



Installation manual
2007 - 2016 Toyota Tundra
4WD & 2WD - 2" front leveling kit
2008 - 2011 Toyota Sequoia
4WD & 2WD - 2" front leveling kit
Part # 52070

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2" front leveling kit

<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
52070-01	Front strut spacers	2
52070NB	Hardware bag	1
52070INST	Instruction sheet (customer copy)	1
52070INST	Instruction sheet (installer copy)	1
MIRRORHANGER	Rear view mirror hanger	1
WARNINGDECAL	Warning decal	1

Congratulations on your selection to purchase a Tuff Country EZ-Ride Suspension System. We at Tuff Country are proud to offer a high quality product at the industries most competitive pricing. Thank you for your confidence in us, and our product.

Before installation begins, it is the customers/installers responsibility to make sure that all parts are on hand.

It is the customers/installers responsibility to read and understand all steps before installation begins. OEM manual should be used as a reference guide.

Make sure to use loctite on all new and stock hardware associated with this installation.

The Tuff Country EZ-Ride Suspension product safety label that is included in your kit box must be installed inside the cab in plain view of all occupants.

Important customer information:

Tuff Country EZ-Ride Suspension highly recommends that a qualified and/or certified mechanic performs this installation.

If you desire to return your vehicle to stock, it is the customers responsibility to save all stock hardware.

This vehicles reaction and handling characteristics may differ from standard cars and/or trucks. Modifications to improve and/or enhance off road performance may raise the intended center of gravity. Extreme caution must be utilized when encountering driving conditions which may cause vehicle imbalance or loss of control. DRIVE SAFELY! Avoid abrupt maneuvers, such as sudden sharp turns which could cause a roll over, resulting in serious injury or death.

It is the customers responsibility to make sure that a re-torque is performed on all hardware associated with this suspension system after the first 100 miles of installation. It is also the customers responsibility to do a complete re-torque after every 3000 miles or after every off road use.

After the original installation, Tuff Country EZ-Ride Suspension also recommends having the alignment checked every 6 months to ensure proper tracking, proper wear on tires and front end components. Tuff Country EZ-Ride Suspension takes no responsibility for abuse, improper installation or improper suspension maintenance.

It is the responsibility of the customer or the mechanic to wear safety glasses at all times when performing this installation.

Torque settings:

5/16"	15—18 ft lbs.
3/8"	28—32 ft lbs.
7/16"	30—35 ft lbs.
1/2"	65—85 ft lbs.
9/16"	85—120 ft lbs.
5/8"	95—130 ft lbs.
3/4"	100—140 ft lbs

Limited lifetime warranty

Notice to all Tuff Country EZ-Ride Suspension customers: It is your responsibility to keep your original sales receipt! If failure should occur on any Tuff Country EZ-Ride Suspension component, your original sales receipt must accompany the warranted unit to receive warranty. Warranty will be void if the customer can not provide the original sales receipt. Do not install a body lift in conjunction with a suspension system. If a body lift is used in conjunction with any Tuff Country EZ-Ride Suspension product, your Tuff Country EZ-Ride Suspension WARRANTY WILL BE VOID. Tuff Country Inc. ("Tuff Country") suspension products are warranted to be free from defects in material and workmanship for life if purchased, installed and maintained on a non-commercial vehicle; otherwise, for a period of twelve (12) months, from the date of purchase and installation on a commercial vehicle, or twelve thousand (12,000) miles (which ever occurs first). Tuff Country does not warrant or make any representations concerning Tuff Country Products when not installed and used strictly in accordance with the manufacturer's instructions for such installation and operation and accordance with good installation and maintenance practices of the automotive industry. This warranty does not apply to the cosmetic finish of Tuff Country products nor to Tuff Country products which have been altered, improperly installed, maintained, used or repaired, or damaged by accident, negligence, misuse or racing. ("Racing is used in its broadest sense, and, for example, without regards to formalities in relation to prizes, competition, etc.) This warranty is void if the product is removed from the original vehicle and re-installed on that or any other vehicle. This warranty is exclusive and is in lieu of any implied warranty of merchantability, fitness for a particular purpose or other warranty of quality, whether express or implied, except the warranty of title. All implied warranties are limited to the duration of this warranty. The remedies set forth in this warranty are exclusive. This warranty excludes all labor charges or other incidental of consequential damages. Any part or product returned for warranty claim must be returned through the dealer of the distributor from whom it was purchased. Tuff Country reserves the right to examine all parts returned to it for warranty claim to determine whether or not any such part has failed because of defect in material or workmanship. The obligation of Tuff Country under this warranty shall be limited to repairing, replacing or crediting, at its option, any part or product found to be so defective. Regardless of whether any part is repaired, replaced or credited under this warranty, shipping and/or transportation charges on the return of such product must be prepaid by the customer under this warranty.

