

Test Instructions in the Event of the Error Message "Oil pressure too low" During PDI, or From a Customer Statement (76/16)

Vehicle Type: **911 GT3 (991)**
911 GT3 RS (991)

Model Year: **As of 2014**

Subject: **Warning message "Oil pressure too low" in the multi-function display**

Information: On vehicles with low mileage, driven infrequently, or solely on short trips, the warning message "Oil pressure too low" can appear in the multi-function display when the engine is idling.

Fuel and water in the oil can cause the control piston to swell.

Remedial action involves carrying out the following test instructions during the PDI, or in the event of a customer complaint of the error message "Oil pressure too low" being displayed.



Information

Only use engine oil approved by Porsche.

After changing the oil, fill in oil so that the oil level is up to the MAX marking when the engine is at operating temperature.



Information

To minimize the amount of time and work involved in the check due to the required **test conditions**

- **Engine-oil level OK**
- **Engine oil temperature: 221° F (105° C)**

the check should be carried out **as part of the PDI**, prior to delivery to customers.

Recommended procedure during PDI:

- Perform a test drive
- Check engine-oil level and correct it if necessary (engine must be at operating temperature)
- Check to see if the "Oil pressure too low" warning message is displayed



WARNING

Toxic exhaust gases

- **Risk of suffocation**

⇒ **If the engine in the vehicle will be left running in the workshop, position an exhaust extraction system behind the vehicle's exhaust pipes and switch it on before starting the engine.**

Work Procedure: The steps described here depend on whether the vehicle has not yet been handed over to the customer (PDI is being performed) or whether the complaint is received/error message is displayed (even when the vehicle mileage is still low):

- **"PDI"** is being performed on the vehicle ($\Rightarrow$ *Workshop Manual '010100 Sales check'*) $\Rightarrow$ **Continue** with Step 1
- **Complaint is received / error message "Oil pressure too low" is displayed** $\Rightarrow$ **Continue** with Step 2.

1 **While performing PDI.**

NOTICE

Engine oil pressure too low

- **Risk of damage to engine components**

$\Rightarrow$ **Stop the engine immediately.**

1.1 Check whether the warning message **"Oil pressure too low"** is displayed.

- If **not**, continue with Step 1.2.
- If it **is displayed** $\Rightarrow$ **Continue** with Step 3.

1.2 Connect the PIWIS Tester and read out the engine oil temperature from the actual values in the DME control unit ('DME' control unit $\Rightarrow$ 'Actual values' $\Rightarrow$ 'Engine oil temperature').

1.3 Start the engine and leave it running **at idle speed** until the **engine oil temperature** that is read out has reached at least **221° F (105° C) for 10 minutes**.



Information

Do not leave the engine running to heat up unsupervised.

$\Rightarrow$ **The engine oil pressure must be checked continuously during warm-up.**



Information

Leave the engine running at idle speed as the required engine oil temperature of 221° F (105° C) will not be reached while driving.

The warm-up phase before the required engine oil temperature is reached can be shortened by increasing engine speed.

1.4 Once the **engine oil temperature** is at least **221° F (105° C)**, increase engine speed briefly to $> 2,500$ rpm and then let it drop back to idle speed.

1.5 Leave the engine running at idle speed for a further 10 seconds.

1.6 Check whether the warning message **"Oil pressure too low"** is displayed.

- If it is **not displayed** ⇒ Carry out concluding measures for vehicle handover to the customer ⇒ **End of action required**.
- If it is **displayed** ⇒ **Continue** with Step 3.

2 Customer has observed the "Oil pressure too low" warning in the multi-function display.

NOTICE

Engine oil pressure too low

- **Risk of damage to engine components**

⇒ **Stop the engine immediately.**

2.1 **9900 - PIWIS Tester III** must be connected to the vehicle. Then select Oil temperature or Oil pressure in the actual values.

2.2 Start the engine and display and check the oil pressure either in the multi-function display or using the PIWIS Tester:

The **oil pressure must reach a value of at least 1.4 ± 0.6 [bar] at idle speed.**

⇒ **Oil pressure does not reach this minimum value ⇒ Stop the engine immediately.**
Continue with Step 3.

2.3



Information

Do not leave the engine running to heat up unsupervised.

