



TOYOTA TUNDRA FRONT COIL-OVER SYSTEM Installation Instructions



Vehicles that have been modified for performance enhancement by either raising, lowering, and or the addition of larger or smaller tires will have very different handling characteristics. These modifications may dramatically change the vehicle's driving and handling dynamics and may result in roll-over or loss of control.

It is the operator's obligation to operate the vehicle in a safe and responsible manner. Operating the vehicle in an unsafe manner or in unsafe conditions could cause serious bodily injury and or loss of life.

If your state does not allow the legal modification of your vehicle's suspension, **STOP NOW**, and do not install the system.

Your vehicle's warranty may be affected by the modification of your suspension. Please check with your vehicle manufacturer prior to installation.

PLEASE READ ALL INSTRUCTIONS FIRST!

In case of doubt please contact your local BILSTEIN dealer or our sales department before installation.

When replacing other brands, BILSTEIN shock absorbers should always be installed as a set. Installation of shock absorbers, suspension springs, struts and cartridges requires special tools and expert knowledge. Accordingly, installation of all BILSTEIN products must be performed by a qualified suspension specialist.

Always use a chassis hoist for the installation of BILSTEIN products, and make certain that the raised vehicle is securely attached to the hoist to prevent the vehicle from slipping, falling, or moving during the installation process.

If you choose to install any BILSTEIN product without the necessary special tools, expertise or chassis hoist, you may subject yourself to the risk of serious bodily injury or death. If you elect not to use a chassis hoist, at least make sure the vehicle is on level ground, that all tires on the ground during installation are blocked to prevent movement, that at least two tires are on the ground at all times, and that adequately secured safety stands (jack stands) are used to support the chassis. **NEVER** get under the vehicle until you have checked to make sure all of these things are done.

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All BILSTEIN product must only be used for the specific, intended application as indicated in the application guide. **Any use of any BILSTEIN product other than for its intended use may result in serious bodily injury or death.**

BILSTEIN suspension products are gas-filled and are highly pressurized. Never place any BILSTEIN product in a vise or use a clamp on any BILSTEIN product; never apply heat near any BILSTEIN product, and never attempt to open or repair any BILSTEIN product, in order to prevent **serious bodily injury or death**. Any attempt to misuse, misapply, modify, or tamper with any BILSTEIN suspension product voids any warranty and **may result in serious bodily injury or death**.

All mounting fasteners for struts must be securely tightened before tension is placed on the suspension system. Make sure that the bump stop and dust cover are correctly and properly fastened.

Do not use impact tools for loosening or tightening fasteners, because this may destroy the screw threads.

Self- locking nuts must only be used **once!**

Suspension springs are **PRELOADED!** The suspension spring must be compressed with the assistance of an appropriate strut vise and spring compressor. The top mount must not be removed until the preload pressure is no longer present and the spring can be moved by hand, **or serious bodily injury or death may result.**

Reuse original equipment components only if they are in good condition, otherwise replace them with new components. Never remove the slight film of oil on the piston rod and seal.

After installing any BILSTEIN product, the suspension caster and camber must be checked and/or adjusted to comply with the vehicle manufacturer's specifications. Also, the (load dependent) brake compensator and the anti-lock brake system must be checked and/or reset to comply with the vehicle manufacturer's specifications. Also the headlight aim must be checked and adjusted.

Be sure to properly dispose of all old parts.

BILL OF MATERIALS			
ITEM NO.	QTY.	PART NO.	DESCRIPTION
COIL OVER SHOCK ASSEMBLY			
1	2	BE5-6930-H5	Monotube shock absorber assembly
2	2	199024	Coil spring
3	2	193586	Spring hat
UPPER SHOCK MOUNT ASSEMBLY			
4	2	197571	Upper mount
5	2	197587	M14x1.5x90 mm hex head cap screw (HHCS)
6	4	197581	14 mm heavy washer
7	2	517900	M14x1.5 lock nut
8	6	197582	M10 x 20 mm socket head cap screw (SHCS) – "Allen bolt"
9	6	197586	10 mm heavy washer
10	6	517790	M10 lock nut
TOOLS			
11	1	191014	90 mm spanner wrench
12	1	191015	75 mm spanner wrench



Note: Installation of this kit and alignment of the vehicle should be performed by a qualified technician. Use of proper tools and observance of all safety precautions is required.

