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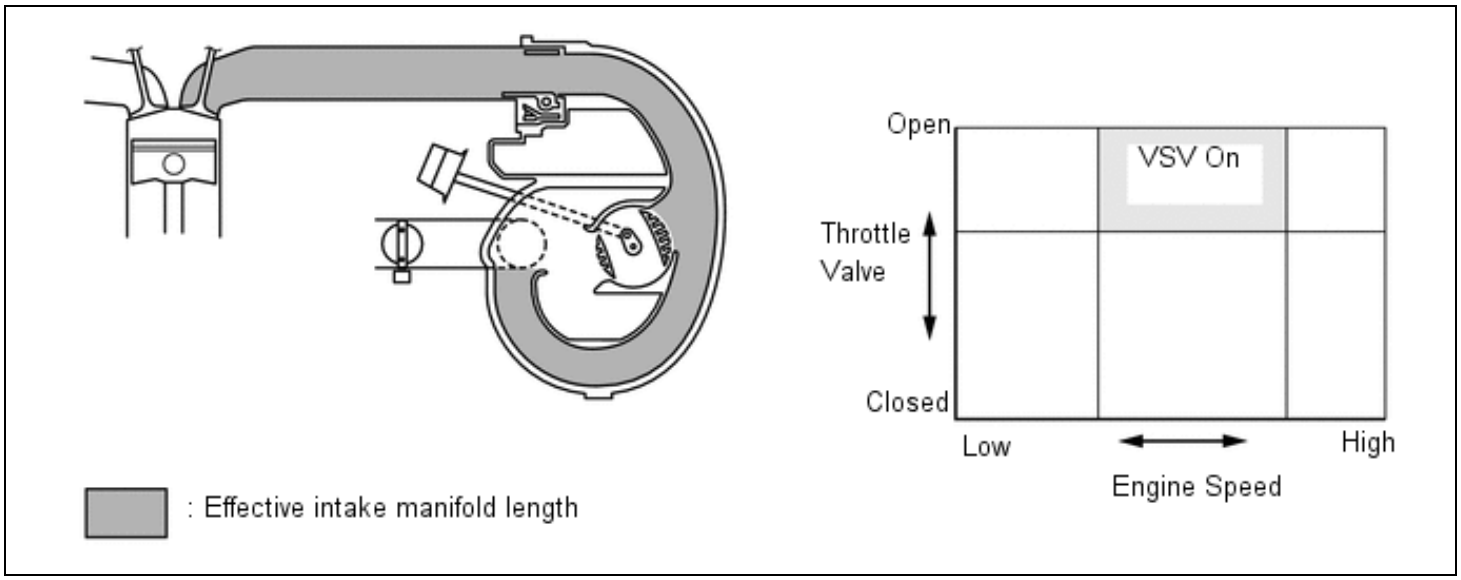
| **Model Year:** 2013 | **Model:** RAV4 | **Prod Date Range:** [12/2012 - ] |
| **Title:** 2AR-FE ENGINE CONTROL: SFI SYSTEM: ACOUSTIC CONTROL INDUCTION SYSTEM (ACIS) CONTROL; 2013 MY RAV4 [12/2012 - ] | | |

# ACOUSTIC CONTROL INDUCTION SYSTEM (ACIS) CONTROL

## 1. OPERATION

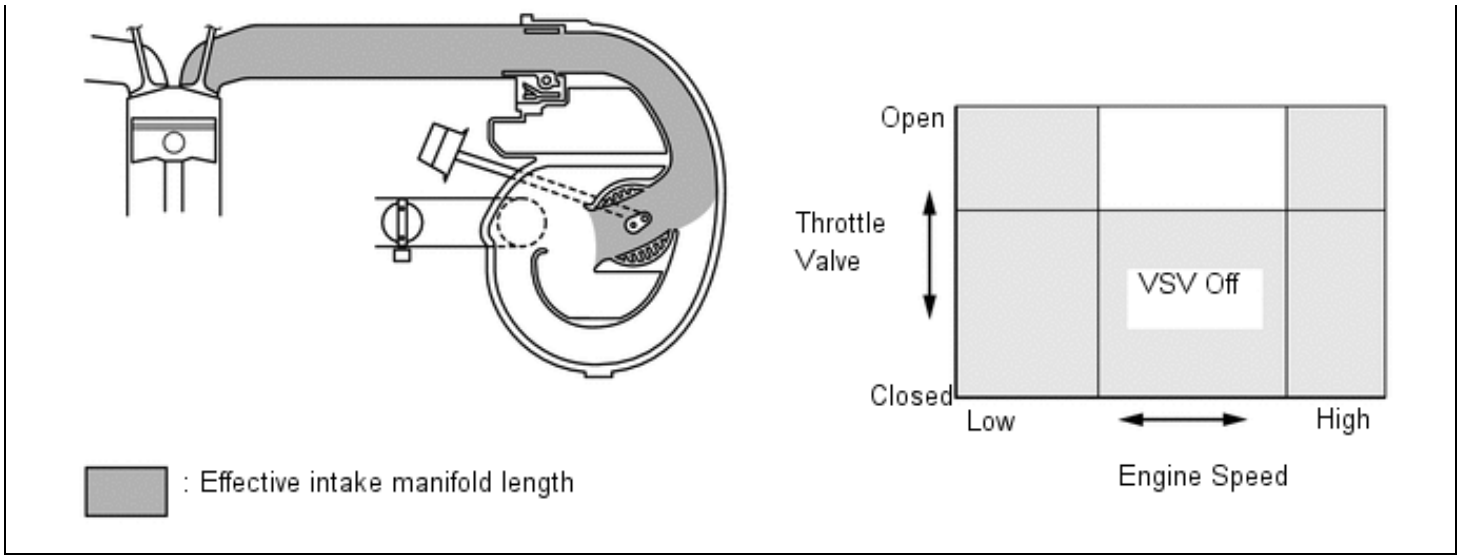
(a) When Intake Air Control Valve Closed (VSV On)

(1) The ECM activates the VSV to match the longer pulsation cycle so that the negative pressure acts on the diaphragm chamber of the actuator. This closes the intake air control valve. As a result, the effective length of the intake manifold is increased and the intake efficiency in the medium speed range is improved due to the dynamic effect of the intake air, thereby increasing the power output.




(b) When Intake Air Control Valve Open (VSV Off)

(1) The ECM deactivates the VSV to match the shorter pulsation cycle so that atmospheric air is led into the diaphragm chamber of the actuator and opens the intake air control valve. When the intake air control valve is open, the effective length of the intake air chamber is shortened and peak intake efficiency is shifted to the low-to-high engine speed range, thus providing greater output at low-to-high engine speeds.


Open
Throttle
Valve
VSV Off
Closed
Low
High
Engine Speed
: Effective intake manifold length