Compilation of EGR postings from the Yahoo Sprinter Group

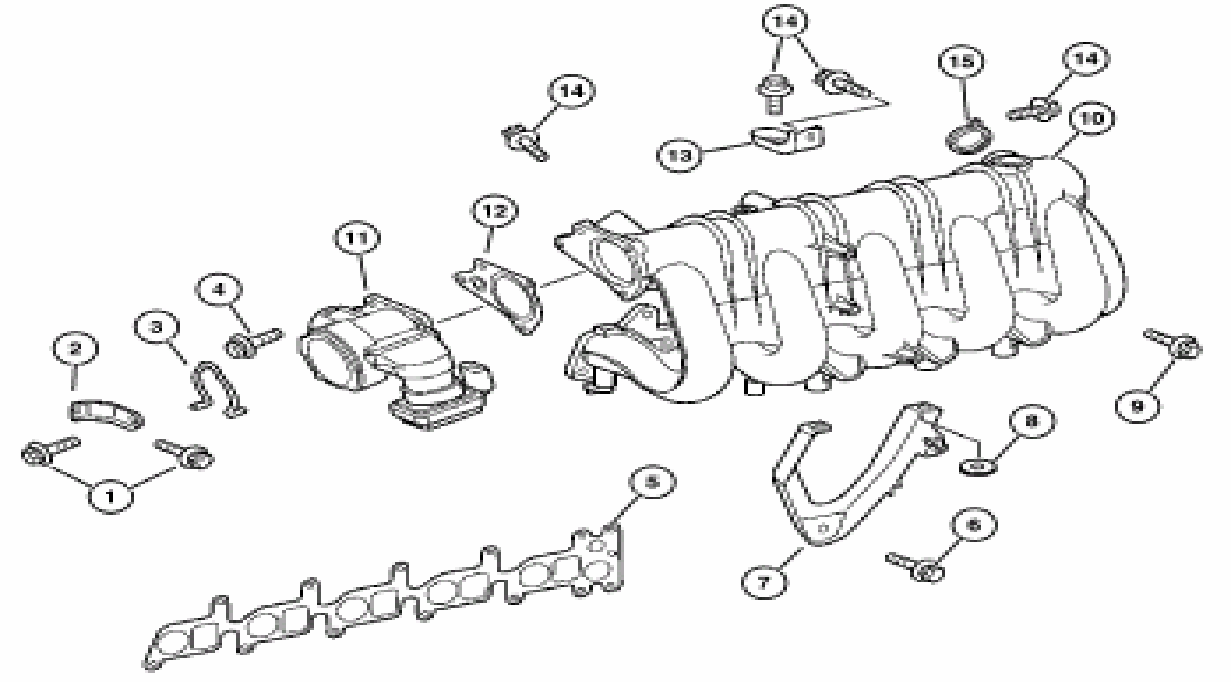
EGR valves were a serious weakness in Sprinters. An EGR malfunction causes the engine to lose power, emit significant and noticeable pollution, various idiot warning lights to illuminate, the CPU to put the engine operation into "safe" mode, and other debilitating and sometime incapacitating responses requiring towing to the nearest certified Freightliner or Dodge dealer. NOTE that there was only <u>one</u> (ambiguous) Yahoo Sprinter forum postings of EGR failures for 2005 model Sprinters; this is a remarkable change from previous years' Sprinters.

The following document was prepared from the data and postings on the Yahoo Sprinter Forum. The collected material is not necessarily correct. But it serves as a useful alternative source of information from that given by dealers and service departments.

Historic postings are maintained as they provide a sense of how the problem and consumer's understanding evolved. Some edits to correct spelling and punctuation, shorten the message, or adding of paragraphing to add clarity have been performed. All postings are identified by their posting number.

EGR Schematics, Parts and Maintenance Instructions

2001-2003 Intake Manifold and EGR Exploded Diagram and Part Numbers:



ITEM	PART NUMBER	QTY	LINE	SERIES	BODY	ENGINE	TRANS	TRIM	DESCRIPTION
NOTE:									
Sales Codes:									
[EXG]=2.7L Turbo Diesel 5 Cyl. Inline Engine - [OM612]									
1	6104 682AA	2							SCREW, SCREW
2	5117 508AA	1							BRACKET, Throttle Body Support
3	5080 427AA	1							SPRING
4	6104 006AA	6							BOLT
5	5080 324AA	1							GASKET, Intake Manifold
6	6104 022AA	1							SCREW
7	5117 509AA	1							BRACKET, Intake Manifold
8									WASHER, Flat
	5068 108AA	1	3, 7						
		1	2, 6						
9	5073 903AA	12							SCREW
10	5135 874AA	1							MANIFOLD, Intake
11	5104 008AA	1							VALVE, Mixing Chamber, Includes EGR Valve
12	5104 007AA	1							GASKET, Throttle Body
13	5117 508AA	1							BRACKET, Throttle Body Support
14									SCREW
	6104 005AA	2	2, 6						
		2	3, 7						
15									CLAMP, (NOT SERVICED) (Not Serviced)

2001-2003 Maintenance Instructions:

Removal and Installation

DESCRIPTION

Exhaust gas recirculation reduces the quantity of fresh air supplied to the cylinders per stroke without having to throttle the air supply. As a result, emissions are reduced. If a quantity of exhaust gas is mixed with the air that is to be used to burn the fuel in the cylinders, the oxygen content is reduced, because the exhaust gas is low in oxygen. The result is that the combustion rate is reduced, as is the combustion temperature. This reduces the quantity of NOx that are emitted in the exhaust gas (Fig. 1).

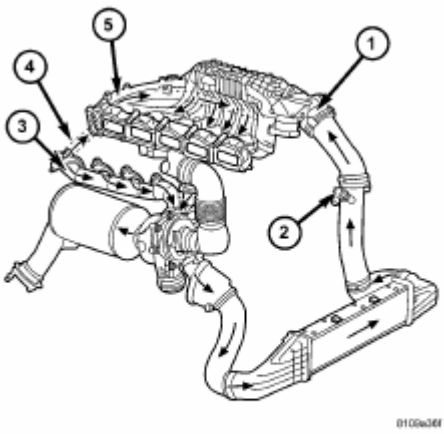


Fig. 1 EXHAUST GAS RECIRCULATION

1 - EGR VALVE
2 -CHARGE AIR PRESSURE SENSOR
3 - EXHAUST MANIFOLD
4 - EGR DUCT IN CYLINDER HEAD
5 - INTAKE MANIFOLD

OPERATION

The mass of the air supplied to the cylinders per stroke is the decisive factor for determining the optimum quantity of exhaust gas for the operating condition. This is calculated from the Mass Air Flow sensor information. The ECM evaluates this signal as well as that from the Charge Air Pressure sensor, and outputs a PWM signal in accordance with one of the maps stored in it. The signal is sent to the exhaust gas recirculation valve. The map is formulated to keep the NOx as low as possible. The EGR valve is actuated by an electric positioning motor.

REMOVAL

(1) Disconnect the negative battery cable.

(2) Lift up on the charge air hose retaining clip at the mixing chamber and disconnect hose with seal (Fig. 2).

(3) Disconnect the electrical connector at the EGR positioner (Fig. 2).

(4) Remove mixing chamber support bracket (Fig. 2).

(5) Remove the mixing chamber retaining bolts and remove chamber (Fig. 2).

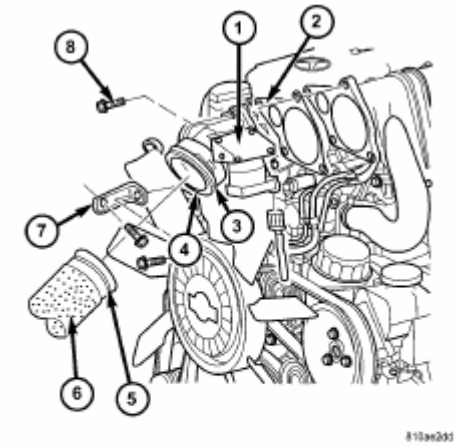


Fig. 2 MIXING CHAMBER AND EGR POSITIONER

1 - EGR POSITIONER
2 - GASKET
3 - MIXING CHAMBER
4 - CHARGE AIR HOSE RETAINING CLIP
5 - GASKET
6 - CHARGE AIR HOSE
7 - BRACKET
8 - BOLT

INSTALLATION

(1) Clean all gasket mating surfaces.

(2) Position the mixing chamber to the intake manifold with a new gasket, install bolts and tighten to 124 lbs.in (14 N·m) (Fig. 2).

(3) Install the mixing chamber support bracket and tighten the bolts to 124 lbs.in (14 N·m) (Fig. 2).

(4) Connect the EGR positioner electrical connector (Fig. 2).

(5) Inspect the seal of the charge air inlet tube, replace as necessary (Fig. 2).

(6) Seat the charge air tube with gasket into the mixing chamber and push down on the charge air tube retaining clip (Fig. 2).

(7) Connect negative battery cable.

How to get home

7982

From: abittenbinder <abittenbinder@y...>
Date: Tue Jun 15, 2004 1:00am
Subject: Re: Help on an EGR cleanout procedure

Cleaning the EGR valve is really much simpler than spelling my name.
To set the record straight I did not recommend a "limp home cleanout". I recommended a combination- diagnostic and limp-home block off of the EGR valve ports with a on site cobbled up or pre-made piece of sheet metal (even a pop can). If this temporary block-off solves the problem then you drive home (better than limping) and perform a cleaning of the valve. I suppose you could clean the valve at the side of the road but I find it easier to have the proper socket size ready, the block-off ready and carry them with you. You could also do periodic preventative cleanings of the valve. The valve is secured to the manifold with those pesky torx bolts (you can use a small conventional socket). Do NOT attempt to disassemble the valve itself. That includes that big circlip and the electrical servo portion. When you remove the valve you will clearly see the metering plunger inside and the bore it slides in. That is where the cleaning is performed using any degreaser but by now you know I recommend the graphite laden spray cleaner from the Dodge car store. (Its now called some kind of Rust Penetrant). Ask if you have more questions.
Andy

How to maintain the EGR valve

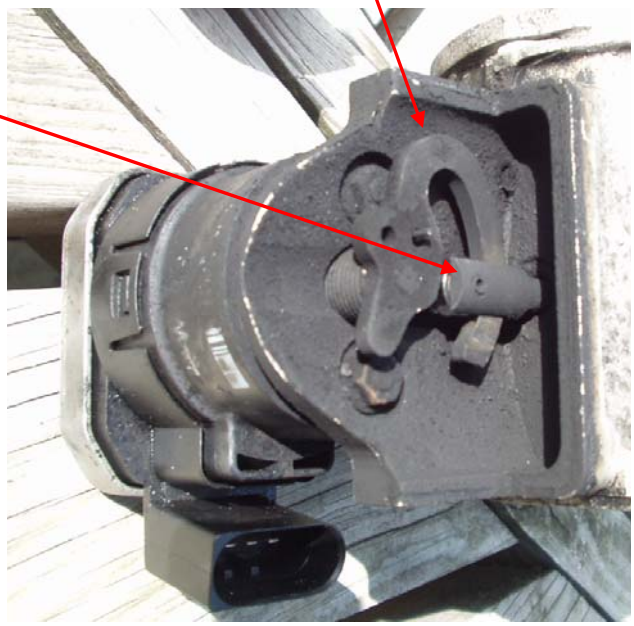
15128

From: abittenbinder <abittenbinder@y...>
Date: Thu Feb 17, 2005 1:06am
Subject: MORE EGR VALVE CLEANING TIPS

In honor of Willies purchase of a set of Torx sockets, here are more, detailed, EGR cleaning tips:

First, I highly recommend the purchase of a replacement gasket, part # 05104007AA. This gasket is a single ply of very thin, soft, embossed metal. If you reuse it, you will risk leakage of exhaust gases and leakage of boost pressure. Also if reused, you may be tempted to over torque the mounting bolts and warp the base of the EGR valve. The gasket will be stuck to the base of the EGR valve when you unbolt it, so carefully look for it and pry it off.

