

## Driveshaft Angle Adjustment

### Special Tool(s) / General Equipment

Transmission Jack
-------------------

### Adjustment

**NOTICE:** Suspension fasteners are critical parts because they affect performance of vital components and systems and their failure may result in major service expense. New parts must be installed with the same part numbers or equivalent part, if replacement is necessary. Do not use a replacement part of lesser quality or substitute design. Torque values must be used as specified during reassembly to make sure of correct retention of these parts.

**NOTE:** Some vehicles may exhibit a drive-away shudder or vibration under moderate to heavy acceleration from a stop, especially when heavily loaded or when towing a trailer. It is important to confirm how the vehicle is driven the majority of the time (loaded or unloaded), as adjusting the driveline angle in one condition (loaded or unloaded) may result in a shudder or vibration with the vehicle in the opposite condition (loaded or unloaded).

**NOTE:** Verify suspension is not modified from the original configuration. Aftermarket leveling kits and rear leaf spring shackle kits change ride height, which affects pinion angle and other critical driveline related operating angles. Vehicle must be at OEM specifications before accurate evaluation and diagnosis can be performed.

**NOTE:** The driveline angle must be measured with the vehicle in the same condition as the concern (loaded or unloaded) to determine the amount of adjustment necessary to correct the condition.

1. Measure the driveline angle.  
Refer to: [Driveshaft Angle Measurement](#) (205-01 Driveshaft, General Procedures).
2. If the driveline does not have an optimum 3.5 degree operating range, use the Service Kit for Adjusting Rear Axle Pinion Angle (base part number -4C088-) to correct the angle. The kit contains all of the parts necessary for the adjustment procedure.
  - The U-joints must be equal or within one degree of each other.
  - The driveline can have a maximum 3.5 degree operating angle.
  - The U-joints must have at least one-half of one degree continuous operating angle.

Part Number	Part Name
5A313	1 degree pinion angle shim
5A313	2 degree pinion angle shim
5595	Upper u-bolt center plate bolt (4 required)
5705	U-bolt (4 required)
W520215	U-bolt nut (8 required)

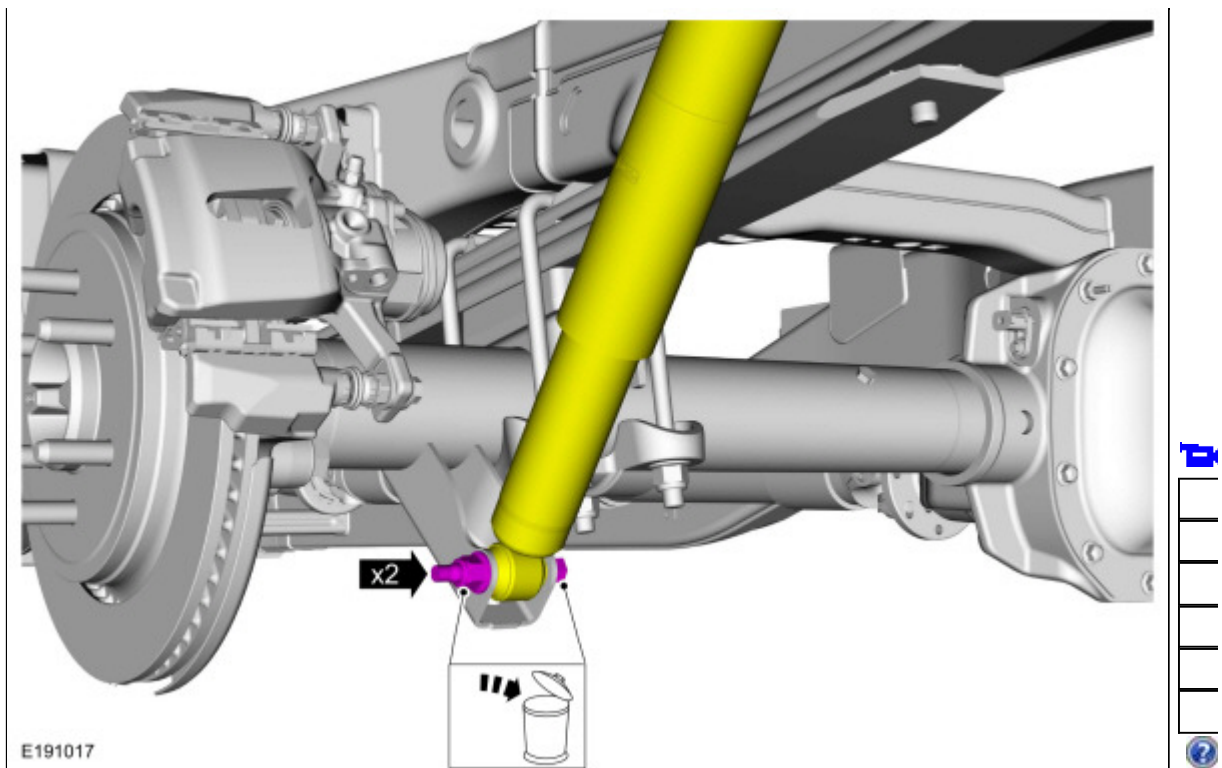
W715579	Center bearing support bolt
W717158	Center bearing support nut
4A209	Center bearing support shim
506545	Shock absorber lower bolt
W520214	Shock absorber lower nut

