



INSTALLATION INSTRUCTIONS 2514 & 2515

2514

2" DROP SPINDLE 2WD or 4WD
(Must use 17" or larger wheels)

2515

2" DROP SPINDLE 2WD ONLY!!!
(Must use 18" or larger wheels)

**16-18 SILVERADO/SIERRA 1500, SUBURBAN, TAHOE,
YUKON, YUKON XL, DENALI or ESCALADE**

>>> NOTE: This kit will also work with 2014 4WD Silverado/Sierra w/ aluminum control arms <<<

Thank you for being selective enough to choose our high quality BELLTECH PRODUCT. We have spent many hours developing our line of products so that you will receive maximum performance with minimum difficulty during installation.

- Note: Confirm that all of the hardware listed in the parts list is in the kit. **Do not** begin installation if any part is missing. Read the instructions thoroughly before beginning this installation.
- Warning:** **DO NOT** work under a vehicle supported by only a jack. Place support stands securely under the vehicle in the manufacturer's specified locations unless otherwise instructed.
- Warning:** **DO NOT** drive vehicle until all work has been completed and checked. Torque all hardware to values specified.
- Reminder: Proper use of safety equipment and eye/face/hand protection is absolutely necessary when using these tools to perform procedures!
- Note: It is very helpful to have an assistant available during installation.

RECOMMENDED TOOLS:

- Properly rated floor jack, support stands, and wheel chocks
- Combination wrench set
- Allen wrench set
- Screwdriver set
- Pliers
- Chisel or punch and hammer
- Abrasive cutter or grinder
- Torque wrench: *up to 200 ft./lbs. range*
- Socket wrench set
- Safety Glasses

1. KIT PREPERATION

- a) Open the hardware kit and remove all of the contents. Refer to the part list (Page 5) to verify that all parts are present.
- b) Park the vehicle on a smooth, level concrete or seasoned asphalt surface and activate the parking brake. Block the REAR wheels of the vehicle with appropriate wheel chocks; making sure the vehicle's transmission is in 1st gear (manual) or "Park" (automatic).
Using a properly rated floor jack, lift the front wheels of the vehicle off the ground. Place support

stands, rated for the vehicle's weight, in the factory specified locations. Refer to the vehicle Owner's Manual. Prior to lowering the vehicle onto the stands, make sure the supports will securely contact the chassis.

- !** It is very important that the vehicle is properly supported during this installation to prevent personal injury and chassis damage! Make sure that the supports stands are properly placed prior to performing the following procedures. We **DO NOT RECOMMEND** using wheel ramps while performing this installation.

Slowly lower the vehicle onto the stands and, before placing the vehicle's entire weight on them, again check that they properly and securely contact the chassis as described above. Check for possible interference with any lines, wires, cables, or other easily damaged components

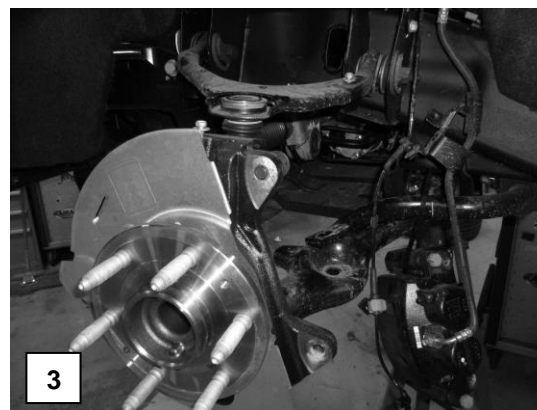
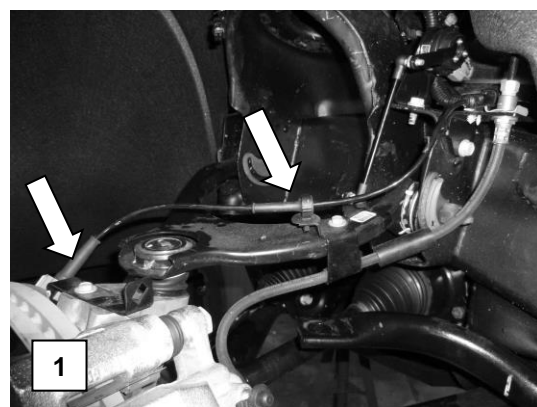
2. Steering Knuckle Removal

- a) Starting on the passenger side of the vehicle, remove the wheel from the hub assembly. Unbolt the brackets connecting the hydraulic brake line / ABS sensor to the top of the steering knuckle and on the upper control arm using a 10mm socket. **(Photo 1)**

(Hint: Removing the strut will allow easy installation of the steering knuckle. Using an 18mm wrench, remove the 3 top cap nuts of the strut. A 15mm socket will release the strut's two mounting bolts from the lower control arm and allow the strut assembly to drop between the control arm.)

