



**NUMBER:** 25-001-03

**GROUP:** Emissions

**DATE:** Feb. 21, 2003

*This bulletin is supplied as technical information only and is not an authorization for repair. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, or otherwise, without written permission of DaimlerChrysler Corporation.*

**SUBJECT:**

Duty Cycle Purge Solenoid Causes A Ticking-Like Sound From Engine Compartment

**OVERVIEW:**

This bulletin involves isolating the Duty Cycle Purge (DCP) solenoid from the vehicle body.

**MODELS:**

2002 - 2004 (WJ) Grand Cherokee (Domestic Markets Only)

**SYMPTOM/CONDITION:**

The customer while sitting in the passenger compartment may notice a ticking-like sound when the engine is idling. The sound may be more noticeable in colder ambient temperatures. Mechanical contact between the DCP solenoid and the body of the vehicle may be the cause of the ticking-like sound.

The ticking-like sound may also be described as a tapping or clicking-like sound. The sound may appear to be similar to the sound produced by a worn or loose engine valve train component, such as a valve lifter.

**DIAGNOSIS:**

1. Use the Actuator Mode on the DRB III<sup>®</sup> scan tool to cycle the DCP solenoid. Navigate through the following menus on the DRB III<sup>®</sup>: Main Menu, Stand-Alone Menu, 1998–2003 Diagnostic Menu, Select System Menu - Engine, Select Function Menu, Actuators Menu. Scroll over to page 4 of 5 in the Actuators Menu to find the Evap Purge Solenoid.
2. Verify the customer complaint. Sit in the driver seat with all doors closed. The fan on the DRB III<sup>®</sup> can be quieted by temporarily covering the fan exhaust port with your hand. Actuate the DCP solenoid.
3. If the ticking-like sound is present, remove the DCP solenoid from its mounting bracket but keep the evaporative and electrical connections connected to the DCP solenoid. Allow the DCP solenoid to hang in place free of contact with the rest of the vehicle.
4. Actuate the DCP solenoid with the DRB III<sup>®</sup>. If the ticking-like sound is now diminished in sound level or is no longer present, then perform the Repair Procedure.
5. If the ticking-like sound is still present, then further diagnosis is required.

**NOTE: THIS REPAIR PROCEDURE IS INTENDED TO ADDRESS DCP SOLENOID GENERATED SOUND THAT IS TRANSMITTED THROUGH THE BODY OF THE VEHICLE (STRUCTURE BORNE). THE DCP SOLENOID MAY ALSO EMIT SOUNDS THAT ARE AUDIBLE AND NOT BODY TRANSMITTED. A DEGREE OF AUDIBLE SOUND FROM THE DCP SOLENOID IS NORMAL TO THE OPERATION OF THE DCP SOLENOID AND IS NOT ADDRESSED BY THIS REPAIR PROCEDURE.**

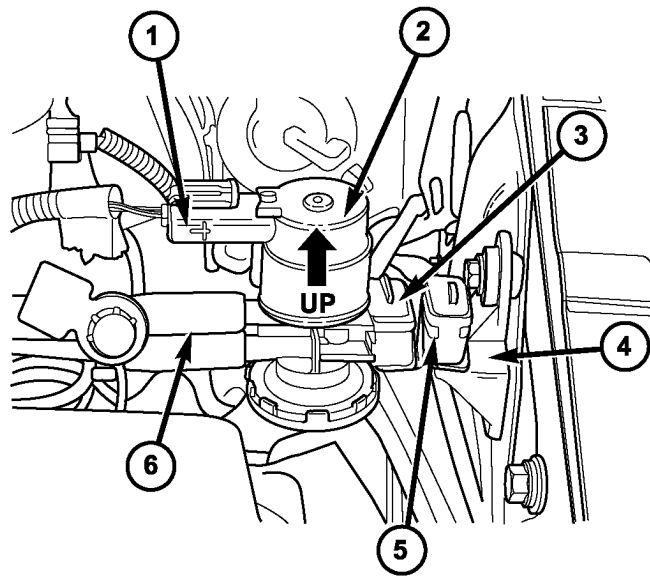
**PARTS REQUIRED:**

Qty.	Part No.	Description
1	05114514AA	U-Bracket, DCP Isolation (includes a 3 mm x 14 mm wide slot rubber bushing)
1	53030987	Bushing, DCP Solenoid Narrow Slot (slot in bushing is 1.3 mm x 14 mm)

**REPAIR PROCEDURE:**

1. With the ignition switch in the "OFF" position, disconnect the evaporative vapor lines and the electrical connection from the DCP solenoid.

**NOTE: THE DCP SOLENOID HAS A CORRECT MOUNTING ORIENTATION. THE BODY OF THE DCP SOLENOID IS MARKED WITH THE WORDS "UP" AND "BOTTOM". THE ELECTRICAL SECTION OF THE SOLENOID MUST BE ON TOP WHILE THE DIAPHRAGM PORTION OF THE SOLENOID MUST FACE DOWN.**



81177d00

**Fig. 1 DCP SOLENOID & ISOLATION BRACKET**

- 1 - DCP Electrical Connector
- 2 - DCP Solenoid - Note Proper Orientation
- 3 - New Bushing w/Narrow Slot
- 4 - Plastic Body Mounting Bracket
- 5 - Isolating U-Bracket
- 6 - Evaporative Vapor Line Connection

2. Remove the DCP solenoid from its plastic body mounting bracket by grasping the DCP solenoid and lifting upward.
3. Note how the rubber bushing is installed to the DCP solenoid before removing the bushing from the solenoid. The original bushing has a wide slot through

the middle of the bushing. Remove the original bushing and install the new bushing with the narrow slot, p/n 53030987.

4. Install the new isolation U-bracket to the plastic body mounting bracket.
5. Install the DCP solenoid (with the new narrow slot bushing) to the isolation U-bracket. Make sure that the DCP solenoid is correctly oriented. (Fig. 1)
6. Install the evaporative vapor lines and the electrical connector to the DCP solenoid.

**POLICY:**

Reimbursable within the provisions of the warranty.

**TIME ALLOWANCE:**

<b>Labor Operation No:</b>	<b>Description</b>	<b>Amount</b>
25-01-40-97	Install Additional Duty Cycle Purge Mounting Bracket and Isolator	0.2 Hrs.

**FAILURE CODE:**

P8	New Part
----	----------