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**2003 Chevy Truck TrailBlazer 2WD L6-4.2L VIN S**

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**Cooling System - Electro-Viscous Fan Clutch Operation**

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Bulletin No.: 06-06-02-003

Date: February 14, 2006

**INFORMATION**

**Subject:**

Operating Characteristics of the Electro-Viscous (EV) [Fan Clutch](#) and Diagnostic Tips for Cooling Fan Noise, Delayed Transmission Shifts and/or Engine Revving Too High

**Models:**

2004-2006 Buick Rainier  
2002-2006 Chevrolet TrailBlazer, TrailBlazer EXT  
2006 Chevrolet TrailBlazer SS  
2002-2006 GMC Envoy, Envoy XL  
2004-2005 GMC Envoy XUV  
2002-2004 Oldsmobile Bravada  
2005-2006 Saab 9-7X

with 4.2L I-6, 5.3L V-8 or 6.0L V-8 Engine (VINs S, P, M, H - RPOs LL8, LM4, LH6, LS2)

Date/VIN Breakpoints for Vehicles with New EV [Fan Clutch](#)



Model Year	Model	Date/VIN Breakpoint
2005–2006	Rainier	05/25/2005
2005–2006	TrailBlazer, TrailBlazer SS	05/25/2005
2005–2006	TrailBlazer EXT	05/31/2005
2005–2006	Envoy	05/25/2005
2005–2006	Envoy XL, Envoy XUV	05/31/2005
2005–2006	9-7X	52800770

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Vehicles built after and including the Date or VIN Breakpoints listed in the table shown are equipped with the new electro-viscous (EV) [fan clutch](#).

Vehicles of any model year listed in "Models Affected" with labor code J3390 (claimed after June 8, 2005) with P/N 15293048 in Claim History may also be equipped with this new EV [fan clutch](#).

After having service for poor HVAC performance and/or engine cooling performance, some vehicles may exhibit fan noise, delayed transmission shifts, or the engine revving too high.

These conditions may be caused by expected operating characteristics of the new design electro-viscous (EV) [fan clutch](#). This new design EV fan clutch has been installed on production vehicles from the end of 2005 model year production (June 2005) and all 2006 model year vehicles. The new design EV fan clutch may also be present on vehicles serviced with this new part per Corporate Bulletin Number 04-01-38-019A or for other service related conditions.

The updated design of the electro-viscous (EV) [fan clutch](#) helps improve A/C performance but may also produce some additional fan engagement noise.

**Important:** Unless a specific issue is identified by proper SI diagnosis, do NOT replace a [fan clutch](#) for fan noise.

Do NOT replace an EV fan unless a specific condition related to the EV fan is

identified using SI diagnostics. If the fan has a condition that warrants replacement, a DTC should set and/or SI diagnostics should lead to the replacement of the [fan clutch](#).

If the fan is not operating at the proper speed/function, the appropriate diagnostic trouble code should set.

Identify the root cause of the condition. Please make sure to do a thorough review of SI for proper diagnostics. Several Service Bulletins and Preliminary Information are available on SI regarding the EV fan.

Refer to "Operating Characteristics" and "Diagnostic Tips" in this bulletin for additional information.

#### Operating Characteristics of the Electro-Viscous (EV) [Fan Clutch](#)

Changes to the EV [fan clutch](#) to improve the HVAC performance basically increase airflow in certain conditions. It is now possible during start up for the EV fan clutch to be engaged and match engine speed for about 1 minute depending on driving speeds (with lower speeds having a longer disengagement time) producing some noise/flare. The noise/flare will most likely be intermittent and can be dependent on the following conditions:

- ^ [Fan clutch](#) valve orientation, with check ball at 11:00 position as viewed from front of vehicle when the engine is stopped.
- ^ HVAC or powertrain cooling conditions when the vehicle is shut off.
- ^ Parking incline - vehicles parked nose up on a 16% or higher incline (such as vehicles coming off transport or parked on steep driveways) may have prolonged fan noise/flare until the fluid is pumped out of the working chamber of the fan. These conditions can occur in as little as ten minutes. Once the vehicle is not parked in these conditions, it should operate as expected.
- ^ Please note that if the vehicle is parked nose down with a 16% or more decline, the EV [fan clutch](#) may have a delayed engagement response similar to what is described in Corporate Bulletin Number 04-01-38-019A.

**Important:** Do not replace EV [fan clutches](#) for these conditions listed above; they are expected vehicle characteristics. If the fan clutch is truly operating at a speed higher than intended, a DTC P0495 or P1484 should set. Additional codes are available for other conditions.


#### Diagnostic Tips

Depending on the vehicle year, the Tech 2(R) may allow some EV fan control using the special functions application of the Tech 2 (refer to the proper SI documentation). If this function or a fused jumper wire is being used to check EV fan response, there may be a delay in fan response (up to 2-3 minutes depending on conditions, please refer to SI diagnostics).

The desired fan speed and actual fan speed data (on the Tech 2(R)) can be

misleading. The desired fan speed is comprised of the maximum of multiple parameters (for example engine coolant temp, A/C pressure, etc.) and may not be the ruling desired fan speed parameter. The end result may be that the actual desired fan speed is lower than what is displayed.

Additionally, the desired fan speed may be higher than the current engine speed. The fan is limited by the current engine RPM and will max out at about 3500 RPM under full manual fan engagement request along with a corresponding engine RPM speed. The 4.2L 1-6 (LL8) engine's desired and actual fan speeds will usually be closer to each other than the 5.3L V-8 (LM4 or LH6) or the 6.0L V-8 (LS2).

<p>GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.</p>		<p>WE SUPPORT VOLUNTARY TECHNICIAN CERTIFICATION</p>
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