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2005 FORD Expedition OEM Service and Repair Workshop Manual

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Grunting — normally associated with a shudder experienced during acceleration from a complete stop	GO to Pinpoint Test F
Driveline shudder – occurs during acceleration from a slow speed or stop	GO to Pinpoint Test G
Driveline vibration - occurs at cruising speeds	GO to Pinpoint Test H

Global Customer Symptom Code (GCSC) Chart

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

REFER to: Diagnostic Methods

(100-00 General Information, Description and Operation).

Global Customer Symptom Code Chart

Customer Symptom	Action
Start/Run/Move > Noise > Moving/Driving > Always	GO to Pinpoint Test A
Start/Run/Move > Noise > Moving/Driving > Always	GO to Pinpoint Test B
Start/Run/Move > Noise > Moving/Driving > Always	GO to Pinpoint Test C
Start/Run/Move > Noise > Moving/Driving > Always	GO to Pinpoint Test D
Start/Run/Move > Noise > Moving/Driving > Always	GO to Pinpoint Test E
Start/Run/Move > Noise > Moving/Driving > Always	GO to Pinpoint Test F
Start/Run/Move > Vibration > Moving/Driving > Intermittent	GO to Pinpoint Test G
Start/Run/Move > Vibration > Moving/Driving > Intermittent	GO to Pinpoint Test H

Pinpoint Tests

PINPOINT TEST A : DRIVELINE CLUNK- LOUD CLUNK WHEN SHIFTING FROM REVERSE TO DRIVE

Normal Operation and Fault Conditions

Yes	Install a new driveshaft U-joint as necessary. REFER to: Driveshaft Universal Joint (205-01 Driveshaft, Disassembly and Assembly).

No	Inspect the vehicle for any other symptoms related to the driveshaft.

PINPOINT TEST C : DRIVELINE CLUNK– FASTENER TORQUE TO TRANSMISSION AND REAR AXLE

Normal Operation and Fault Conditions

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 (constant velocity) 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.

Possible Sources

- Loose or crossthreaded fasteners

C1 CHECK FOR LOOSE OR CROSSTHREADED FASTENERS

- Check for loose or crossthreaded fasteners.

Are any fasteners loose?

Yes	Install new fasteners or install a new driveshaft U-joint or driveshaft as necessary. REFER to: Driveshaft Universal Joint (205-01 Driveshaft, Disassembly and Assembly). REFER to: Rear Driveshaft (205-01 Driveshaft, Removal and Installation).

No	Inspect the vehicle for any other symptoms related to the driveshaft.

PINPOINT TEST D : BUZZ – BUZZING NOISE IS THE SAME AT CRUISE OR COAST/DECELERATION

Was the driveshaft damaged or out of balance?

Yes	Repair as necessary. REFER to: Rear Driveshaft (205-01 Driveshaft, Removal and Installation). REFER to: Driveshaft Runout and Balancing (205-01 Driveshaft, General Procedures).

No	Inspect the vehicle for any other symptoms related to the driveshaft.

PINPOINT TEST F : GRUNTING- NORMALLY ASSOCIATED WITH A SHUDDER EXPERIENCED DURING ACCELERATION FROM A COMPLETE STOP

Normal Operation and Fault Conditions

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 (constant velocity) 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.

Possible Sources

- Driveshaft CV (constant velocity) joint and/or U-joint binding

F1 INSPECT THE DRIVESHAFT CV (CONSTANT VELOCITY) JOINT AND/OR U-JOINT FOR A BINDING

- Inspect the driveshaft CV (constant velocity) joint and/or U-joint for a binding.

Was the driveshaft CV (constant velocity) joint binding found ?

Yes	Install a new driveshaft as necessary. REFER to: Rear Driveshaft (205-01 Driveshaft, Removal and Installation). REFER to: Front Driveshaft (205-01 Driveshaft, Removal and Installation).

	(205-01 Driveshaft, Removal and Installation). REFER to: Front Driveshaft (205-01 Driveshaft, Removal and Installation).

No	Inspect the vehicle for any other symptoms related to the driveshaft.

PINPOINT TEST H : DRIVELINE VIBRATION - OCCURS AT CRUISING SPEEDS

Normal Operation and Fault Conditions

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 (constant velocity) 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.