Before removing the valve (or anytime you desire) you can gently pop off the black plastic cover to the right of and on top the aluminum EGR valve housing. Its brittle, gently pry the 2 opposing clips. This will reveal the servo motor operating cam(lever) and the valve stem. You can clean this compartment with a WD40 type lubricant AFTER you have removed the assembly from the intake manifold. It's best to do this UPSIDE-DOWN and not flush into the servo motor housing.



Speaking of the servo motor- do NOT attempt to remove its covers and don't touch those 2 mounting nuts holding it to the valve body.

You can gently lever (with thumb) the cam (shaped like an upside down coat hook) toward the valve body. It should move freely, back and forth. Go ahead and remove the entire EGR valve and (if this is your first [HKP: note – a thin walled Torx E-10 socket is almost mandatory]) time you will see the exhaust inlet on the flange side and inside that inlet is the valve head(tulip) whose stem you were moving with that previous cam action. The stem is actually visible in the outlet for the exhaust (in middle of manifold venturi) and in the 2 cut-outs in the valve guide in the right half of the venturi. The exhaust inlet, the venturi, and exhaust outlet are the areas you want to concentrate your serious cleaning spray.

Again, my favorite is the Mopar # 04318039AB. I think they now call it rust preventive. Its a good cleaner with graphite in suspension. Good for "clean and lube" of that valve guide and stem.

You can test you valve and seat for proper sealing by blowing (yes, with your lips) into the exhaust inlet and simultaneously manipulating the cam lever with your thumb. You can hear the release of pressure if seat is o.k. If you're curious, you can check the guide wear by partially pushing the valve head off its seat, with your thumb on that cam lever, and grabbing the clevis end of stem(the one in that cam lever) with 2 fingers and rocking stem back and forth. At 60K miles its not unusual to see 2-3mm of play.

I would appreciate feedback on your play and amount of oil in that compartment, at your various odometer mileages.

Reassemble with your new gasket and drive on! Andy

To the left is a picture of a pre-2004 EGR and intake manifold with the sooty oily discharge normal for this model's valve. Some owners claim this is an indication of an impending EGR failure. In this vehicle's instance, the discharge occurred for over 46,000 miles before failure.

Repairing the EQR - Not

16438

From: "abittenbinder" <abittenbinder@...>

Date: Thu Mar 24, 2005 1:27 am

Subject: '02-'03 EGR Valve rebuilding project abittenbinder

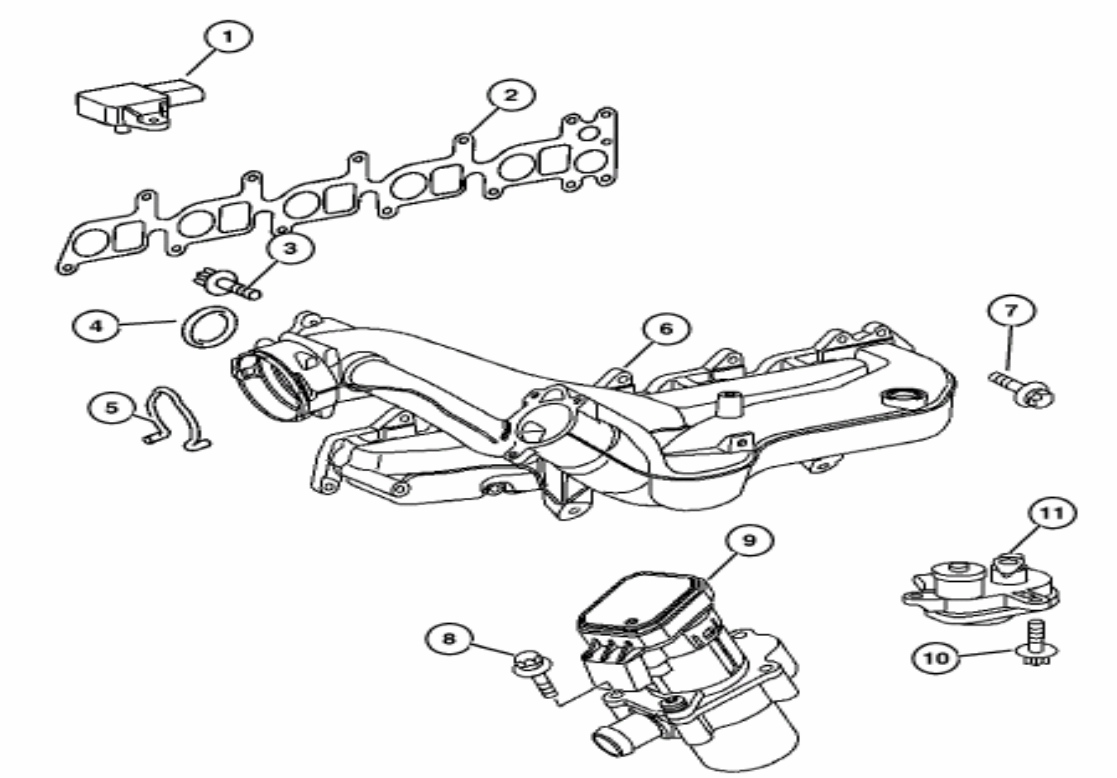
Some of you may remember my request for "dead" pre-'04 EGR valves. By inspecting several failed/worn-out valves I was exploring the feasibility of offering (in partnership with a gifted machinist I frequently work with on special projects) a low cost, rebuilt alternative to the costly OEM new replacement. Posts on this group site have discussed and described the cleaning procedure ad museum and while repeated cleaning can help keep a valve operating for many miles/years, they will wear out eventually. The most common symptom (of a worn EGR valve) will be EXCESS (some is normal) oily discharge from the linkage compartment. That's located on the right side of valve with the larger, snap off, plastic lid. The poppet valve is supported by a bronze guide and when the guide is excessively worn it will allow boost pressure to push oil vapor out along the guide

and into that compartment and beyond. The oil vapor is present in the intake charge due to crankcase venting into that tract. Well, I'm sorry to report that the design of the valve assembly process prohibits a economical disassembly of the valve let alone a disassembly and rebuild. It's not that the Germans intentionally designed it to tamper-proof, more likely they made no effort to make it service friendly. The poppet valve head/stem and the servo motor shaft/internally mounted sensor are the particular components that are interference-fit pressed during assembly and their recessed locations make disassembly essentially impossible without damage. I did come across an interesting, VERY early, '02 EGR valve design that must have caused problems similar to the '04 valve recall. I doubt any are in service today. They are identified by a rough cast finish and the part # 612 098 0416 etched in the flat on left side of valve. That design incorporated nylon bushings to support the valve stem. I suspect many/most suffered from binding.

Andy

2004 and later Intake Manifold and EGR Exploded Diagram and Part Numbers:

Note the change in the design of the intake manifold from the 2003 and before models – the 2004 EGR intake looks like an elephant's trunk. The 2004 manifold casting appears much simpler and more traditional than the earlier models, though the <2004 manifold gives a more "turbo" appearance. To make searching more difficult, the EGR valve is now descriptively named "valve" (part item 9).



ITEM	PART NUMBER	QTY	LINE	SERIES	BODY	ENGINE	TRANS	TRIM	DESCRIPTION
NOTES:									
Sales Codes:									
1	5080 345AA	1							SENSOR, Coolant Level
2	5080 324AA	1							GASKET, Intake Manifold
3	6104 005AA	2							SCREW
4	52108 185AA	1							SEAL, Transmission
5	5080 427AA	1							SPRING
6	#5136 769AA	1							MANIFOLD, Intake
7	5073 903AA	8							SCREW
8	6104 008AA	8							SCREW
9	#5117 525AA	1							VALVE
10									SCREW
	6104 005AA	2	2, 6						
		2	3, 7						
11	#5135 893AA	1							MOTOR, Air Idle Speed

2004 and later Maintenance Instructions:

How to get home

Hannan Art's banana Sprinter from the Yahoo Sprinter Photo section (actually a 2002, but until 2006 no postings as to how to get home for 2004+ with a failed EGR valve. Further, there is a Forum dispute whether the breakdown that resulted in this picture was caused by an EGR failure, or another failure that was either misdiagnosed by the dealer or preventive EGR remove and replace).

29171

From: "abittenbinder" <abittenbinder@...>

Date: Thu Apr 27, 2006 1:24am

Subject: Re: Intake Air Temp Sensor Part Change

--- In sprintervan@yahoogroups.com, "Roger Gibson" <rpgibson@...> wrote:

> A May 2004 news letter from LTV contained a service bulletin concerning the Mass Airflow sensor indicated that intermittently these sensors needed to be reset. They recommended unplugging the connector and restarting, and if full power resumed, stop the engine and reconnect the connector. I'm assuming that if the problem returned upon reconnecting, that one could unplug it and get to a dealer with full power. Luckily, I have not experienced a failure <knock on wood> but I'd be interested to know if anyone else has tried this with any success. The failure mode they described was loss of power and no illuminated CEL.

> -roger

I remember this Leisure Travel Vans bulletin and the circumstances under which it was written. This was issued during thse dark early days of the introduction of the new 647 engine when the new EGR valves(later recalled and updated) were failing literally in the dealers sales lots. In this case, Leisure travel had failures (loss of power) in their storage area for incoming chassis to the production line as well as new, angry customers stuck on the road. The LTV people happened upon this "temp disconnect MAF sensor" fix as a way of getting the vehicles running and moveable. Andy

How to maintain the EGR valve

15981

From: abittenbinder <abittenbinder@y...>

Date: Sun Mar 13, 2005 11:39pm

Subject: '04-'05 EGR valves- to clean or not to clean?

Once again, pity the '04-'05 Sprinter owners. Among the many technical changes to their engines- a new EGR valve design and no one is posting cleaning instructions for this thing. They stocked up on pumice laden waterless hand cleaner, shop towels, and so far they feel left out of all the fun. Well I'm here to tell you '04-'05 owners to put your supplies in storage.

As of now, I don't believe there is a need for pre-emptive cleaning of this new valve. First of all, is the design of the 3 metering passages and fan shaped rotary valve. See last

weeks posting for details- but this stainless steel cutter-like device and its stainless seats look to be self-cleaning.

Second, because the valve incorporates a coolant hose and internal passage way for this coolant to pass into the intake manifold flange to which it mounts, removal of the valve is more complicated and potentially more risky than the earlier design. Time (and mileage) will tell, but if I'm not right you will be enjoying clean fingernails for a long time.

Andy

NOTE: There has been only one (ambiguous) claim of an EGR failure in a 2005 model Sprinter on the Yahoo Sprinter forum. This is in sharp contrast to all previous years' Sprinters.

What is an EGR Valve suppose to do?

For an explanation as to how the EGR valve is suppose to work, follow this link:

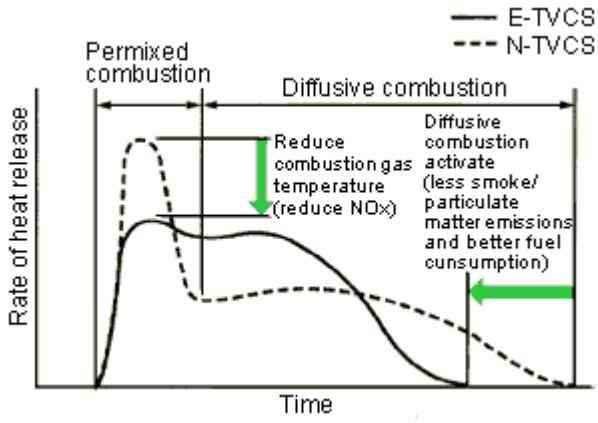
http://www.constructionequipment.com/prevention/ce03la004.asp

For an explanation as to why it works:

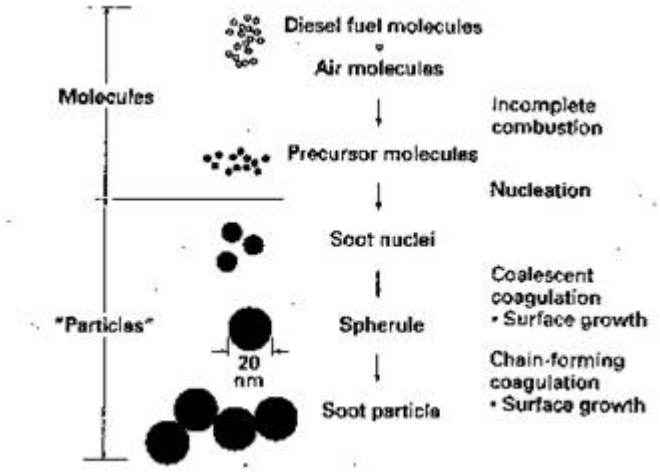
From
http://eng.sdsu.edu/profs/Bhattacharjee/sooby/classes/s99/me696s99/diesel/emisn.htm

Emissions

The two most troublesome emissions from diesel engines are soot (particulates) and nitrogen oxides (NOX). The problem of NO production in diesel engines comes from the early rapid burning, which produces very-high-temperature products. Experimental data shows that NO is produced by the combustion prior to peak pressure. By the time of peak pressure the NO in these hot products is essentially at equilibrium. Two methods of reducing NO emissions are quite effective. The first method is to retard the injection timing. This tends to reduce fuel economy, but is effective because of a reduction in the amount of premixed burning. The second method to reduce NO is to recirculate cooled exhaust gas so that the product temperatures are lowered. These solutions when combined solve the NO problem, but at the same time, both methods increase the amount of exhaust particulate.