**NOTE:** The driveline angle on these vehicles can be changed by adding 1 degree or 2 degree pinion angle shims.

3. **NOTE:** Left side shown, right side similar.

Using the general equipment to support the rear axle, remove and discard the rear shock absorber lower nut and bolt.

Use the General Equipment: Transmission Jack

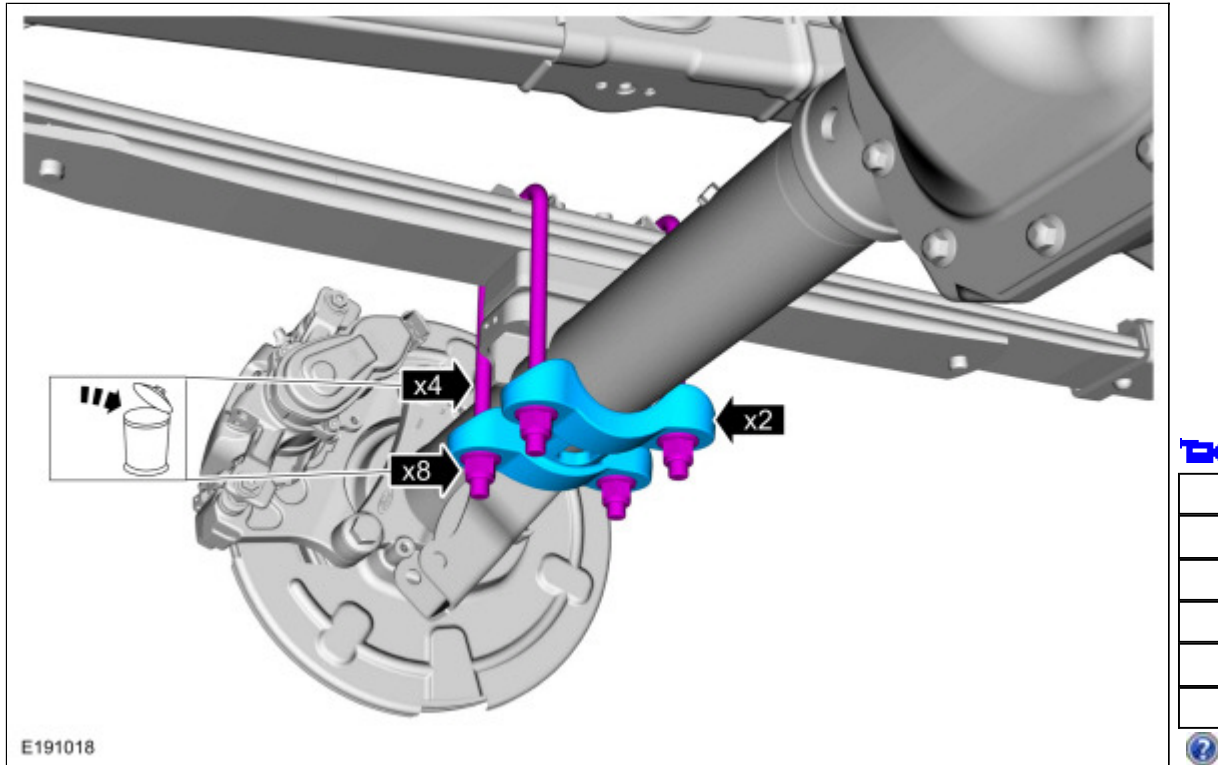


4. **NOTE:** The differential/axle needs to be supported before the u-bolts are removed.