Possible Sources

- Worn or damaged driveshaft center bearing support
- Center bearing bolts not seated properly
- Loose axle pinion flange bolts
- Excessive axle pinion flange runout
- Driveshaft is out of balance
- Binding or damaged driveshaft CV (constant velocity) joint and/or U-joint
- Excessive driveshaft runout
- Driveline angles out of specification

H1 CHECK THE DRIVESHAFT CENTER BEARING INSULATOR FOR DAMAGE OR WEAR

H4 CHECK THE DRIVESHAFT FOR DAMAGE, MISSING WEIGHTS OR UNDERCOATING

- Check the driveshaft for damage, missing weights or undercoating.
- Check the driveshaft balance.

Was a system fault found ?

Yes	REFER to: Driveshaft Runout and Balancing(205-01 Driveshaft, General Procedures).
No	GO to H5

H5 INSPECT THE DRIVESHAFT CV (CONSTANT VELOCITY) JOINTS AND/OR U-JOINT FOR WEAR OR DAMAGE

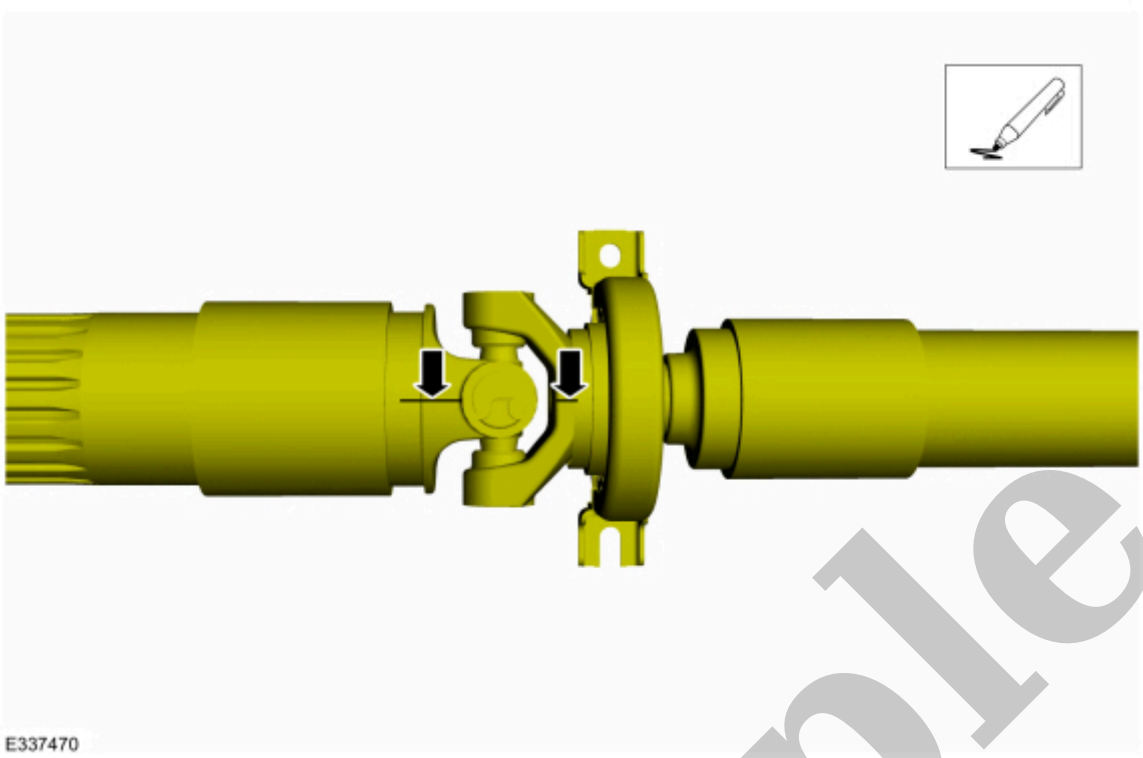
- Inspect the driveshaft CV (constant velocity) joints and/or U-joint for wear or damage.

Was wear or damage found?

