belltech 2519 Front Lowering Spindle Installation Guide

belltech 2519 Front Lowering Spindle

Contents

THANK YOU

Thank you for choosing our high quality Belltech product. We have spent a great deal of time developing our line of products so that you will receive maximum performance with minimal difficulty during installation. Soon your vehicle will be on the road looking and feeling much improved.

Please take a moment to read all instructions and warnings prior to installation of your new Belltech product and before operating your vehicle. If you have any questions or concerns regarding any step in the installation process, please do not hesitate to call or email our customer support specialists who are trained to help you through any portion of this process.

Before You Begin:

It is of the utmost importance that you confirm all of the components listed on the parts list is in the kit. You can find this list located on the last page(s) of your instructions. Do not begin installation if any part is missing. Instead, please call our Belltech customer service specialists.

Safety Information:

Warning: Do not work under a vehicle supported only by a jack. Place support stands securely under the vehicle in the manufacturer's specified locations unless otherwise instructed.

Proper use of safety equipment and eye/face/hand protection is absolutely necessary when performing any of the following instructions.

We strive for an exceptional experience for all our valued customers. If for any reason you need assistance with your Belltech products, please do not return the product to the store you purchased from, but rather call our dedicated customer service experts, from 7am to 5pm PST.

We recommend that a qualified mechanic, at a properly equipped facility, perform this installation.

It is very helpful to have an assistant available during installation.

Before Driving Your Vehicle:

It is important to double check all brake hoses, cables, and other components to be sure there is no interference. You must also

check for wheel/tire to chassis/body interference. If any issues are found, review your installation instructions to be sure no steps
were missed and any problems are corrected.

Make sure your vehicle is aligned immediately following installation.

Check all hardware and torque at intervals for the first 10, 100, and 1000 miles.

Some of Belltech's products are designed to improve your vehicle's off-road performance. Leveling/lifting your vehicle may result in an altered center of gravity. It is crucial to use extreme care when operating your vehicle to prevent rollover and/or loss of control.

Any changes in your vehicle's suspension may result in transformed handleability. Please test drive your vehicle in a remote location so you can become accustomed to the revised driving characteristics.

Perform headlight check and adjustment.

Failure to drive any modified vehicle in a safe manner may result in harm or death.

Never operate your modified vehicle under the influence of drugs, alcohol, or lack of adequate sleep.

Always wear your seatbelt.

Recommended Tools:

- Properly rated floor jack
- Support stands
- Wheel chocks
- Metric socket wrench set
- Metric wrench set
- Tape measure
- Medium weight ball peen hammer and center punch
- Torque wrench rated up to 200 ft lbs.

1-2 Hours + Alignment

Specialty Tools:

- Tie rod end removal tool
- Ball joint separator tool
- Transmission jack

- Abrasive cutter or grinder

FITMENT GUIDE

Must use 18” wheels or larger. Please be sure to check for interference.

Not all possible wheel sizes and backspacing can be tested. Cautiously check wheel assembly to spindle, suspension component, and fender/ body clearance before tightening lug nuts and rotating the wheel assembly. Belltech is not responsible for any wheel, tire, suspension component, and/ or body damage caused by failure to check for interference.

Installation Preparation:

Before beginning the installation process, measure the hub to fender heights for your vehicle and record them in the “Before” section. After your vehicle has been modified, record the new measurements in the, “After” section. This way, you can compare the resulting height to the original. When taking the measurements, measure vertically from the center of the wheel to the inner edge of the fender.

Before:		After:
LF:_____		LF:_____
RF:_____		RF:_____
LR:_____		LR:_____
RR:_____		LR:_____

Jacking, Supporting, and Preparing the Vehicle

1. Park your vehicle on a smooth, level, concrete or seasoned asphalt surface.
2. Block the rear wheels of the vehicle using wheel chocks. Make sure the vehicle’s transmission is in “PARK” (automatic) or 1st gear (manual).
3. Activate the parking brake.
4. Loosen, but do not remove, the front wheel lug nuts.
5. Lift the front of the vehicle off the ground using a properly rated floor jack. Lift the vehicle so the front tires are approximately 6-8 inches off the ground.
6. Place support stands rated for the vehicles weight. The stands should be positioned in the factory specified locations. (Refer to the owners manual). Prior to lowering the vehicle onto stands, make sure the support stands will contact the chassis. It is very important that the vehicle is properly supported to prevent any harm to ones self or to the vehicle.

