



Technical Service Bulletin

Poor performance because of leak in vacuum system

24 08 29 2017521/1 June 26, 2008

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
RS4	2007 – 2008	All	4.2L V8 FSI Engine
RS4 Cabriolet	2008	All	

Condition

- MIL on.
- DTC code entry such as P2004, P2005, P2006, P2007, P2070, or P2071 (intake manifold tumble flaps adjustment implausible signal).
- Rattling noises from rear of vehicle. Exhaust flaps rattle during the catalyst heating phase.
- Air filter box power flap inoperative.
- Poor engine performance because of inoperative intake manifold tumble flaps or air filter box power flap.
- Possible fault entry for “leak diagnosis pump.”

Technical Background

Vacuum level becomes too low because of:

- Damaged, torn or kinked vacuum hoses.
- Loose vacuum hose connections.

Vacuum leaks slightly decrease engine performance because of the lack of additional air entering the engine at high RPM. This condition does not cause stalling.

Production Solution

No change.

Service

Procedure summary:

1. Check of the vacuum level at the intake manifold.
2. Check of the hoses and vacuum system components in sections. Refer to SSP 924603 for vacuum system diagram and layout.



Note:

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With all checks the engine must *not* operate in the catalyst heating phase (secondary air operation / increased idle speed).



Tip: Switch off the air conditioning and all electric consumers.



Tip: Do *not* press the Sport button. Pressing the Sport button will change the test results.

Check vacuum level

1. Remove the front intake manifold cover and bracket.
2. Remove the lower right hose on the double T piece in driving direction (Figure 1).



Figure 1. The lower right hose on the double T piece.

3. Connect VAS 6213 vacuum gauge to the hose.
4. Start the engine.
5. Ensure the measured vacuum on the vacuum gauge at idle speed is at least 500 mbar.
6. Switch off the engine.
7. If vacuum readings are not correct, reference TSB 2012844 regarding intake manifold vacuum supply hose.
8. If vacuum reading is correct, reconnect hose and continue the system checks.
9. Start engine and run at idle for two minutes to fill vacuum reservoir.
10. Shut off engine.
11. Test vacuum system components using VAS5051 in *Vehicle Self Diagnosis >> 005 Output Diagnostic Test Mode*. The tests will not start if the engine is running.

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12. The following vacuum systems must be checked for visual and audible operation:

- Intake Air Switch-over Valve N335.
- Intake Manifold Runner Control (IMRC) Valve N316.
- Exhaust Flap Valve N321.
- Secondary Air Injection (AIR) Solenoid Valve N112.
- Leak detection pump.

Check the vacuum supply for the exhaust flaps



Note:

Only use genuine Audi parts when repairing hoses and vacuum pipes in vacuum system. Bulk and generic vacuum hoses and pipes cannot be used to repair vacuum system.

1. Remove the upper left hose on the double T pipe in driving direction (Figure 2).



Figure 2. The upper left hose on the double T pipe.

2. Connect a vacuum gauge to the hose.
3. Activate Exhaust Flap Valve N321 with *Vehicle Self Diagnosis >> 005 Output Diagnostic Test Mode*.
4. Create a vacuum of at least 500 mbar.
5. Within a minute the vacuum must not drop by more than 10 mbar. Both exhaust flaps must be closed.

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6. If not correct, inspect the vacuum pipes between engine compartment and exhaust flaps for leaks and kinks.

Check vacuum pipe to the leak diagnosis pump.

Check the vacuum supply for the intake manifold tumble flaps

1. Remove the lower T pipe of the lower hose (Figure 3).



Figure 3. The lower T pipe of the lower hose.

2. Connect a vacuum pump to the hose.
3. Activate Intake Manifold Runner Control (IMRC) Valve N316 with *Vehicle Self Diagnosis >> 005 Output Diagnostic Test Mode*.
4. Create a vacuum of 500 mbar.
5. Within a minute the vacuum must not drop by more than 10 mbar. Both tumble flaps must be operated.
6. If not correct, check the vacuum pipe between T pipe and tumble flaps for leaks and kinks.

Check the vacuum supply for the air filter box power flap

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1. Remove the upper right hose on the double T pipe in driving direction (Figure 4).



Figure 4. The upper right nose on the double T pipe.

2. Connect a vacuum pump to the hose.
3. Activate Intake Air Switch-over Valve N335 with Vehicle Self Diagnosis > 005 Output Diagnostic Test Mode.
4. Create a vacuum of 500 mbar.
5. Within a minute the vacuum must not drop by more than 10 mbar. The air filter flap must be open.
6. If not correct, check the vacuum pipe between T pipe and air filter flap for leaks and kinks.

Check the vacuum supply for the secondary air valves

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1. Remove the lower left hose on the double T pipe in driving direction (Figure 5).



Figure 5. The lower left hose on the double T pipe.

2. Connect a vacuum pump to the hose.
3. Create a vacuum of 500 mbar.
4. Within a minute the vacuum must not drop by more than 10 mbar.
5. If not correct, check the vacuum pipes between T pipe and changeover valve under the intake manifold for leaks and kinks.

Warranty



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Claim Type:	110		
Service Number:	2483		
Damage Code:	0050		
Labor Operations:	01 32 00 24	Technical Check – vacuum system testing	65 TU
	01 50 00 00	GFF / Guided Functions	20 TU
	Use Additional Labor Operation for any vacuum hose replacement, if needed.		
Diagnostic Time:	No Additional Diagnostic Time Allowed		
Claim Comment:	As per TSB #2017521/1		
All warranty claims submitted for payment must be in accordance with the <i>Audi Warranty Policies and Procedures Manual</i> . Claims are subject to review or audit by Audi Warranty.			

Required Parts and Tools

VAS 6213 Vacuum gauge.

Additional Information

All part and service references provided in this TSB are subject to change and/or removal. Always check with your Parts Dept. and service manuals for the latest information.