**NOTE:** Left side shown, right side similar.

Using the general equipment to support the rear axle, remove and discard the u-bolt nuts and the u-bolts and remove the u-bolt lower mounting plate.

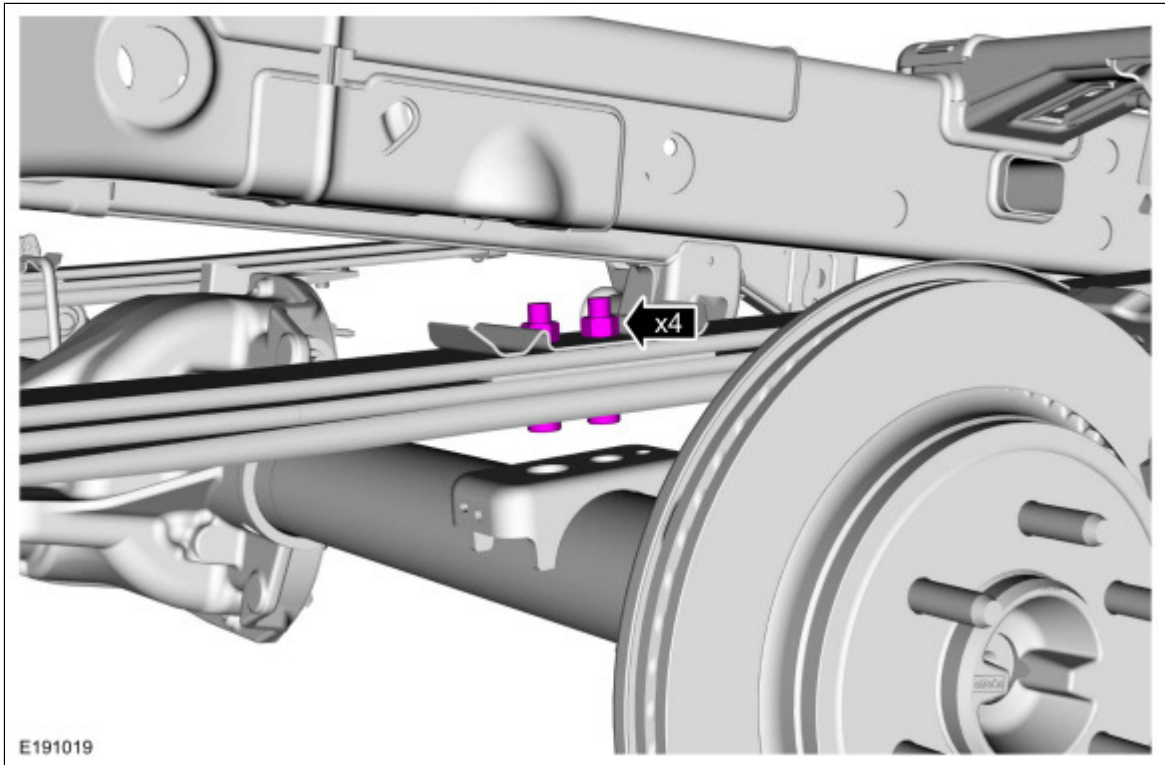
Use the General Equipment: Transmission Jack



5. **NOTE:** *Left side shown, right side similar.*

**NOTE:** *Replace one bolt at time.*

Replace the upper u-bolt center plate bolts.  
 Torque: 75 lb.ft (102 Nm)



