



# INSTALLATION GUIDE

**PART NUMBER: 2509**

**DROP SPINDLE SET**

**GM 1500 TRUCK 2WD / 4WD | 2007-2016.5**

**GM 1500 SUV 2WD / 4WD | 2007-2014**

**-2" FRONT LOWERED RIDE HEIGHT**

**\*\*MUST USE 17" WHEELS OR LARGER, FITS MOST 17" WHEELS. MUST CHECK FOR INTERFERENCE\*\***

**300 W. PONTIAC WAY. CLOVIS, CA 93612**

**PHONE: 800-445-3767 | EMAIL: INFO@BELLTECH.COM**

# 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.**

### Belltech Customer Support:

Phone: 1-800-445-3767

Email: [info@belltech.com](mailto:info@belltech.com)

## 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.

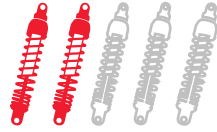
Failure to drive any modified vehicle in a safe manner may result in harm or death.

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

Always wear your seatbelt.



**DIFFICULTY:**



**INSTALLATION TIME:**

1-2 Hours + Alignment

## RECOMMENDED TOOLS:

- Properly rated floor jack
- Support stands
- Wheel chocks
- Metric socket wrench set
- Metric wrench set
- Hex key set
- Screwdriver set
- Tape measure
- Pliers
- Chisel or punch
- Hammer or rubber mallet
- Torque wrench rated up to 150 ft lbs.

## SPECIALTY TOOLS:

- Abrasive cutter or grinder
- Trim removal tool
- Tie rod end removal tool
- Ball joint separator tool



# FITMENT GUIDE

**Must use 17" wheels or larger.** It is important to note this kit fits **most 17" wheels.** 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:**

LF: \_\_\_\_\_

RF: \_\_\_\_\_

LR: \_\_\_\_\_

RR: \_\_\_\_\_



**After:**

LF: \_\_\_\_\_

RF: \_\_\_\_\_

LR: \_\_\_\_\_

RR: \_\_\_\_\_

# 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. Detach the bracket connecting the hydraulic brake line to the top of the upper control arm using a 10mm socket. Disconnect the ABS sensor line from the plug on the frame and detach the plastic hold down clips on the control arm and knuckle bracket to free the sensor wire from the suspension.



10. Remove the 18mm bolts holding brake caliper assembly from the steering knuckle. With a metal wire or bungee cord attach the caliper to the chassis to prevent damage to the brake line. Next, remove the brake rotor and set aside.



11. **4WD ONLY:** Remove the 36mm drive shaft nut in the center of the hub. Break the shaft loose with a punch and hammer.



12. Remove the three 15mm bolts on the backside of the hub assembly, detach it from the steering knuckle.



## OEM SPINDLE REMOVAL CONTINUED

13. Remove the hub assembly and backing plate.

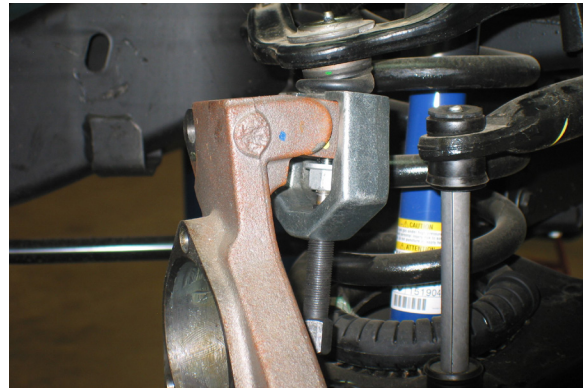


14. With a 18mm socket, break loose the upper ball joint nut but keep the nut partially threaded on the stud to keep the arm from swinging up and to keep it in place while removing the lower ball joint. Using a ball joint separator tool, free the upper ball joint from the steering knuckle.

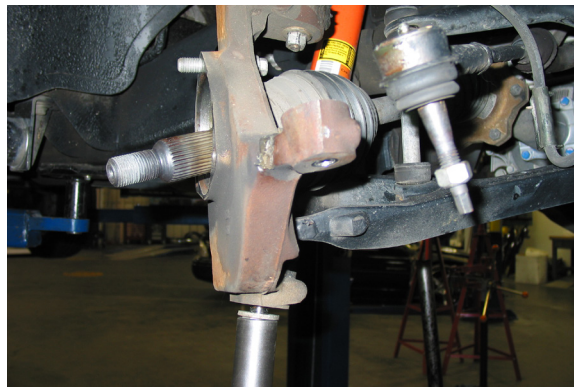


### Technician reminder:

Use a jack or other lifting device to raise the lower control arm while removing the ball joints. Be cautious when lifting the lower control arm because it is under extreme load. Ensure the lifting device base is stable and the portion connected to the lower control can't slip out.



15. Remove the 21mm tie rod end nut and detach the outer tie rod from the steering knuckle using the same ball joint removal tool.
16. With a 24mm socket, break loose but do not remove the lower ball joint nut. Depending on the type of ball joint removal tool you have available, it might be necessary to use a large hammer and forcefully strike the lower ball joint boss. This striking action will usually free the ball joint with one swing.



