

RIDE

SHOCKS™

INST-1000-029

2022+ Toyota Tundra | Shock Installation Guide



Front 2.5 Coilover Shocks

P/N: 525416889

P/N: 525416989

Rear 2.5 Smooth Body Shocks

P/N: 525417089

P/N: 525417189

P/N: 525417289



REV 8.14.26

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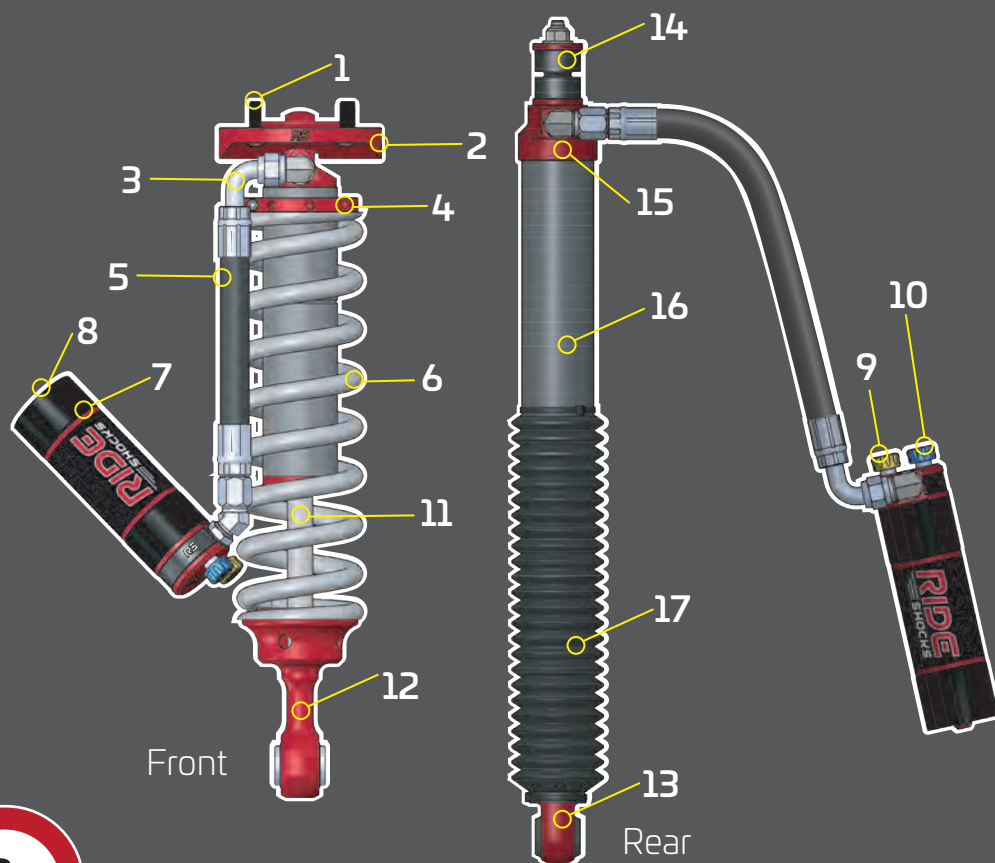
INTRODUCTION:

Thank you for purchasing Ride Shocks direct replacement shocks. We spent many years perfecting the designs for what we believe are the highest quality and best performing aftermarket shocks for your vehicle. Our unique approach boosts the industry standard for shock technology by offering vehicle and weight range specific shocks. This was ultimately done to provide customers the best ride quality they deserve.

RIDE confidently for years to come knowing your purchase is backed by industry leading expertise and US based sales and service.

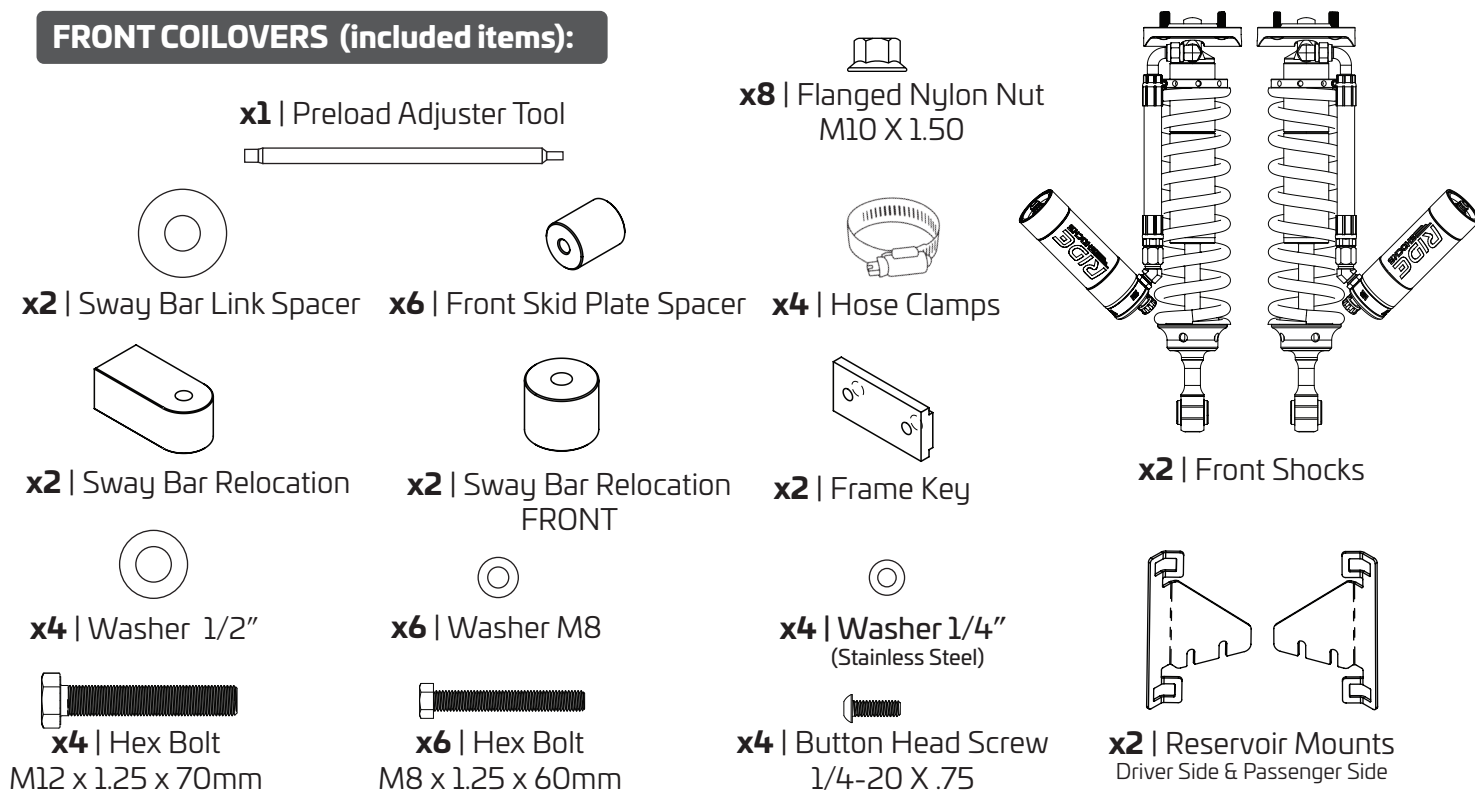
Please visit our website at www.rideshocks.com for more information as we are constantly working on new projects. **And don't forget to tag us on social media with pictures of your project @RIDESHOCKS on Instagram.**

