NISSAN Navara (D40) Suffers Power loss

By Clinton Brett, Diesel Help Australia

Customer Complaint:

Customer complaining about power loss. The engine switches to limp home mode; Fluctuating idle speed; Jerky movement from the engine.

(Image provided from Haynes online repair manual)

This Navara is fitted with the 2.5 dCi (YD25) engine and covers the years 2005 – 2015. The customer was complaining about power loss. The engine switches to limp home mode; Fluctuating idle speed; Jerky movement from the engine;

In this instance the fault code found is P0089 (Fuel pressure control valve 1 performance) P1272 (Fuel delivery control valve circuit range/).

Australia has a host of data providers to assist workshop technicians when the going gets TOUGH. In this issue I'm taking a look at an example of HaynesPro Workshop Data SmartCASE files and I'm adding additional detailed explanation where I believe it's needed.

Recently Diesel Help Australia became a HaynesPro authorised distributor, so we now have the option of combining phone diesel diagnostics assistance with the HaynesPro subscription.

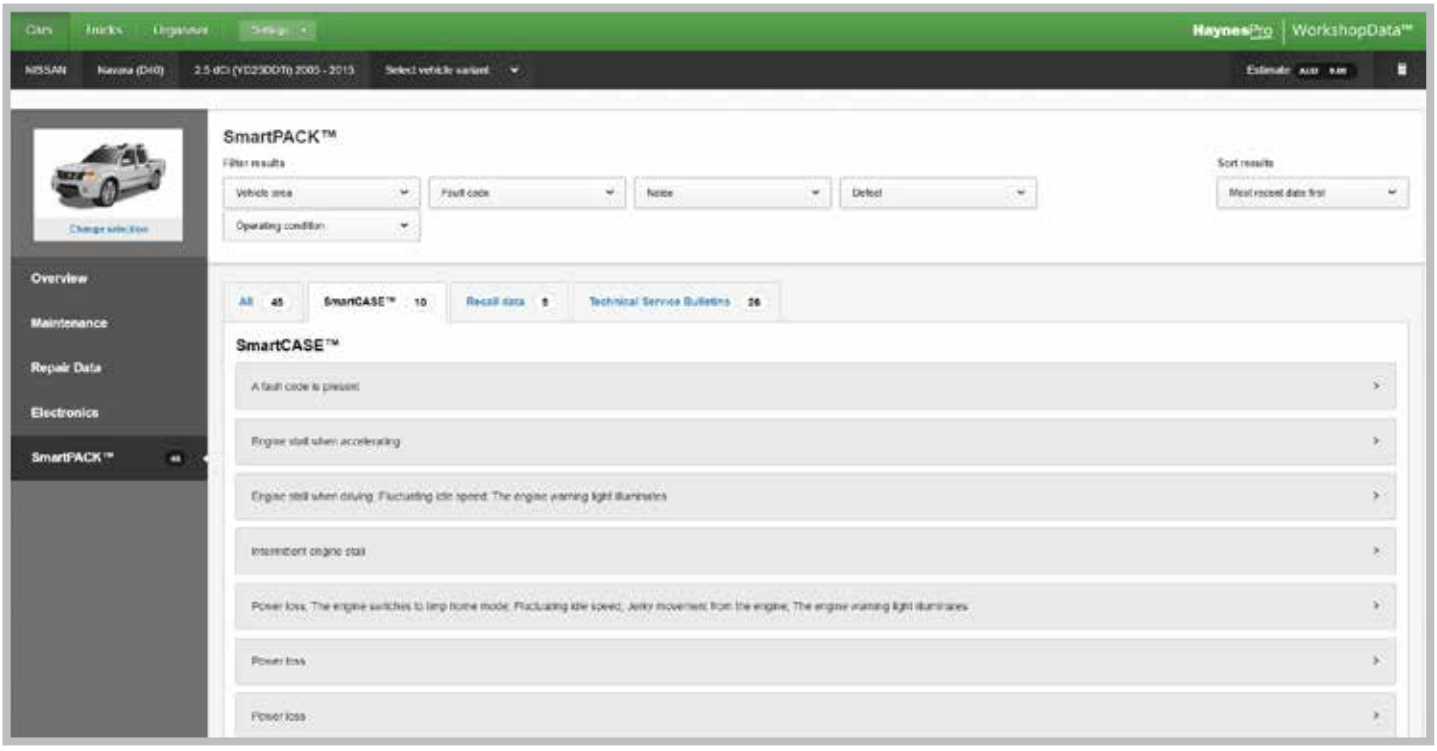
Our Diesel Help library is regularly updated and since having access to Haynes, I've discovered HaynesPro Smart Cases are related to some of our technical bulletins. The difference is our bulletins are in depth diagnostics including a full explanation of how each component operates and the cause of the failure.