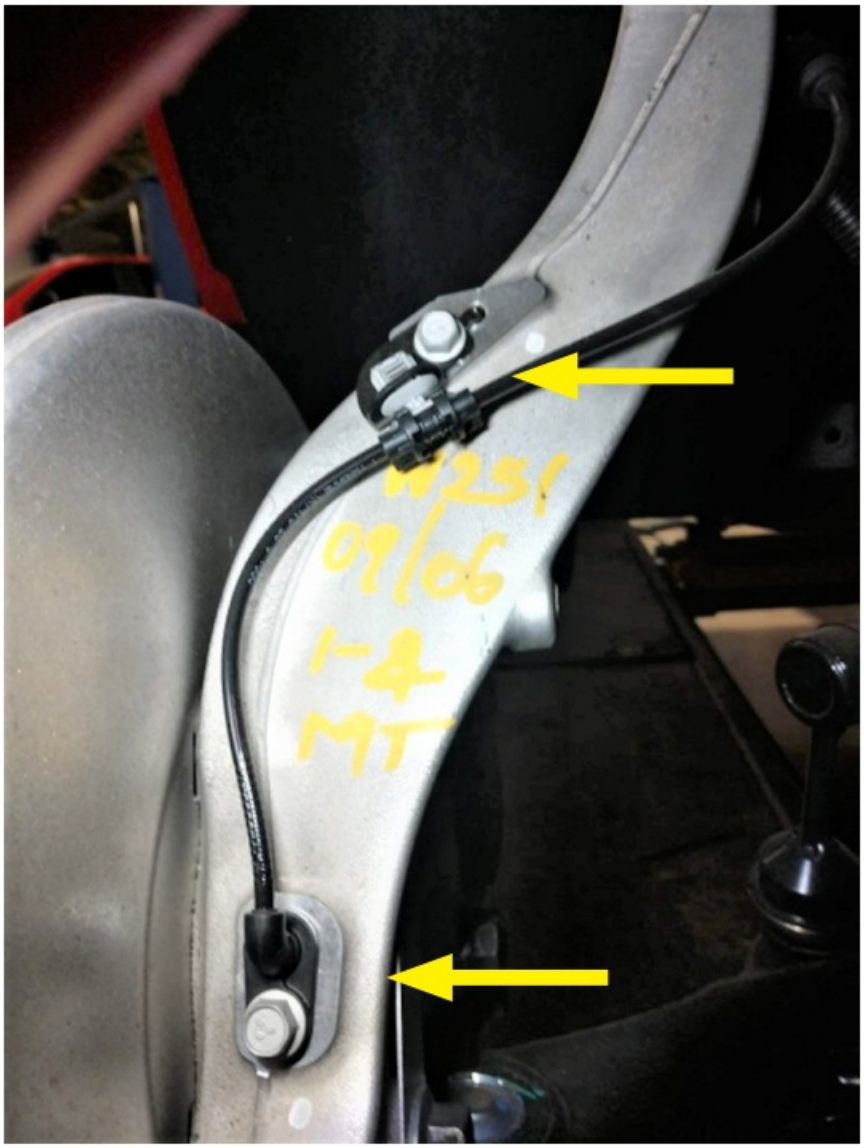
7. Lower the vehicle slowly onto the stands.
8. Remove the front wheels.

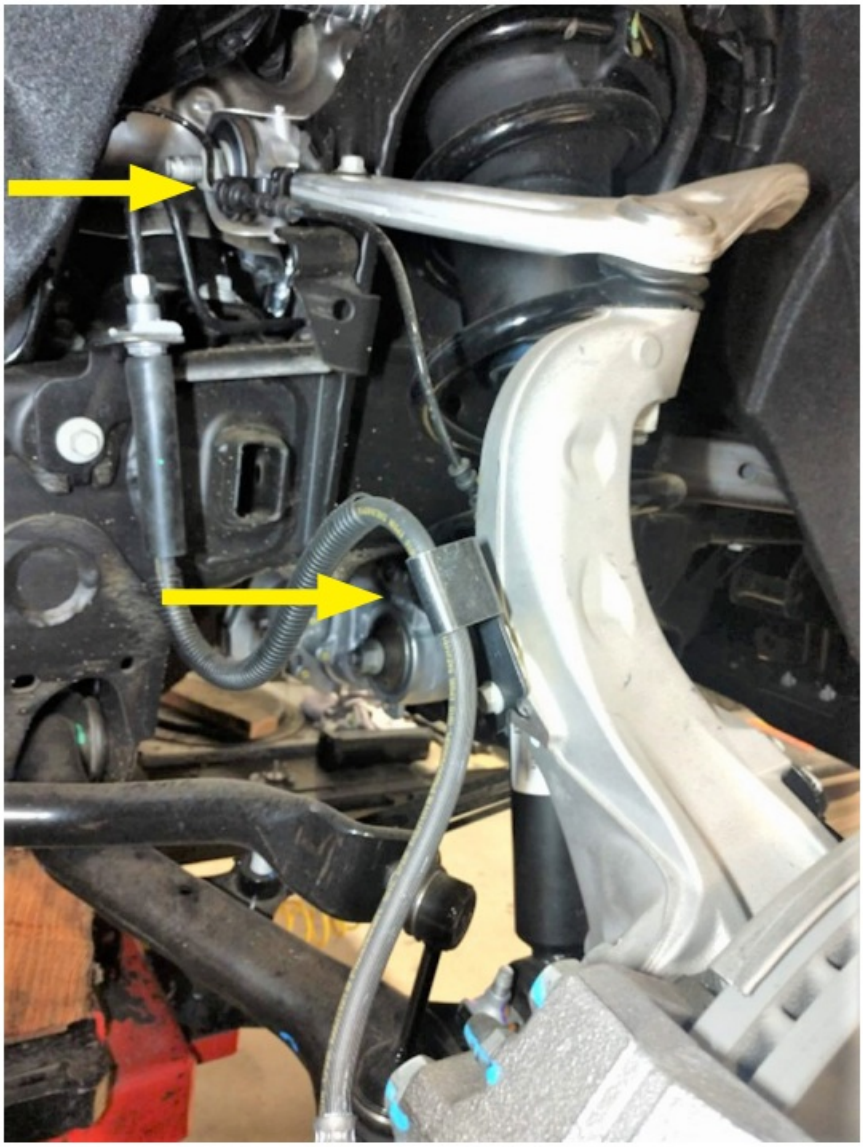

Technician reminder:

Never work under a vehicle supported only by a jack. It is necessary to place support stands securely under the vehicle in the manufacturer's specified locations unless otherwise instructed.

OEM Spindle Removal

9. Unbolt the brackets connecting the hydraulic brake line and ABS sensor on the sides of the spindle and upper control arm using a 10mm socket.