Yes	Install a new driveshaft as necessary. REFER to: Rear Driveshaft (205-01 Driveshaft, Removal and Installation). REFER to: Front Driveshaft (205-01 Driveshaft, Removal and Installation).
No	GO to H6

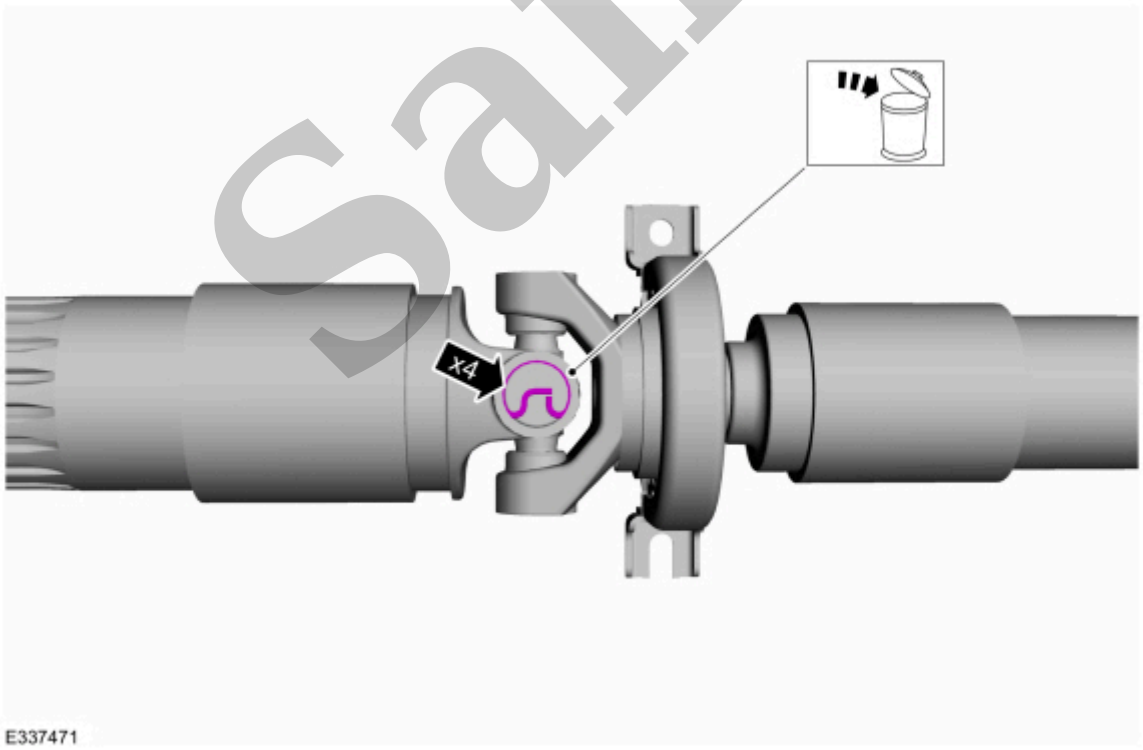
H6 CHECK FOR AXLE PINION FLANGE RUNOUT

Index-mark the driveshaft for reassembly.



Click here to learn about symbols, color coding, and icons used in this manual.

3. Remove and discard the snap rings.



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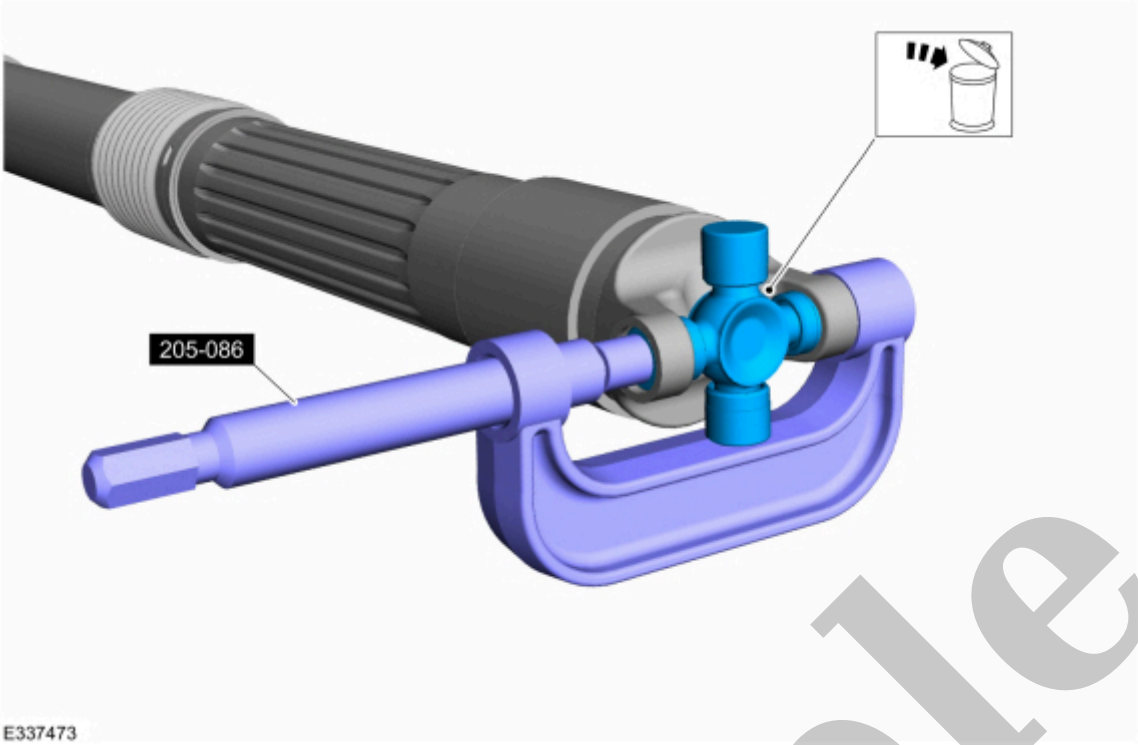

