Service Manual: DRIVESHAFT

SPECIFICATIONS > SPECIFICATIONS > GENERAL SPECIFICATIONS

Item	Specification
Drive pinion flange runout	0.25 mm (0.010 in)
Maximum allowable driveshaft runout(1)	0.50 mm (0.020 in)
Maximum allowable driveshaft runout(2)	0.65 mm (0.025 in)
Maximum allowable driveshaft runout(3)	0.60 mm (0.023 in)
U-joint operating angle range	0.5°-3.5°
U-joint maximum operating angle	3.5°
Front driveshaft runout	0.76 mm (0.029 in)

(1)	All vehicles except vehicles listed below
(2)	122 inch wheel base 4x2 only
(3)	145 inch wheelbase 4x4, with 2.7L EcoBoost / 3.5L EcoBoost & Duratec engines, 8.8 inch axle only

DIAGNOSIS AND TESTING > DRIVESHAFT > PRINCIPLES OF OPERATION

The driveline system enables the power generated by the engine and transferred through the transmission and, if applicable, transfer case, to place the vehicle in motion. Rotational torque received from the transmission or transfer case is delivered to the front and rear drive axles by way of the driveshafts. The U-joints or CV joints at the ends of the shafts allow the shafts to rotate smoothly in an allowable angle plane. The rotational torque is introduced into the axle differential which drives the axles/halfshaft.

DIAGNOSIS AND TESTING > DRIVESHAFT > INSPECTION AND VERIFICATION

1.

Verify the customer concern.

2.

Visually inspect for obvious signs of mechanical or electrical damage.

3.

If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step

4.

If the cause is not visually evident, verify the symptom and refer to the Symptom Chart below.

DIAGNOSIS AND TESTING > DRIVESHAFT > SYMPTOM CHART

Diagnostics in this service information assume a certain skill level and knowledge of Ford-specific diagnostic practices. REFER to: Diagnostic Methods .

Symptom Chart: NVH

Symptom Chart

Condition	Possible Sources	Actions
Driveline clunk - loud clunk when shifting from REVERSE to DRIVE	Damaged or worn driveshaft u-joint	INSPECT the driveshaft u-joints for wear or damage. INSTALL a new driveshaft u-joint or driveshaft as necessary. REFER to: Driveshaft Universal Joint .
Driveline clunk - occurs as the vehicle starts to move forward following a stop	Worn driveshaft u-joint with excessive play	INSPECT the driveshaft u-joint for a worn condition. INSTALL a new driveshaft u-joint if necessary. REFER to: Driveshaft Universal Joint .
Buzz - buzzing noise is the same at cruise or coast/deceleration	Incorrect driveline angles	CHECK for correct driveline angles. REFER to: Driveshaft Angle Measurement . REPAIR as necessary.
Rumble or Boom - noise occurs at coast/ deceleration, usually driveshaft speed-related and noticeable over a wide range of speeds	Driveshaft out of balance	CHECK the driveshaft for damage, missing weights or undercoating. CHECK the driveshaft balance. REFER to: Driveshaft Runout and Balancing . INSTALL a new driveshaft as necessary. REFER to: Rear Driveshaft .
Grunting - normally associated with a shudder experienced during acceleration from a complete stop	Driveshaft CV joint and/or u-joint binding	INSTALL a new driveshaft as necessary. REFER to: Rear Driveshaft . REFER to: Front Driveshaft .
Driveline shudder - occurs during acceleration from a slow speed or stop	Driveline angles out of specification	CHECK for correct driveline angles. REFER to: Driveshaft Angle Measurement .
	Binding or damaged driveshaft CV joint and/or u-joint	INSPECT the driveshaft CV joint and/or u-joint and coupling shaft for wear or damage. INSTALL a

		new driveshaft as necessary. REFER to: Rear Driveshaft . REFER to: Front Driveshaft .
Driveline vibration - occurs at cruising speeds	Worn or damaged driveshaft center bearing support	CHECK the insulator for damage or wear. ROTATE the driveshaft and CHECK for rough operation. INSTALL a new driveshaft as necessary. REFER to: Rear Driveshaft .
	Center bearing bolts not properly seated	LOOSEN and TORQUE the center bearing bolts.
	Loose axle pinion flange bolts	INSPECT the axle pinion flange. TIGHTEN the pinion flange bolts to specification. REFER to: Rear Driveshaft .
	Excessive axle pinion flange runout	CARRY OUT a runout check. REPAIR as necessary. REFER to: Specifications .
	Driveshaft is out of balance	CHECK the driveshaft for damage, missing balance weights or undercoating. CHECK the driveshaft balance. REFER to: Driveshaft Runout and Balancing .
	Binding or damaged driveshaft CV joint and/or u-joint	INSPECT the driveshaft CV joint and/or u-joint for wear or damage. INSTALL a new driveshaft as necessary. REFER to: Rear Driveshaft . REFER to: Front Driveshaft .
	Excessive driveshaft runout	CARRY OUT a runout check. REFER to: Driveshaft Runout and Balancing .
	Driveline angles out of specification	CHECK for correct driveline angles. REFER to: Driveshaft Angle Measurement . REPAIR as necessary.

GENERAL PROCEDURES > DRIVESHAFT ANGLE ADJUSTMENT

Special Tool(s) / General Equipment

Transmission Jack

Adjustment

NOTE: 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 .

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

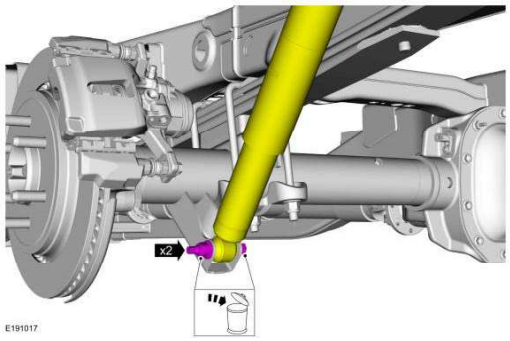
NOTE: The driveline angle on these vehicles can be changed by adding 1 degree or 2 degree pinion angle shims.

3.

NOTE: Left side shown in illustration, 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



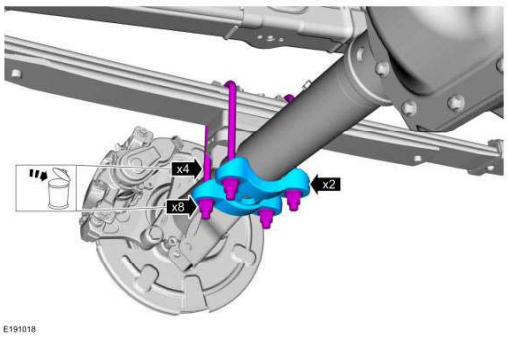
4.

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

NOTE: Left side shown in illustration, 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.

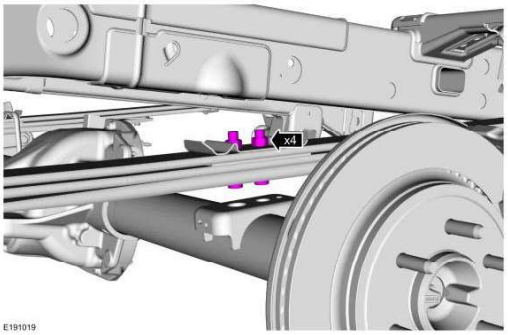
NOTE: Left side shown in illustration, right side similar.