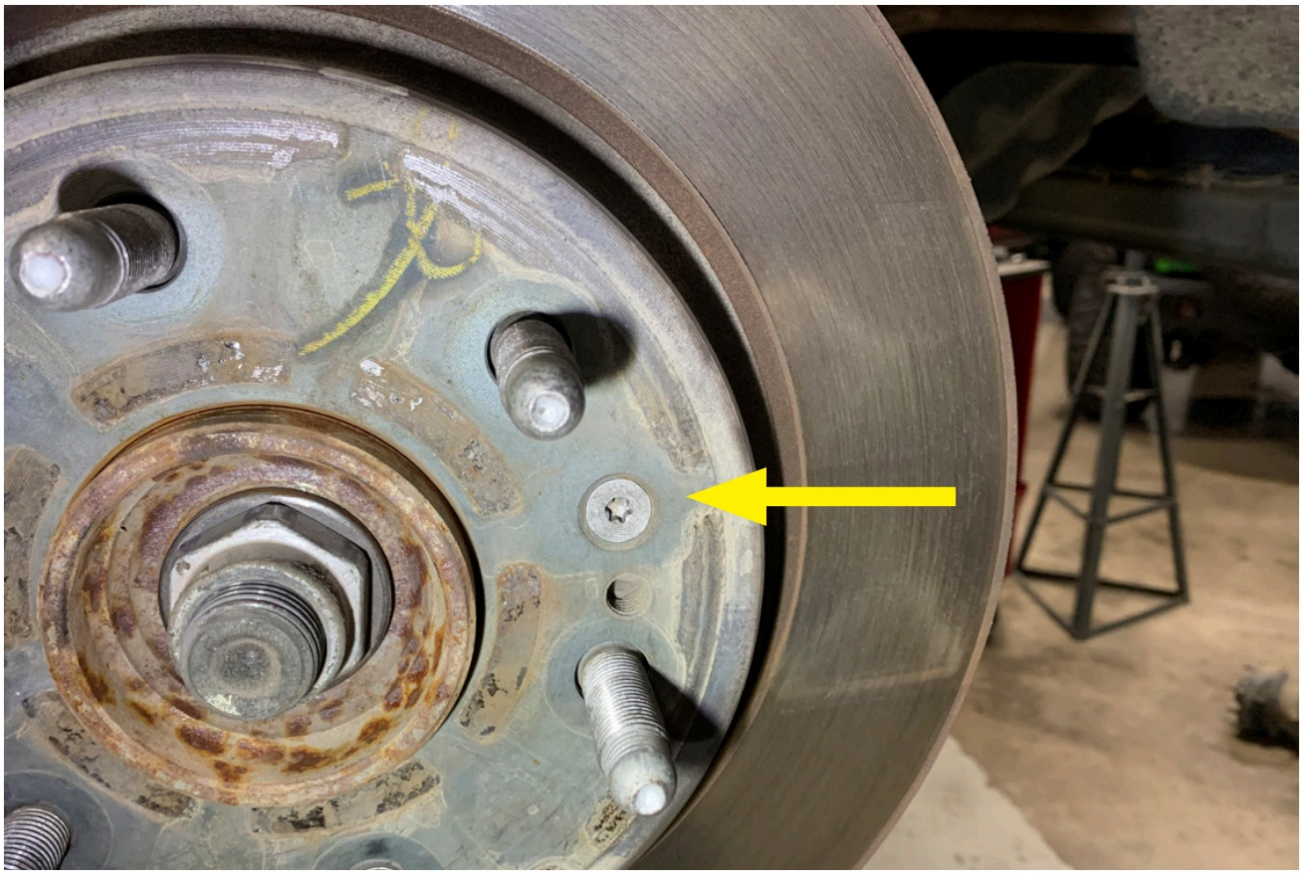




Technician note:

Removing the strut will allow easy installation of the spindle. Using an 18mm wrench, remove the 3 top mount nuts on the strut. A 15mm socket will release the two lowering mount bolts from the lower control arm and allow the strut assembly to be removed from between the control arm. Disconnecting sway bar end links from the lower control arms will also allow added movement when removing the spindle.

10. . Remove the brake caliper assembly from the steering knuckle with an 18mm socket. Use a zip-tie or wire hook to hold the caliper to the chassis to prevent damage to the brake line.
11. With a T30 TORX key, remove the brake rotor retaining bolt and slide the brake rotor off the hub.



OEM Spindle Removal Continued

Technician note:

If the strut assembly is still installed, its helpful to use a jack or lifting device to support the lower control arm while removing the ball joints. Use caution when lifting the lower control arm as it is under extreme load from the spring. Ensure the lifting device base is stable and seated properly to the lower control arm to prevent it from slipping out.

12. . Loosen the upper control arm ball joint nut with a 18mm wrench; make sure to keep the ball joint nut partially threaded on to the ball joint. This will keep the arm from swinging up and to hold everything in place while losing the remaining ball joints. Using a ball joint removal tool, free the upper control arm ball joint from the steering knuckle.

Technician reminder:

13. . Using a 21mm wrench, loosen the tire rod ball joint nut and again keep the nut partially threaded onto the ball joint, free the ball joint from the steering knuckle using the ball joint tool.