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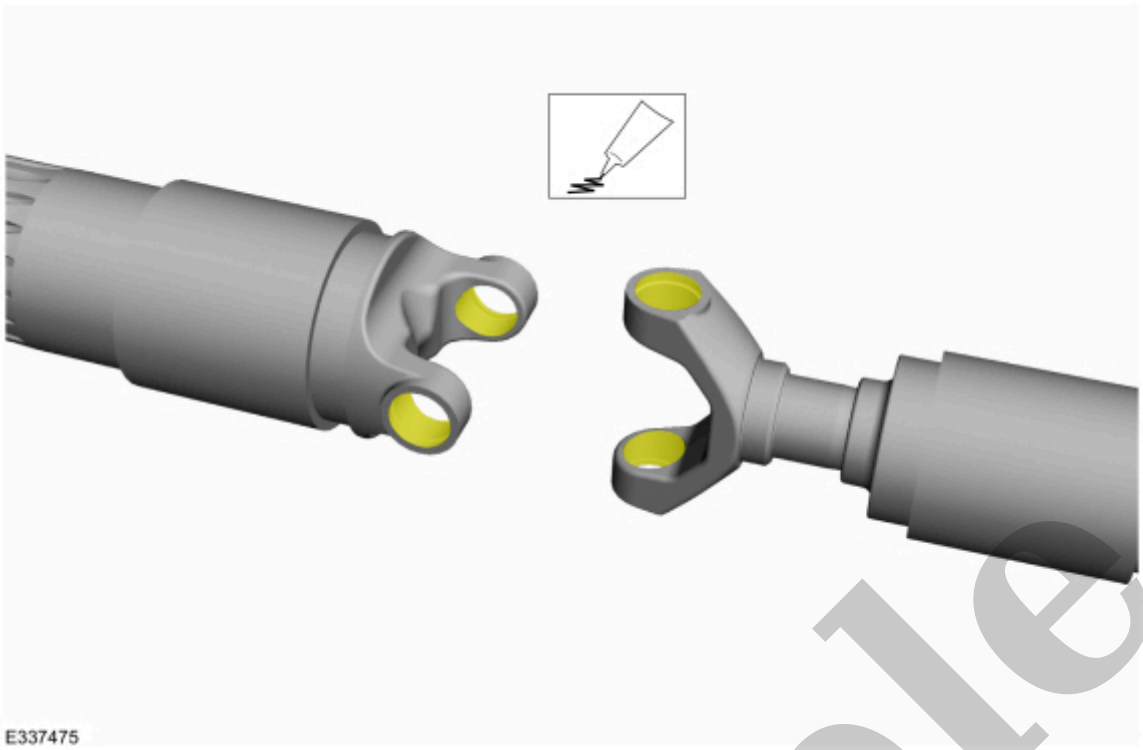
6. **NOTE**

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

   Clean and inspect the U-joint bearing cup surfaces.



Click here to learn about symbols, color coding, and icons used in this manual.

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