GET TO KNOW YOUR RIDE SHOCKS:

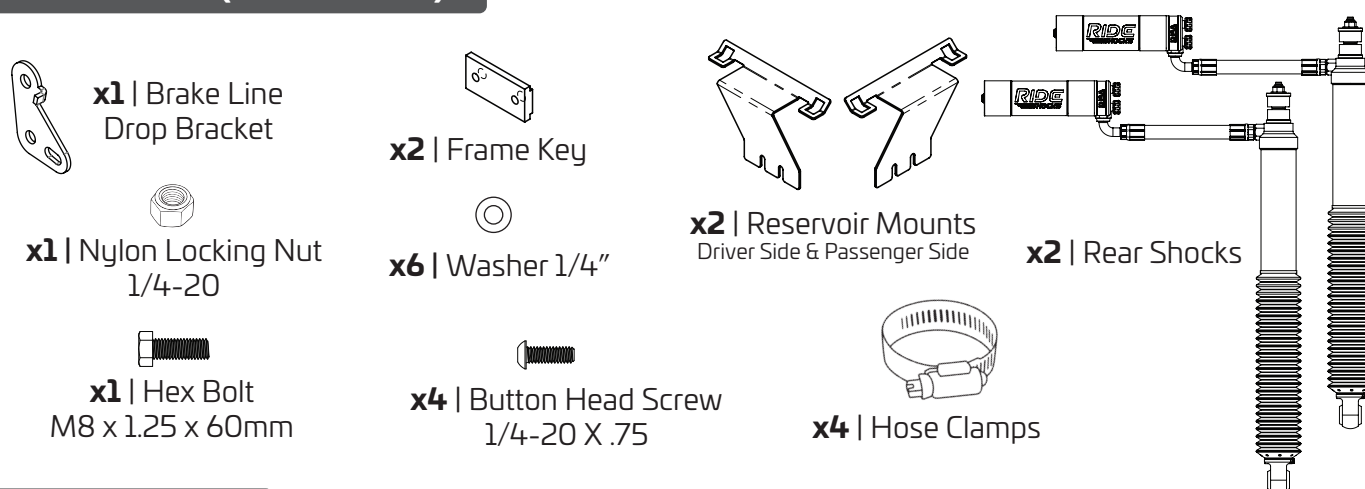


1	TOP HAT BOLTS
2	TOP HAT
3	HOSE FITTING
4	PRELOAD RING
5	HOSE
6	SPRING
7	RESERVOIR
8	SCHRADER VALVE
9	LOW SPEED ADJUSTER
10	HIGH SPEED ADJUSTER
11	SHOCK SHAFT
12	ROD END
13	EYELET
14	TOP STEM
15	TOP CAP
16	SHOCK BODY
17	SHOCK BOOT

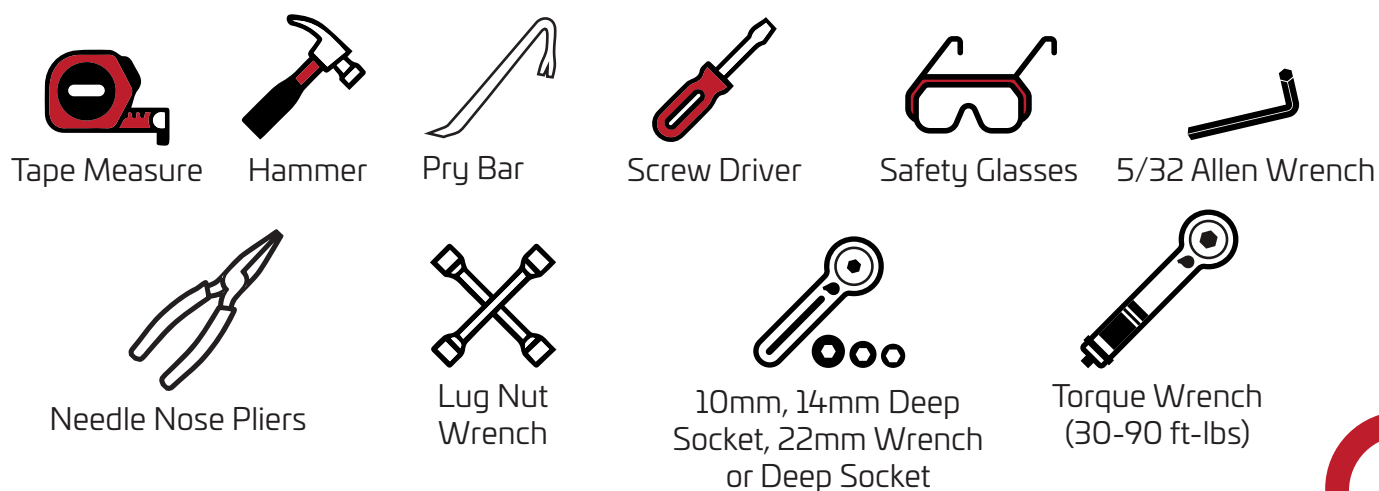
FRONT COILOVERS (included items):