14. Loosen the lower ball joint nut for the ball joint removal using a 24mm socket. It may be helpful to use an hex

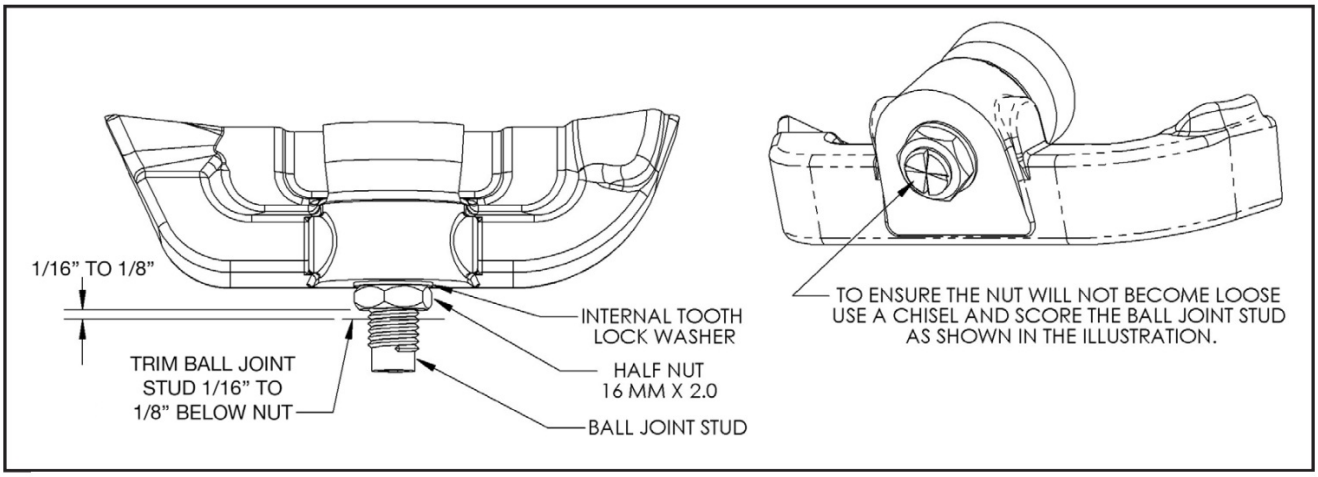
key inserted in to the lower ball joint to prevent spinning.

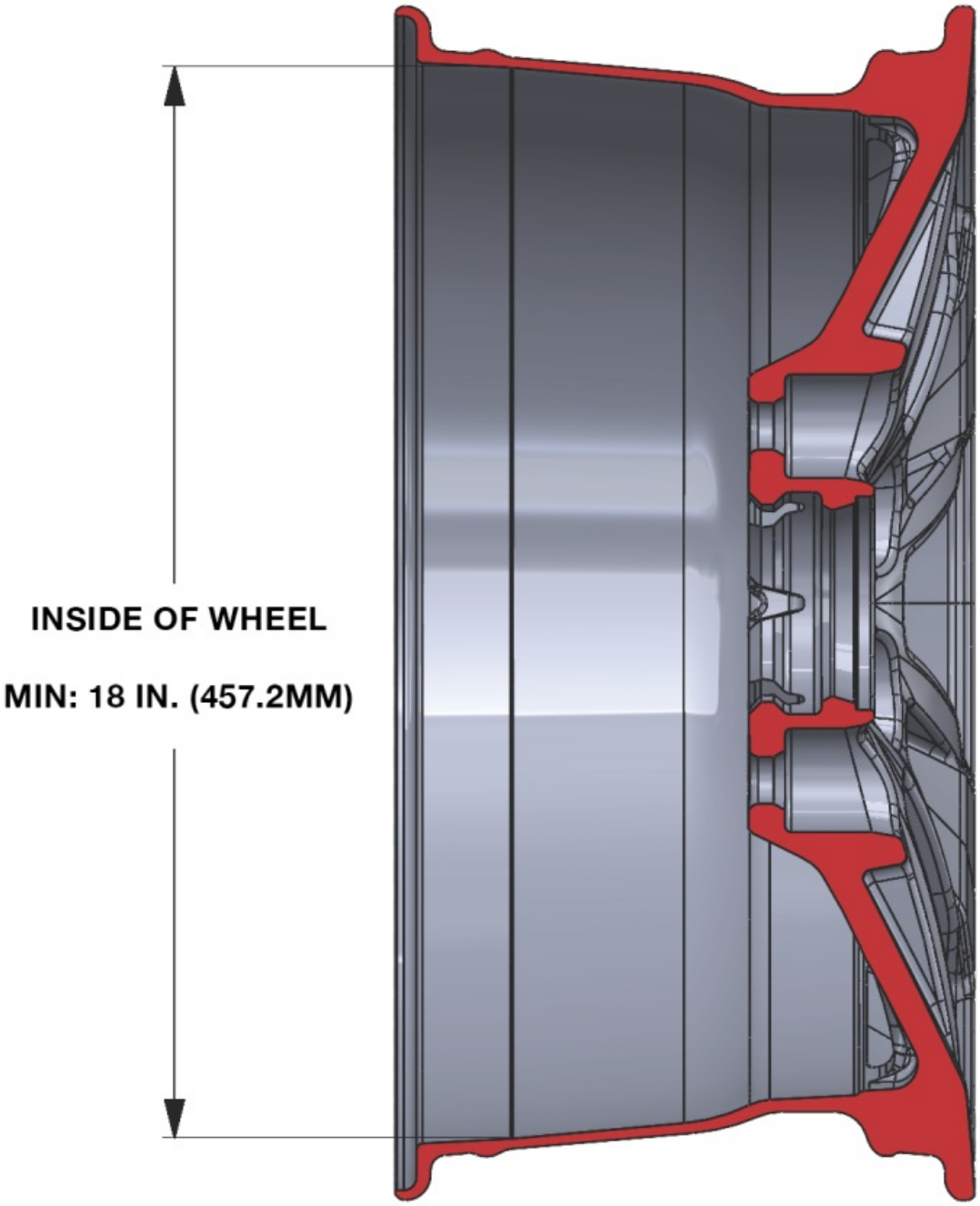
15. . Remove the spindle assembly from the vehicle.