17. Remove the steering knuckle from the vehicle.

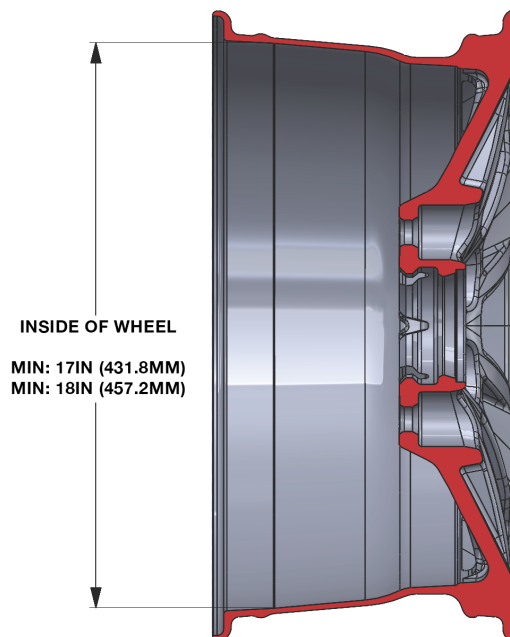
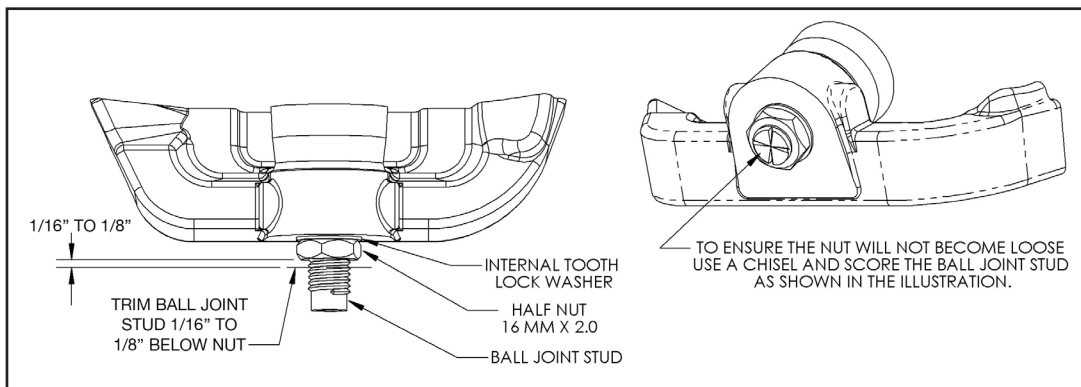
# BELLTECH SPINDLE FITMENT GUIDE



## Technician warning:

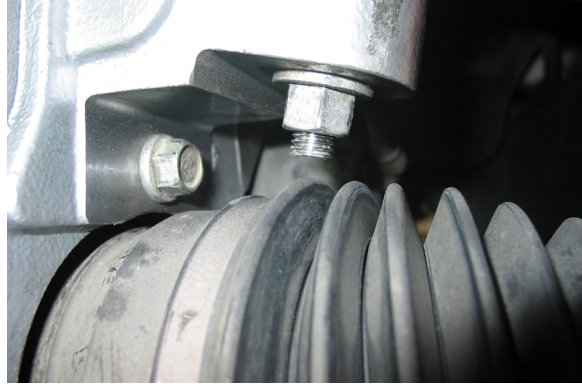
For 17" or 18" wheels you MUST use the supplied half nut and lock washer on the lower ball joint then trim the ball joint stud for adequate wheel clearance. The supplied lock washer and nut should be installed and torqued to 60 ft lbs. Before the ball joint stud is trimmed, ensure you leave between 1/16" 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 2509 with a 17" wheel.



# BELLTECH SPINDLE INSTALLATION

18. **4WD ONLY:** Trim 3/8" to 1/2" off the lower portion on the upper control arm ball joint for clearance to the drive shaft grease boot.



19. **4WD ONLY:** Place the upper hub bolt from the back of the new Belltech spindle. This must be done before the upper ball joint is attached.

20. Attach the new Belltech spindle to the upper and lower ball joints and loosely thread the nuts in place. (**4WD ONLY:** Ensure to place the drive shaft end inside the hub opening without damage to the splines).



## Technician reminder:

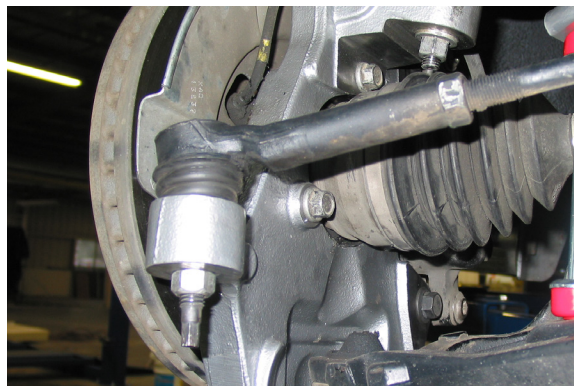
Use a jack or other lifting device to raise the lower control arm while attaching the ball joints. Use caution when lifting the lower control arm as it is under extreme load from the spring. Ensure the lifting device base is stable and seated properly to the lower control arm to prevent it from slipping out.