Smart cases are bullet points outlining the immediate area's to be investigated to assist locating the fault. This is understandable considering the size of Haynes library in comparison to ours and we only assist technicians on the diesel side of the engine.

When you open the vehicle information area, scroll to the bottom of the list below the vehicle image where you will see SmartPACK. Choices include SmartCASE, Technical Service Bulletins (TSB) and Recall Data. Refer to the image below to see how I located this fault.

Symptom

- Power loss
- The engine switches to limp home mode
- Fluctuating idle speed
- Jerky movement from the engine
- The engine warning light illuminates
- Fault codes: P0089 (Fuel pressure control valve 1 performance), P1272 (Fuel delivery control valve circuit range)



Cause

Faulty fuel flow regulator, also referred to as the Suction Control Valve (SCV)

Below is the list found under solutions in HaynesPro. I am going to expand on this and provide a comprehensive description of what is recommended by Haynes.

Connect the diagnostic tool

This is pretty much self-explanatory when you know where the diagnostic plug is located. Haynes can help locate this too but take note, some are only in LHD, so you are going have reverse the image in your head. Make sure your scan tool can communicate. Nissan is one of the most unforgiving vehicles to communicate with especially when only attempting to enter via automatic search. When scanning any vehicle, always check the OBD report first.

Delete all the fault codes

Before doing this, ensure you have recorded all fault codes from the entire system.

Check the fuel rail pressure at idle speed

Expected value: 30 MPa. If large oscillations are observed check the power consumption for the SCV. Expected values: At idle speed 1700 - 1900 mA, at 2000 rpm 1600 - 1800 mA.

- Check the fuel injector return pipes
- Check the high-pressure fuel pump return pipe
- Check for clogging
- If no fault is found check the quantity of fuel returned from each injector*

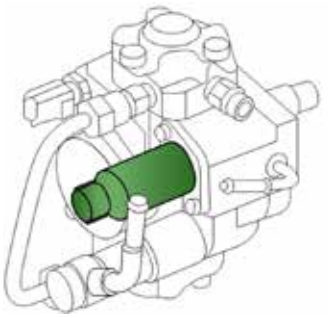
*This above test, checking the quantity of fuel return from the injectors requires the correct equipment and knowledge to perform. We can provide over the phone guidance for what we refer to as an injector back leakage test. Our Diesel Help technical bulletin for the test, is also complimented by an instructional video.

For the next couple of points below, I advise to connect the Eliminator. In other words, a separate fuel supply connected directly to the high-pressure pump eliminating the possibility of air in the diesel or a restriction.

- If similar values are found, supply clean fuel to the high-pressure pump
- Bypass the low-pressure fuel circuit
- If one or more symptoms are still present
- Renew the fuel flow regulator

Parts required (this information is supplied by HaynesPro).

Fuel flow regulator: (OE: A6860 - EC09A)



When replacing the SCV always ensure you clean the area thoroughly with brake cleaner and clean compressed air to avoid contamination. The SCV is in the low-pressure supply section of the pump and very easily can be contaminated. Make sure after removing the valve that all the seals and O-rings have been completely removed. Ensure to use specialised rubber grease to protect the seals during inserting the valve.

The following readaptation steps are provided by HaynesPro-

- Initialise the high-pressure fuel pump
- Use one of the following procedures:
- Method 1
- Using the diagnostic tool:
- High-pressure fuel pump:
- Delete the parameters
- Wait for 5 seconds
- The procedure will be completed
- Method 2
- Turn the ignition off
- Wait for 10 seconds
- Turn the ignition on
- Note: Do not start the engine
- The procedure will be completed

What can cause this failure?

The SCV becomes stuck and often poor fuel quality is the main contributor. Other causes can be the fuel filter fibres collapsing due to poorly service fuel filters, incorrect filtration or excessive use of fuel additives. Some additives only break the contaminates down, sending it through the system past the fuel filter.

For technical assistance or more information visit www.dieselhelp.com.au