

# E4-WM5-Y754A00 MOUNTING INSTRUCTION

The BILSTEIN logo consists of the word "BILSTEIN" in white, uppercase, sans-serif font on a blue rectangular background. To the right of the blue background is a yellow rectangular background containing a black stylized graphic of a shock absorber or coil spring.

## Upper Control Arms, part # 51-304669

### **IMPORTANT! READ THIS FIRST!**

Installation of shock absorbers or other suspension components requires special tools and expert knowledge. Accordingly, installation of all BILSTEIN products must be performed by a professional automotive suspension technician.

When replacing other brands, BILSTEIN shock absorbers or other suspension components should always be installed as a set. All BILSTEIN products 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.**

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

**If you install any BILSTEIN product without the necessary special tools, expertise, and chassis hoist, you may subject yourself to the risk of serious bodily injury or death.**

BILSTEIN shock absorbers are gas-filled and are highly pressurized.

- Never place any BILSTEIN shock absorbers in a vise or use a clamp on any BILSTEIN shock absorber.
- Never apply heat near any BILSTEIN shock absorber.
- 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**.

While installing any BILSTEIN product:

- Do not use impact tools for loosening or tightening fasteners, because this may destroy the screw threads.
- Self-locking fasteners must only be used **once!**
- 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 shock absorber piston rod and seal.
- All mounting fasteners for shock absorbers and other suspension components must be securely tightened before tension is placed on the suspension system, unless otherwise specified in the manufacturer's service manual or in this instruction.

After installing any BILSTEIN product:

- The suspension caster and camber must be checked and/or adjusted to comply with the vehicle manufacturer's specifications.
- 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.
- The headlight aim must be checked and adjusted. Or, if applicable, adaptive headlights must be checked and recalibrated to comply with the vehicle manufacturer's specifications.
- If applicable, any/all Advanced Driver Assistance Systems (ADAS) must be checked and recalibrated to comply with the vehicle manufacturer's specifications.

### ***CAUTION for COILOVER TYPE SUSPENSIONS!!!***

**If disassembling a coilover type suspension, refer to the vehicle manufacturer's service manual for proper procedures. The coil spring is preloaded and must be compressed with a spring compressor to release load before the upper mount is disassembled. Failure to follow the vehicle manufacturer's procedures may cause serious injury or death, and may damage the vehicle.**

### ***IMPORTANT!!!***

**This BILSTEIN product may or may not be compatible with non-BILSTEIN aftermarket products and/or vehicle modifications. It is the responsibility of the professional automotive suspension technician performing the installation to identify any non-OEM components and/or modifications on the vehicle that may interact with the suspension system. These must be evaluated for any potential physical static or dynamic interference with and/or effect on the function of this BILSTEIN product.**

**BILSTEIN Upper Control Arms are compatible with direct fit replacement shocks and coilovers only. Not compatible with lift spacers. May not be compatible with some aftermarket spindles. If using aftermarket spindles, installer must check clearance between control arm and spindle throughout full suspension travel. BILSTEIN is not responsible for any damages caused due to insufficient clearance with aftermarket spindles.**

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OE GM 1500 upper control arms will vary from years 2014-2018, with three possible variants. Make sure your vehicle applies to the correct upper control arms before installing. If your vehicle is in the year range of 2007-2016, this kit is meant to replace the **Forged Steel** OE upper control arms;

- **Forged steel** upper control arms have a textured surface, a black finish, and will be magnetic. ('07-'16)  
**BILSTEIN** part number **51-304669**
- **Aluminum** upper control arms have a textured surface, a grey finish, and will NOT be magnetic. ('14-'18)  
**BILSTEIN** part number **51-304676**
- **Stamped steel** upper control arms have a smooth surface, a black finish, and will be magnetic. ('16-'18)  
**BILSTEIN** part number **51-304676**

## Types of GM OE Upper Control Arms



Bill of Materials – 51-304669		
Item #	Description	Qty
1	B4-BB2-Z062A12; GM 1500; '07-'16; FL; UCA	1
2	B4-BB2-Z062A13; GM 1500; '07-'16; FR; UCA	1
5	B4-KT1-Z487A00, contents include:	1
	Zerk Fitting	4
	Brake Line Clamp	2
	Button Head Screw	2
	#10 SAE Washer	2
	Nyloc Nut	2
	Grease Packet	4
6	B4-KT1-Z481A00, contents include:	1
	Castle Nut	2
	Cotter Pin	2

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## **Removal of OE Upper Control Arms** (always follow service manual specifications)

**NOTE: All images are of the left (driver) side of the vehicle unless otherwise stated.**

- A. Secure vehicle on hoist.
- B. Remove the front wheels.
- C. Using a 10mm socket, remove the ABS line and brake line bracket from the upper control arm. Carefully disconnect the ABS line from the plastic clip and bend open the bracket to remove the brake line. Discard the bracket.



