

## '83 944 SP1 Build Trouble Shooting (Kind of Long)

Posted by bg993 - 11 Nov 2013 06:44

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OK Folks,

Needs a little help/direction with next steps in the trouble shooting process.

I have been building an '83 944 SP1 car for a while, and it is pretty much complete, I just need to chase down this last (hopefully) issue. The car is an '83 shell with an '86 924S block. Here are the symptoms:

- Car starts and runs fine in the garage, revs smoothly to redline.
- No cold start apparatus, cold air valve and associated plumbing has been removed/blocked off.
- Once I get out on the track, runs well at lower RPM, but once it reaches 4200 rpm, it starts to stumble and cough. (within the first hot lap) Bring it back in, and now it won't rev past the 4200 without stumbling, coughing and spitting. If you hold the throttle open it will try to rev, the spit stumble and die.

The car was not running when I got it, and I have gone through the motor, and most everything else:

- New fuel pump and filter (filter has been changed once since it has been running there was definitely still crud in the tank).
- Fuel Pressure tests good at the rail
- Reference sensors are both new, and the reference sensor wiring harness has been replaced all the way back to the ECU connector.
- ECU has been swapped
- TPS is new and set properly
- Air Flow Meter does have a slight "line" at the contact point, adjusted the arm slightly, but it does not appear to have worn through the conductive material.
- O2 Sensor is not connected
- Injectors did need to be "smacked" when I first started the car up.
- Most of the rest of the engine harness is original, I am going to rebuild it over the winter. (Hoping to nail down the problem before I take it out).

I can swap parts with the best of them, I am hoping you (all) can point out some steps or areas I have not yet addressed. The challenging thing is you make a couple of changes/tweaks, and go out to test, but the problem remains. So, back to the garage, try something else (and then wait till you can get back to the track to test.)

Appreciate the help and thoughts in advance!

Bill

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### Re: '83 944 SP1 Build Trouble Shooting (Kind of Long)

Posted by bg993 - 11 Dec 2013 18:15

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Quick update on my earlier post. I ended up pulling the tank, after draining the ten or so gallons left in the tank.

There is a huge amount of corrosion in the pick up area, probably close to an inch. In addition, there was crud on the inside of the internal filter at the pick up point. I had replaced the fuel lines, but it looks like the old one failed internally based on the amount of rubber crud.

The original problem really seemed like a fuel starvation issue, I am thinking when the car was not under load/at idle, the fuel pump could pull through all the crud, but once it got going, it just couldn't pull past it.

Current plan is to see if the tank can survive being hot tanked at a radiator shop. If it doesn't survive, I'll look got a good/better original tank, or perhaps bite the bullet and look to install a fuel cell (more safety is usually better.....)

Thanks for those that commented and/or reached out! More to follow.....

Bill

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### Re: '83 944 SP1 Build Trouble Shooting (Kind of Long)

Posted by RacerX - 12 Dec 2013 08:21

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I thought the tanks were made out of plastic?? Or is that just on certain model years??

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**Re: '83 944 SP1 Build Trouble Shooting (Kind of Long)**

Posted by bg993 - 12 Dec 2013 08:27

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Early tanks (83 and early '84's) were steel. I wish I could just swap in a plastic tank, but the attachment point would require a fair amount of fabrication from what I understand. BTW, I also think the 924S cars (86/87) used steel tanks...

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**Re: '83 944 SP1 Build Trouble Shooting (Kind of Long)**

Posted by Manuel\_M - 23 Dec 2013 18:24

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My fuel starvation symptoms due to crap in the tank were different. Initially I replaced the pump, filter and sock. The car ran fine for a whole day but the next I went out and it 'appeared' to run out of gas although I knew that wasn't possible. It would not start and come to find out the fuel pump stopped working. It was new so I got it warrantied. Next track day, I went out and after 2 sessions it started coughing and shuddering and finally died. The pump was extremely hot, at this point I knew something was up with the tank. Pulled out the full sender and the thing was filled with literally a cup of dirt! This is an 86 so no idea how it got in there. It was caking over the sock and burning out the pump. Jacked it up at the track and sprayed it out with the dirty gas. Never had 'that' problem again.