Technical Bulletin

Technical Helpline: +44(0)1622 833004 **Fax:** +44(0)1622 834004

ADT36846C Suction Control Valves **Date Issued:** 1/02/2011

Applications:

Toyota Avensis 2.0 D-4D (CDT220) 1999>2003
Toyota Avensis Verso 2.0D-4D (CLM20) 2001>2005
Toyota Corolla 2.0 D-4D (CDE110) 2000>2001
Toyota Corolla Verso 2.0 D-4D (CDE120) 2001>2004
Toyota Corolla 2.0 D-4D (CDE120) 2001>2007 (90bhp & 109bhp)
Toyota Previa 2.0 D-4D (CLR30) 2001>2007
Toyota RAV4 2.0 D-4D (CLA20/21) 2001>2006

Certain models of Toyota fitted with the 2.0 D-4D engine can suffer with malfunctioning Suction Control Valves (or SCV for short) causing running issues such as a sudden lack of power which can be intermittent and often put the engine management light on.

These valves are fitted to the Denso electronic high-pressure fuel pump and control the fuel rail pressure and volume of fuel and are replaceable items.

The original valves can suffer with a 'slowing' of their operation caused by valve seat wear.

Connecting an affected vehicle to suitable diagnostic equipment should show diagnostic trouble codes of:

P0627 (fuel pump control circuit open)

DTC No.	DTC Detection Condition	Trouble Area
P0627	• No fuel feed • Internal fuel pressure is below the target fuel pressure despite the engine ECU opens the suction control valve (1 trip detection logic)	• Open in supply pump (suction control valve) circuit • Supply pump (Suction control valve) • Supply pump (Suction control valve stuck closed) • Engine ECU

or **78 (fuel circuit malfunction)**

If either of these codes exist then replacing the SCV's is likely to rectify the fault. However, Toyota D-4D engines can suffer additional problems with the fuel pumps, injectors, EGR systems and Vacuum Switching Valves, so whilst SCV replacement will have a high success rate it is not a 'fix-all' part.

Blue Print's suction control valves – ADT36846 – have been modified from the original specification meaning they should last longer than the valves originally fitted, and being a Blue Print part means they are covered by a 3 year unlimited mileage warranty.

Blue Print has produced the following guide for replacing SCV's on a Toyota RAV4, and the basic principals will be the same for other Toyota models:

Repair time approximately 45 minutes.

2003 Toyota RAV4 2.0D-4D engine compartment

- Unbolt the radiator expansion bottle (2 nuts) and move it to one side to gain access to the fuel pump. (You may wish to disconnect the upper hose and plug it to give you more room.)
- Remove the air intake/intercooler pipe.

Please turn over

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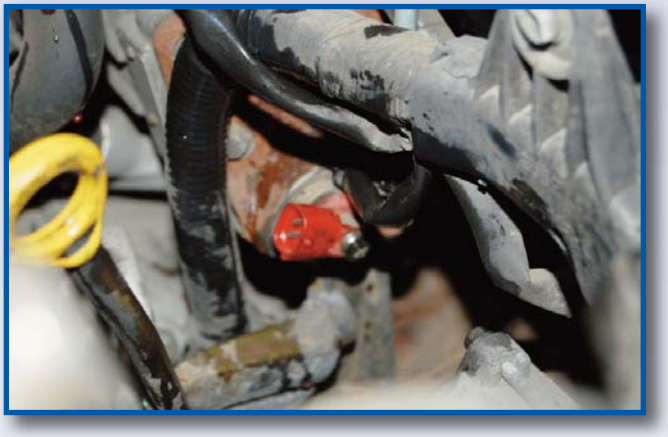
- The fuel pump is now visible (just to the left of the starter motor). Make sure the area around the green and red SCV's is as clean as possible to reduce the risk of debris entering the pump.
- Disconnect the wiring connectors from the SCV's.



- Remove the four SCV mounting bolts (two per valve) and then remove the two valves from the pump making sure you note the positions of the red and green valves. (red at the front)
- Although the seals on the new valves are pre-lubricated, it is good practice to apply a little engine oil to the seals to reduce the risk of damage during fitting.

- Ensuring the mounting area is clean, install the valves carefully making sure that they are installed in their correct positions and that the valve flange fits flush to the pump before tightening the fixing bolts to 13Nm (10lb-ft).
- The rest of the fitting procedure is the reverse of the removal.
- Reset the engine diagnostic trouble codes using a suitable diagnostics tool (or by removing the ECU fuse for a couple of minutes) before road testing vehicle.