NOTE: Replace one bolt at time.

Replace the upper U-bolt center plate bolts.

Torque

: 75 lb.ft (102 Nm)



6.

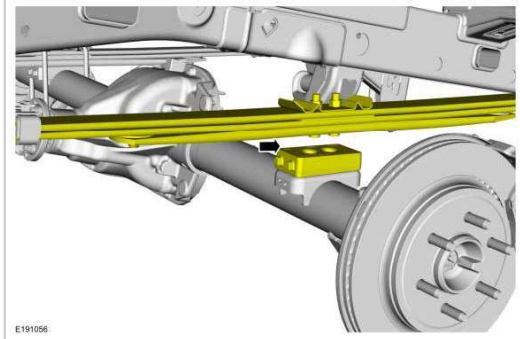
NOTE: Left side shown in illustration, right side similar.

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: Left side shown in illustration, 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.

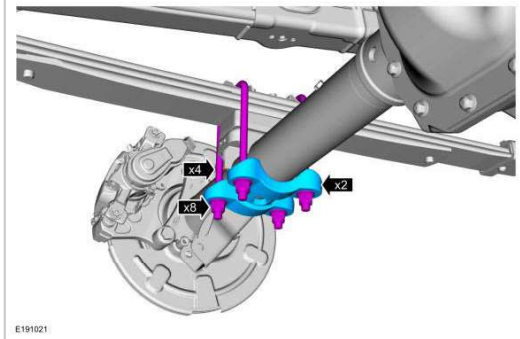
Torque:

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 in illustration, 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 .

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 .

GENERAL PROCEDURES > 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.

Special Tool(s): Anglemaster II Driveline Inclinometer/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.

4.

Calibrate the Anglemaster II Driveline Inclinometer/Protractor by placing it on a clean, flat level section of the frame rail and press the ALT-ZERO button.

Vehicles with flat-flanged, split-pin or slip-flanged U-joints

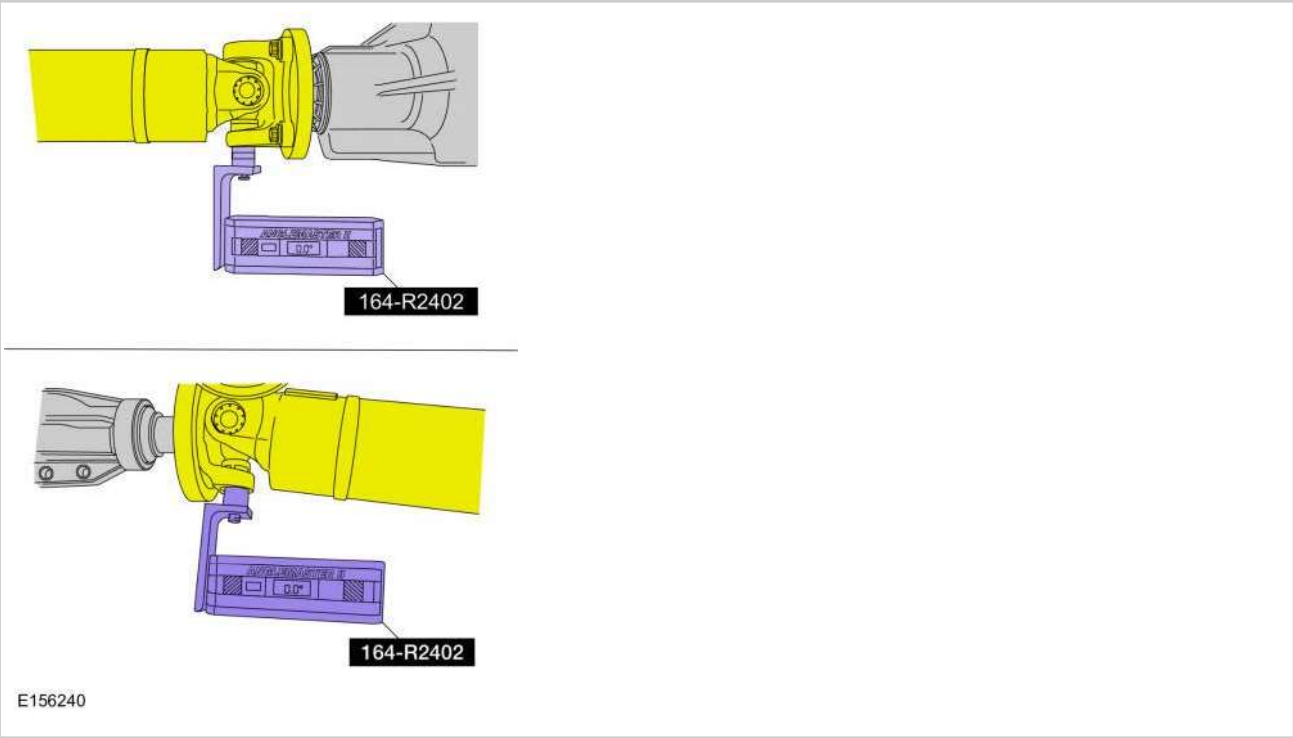
2.

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

the U-joint cup.

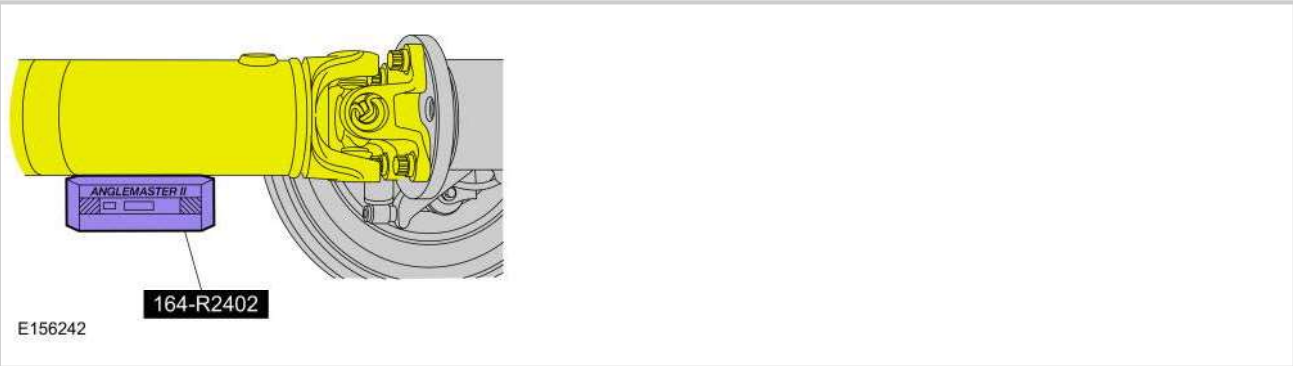
NOTE: Rotate the driveshaft until the flange U-joint cup is parallel with the floor. This will simplify taking measurements.

Special Tool(s): Anglemaster II Driveline Inclinometer/Protractor 164-R2402. Check and record the flange angle as angle A.



3.

Special Tool(s): Anglemaster II Driveline Inclinometer/Protractor 164-R2402. Measure the slope of the connecting component. Record the measurement of the component angle as angle B.