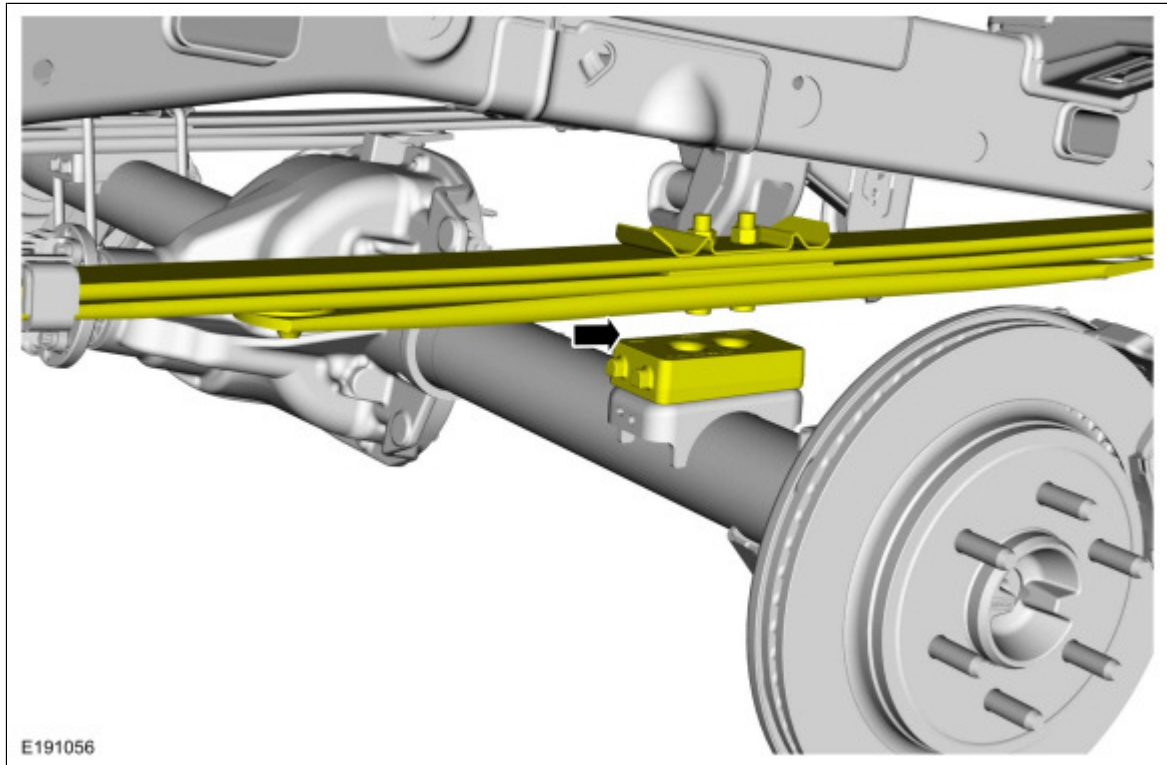
6. **NOTE:** *Left side shown, right side similar.*

**NOTE:** *Never use more than 1 shim on a side at a time.*

Install desired shim on the axle spring seat, or on top of the 4x4 spacer block.

- Lower the axle pinion using the thick edge of the shim forward, to decrease pinion angle.
- Raise the axle pinion using the thick edge of the shim rearward, to increase pinion angle.





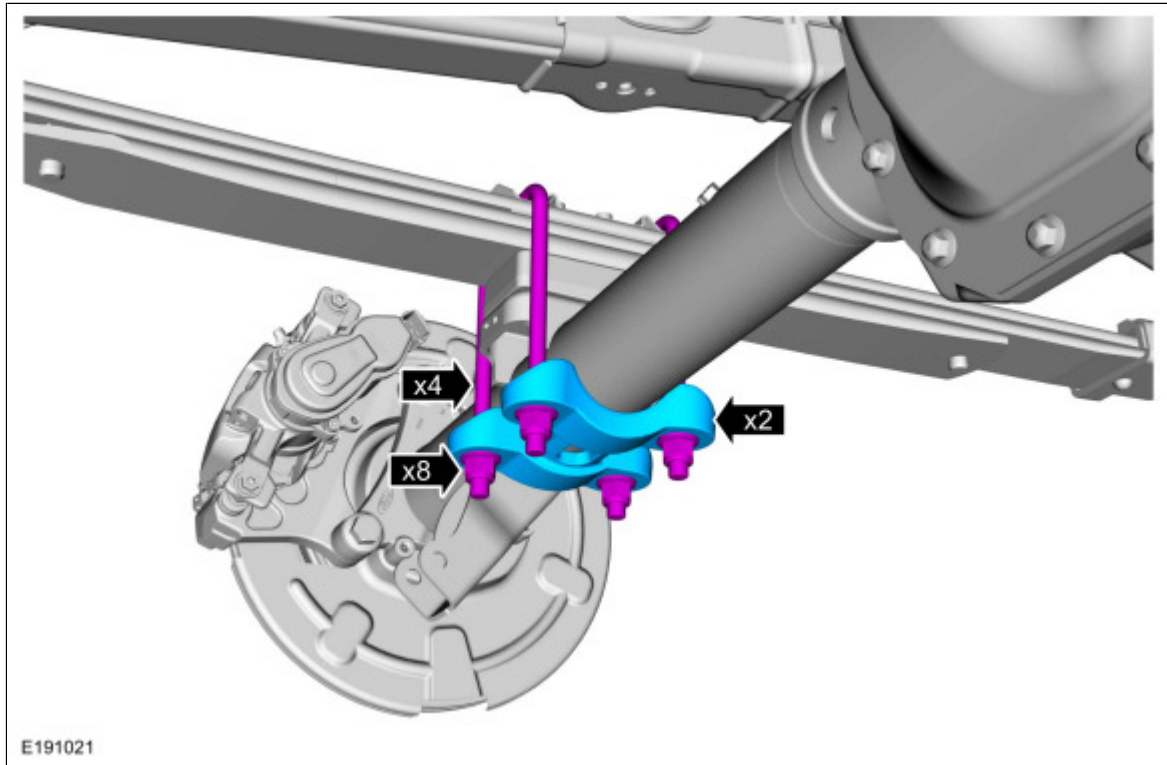
7. **NOTE:** *Left side shown, right side similar.*