Important information that needs to be read before installation begins:

Once part # 52070 has been installed. Tuff Country recommends a 32x10.50 tire package. If larger than a 32x10.50 tire is installed on your vehicle in conjunction with part # 52070; Tuff Country assumes no liability and the warranty will be VOID.

Due to the different variation of the stock strut spring rate, height after installation of the spacer may vary. Any questions please feel free to contact Tuff Country or your local Tuff Country dealer.

Before installation begins, Tuff Country EZ-Ride Suspension highly recommends that the installer performs a test drive on the vehicle. During the test drive, check to see if there are any uncommon sounds or vibrations. If uncommon sounds or vibrations occur on the test drive, uncommon sounds or vibrations will be enhanced once the suspension system has been installed. Tuff Country EZ-Ride Suspension highly recommends notifying the customer prior to installation to inform the customer of these issues if they exist.

Tuff Country EZ-Ride Suspension packages (2) sets of instruction sheets with this box kit. (1) is for the installer and (1) is for the customer. The (1) for the customer has some post installation procedure literature and it is the installers responsibility to make sure that the customer receives a copy of the installation manual along with the literature.

Tuff Country EZ-Ride Suspension recommends a wall mounted strut compressor be used when performing the steps that talk about installing the strut spacer into the strut. If you do not have a wall mounted strut compressor, please have these steps performed by your local Toyota Dealership.

Hardware bag 52070NB includes:

<u>Description</u>	<u>Quantity</u>
S10051 (1.750" x .510" x .950")	2
S10090 (1.000" x .500" x .400")	8
1/2" x 6" bolts	2
7/16 USS flat washers	2
1/2" unitorque nuts	2

Recommended tools selection:

Torque wrench
Standard socket set
Standard wrench set
Metric socket set
Metric wrench set
Tape measure
Hydraulic floor jacks

Please follow instructions carefully:

Before installation begins, measure from the center of the hub, to the bottom of the fender well, and record measurements below.

Pre-installation measurements:

Driver side front: _____

Passenger side front: _____

At the end of the installation take the same measurements and compare to the pre-installation measurements.

Post installation measurements:

Driver side front: _____

Passenger side front: _____

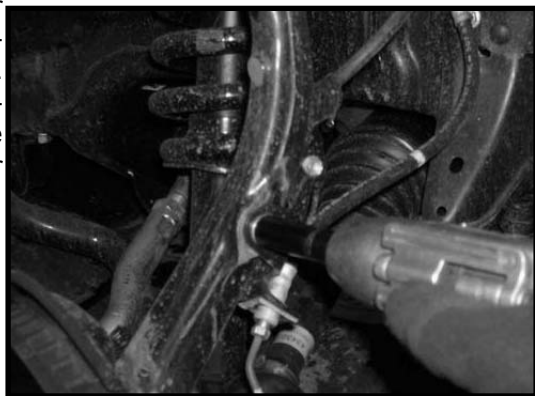
Front end installation:

1. To begin installation, block the rear tires of the vehicle so that the vehicle is stable and can't roll backwards. Safely lift the front of the vehicle and support the frame with a pair of jack stands. Place a jack stand on both the driver and the passenger side. Next, remove the front wheels and tires from both sides.

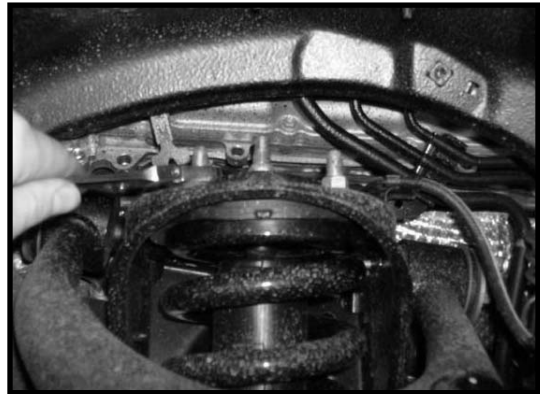
2. Working on the driver side, remove the hardware that connects the ABS line bracket to the upper control arm. Save the hardware for later re-installation. Repeat procedure on the passenger side.



