



INSTALLATION GUIDE

PART NUMBER: 2103
LOWERING BALL JOINT KIT
GM COLORADO / CANYON 2WD | 2002-2012

-2" FRONT LOWERED RIDE HEIGHT

Belltech 2" Dropped Ball Joints are designed to work with factory wheels and most aftermarket wheels. However, it is not possible to test every wheel for this application, you must ensure the wheels you choose do not contact any of the suspension components.

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 read all instructions and warnings prior to the 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

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 re-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:

2-4 Hours + Alignment

RECOMMENDED TOOLS:

- Properly rated floor jack
- Support stands
- Wheel chocks
- Metric socket wrench set
- Metric wrench set
- Tape measure
- Marking Pen
- Safety glasses
- Spray paint

SPECIALTY TOOLS:

- Torque wrench up to 150 ft lbs.
- Reciprocating saw
- Grinder

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.

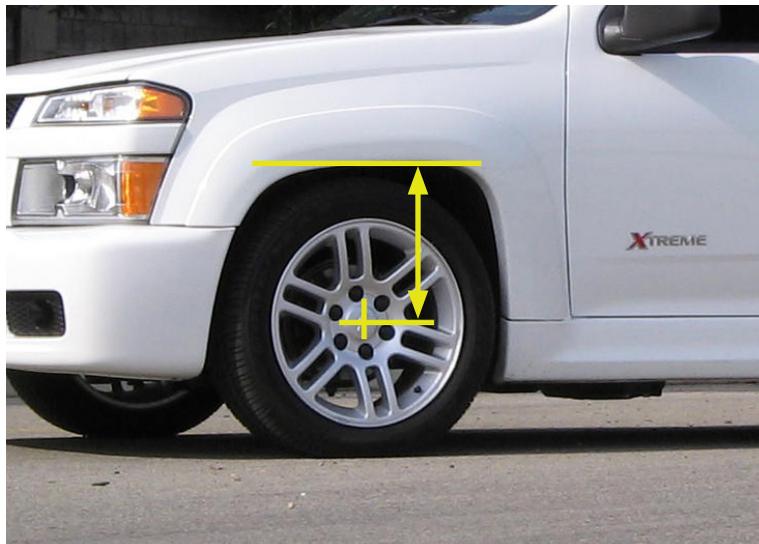
Before:

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. Break loose, but do not spin the wheel lug nuts to ease in removal when the wheels are in the air.
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.

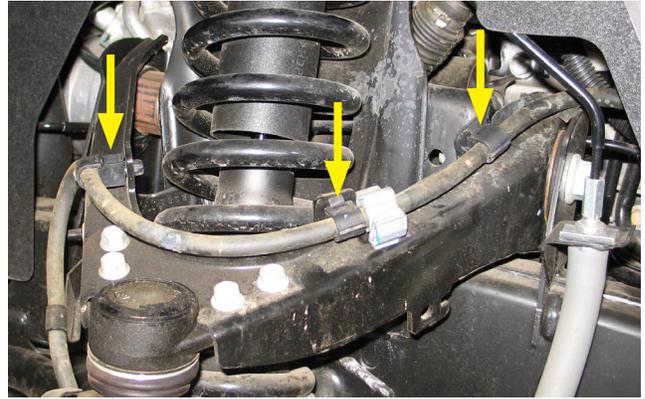


Technician reminder:

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 BALL JOINT REMOVAL

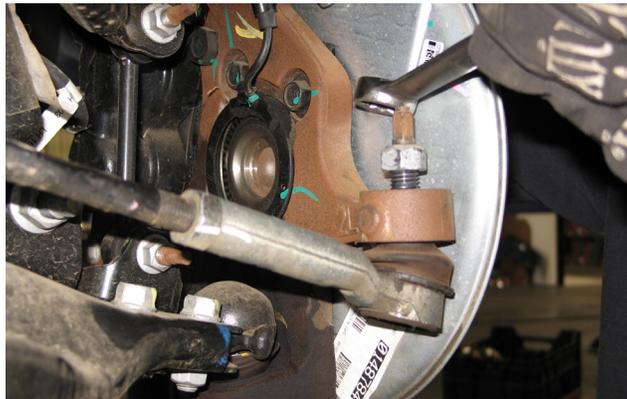
9. Remove the wheel speed sensor bracket nut. Use a small flat head screwdriver to remove the sensor cable from the control arm by pushing in the locking three clips. Secure sensor cable out of the way so it does not interfere with the installation.



10. Remove the 15mm end link nuts to detach the end links from the sway bar and lower control arm. Use the hex stud on the ball joint to prevent the stud from turning while removing the nut.



11. Break loose but do not completely remove the 21mm tie-rod ball joint nut. Ensure there are few threads engaged to help unseat the tie-rod ball joint.



OEM BALL JOINT REMOVAL CONTINUED

12. With a large hammer, strike the side of the tie-rod boss until the ball joint is dislodged.



Technician reminder:

DO NOT strike the nut or the ball joint. If striking it on one side does not work, rotate the spindle and strike from the other side of the tie-rod boss.



13. Place a floor jack under the lower control arm and lift until a slight compression of the suspension is achieved.

14. Break loose but do not completely remove the 21mm upper ball joint nut. Ensure there are few threads engaged to help unseat the ball joint. With a large hammer, strike the side of the spindle boss until the upper ball joint is dislodged.



15. Break loose but do not completely remove the 27mm lower ball joint nut. Ensure there are few threads engaged to help unseat the ball joint. With a large hammer, strike the side of the spindle boss until the lower ball joint is dislodged.



16. Remove upper and lower ball joint nuts to detach the spindle from the control arms.



Technician reminder:

With the spindle assembly removed, do not allow it to hang from the brake line or the sensor line. Support the spindle using a piece of heavy gauge wire and attach it to the vehicle frame to prevent damage.