- D. Using a 10mm socket, remove the ABS bracket from the top of the spindle and disconnect the ABS line from the plastic clip.

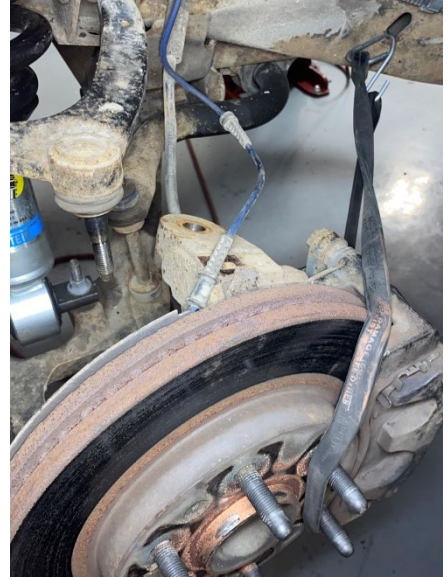


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- E. Using an 18mm wrench, loosen upper ball joint nut until flush with the end of the stud. Using a ball joint puller, separate the spindle from the ball joint stem. Remove the upper ball joint from the spindle and carefully secure the spindle using a bungee to avoid tension on the brake line and ABS line.



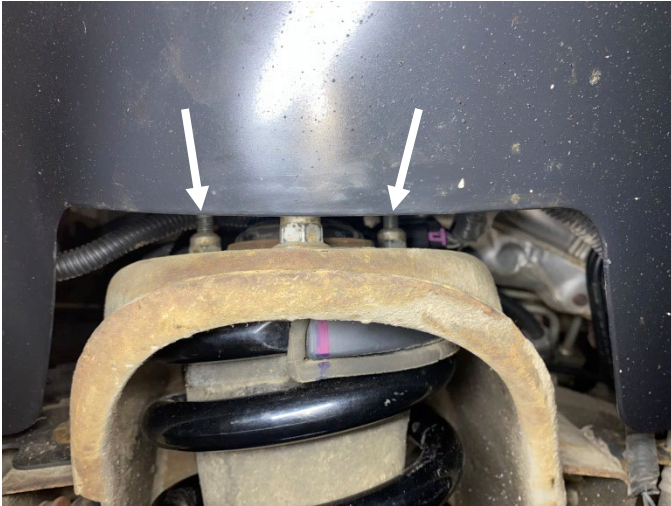
- F. Using a 15mm wrench and socket, remove the sway bar link and lower shock bolts.



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- G. Disconnect the wiring harness clips from the shock's top mount studs. Using an 18mm wrench, remove the upper shock mounting nuts and remove the shock assembly from the vehicle.



- H. Using a 21mm wrench and socket, remove both cam bolts, then remove the OE upper control arm from the vehicle.



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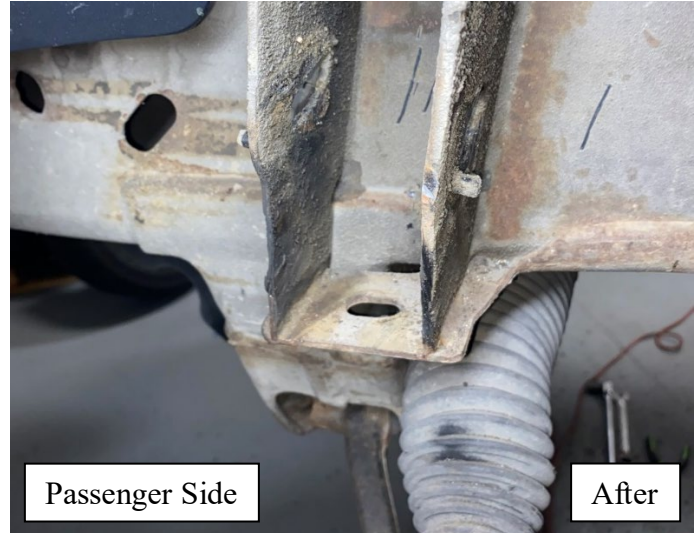
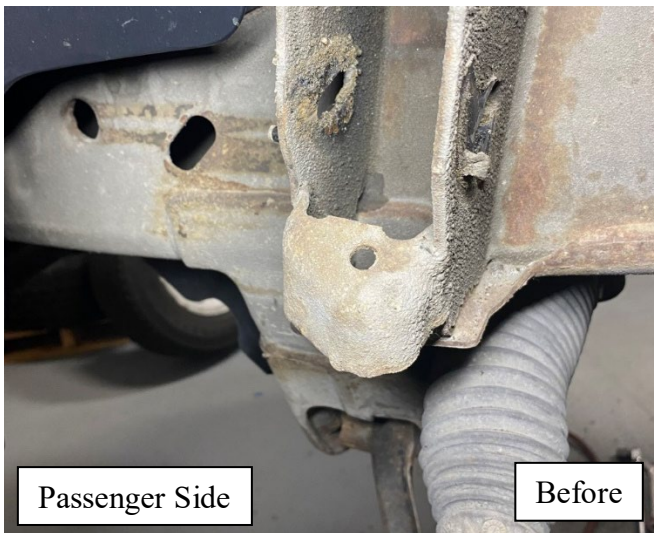
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I. Below images show the shock assembly and upper control arms removed.