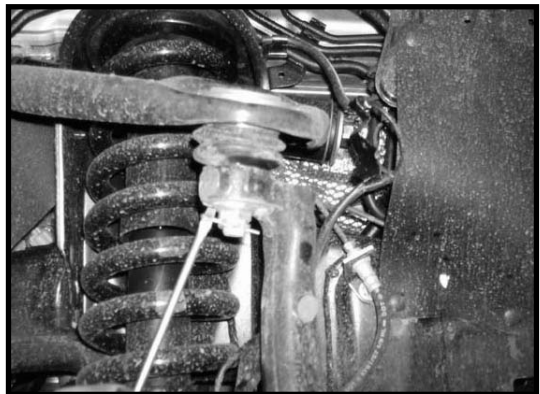
3. Working on the driver side, remove the hardware that connects the brake line bracket to the knuckle. Save the hardware for later re-installation. Repeat procedure in the passenger side.



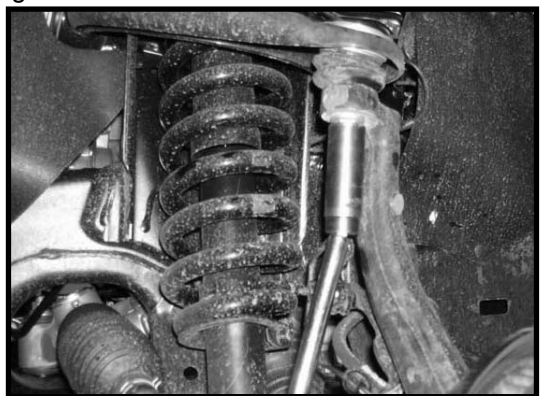
4. Working on the driver side, remove the (4) upper nuts that connect the strut into the upper location. Save the nuts for later re-installation. Repeat procedure on the passenger side. **Special note: Only remove the (4) upper outer nuts, DO NOT remove the nut in the middle of the strut.**



5. Working on the driver side, remove the cotter pin from the upper control arm ball joint. Save the cotter pin for later re-installation. Repeat procedure on the passenger side.



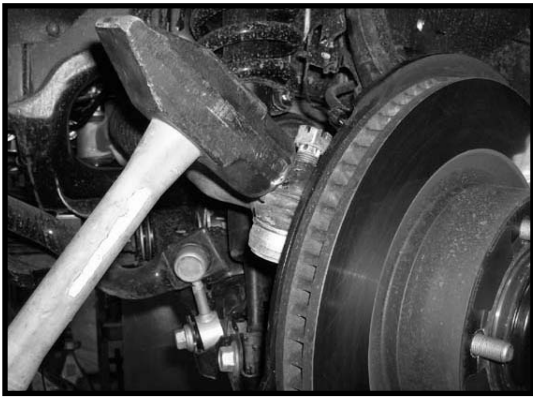
6. Working on the driver side, loosen but do not remove the nut that connects the upper control arm ball joint to the steering knuckle. Carefully break the taper by striking the knuckle with a hammer. **Special note: Take special care not to damage the upper control arm ball joint or rip the upper control arm ball joint dust boot. For now, leave the upper control arm attached to the knuckle. We want to just break the taper for now.** Repeat procedure on the passenger side.



7. Working on the driver side, remove the cotter pin from the outer tie rod ball joint. Save the cotter pin for later re-installation. Repeat procedure on the passenger side.



8. Working on the driver side, loosen but do not remove the nut that connects the outer tie rod ball joint to the steering knuckle. Carefully break the taper by striking the knuckle with a hammer. **Special note: Take special care not to damage the outer tie rod ball joint dust boot.** Repeat procedure on the passenger side.