Install the lower u-bolt mounting plate and the new u-bolts and new u-bolt nuts. With the suspension at curb height, tighten the new u-bolt nuts evenly in a cross-type pattern in 4 stages.

*Torque:*

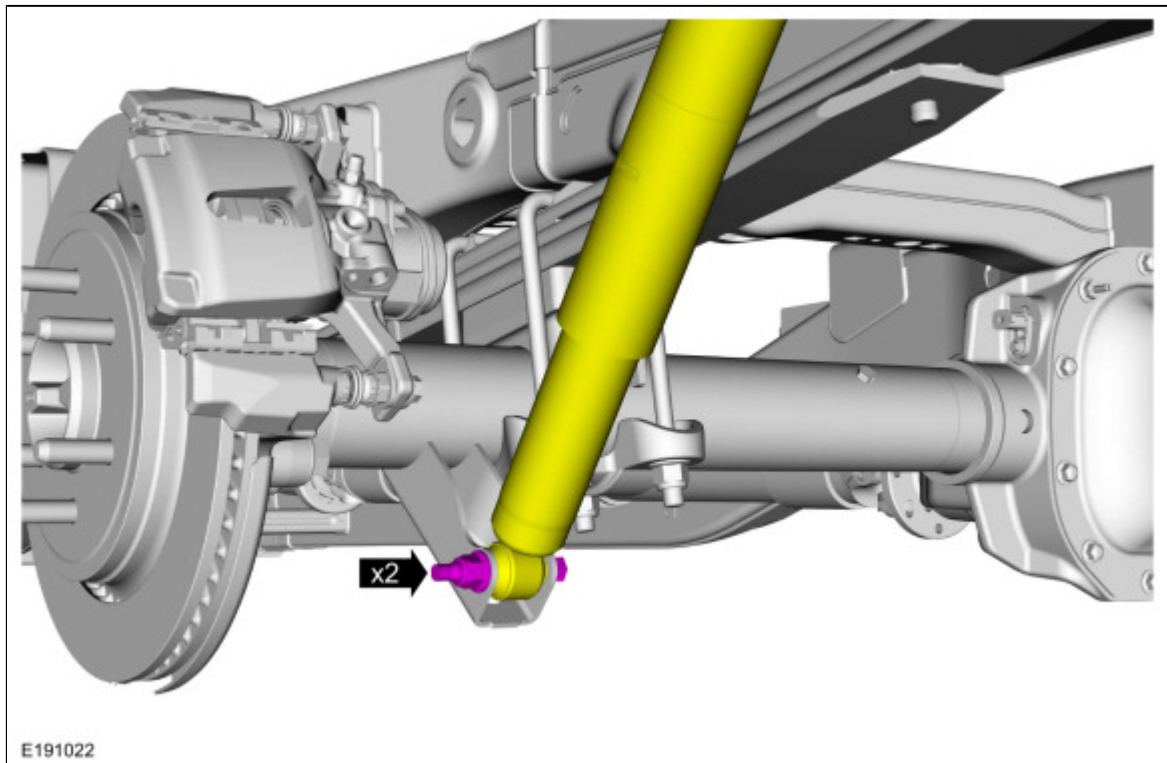
- Stage 1: 26 lb.ft (35 Nm)
- Stage 2: 52 lb.ft (70 Nm)
- Stage 3: 74 lb.ft (100 Nm)
- Stage 4: 98 lb.ft (133 Nm)



