



INSTALLATION GUIDE

PART NUMBER: 3100

DROP SPINDLE SET

GM C-10 TRUCK | 1973-1987

GM SUBURBAN | 1973-1991

-3" FRONT LOWERED RIDE HEIGHT

****HEAVY DUTY BRAKES WITH 1.25" THICK ROTORS ARE REQUIRED****

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 the components listed on the parts list are 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

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 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, in 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 are 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.

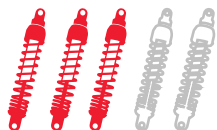
Failure to drive any modified vehicle in a safe manner may result in harm or death.

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

Always wear your seatbelt.



DIFFICULTY:



INSTALLATION TIME:

2-3 Hours + Alignment

RECOMMENDED TOOLS:

- Properly rated floor jack
- Support stands
- Wheel chocks
- Metric and standard socket wrench set
- Metric and standard wrench set
- Hex key set
- Tape measure
- Hammer and rubber mallet
- Safety glasses
- Paint or marking pen
- Spray paint
- Torque wrench rated up to 100 ft lbs.

SPECIALTY TOOLS:

- Angle grinder or reciprocating saw
- Tie-rod end removal tool
- Ball joint removal tool
- Caliper spreader

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.

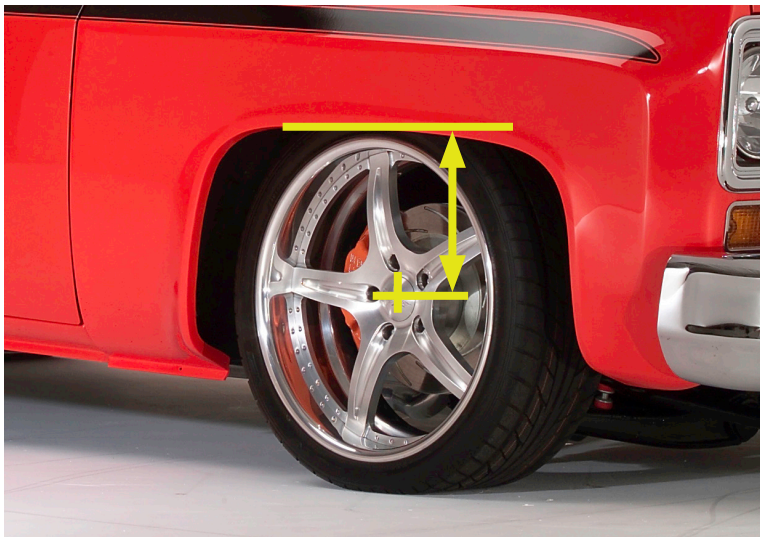
Before:

LF: _____

RF: _____

LR: _____

RR: _____



After:

LF: _____

RF: _____

LR: _____

RR: _____

WHEEL FITMENT GUIDE

Belltech spindles have been designed to properly lower your truck with the maximum amount of drop. However, wheels with an extreme amount of back spacing (positive offset) will cause interference with the outer edge of the lower control arm. Some original 8" wide GM rally wheels are not recommended for use with our spindles due to the extreme offset. Please refer to page 9 for more information.

Using a small wheel spacer may be a simple solution.

Grinding away some of the lower control arm is acceptable, however, do not structurally alter the lower control arm. Please refer to page 9 for more information on modification. Before you proceed, if you have any questions, please call our Belltech customer service specialists at 1-800-445-3767.

The track width of your vehicle will increase by approximately .45" per side. This design was developed to allow the fitment of small diameter wheels (15" - 16") that were popular at the time of inception. Please ensure you are aware of this increase in track width before installation.

Please note this kit fits most 15" or larger wheels. Not all possible wheel sizes and backspacing can be tested. Cautiously check the wheel assembly to the spindle, suspension component, and fender/body clearance before tightening the lug nuts and rotating the wheel assembly.

Before You Begin:

Belltech is not responsible for any damage to the wheel, tire, suspension component, and/or body caused by failure to check for interference. If you have any questions, call our Belltech customer service specialists.

Belltech Customer Support:

Phone: 1-800-445-3767

Email: info@belltech.com

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 first 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 vehicle's weight. The stands must be positioned in the factory specified locations. (Refer to the owner's 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 oneself or to the vehicle.
7. Lower the vehicle slowly onto the stands.
8. Remove the front wheels.



Technician reminder:

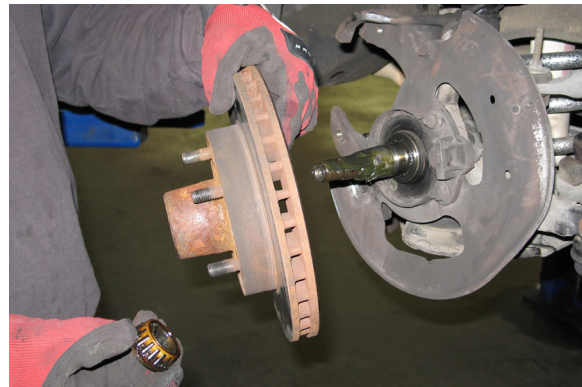
Never work under a vehicle supported only by a jack. It is necessary to place support stands securely under the vehicle in the manufacturer's specified locations unless otherwise instructed.