Plots of specific particulate mass versus specific NOX mass for the various injection timings produces what has come to be called the "particulate-NOX trade-off curve. It has also been found that particulate decreases by increasing injection pressure for a fixed NOX value, but the amount of retard required to lower the NOX increases with increasing pressure.



At the present time, there is no method to simultaneously reduce NO and particulate emissions. It is known that only 10-20% of the soot formed escapes into the exhaust since a great portion is oxidized in the cylinder. The largest soot production occurs at the start of diffusion burning when the fuel spray is cut off from the air supply and is surrounded by very hot products from the premixed burning.

Reformulation of diesel fuel by using lower aromatic content and higher cetane fuels has shown the ability to reduce NOX emissions. The reduction in aromatics seems to produce beneficial effects by reducing the peak flame temperature, where the cetane effect decreases the premixed burning. Alternative fuels such as methanol and other higher cetane fuels containing oxygen, such as dimethyl ether (DME), typically do not produce particulates. Thus they could solve the soot problem while allowing for more injection retard and gas recirculation to lower NOX. The current problem with these fuels is cost and availability.

EGR Warranty

Federal Warranty

From http://www.fl-sprinter.com/Customer/Images/Warranty_2004.pdf for 2004, pp 22-23, but is basically the same for all Sprinters:

5. Emission Warranties Required By Law

5.1 Federal Emission Warranty

A. Parts Covered for 5 Years or 100,000 Miles

Diesel equipped heavy duty vehicles have a diesel engine Emission Warranty which warrants the following emission parts for 5 years or 100,000 miles, whichever occurs first. These limits are counted from the time when your Basic Limited Warranty begins under 2.1.(E). The covered parts are:

I. Air Intake System
Intake air ducts
Intake manifold
Intercooler
Vacuum transducer
II. Fuel Metering System
Electronic accelerator value sensor
Fuel injector
Fuel pump
Fuel rail pressure sensor
Low pressure sensor
III. Exhaust Gas Recirculation System
EGR valve w/Integrated switching valve
IV. Exhaust
Exhaust manifold
Oxidation catalyst
Turbocharger
V. Engine Emission Control System Sens.
Camshaft position sensor
Crankshaft position sensor / RPM sensor
Engine control module
Engine coolant temperature sensor
Lambda sensor
Manifold air pressure sensor
Mass air flow sensor
Oil level & temperature sensors
VI. On-Board Diagnostics
Data link connector (OBD)
Flexible service system
Malfunction indicator lamp

B. Additional Emission Warranties

If your vehicle is equipped with a California Certified Emission Control System and is registered in California, Massachusetts, Maine or Vermont, the California Emission Warranty — described in Section 5.2 — also applies.

California Warranty

From http://www.fl-sprinter.com/Customer/Images/Warranty_2004.pdf for 2004, pp 22-28:

5.2 California Emission Warranty
Diesel Engine Medium Duty Vehicles

Products Warranted

This Emission Control System Warranty applies to Diesel Engine Medium Duty Vehicles certified with the California Air Resources Board beginning with the 2004 model year, marketed by DaimlerChrysler Motors Company, LLC (DCMC), and registered in California for use in Medium Duty Vehicle applications.

MANUFACTURER'S WARRANTY COVERAGE

For 5 years or 100,000 miles, whichever first occurs:

1. If an emission-related part on your vehicle is defective, the part will be repaired or replaced by DCMC. This is your SHORT-TERM EMISSION CONTROL SYSTEM DEFECTS WARRANTY.

For 7 years or 70,000 miles, whichever first occurs:

1. Where a warrantable condition exists on a long-term emission-related part, DCMC will repair your vehicle at no cost to you including diagnosis, parts and labor. This is your LONG-TERM EMISSION CONTROL SYSTEM DEFECTS WARRANTY.

Your Warranty Rights and Obligations

The California Air Resources Board and DaimlerChrysler Motors Company, LLC (DCMC), are pleased to explain the emission control system warranty on your 2004 vehicle. In California, new motor vehicles must be designed, built, and equipped to meet the State's stringent anti-smog standards. DCMC must warrant the emission control system on your vehicle for the periods of time listed below provided there has been no abuse, neglect or improper maintenance on your vehicle. Your emission control system may include parts such as the fuel injection system and engine electronic control module. Also included may be hoses, connectors and other emission related assemblies. Where a warrantable condition exists, DCMC will repair your vehicle at no cost to you including diagnosis, parts and labor.

OWNER'S WARRANTY RESPONSIBILITIES:

As the vehicle owner, you are responsible for the performance of the **required maintenance listed in your owner's manual.** DCMC recommends that you retain all receipts covering maintenance on your vehicle, but DCMC cannot deny warranty **solely** for the lack of receipts or for your failure to substantiate the performance of all scheduled maintenance. You are responsible for presenting your vehicle to a Sprinter dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed **30 days.**

As the vehicle owner, you should also be aware that DCMC may deny you warranty coverage if your vehicle or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

If you have any questions regarding your warranty rights, and responsibilities, you should contact the DaimlerChrysler Motors Company, LLC National Customer Relations at (800) 992-1997 or the California Air Resources Board at PO Box 8001, El Monte, CA 91734-8001.

A warranted part which is scheduled for replacement as required maintenance is warranted up to the first scheduled replacement point.

Prior to the expiration of the applicable warranty, Owner must give notice of any warranted emission control failure to an authorized Sprinter dealer and deliver the vehicle to such facility for repair.

Owner is responsible for incidental costs such as: communication expenses, meals, lodging incurred by Owner or employee of Owner as a result of a Warrantable Condition. Owner is responsible for "downtime" expenses, cargo damage, fines, all applicable taxes, all business costs, and other losses resulting from a warrantable condition.

Coverage

LONG-TERM EMISSION-RELATED PARTS:

Fuel System
High pressure electronic injection pump
Fuel injector

Air Intake System Other
Intake manifold Electronic control module (ECM)
Intercooler Turbocharger
Oxidation catalyst

SHORT-TERM EMISSION-RELATED PARTS:

I. Fuel Metering System
High pressure electronic injection pump
Fuel injector
Electronic accelerator value sensor
Fuel rail pressure sensor
Low pressure sensor

EMISSION WARRANTIES REQUIRED BY LAW

II. Air Intake System
Intake air ducts Intercooler
Intake manifold Vacuum transducer

III. Exhaust Gas Recirculation System
EGR valve EGR cooler

IV. Exhaust
Exhaust manifold Oxidation catalyst
Turbocharger

V. Engine Emission Control System
Camshaft position sensor
Crankshaft position/RPM sensor
Electronic control module (ECM)
Engine coolant temperature sensor
Lambda Sensor
Manifold air pressure sensor
Air mass flow sensor
Oil level & temperature sensors

VI. On-Board Diagnostics
Data link connector (OBD)
Flexible service system
Malfunction indicator lamp

Replacement Parts

DCMC recommends that any service parts used for maintenance, repair or replacement of emission control systems be new, genuine DCMC / MOPAR or DCMC / MOPAR approved rebuilt parts and assemblies, and that the vehicle be serviced by an authorized Sprinter dealer. The owner may elect to have maintenance, replacement or repair of the emission control parts performed by a facility other than an authorized Sprinter dealer and may elect to use parts other than new genuine DCMC/ MOPAR or DCMC/ MOPAR approved rebuilt parts and assemblies for such maintenance, replacement or repair; however, the cost of such service or parts and subsequent failures resulting from such service or parts will not be covered under this emission control system warranty, except for Emergency Repairs as described below.

DaimlerChrysler Motors Company LLC's (DCMC) Responsibilities

The warranty coverage begins when the vehicle is delivered to the ultimate purchaser.
Repairs and service will be performed by any authorized Sprinter dealer using new, genuine DCMC / MOPAR or DCMC / MOPAR approved rebuilt parts and assemblies. DCMC will repair any of the emission control parts found by DCMC to be defective without charge for parts or labor (including diagnosis which results in determination that there has been a failure of a warranted emission control part).

Emergency Repairs

In the case of an emergency where an authorized Sprinter dealer is not available, repairs may be performed by any available repair location or by any individual using any replacement parts. A part not being available within 30 days or a repair not being complete within 30 days constitutes an emergency. DCMC will reimburse the owner for expenses (including diagnosis), not to exceed the manufacturer's suggested retail price for all warranted parts replaced and labor charges based on the manufacturer's recommended time allowance for the warranty repair and the geographically appropriate hourly labor rate. Replaced parts and paid invoices must be presented to the DaimlerChrysler Motors Company, LLC Customer Center as a condition of reimbursement for emergency repairs not performed by a Sprinter authorized dealer.

Warranty Limitations

DCMC is not responsible for failures or damage resulting from what DCMC determines to be abuse or neglect, including, but not limited to: operation without adequate coolants or lubricants; overfueling; overspeeding; lack of maintenance of cooling, lubricating or intake systems; improper storage, starting, warm-up, run-in or shut down practices; unauthorized modifications to the engine. DCMC is also not responsible for failures caused by incorrect oil or fuel or by water, dirt or other contaminants in the fuel or oil. DCMC is not responsible for failures resulting from improper repair or the use of parts which are not genuine DCMC/ MOPAR or DCMC / MOPAR approved parts. DCMC is not responsible for the material and labor costs of emission control parts and assemblies replaced during Scheduled Maintenance of the vehicle as specified in the Owner's Manual.

THIS WARRANTY, TOGETHER WITH THE EXPRESS COMMERCIAL WARRANTIES ARE THE SOLE AND EXCLUSIVE WARRANTIES MADE BY DAIMLERCHRYSLER MOTORS COMPANY, LLC. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OR OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

EGR Recall Information

15771

From: abittenbinder <abittenbinder@y...>

Date: Wed Mar 9, 2005 1:13am

Subject: '04 - '05 EGR Valves -The real story

You have to pity the '04 Sprinter owners (as well as the dealers and prospective buyers). The "new" 2nd generation EGR valves had arrived. All that fanfare when first introduced-"water cooled!", "new!", "improved!" They had such high early expectations. Owners of early Sprinters clamored for retro-fit information. Then reality set in. Vehicles DOA in dealer parking lots. Vehicles DOA in RV outfitter's parking lots. A national backorder on replacement EGR valves! A recall!! What's going on here?

First lets look at the valve design. The "old" valve design was rather bulky, expensive to manufacture, and prone to contamination-malfunction. The new design is much smaller (no venturi/mixing chamber). It IS cheaper to buy (and so it follows, to build) and it has NO poppet type valve and seat, making it much less sensitive to contamination-malfunction!