(Hint: Disconnecting sway bar linkages from bow lower controls will also allow move movement when removing steering knuckle.)

- c) **4WD ONLY:** Remove the drive shaft nut in the center of the hub assembly with a 36mm socket. **(Photo 2)**
- d) Remove the brake caliper assembly from the steering knuckle with an 18mm socket. With a zip tie or wire hook attach the caliper to chassis so that it doesn't dangle and damage the brake line. **(Photo 3)**
- e) Using the appropriate torx key, remove the brake rotor retaining bolt and slide the brake rotor off of the hub.
- f) Loosen the upper control arm ball joint nut with an 18mm wrench; making sure to keep the ball joint nut partially threaded on to the ball joint. Doing so keeps the arm from swinging up and helps hold everything in place while loosening the remaining ball joints. Using a ball joint removal tool, free the upper control arm ball joint from the steering knuckle.
- g) Using a 21mm wrench, loosen the tie rod ball joint nut and again keeping the nut partially threaded onto the ball joint, free the ball joint from the steering knuckle using the same ball joint tool.



! If coil over assembly is still installed, it's helpful to use a jack or lifting device to support the lower control arm while removing the spindle ball joints. Be very cautious when lifting the lower control arm because it is under extreme load from the spring. Make sure the lifting device base is stable and the portion connected to the lower control isn't able to slip out.

h) Loosen the lower ball joint nut for ball joint removal using a 24mm socket. It may be helpful to use an Allen wrench inserted into the lower ball joint to prevent spinning.

! In some cases it may be necessary to break the ball joint free from its seat in the taper. A firm, forceful strike to the upper or lower boss usually will allow the ball joint to pop free. OE and Belltech have provided striking locations on the upper and lower bosses. **(Photo 4)**

i) Remove the steering knuckle from the vehicle.



3. Steering Knuckle Installation

Note: When using 17" wheels you must use the supplied nut and lock washer on the lower ball joint then trim the ball joint stud for adequate clearance (Illustration 1). The supplied lock washer and nut should be installed and torqued to 60 ft. lbs. Before the ball joint stud is trimmed, it is recommended that when you remove the lower portion of the stud you leave at least 1/16" of the stud extended out from the nut. It is also recommended that once the stud is trimmed off you use a chisel or punch to score the edge of the threads to prevent any possibility of the nut coming loose (Illustration 1).

a) Remove the three bolts on the backside of the hub assembly, disconnecting it from the steering knuckle. Remove the hub assembly and backing plate (Backing plate is usually associated with some aluminum steering knuckle set ups only). **(Photo 5)**

b) Re-install the hub assembly and backing plate on to the Belltech steering knuckle and torque the stock hub bolts to 133 ft-lbs. (Make sure that the backing plate tab is aligned with the tie rod boss, replicating its position on the OE knuckle.)

c) **4WD ONLY: Insert drive shaft into hub assembly. Make sure splines are properly aligned before continuing.**

d) **4WD ONLY: Trim 1/4 to 1/2" off the lower portion on the upper control arm ball joint for clearance to the 4wd drive shaft CV boot.**

e) Attach the new steering knuckle to the upper and lower ball joints and loosely thread the nuts in place. (4WD models: Make sure to place the drive shaft end inside the hub opening.)

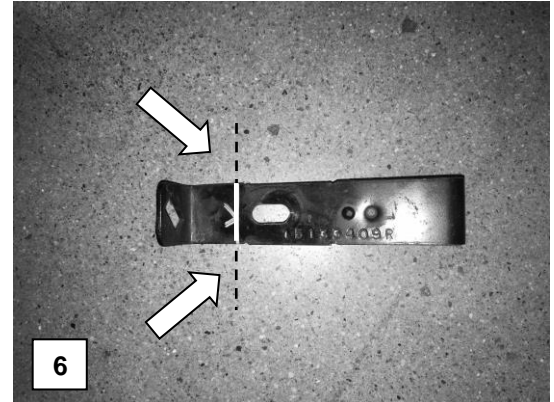
! It is helpful to use a jack or lifting device to raise the lower control arm while re-attaching the spindle ball joints. Be very cautious while lifting the lower control arm because it is under extreme load. Make sure the lifting device base is stable and the portion connected to the lower control isn't able to slip out.

If the mounting bolts of the strut were previously loosened or removed, reinstall before tightening ball joint nuts.

f) Tighten the upper ball joint nut in place and torque to 37 ft-lbs.