⇒ **The engine oil pressure must be checked continuously during warm-up.**

Start the engine and let it heat up until the engine oil temperature is at least 194° F (90° C).

2.4 Rev to the engine speed required for the test, select and read off the oil pressure in the multi-function display or read out the oil pressure using the **PIWIS Tester**.

Engine speed [rpm]	Oil pressure p min [bar]	Oil temperature t min.
Idle speed	1.4 ± 0.6	194 - 212° F (90 - 100° C)
3,000	3.4 ± 0.4	194 - 212° F (90 - 100° C)

- Oil pressure **increases** as engine speed increases ⇒ **Continue** with Step 2.5.
- Oil pressure **does not increase** as engine speed increases ⇒ **Continue** with Step 3.

2.5 Start the engine and leave it running **at idle speed** until the **engine oil temperature** that is read out has reached at least **221° F (105° C) for 10 minutes**.

**Information**

Leave the engine running at idle speed as the required engine oil temperature of 221° F (105° C) will not be reached while driving.

The warm-up phase before the required engine oil temperature is reached can be shortened by increasing engine speed.

- 2.6 Once the **engine oil temperature** is at least **221° F (105° C)**, increase engine speed briefly to > 2,500 rpm and then let it drop back to idle speed.
- 2.7 Leave the engine running at idle speed for a further 10 seconds.
- 2.8 Check whether the warning message "**Oil pressure too low**" is displayed.
 - If it is **not displayed** ⇒ **End of action required**.
 - If it **is displayed** ⇒ Work through the following steps **one after the other** ⇒ **Continue** with Step 3.

3 **Further measures for correcting faults if the warning message "Oil pressure too low" is displayed:**

- 3.1 Change engine oil and engine oil filter ⇒ *Workshop Manual '170155 Changing engine oil and oil filter'*.

After you have changed the engine oil and oil filter, check whether the warning message "Oil pressure too low" is still displayed.

To do this, carry out Steps 1 to 1.5 again.

- If the warning message "Oil pressure too low" is no longer displayed ⇒ Carry out concluding measures for vehicle handover to the customer if necessary (sales check is being performed on the vehicle) ⇒ **End of action required**.
- If the warning message "Oil pressure too low" is still displayed ⇒ **Continue** with **Check oil pressure** Step 3.2.

**Information**

The oil pressure may be too low for a number of reasons:

- Oil is diluted if fuel gets into the oil due to too many cold starts without warming up the engine afterwards
 - Oil pressure sensor is faulty
 - Oil pump is faulty
- 3.2 Check oil pressure. ⇒ *Workshop Manual '170301 Checking engine oil pressure'*
 - If the **oil pressure is actually too low** (i.e. the value measured using the oil-pressure gauge is essentially the same as the PIWIS Tester value once adjusted by the ambient pressure) ⇒ **Continue** with **Replace oil pump** Step 3.4.

- If the **oil pressure measured using the oil-pressure gauge is OK** ⇒ **Continue** with **Replace oil pressure sensor** Step 3.3.

3.3 Replace oil pressure sensor. ⇒ *Workshop Manual '170419 Removing and installing oil-pressure sender'*



Information

After replacing the oil pressure sensor, always check to see if the "Oil pressure too low" warning message is still displayed.

Precondition: When you start the check, **the engine oil temperature must be less than 140° F (60° C).**

Allow the engine to cool to an engine oil temperature of < 140° F (60° C) if necessary and then perform the check in accordance with **Steps 1 to 1.5.**

If, contrary to expectations, the warning message "Oil pressure too low" is still displayed ⇒ **Continue** with **Replace oil pump** Step 3.4.

Otherwise ⇒ **End of action required.**

3.4 Replace oil pump. ⇒ *Workshop Manual '172019 Removing and installing oil pump'*

3.5 To make sure that the warning message "Oil pressure too low" is no longer displayed after replacing the oil pump, carry out a final check in accordance with Steps 1 to 1.5.

⇒ **End of action required**

Invoicing:

The work involved is invoiced under the labour operation:

Further measures for correcting faults when the warning message "Oil pressure too low" appears must be invoiced according to the work carried out.

APOS	Labor operation	I No.
17030175	Checking engine oil pressure	

For invoicing and documentation using PQIS, enter the following coding:

Location (FES5)	17060	Indicator light f. oil pressure display
Damage type (SA4)	4045	Warning activated

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