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.*

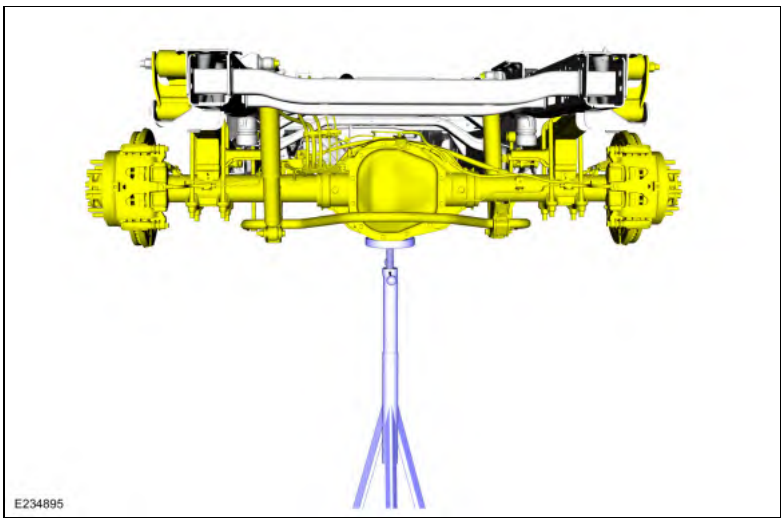
1. Measure the driveline angle.
   Refer to: Driveshaft Angle Measurement (205-01 Driveshaft, General Procedures).

2. If the driveline does not have an optimum 3.5 degree operating range, proceed to the following adjustment steps using the parts listed in the table below.
   - The U-joints must be equal or within one degree of each other.
   - The driveline can have a maximum 4.5 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
4A209	Center bearing support shim
4831	Center bearing support bracket
56764-S439	Center bearing support bolt

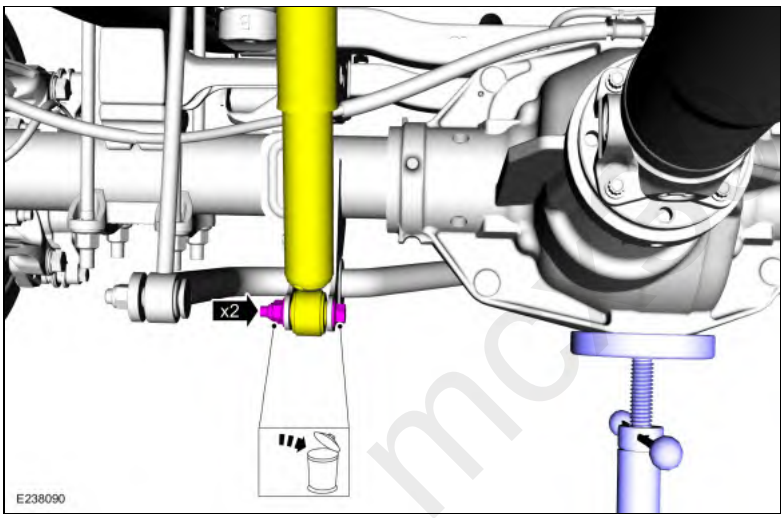
NOTE: *The driveline angle on these vehicles can be changed by adding 1 degree or 2 degree pinion angle shims.*

3. Support the axle assembly.
   Use the General Equipment: Transmission Jack

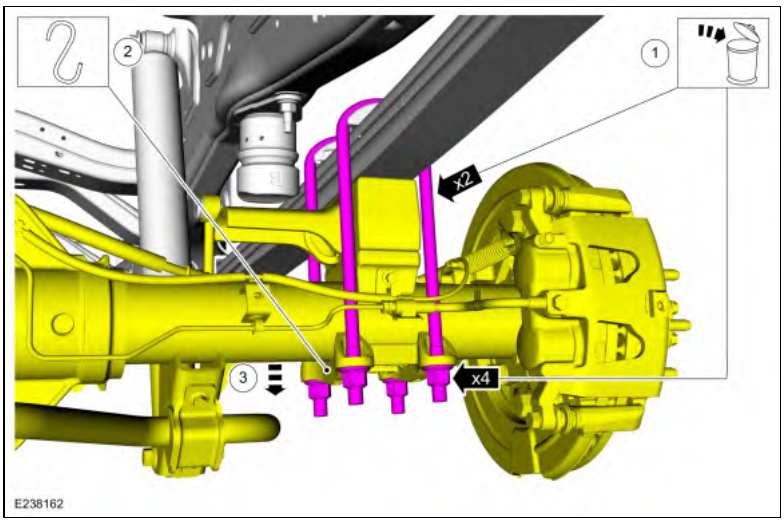


4. **NOTE:** *Right side shown, Left side similar.*

   Remove and discard the rear shock absorber lower nut and bolt.