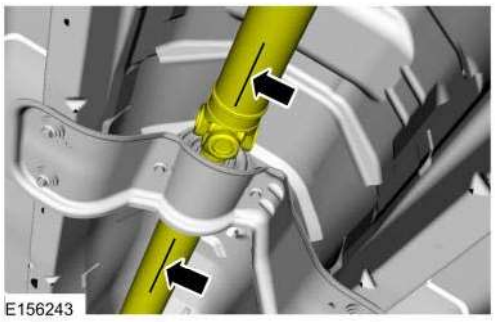
Multiple piece driveshafts

4.

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

NOTE: It is not necessary to remove the U-joint snap ring, if equipped, for these measurements.

Special Tool(s): Anglemaster II Driveline Inclinometer/Protractor 164-R2402. Measure the slope of the components in front and behind the center support bearing U-joint in the area indicated. Record the front component as angle A, and the rear component as angle B.



All vehicles

5.

NOTE: When 2 connected components slope in the same direction, subtract the smallest number from the larger number to find the U-joint operating angle. When 2 connected components slope in the opposite direction, add the measurements to find the U-joint operating angle.

Calculate the difference in the slope of the components to determine the U-joint operating angle.

6.

The U-joint operating angle is the angle formed by 2 yokes connected by a cross and bearing kit. Ideally, the operating angles on each connection of the driveshaft must:

1.

be equal or within one degree of each other.

2.

have a 3.5 degree maximum operating angle.

3.

have at least one-half of one degree continuous operating angle.

7.

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.

GENERAL PROCEDURES > DRIVESHAFT RUNOUT AND BALANCING

Special Tool(s) / General Equipment

 E139373	100-002 (TOOL-4201-C) Holding Fixture with Dial Indicator Gauge

Inspection

NOTE: Driveline vibration exhibits a higher frequency and lower amplitude then high-speed shake. Driveline vibration is directly related to the speed of the vehicle and is noticed at various speeds. Driveline vibration can be perceived as a tremor in the floorpan or heard as a rumble, hum or boom.

NOTE: Refer to SPECIFICATIONS for runout specifications.

1.

NOTE: Do not make any adjustments before carrying out a road test. Do not change the tire pressure or the vehicle load.

Carry out a visual inspection of the vehicle. Operate the vehicle and verify the condition by reproducing it during the road test.

The concern should be directly related to vehicle road speed. not affected by acceleration or deceleration or could be reduced by coasting in NEUTRAL.

2.

Raise and support the vehicle. REFER to: Jacking and Lifting - Overview .

3.

NOTE: The driveshaft should be kept at an angle equal to or close to the curb-weighted position. Use a twin-post hoist or a frame hoist with jackstands.

Inspect the driveshaft for damage, undercoating or incorrectly seated U-joints. Rotate the driveshaft slowly by hand and feel for binding or end play in the U-joint trunions. Remove the driveshaft. Inspect the slip yoke splines for any galling, dirt, rust or incorrect lubrication. Clean the driveshaft or install new U-joints as necessary. Install a new driveshaft if damaged. After any corrections or new components are installed, recheck for the vibration at the road test speed.

If the vibration persists after inspection, measure the driveshaft runout.

Check

1.

Measure and check for the specified maximum value. Install the Dial Indicator Gauge with Holding Fixture. Rotate the driveshaft by turning the axle and measure the runout at the front, center and rear of the driveshaft. Multiple piece driveshaft measure each section at the front, center and rear.

1.

If the runout exceeds the maximum specification at the front or center, install a new driveshaft. REFER to: Specifications .

Use Special Service Tool: 100-002 (TOOL-4201-C) Holding Fixture with Dial Indicator Gauge.

2.

If the front and center is within the maximum specification, but the rear runout is not, index-mark the rear runout high point and proceed to step 2. REFER to: Specifications .

3.

If the runout is within the maximum specification at all points, recheck for vibration at road test speed. If the vibration persists, balance the driveshaft. Refer to Driveshaft Balancing below in this procedure. REFER to: Specifications .

2.

NOTE: Circular pinion flanges can be turned in 90 degree or one-fourth increments. Half-round pinion flanges are limited to 2 positions. CV joint pinion flanges that have 6 bolts, can be turned in 60 degree or one-sixth increments.

Index-mark the driveshaft to the pinion flange. Disconnect the driveshaft and rotate it 180 degrees. Reconnect the driveshaft. Recheck the runout at the rear of the driveshaft.

1.

If the runout is still over specification, mark the high point and proceed to Step 3.

2.

If the runout is within specification, check for the vibration at the road test speed. If the vibration is still present, balance the driveshaft. Refer to Driveshaft Balancing below in this procedure.

3.

Excessive driveshaft runout can originate in the driveshaft itself or from the pinion flange. To find the source, compare the 2 high points previously determined.

1.

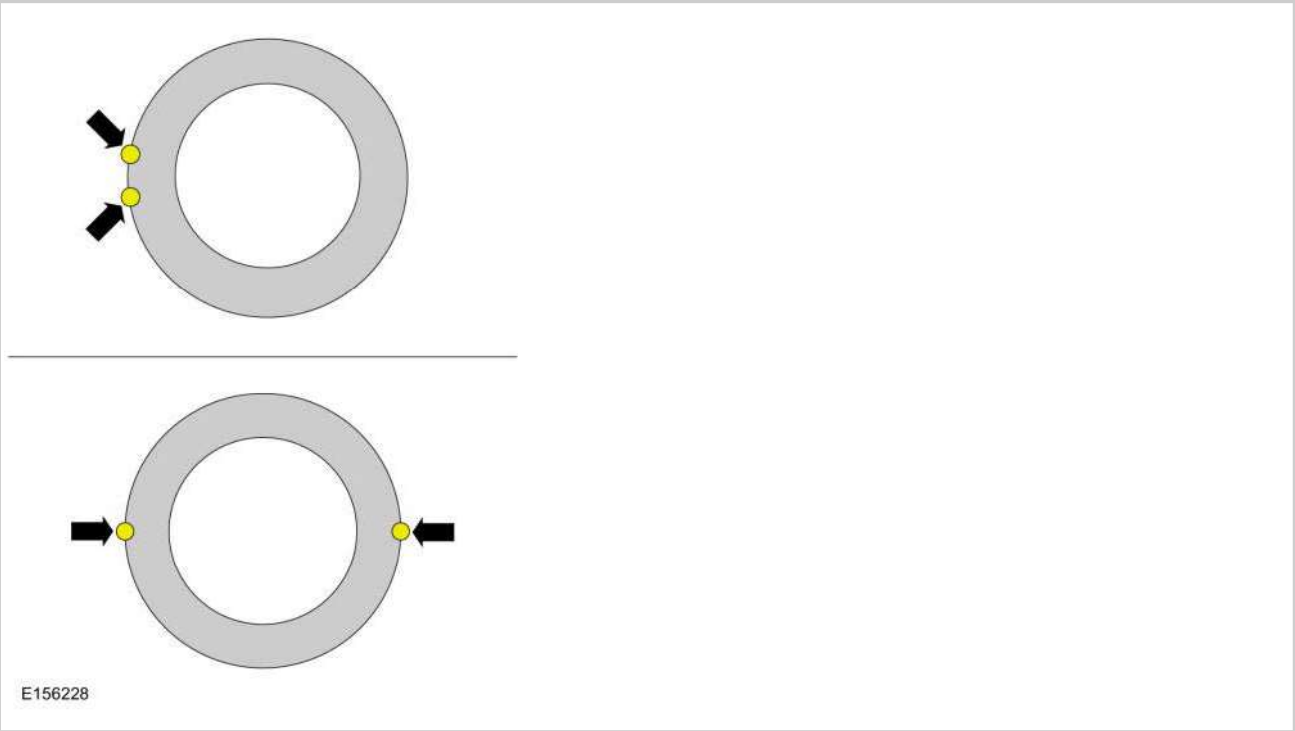
If the index marks are close together, within 25 mm (1 in), the driveshaft is eccentric. Install a new driveshaft.