REAR SHOCKS (included items):



TOOLS NEEDED:



A FEW WORDS ON PRODUCT SAFETY AND MESSAGING:

Motor vehicles and off road motor sports/use involve high levels of risks and variables including speed, terrain, overall suspension component choice, driver behavior and other variables outside Ride Shocks knowledge or influence. It follows that Ride Shocks is unable to foresee every combination of variables and these installation instructions do not reflect all product safety information which may be required to reduce risk of accident or injury related to your vehicle and selected modifications.

Before installation, please review the following safety information and installation instructions. Within these Instructions important safety information is generally preceded by one of three signal words indicating the relative risk of injury.

The signal words mean:

⚠ WARNING A hazardous situation which, if not avoided, could result in death or serious injury. You **CAN** be Killed or Seriously Hurt if you don't follow instructions.

⚠ CAUTION A hazardous situation which, if not avoided, could result in minor or moderate injury. You **CAN** be moderately HURT and also may suffer property damage if you don't follow instructions.

NOTICE Careful attention is required to this instruction or operation but does generally not relate to personal injury. Damage to your Ride Shocks product or other property may result if you don't follow instructions.

⚠ WARNING Suspension Modified with Tuned Shock Components/Higher Risk of Roll-over or Other Accident

⚠ WARNING: HIGHER ROLLOVER RISK		
	Avoid Excessive Speeds, Abrupt Maneuvers, Surfaces/Obstacles Which May Induce a Tripping Moment. All Occupants Buckle UP & USE Supplemental Restraints.	

The suspension of this vehicle has been optimized for off-road utility through installation of Ride Shocks products, which may increase ride height, modify damping/rebound and other suspension parameters. The suspension feel and handling may be different than an unmodified vehicle.

To reduce risk of roll-over or other accident always:

- Routinely inspect suspension components. IF DAMAGED, DO NOT USE UNTIL REPAIRED OR REPLACED.
- Do Not modify or substitute components of the Ride Shocks suspension products.
- Use of oversize tire/wheel combinations may increase stopping distances, ride height and/or compromise performance of vehicle stability control and other systems.
- Many states have restrictions on height and suspension modifications for highway use vehicles. Owners & drivers are exclusively responsible for construction and compliance of their vehicles.
- For additional safety messaging consult your OEM owners manual and off road supplements.



WARNING (CA residents) Cancer and Reproductive Harm - www.P65Warnings.ca.gov. Handling passenger or off-highway motor vehicle parts can expose you to chemicals such as phthalates and lead, which can cause cancer and reproductive harm. To minimize exposure, service the vehicle in a well-ventilated area, wear gloves, and wash your hands. For more information see: <https://www.p65warnings.ca.gov/fact-sheets/motor-vehicle-parts>.

Read and follow all instructions and understand all safety messaging before beginning Installation. This installation requires intermediate mechanical skills and should be performed by a professional mechanic with access to a lift and means of securing the vehicle.

WARRANTY:

3 YEAR / 50,000 MILES WORRY-FREE LIMITED WARRANTY

For warranty details please see: www.rideshocks.com/terms-conditions

PRODUCT REGISTRATION:

To register your product, visit: www.rideshocks.com/product-registration

Benefits include:



(scan to register products)

- Information about product updates/valuable safety notices.
- Access to product installation videos/updated installation guides.
- Fast-tracked customer support.
- Option to opt-in to special customer incentives/discounts.

ALIGNMENT:

Arrange for a professional alignment to be done on this vehicle once installation has been completed.

Read all instructions from start to finish before beginning the installation process. Confirm you have all tools necessary to complete the job.

SERVICE:

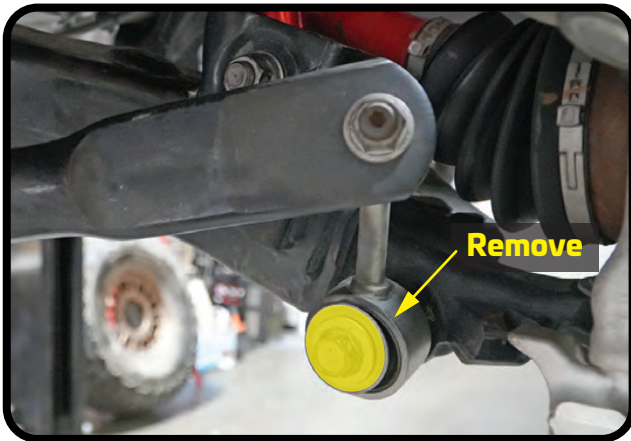
More information can be found at www.rideshocks.com/service or by calling (619) 810-9740 and speaking to one of our service technicians.

Basic service should be done every 50,000 miles of street use or less in combination with occasional off-road use.

If you have any questions or concerns, please contact us directly.