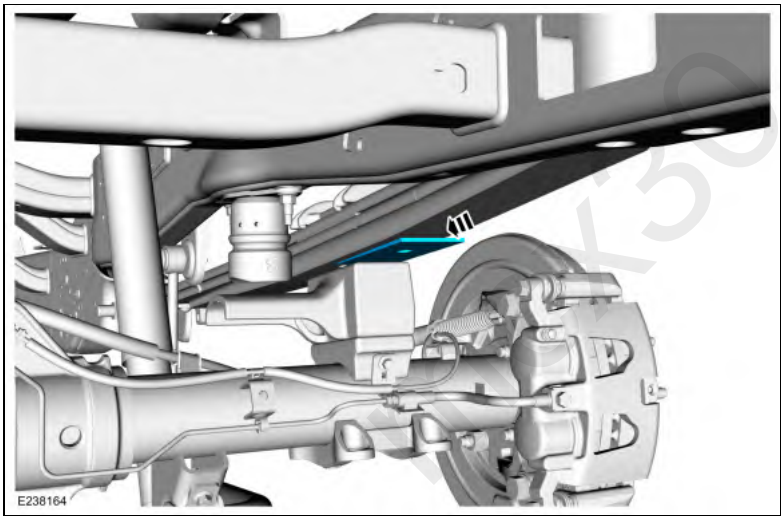
5. Lower the rear axle.
   - Remove and discard the U-bolt nuts and U-bolts.
   - Support the bottom plate.
   - Lower the rear axle slightly to provide sufficient space to install shim.



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

   NOTE: *Never use more then 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:** *Right side shown, Left side similar.*

   NOTE: *Verify U-bolts are perpendicular and on center to leaf spring. Maintain equal side-to-side clearance to leaf spring stack when securing.*

   NOTE: *If thicker shims are installed, the new U-bolts (5705) may need to be longer than the original U-bolts. Use the table below to assist with U-bolt selection.*

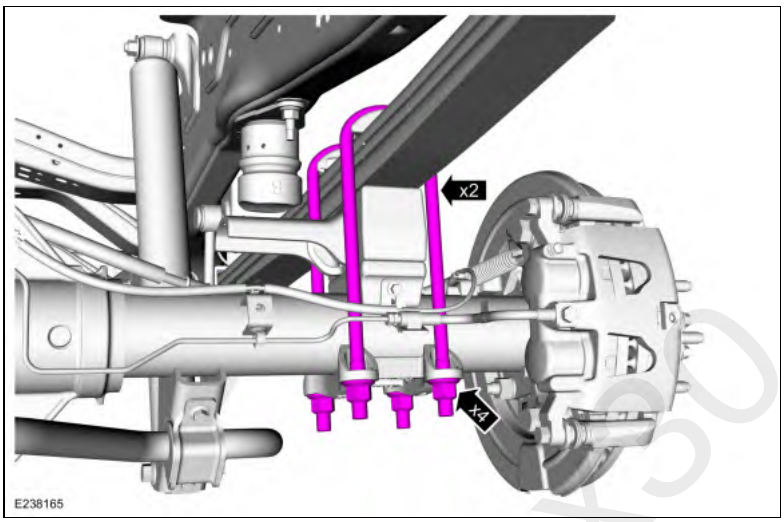
   Install the lower U-bolt mounting plate, new U-bolts and new U-bolt nuts. With the suspension at curb height, tighten the new U-bolt nuts evenly in a cross-type pattern in 4 stages.

U-Bolt Length Chart

Length (mm)	Prefix	Base	Suffix
265	BC3Z	5705	E
292	BC3Z	5705	K
318	BC3Z	5705	H
330	BC3Z	5705	F
345	BC3Z	5705	D

