

New BAR 97 Requirement is Just Around the Corner!

Some have already updated to the new BAR 97 (ESP Gen 3 or World Wide). All you may need is to have the mfg. install the hardware or software for connection to the internet and the LPFET. We have not heard of any delay in the Jan 2018 start date. We have to update the school also, guess I better get looking for a used above ground dyno (our Lad cannot be used). A Maha is preferable for it could be connected to our Snap-On/Sun machine until I have to rent a new BAR 97.

New Smog Check Manual on the Way

Sometime this year (most likely late this year), the new smog check manual will be introduced. Some of the highlights are:

- New EIS internet requirements (at least you can drop the extra phone line).
- No visual inspection on fuel cap for 1996 and newer.
- GVWR of 9,999 or more no ASM testing (this used to be 8,500 GVWR and with an unloaded drive axle weight of 5,000 lbs. or more).
- Vehicles between 8,500 GVWR but less than 9,999 GVWR and with an unloaded drive axle weight of 5,000 lbs. are also exempt from an ASM test.
- Dedicated propane and natural gas vehicles over 14,000 GVWR are exempt from the smog check inspection program.
- LPFET not required if the vehicle has a fuel capacity of 50 gals or more (so an old 1995 or older Winnebago may be exempt from the LPFET).

- A new section 1.2.4 that explains sample dilution and being able to insert the probe ahead of the leak but behind the CAT (we all knew this, but now it is in the manual).
- Appendix G is now Appendix C for aftermarket parts and is in the manual not the guide.

Not in the manual, but in a BAR presentation, the LPFET must be done within 20 min of the start of the smog inspection on the EIS (the LPFET machine will be directly connected to the EIS to verify time). When the new SCM is implemented we will cover the details in a later newsletter.

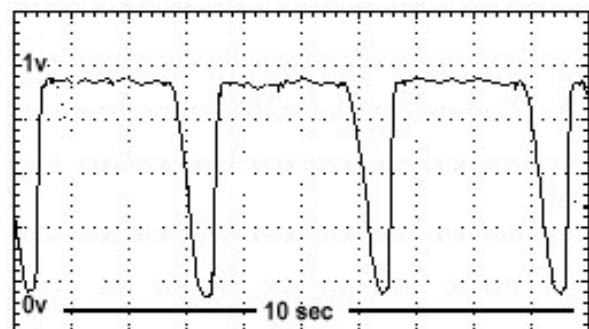


The Tip Stop

An Unusual P1133 DTC

Vehicle: 2008 Saturn Vue 3.6L 33,000 miles (low mileage).

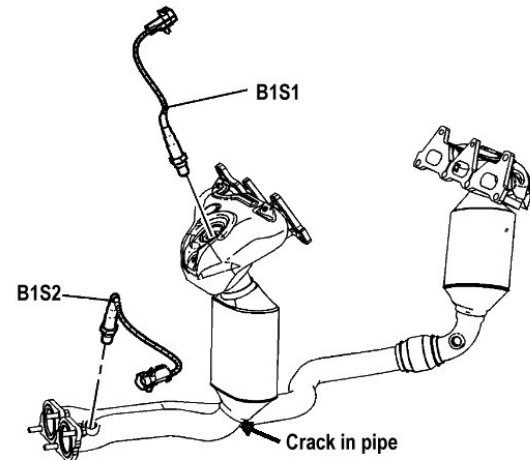
This DTC for oxygen sensor insufficient activity B1S1 typically points to a bad sensor. But in this case a sensor replacement did not fix the problem. What was unusual was the sensor voltage would go to 900mV for 2-3 secs then drop below 200mV for just a few ms then back to 900mV. It would do this at idle and when driving at cruise speeds. After two trips the P1133 code would set. B2S1 was normal. The B1S1 scope pattern looked like this:



The injectors were tested to insure none were sticking open on bank 1 causing the temporary rich mixture. The technician noticed the STFT for bank 1 would jump to +18 for 2-3 secs then to 0; it would not bounce around +/- or climb to +18. It would just read +18 all at once, then 0. Why was the ECM demanding +18 then 0? LTFT stayed +/- 5 and mostly around 0. It was apparent that the ECM was commanding the STFT change thus the reason the B1S1 was switching the way it was and setting the DTC. A check at the ECM harness connector showed the same results. Switching the rear O2 sensors did not change anything. It was as if the ECM had a command/control problem for STFT on bank 1. Could the problem be software related or internal ECM malfunction? It did not make sense that the ECM would be altering STFT in that manner. After replacement of the ECM and reprogramming, the problem persisted.

The tech then noticed something unusual about the rear O2 sensor operation when comparing bank to bank. Upon cold start B2S2 would climb to 500-600mV; but B1S2 would stay low at 100-200mV and then come up a bit after warm up. Why so much oxygen when the STFT was rich? There has to be an air leak (exhaust leak) in front of the rear O2 on bank 1. An exhaust leak was not audible under the hood.

The tech raised the vehicle and found a small fracture in the pipe right at the outlet of the bank 1 converter. The crack was welded and the problem solved.



The question is why was the ECM setting a code for the front O2 when the air leak was far after the front sensor; why not a DTC for the rear O2?

Here is what was happening: Apparently GM's strategy to verify the O2 sensors was for the ECM to set the STFT to +18 to get a reaction from the sensors. Because the rear B1S2 O2 would not respond, it would go to +18 STFT then command it back to +0 and keep doing this all of the time the vehicle was running! The ECM would set a DTC for B1S1 activity when the front O2 was only responding as a result of the ECM commands to verify the rear O2; talk about "Fake News".

Take care, and have fun when facing challenges!

Jerry Esmay