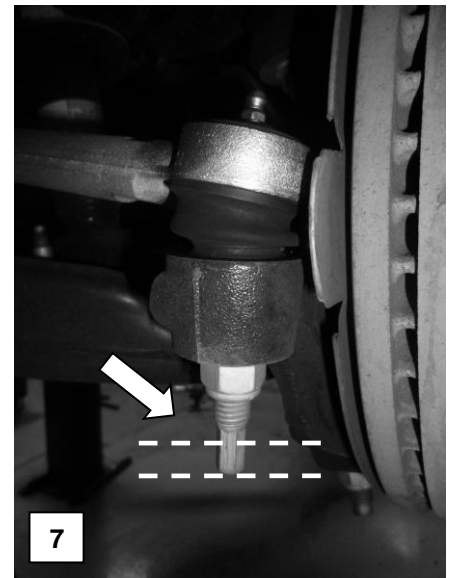


- g) Tighten the lower ball joint. Torque the lower ball joint to 92 ft-lbs for the OEM nut, or 60 ft lb for the supplied thin nut.
- h) Tighten the steering tie rod end to the knuckle and torque to 37 ft-lbs.
- i) **4WD ONLY: Install and torque the drive shaft center hub bolt to 177 ft-lbs.**
- j) **4WD ONLY: It is very important to rotate the hub to check that the upper ball joint stud or nut does not come in contact with the drive shaft boot.**
- k) Install ABS sensor and then the brake rotor onto hub assembly.
- l) Install the brake caliper assembly and torque bolts to 130 ft-lb.



- m) Re-attach the brake line brackets to the top of the steering knuckle and to the control arm. Use the best hole on the spindle for your application. (It may be necessary to cut the ABS bracket to clear the top brake caliper bolt location, refer to **Photo 6** for cut location, roughly 1/4" from slot.
- n) Rotate the steering knuckle in both directions to check if the brake line and ABS cable have enough slack. If one or the other seems to be too tight, then you should pull through the bracket to give it the proper amount of slack.

Note: When using 17" wheels, it may be necessary to also trim the lower hex portion of the tie rod to clear the wheel. We recommend trimming 1/2" of the lower portion to still retain the hex shaft for future tightening and/or removal. (Photo 7)

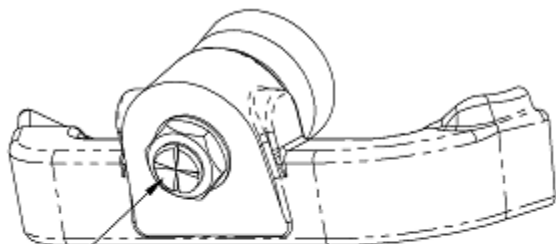
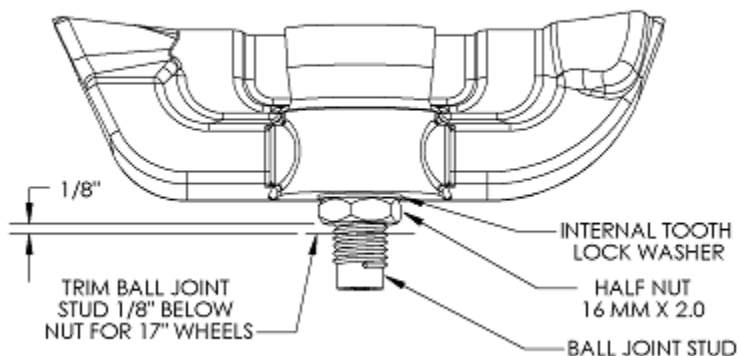


- o) Passenger side installation is complete follow all the previous steps for the driver's side.

4. Final assembly and adjustments

- a) Check that all components and fasteners have been properly installed, tightened and torqued.
- b) Check brake hoses, and other components for any possible interference.
- c) Reinstall both front wheels and torque lug nuts to correct specification.
- d) Lift vehicle and remove support stands. Carefully lower vehicle to ground.
- e) Test-drive the vehicle in a remote location so that you can become accustomed to the revised driving characteristics and handling. Be aware that the vehicle will handle substantially different now that it has been modified.
- f) We recommend the vehicle be taken in to a qualified wheel alignment facility to be realigned to factory specifications. This should be done after the vehicle has been test driven and all modifications have been completed.
- g) Installation is complete. Check all of the hardware and re-torque at intervals for the first 10, 100, 1000 miles.

For 17" wheels only:



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PART LIST FOR 2514 DROP SPINDLE KIT

PART#	DESCRIPTION	QTY
2514-350	Steering Knuckle LH	1
2514-450	Steering Knuckle RH	1
115007	Half Nut 16mm x 2.0	2
115009	Internal Tooth Lock Washer	2

PART LIST FOR 2515 DROP SPINDLE KIT

PART#	DESCRIPTION	QTY
2515-301	Steering Knuckle LH	1
2515-4014	Steering Knuckle RH	1
115007	Half Nut 16mm x 2.0	2
115009	Internal Tooth Lock Washer	2