FRONT SHOCK REMOVAL:

1. Before lifting the vehicle off the ground, disconnect sway bar links from lower control arm using 19mm socket wrench.

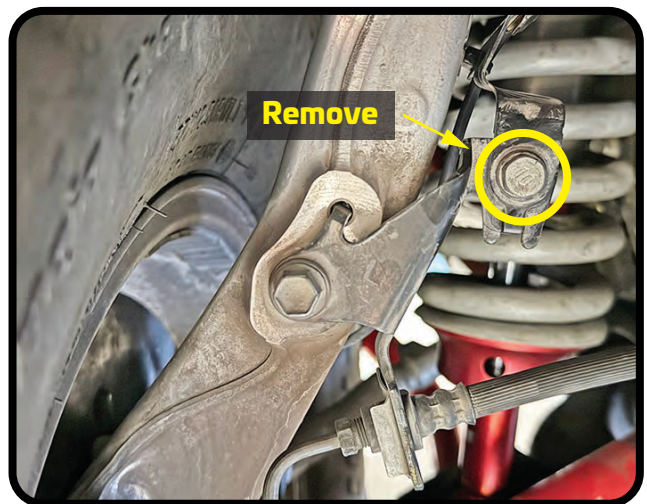
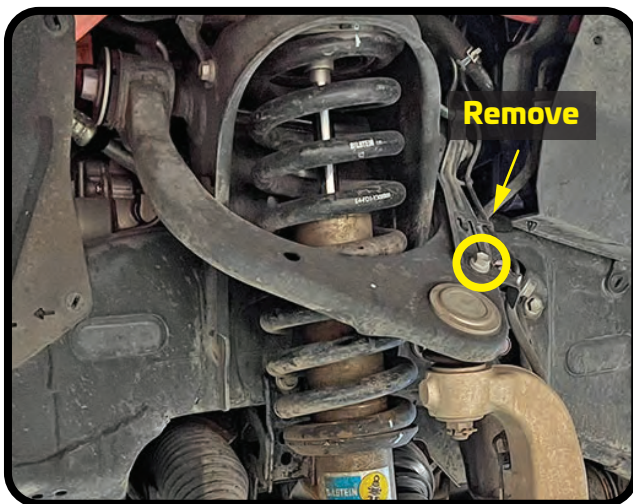


⚠ WARNING 1. Always use a chassis lift for the installation of shocks, and make certain the raised vehicle is securely attached to the lift to prevent the vehicle from slipping, falling, or moving during the installation process.

NOW BEGIN WORKING FROM THE DRIVERS SIDE. ONLY ONE SIDE AT A TIME.



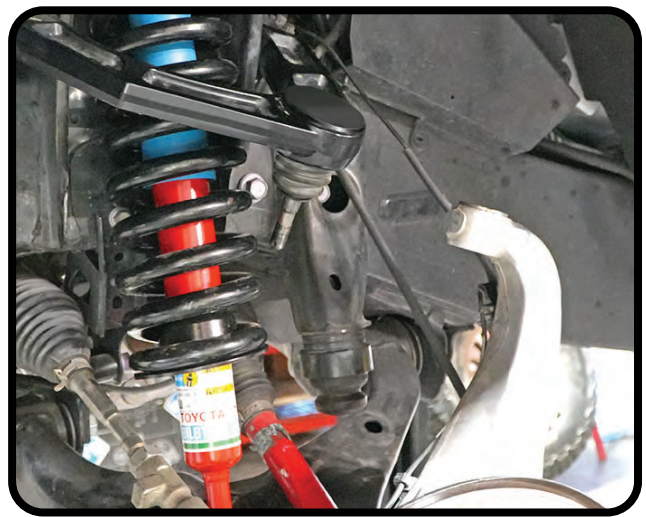
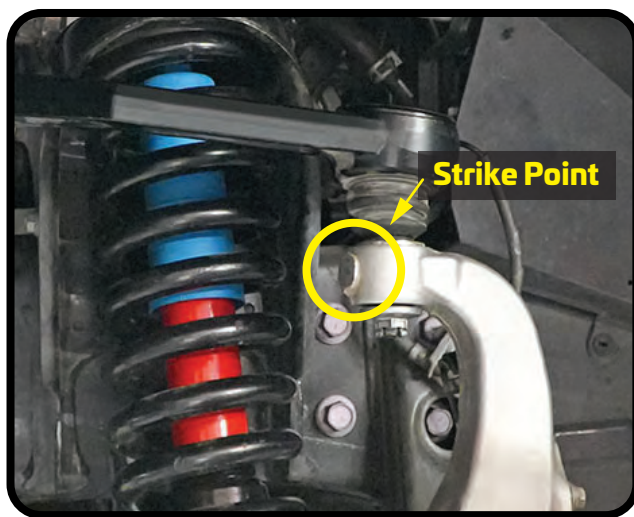
2. Remove front tires.



3. Using a 10 mm socket or wrench, remove the factory ABS/brake line bracket from the OEM upper control arm.

4. Using a 12 mm socket or wrench, remove the factory ABS/brake line bracket from the OEM knuckle.

5. Remove cotter pin from ball joint stud and use a 22mm socket to loosen castle nut. **Do not remove the nut, just loosen it.**

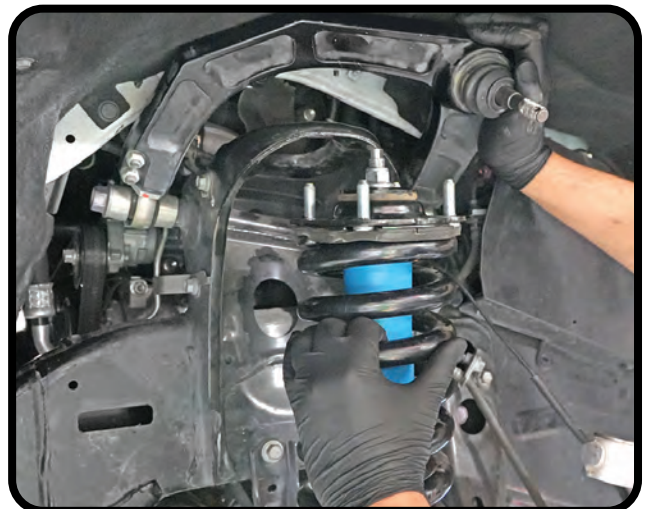


6. Using a hammer, strike the side of the steering knuckle until the taper releases, then remove the castle nut. To prevent the knuckle from swinging outward and potentially pulling the inner CV joint from its socket, secure it with a tie strap if needed.