Belltech Spindle Fitment Guide

Technician warning:

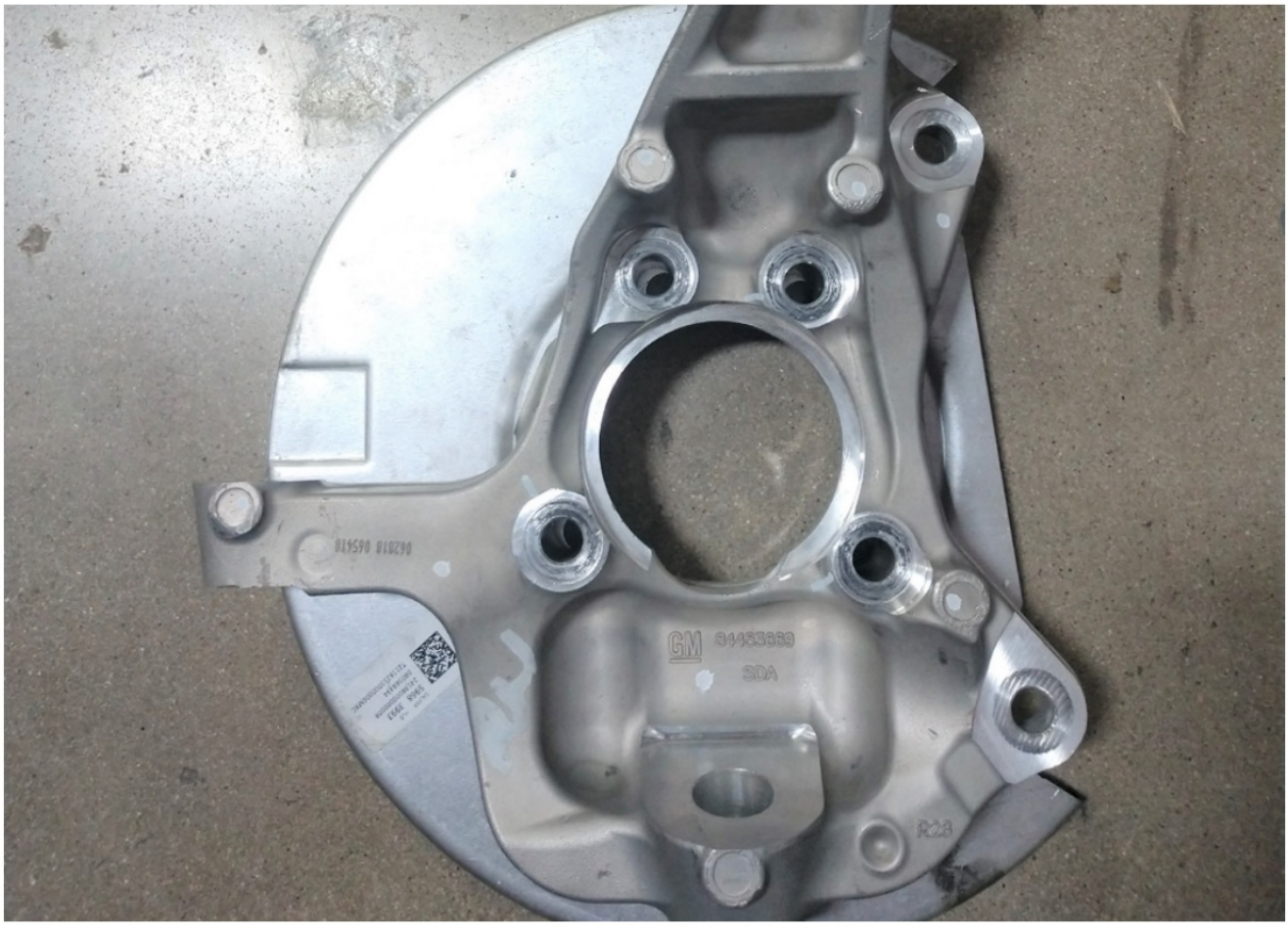
For 18” wheels you MUST use the supplied half nut and lock washer on the lower ball joint then trim the ball joint stud for adequate wheel clearance. The supplied lock washer and nut should be installed and torqued to 60 ft lbs. Before the ball joint stud is trimmed, ensure you leave between 1/16” to 1/8” of the stud extended out from the nut depending on your wheel clearance, this may be adjusted. Once the proper length is trimmed off, use a chisel or punch to score the edge of the threads to prevent the possibility of the nut becoming loose. The image below shows an example of the lower ball joint fitment in spindle 2519 with a 18” wheel.