OEM SUSPENSION REMOVAL

9. Remove the two 9/16" nuts at the sway bar end clamp to detach the sway bar from the lower control arm.
10. Remove the upper control arm brake line bracket 9/16" bolt to detach the brake line from the upper control arm.
11. Remove the two 3/8" hex caliper bolts to detach the caliper from the spindle. Slide the caliper up and away from the brake rotor, ensure not to stretch or damage the rubber brake hose. When the brake caliper is removed, do not allow it to hang unsupported from the brake line. Support the caliper with a piece of wire or cord to prevent damage to the brake line.



12. Remove the hub and rotor assembly from the spindle by removing the grease cap, cotter pin, and the nut from the spindle pin. Carefully slide the rotor assembly off the spindle pin, do not let the outer bearing fall out of the hub.



13. Remove the cotter pin from the 15/16" nut on the tie rod end. Loosen the castle nut, but don't remove it completely. Use a tie rod puller or use a hammer to strike the side of the steering arm until the tie rod end is dislodged; swing the rod end out of the way.



Technician reminder:

Do not strike the nut or the tie rod end itself as this may damage the steering components.



OEM SUSPENSION REMOVAL CONTINUED

14. Detach the dust shield by removing the three 1/2" bolts on the face of the spindle.



15. Place a floor jack under the lower control arm and lift until a slight compression of the suspension is achieved. Turn the spindle to access the lower ball joint without interference.
16. Remove the cotter pin and loosen but do not remove the 7/8" lower ball joint nut. Strike the lower portion of the spindle beside the ball joint, this will dislodge it from the taper.



17. Remove the cotter pin and loosen but do not remove the 7/8" upper ball joint nut. Strike the upper portion of the spindle beside the ball joint, this will dislodge it from the taper.



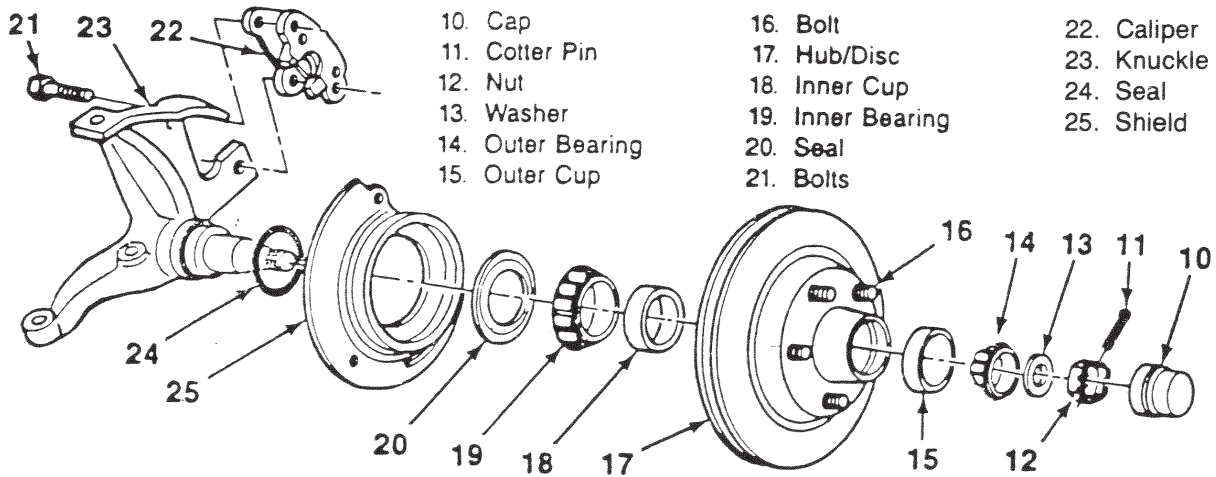
18. Once both ball joints are dislodged, remove the upper nut and lift the control arm to free the spindle. Remove the lower nut and slide the spindle off the lower ball joint.

BELLTECH SPINDLE INSTALLATION

19. With the lower control arm supported to control the height of the suspension during the installation, place the new Belltech drop spindle on the lower control arm ball joint and secure it with the castle nut. Lift the upper control arm and place the upper ball joint into position on the spindle. Torque the upper ball joint nut to 50 ft lbs. and the lower ball joint nut to 90 ft lbs. Secure them with the supplied cotter pins.



- 20. Place the tie rod end into the steering arm on the new spindle and torque the nut to 45 ft lbs. Install a new cotter pin.
- 21. Place the dust cover gasket on the spindle shaft and attach the brake dust shield to the face of the spindle using the original bolts; torque to 12 ft lbs.
- 22. Before mounting the hub and rotor assembly, take time to determine that the seal and bearings are in good condition and are packed with enough grease. Inspect the inner bearing cavity of the rotor to determine that it is sufficiently coated with grease. When in doubt, repack the bearings and coat the inner bearing cavity. Apply grease to the spindle at the inner and outer bearing seat, shoulder, and seal seat.
- 23. Mount the hub and rotor assembly onto the new Belltech spindle. Ensure the bearing, washer, and nut are in the correct position.



