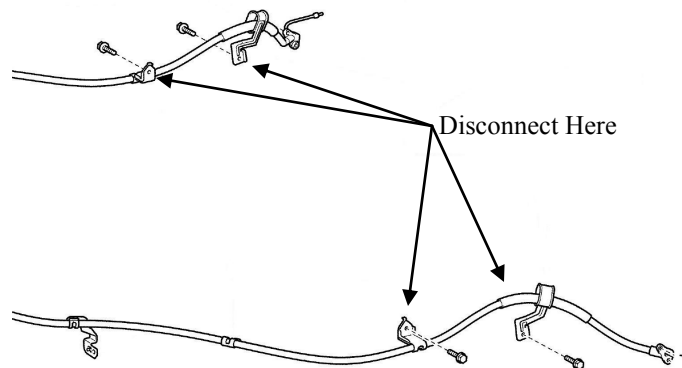
51. When the vehicle is at ride height, torque the lower control arm to front and rear crossmember cam bolts to 100 ft. lbs.

Rear Installation Instructions

1. Raise the vehicle. If working without a shop hoist, support vehicle with suitable safety stands. To do this put vehicle in gear, block front wheels, both in front and behind tires, then disengage emergency brake. Place floor jack underneath rear axle and raise vehicle. Place safety jack stands under frame to support vehicle and lower vehicle onto safety stands. Remove rear tire/wheel assemblies.

Illustration 23

2. Disconnect parking brake cables at the leaf spring hanger and also at the leaf spring. **(Illustration 23)**

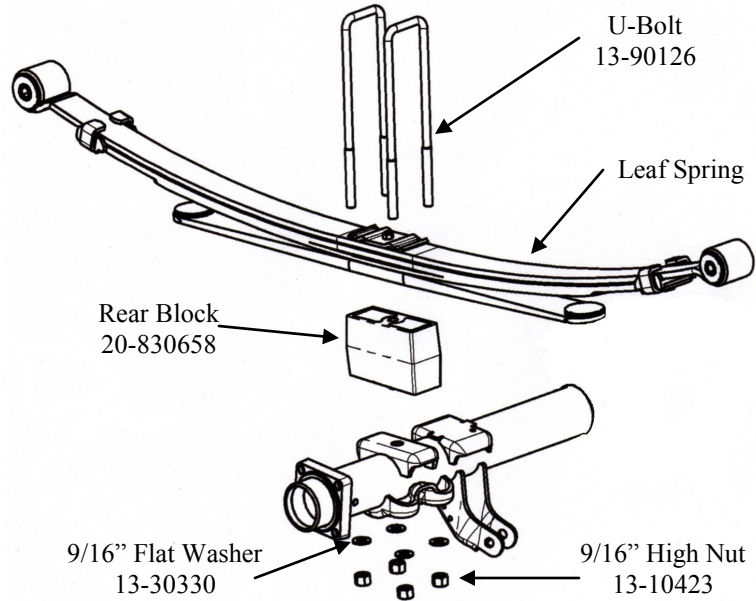


3. Disconnect bracket where brake hoses attach to rear axle.
4. Loosen ABS bracket at frame and rotate so that the wires point down.
5. Use a floor jack to raise the rear axle just enough to relieve tension from the shock absorbers and remove them.
6. Remove rear U-bolts attaching rear axle to driver side leaf spring. Carefully lower rear axle.
CAUTION: Do not allow axle to hang by any hoses or cables.
7. Insert new riser Block (RCD 20-830658) on axle pad. Make sure the pin in the block indexes into the hole of the axle housing spring pad. The short end of the block goes toward the front of the vehicle. Carefully

raise rear axle until block makes contact with leaf spring. Make sure center bolt is aligned with the hole in the block (**Illustration 24**).

8. Re-mount axle to spring using the new RCD U-bolts (13-90126), Washers (13-30330) and High Nuts (13-10423) with existing spring plates. Torque U-bolts nuts to 85-100 ft. lbs.