21. Torque the upper ball joint nut to 37 ft lbs.

22. Torque the lower ball joint to 81 ft lbs. for the OEM nut or 60 ft lbs. for the supplied half nut.



23. Attach the steering tie rod end to the spindle and torque to 44 ft lbs.

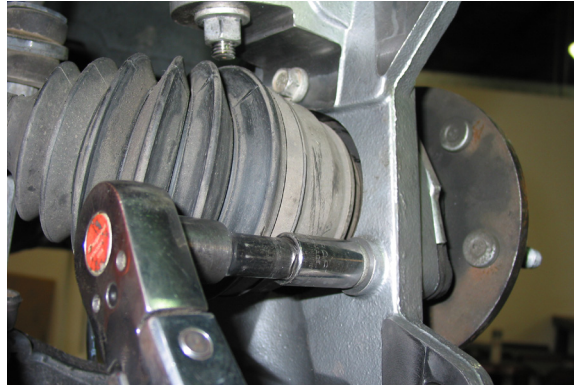




## BELLTECH SPINDLE INSTALLATION CONTINUED

24. Attach the backing plate and hub assembly onto the spindle.

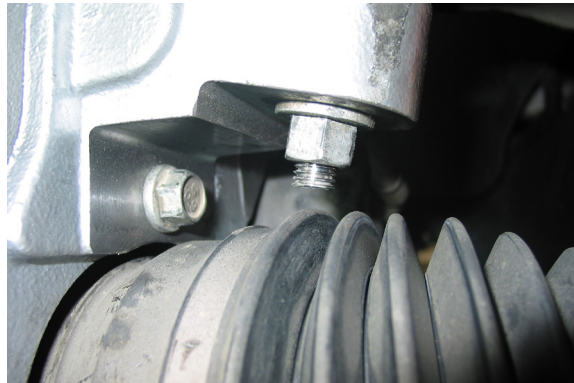
25. Thread in the three stock hub bolts from the backside of the spindle and torque to 133 ft lbs.



26. **4WD ONLY:** Torque the drive shaft hub center nut to 177 ft lbs.



27. **4WD ONLY:** Rotate the hub to ensure the upper ball joint stud or nut does not contact the drive shaft boot.

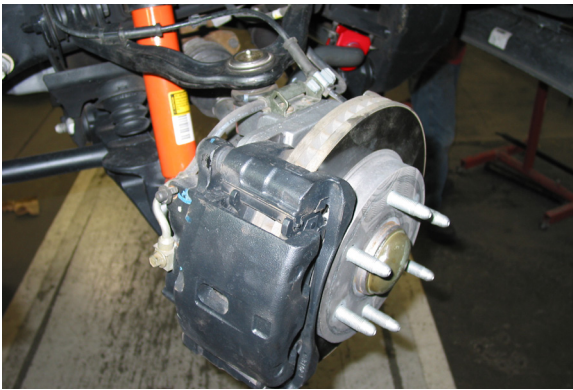


## BELLTECH SPINDLE INSTALLATION CONTINUED

28. Mount the brake rotor and attach the brake caliper assembly. Torque the original bolts to 130 ft lbs.



29. Attach the brake line brackets, ABS sensor connector, and the hold down clips in their original locations at the top of the spindle and the control arm.



30. Rotate the spindle in both directions to confirm the brake line and ABS line have enough slack. If either is too tight, then you pull it through the bracket to give it the proper amount of slack.

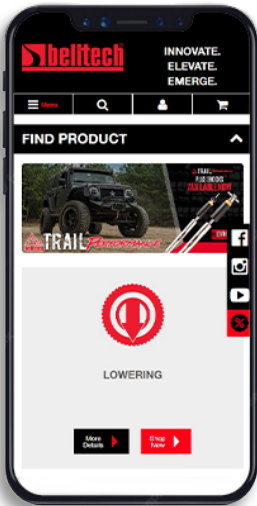


# FINALIZING THE INSTALLATION

31. Mount the wheels and tighten the lug nuts.
32. Lift the vehicle and remove the support stands.
33. Carefully lower the vehicle onto the flat ground.
34. Torque the lug nuts to 140 ft lbs.
35. Check that all components and fasteners have been properly installed and torqued.
36. 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](http://www.belltech.com)



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[Belltech Suspension](https://www.youtube.com/BelltechSuspension)



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

### Belltech Customer Support:

Phone: 1-800-445-3767

Email: [info@belltech.com](mailto:info@belltech.com)

# KIT CONTENTS



DROP SPINDLE SET		
Part number	Description	Qty
2509-325	LH MACHINED SPINDLE	1
2509-425	RH MACHINED SPINDLE	1
2508-777	HARDWARE KIT	1

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