- 24. Torque the spindle nut to 12 ft lbs. while turning the rotor forward by hand to seat the bearings. Back the nut off to a "just loose" position. Hand-tighten the spindle nut to align the nearest hole in the spindle pin with the slots in the nut.
- 25. Insert the cotter pin into the hole in the spindle pin. Bend the ends of the cotter pins against the nut and cut them off; install the dust cap.

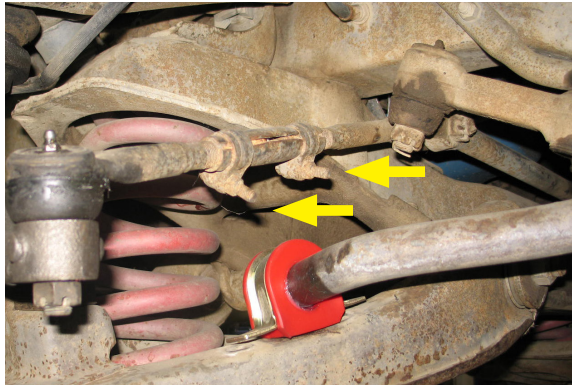


BELLTECH SPINDLE INSTALLATION CONTINUED

26. Mount the brake caliper onto the new spindle. Ensure the brake pads are in their correct position, if needed, compress the piston with a spreader tool. Insert the caliper guide bolts and torque to 37 ft lbs. Turn the rotor assembly left and right to make sure there is no interference between the brake lines and other components.



27. Mount the wheels and tires onto the truck, tighten but do not torque the lug nuts. Turn the wheels left and right by hand to ensure the wheel and tire do not contact any suspension components.
28. If there is severe “toe-out” in the wheel positioning, loosen but do not remove the two nuts on the tie rod adjusting sleeves. Turn them approximately 2 to 2.5 turns or until wheels appear straight. This will temporarily adjust the toe-in of the vehicle to enable you to drive the vehicle to an alignment shop. Tighten the tie rod clamp bolts and torque to 22 ft lbs.



LOWER CONTROL ARM MODIFICATION



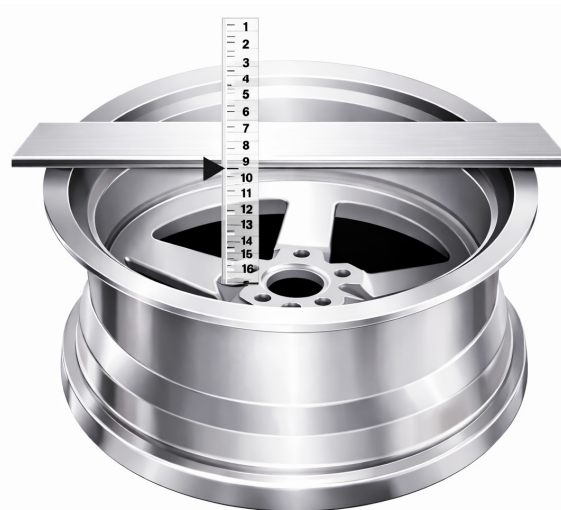
Technician warning:

We recognize that it is common practice to trim the lower arm to eliminate wheel contact areas and to gain clearance for wheels with more than 3-1/2" inches of backspacing. We have not determined the impact of such modifications on the structural strength of the lower control arm or the risks of such modifications. Any person modifying stock components does so at their own risk and does so against our recommendation.

Wheels with more than 3-1/2" inches of backspacing, including the factory 8" inch wheels, will interfere with the lower control arm which impairs the vehicle's steering and are strongly cautioned against.

Care must be exercised in the selection of wheel and tire size combinations to determine there are no wheel or tire clearance problems.

Backspacing dimensions are calculated by measuring from the wheel mounting pad to the top of the inboard flange. If your wheel measures 3-1/2" inches or more of backspacing, it will likely interfere with the lower control arm.



The area of the lower control arm marked in yellow indicates where contact will occur when wheels with more than 3-1/2" inches of backspacing are used. The lower control arm had this area removed to gain clearance for non-recommended wheels.

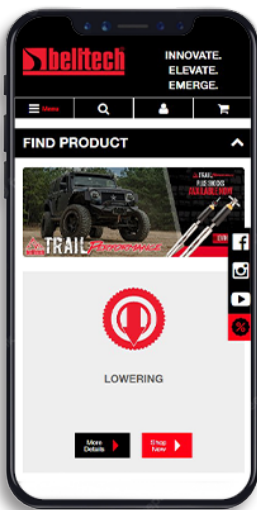


FINALIZING THE INSTALLATION

29. Lift the vehicle and remove the support stands.
30. Carefully lower the vehicle onto flat ground.
31. Torque the lug nuts to 100 ft lbs.
32. Check that all components and fasteners have been properly installed and torqued.
33. 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



belltechsuspension



Belltech Suspension



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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

KIT CONTENTS



3100		
Part number	Description	Qty
3100-350	LH MACHINED SPINDLE	1
3100-450	RH MACHINED SPINDLE	1
2100-110	COTTER PIN PACK	1



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