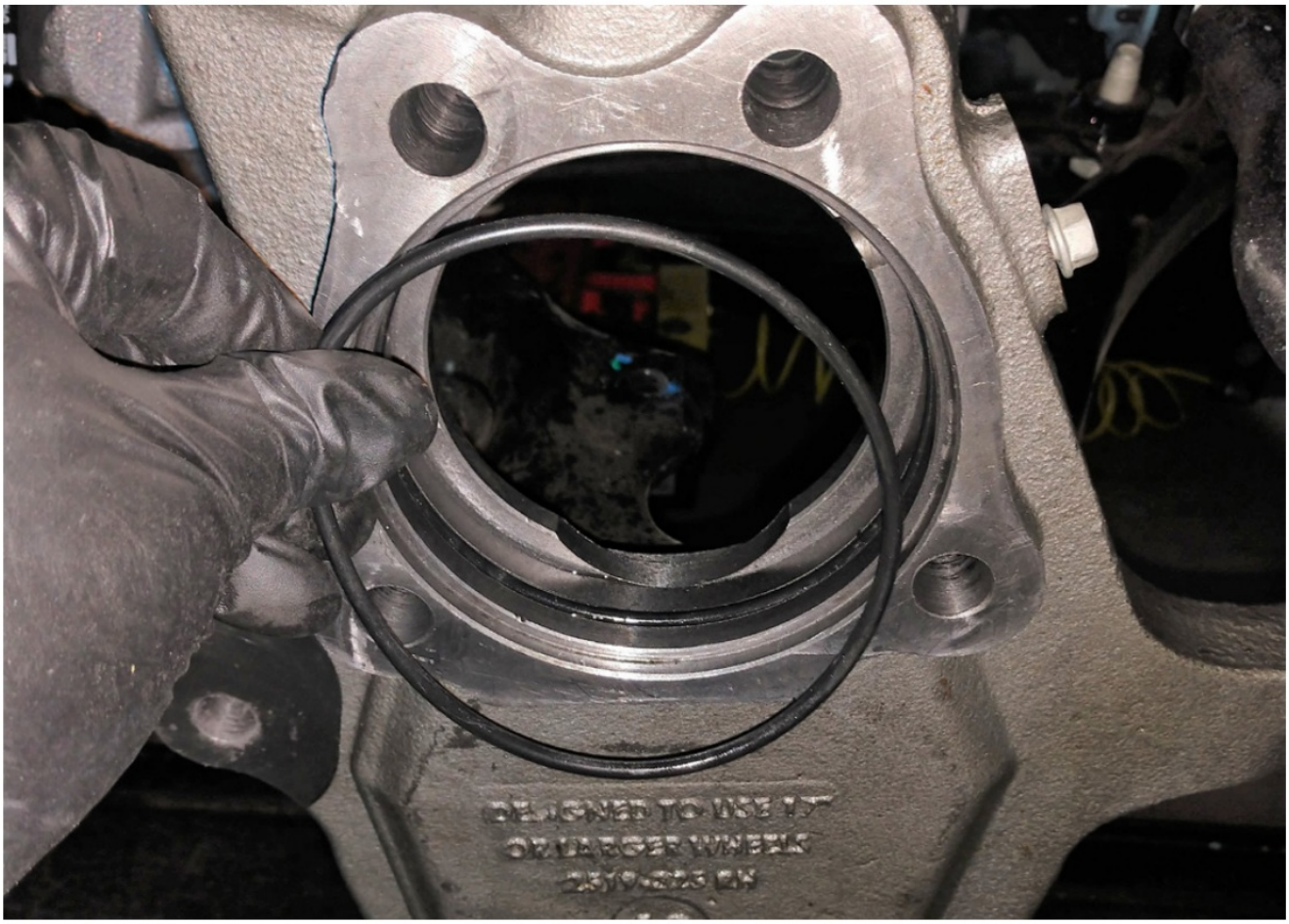
Belltech Spindle Installation

16. Remove the four bolts and bearing shield on the backside of the hub assembly to detach it from the original knuckle. Remove the hub assembly and backing plate (the plate is equipped on some aluminum spindles only).