7. Remove lower shock bolt using 22mm wrench and socket.

8. Remove 4 upper shock mounting nuts using a 14mm wrench or socket. Then remove shock from vehicle.

If you do not already have aftermarket upper control arms installed, now would be a good time to install those.



FRONT SHOCK INSTALLATION:

9. Install new shock. The shocks are side specific, so be sure the hose orientation points towards the front of the vehicle.

NOTICE

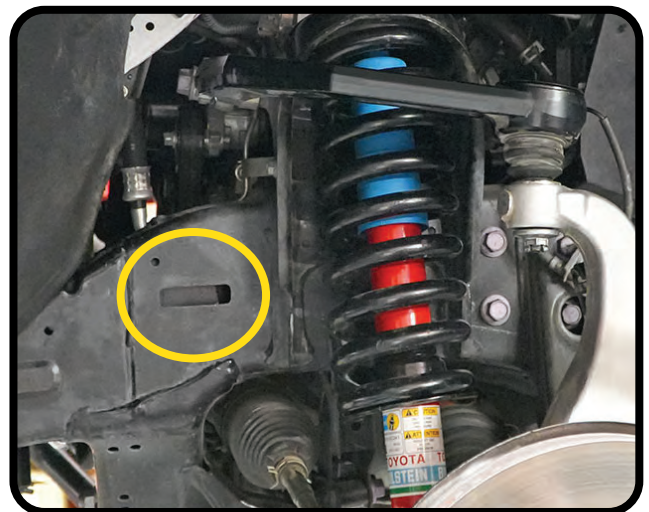
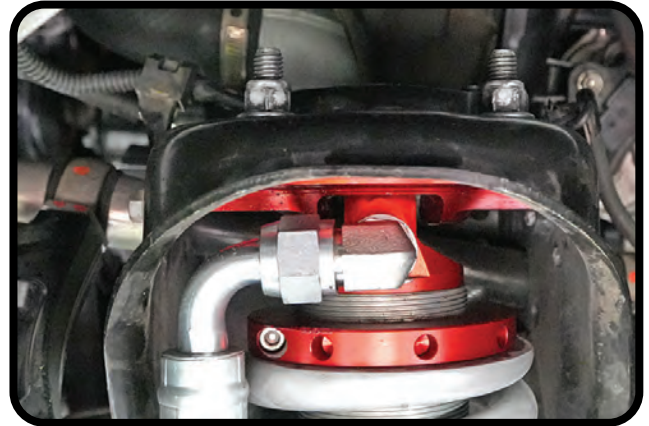
Use caution when setting it into place so that you do not damage any electrical wires or brake lines.

10. Use the 4 (M10-1.50) flanged nuts (included) to secure the top hat to the mounting area.

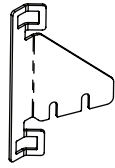
Torque to 33 ft-lbs using a 15mm socket.

11. Insert the factory lower mounting bolt through the lower mount. Install the washer and nut, then tighten to 122 ft-lbs.

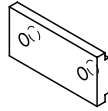
12. Locate opening on frame towards the front of the vehicle and remove plastic cover.



Hardware needed for this step



x1 | Reservoir Mount
Driver Side



x1 | Frame Key



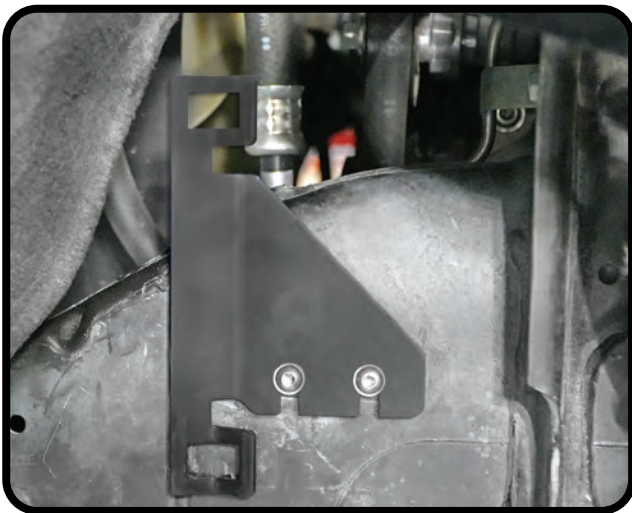
x2 | Button Head Screw
1/4-20 X .75



x2 | Washer 1/4"



13. Use the supplied Frame Key, Button Head Screws and Washers to carefully insert Frame Key into frame while sliding Driver Side Reservoir Mount onto the screws.



14. Tighten screws with 5/32" allen wrench.



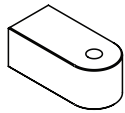
15. Use supplied hose clamps with protective heat shrink to secure reservoir into position.

16. Reconnect UCA to knuckle, torque to 81 ft-lbs, continue to rotate torque wrench until castle nut holes line up. Install cotter pin.

17. Reconnect ABS Wire bracket to knuckle and UCA.



Hardware needed for this step



x1 | Sway Bar Relocation



x1 | Sway Bar Relocation
FRONT



x2 | Hex Bolt
M12 x 1.25 x 70mm



x2 | 1/2" Washer



x6 | Hex Bolt
M8 x 1.25 x 60mm



x6 | Washer M08



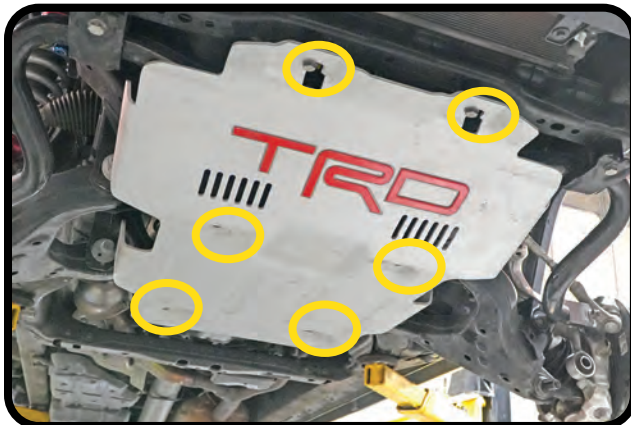
x6 | Front Skid Plate Spacer

TRD PRO Sway Bar (red color) does not require skid plate spacers.