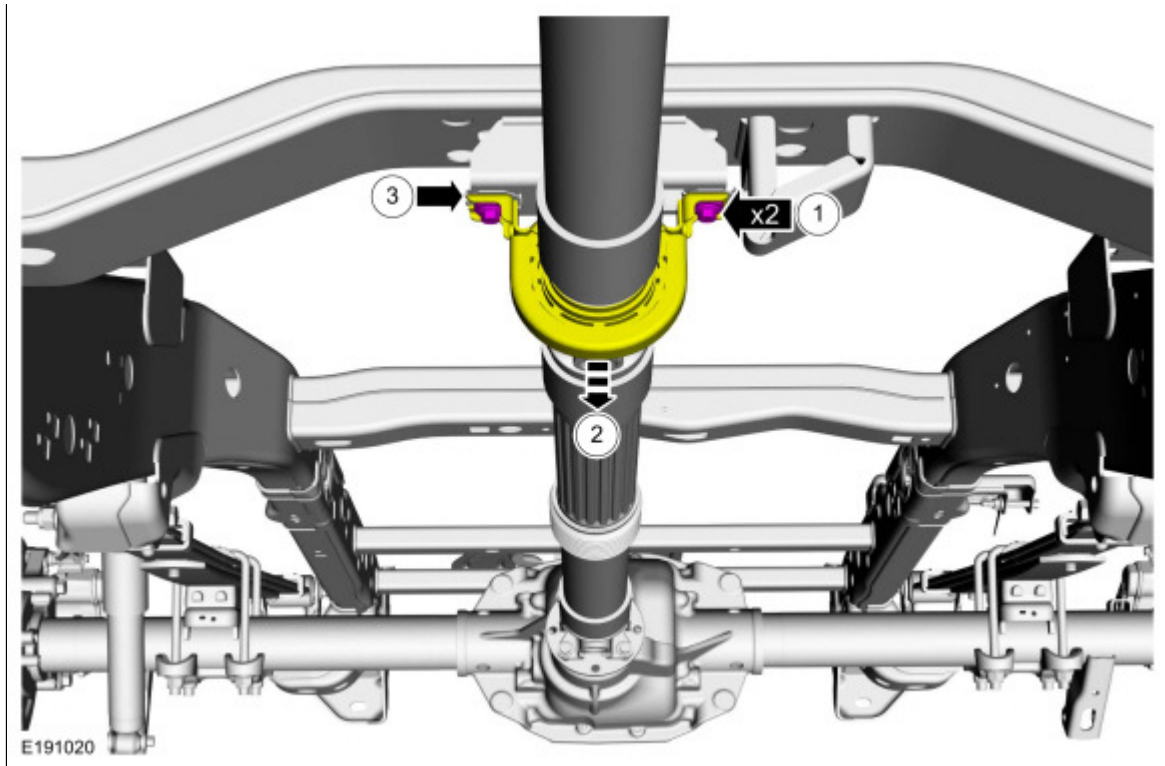


8. **NOTE:** *Left side shown, right side similar.*

Install the new rear shock absorber lower nut and bolt.  
Torque: 66 lb.ft (90 Nm)



9. Measure the driveline angle.  
Refer to: [Driveshaft Angle Measurement](#) (205-01 Driveshaft, General Procedures).
10. If necessary, install shims in 1/4 inch increments to lower the center bearing support as needed.
  1. Remove the center bearing bolts.  
*Torque: 35 lb.ft (48 Nm)*
  2. Lower the center bearing.
  3. Install the center bearing support lower shim.



11. Check the vehicle ride height.  
Refer to: [Ride Height Measurement](#) (204-00 Suspension System - General Information, General Procedures).

Copyright © 2016 Ford Motor Company