9. Move back to the upper control arm ball joint nut and remove completely. Also, move back the outer tie rod ball joint nut and remove completely. Remove the upper control arm and the outer tie rod from the knuckle. Let the knuckle hang. **Special note: Make sure not to over extend the brake lines, ABS lines and the CV axle, if need be, tie the knuckle up so these problems do not happen.** Repeat procedure on the passenger side.

10. Working on the driver side, place a hydraulic floor jack under the lower control arm. Carefully raise up on the hydraulic floor jack until it comes into contact with the lower control arm. Repeat procedure on the passenger side.

11. Working on the driver side, remove the lower hardware that connects the strut to the lower control arm. Save the hardware for later re-installation. Repeat procedure on the passenger side.

Special note: Take special care not to damage the CV boot during removal.



12. Working on the driver side, remove the sway bar end link hardware that connects the sway bar end link to the lower control arm. Save the hardware for later re-installation. Repeat procedure on the passenger side. Let the stock sway bar hang.



13. Carefully lower down on the hydraulic floor jack about 2" allowing enough room for the strut to be removed from the vehicle. Repeat procedure on the passenger side.



14. Working on the driver side strut, measure the exposed threads sticking out of the middle bolt on the strut.

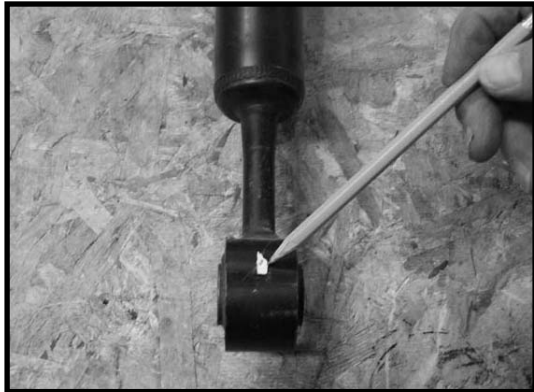
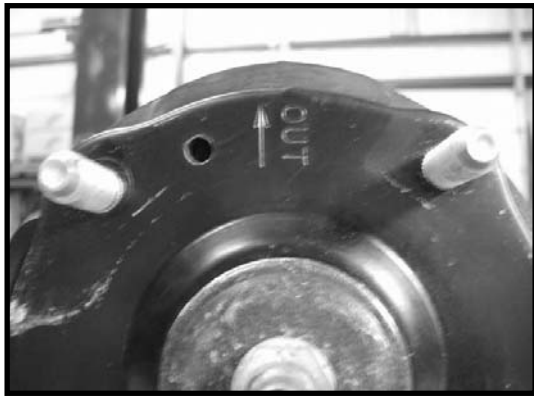
Driver side measurement: _____

Passenger side measurement: _____

Repeat procedure on the passenger side strut.



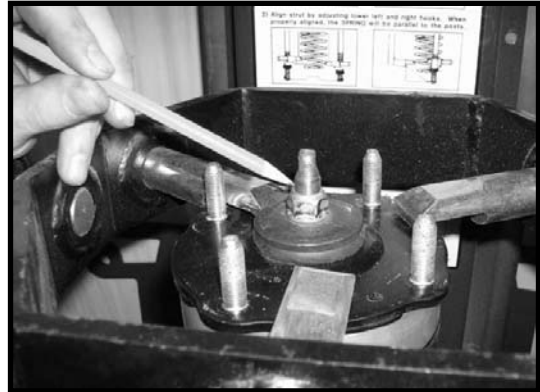
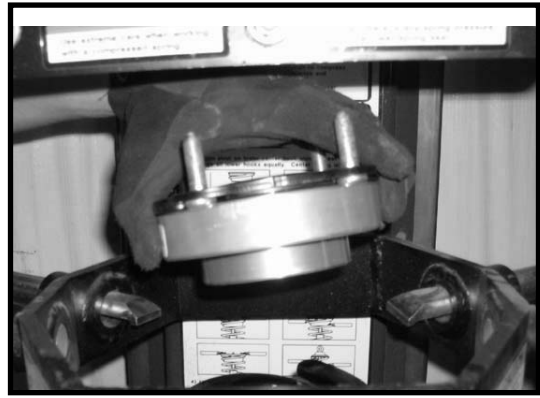
15. Working on the driver side strut, lay the strut on a work bench with the out arrow on the upper strut plate facing the sky. Then scribe a reference mark on the bottom eyelet of the strut. This will allow you to install the upper strut plate in the OE location once the strut is put back together with the strut spacer in it.