- 1. Immediately inspect all parts and Instructions prior to installation of this kit!** A Bill of Materials has been included with in this instruction sheet.
- Following instructions in the manufacturer's service manual, remove the original front shock assemblies from the vehicle. Only the original lower M14 hex bolts will be re-used for installation of the Bilstein components. Do not discard!
- The Bilstein threaded shocks have threaded spring seats and lock rings installed. **Apply a suitable anti-seize compound to the threads.** The spring seat must be set to a specified location on the shock prior to installing the coil spring (*see chart below*). Do not exceed the upper and lower limits shown on the chart as this can lead to damage to the components and void the warranty.

Specifications are based on a new vehicle in "stock" form and within the manufacturers specified vehicle weight. Measured heights may vary with additional/alternate aftermarket components.

Measurement*	Ride height change (except 4x4 double cab)	Ride height change (4x4 double cab only)
100mm (3.94")	1.0" lift	0.25" lift
110mm (4.33")	1.5" lift	0.75" lift
125mm (4.92")	2.25" lift	1.50" lift

* Measured dimensions are taken from the center of the lower shock bushing to the top of the spring seat surface.

- After setting the spring seat to the selected height, tighten the lock ring to the seat with the supplied spanner wrenches. Re-check the spring seat height after this step.



CAUTION!

READ THIS BEFORE INSTALLING THE COIL SPRING: There will be a high pre-load force on the coil spring during installation. You must use a high-quality, one-piece, Macpherson-strut type spring compressor (wall- or floor-mount type recommended) and follow all instructions and safety precautions regarding the use of that spring compressor, or serious bodily injury or death may result. Do not use economy or hook-type spring compressors.

5. Using a suitable, professional quality spring compressor, compress the coil spring (P/N 199024) so the spring hat (P/N 193456) can be positioned towards the top of the shock rod and seated under the upper eye ring.
6. After installing the upper spring hat with the Bilstein logo facing outward, slowly release the spring tension ensuring the upper hat seats on/in the coil spring and upper eye ring.
7. Referring to the upper shock mount diagram (fig. 1), install one M10 socket head cap screw (SHCS- "allen bolt") labeled **A** into the countersunk bolt hole, as shown, on the upper shock mount (P/N 197517).
8. With the bolt labeled **A** in place, install the shock to the upper mount with the M14 hex head bolt [HHCS (P/N 197584)] labeled **B**, lock nut (P/N 517900) and washer (P/N 197581). The hex head of the M14 bolt will prevent the M10 SHCS from dropping out of its location during installation. Thread the lock nut to the M14 bolt but do not tighten at this time.
9. Install the completed shock / spring / upper mount assembly to the vehicle body using the remaining M10 SHCS's, washers (P/N 197586) and M10 lock nuts (P/N 517790). **For both left and right sides, the hex head of the M14 bolt "B" must be oriented towards the rear of the vehicle as shown in Fig.1.** The inner-most SHCS can be accessed by swinging the shock assembly outward, allowing more room for installation tools. Torque the M10 lock nuts to 20 ft/lbs (25Nm).
10. Attach the shock assembly to the vehicle lower mount on the A-arm using the original M14 hex bolt. Torque the upper and lower M14 hex bolts to 60 ft/lbs (80Nm).
11. Inspect all points of attachment and brake/ABS lines for clearance, and adjust if necessary.
12. Align the vehicle to factory specifications before driving any substantial distance. Inspect and re-torque all hardware after the first 50 miles of driving.

UPPER SHOCK MOUNT ASSEMBLY

Fig. 1