2.

If the marks are on opposite sides of the driveshaft, 180 degrees apart, the slip yoke or pinion flange is responsible. Check the pinion flange runout. If the pinion flange runout exceeds specifications, a bent pinion is indicated. REFER to: Rear Drive Axle and Differential - Vehicles With: Ford 8.8 Inch Ring Gear. REFER to: Rear Drive Axle and Differential - Vehicles With: Ford 9.75 Inch Ring Gear.

3.

If the pinion flange and pinion runouts are within specifications, road test and check for the vibration at the road test speed. If the vibration persists, balance the driveshaft. Refer to Driveshaft Balancing below in this procedure.



Driveshaft Balancing - Using the Mastertech® Series MTS 4000 Driveline Balance and NVH Analyzer (Vetronix)

4.

Special Tool(s): Mastertech® Series MTS 4000 Driveline Balance and NVH Analyzer (Vetronix) 257-00018. Working under the vehicle, install an accelerometer. The accelerometer can be attached and mounted near either the transmission or differential end of the driveshaft.

5.

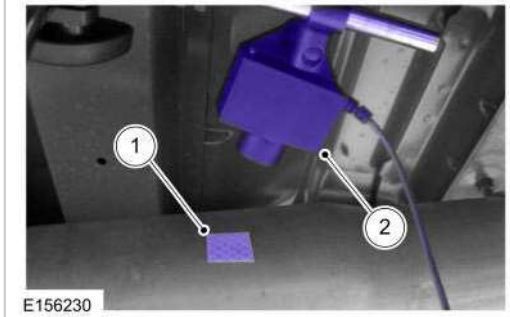
Clean an area of the driveshaft and install the reflective tape, then install the photo-tachometer sensor. The sensor should be placed at approximately a 20-degree angle from perpendicular to the surface of the reflective tape. Make sure the sensor does not get moved during the balance procedure.

1.

Reflective tape.

2.

Photo-tachometer sensor.



6.

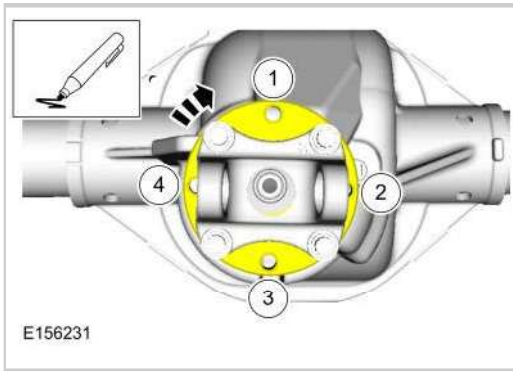
Special Tool(s): Mastertech® Series MTS 4000 Driveline Balance and NVH Analyzer (Vetronix) 257-00018. Run a driveshaft balance test with the driveshaft unmodified.

Use Special Service Tool: 100-002 (TOOL-4201-C) Holding Fixture with Dial Indicator Gauge.

Vehicles with tapped pinion flanges

7.

Label the tapped holes in the pinion flange numerically, starting at the top hole as 1. Mark the remaining holes 2, 3, 4, (depending on flange type, 5 and 6 may also be needed). Label in the direction of rotation.



8.

Special Tool(s): Mastertech® Series MTS 4000 Driveline Balance and NVH Analyzer (Vetronix) 257-00018. Run a second test with the 12 mm (0.47 in) test weight set screw in the No. 1 hole, previously marked on the pinion flange.

9.

Remove the test weight, then install the weight combination directed by the Mastertech® Series MTS 4000 Driveline Balance and NVH Analyzer (Vetronix).

Vehicles without tapped pinion flanges

10.

Special Tool(s): Mastertech® Series MTS 4000 Driveline Balance and NVH Analyzer (Vetronix) 257-00018. Run a second test with a test weight. Using a metal band, secure the

test weight to the end of the driveshaft. The weight should be placed at the end of the driveshaft tube, as close to the tube-to-yoke weld seam as possible. Mark the location of the test weight on the driveshaft, as shown in the illustration below.

1.

Test weight.

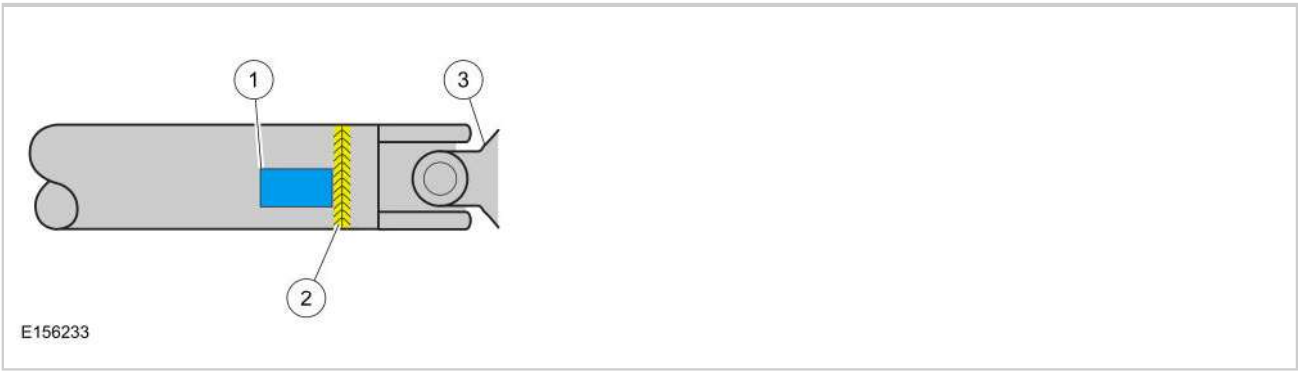
2.

Tube-to-yoke weld seam.

3.

Driveshaft pinion flange.

Select the test weight based on driveshaft size. Larger driveshafts use 10 g (0.353 oz). Smaller driveshafts use 5 g (0.176 oz).



11.

Remove the test weight, then install the recommended weight at the position directed by the Mastertech® Series MTS 4000 Driveline Balance and NVH Analyzer (Vetronix). Using a metal band and epoxy, secure the test weight to the driveshaft, as shown in the illustration below.

1.

Test weight.

2.

Measure in this direction.

3.

Driveshaft diameter.