Front Stabilizer Bar Sub-Assembly | PN: 48804-0C020

Left Hand Front Stabilizer Link Assembly | PN: 48810-0C030

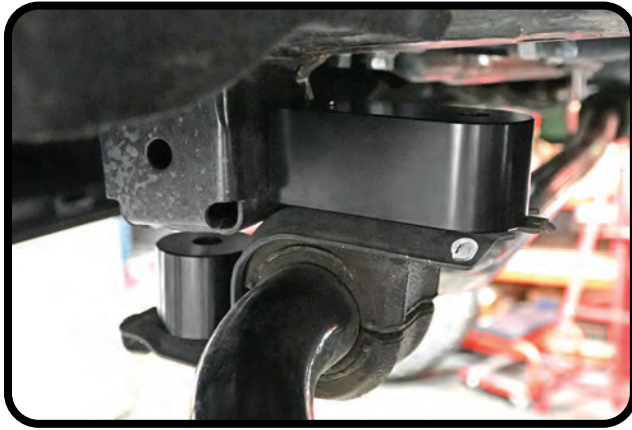
Right Hand Front Stabilizer Link Assembly | PN: 48820-0C030



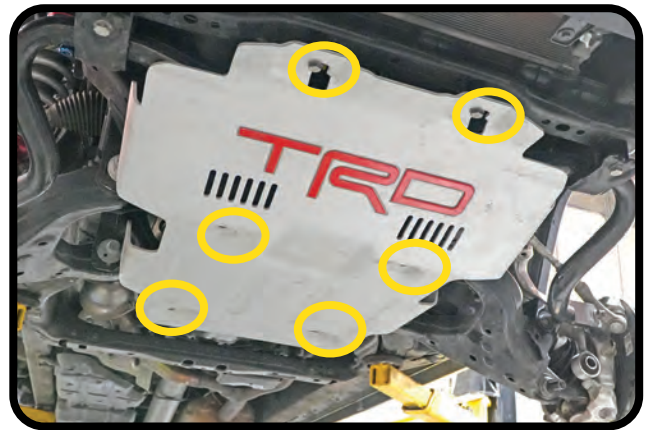
18. Use a 12mm socket to remove the 6 bolts attaching the front skid plate to the frame. *Note: Skid plates will vary depending on model or trim package. Skid plate image shown may not represent your model or trim package.



19. To install front sway bar drop spacer, remove the two bolts attaching frame side bushing using 17mm socket.

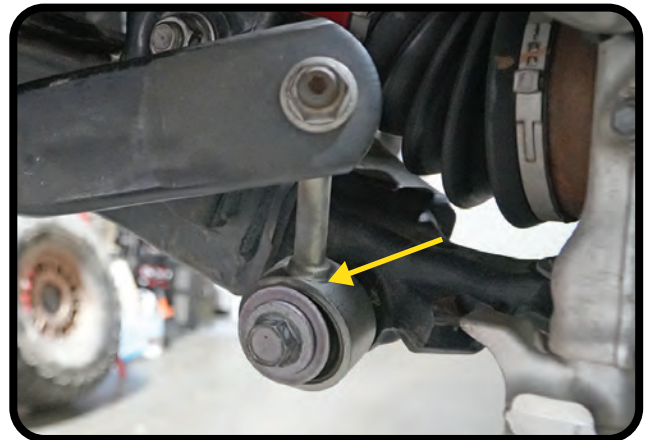
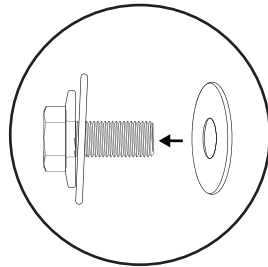


20. Install both sway bar drop spacers with M12 x 1.25 x 70mm bolts and washers. Torque to 51 ft-lb with 19mm socket. **Only do one side at a time.**



21. Using supplied M8 x 1.25 x 60mm bolts, washers, and skid plate spacers, re-install skid plate. Torque to 22 ft-lbs.

22. Reconnect sway bar link to lower control arm with provided sway bar link spacer on factory bolt. Torque to 89 ft-lbs.



REPEAT PRECEDING STEPS ON THE OPPOSITE SIDE



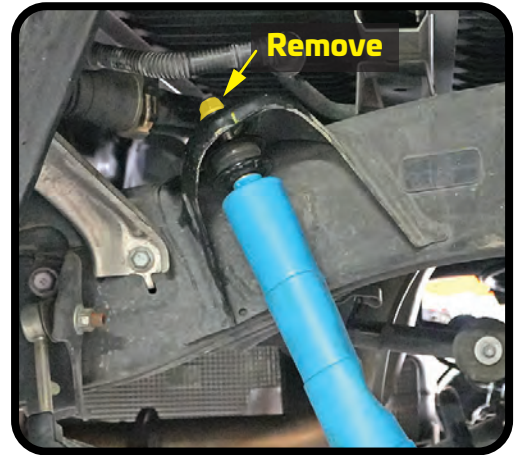
REAR SHOCK REMOVAL:

⚠ WARNING 1. Always use a chassis lift for the installation of shocks, and make certain the raised vehicle is securely attached to the lift to prevent the vehicle from slipping, falling, or moving during the installation process.

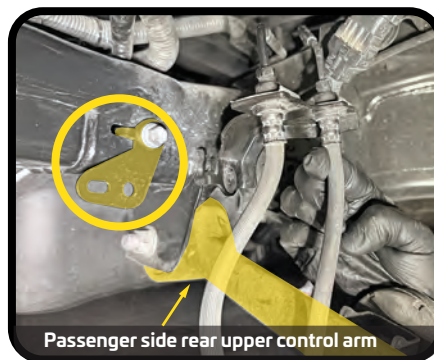
2. Remove the rear wheels.

