

Driveshaft Angle Measurement

Check

NOTE: This procedure does not apply to CV joints, flex couplers or double cardan joints that are used in some driveshafts. This check is for single-cross and roller-style joints found in the driveshafts.

NOTE: Prior to checking driveline angularity, inspect the U-joints for correct operation.

NOTE: An incorrect driveline angle can cause a vibration or shudder.

NOTE: Driveline angularity is the angular relationship between the engine crankshaft, the driveshaft and the rear axle pinion. Factors determining driveline angularity include ride height, rear spring and engine mounts.

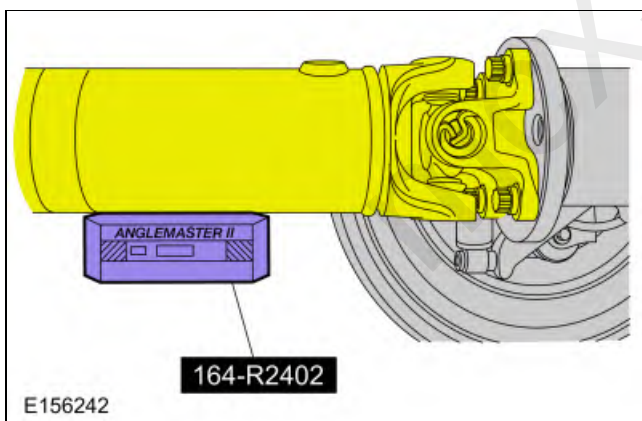
1. NOTE:

- *Special Tool(s): Anglemaster II Driveline Inclinator/Protractor 164-R2402. Carry out the following preliminary setup steps:*
 1. Inspect the U-joints for correct operation.
 2. Park the vehicle on a level surface such as a drive-on hoist, or back onto a front end alignment rack.
 3. Verify the curb position ride height is within specifications with the vehicle unloaded and all of the tires are inflated to their normal operating pressures.

One piece driveshafts

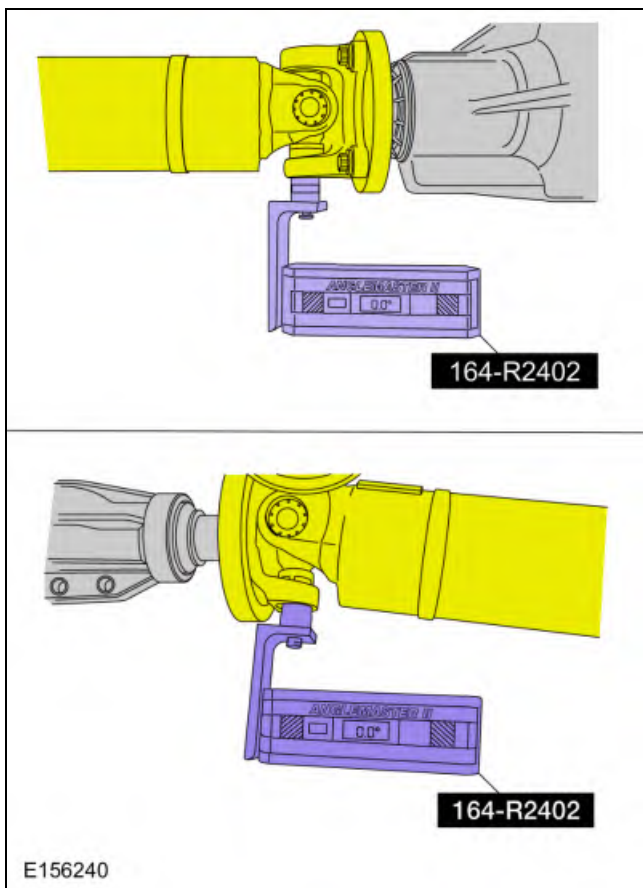
2. **NOTE:** Rotate the driveshaft until the flange U-joint cup is parallel with the floor. This will simplify taking measurements. Rotate the driveshaft until the flange U-joint cup is parallel with the floor. This will simplify taking measurements.

Calibrate the Anglemaster II Driveline Inclinator/Protractor by placing it on a clean section of the driveshaft and press the ALT-ZERO button. Calibrate the Anglemaster II Driveline Inclinator/Protractor by placing it on a clean section of the driveshaft and press the ALT-ZERO button.



3. **NOTE:** If equipped, remove the snap ring to allow access to the base of the U-joint cup. Make sure the Anglemaster II Driveline Inclinator/Protractor is seated against the U-joint cup.

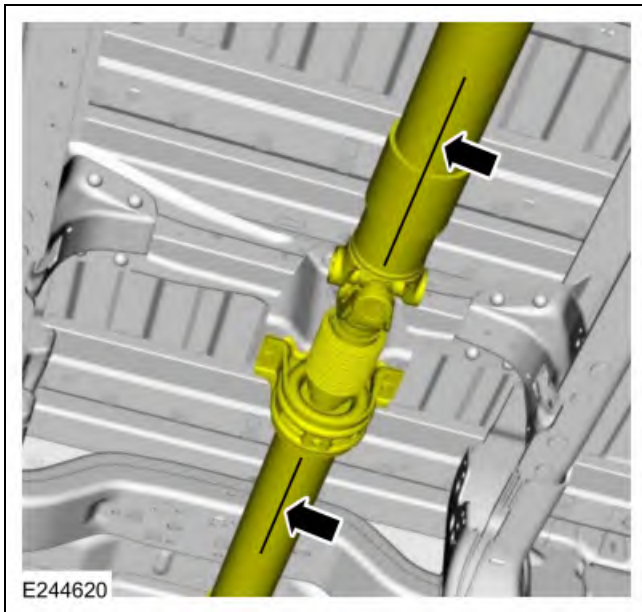
Special Tool(s): Anglemaster II Driveline Inclinator/Protractor 164-R2402. Measure the slope of the axle pinion flange and transmission flange or yoke. The measured angle will be the U-joint operating angle.



Multiple piece driveshafts

4. **NOTE:** Repeat this step for each center support bearing on the driveshaft.

Special Tool(s): Anglemaster II Driveline Inclinometer/Protractor 164-R2402. Calibrate the Anglemaster II Driveline Inclinometer/Protractor by placing it on a clean section of the driveshaft in front of the center support bearing and press the ALT-ZERO button. Measure the slope of the driveshaft behind the center support bearing U-joint in the area indicated. The measured angle will be the U-joint operating angle.



All vehicles

5. Ideally, the operating angles on each connection of the driveshaft must:
 1. be equal or within one degree of each other.
 2. have a maximum operating angle as specified in Specifications.
Refer to: Specifications (205-01 Driveshaft, Specifications).
 3. have at least one-half of one degree continuous operating angle.
 6. If the angle is not within specifications, repair or adjust to obtain the correct angle. Inspect the engine mounts, transmission mounts, center support bearing mounting, rear suspension, rear axle, rear axle mounting or the frame for wear or damage.
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