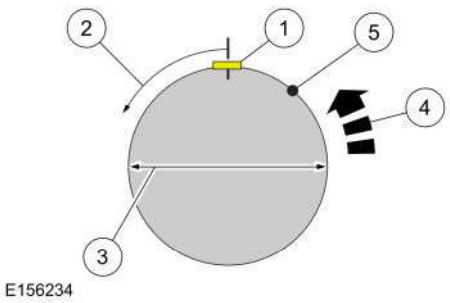
4.

Directional rotation.

5.

Balance weight relative to test weight centerline.

The results are displayed with respect to the location to where the test weight was placed.



All vehicles

12.

Special Tool(s): Mastertech® Series MTS 4000 Driveline Balance and NVH Analyzer (Vetronix) 257-00018. Run a third test to verify the repair.

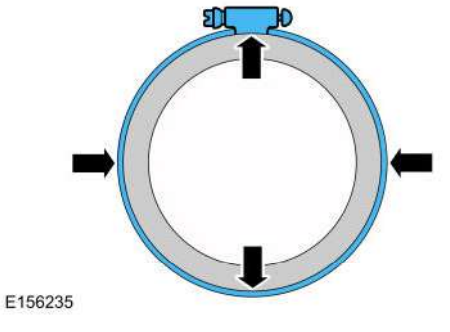
Driveshaft Balancing - Hose Clamp Method

13.

Install 1 or 2 hose clamps on the driveshaft, near the rear. Position of the hose clamp head(s) can be determined through trial and error.

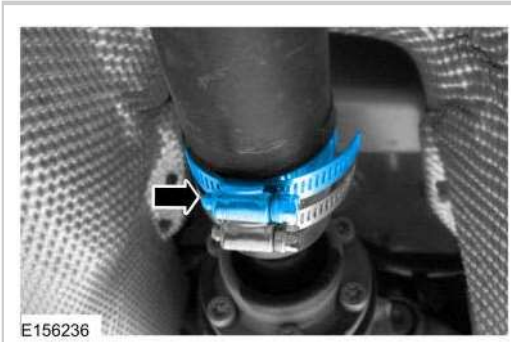
14.

Mark the rear of the driveshaft into 4 approximately equal sectors and number the marks 1 through 4. Install a hose clamp on the driveshaft with its head at position No. 1, as shown in the illustration below. Check for vibration at road speed. Recheck with the clamp at each of the other positions to find the position that shows minimum vibration. If 2 adjacent positions show equal improvement, position the clamp head between them.



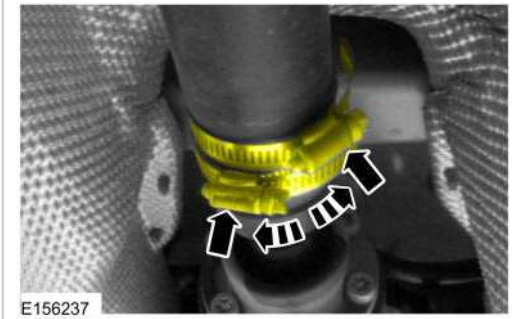
15.

If the vibration persists, add a second clamp at the same position and recheck for vibration.



16.

If no improvement is noted, rotate the clamps in opposite directions, equal distances from the best position determined in Step 14. Separate the clamp heads about 13 mm (1/2 in) and recheck for vibration at the road speed.



17.

Repeat the process with increasing separation until the best combination is found or the vibration is reduced to an acceptable level.

REMOVAL AND INSTALLATION > FRONT DRIVESHAFT > REMOVAL

NOTE: Removal steps may contain installation instructions.

1.

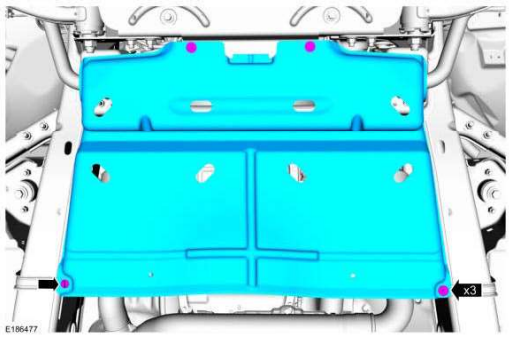
With the vehicle in NEUTRAL, position the vehicle on a hoist. REFER to: Jacking and Lifting - Overview .

2.

If equipped. Remove the bolts and the transmission shield.

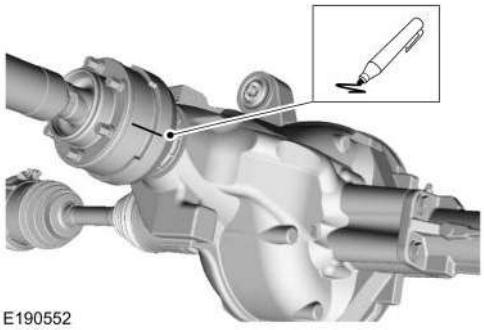
Torque

: 71 lb.in (8 Nm)



3.

Index-mark the front driveshaft flange CV joint to the pinion flange cup.

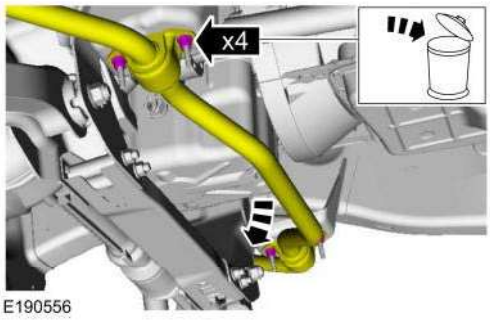


4.

Remove and discard the stabilizer bar bracket nuts and allow the stabilizer bar to swing downward.

Torque

: 41 lb.ft (55 Nm)

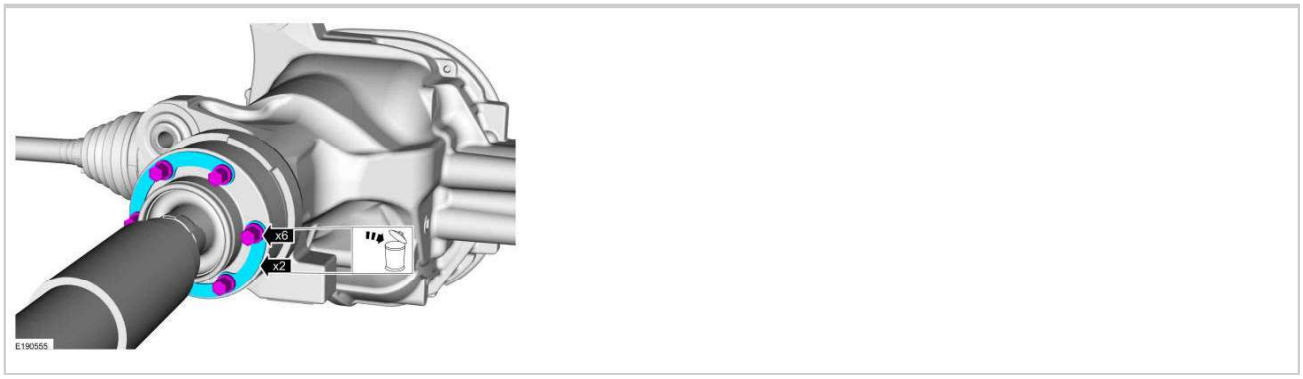


5.