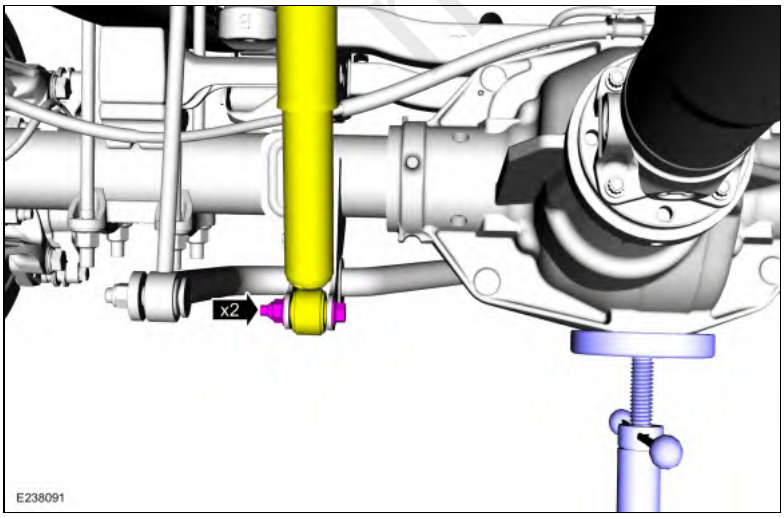
365	BC3Z	5705	C
385	BC3Z	5705	G
420	BC3Z	5705	A
445	BC3Z	5705	L
335	HC3Z	5705	A
375	HC3Z	5705	C
430	HC3Z	5705	B
405	HC3Z	5705	D

Torque:
SRW Vehicles:
Stage 1: 48 lb.ft (65 Nm)
Stage 2: 96 lb.ft (130 Nm)
Stage 3: 148 lb.ft (200 Nm)
Stage 4: 195 lb.ft (265 Nm)
DRW Vehicles:
Stage 5: 74 lb.ft (100 Nm)
Stage 6: 148 lb.ft (200 Nm)
Stage 7: 221 lb.ft (300 Nm)
Stage 8: 295 lb.ft (400 Nm)

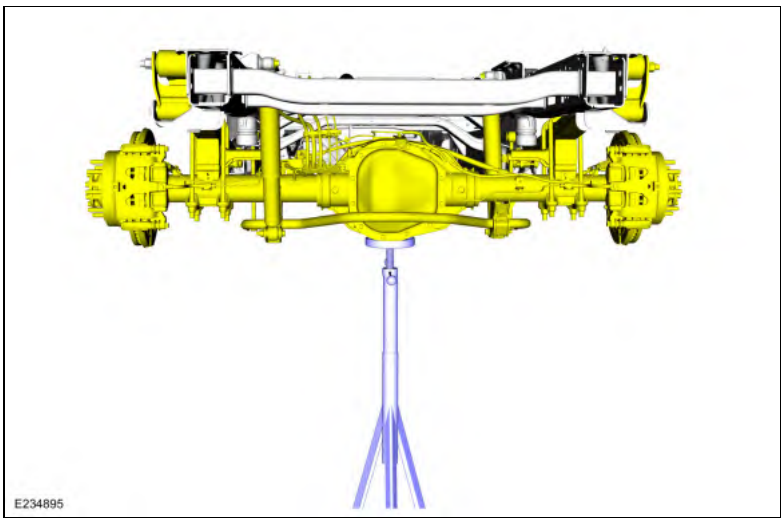


8. **NOTE:** *Right side shown, Left side similar.*

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

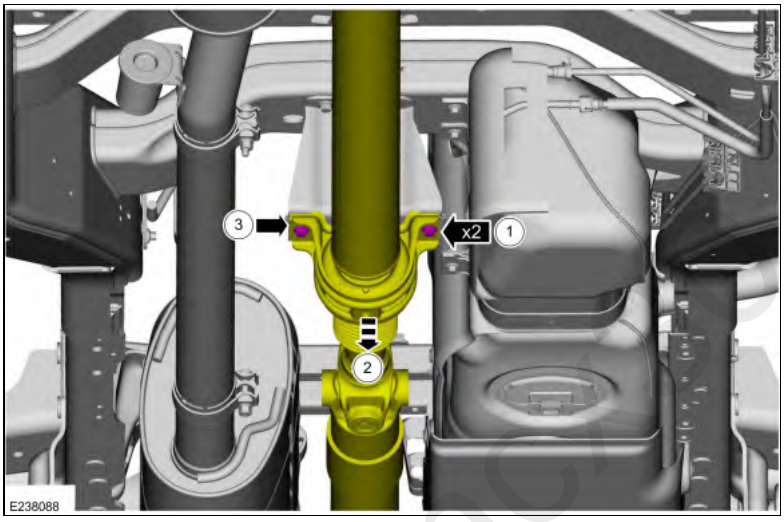


9. Remove the axle assembly support.
   Use the General Equipment: Transmission Jack



10. Measure the driveline angle.
    Refer to: Driveshaft Angle Measurement (205-01 Driveshaft, General Procedures).

11. If necessary, install shims in 1/4 inch increments to lower the center bearing support as needed.
    1. Remove the center bearing bolts.
       Torque: 52 lb.ft (70 Nm)
    2. Lower the center bearing.
    3. Install the center bearing support lower shim.



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