Here's what the new valve looks like- Servo motor directly a top of a short cylindrical casting. Bolted to the intake manifold it meters exhaust gas from an intersecting passage directly into the intake tract. The actual metering device is a steel, 3- wide bladed propeller-like shape, blocking 3 openings behind the flat "propeller" blades. It's about 30-35mm in dia. The servo motor is connected directly to this "fan" shaped valve and it can progressively open about 20 degrees and fully expose the 3 openings. Picture your moms (or grandmas) hand cranked, kitchen meat grinder. Remember the rotating blade rubbing against the meat extrusion plate? You get the idea. Its essentially self cleaning!!

So what went wrong? Why the recall? Well, there seems to have been a problem with tolerancing. And the improved replacement "new" valve has a robust looking (grounding) strap between base and servo. Maybe, parts where binding. Maybe, complications with coolant (electrolysis?).

About 9000-9500 Sprinters are involved in the recall. If you look down at the mounting flange directly opposite the coolant hose fitting (next to servo motor base) you will see a casting # beginning with "AR". If yours is AR6000 look for a yellow dot on top of servo motor plastic cover. Yellow is good. Any other color is recall material (IF you have the AR6000). If you have a AR6001 casting number, any color paint dot is ok, you're not a recall candidate.

Interestingly the part # for the EGR valve on the dealers screen is a backordered part #(5117525AA)! A new part # 5166850AA has plenty in USA stock, but there is no cross reference! Yet. A minor glitch.

OH, and you ask-what's with the water cooling?? Well, I suspect it has little or nothing to do with the exhaust gas, per se. The old valve had its servo motor mounted on the opposite side of the exhaust gas inlet and had a mixing chamber and incoming air isolating it from that heat (which isn't that hot-the exhaust gas used for recirculation is cooled in it's travels along its internal passages). The new valve, however, is mounted directly to the exhaust metering chamber and so, coolant is directed through a small (tiny) heat exchanger sandwiched in between the servo and valve. I suspect its there only for servo protection.

Well, that's enough for one session. I'll post some diagnostic servo pin resistance readings for both valve types next time.

Andy

Yahoo Sprinter Group Postings as of November 2, 2006

286

From: "leicahound" <d_geddes@p...>
Date: Thu Oct 10, 2002 12:43 am
Subject: Re: Technical/Mechanical Problems - yes

I ran across a Sprinter van web site the other day that had some information on the engine problem.

Apparently there is a valve in the fuel system that has a tendency to clog up if you idle the engine for long periods of time. The valve can be replaced by the dealer, and does not cause any engine damage. It is more of a nuisance than anything else. Many people reported the problem, most of whom use the van for light commercial delivery which explains the long idling.

I will post the url if I can find it again.

David

1140

From: "james watson" <jameswatson84@h...>
Date: Wed Mar 26, 2003 1:54 pm
Subject: Re: [sprintervan] High mileage sprinter issues?

we use it for expediting freight we bought it November 2001 we are in Charlotte N.C. symptoms are black smoke and a loss of power we do not live in the van but we do a lot of driving

4282

From: "mikekryzytski" <mishak@p...>
Date: Mon Dec 29, 2003 7:25 pm
Subject: EGR Valve Trouble

My '02 FL suddenly experienced a loss of power last week (at 14K). I suspected it was the EGR valve. It was hard to get it over 40mph, even less going up slight grades, and didn't want to downshift once in high gear. Also very hard cold starting, stalling, etc. Local Dodge dealer ordered one in, replaced it in ten minutes and showed me how crapped out the old one was. I pulled out of the dealers' lot and the van was running no better!!! Took it back, they reset the computer, went for a drive with a laptop plugged in and it ran fine. They didn't see how resetting the computer would have changed anything, but it seems to

be fine, so far. Any similar experiences out there? I had considered buying an EGR valve to carry as a spare but was quoted a price of $481. Ouch! The Dodge boys also said that the part number for it was not the original number, so they think that it has been redesigned and shouldn't be a problem in the future. Let's hope so!

misha

5355

From: "abittenbinder" <abittenbinder@y...>
Date: Mon Feb 9, 2004 1:37 pm
Subject: Re: EGR valve cleaning and Update

Bob, The EGR valves have been quite an issue. Some of the dealers even like to joke that they are a faster moving part # than oil filters! If you are under warranty (Don't forget your 100,000 mile emission warranty) the dealer will replace (not clean a sticking valve. If you are out of warranty you can remove the valve and if its malfunctioning (sticking) because of deposits you can try to clean the piston without removing the circlip and end plug. Use a spray cleaner. Highly recommended is a Dodge product #4318 039 AB (buy at any Dodge auto dealer). This solvent has graphite in suspension. The new 04 water cooled EGR valve is NOT retrofittable but interestingly costs about $100 less than the earlier version. Preliminary reports of their reliability are not encouraging.

5407

From: "abittenbinder" <abittenbinder@y...>
Date: Tue Feb 10, 2004 8:26 pm
Subject: Re: EGR valve cleaning and Update

EGR valve malfunctions can be mechanical or electrical. Mechanical failure involves sticking of control piston in the valve. This can be as simple as deposits preventing piston movement or as serious as housing or piston warpage causing gaulling. The control piston can then be struck in any position. If it sticks(thus preventing servo movement) open ,allowing excess exhaust flow, it will cause noticeable driveability problems and a failure code to store triggering the check engine light. If it is stuck (preventing servo movement) closed it will store a failure code and also trigger the check engine light. I would think this failure mode would not exhibit drivability issues. Electrical problems involving the servo motor will produce similar results as the mech. failure modes.

Your question- Out of warranty, why not plug a defective EGR valve?
Exhaust gas (relatively inert) is used to lower combustion temps. thus reducing NOx. If you plug your valve 1) more NOx. 2) Failure code and check engine light because servo position won't match the stored maps in ECU. 3) What effect will this have on combustion chamber temps? Maybe engine failure? Who knows. Fix your valve.
Andy

5418

From: "abittenbinder" <abittenbinder@y...
Date: Tue Feb 10, 2004 11:00 pm
Subject: Re: EGR valve cleaning and Update

Al, I have seen documented cases of failure on everything from PDI! (new car pre-delivery inspection)to high mileage. As for getting stuck(after warranty expires) -If your valve fails open and you have severely reduced power or worse -I suppose for a TEMPORARY get home solution....how about carrying a spare gasket and a piece of sheet alu. or steel to block the exh. passage. Bolt it back on and if it now runs well, drive home or to nearest dealer for new valve. You will probably need to see dealer to reset failure code and warning light if it comes on. If you are really paranoid carry a expensive spare valve. That should insure you never have a failure!
Andy

6963

From: "abittenbinder" <abittenbinder@y...
Date: Sat Apr 10, 2004 7:56 pm
Subject: Re: EGR valve defective product should fall under Warranty

The EGR valve is covered under the 100,000 mile emission warranty. My comments were directed to people out of warranty or someone stranded far from a dealership. Or someone adventurous enough to take matters in their own hands. I suspect most dealers simply replace the valve under warranty if problems occur rather than attempt to clean it and give it a second chance. The label "defective" seems rather harsh. This is a component that endures high temps and lots of contaminants. In most cases the term "contaminated" may be a better description. I suspect European bound Sprinters have EGR valves as well. Germans being rather "green" oriented and increasing commonality between various market engine configurations. Unless they're using a reduction catalyst in addition to the oxidation cat.
Andy

-- In sprintervan@yahoogroups.com, "James C. Jacob" <jcjacob@v...
wrote:

If there is a defective item as the EGR valve, it should fall under Warranty and not come out of purchasers pockets for the life of the drive train. $450. a pop every 20k to 30k miles off sets my fuel savings. I take it the EGR valves are NOT used in the European vehicles? Or is it another excepted problem?

abittenbinder wrote:

I previously attempted to discuss what a EGR valve does. Exhaust gas (relatively inert in a properly tuned engine) lowers combustion temperatures (which lowers production of

nasty NOx)by taking up some of the volume in the combustion chamber which normally would be occupied by a combustible mix of fuel and air. Air supports combustion, inert exhaust gas DOES NOT. The amount of EGR is determined by a complex map programmed into the engine ECU. Deviations from this map(by a malfunctioning EGR valve) can cause problems. The valve itself can fail in different ways. Its can become sluggish or stick because of deposits. It can fail because of a faulty servo motor. The metering plunger can possibly seize because of housing warpage. If the valve allows excess exhaust recirculation outside of map parameters, drivability symptoms are likely. If you suspect a EGR problem you can unbolt the valve and clean the internal plunger. My preferred solvent is a Dodge product called "heat riser solvent", about $6.00 comes in a 10 oz. spray can. Part # 4318 039 AB. It will clean the "gunk" and lube with suspended graphite. Keep a spare gasket in your glove box for this occasion, part #612 098 00 80 about $4.00. You can probably limp home a vehicle with a stuck open valve by making a block off plate out of any available sheet metal(pop can, beer can?) and sandwiching it between the valve and gasket. This will also diagnose the problem if it offers instant relief. The pre '04 valve is part # 612 09804 17 about $450, made by Wahler, the big German radiator thermostat maker. Failure codes and malfunction indicator lamp lit in dash when valve misbehaves? Theoretically, yes, but I've seen it without. Oh, and don't drive around indefinitely with block-off in place. Engine in designed to have EGR and lack of it may cause excessive combustion temps. Could burn a hole in your wallet.

Andy

6981

From: "abittenbinder" <abittenbinder@y...>

Date: Sun Apr 11, 2004 8:16 pm

Subject: Re: EGR retrofittable???

You have not been listening. The '04 does indeed have a liquid cooled EGR valve. But if its reliability and longevity you're seeking, the jury is still out, regarding the new design. They are currently backordered nationally. Replacements (mostly during pre delivery inspections) have been more than occasional. And I wonder if the liquid cooling was a design criteria for improvement of reliability and/or was there a need to improve the cooling of the exhaust gases themselves, above and beyond the earlier design.

Andy

--- In sprintervan@yahoogroups.com, Rade Pierce <radepierce@y...>

wrote: Does anyone know if the 04 EGR assembly is retrofittable to the 03/02?? I know that the 04s have a different head on the engine, does anyone know if this is related to the new EGR valve? It is my understanding that the new EGR is liquid cooled, so that makes me wonder where the coolant lines go to hook it up? I need to look under the hood of an 04 I guess.

7247

From: "abittenbinder" <abittenbinder@y...
Date: Wed Apr 28, 2004 9:08 pm
Subject: Re: EGR Valve problems

Ray, I suspect the answer is no. I have seen the service records of a Sprinter in service for 90,000 miles, using no additives and standard() diesel fuel and suffering no EGR problems. Another with less than half that mileage run on pump "premium diesel" with an owner supplemented additive and suffering several EGR episodes. But there are many other benefits to using a quality fuel and then further enhancing its cetane rating, its lubricity, etc.
Andy

-- In sprintervan@yahoogroups.com, "Ray" <rwsie@a... wrote:
Could any of these EGR valve problems be solved or at least lessened by use of a quality diesel fuel additive ?

7303

From: abittenbinder <abittenbinder@y...
Date: Mon May 3, 2004 8:30pm
Subject: EGR valve

--- In sprintervan@yahoogroups.com, "abittenbinder" <abittenbinder@y... wrote:
I previously attempted to discuss what a EGR valve does. Exhaust gas (relatively inert in a properly tuned engine) lowers combustion temperatures (which lowers production of nasty NOx) by taking up some of the volume in the combustion chamber which normally would be occupied by a combustible mix of fuel and air. Air supports combustion, inert exhaust gas DOES NOT. The amount of EGR is determined by a complex map programmed into the engine ECU. Deviations from this map (by a malfunctioning EGR valve) can cause problems. The valve itself can fail in different ways. Its can become sluggish or stick because of deposits. It can fail because of a faulty servo motor. The metering plunger can possibly seize because of housing warpage. If the valve allows excess exhaust recirculation outside of map parameters, drivability symptoms are likely. If you suspect an EGR problem you can unbolt the valve and clean the internal plunger. My preferred solvent is a Dodge product called "heat riser solvent"(I just replenished my stock and its now called "Rust Penetrant". Same product, same part #), about $6.00 comes in a 10 oz. spray can. Part # 4318 039 AB. It will clean the "gunk" and lube with suspended graphite. Keep a spare gasket in your glove box for this occasion, part #612 098 00 80 about $4.00. You can probably limp home a vehicle with a stuck open valve by making a block off plate out of any available sheet metal (pop can, beer can?) and sandwiching it between the valve and gasket. This will also diagnose the problem if it offers instant relief. The pre '04 valve is part # 612 098 04 17 about $450, made by Wahler, the big German radiator thermostat maker. Failure codes and malfunction indicator lamp lit in dash when valve misbehaves? Theoretically, yes, but I've seen it without. Oh, and don't drive around indefinitely with block-off in place. Engine in designed to have EGR and lack of it may cause excessive

combustion temps. Could burn a hole in your wallet.