Illustration 24

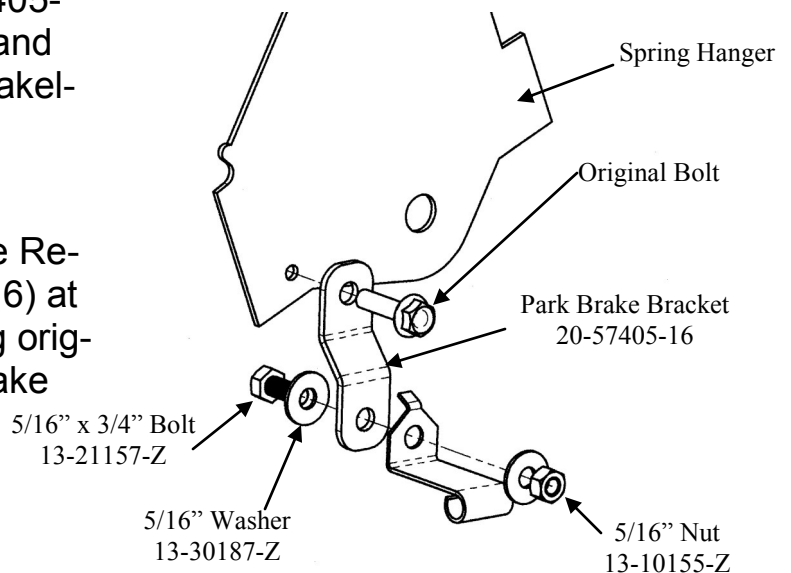


9. **Repeat steps 3 through 10 on passenger side.**

10. Install new longer Shock Absorbers (BE5-B110-T5). Using the existing hardware, attach the shock to the lower axle mount. Attach shock to the upper frame mount and torque the nuts to specifications listed on page 21.

11. Reform brakeline so that hoses point up. Attach to axle with (20-57405-17) using original bolt at axle and 5/16" hardware provided at brakeline.

Illustration 25



12. Attach RCD Park Brake Cable Relocation Brackets (20-57405-16) at front leaf spring hangers using original hardware. Attach Park Brake Cables to Brackets using 5/16" hardware provided. (**Illustration 25**)

13. Install rear tire/wheel assemblies and lower the vehicle. Torque lug nuts to 83 ft-lbs.

14. If vehicle is equipped with a 2 piece driveshaft using a carrier bearing in the center support drive shaft, remove two bolts clamping the carrier bearing to the crossmember.

(Illustration 26) Place 1"OD x 1/2"ID x 1"LG round spacers (RCD 20-833479) between carrier bearing mount and crossmember and re-mount carrier bearing using 10mm x 60mm Hex Bolts with 10mm Flat and Lock Washers.

Illustration 26



Some Final Notes

- After installation is complete, double check that all nuts and bolts are tight. Refer to the torque specifications chart on the last page.
- If new tires are installed that are more than 10% taller than original tires, the speedometer must be recalibrated for the Anti-Lock Brake System to function properly. Contact an Authorized Toyota dealer for details on recalibration.
- With vehicle on the floor, cycle the steering lock to lock and inspect steering, suspension and driveline systems for proper operation, tightness and adequate clearance. Recheck brake/hose fitting for leaks. Be sure all hoses are long enough.
- Have headlights readjusted to proper setting.
- Realign front end to factory specifications. Be sure vehicle is at desired ride height prior to realignment.

Torque Specifications

General Torque Specifications:

5/16"	20 ft. lbs.	M6	9 ft. lbs.
3/8"	35 ft. lbs.	M8	23 ft. lbs.
7/16"	60 ft. lbs.	M10	45 ft. lbs.
1/2"	90 ft. lbs.	M12	75 ft. lbs.
9/16"	160 ft. lbs.	M14	120 ft. lbs.
5/8"	175 ft. lbs.	M16	165 ft. lbs.
3/4"	250 ft. lbs.	M18	220 ft. lbs.

Existing Hardware Torque Specifications:

Wheel Hub-to-Knuckle Bolts	59 ft. lbs.
Front Differential Mounting Socket Head Nut	64 ft. lbs.
Front Driveshaft/Front Differential Pinion Flange Bolts	65 ft. lbs.
Lower Control Arm Mounting Bolts	100 ft. lbs.
Sway Bar Link Nuts	52 ft. lbs.
Lower Ball Joint Bracket-to-Knuckle Bolts	118 ft. lbs.
Axle Nut	173 ft. lbs.
Upper Ball Joint Nut	81 ft. lbs.
Tie Rod Nut	67 ft. lbs.
Caliper Mount to Steering Knuckle Bolts	91 ft. lbs.
Front Shock, Upper Mount Nuts	47 ft. lbs.
Front Shock, Lower Mount Bolt	61 ft. lbs.
Wheel Lug Nuts	83 ft. lbs.
Rear Shock, Upper Mount Nuts	15 ft. lbs.
Rear Shock, Lower Mount Bolt-to-Nut	74 ft. lbs.
Anti-lock Brake Sensor Bolt	73 in. lbs.