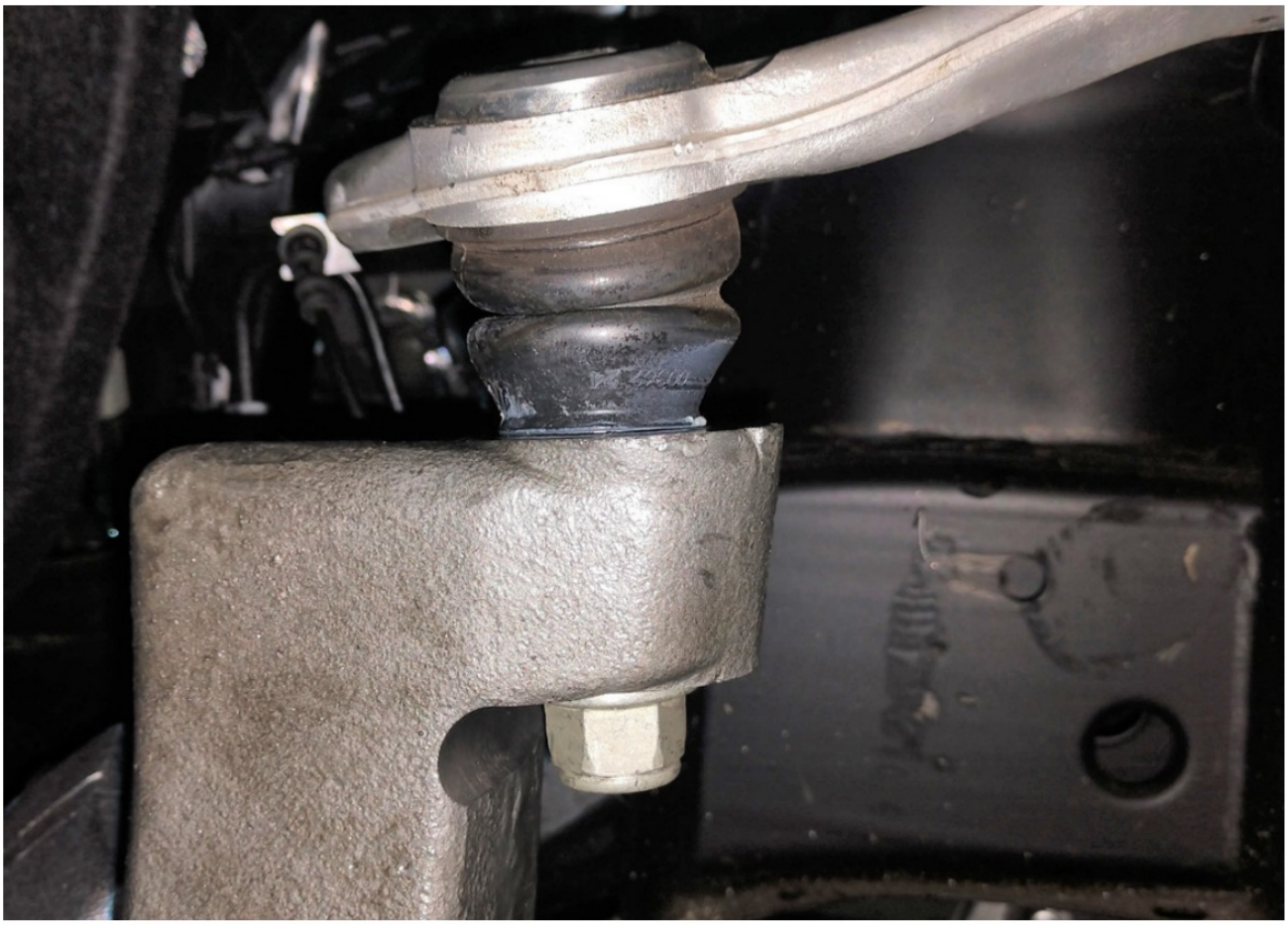


17. Remove the two O-rings from the original knuckle and place them on the new Belltech spindle. Attach the hub assembly and bearing shield on the Belltech spindle, torque the hub bolts to 111 ft lbs. + 30-45 degree turn.

Ensure the plates are aligned as in the OEM position.



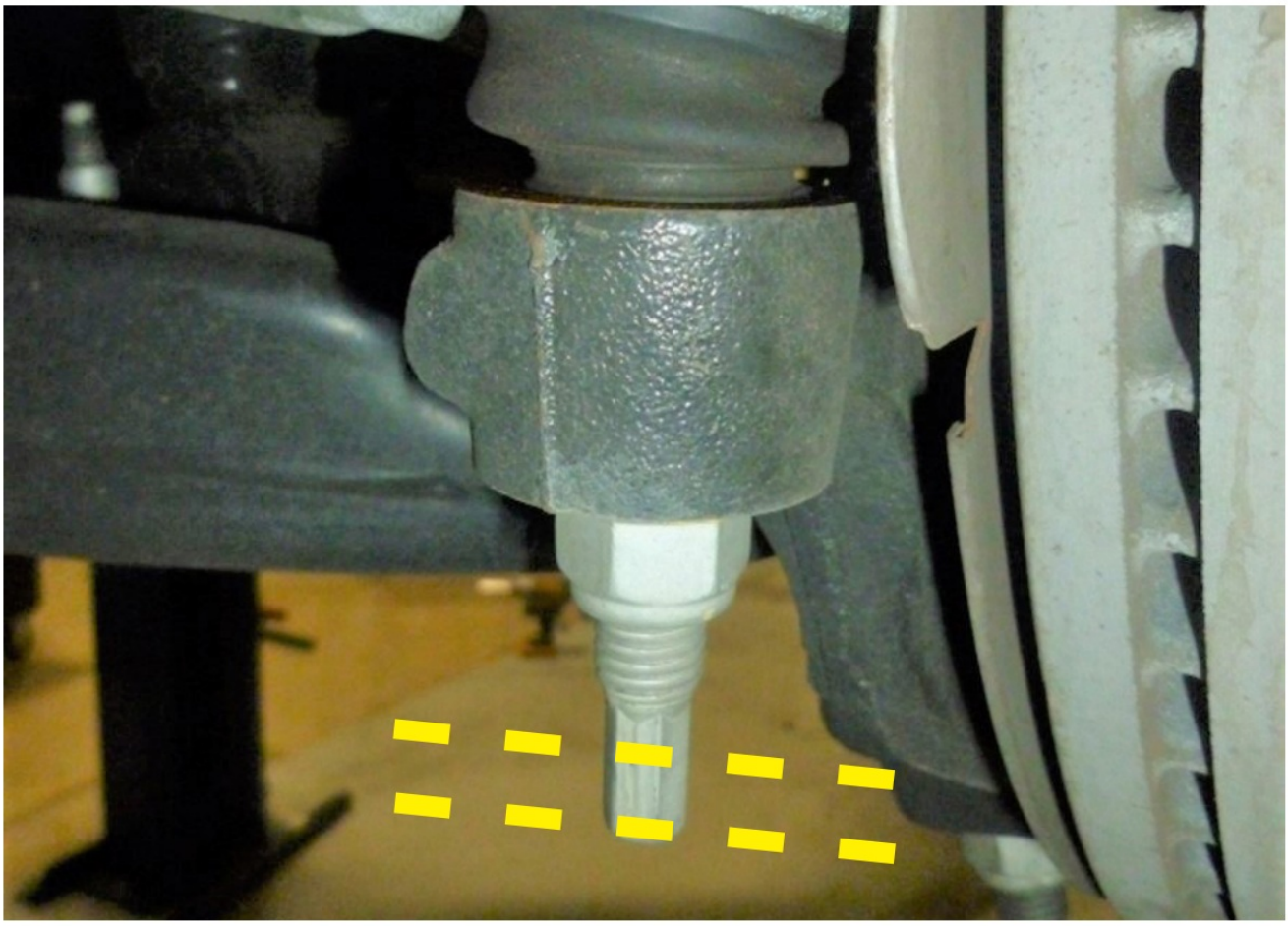
18. . Attach the new Belltech spindle to the upper and lower ball joints and loosely thread the nuts in place.



Technician reminder:

Belltech Spindle Installation Continued

19. Torque the upper ball joint nut to 26 ft lbs. + 85-95 degree turn.
20. Torque the lower ball joint to 37 ft lbs. + 125-135 degree turn. for the OEM nut or 60 ft lbs. for the supplied half nut.
21. Attach the steering tie rod end to the spindle and torque to 26 ft lbs. + 85-100 degree turn.