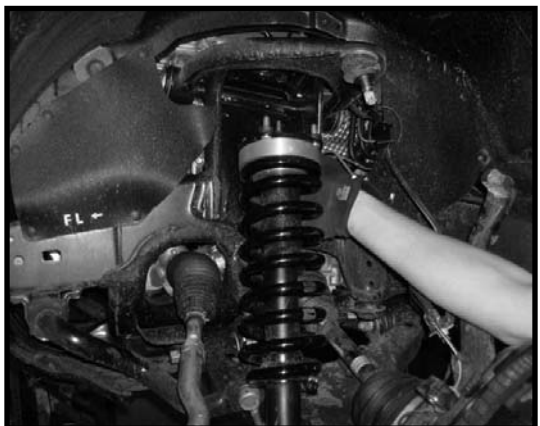
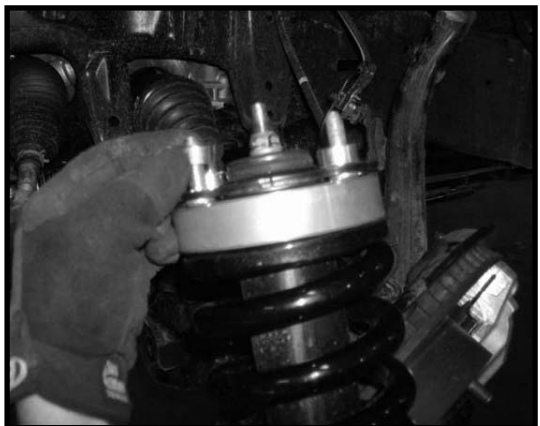
Special Note: A strut compressor is going to be needed to perform this installation. Tuff Country EZ-Ride Suspension recommends a wall mounted strut compressor be used when performing the steps that talk about installing the strut spacer into the strut. If you do not have a wall mounted strut compressor, please have these steps performed by your local Toyota Dealership.

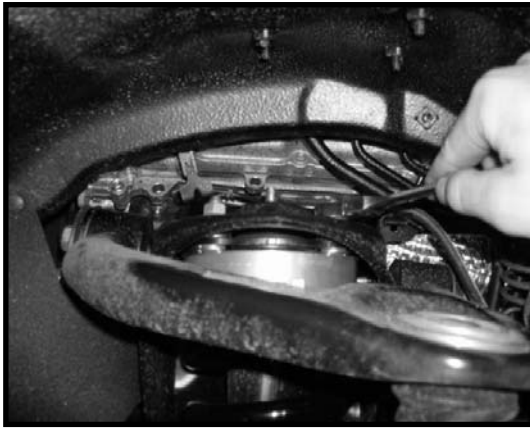
16. Using a wall mounted strut compressor, carefully compress the driver side strut until the strut bracket can be removed. Remove the nut and hardware from the top of the strut assembly and save the hardware for later re-installation. Set the upper strut bracket aside for later re-installation. The rubber isolator may be discarded.

17. Locate (1) new upper strut spacer. Also, locate the hardware and upper strut bracket. Install the new upper strut spacer between the strut and the upper strut bracket. Secure using the OE hardware. Refer back to the measurements that were made earlier and tighten the nut until the measurement is the same as the measurement from step # 14. **Special note: Also, make sure that the upper strut bracket with the out arrow is facing the reference mark that was made on the bottom of the stock strut. ALSO, THIS STRUT SPACER IS USED IN THE LIFT KIT FOR THE 2006 TOYOTA TUNDRA. THAT IS WHY THERE IS (3) CUT OUTS IN THE STRUT SPACER. WHEN INSTALLING THE STRUT SPACER FOR THE 2007 TOYOTA, JUST MAKE SURE THAT THE HEAD OF THE (4) STOCK BOLTS SEAT FLUSH WITH THE SPACER AND DO NOT SIT ON ANY OF THE CUT OUTS.** Remove the modified driver side stock strut from the strut compressor and set aside for further instructions



18. Locate (4) S10090 sleeves from hardware bag 52070NB. Locate the (4) upper OE nuts. Also, locate the newly modified strut. Working on the driver side, install the modified strut into the upper location and secure using the OE nuts. **Do not tighten at this point. Special note: Make sure that the out arrow is facing towards the outside of the vehicle.**