Remove and discard the front driveshaft CV joint-to-pinion flange cup bolts and retaining straps.

Torque

: 41 lb.ft (55 Nm)



6.

Remove and discard the rear driveshaft CV joint-to-transfer case flange cup bolts and retaining straps.

Torque

: 41 lb.ft (55 Nm)

7.

Remove the front driveshaft.

REMOVAL AND INSTALLATION > FRONT DRIVESHAFT > INSTALLATION

1.

To install, reverse the removal procedure.

REMOVAL AND INSTALLATION > REAR DRIVESHAFT

Special Tool(s) / General Equipment

Flat Headed Screw Driver
Tire Lever

REMOVAL AND INSTALLATION > REAR DRIVESHAFT > REMOVAL

All vehicles

1.

With the vehicle in NEUTRAL, position it on a hoist. REFER to: Jacking and Lifting - Overview .

2.

1.

Index-mark the driveshaft flange to the pinion flange to maintain alignment during installation.

2.

Remove and discard the driveshaft flange to pinion flange bolts.

Torque

: 76 lb.ft (103 Nm)

3.

NOTE: The driveshaft flange fits tightly on the flange pilot. Never hammer on the driveshaft or any of its components to disconnect the driveshaft flange from the flange pilot. Pry only in the area shown in illustration with a suitable tool, to disconnect the driveshaft flange from the flange pilot or damage to the driveshaft flange can occur.

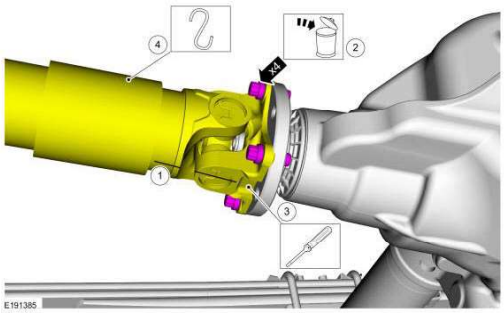
Using a large flat headed screwdriver or tire lever, separate the driveshaft flange from the pinion flange.

Use the General Equipment: Flat Headed Screw Driver

Use the General Equipment: Tire Lever

4.

Support the driveshaft.



Vehicles equipped with a 4 bolt style yoke

3.

1.

Index-mark the driveshaft flange to the transmission flange to maintain alignment during installation.

2.

> *NOTE: The driveshaft flange fits tightly on the pinion flange pilots. To make sure that the driveshaft flanges seat squarely on the pinion flange pilots, tighten the driveshaft flange bolts evenly in a cross pattern or damage to the flanges can occur.*

Remove and discard the driveshaft flange to transmission flange bolts.

Torque

: 76 lb.ft (103 Nm)

3.

> *NOTE: The driveshaft flange fits tightly on the flange pilot. Never hammer on the driveshaft or any of its components to disconnect the driveshaft flange from the flange pilot. Pry only in the area shown in illustration with a suitable tool, to disconnect the driveshaft flange from the flange pilot or damage to the driveshaft flange can occur.*

> *NOTE: The driveshaft flange to transmission flange is a tight fit. It may be necessary to remove the center bearing bolts before the driveshaft flange will separate from the transmission flange.*

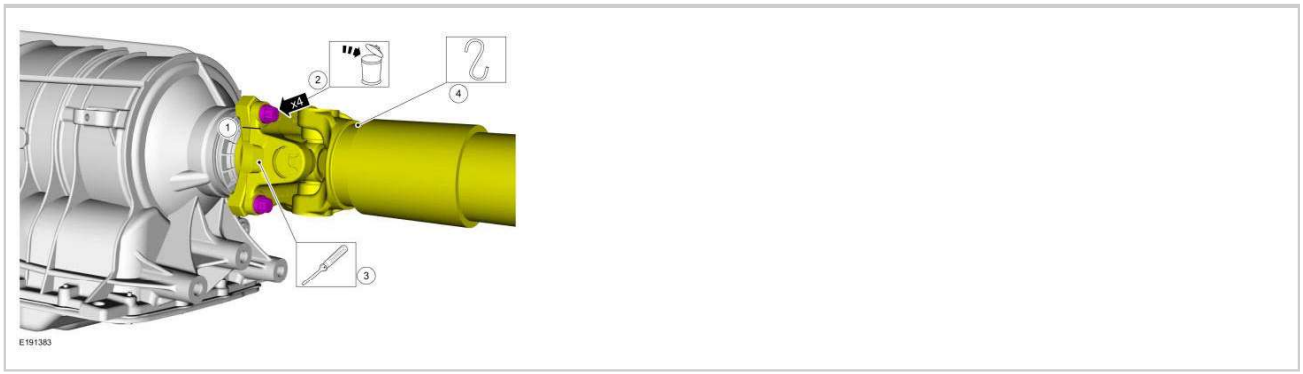
Using a large flat headed screwdriver or tire lever, separate the driveshaft flange from the transmission flange.

Use the General Equipment: Flat Headed Screw Driver

Use the General Equipment: Tire Lever

4.

Support the driveshaft.

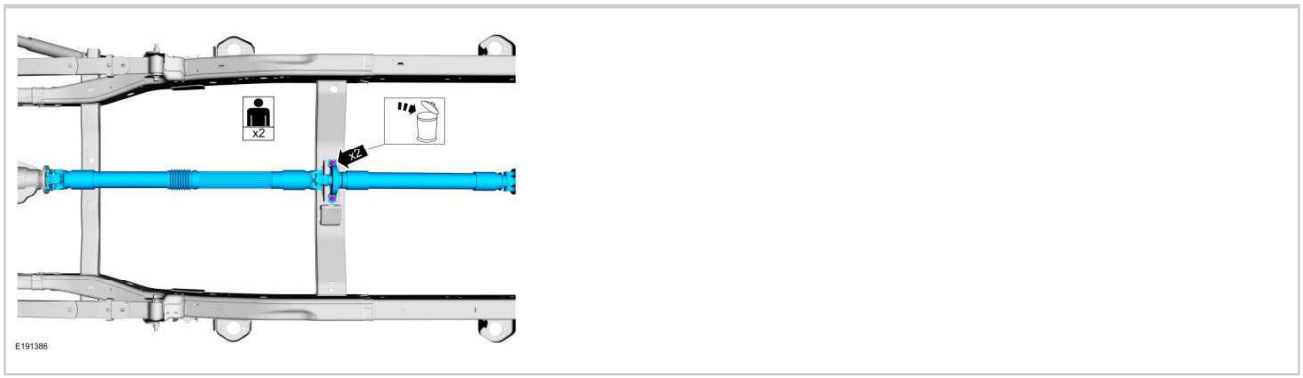


4.

If equipped with a 2 piece driveshaft, remove and discard the driveshaft center bearing bolts and remove the driveshaft.