Technician note:

22. onnect the ABS sensor on the side of the Belltech spindle.
23. Mount the brake rotor onto the hub and tighten the TORX bolt onto the wheel hub. Torque to 16 ft lbs.
24. Mount the break caliper assembly onto the Belltech spindle and torque OEM caliper bolts to 37 ft lbs. + 30-45 degree turn.

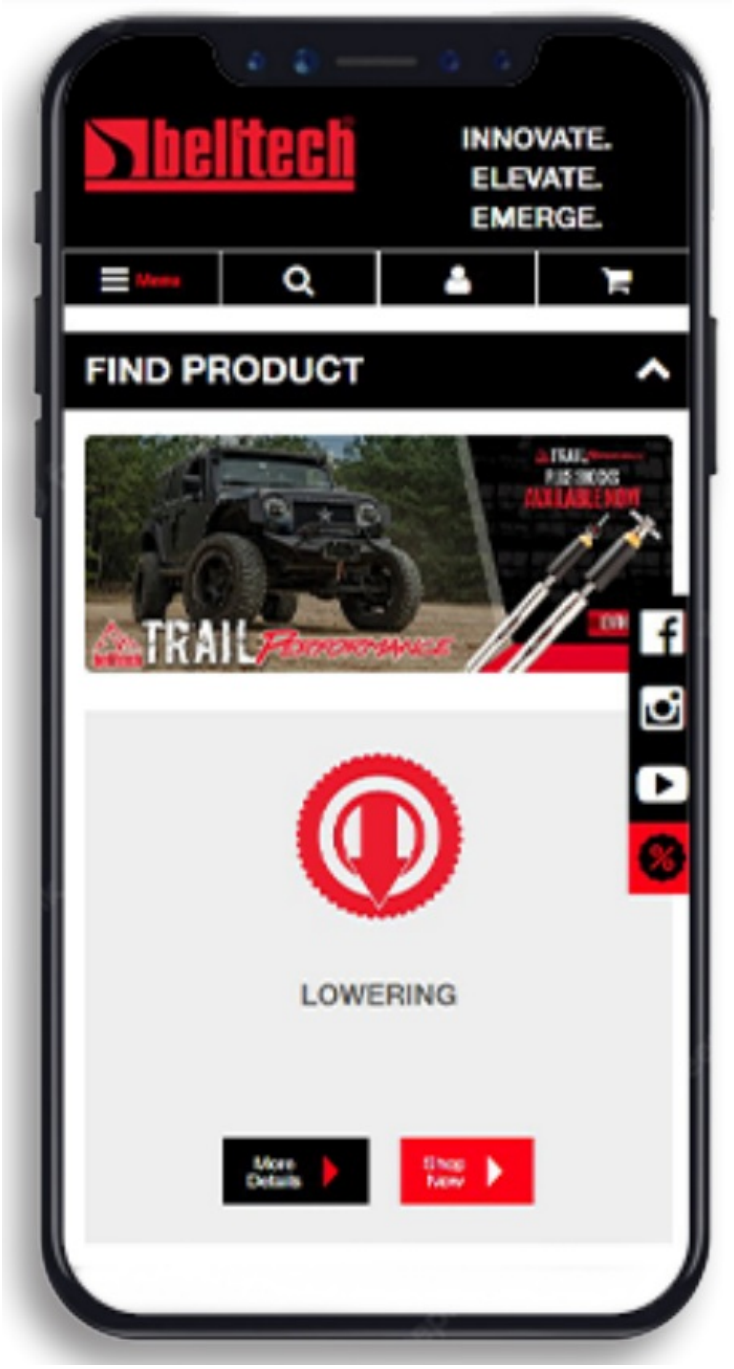
25. Attach the brake line brackets to the sides of the Belltech spindle. Torque the OEM 10mm bolts to 80 in lbs.
26. Rotate the spindle in both directions to confirm the brake line and ABS line have enough slack and check for clearance. If either is
    too tight, pull it through the bracket to give it the proper amount of slack.

Finalizing the Installation

27. Mount the wheels and tighten the lug nuts.
28. Lift the vehicle and remove the support stands.
29. Carefully lower the vehicle onto the flat ground.
30. Torque the lug nuts to 140 ft lbs.
31. Check that all components and fasteners have been properly installed and torqued.
32. Read and perform all tasks in the “Before Driving Your Vehicle” section of page 1 of your instructions.

Thank you for choosing Belltech.

You are now a part of the Belltech family and we are eager to catch a glimpse of your newly modified vehicle. Give us a shout out and let us know how much you love our product. Don’t forget, we offer other Belltech related merchandise for you and your vehicle on our website **www.belltech.com**



belltech suspension

Belltech Suspension

@belltechsuspension

If you have any questions, concerns, or warranty related issues regarding your Belltech product, please call or email our experienced customer service specialists.

KIT CONTENTS

Part number	DROP SPINDLE SET Description	Qty
2519-325	LH MACHINED SPINDLE	1
2519-425	RH MACHINED SPINDLE	1
2519-777	HARDWARE KIT	

Part number	HARDWARE KIT Description	Qty
115007	16MM X 2.0” HALF NUT	2
115009	5/8” INTERNAL TOOTH LOCK WASHER	2

Customer Support

Belltech Customer Support:
Phone: 1-800-445-3767
Email: info@belltech.com

Documents / Resources

	belltech 2519 Front Lowering Spindle [pdf] Installation Guide 2519 Front Lowering Spindle, 2519, Front Lowering Spindle, Lowering Spindle

References

- BT - Online Store Belltech Sport Trucks and Muscle Cars
- User Manual