19. Locate the sway bar end link mounting hardware. Working on the driver side, secure the sway bar end link to the lower control arm using the OE hardware. Add some loctite and torque to **60 ft lbs.**

20. Locate the lower strut mounting hardware. Working on the driver side, secure the lower strut to the lower control arm using the OE hardware. Make sure to add some loctite and torque to **100 ft lbs.**

21. Move back to the (4) upper nuts that are connecting the newly modified strut into the upper location and add some loctite and torque all (4) nuts to **50 ft lbs.**

22. Remove the hydraulic floor jack from under the driver side lower control arm.

23. Locate the stock control arm castle nut. Install the upper control arm to the knuckle and secure using the castle nut. Make sure to add some loctite and torque to **80 ft lbs.**



24. Locate the upper control arm cotter pin. Working on the driver side, install the cotter back into the upper control arm ball joint. **Special note: If the cotter pin can not be installed because the hole in the castle nut does not line up with the ball joint, DO NOT loosen the castle nut so that the cotter pin can fit, tighten the castle nut some more so that the cotter pin can be installed.**



25. Locate the outer tie rod castle nut. Working on the driver side, install the outer tie rod to the knuckle and secure using the castle nut. Make sure add some loctite and torque to **67 lbs.**

26. Locate the outer tie rod cotter pin. Working on the driver side, install the cotter back into the outer tie rod ball joint. **Special note: If the cotter pin can not be installed because the hole in the castle nut does not line up with the ball joint, DO NOT loosen the castle nut so that the cotter pin can fit, tighten the castle nut some more so that the cotter pin can be installed.**



27. Locate the brake line mounting hardware. Working on the driver side, secure the brake line bracket to the knuckle and secure using the OE hardware. Make sure to add some loctite and torque to **12 lbs.**



28. Locate the ABS mounting hardware. Working on the driver side, secure the ABS bracket to the upper control arm and secure using the hardware. Make sure to add some loctite

and torque to **12 lbs.**



Repeat steps 15 - 28 on the passenger side.

29. Remove the front upper skid plate and save the skid plate and hardware for later re-installation.



30. Place a pair of hydraulic floor jacks under the front differential. Place one on the driver side and one on the passenger side. Carefully lift up on both hydraulic floor jacks until they make contact with the front differential.

31. Working on the driver side, carefully remove the OE bolt that connects the front differential to the front cross member. Save the stock oversize washer. The OE bolt and nut may be discarded. Repeat procedure on the passenger side.



32. Locate (2) new S10051, (2) 1/2" x 6" bolts, (2) 1/2" uni-torque nuts and (2) 7/16" USS flat washers from hardware bag 52070NB. Also, locate the OE oversize washers. Carefully lower down on both hydraulic floor jacks allowing enough room for the new front differential spacers to be installed. Working on the driver side, install the new front differential spacer between the front differential and the front cross member and secure using the new 1/2" x 6" bolt, hardware and the over size washer. Make sure to use thread locker or loctite. **Do not tighten at this point.** Repeat procedure on the passenger side. Torque the new 1/2" hardware to **80 ft lbs.** Carefully remove both hydraulic floor jacks front under the front differential.



33. Locate the skid plate and the skid plate hardware. Install the skid plate into the OE location and secure using the hardware. Make sure to use loctite and torque all skid plate mounting hardware to **18 ft lbs.**

34. Re-install the tires and wheels and carefully lower the vehicle to the ground.

35. Check and double check to make sure that all steps were performed properly. Once installation is complete take vehicle directly to an alignment center for proper front end alignment.

Congratulations, installation complete!

Special note: After the completion of the installation, Tuff Country EZ-Ride Suspension recommends taking the vehicle to an alignment shop and having a proper front end alignment performed.

Tuff Country EZ-Ride Suspension recommends that a complete re-torque is done on all bolts associated with this suspension system. It is the customers responsibility to make sure that a re-torque is performed on all hardware associated with this suspension system after the first 100 miles of installation. It is also the customers responsibility to do a complete re-torque after every 3000 miles or after every off road use. Neglect of following these steps could cause brackets to come loose and cause serious damage to the suspension system and to the vehicle.

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