Torque

: 35 lb.ft (48 Nm)



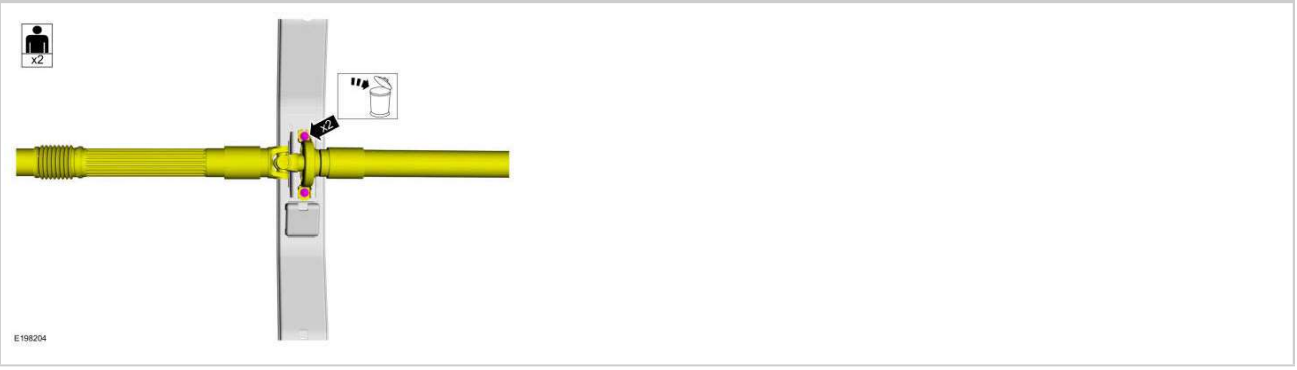
Vehicles equipped with a slip yoke

5.

If equipped with a 2 piece driveshaft. Remove and discard the driveshaft center bearing bolts.

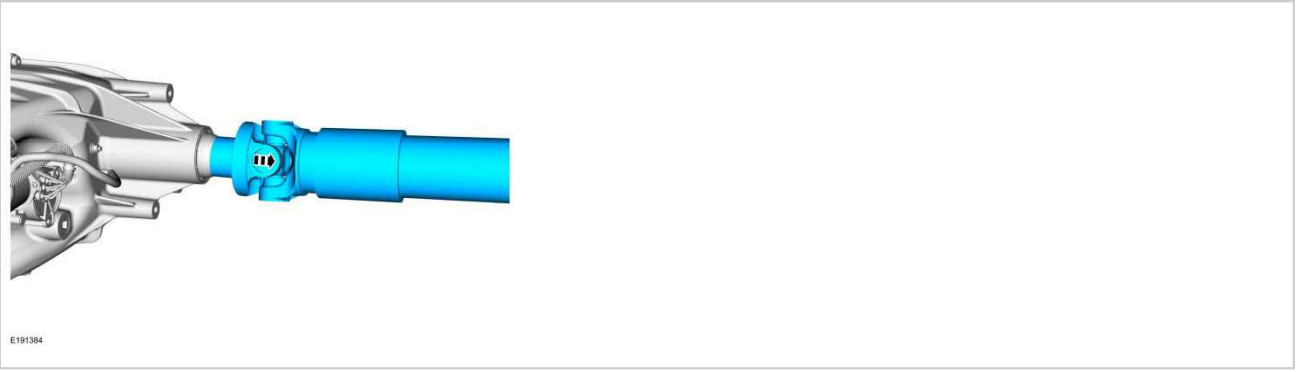
Torque

: 35 lb.ft (48 Nm)



6.

Remove the driveshaft.



REMOVAL AND INSTALLATION > REAR DRIVESHAFT > INSTALLATION

1.

To install, reverse the removal procedure.

2.

If equipped with a slip yoke, check the transfer case fluid. REFER to: Transfer Case Draining and Filling .

DISASSEMBLY AND ASSEMBLY > DRIVESHAFT UNIVERSAL JOINT

Special Tool(s) / General Equipment

	205-086 (T74P-4635-C) Installer/Remover, C-Frame and Screw

Materials

Name	Specification
Premium Long-Life Grease XG-1-E1	ESA-M1C75-B

DISASSEMBLY AND ASSEMBLY > DRIVESHAFT UNIVERSAL JOINT > DISASSEMBLY

NOTE: Do not, under any circumstance, clamp the driveshaft assembly in the jaws of a vise or similar holding fixture. Denting or localized fracturing may result, causing driveshaft failure during vehicle operation.

NOTE: This procedure is intended to be used for all U-joints with snap ring retainers.

1.

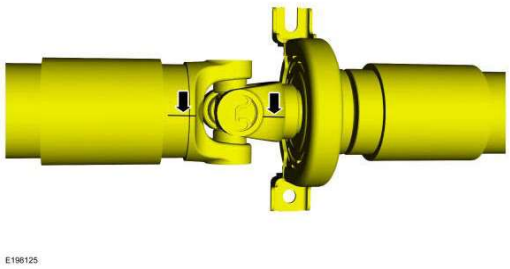
Remove the driveshaft. REFER to: Rear Driveshaft .

2.

NOTE: If the components are not marked and therefore installed incorrectly, driveshaft imbalance can occur.

NOTE: Center bearing U-joint shown in illustration, others similar.

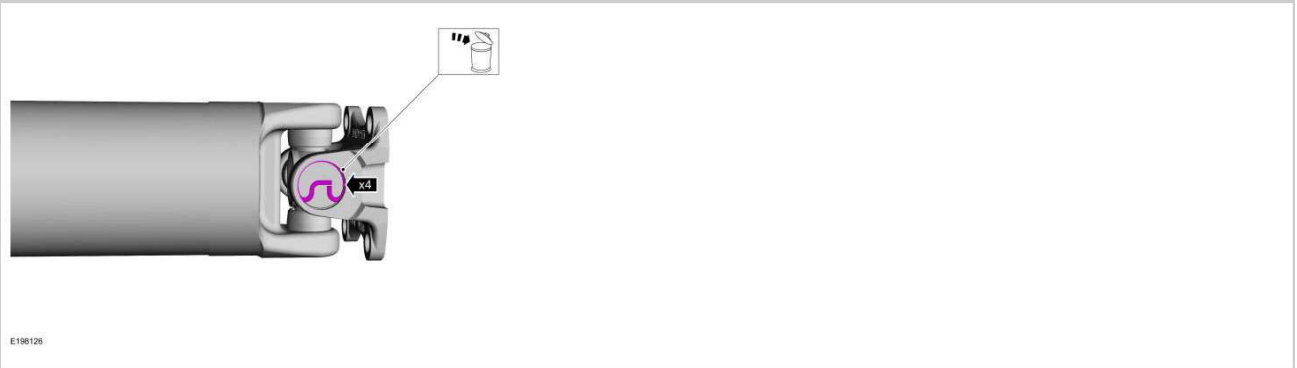
Index-mark the driveshaft for reassembly.



3.

NOTE: Center bearing U-joint shown in illustration, others similar.

Remove and discard the 4 snap rings.



4.

NOTE: Center bearing U-joint shown in illustration, others similar.

Using the special tool, press the U-joint bearing cups out of the driveshaft yoke and remove the driveshaft yoke.

Use Special Service Tool: 205-086 (T74P-4635-C) Installer/Remover, C-Frame and Screw.

5.

Using the special tool, press the U-joint bearing cups out of the driveshaft yoke and remove the U-joint.

