



**NUMBER:** 09-001-08

**GROUP:** Engine

**DATE:** April 8, 2007

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**SUBJECT:**

3.0L Diesel Engine Tick, Rattle Or Knock Sound

**OVERVIEW:**

This bulletin involves verifying origin of sound and if necessary, replace #1 main bearings.

**MODELS:**

2006 - 2007	(LE)	300/300C Touring (International Markets)
2005 - 2007	(WH)	Grand Cherokee (International Markets)
2007	(WK)	Grand Cherokee
2006 - 2007	(XH)	Commander (International Markets)

**SYMPTOM/CONDITION:**

The vehicle operator may hear a sound that may be described as a tick, knock, rattle or tap that occurs at idle up to approximately 1500 RPM. Noise generally occurs after 12,000 miles (22,242 km) or after an oil change.

**DIAGNOSIS:**

If the vehicle operator describes or the engine is making a tick, knock, rattle or tap noise, verify the noise by checking the following:

1. Remove the accessory drive belt and listen for sound at 1,500 rpm.
2. Is sound still present?
  - a. Yes >>> This bulletin does not apply further diagnosis is required.
  - b. No >>> Proceed to repair procedure.

**PARTS REQUIRED:**

Qty.	Part No.	Description
1(AR)	05179441AA	BEARING, Crankshaft, Upper - [Blue]
1(AR)	05179442AA	BEARING, Crankshaft, Upper - [Yellow]
1(AR)	05179443AA	BEARING, Crankshaft, Upper - [Red]
1(AR)	05179444AA	BEARING, Crankshaft, Lower - [Blue]
1(AR)	05179445AA	BEARING, Crankshaft, Lower - [Yellow]
1(AR)	05179446AA	BEARING, Crankshaft, Lower - [Red]
1(AR)	05179447AA	BEARING, Crankshaft, Lower - [White]

Qty.	Part No.	Description
1(AR)	05179448AA	BEARING, Crankshaft, Lower - [Magenta/Violet]

**NOTE:** When replacing the installed crankshaft bearings, new bearings of the same tolerance class must be installed (see color code). The tolerance classes of the installed bearing shells are specified on the cylinder crankcase (for the upper bearing shell, in the cylinder crankcase) and on the front crankshaft stub (see DealerCONNECT for specific information). The vibration damper must be removed so that the information on the crankshaft is visible before ordering parts. The bearing class information runs from left (1st main bearing) to right (2nd - 4th main bearings). Meaning of color codes (color index): G = yellow(54), R = red(56), B = blue(52), W=white(57), V=violet(58)

**REPAIR PROCEDURE:**

1. Remove the accessory drive belt Refer to the detailed removal procedures available in DealerCONNECT > TechCONNECT under: Service Info > 7 - Cooling > Accessory Drive > Belt - Accessory Drive Belt > Removal 3.0L Diesel.
2. Remove the vibration damper. Refer to the detailed removal procedures available in DealerCONNECT > TechCONNECT under: Service Info > 9 - Engine > 3.0 TD - Service Information > Block - Engine > Damper-Vibration > Removal.
3. Remove oil pan. Refer to the detailed removal procedures available in DealerCONNECT > TechCONNECT under: Service Info > 9 - Engine > 3.0 TD - Service Information > Lubrication > Pan-Oil > Removal.

**NOTE:** Order parts based on the stamping on the front of the crankshaft and inside of the crankcase. The tolerance classes of the installed bearing shells are specified on the cylinder crankcase (for the upper bearing shell, in the cylinder crankcase) and on the front crankshaft stub (see DealerCONNECT for specific information).

4. Loosen and remove the first crankshaft main bearing cap.

**CAUTION:** Do not loosen the remaining main bearing caps.

5. Pull the crankshaft down slightly by hand at the front crankshaft stub.
6. While holding down on the front of the crankshaft, the bearing shell can be pushed out using a narrow, soft tool (e.g. plastic wedge).
7. Coat new bearings with clean engine oil.
8. Install front main bearings.
9. Install front main bearing cap.
  - a. Torque bearing cap to crankshaft bearing bracket (from inside to outside) to 35 N-m (26 Ft-Lb).
  - b. Rotate 95° two (2) times (from outside to inside).
  - c. Torque cross bolts (side bolt, crankshaft housing to crankshaft bearing cap) to 50 N-m (37 Ft-Lb).
  - d. Rotate 95° one (1) time.
10. Install oil pan. Refer to the detailed installation procedures available in DealerCONNECT > TechCONNECT under: Service Info > 9 - Engine > 3.0 TD - Service Information > Lubrication > Pan-Oil > Installation.

- 11. Install the Vibration Damper and Belt. Refer to the detailed installation procedures available in DealerCONNECT > TechCONNECT under: Service Info > 9 - Engine > 3.0 TD - Service Information > Block - Engine > Damper-Vibration > Installation.
- 12. Install the accessory drive belt Refer to the detailed removal procedures available in DealerCONNECT > TechCONNECT under: Service Info > 7 - Cooling > Accessory Drive > Belt - Accessory Drive Belt > Installation 3.0L Diesel.
- 13. Fill engine with oil.

**POLICY:**

Reimbursable within the provisions of the warranty.

**TIME ALLOWANCE:**

<b>Labor Operation No:</b>	<b>Description</b>	<b>Amount</b>
09-25-05-90	#1 Main Bearing, Diagnose (B)	0.9 Hrs.
09-25-05-92	#1 Main Bearing ,Diagnose and replace #1 main bearing (B)	LE 9.5 Hrs.
09-25-05-91	#1 Main Bearing ,Diagnose and replace #1 main bearing (B)	WK/WH/XH 9.0 Hrs.
09-25-05-60	Optional Equipment 4x4 Equipped.	WK/WH/XH 2.7 Hrs.

**FAILURE CODE:**

ZZ	Service Action
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