Andy

7304

From: abittenbinder <abittenbinder@y...
Date: Mon May 3, 2004 8:51pm
Subject: Re: EGR valve

David, I have "reposted" an old posting which should answer your questions. I must however question your observation, "the oil is unburned fuel and lots of it". Do you really think there are substantial quantities of unburned fuel in your exhaust stream? In your intake manifold? In a modern electronically controlled direct injection CDI engine? Or is it more likely your seeing oil condensate from crankcase fumes scented by diesel exhaust.

Andy

-- In sprintervan@yahoogroups.com, "David C Stevens" <cows4uus@j...
wrote:
I removed and cleaned the EGR valve on my 03 140 in HC Sprinter.
It was replaced about two thousand miles ago but was quite sooty and very oily. The oil is unburned fuel and lots of it.

7982

From: abittenbinder <abittenbinder@y...>
Date: Tue Jun 15, 2004 1:00am
Subject: Re: Help on an EGR cleanout procedure

Cleaning the EGR valve is really much simpler than spelling my name.
To set the record straight I did not recommend a "limp home cleanout". I recommended a combination- diagnostic and limp-home block off of the EGR valve ports with a on site cobbled up or pre-made piece of sheet metal (even a pop can). If this temporary block-off solves the problem then you drive home (better than limping) and perform a cleaning of the valve. I suppose you could clean the valve at the side of the road but I find it easier to have the proper socket size ready, the block-off ready and carry them with you. You could also do periodic preventative cleanings of the valve. The valve is secured to the manifold with those pesky torx bolts (you can use a small conventional socket). Do NOT attempt to disassemble the valve itself. That includes that big circlip and the electrical servo portion. When you remove the valve you will clearly see the metering plunger inside and the bore it slides in. That is where the cleaning is performed using any degreaser but by now you know I recommend the graphite laden spray cleaner from the Dodge car store. (Its now called some kind of Rust Penetrant). Ask if you have more questions.
Andy

8001

From: "abittenbinder" <abittenbinder@y...>

Date: Wed Jun 16, 2004 12:09 am

Subject: Re: EGR Valve

Herr Chrispy, I actually was considering making up some of the block-off pieces for others. I am concerned that some owners will use them as a "fix" rather that a diagnostic aid. You might be less inclined to leave a shredded coke can in block-off mode. As you may recall I suggested the block-off be used when SUSPECTING an EGR valve malfunction. The block-off will help confirm the diagnosis. A sticking or sluggish (slow to respond), or even a terminal (dead) valve can induce drivability symptoms if it is non-responsive and in its OPEN (high thru-flow) position. If it fails in its closed position I suspect a MIL might light in the instrument cluster but (if a limp-home condition is not triggered) there would be no immediate adverse signs. Long term adverse effects in this case include possible damaging combustion chamber temps. Here's a worst case scenario. There you are miles from home or dealer, the dreaded loss of power strikes. You drive to the nearest parking lot, whip out and install your block-off and Eureka!, it runs fine again. You drive home, clean your EGR valve, reinstall without the block-off, and discover the cleaning did NOT help. Your out of warranty (remember, this is a worst case scenario) and instead of driving to dealer to purchase a new expensive valve, you reinstall the block- off and drive happily ever after. Until, $$$$.

Andy

9564

From: John F Rogers <JFRogers01@y...>

Date: Wed Aug 18, 2004 8:51am

Subject: Re: Cleaning EGR valve [edited – instructions appear to relate to 2003 and before models]

There is a clip on the air tube - remove it the tube pulls out.

Remove the 5 or 6 bolts around the EGR and 1 on the bracket.

Pull the EGR off slowly the gasket will stay on the manifold.

Get a big can of carb cleaner and stiff brush.

Spray the shit out of it.

There is a black cover over the valve cam take off carefully spray that along with the whole out side.

Don't mess with any build up on the manifold it might end up getting pulled into the motor. I plan on taking care of that at a later date.

Make sure the air tube is pushed all the way in before putting the clip back on. the clip must go back on the same way it came off. you will see a cuff around the air tube this is how the clip keeps the tube to the EGR.

Good luck, don't be scared. Just make sure your clip is seated in the cuff. It takes me about 15 to 20 min to complete.

9601

From: Del Tuchscherer <dtuchscherer@i...>

Date: Thu Aug 19, 2004 8:55am

Subject: RE: Cleaning EGR valve [edited]

If it is a 2004 model, you will need a crimping tool to close off the water source, then four bolts. Be careful with the gasket.

10435

From: "abittenbinder" <abittenbinder@y...>
Date: Wed Sep 22, 2004 12:32 am
Subject: Re: EGR VALVE? We need to find a way to block it off!!

Bob, Our EGR valve is manufactured by Wahler. They are well known manufacturers of cooling system components most notably thermostats. The Sprinter EGR valve and its related integrated intake manifold mounting and complex plumbing is not a simple add-on. I would be surprised if rest of world models (at least pre-'04) did not share this design.

Andy

-- In sprintervan@yahoogroups.com, "Bob" <bobinyelm@a...> wrote:
> My EGR valve is still in the box at Bosch (I guess that's who
> makes 'em) in Duseldorf because I am still awaiting my 2005 Sprinter
> to arrive! :<)
>
> I am trying to formulate a plan for what seems a certainty (EGR
> trouble). I havce no idea if the 2005s will have a better EGR system
> for the USA.
>
> I am interested in learning exactly what WOULD happen with blocking
> it off (in so far as higher combustion temps and consequences) vs.
> leaving it connected so I will be ready.

>
> I am also interested in knowing:
>
> 1) Is the EGR valve installed and programmed in other (non-US) markets

10436

From: "abittenbinder" <abittenbinder@y...>
Date: Wed Sep 22, 2004 12:44 am
Subject: Re: EGR VALVEEE? We need to find a way to block it off!!

I was NOT referring to, nor concerned with, higher engine operating temperatures when I posted cautions regarding long term block-off of the EGR valve. Abnormally high peak combustion chamber temps. can have consequences much more dire and catastrophic than elevated coolant temps!

Andy

--- In sprintervan@yahoogroups.com, "skipples2003" <skipples2003@y...> wrote:
> I don't think, theoretically at least, and in diesels, that the higher
> combustion temps necessarily mean higher engine operating
> temperatures.

10443

From: "Bob" <bobinyelm@a...>
Date: Wed Sep 22, 2004 10:19 am
Subject: Re: EGR VALVE? We need to find a way to block it off!!

--- In sprintervan@yahoogroups.com, "Mike Sisk" <mike@f...> wrote:
> I had a Banks kit on a '98 Dodge Cummins -- it actually did increase coolant temperature. But, that was only during extended hard pulls. I had full instrumentation and the exhaust temperatures would always reach the danger zone before the coolant temp got into the red. All you had to do is back off the power a bit and the temps would go down.
>
>
EGT is always the first indication of impending heat buildup. Valves are the first thing to overheat (being low mass and having limited contact with the high mass head via the stems and their seats during their closed period). Pistons are next (though in turbo engines they are usually cooled by a spray of oil onto their bottom side).

The LAST thing to show overheating is the water temp, since it only shows and increase after the heads and block raise the water/coolant mix and the radiator/thermostat can no longer regulate the temp to the thermostat design temperature.

It is VERY possible (but not inevitable) that by then, internal engine damage has occurred.

That depends on the metallurgy of the components, and the oil characteristics (synthetic oil can withstand much higher temps before breaking down). Remember that the oil temp of the sump is much different from that at metal boundaries such as the piston ring/bore area.

Unfortunately, we don't know any of these parameters, but EGT (as measured at the turbine inlet) is our best safety monitor.

Bob

10448

From: "MKS" <Mikessp@a...>
Date: Wed Sep 22, 2004 2:05 pm
Subject: Re: EGR VALVE? We need to find a way to block it off!!

The EPA site has tons of regulations regarding emissions violations. Deliberately modifying or disconnecting an emissions device by a DEALER is a $10,000 fine and repeated violations can result in jail time.

As a consumer or a person who unintentionally modifies an emissions related system, the fines are smaller ($2500) and no jail time is required.

You are legally allowed to modify your exhaust, as long as cats are left intact and the system passes noise and emissions standards.

Here's a link:
http://autos.yahoo.com/owning/maintain/repairqa/qa.html?question=ques081&category=Exhaust+%26+Muffler&topics=qaemmiss%01qamuffle

Mike S

--- In sprintervan@yahoogroups.com, "uber_van" <aayh_uber_van@p...> wrote:
> Wow, a $10,000 fine and jail time?! Do you have any source for this,> Bob? I had always thought that consumer automotive alterations were --- In sprintervan@yahoogroups.com, "Bob" <bobinyelm@a...> wrote:
> > --- In sprintervan@yahoogroups.com, John Barrett <jbzspace@f...>
> > wrote:
> > > To disable the EGR valve is illegal and irresponsible.
> >
> > You are correct. It would be immoral as well as illegal ($10,000
> fine and jail time) to introduce pollution into the atmosphere and
> disable a working valve that EPA and DOT require for Federal Certification
> of our vehicles.

10471

From: "Bob" <bobinyelm@a...>
Date: Wed Sep 22, 2004 9:18 pm
Subject: Re: EGR VALVE? We need to find a way to block it off!!

--- In sprintervan@yahoogroups.com, "uber_van" <aayh_uber_van@p...> wrote:
> Wow, a $10,000 fine and jail time?! Do you have any source for this,
> Bob? I had always thought that consumer automotive alterations were
> at most a state issue. If this is true, then anyone who does their
> own exhaust work is taking their life in their hands!
>

Anyone can work on his own vehicle, including the exhaust, as long as he does not alter anything that would affect the emission certification. For instance, you may install any exhaust you wish from the cat back, but you may not remove or alter a cat. Only CARB certified accessories may be added to vehicles in California, for instance. They are also "bullet proof" if called into question in other states as well.

Exhaust shops are even more restricted in what they can do. In Calif, for instance, only cats actually manufactured by the car maker may be allowed, even though other makers specifically intend their part for a particular car. CA is one big can of worms.

You may go to: http://www.tnrcc.state.tx.us/air/ms/tampering.html to get some background on the DOT/EPA Emissions laws.