3. Remove the top nut holding the rear shock in place with a 19mm wrench.

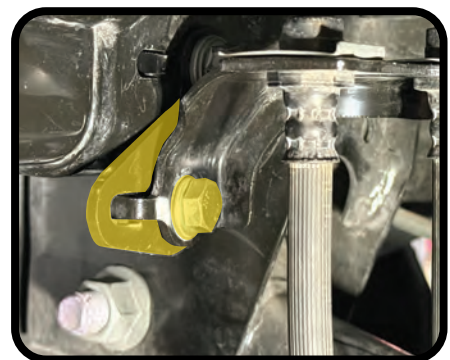
4. Remove the lower shock bolt with a 17mm socket. Remove the shock from the vehicle.



5. Locate rear brake line bracket attached to cross member and remove with 12mm socket.



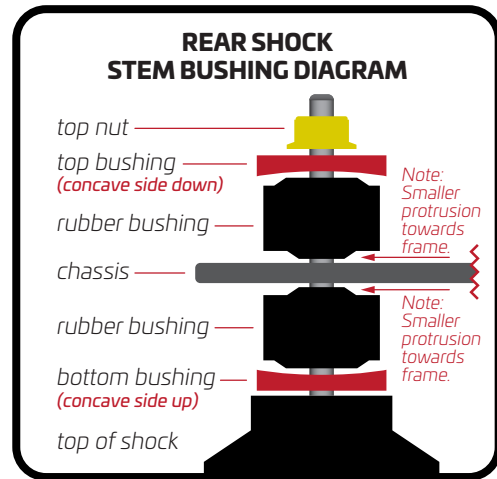
6. Place the supplied brake line drop bracket into position with tab inserted into cross member slot. Re-use factory bolt with 12mm socket.



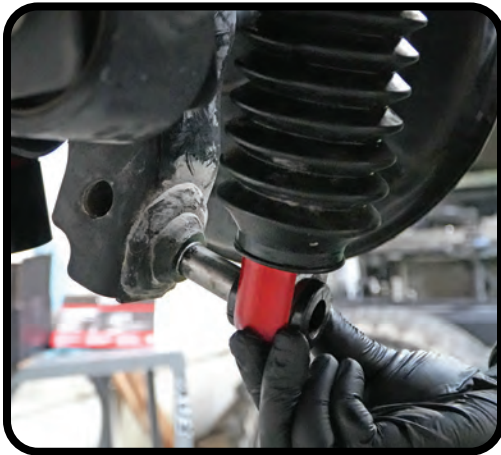
7. Use supplied hex cap screw, washers and nylon nut to attach factory brake line bracket to new drop bracket.

REAR SHOCK INSTALL:

8. Install new shock. The shocks are side specific, so be sure the hose orientation points towards the rear of the vehicle.

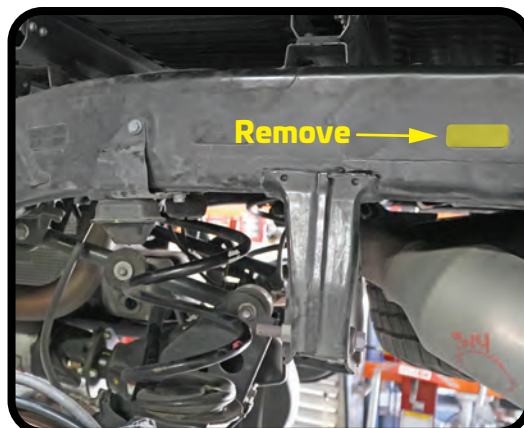


9. Install new shock. Tighten upper stem mount nut with 19mm wrench until bushing is flared out to match the outer diameter of the washer. There should be approx 3/8" stud showing above the nut. **Do not over tighten the nut.**



10. Install lower end of shock onto mounting stud and use 17mm to reinstall factory bolt. Torque to 66 ft-lbs.

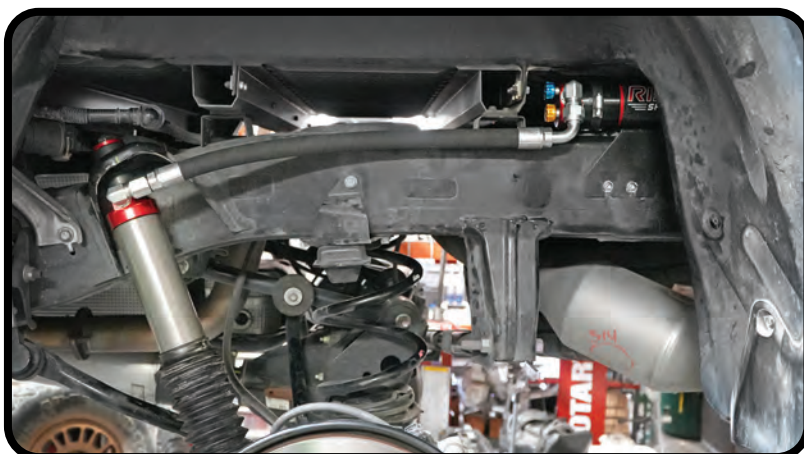
11. Locate and remove rectangular plastic cover in frame rail.





12. Use the supplied Frame Key, Button Head Screws and Washers to carefully insert Frame Key into frame while sliding Driver Side Reservoir Mount onto the screws. Tighten screws with 5/32" allen wrench.

5. Use supplied Hose Clamps to secure reservoir into position.

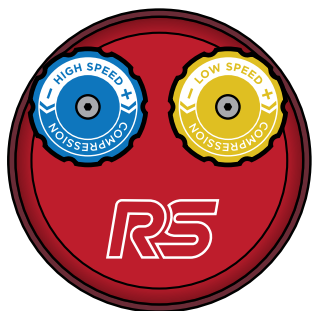


**REPEAT PRECEDING STEPS
ON THE PASSENGER SIDE**

FINISHING STEPS:

- Reinstall Tires & Lug Nuts (OEM spec torque to 83 ft-lbs)
- Check Ride Height (see page 14)
- Check All Torque Settings
- Get an Alignment
- Retorque after 500 miles of driving.

