



## Tie Rod Installation Instructions

### Read and understand all instructions and warnings prior to installation of product and operation of vehicle.

Zone Offroad Products recommends this system be installed by a professional technician. In addition to these instructions, professional knowledge of disassembly/ reassembly procedures and post installation checks must be known. Minimum tool requirements include the following: Assorted metric and standard wrenches, hammer, hydraulic floor jack and a set of jack stands. See the "Special Tools Required" section for additional tools needed to complete this installation properly and safely.

#### »» PRODUCT SAFETY WARNING

Certain Zone Suspension Products are intended to improve off-road performance. Modifying your vehicle for off-road use may result in the vehicle handling differently than a factory equipped vehicle. Extreme care must be used to prevent loss of control or vehicle rollover. Failure to drive your modified vehicle safely may result in serious injury or death. Zone Offroad Products does not recommend the combined use of suspension lifts, body lifts, or other lifting devices.

You should never operate your modified vehicle under the influence of alcohol or drugs. Always drive your modified vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Always wear your seat belt.

#### »» TECHNICAL SUPPORT

*Live Chat* provides instant communication with Zone tech support. Anyone can access live chat through a link on [www.zoneoffroad.com](http://www.zoneoffroad.com).

[www.zoneoffroad.com](http://www.zoneoffroad.com) may have additional information about this product including the latest instructions, videos, photos, etc.

Send an e-mail to [tech@zoneoffroad.com](mailto:tech@zoneoffroad.com) detailing your issue for a quick response.

**888.998.ZONE** Call to speak directly with Zone tech support.

#### Difficulty Level

easy (1) 2 3 4 5 difficult

Estimated installation: hours

#### Special Tools Required

Pickle fork or tie rod end puller

#### »» PRE-INSTALLATION NOTES

1. Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
2. Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.
3. Larger rim and tire combinations may increase leverage on suspension, steering, and related components. When selecting combinations larger than OE, consider the additional stress you could be inducing on the OE and related components.
4. Post suspension system vehicles may experience drive line vibrations. Angles may require tuning, slider on shaft may require replacement, shafts may need to be lengthened or trued, and U-joints may need to be replaced.
5. Secure and properly block vehicle prior to installation of Zone Offroad Products. Always wear safety glasses when using power tools.
6. If installation is to be performed without a hoist, Zone Offroad Products recommends rear alterations first.
7. Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle attitude. Always measure the attitude prior to beginning installation.

## Tie Rod Installation

1. Park the vehicle on a level surface.
2. Block tires to ensure the vehicle cannot move.
3. Break loose the jam nut between the inner and outer tie rod.
4. Remove the cotter pin if equipped and nut from the tie rod at the knuckle.
5. Use an appropriate tie rod end puller or pickle fork to disconnect the tie rod from the knuckle.
6. Unthread the outer tie rod from the inner tie rod while counting number of rotations.
7. Thread on the new outer tie rod end to the inner tie rod the same amount of rotations as counted in step 6.
8. Place the new tie rod end in the knuckle and torque the nut (see table below for specification). Insert cotter pin if vehicle was originally equipped.
9. Tighten the jam nut while supporting the outer tie rod (see table below for specification).
10. An alignment is highly recommended after replacing any steering components.

<b>Application</b>	<b>Tie Rod Shaft Nut</b>	<b>Tie Rod Jam Nut</b>
'14-18 GM 1500	26 ft.lbs. + 85-100deg	55 ft.lbs
2019+ GM 1500	26 ft.lbs. + 85-100deg	55 ft.lbs.
'15-21 GM Canyon/Colorado	26 ft.lbs. + 85-95deg	55 ft.lbs.
'2019 Ford Ranger	35 ft lbs	59 ft lbs
'2019 Ram 1500	41 ft.lbs + 180deg	66 ft.lbs.

The above specifications are for reference only. Please refer to your specific vehicle's repair manual for exact specifications.