Bob

15120

From: abittenbinder <abittenbinder@y...>
Date: Wed Feb 16, 2005 8:45pm
Subject: Re: More interesting stuff at dodgesrpinter.com

Michael, I'll do a separate post on this later, but EGR valve malfunction and/or failure is not just soot related. Poor fuel quality (and extensive idle periods) can accelerate soot deposits on the valve seat and prevent its full closing (cleaning helps here) but there is another failure mode. The valve stem is supported by a bronze valve guide. This valve guide is similar in design and operation to the valve guide in a cyl. head. It is lubricated by oil mist (crankcase ventilation- blow by). If you remove your EGR valve assembly for cleaning and stare into the mixing chamber you can see 2 oval cutouts in the guide for this purpose. This guide is not located in the exhaust portion of the chamber; it is exposed to inlet air from the intercooler. Anyway, when this guide wears, its excess clearance allows LOTS (more than usual) of oil (mist) to enter the compartment with the motor driven actuating lever and out a vent hole. This can be an early indicator of imminent EGR

valve failure. This is just part of my EGR investigation. I'm measuring valve to guide clearance on high mileage EGR valves and new EGR valves. Stay Tuned. Andy

-- In sprintervan@yahoogroups.com, "Michael Hannan" <m_hannan@t...> wrote:

> I think the EGR valve issue will disappear if "we" ever decide to require improved diesel fuel standards in the US and/or DC OKs the use of Biodiesel
> Mike H

15122

From: abittenbinder <abittenbinder@y...>
Date: Wed Feb 16, 2005 9:18pm
Subject: Re: There she goes

John, Some random thoughts: Manifolds clog with soot and crankcase oil mist blow-by (the glue, if I may use the analogy). Greatest EGR metering occurs off idle. Soot formation is probably highest at low exhaust temps (idle and low load driving) in an electronically controlled modern diesel engine. People with the most TDI manifold clogging probably had the lowest EG temps. (less aggressive driving). TDI ECUs allow for external programming of EGR quantity. A nice feature but formation of NOx is elevated significantly. I'm guessing the compared to TDIs the Sprinter EGR valve is apparently more susceptible to seat (soot) contamination and meters higher ratios of EGR. So much so that deviations cause drivability issues and beyond.
Andy

-- In sprintervan@yahoogroups.com, "johnboy9187" <jlspamfree@b...> wrote:
>
> I've been following all these EGR threads and I'm not sure how
> relevant this is, but I'll leave it up to members to decide.
>
> On current VW TDI diesel engines EGR problems do occur but much less
> frequently than on Sprinters. More often, manifolds clog with soot
> from the EGR dumping soot laden exhaust gasses back into the manifold.
> I've wondered if this is the same failure mechanism with Sprinters
> with the EGR getting clogged or contaminated instead if the manifold.
>
> With the TDI's the EGR is most likely to be open not only during
> idling but also during constant speed (no acceleration) driving. Many
> of the people who had clogged intakes were also the ones who had the
> best fuel economy. Fortunately for the TDI there is a partial fix by
> using a scan tool to change a setting in the ECU. I sold my TDI last
> year with 55,000 miles and the buyer checked the intake and found it
> to be quite clean. I tend to be a relatively aggressive driver who

> rarely got better than 47mpg highway on my TDI while others could get
> over 55mpg. My theory is that although idling is an important
> contributor to EGR failure, driving style may be more important since
> the amount of time spent driving far exceeds idle time. If this is
> true, I should not have to worry about my EGR.
>
> I suspect that there are members here who have/had TDIs and may know a
> lot more about this than me. Please comment. For others looking for
> info there is a wealth of info at the TDICLUB.com forums.
> John

15128

From: abittenbinder <abittenbinder@y...>
Date: Thu Feb 17, 2005 1:06am
Subject: MORE EGR VALVE CLEANING TIPS

In honor of Willies purchase of a set of Torx sockets, here are more, detailed, EGR cleaning tips:

First, I highly recommend the purchase of a replacement gasket, part # 05104007AA. This gasket is a single ply of very thin, soft, embossed metal. If you reuse it, you will risk leakage of exhaust gases and leakage of boost pressure. Also if reused, you may be tempted to over torque the mounting bolts and warp the base of the EGR valve. The gasket will be stuck to the base of the EGR valve when you unbolt it, so carefully look for it and pry it off.

Before removing the valve (or anytime you desire) you can gently pop off the black plastic cover to the right of and on top the aluminum EGR valve housing. Its brittle, gently pry the 2 opposing clips. This will reveal the servo motor operating cam(lever) and the valve stem. You can clean this compartment with a WD40 type lubricant AFTER you have removed the assembly from the intake manifold. It's best to do this UPSIDE-DOWN and not flush into the servo motor housing.

Speaking of the servo motor- do NOT attempt to remove its covers and don't touch those 2 mounting nuts holding it to the valve body.

You can gently lever (with thumb) the cam (shaped like an upside down coat hook) toward the valve body. It should move freely, back and forth. Go ahead and remove the entire EGR valve and (if this is your first) time you will see the exhaust inlet on the flange side and inside that inlet is the valve head(tulip) whose stem you were moving with that previous cam action. The stem is actually visible in the outlet for the exhaust (in middle of manifold venturi) and in the 2 cut-outs in the valve guide in the right half of the venturi.

The exhaust inlet, the venturi, and exhaust outlet are the areas you want to concentrate your serious cleaning spray.

Again, my favorite is the Mopar # 04318039AB. I think they now call it rust preventive. Its a good cleaner with graphite in suspension. Good for "clean and lube" of that valve guide and stem.

You can test you valve and seat for proper sealing by blowing (yes, with your lips) into the exhaust inlet and simultaneously manipulating the cam lever with your thumb. You can hear the release of pressure if seat is o.k. If you're curious, you can check the guide wear by partially pushing the valve head off its seat, with your thumb on that cam lever, and grabbing the clevis end of stem(the one in that cam lever) with 2 fingers and rocking stem back and forth. At 60K miles its not unusual to see 2-3mm of play.

I would appreciate feedback on your play and amount of oil in that compartment, at your various odometer mileages.

Reassemble with your new gasket and drive on! Andy

--- In sprintervan@yahoogroups.com, Willie McKemie <sprinter@a...> w
> I am approaching 30K miles and have not yet been stranded. I think
> I'll search for Andy's "clean your EGR valve" instructions. I bought a
> set of Torx sockets the other day.
> Willie

15346

From: John F Rogers <JFRogers01@y...>
Date: Wed Feb 23, 2005 11:27am
Subject: Re: valve cleaning helps DC?

I'm an EGR cleaner. I had to adapt, I run my van for two weeks at a time. That is 336 hours some at idle some at 3000 rpm and I average 8,000 to 10,000 mile a month hell I have done 20 oil changes in 19 months so I pull my EGR and clean it 20 min max, I get to keep a eye on it and it has never failed on me. The EGR will fail if carbon builds up on the valve area or if the servo goes bad. The later I have not found to be a real concern. So how often should you clean your EGR? 1. How much do you idle the sprinter. 15 min or 8 to 10 hrs or 24 hours. The valve can be cleaned even if it starts to fail and still work!!!! It is called maintenance. When I idle for a long time (Over night) I used an idle stick, it hold my rpms at 1100 rpm I found that the EGR stays cleaner for a long time.

J Rogers 198,000 in 19 months 1 SET OF TIRES AND A WHOLE BUNCH OF OIL. BREAKDOWNS!! !! !! :) NONE

15440

From: abittenbinder <abittenbinder@y...>

Date: Sun Feb 27, 2005 1:30am

Subject: Motor Oil and your EGR Valve

There seems to be some confusion here regarding soot control in motor oil and EGR valve contamination. High rates of EGR(exhaust gas recirculation) does tend to increase the soot loading in the engines crankcase and the engine oil needs specific additives to suspend and control this soot. Exhaust gas recirculation also tends to introduce more corrosive acids into the engine. This can accelerate wear of lead and copper. Varnish, lacquer, and sludge deposits can increase because of added sulfurous compounds being introduced. These are all problems for crankcase oil and that's why you want to use an approved motor oil (with proper additive packages). BUT our primary problem with EGR valve contamination is related to soot and carbon deposits of the poppet valve seat. That's what the cleaning procedure is all about. I'm not convinced that possibly greater varnish or lacquer deposits on the valve stem (which is lubed by crankcase ventilation oil mist) is a significant problem with valve reliability and operation. I am trying to assess the poppet valve guide wear and its effect on EGR valve life. Andy

--- In sprintervan@yahoogroups.com, "Knowhere Man, Frank Mitchell"

<knowhereman@e...> wrote: Kevin wrote... ...Some modern oils are specifically formulated for soot control in modern EGR equipped diesels. Failure to use oil that meets those approval ratings will result in EGR problems... Could you elaborate on that a bit, perhaps with brand names? Frank

15620

From: "jlevy25" <jlevy25@y...>

Date: Sat Mar 5, 2005 12:57 pm

Subject: EGR Valve Cleaning - Results

I carried out the EGR valve cleaning this morning and thought I would share my observations, since this is such a hot topic. First of all, this is a pretty easy job since it is about the most accessible part in the engine. The torx bolts come off easily since the seal is made by the metal gasket and they are only torqued to 125 ft/lb. {NOTE – THIS SHOULD

BE 124 IN-LBS -HKPierce} There was some greasy stuff on outside bottom of the rubber tube - probably its time to replace the large O-ring that seals the tube to the EGR body. There was some soot buildup on the inner cylinder of the EGR valve (where the exhaust gas enters the intake air), especially at the outer edge. The piston area was a little sooty, but no buildup to speak of. I sprayed Andy's foaming wonder juice into piston area and the exhaust inlet area let it soak for a few minutes. Applied some more and let it sit some more. I took the cover off of the piston actuating area and it looked pretty clean. Gave it a blast of WD40 while holding it upside down and then checked the piston motion by moving it by hand. Motion was nice and smooth. I checked for play with the piston open - there appeared to be about 1mm side to side play on this 43K valve. I blew through the exhaust inlet with the piston closed and could hear a hissing sound indicating that there is a little exhaust gas getting by the valve even when closed - a very small amount though. Opening the valve while blowing resulted in the expected rush of air through the valve. After a little more spraying, plunging, and wiping I cleaned the mating surfaces for the gasket. There was some hard buildup, particularly where the exhaust gas enters, so I used a little wonder spray and sandpaper. I also cleaned some of the gunk out of the intake manifold with a clean rag, Lastly, I slapped on a new gasket, tightened the bolts to XXf/lb and put the rubber tube back on. This whole procedure took about 45 minutes - but I was working slowly and investigating the system operation more that for a routine cleaning. I'll be a lot more confident messing with the EGR valve in an emergency after this procedure. The van started out fine - no fault lights or anything. Cheers, Chris.

15624

From: "abittenbinder" <abittenbinder@y...>

Date: Sat Mar 5, 2005 1:50 pm

Subject: Re: EGR Valve Cleaning - Results

Chris, Thanks for sharing your experience. A few comments- The actual exhaust gas metering device (valve) is a "poppet valve" not a piston (it may have been mislabeled that in the past). A traditional looking valve similar to a valve in your engine cyl. head. You know, tulip shaped head and narrow stem. You can test for leakage of valve on its seat, with your lungs and lips and if you have done a good job (and if the valve and seat are in good condition) you should not hear ANY leakage. The torque specs. you provided are incorrect. I assume you meant to say in./lbs.? Andy

15628

From: "abittenbinder" <abittenbinder@y...>

Date: Sat Mar 5, 2005 3:35 pm

Subject: Re: EGR Valve Cleaning - Results/125ft lbs torque

Appears to be a 6mm dia. shank bolt? Should be a torque spec. of 6-8 ft. lbs. Otherwise, use a small 1/4 inch drive ratchet and you won't cause any damage.

Andy

-- In sprintervan@yahoogroups.com, "Bob" <bobinyelm@a...> wrote: I haven't looked at the torque specs in the shop manual, but 125 ft lbs sounds awfully high for anything like an EGR Valve. This is 50%- 100% MORE than what a head bolt or wheel lug nut/bolt is torqued to on most vehicles. Unless the bolts retaining the part are 10mm/12mm or larger, I would check the book specs before using this kind of torque Bob

15648

From: "abittenbinder" <abittenbinder@y...>

Date: Sat Mar 5, 2005 11:58 pm

Subject: Re: EGR Valve Cleaning - Results

Ted, I suspect some group members have missed the first day of class. No problem, your most likely not alone. If you open the hood of your engine compartment, stand just about dead center between the headlights and look inside, the EGR valve is then the closest aluminum component to your chin. It's between the big rubber hose and the intake manifold casting. It has a black plastic cover off to the right and an electrical connection for its servo motor. You will see a few funny looking (Torx) bolt heads protruding from its mounting flange.