J. The upper control arm droop limiting bracket will need to be removed from the frame on both sides. Start by marking the cut line at the welds on both sides of the droop limiter as shown below. Then using a cut-off wheel, carefully cut the tab off of the frame.



**Preparation of Bilstein Upper Control Arms**

- K. Thoroughly clean and dry the UCA and the faces of the bushings/sleeves.
- L. Apply grease to outside faces of the outer bushings and sleeves.



- M. Install the 4 provided 90° zerk fittings into the threaded holes on the top of each bushing eye-ring ensuring they face outboard for easy access during service.

**DO NOT OVER TORQUE ZERK FITTINGS. OVER TORQUING CAN RESULT IN DAMAGE TO FITTINGS.**





### Installation of Bilstein Upper Control Arms

- N. Using OE Cam bolts that were removed in step H, install the UCA onto the vehicle. Before fastening flange nut to UCA bolt, use a grease gun to apply Prothane Super Grease to the zerk fitting until grease squeezes out from the seams. Repeat for all four UCA bushings. (Make sure to do this step before fastening flange nuts to UCA bolts. Failure to grease bushing while UCA bolt is loose will cause damage to the bushing.) Wipe off the excess grease. Apply non-permanent thread locker to the OE Cam bolt threads and install the nuts. Torque bolts to 122 Nm (90 ft.-lbs.).



- O. Reinstall the shock and spring assembly. Secure 3 top mount nuts using an 18mm wrench and lower mount using 15mm wrench and socket. Reattach the wiring harness clips to the top mount studs. Then reinstall the stabilizer link using a 15mm wrench and socket. Torque all hardware to OE specifications according to the manufacturer service manual.





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- P. Install UCA ball joint on the spindle and secure using castle nut provided. Torque castle nut to 110 Nm (81 ft.-lbs.). Continue to tighten the castle nut to the next available slot (no more than 60°). Never back off the slotted nut to achieve alignment with the hole in the stud. Install and spread the cotter pin.
- Q. Using a grease gun, apply Prothane Super Grease to the zerk fittings of the ball joints (do not over grease the joint or the ball joint boot will be damaged). Fill with grease until the boot starts to expand and the bottom of the boot sleeve seats against the spindle, then add a little more. Do not fill to the point where the boot starts to look like a balloon. Wipe off any excess grease.



- R. Using the supplied hose clamp, screw, locknut and 2 washers, secure the ABS line to the tab on the UCA as shown below. Using a 3/8" wrench and 1/8" allen, tighten the screw and nut, then verify ABS line has adequate slack to accommodate steering and suspension motion.



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- S. Install wheels and torque to factory specification.
- T. Check alignment and perform alignment if needed.
- U. **Completed Installation:**



## Maintenance

- V. A break in period of 50 miles is required for bushings and ball joints to settle, which may result in some creaking noises through this period. After a 50-mile break in period, re-torque all bolts to their required torque.
- W. To increase the life span of the bushings and ball joint, make sure to grease them through their grease zerk fittings over time (remember to loosen UCA bolts before greasing and do not over grease the ball joint, which could damage the ball joint boot);
  - Repeat steps A and B.
  - Make sure to clean the zerk fittings of any dirt and debris using compressed air or soap and water.
  - Loosen the UCA bolts and use a grease gun to apply Prothane Super Grease until significant resistance is felt or grease is squeezing out of the seams of the bushings. Wipe clean excess grease.
  - Apply non-permanent thread locker to the UCA bolt threads and torque UCA bolts to specs (step N).
  - Repeat step Q, S, and T.
- X. Make sure to inspect the bushings and ball joints periodically for any unusual wear or damage. If parts have excessive wear or damage, make sure to replace parts with a BILSTEIN replacement bushing kit.