

Vehicle Analysis Log: Evaluating Overspeed Events (12/13)

Change overview

Release	Date	Change
0	06/28/2013	<ul style="list-style-type: none"> • First publication
1	03/21/2024	<ul style="list-style-type: none"> • Vehicle types added • Description under "Reason" changed • Description under "Rev ranges" changed • 992 model line added

- Vehicle Type:
- 911 GT3 (991 / 992)**
 - 911 GT3 RS (991 / 992)**
 - 911 Speedster (991)**
 - 911 R (991)**
 - 911 Sport Classic (992)**
 - 911 S/T (992)**

Model Year: **As of 2014**

Subject: **Evaluating overspeed events using the Vehicle Analysis Log** (referred to below as "VAL").

Information: **Damaged unit parts due to high engine speed.**

The information below is intended to help you to evaluate engine damage, which may occur as a result of one or more overspeed events. Using the values entered in the VAL, you can also evaluate the assignment of "**Porsche Approved Warranties**" better and check entitlement for processing repairs under warranty and goodwill, for example.

Engines are designed to operate at a maximum permitted speed. This engine speed is not exceeded when the vehicle is driven normally. However, **driving and operating problems** (e.g. "changing to the wrong gear" on vehicles with manual transmission) or **manipulation** (e.g. tuning) can cause the maximum permitted engine speed to be exceeded when the vehicle is driven.

Overspeed events are stored in the DME control unit. The following values are also recorded:

- **Number of ignition attempts** in each overspeed range ¹, **and**,
- Status of the **hourmeter** during the **last** overspeed event ².

¹ Overspeed range = Defined rev ranges with classification of expected engine damage, e.g. engine damage possible, ... probable, ... very probable, engine damage has generally occurred; see section => 'Rev ranges'.

- 2 For technical reasons, overspeed events are entered in a preset time interval. As a result, there may be entries in a higher rev range (e.g. range 2), while no entries are stored in the lower range.

Typical **faults and symptoms** as a result of overspeed events may include the following:

- Damaged valves and/or pistons (impact marks on the valve, valve impressions on the piston, valve bent).
- Cylinder liner damage (even "piston seizure").
- Damaged or displaced connecting rod bearings.
- Loosened or loose fastening screw(s) on the crankshaft pulley.
- Loosened or loose fastening screw(s) on the camshaft gear.
- Loosened or loose connecting rod bolts.
- Cracked timing chain(s).
- Changed timing.
- Irreparably damaged clutch elements (pressure plate and/or drive plate).
- Vibrations and/or engine imbalance due to irreparably damaged clutch elements.
- Vibrations around the transmission.
- Defective synchronization.



Information

If such faults or symptoms are present together with engine damage, the **VAL that was created must be checked for overspeed entries**.

If overspeed entries are found and if the **difference between the current hourmeter and the status when the last overspeed event was recorded is less than 50 operating hours**, there is a **high probability that the damage was caused by overspeed event(s)**.

The value "50 operating hours" should be seen as a guide. The possibility of engine damage occurring much later due to previous overspeed event(s) cannot be ruled out.

Rev Ranges: Create the **VAL before clearing the fault memory**.

Three or six rev ranges will be displayed in the VAL, depending on the derivative model and model year.

- If three rev ranges are available in the VAL, these can be evaluated as follows:

Rev range 1

⇒ Maximum permitted engine speed exceeded; engine damage **possible**.

Rev range 2

⇒ Maximum permitted engine speed **clearly** exceeded; engine damage **probable**.

Rev range 3

⇒ **Engine damage has generally occurred**.

- If six rev ranges are available in the VAL, these can be evaluated as follows:

Rev range 1 & 2

⇒ Maximum permitted engine speed exceeded; engine damage **possible**.

Rev range 3 & 4

⇒ Maximum permitted engine speed **clearly** exceeded; engine damage **probable**.

Rev range 5 & 6

⇒ **Engine damage has generally occurred.**



Information

- In the event of **damage**:

Before repairing the engine or carrying out any other work, it is important to check whether there is a potential link between damage and overspeed events.

⇒ If this is the case, **the work cannot be carried out under warranty or goodwill** and neither can it be settled as a warranty or goodwill case.

⇒ For a technical evaluation, **please contact Technical Support.**

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