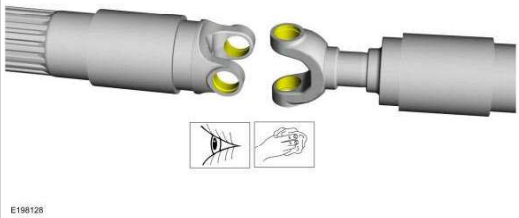
Use Special Service Tool: 205-086 (T74P-4635-C) Installer/Remover, C-Frame and Screw.

6.

NOTE: Inspect the bearing cup bores and retaining ring grooves. Remove any rust or other surface irregularities.

NOTE: Center bearing U-joint shown in illustration, others similar.

Clean and inspect the U-joint bearing cup surfaces.



DISASSEMBLY AND ASSEMBLY > DRIVESHAFT UNIVERSAL JOINT > ASSEMBLY

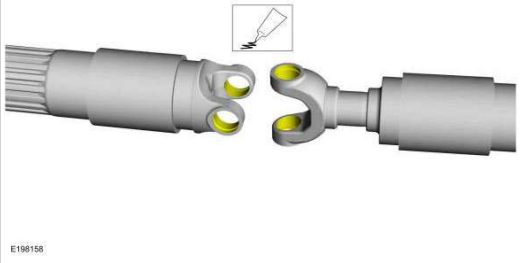
NOTE: Install the U-joint kits as complete assemblies only. Do not mix components from other U-joint kits.

1.

Lube the U-joint bearing cup bores.

Material

: Premium Long-Life Grease / XG-1-E1 (ESA-M1C75-B)



2.

NOTE: The tripod bearing cup needle bearings need to be in the correct position.

Using the special tool, install the new U-joint spider and bearing cups into the driveshaft yoke.

Use Special Service Tool: 205-086 (T74P-4635-C) Installer/Remover, C-Frame and Screw.

3.

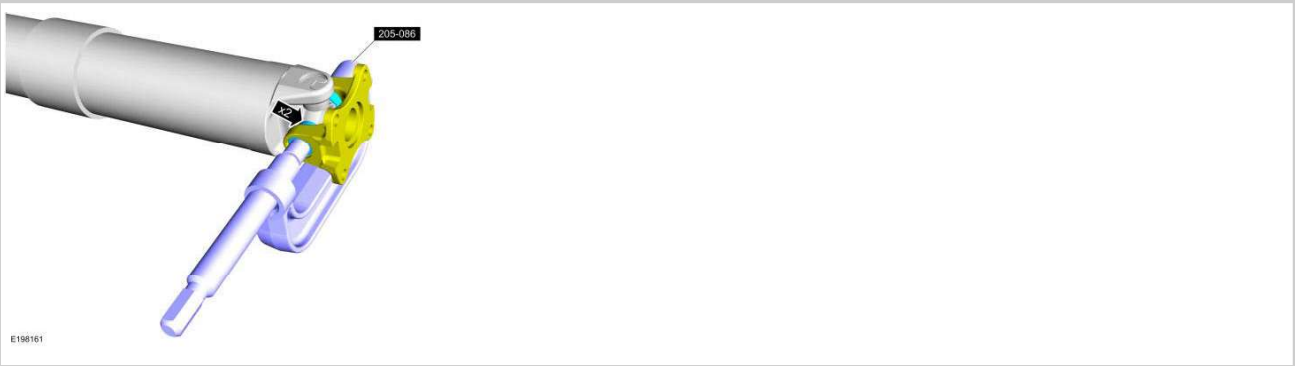
Install the new bearing cup snap rings into the driveshaft yoke grooves.

4.

NOTE: Driveshaft to rear axle flange yoke U-joint shown in illustration, others similar.

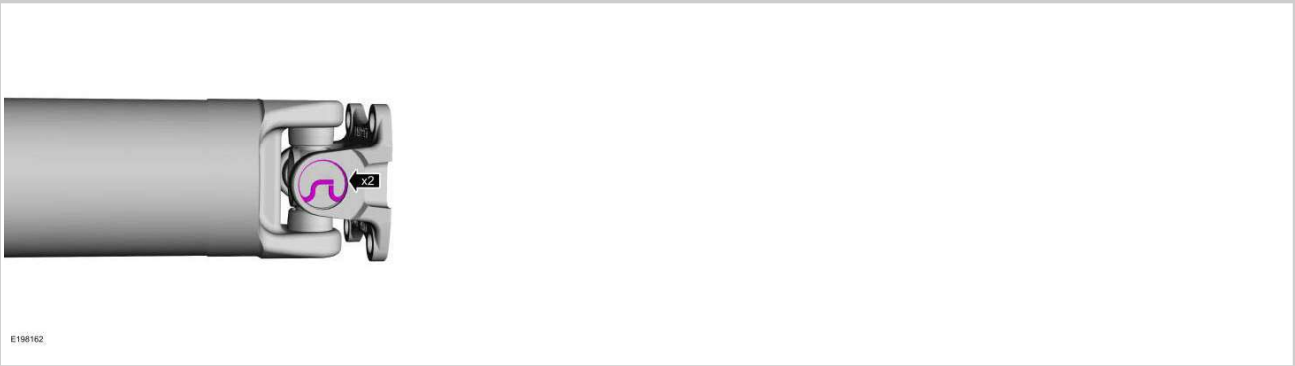
Using the special tool, install the new bearing cups on the opposite side of the driveshaft slip yoke.

Use Special Service Tool: 205-086 (T74P-4635-C) Installer/Remover, C-Frame and Screw.



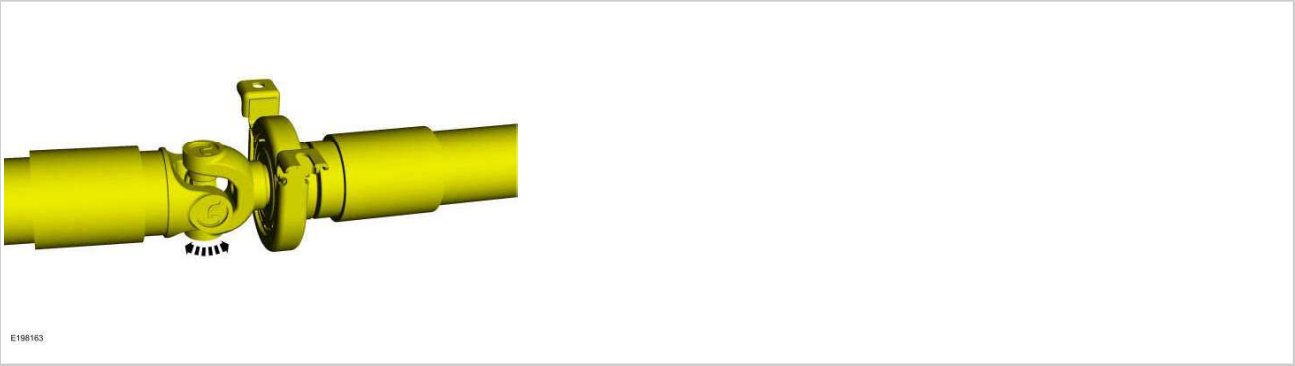
5.

Install the new bearing cup snap rings into the driveshaft yoke grooves.



6.

Rotate the driveshaft yoke to make sure the U-joints are free to rotate easily, without binding, before installing the driveshaft.



7.

Install the driveshaft. REFER to: Rear Driveshaft .