DUAL PISTON ADJUSTERS (DPA):



Low Speed Adjuster:

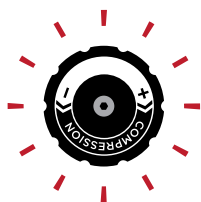
What is Low Speed Compression? Low Speed Compression on a shock refers to the speed at which the shaft compresses into the shock body. A smoother, more gradual shock movement. Low speed compression occurs when a vehicle is cornering, braking/accelerating and driving over large rolling bumps.

When would I need to adjust Low Speed Compression? If you find the vehicle is having too much brake dive, feeling too bouncy or bottoming out on big rolling bumps, you should increase the Low Speed Compression on your DPA. Low speed adjustments on the reservoir are less noticeable than high speed adjustments.

High Speed Adjuster:

What is High Speed Compression? High Speed Compression happens when the shock compresses very quickly. High speed compression occurs when hitting things like curbs, speed bumps, larger rocks, or washboard roads at higher speeds (although this is not exclusive to driving speeds). Even at 75 mph approaching a gradual hill is low speed compression, but if you hit a speed bump at just 15 mph, your shock must react very quickly. This is high speed compression.

When would I need to adjust High Speed Compression? If the suspension and tires are slamming through and bottoming out on hard hits you need to increase high speed compression. You should also increase it when adding weight to the vehicle or doing more aggressive offroad driving. High speed compression adjustments are more noticeable and can be the most useful adjustment on the shock.



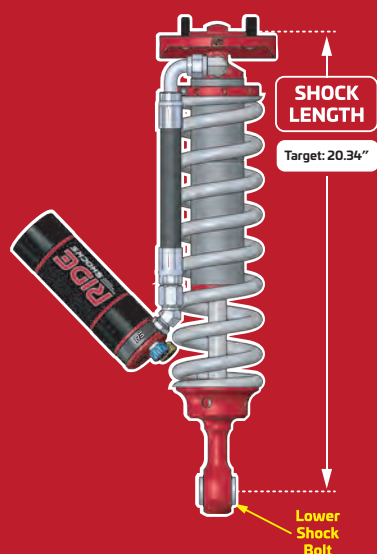
12-CLICKS OF ADJUSTMENT

Ride Shocks come from the factory with both adjusters all the way decreased (open). This means they are at their softest setting. This allows you to have a full adjustment to increase the firmness of the ride.

Only make adjustments by hand. Using a tool may damage adjusters.

SETUP INFORMATION:

2022+ TUNDRA - RIDE HEIGHT



Measuring Your Ride Height

Getting the correct ride height is the first step in setting up your suspension. Pre-load is the initial (pre) tension (load) on your springs before carrying the weight of the vehicle. Each .25" of adjustment you make on the pre-load ring translates to approximately .50" of ride height change.

1. Install shocks. With the vehicle on level ground, ballpark toe setting if necessary, settle suspension (drive back and forth 10 feet).
2. Record height measurement.
3. Adjust pre-load with shocks removed from vehicle.
4. Repeat step 1 and re-check height when complete.
5. Repeat steps above as necessary until ride height is achieved.

⚠ WARNING

- Do not adjust preload with shocks installed on vehicle.
- If you exceed the maximum shock length at ride height, you can damage your shocks.

Max Thread Length Above Pre-load Ring

Refer to the chart to correctly find the maximum.

- Never adjust pre-load with shocks on the vehicle.
- Use provided pre-load adjuster tool.
- DO NOT ADD additional pre-load past the max listed for your spring.
- Too much thread showing can cause coil bind, which will damage the spring and shock.

Too Much of a Good Thing. Don't Over Do It!

Of course the main objective in adding pre-load is to increase the lift of the vehicle, but there can be a point where you added too much, even if you are still in range of the max exposed threads measurement.

The key is to make sure you still have sufficient down travel remaining when at ride height. Too little and you will run into handling issues and potentially damage suspension components.

Springs work in both extension and compression, so too much pre-load makes the shocks too harsh on compression and can lead to a bumpy ride. We look at suspension as a complete package and every piece of it has a purpose, as every component needs to work together in harmony.

Having too much pre-load could actually be a sign that you need to move up to the next available spring rate.

So after everything is accounted for, it is best to find that happy medium between ride height and ride quality.

Rear Ride Height

Setting rear ride height is something you have very little control over. You're mostly going to be left with the card you're dealt with when it comes to the rear end. Just make sure you're in the Min/Max window and you should be good.

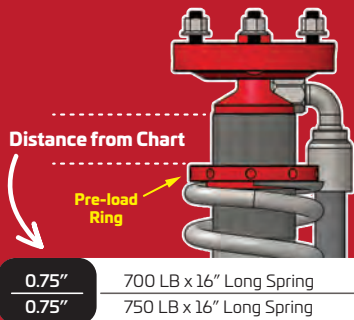
If you do find yourself below the Min measurement, then we suggest looking into alternative springs for the rear of your Tundra.

Another thing to note is that Ride Shocks for the rear of the Tundra has a life height range of 0-1.5" of lift. Do not attempt to run more or less lift than this or you could damage your shocks.

• The measurements point for the rear shocks is between the shock bushings. This is the point on the rear shock where it mounts to the vehicle frame. Take your measurements from the frame down to the lower shock bolt.

• Not all shock manufacturers measure from the same locations, so be sure to double check this when applying this knowledge to any other brands shock.

22+ TOYOTA TUNDRA MAX THREAD MEASUREMENTS



* If you have more than the max thread distance showing at your desired ride height, you may require a heavier rate spring.

2022+ TUNDRA RIDE HEIGHT