OEM BALL JOINT REMOVAL CONTINUED

17. Locate the four mounting bolts that secure the upper ball joint to the upper control arm. Use a 12mm socket and a 13mm wrench to remove the nuts and bolts front the upper control arm to detach the ball joint assembly.



18. Remove the 21mm bottom strut bolt to disengage it from the lower control arm
19. Locate the four mounting bolts that secure the lower ball joint to the lower control arm. Use a 17mm socket and a 18mm wrench to remove the nuts and bolts front the lower control arm to detach the ball joint assembly.



20. To install the new Belltech lower ball joint, the lower sway bar end link bracket must be removed. Using a reciprocating saw or a cutting wheel, remove the bracket, cutting it flush to the top of the lower control arm.



21. Use a grinder to smooth the cut surface. Wipe the area down with a cleaning solvent and spray paint the exposed metal.



Technician reminder:

Always wear eye protection when using power tools and/or grinding.

BELLTECH DROP BALL JOINT INSTALLATION

22. Place the top spacer on the upper control arm to sit between the OEM upper ball joint and the top of the control arm.



23. The bottom spacer is placed on the underside of the upper control arm.



24. Fasten the upper ball joint assembly with four 5/16"-24 X 2.0" hex head bolts, four flat washers, and the four 5/16"-24 lock nuts. Torque to 12 ft lbs.

25. The lower ball joint bottom spacer is placed between the cavity of the lower control arm. This spacer supports the lower control arm from collapsing when tightening the lower ball joint.



BELLTECH DROP BALL JOINT INSTALLATION CONTINUED

26. Place the new Belltech lower ball joint on top of the lower control arm.



27. Fasten the lower ball joint assembly with four 7/16"-20 X 2.25" hex head bolts, four flat washers, and the four 7/16"-20 lock nuts supplied with the lower ball joint. Torque to 44 ft lbs.



28. Mount the upper ball joint to the top housing hole on the spindle. Secure the ball joint with the mounting nut finger tight, but do not tighten.



BELLTECH DROP BALL JOINT INSTALLATION CONTINUED

29. Mount the lower ball joint to the bottom housing hole on the spindle. Secure the ball joint with the supplied castle nut finger tight, but do not tighten.



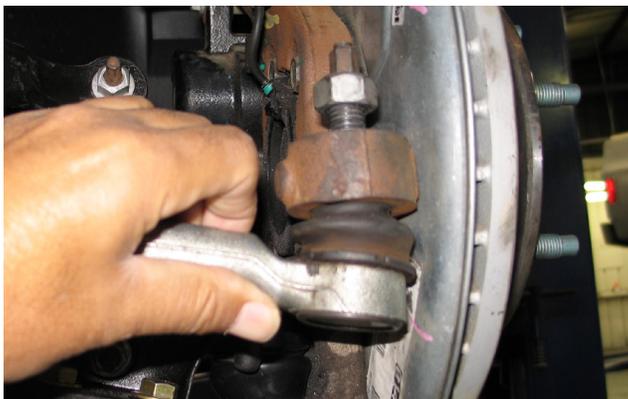
30. Attach the lower strut mount to the lower control arm with the original bolt and nut. Do not torque yet.

31. Attach the lower end link stud on the new mount located on the Belltech lower ball joint with the original nut. Do not torque yet.



32. Attach the upper end link to the sway bar with the original nut. Do not torque yet.

33. Swing the tie-rod upward and attach the ball joint into the spindle mounting hole. Secure the ball joint with the original nut. Do not torque yet.



BELLTECH DROP BALL JOINT INSTALLATION CONTINUED

34. Attach the sensor line bracket mount; torque to 14 ft lbs. Attach the three mounting clips to place the sensor line back into its original position.



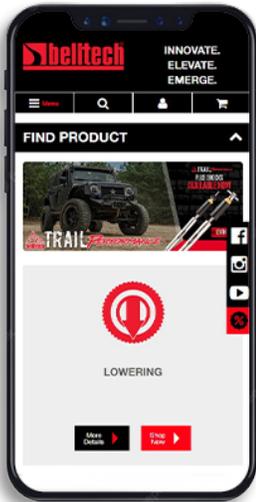
35. Place a jack under the lower control arm to raise the suspension to simulate (load) the vehicle weight on the ground.
36. Torque the lower ball joint to 107 ft lbs. Insert the cotter pin in the stud and fold it back to secure it.
37. Torque the upper ball joint to 55 ft lbs. Insert the original cotter pin in the stud (if equipped) and fold it back to secure it.
38. Torque the lower strut mount bolt to 81 ft lbs.
39. Torque the end link bolts to 32 ft lbs.
40. Torque the tie-rod ball joint nut to 33 ft lbs. + 95°turn. Insert the original cotter pin in the stud (if equipped) and fold it back to secure it.

FINALIZING THE INSTALLATION

41. Mount the wheels and tighten the lug nuts.
42. Lift the vehicle and remove the support stands.
43. Carefully lower the vehicle onto the flat ground.
44. Torque the lug nuts to 103 ft lbs.
45. Check that all components and fasteners have been properly installed and torqued.
46. 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



@belltechsuspension

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



2103		
Part number	Description	Qty
2103-001	OFFSET LOWER BALL JOINT ASSEMBLY	2
2103-777	HARDWARE KIT	1

2103-777 Hardware Kit		
Part number	Description	Qty
2103-015	UPPER CONTROL ARM BOTTOM SPACER	2
2103-016	UPPER CONTROL ARM TOP SPACER	2
110506	5/16"-24 NYLOC NUT	8
112140	5/16"-24 X 2.0" HEX HEAD BOLT	8
112502	FLAT WASHER 5/16"	16