You will probably also see an oily discharge. Andy

-- In sprintervan@yahoogroups.com, "tedsdragonwagon" <tedinkc@s...> wrote: I have an 03, where exactly is the EGR located? Ted

15709

From: abittenbinder <abittenbinder@y...>

Date: Mon Mar 7, 2005 1:32pm

Subject: Re: EGR Valve Cleaning - (The scary looking oily discharge)

Ted (and others), Owners of the pre-'04 EGR valve design have sometimes been startled to find oily discharge around (and dripping from) their EGR valve. If you pop off the black plastic cover for the EGR valve cam linkage compartment (it's on top, just to the right of the aluminum casting) you will see the design incorporates an oil drainage (and diversion) channel and a weep hole for oil overflow. The oil mist that lubricates the valve stem and guide is forced (turbo boost pressure) into this compartment and is cleverly

employed to lube these linkage parts. It appears that certain driving conditions (maybe prolonged hilly, high speeds, high boost, towing?) can cause more oil to discharge more quickly? Maybe you guys can comment on that. I suspect that HIGH mileage EGR valves with significant EGR valve guide wear will discharge oil much more profusely. I would like to hear feedback on that theory. Oh, where does the oil originate?, you ask. Crankcase blow-by ventilation seems the primary source.

Andy

15771

From: abittenbinder <abittenbinder@y...>

Date: Wed Mar 9, 2005 1:13am

Subject: '04 - '05 EGR Valves -The real story

You have to pity the '04 Sprinter owners (as well as the dealers and prospective buyers). The "new" 2nd generation EGR valves had arrived. All that fanfare when first introduced-"water cooled!", "new!", "improved!" They had such high early expectations. Owners of early Sprinters clamored for retro-fit information. Then reality set in. Vehicles DOA in dealer parking lots. Vehicles DOA in RV outfitter's parking lots. A national backorder on replacement EGR valves! A recall!! What's going on here?

First lets look at the valve design. The "old" valve design was rather bulky, expensive to manufacture, and prone to contamination-malfunction. The new design is much smaller (no venturi/mixing chamber). It IS cheaper to buy (and so it follows, to build) and it has NO poppet type valve and seat, making it much less sensitive to contamination-malfunction!

Here's what the new valve looks like- Servo motor directly a top of a short cylindrical casting. Bolted to the intake manifold it meters exhaust gas from an intersecting passage directly into the intake tract. The actual metering device is a steel, 3- wide bladed propeller-like shape, blocking 3 openings behind the flat "propeller" blades. It's about 30-35mm in dia. The servo motor is connected directly to this "fan" shaped valve and it can progressively open about 20 degrees and fully expose the 3 openings. Picture your moms (or grandmas) hand cranked, kitchen meat grinder. Remember the rotating blade rubbing against the meat extrusion plate? You get the idea. Its essentially self cleaning!!

So what went wrong? Why the recall? Well, there seems to have been a problem with tolerancing. And the improved replacement "new" valve has a robust looking (grounding) strap between base and servo. Maybe, parts where binding. Maybe, complications with coolant (electrolysis?).

About 9000-9500 Sprinter are involved in the recall. If you look down at the mounting flange directly opposite the coolant hose fitting (next to servo motor base) you will see a casting # beginning with "AR". If yours is AR6000 look for a yellow dot on top of

servo motor plastic cover. Yellow is good. Any other color is recall material (IF you have the AR6000). If you have a AR6001 casting number, any color paint dot is ok, you're not a recall candidate.

Interestingly the part # for the EGR valve on the dealers screen is a backordered part #(5117525AA)! A new part # 5166850AA has plenty in USA stock, but there is no cross reference! Yet. A minor glitch.

OH, and you ask-what's with the water cooling?? Well, I suspect it has little or nothing to do with the exhaust gas, per se. The old valve had its servo motor mounted on the opposite side of the exhaust gas inlet and had a mixing chamber and incoming air isolating it from that heat (which isn't that hot-the exhaust gas used for recirculation is cooled in it's travels along its internal passages). The new valve, however, is mounted directly to the exhaust metering chamber and so, coolant is directed through a small (tiny) heat exchanger sandwiched in between the servo and valve. I suspect its there only for servo protection.

Well, that's enough for one session. I'll post some diagnostic servo pin resistance readings for both valve types next time.

Andy

15780

From: Roger Gibson <rpgibson@c...>

Date: Wed Mar 9, 2005 11:59am

Subject: Re: '04 - '05 EGR Valves -The real story

I had the AR6001 flange and a white dot on the EGR housing and when I contacted the dealer with this information, he said it still needed to be changed and he ordered one and scheduled me in the following week. From what I can see, the replacement looked no different from the one I had, including the numbers. Today, some three weeks+ later, I finally received the D44 letter from DC ...strange huh? I guess what I am saying is that even if you have the AR6001 flange with any color dot, you are still on the recall list ...or at least I was.

-roger

On 3/9/05 12:13 AM, "abittenbinder" wrote:

Any other color is recall material (IF you have the AR6000). If you have a AR6001 casting number, any color paint dot is ok, you're not a recall candidate. Interestingly the part # for the EGR valve on the

15857

From: Scotty <dmacmill@k...>

Date: Sat Mar 12, 2005 3:21 am

Subject: Re: [sprintervan] Dodge In Gilroy, Ca. Was excellent about my rust problem.

Gilroy; last year after chatting with several bay area dealers and getting a cold shoulder, I bought my 2004 140" passenger from South County, as I have mentioned before this dealer was up front with everything especially ERG problem, if I remember I was told my van was DOA off the truck (1st valve), they have a drive it for awhile before selling it policy to a customer, this turned up another ERG problem (2nd valve) and were then quick to make sure I came in for new valve under recall (3rd valve), and offered a loaner vehicle too. When I arrived unexpectedly there was no Sprinter technician on duty, they called one in to ensure I got service with minimal wait, excellent facility and as mentioned lots of neat stores and shops within a couple of miles, Kudos to everyone at South County; thanks Todd. Scotty

15911

From: abittenbinder <abittenbinder@y...>

Date: Sat Mar 12, 2005 11:19pm

Subject: Motor oil and you EGR valve- Misconceptions

--- In sprintervan@yahoogroups.com, "John F Rogers" <JFRogers01@y...>

wrote

I have always used Mobile-1 and I have still had to clean my EGR some 8 times,or every 25,000 miles. I would just like to know how quality oil would slow down the EGR from getting dirty? I will buy > better oil if this is true! Thanks J Rogers

--- In sprintervan@yahoogroups.com, "A Wagner" <amwagner2@c...> wrote:

> That oil change is inexpensive, my oil alone costs almost that much. I think good quality oil is a big deal, especially with the egr issue Al Wagner

My earlier posting (#15440) on this subject was apparently not as clear as it should have been. You will often hear references to modern EGR equipped diesel engines and the (concern of) need for upgraded oils. This is NOT because certain oils will prevent problems (contamination) of the EGR valve, BUT RATHER, exhaust gas recirculation can cause problems with excess contamination of motor oil. To recap (and clarify) posting # 15440- diesel exhaust recirculation introduces higher levels of corrosive acids, sulfurous compounds and higher soot levels into the crankcase. The concern is that certain motor oils may not have an adequate additives package to handle this additional contaminate loading. Yes, varnish can result from sulfur compounds but exhaust soot (between valve head and

seat) and valve guide wear(mileage related) seem to be the primary causes of problems with our pre-'04 design EGR valves. Andy

15912

From: John F Rogers <JFRogers01@y...>

Date: Sat Mar 12, 2005 11:31pm

Subject: Re: The big bad EGR.

--- In sprintervan@yahoogroups.com, TEJAS797@a..

wrote: In a message dated 3/12/2005 8:55:47 PM Central Standard Time, JFRogers01@y... writes:

I would like to visit this subject of the EGR, the 2nd most talked about thing on this group I think. But I have some ideas that are fresh about what's happening. As my EGR gets dirty I start to lose power ever so slightly. At full pedal I get a little smoke coming out of the tail pipe and the van is missing a little torque, as I back out of the pedal I gain my torque back and the smoke disappears. as time goes by or the miles, it gets worse till I clean it then it drives like it was new again. So what's going on? We have two places that engine gasses are are brought in to the combustion process 1. at the turbo the upper valve train is vented and 2. at the EGR the crankcase is vented, a very closed system wouldn't you say? I feel the EGR closes under boost from the turbo and opens when cruising, or under non boost. What is happening when the EGR does not fully close when your under boost? where does the boost pressure go? I'm not getting it to the intake. So it must be going to the crankcase through the EGR. So we have all this pressure in the crankcase, pushing its way up to the upper valve train and out to the turbo carrying extra oil with it. That oil that is pushed out of the upper valve train then goes to the turbo, then back up to the EGR. I feel this is adding to the depoits on the EGR. I have always used Mobile-1 and I have still had to clean my EGR some 8 times,or every 25,000 miles. I would just like to know how quality oil would slow down the EGR from getting dirty? I will buy better oil if this is true! Thanks J Rogers

OK.....at 16 I understood a bit of engines.....at 57? <G> I

think, I know they are completely different and at 16 it wasn't diesel I was thinking about and at 57 I just want it to GO GO GO. I can probably remember things you kids never had a problem with.....clogged carburetor, jumped timing and plugs that needed to be recalibrated or whatever <G>.....to me, what happened to MY Sprinter was similar to the end result except no missing!! oh wellllllll. Overall, I'm extremely disappointed in the problem I had.....and am pretty pissed at how serious it could have been for me!! I need to do some conversion on this beast.....and I don't want to hear that it may happen AGAIN.....if it does, it could be like the old woman and the Discount Tire Store ad.....I smoke.....I know I won't live forever, but believe me, getting run over at an intersection as this Mercedes fails, is not what I want to have happen....with the dogs in the van. grrrrrrrr.....it doesn't tickle me that it won't go over

82 mph if I need to kick it UP.....but to not go at all (or lurch and sink) from stop to crossing an intersection, another ball game, or to not be able to get out of the way of TRUCKERS on the interstate for hours at a time.....not good.....grrrrrrrrrrrr. B.

My van is a 2003. Is the newer EGR a pain in the ass to pull? with the cooling lines going to it must be a little harder. Sounds like they made a bad EGR worse. I'm in the trucking biz with my sprinter and I really dont have many trucks passing me, I did put a set of 245/70R/16 Michelins LTX AT. this brought my top speed up to 86 or 87.Ya on some big hills they get rolling, but stand your ground! They will go around. We have over 200,000 miles on the sprinter and it has never left us hanging anywhere. I run this van for two weeks at a time NEVER shutting it down, so i have countless hours idling plus the 200,000 miles. I clean my EGR every 25,000 miles to keep it running at 100%. Our three silky toy yorkies that run the roads with us are glad I do this:) I can understand that the folks who bought the sprinter as a motor home will be pissed about the EGR. at this point your not looking at cleaning the EGR. Just the holding tanks and the trash can. But it must be said even with ALL the down falls of the sprinter, it is one hell of a van. So please learn to live with it, once you get over the EGR, and the 80 mph governor you will find that you could not have bought a better van. . and you can be happy about your purchase. This is a med duty truck and must be treated like one. The Chevy and ford are a light duty vans made more for the every day consumer. One size does not fit all, so some compromise must be made. I put it in my head a long time ago that i will have to clean my EGR if i want to keep it running 100% be because I use the van 110% Good luck!

J Rogers

15913

From: abittenbinder <abittenbinder@y...>

Date: Sat Mar 12, 2005 11:34pm

Subject: Re: The big bad EGR. (the mystery of the paint marks)

Roger, The paint seal on the bolt (actually 2 bolts) which you refer to was NOT placed there by the dealer! A glance at your base flange reveals 5 bolts just like the early valves. BUT ONLY 3 of them secure the valve to the manifold casting. The 2 with the paint seals secure the sandwiched casting sections of the valve together and were installed (and painted) by the manufacturer of the valve (Wahler). The paint marks are a quality control reminder that those bolts were properly torqued. I will be posting shortly regarding '04-'05 valves and the issue of owner maintenance. Andy

--- In sprintervan@yahoogroups.com, Roger Gibson <rpgibson@c...> wrote:

When you post the Œ04 and up info on the EGR¹s, I¹d like to hear your comments on the effect on warranty if one cleans their own valve. The reason for my concern is that when mine was changed, they painted one of the bolts that fasten the valve ...I assume so they would be able to detect if it had been removed. It leaves me with the impression that it is not supposed to be tampered with be anyone other than an authorized dealer. Not being sure, is the EGR valve considered part of the emissions equipment? If so, then I would suspect they (DC) could void the warranty if it was considered to be tampered with. Please, enlighten me if my thinking is off course. -roger

15922

From: John F Rogers <JFRogers01@y...>

Date: Sun Mar 13, 2005 0:05am

Subject: Re: The big bad EGR.

Yes being under your bumper to bumper i would not clean it either, and you also have the newer EGR. I haven't cleaned a newer EGR yet! and I wouldn't want to either if I didn't make my living from the van. But before I knew it, I was out of service in 8 months. I had no other choice. I think the EGR is covered as if it was an emission part and not just an engine part.

15928

From: Willie McKemie <sprinter@a...>

Date: Sun Mar 13, 2005 7:07am

Subject: Re: Re: The big bad EGR.

On Sun, Mar 13, 2005 at 04:31:42AM -0000, John F Rogers wrote:

the 200,000 miles. I clean my EGR every 25,000 miles to keep it running at 100%. Our three silky toy yorkies that run the roads with us are glad I do this:) I can understand that the folks who bought the sprinter as a motor home will be pissed about the EGR. at this

The really important point here is NOT the relatively minor 25K miles maintenance. It is that DC has not specified EGR valve cleaning as a maintenance item. Or offered to perform it. IMHO, DC should be telling us how to keep our Sprinters running reliably via the owners manuals and service bulletins.

You have somewhat set my mind at ease by telling me that the pre '04 EGR valve degrades gracefully and is not likely to strand me if I am sensitive to the engine's behavior. Thanks.

15981

From: abittenbinder <abittenbinder@y...>

Date: Sun Mar 13, 2005 11:39pm

Subject: '04-'05 EGR valves- to clean or not to clean?

Once again, pity the '04-'05 Sprinter owners. Among the many technical changes to their engines- a new EGR valve design, and no one is posting cleaning instructions for this thing. They stocked up on pumice laden waterless hand cleaner, shop towels, and so far they feel left out of all the fun. Well I'm here to tell you '04-'05 owners to put your supplies in storage. As of now, I don't believe there is a need for pre-emptive cleaning of this new valve. First of all, is the design of the 3 metering passages and fan shaped rotary valve. See last weeks posting for details- but this stainless steel cutter-like device and its stainless seats look to be self-cleaning. Second, because the valve incorporates a coolant hose and internal passage way for this coolant to pass into the intake manifold flange to which it mounts, removal of the valve is more complicated and potentially more risky than the earlier design. Time (and mileage) will tell, but if I'm not right you will be enjoying clean fingernails for a long time.

Andy

15984

From: Conrad Creitz <conrad38601@y...>

Date: Mon Mar 14, 2005 0:02am

Subject: Re: EGR Valve cleaning and your warranty

It is working now. If it becomes defective (clogs or quits) then it should be replaced under warranty. My manual states "tampering with the emission systems, or with any part that could affect the emission systems" will void the warranty. Its a covered warranty repair so let the dealer do it, it is nice to know how to clean it in an emergency but a bad EGR should not stop the engine from running. I see no reason why I should clean it. I guess I will have to check my valve springs for proper bounce and rotate the valve stems in a clockwise rotation.

Conrad

abittenbinder wrote:

\Conrad, Assuming that you don't clumsily drop and break the valve during cleaning, or maniacally clean it by using oven cleaner and then baking it in your kitchen oven(to destruction) why do you think cleaning will void your warranty?? Michael H. just went through an episode with a roadside clean-out (he actually had a defective MAP sensor) and

the dealer gave him a new one (probably unnecessary, but based on DTC info, covering their butts) with a smile and no questions asked. Andy

--- In sprintervan@yahoogroups.com, Conrad Creitz wrote:

Also I have not had any trouble with my EGR yet. The "EGR valve w/Integrated switching valve" is covered by the Federal Emission Warranty required by law and is covered for 5 years or 100,000 miles. Therefore I will not clean mine until the warranty ends so that I do not void the warranty. Conrad

16004

From: abittenbinder <abittenbinder@y...>

Date: Mon Mar 14, 2005 10:52am

Subject: Re: certified sprinter mechanic-NOT!

If you truly were a self-taught or yahoo group-trained "certified Sprinter mechanic" you would know that "a little black ooze appearing around my EGR valve" is normal and not worth mentioning in your post. You have failed your final exam and your certificate is hereby revoked. Turn in your badge and set of torx wrenches. Andy

-- In sprintervan@yahoogroups.com, "mrlizzzard" <mrlizzzard@y...> wrote: I never thought I would buy an expensive euro van w/ superb German technology and need a set of tools, a tire store, and get my training from a yahoo chat, Just to get from point A to B.I have had no troubles but did change valve stems that were faulty and now there is a little black ooze appearing around my EGR.

16019

From: abittenbinder <abittenbinder@y...>

Date: Mon Mar 14, 2005 3:36pm

Subject: Security - anti-tamper Torx Bolts

Security torx sockets. Brings up an important caution for owners of '04-'05 Sprinters. Two of your 5 torx bolts at the base of your EGR valve are anti-tamper security bolts. DON'T touch those. They do NOT secure the valve to the manifold. Only the 3 normal looking torx bolts hold the valve in place. The 2 security bolts actually hold the valve segments together and removing them will probably damage a seal/gasket, in the valve, which is not available as a replacement part. Andy

In sprintervan@yahoogroups.com, "Walter Hodgson" <uplanders@e...> wrote:

Sears has TORK in sockets as well as individual tools. They also carry some of the security torks as well. Walter, Heidi and Robbie JRT

16121

From: abittenbinder <abittenbinder@y...>

Date: Wed Mar 16, 2005 1:37am

Subject: Re: Engine Oil

Herr Wagner, I have been trying to point out that Delvac 1 is a better choice as well. My point being that use of EGR places severe demands on diesel engine lubricating oil. However, the (pre-'04) EGR valve contamination and cleaning are not directly or significantly affected by choice of crankcase oil. That portion of the valve is exposed to and contaminated by, engine exhaust, not lubricating oil. Soot levels in exhaust are more closely related to fuel choice, mixture, temperatures, but not oil choice. The other concern with our (pre-'04) valves is the overall service life, which seems to be limited by wear of the valve guide (and less so the stem) which then causes excess discharge of crankcase vented oil out of the valves cam chamber. While it MAY help somewhat, I don't think any one brand or type of oil and additive package will make a significant difference in the life of that guide. I say that because of the tenuous way its lubricated and the form of the lubricant itself (not oil but crankcase vented fumes and mist).

Andy

- In sprintervan@yahoogroups.com, "A Wagner" <amwagner2@c...> wrote:

> Andrew,

> You would not be referring to my post, would you now? I have been trying to point out that the additives in Delvac 1 make it a better choice, and I think it follows that if you have additives to deal with the acidity, etc of diesel soot, including suspending abrasive particles, then you probably are doing everything you can to help your EGR, as well as the rest of your engine, perform as well as it can. Did you know soot has enough abrasiveness to be used as a polish?

> By the way, the Good Nights are far softer and more comfy than the Pampers.

> Al Wagner

16123

From: abittenbinder <abittenbinder@y...>

Date: Wed Mar 16, 2005 2:20am

Subject: Re: '04-'05 EGR valves- to clean or not to clean?

Robbin, the '04-'05 valve costs less to manufacture and purchase (your not paying for the mixture chamber when you replace the valve-that's now part of the int. manifold, and

there is no complex internal valve linkage), it appears to be self cleaning (time will tell), the improvements to the AR6001 designated valve (which many '04 owners received during recall) appear to be effective. Yes, overall that looks like an improvement over the old design. Too bad it needed that internal heat exchanger and hose supplied coolant flow to keep the servo happy. That's an added complication.

Andy

--- In sprintervan@yahoogroups.com, "Robbin" <austinite@c...> wrote:

> Andy

> In your opinion, does this mean that there is a good possibility that the 04-05 EGR is in fact an improved design over the 02-03 EGR?

16125

From: John F Rogers <JFRogers01@y...>

Date: Wed Mar 16, 2005 5:11am

Subject: Re: Parts

I have cleaned my EGR 8 times now, and I'm still using my original one.

J Rogers

16198

From: abittenbinder <abittenbinder@y...>

Date: Thu Mar 17, 2005 11:27am

Subject: Re: MAF Restriction?

John, I'm following your logic and your concern regarding excess crankcase vent oil. It is however misleading to call the crankcase ventilation system an "EGR feed". The mixing chamber portion of the EGR valve casting (where the lubricated EGR valve guide resides) is really just part of the intake tract-it's the entrance venturi (where exhaust gas (recirculated) mixes with incoming air) to the intake manifold. The EGR valve is a separate component from the mixing chamber (by function) and on '04-'05 engines they are actually physically separated. I suspect even Iraqi Sprinters have a closed crankcase ventilation system. Andy

-- In sprintervan@yahoogroups.com, "John F Rogers" <JFRogers01@y...>

wrote:

>

> it is my view that as the air filter dirties the pull on the EGR feed from the top of the motor increases, pulling an abnormal amount of oil into the turbo and on up to the EGR valve adding to the problem. plus the build up of soot in the intake. I have so much oil being pulled from the top of my motor that its leaching from the filter and dripping into the valley that holds my injectors, the whole under side of the injector cover is coated with EGR gases. I would love to see a intake set up for a non emissions sprinter like over in Iraq or Africa. J Rogers (just an old farm boy)

16438

From: "abittenbinder" <abittenbinder@...>

Date: Thu Mar 24, 2005 1:27 am

Subject: '02-'03 EGR Valve rebuilding project abittenbinder

Some of you may remember my request for "dead" pre-'04 EGR valves. By inspecting several failed/worn-out valves I was exploring the feasibility of offering (in partnership with a gifted machinist I frequently work with on special projects) a low cost, rebuilt alternative to the costly OEM new replacement. Posts on this group site have discussed and described the cleaning procedure ad museum and while repeated cleaning can help keep a valve operating for many miles/years, they will wear out eventually. The most common symptom (of a worn EGR valve) will be EXCESS (some is normal) oily discharge from the linkage compartment. That's located on the right side of valve with the larger, snap off, plastic lid. The poppet valve is supported by a bronze guide and when the guide is excessively worn it will allow boost pressure to push oil vapor out along the guide and into that compartment and beyond. The oil vapor is present in the intake charge due to crankcase venting into that tract. Well, I'm sorry to report that the design of the valve assembly process prohibits a economical disassembly of the valve let alone a disassembly and rebuild. It's not that the Germans intentionally designed it to tamper-proof, more likely they made no effort to make it service friendly. The poppet valve head/stem and the servo motor shaft/internally mounted sensor are the particular components that are interference-fit pressed during assembly and their recessed locations make disassembly essentially impossible without damage. I did come across an interesting, VERY early, '02 EGR valve design that must have caused problems similar to the '04 valve recall. I doubt any are in service today. They are identified by a rough cast finish and the part # 612 098 0416 etched in the flat on left side of valve. That design incorporated nylon bushings to support the valve stem. I suspect many/most suffered from binding.

Andy

29171

From: "abittenbinder" <abittenbinder@...>

Date: Thu Apr 27, 2006 1:24am

Subject: Re: Intake Air Temp Sensor Part Change

--- In sprintervan@yahoogroups.com, "Roger Gibson" <rpgibson@...> wrote:

> A May 2004 news letter from LTV contained a service bulletin concerning the Mass Airflow sensor indicated that intermittently these sensors needed to be reset. They recommended unplugging the connector and restarting, and if full power resumed, stop the engine and reconnect the connector. I'm assuming that if the problem returned upon reconnecting, that one could unplug it and get to a dealer with full power. Luckily, I have not experienced a failure <knock on wood> but I'd be interested to know if anyone else has tried this with any success. The failure mode they described was loss of power and no illuminated CEL.

> -roger

I remember this Leisure Travel Vans bulletin and the circumstances under which it was written. This was issued during thse dark early days of the introduction of the new 647 engine when the new EGR valves(later recalled and updated) were failing literally in the dealers sales lots. In this case, Leisure travel had failures (loss of power) in their storage area for incoming chassis to the production line as well as new, angry customers stuck on the road. The LTV people happened upon this "temp disconnect MAF sensor" fix as a way of getting the vehicles running and moveable. Andy