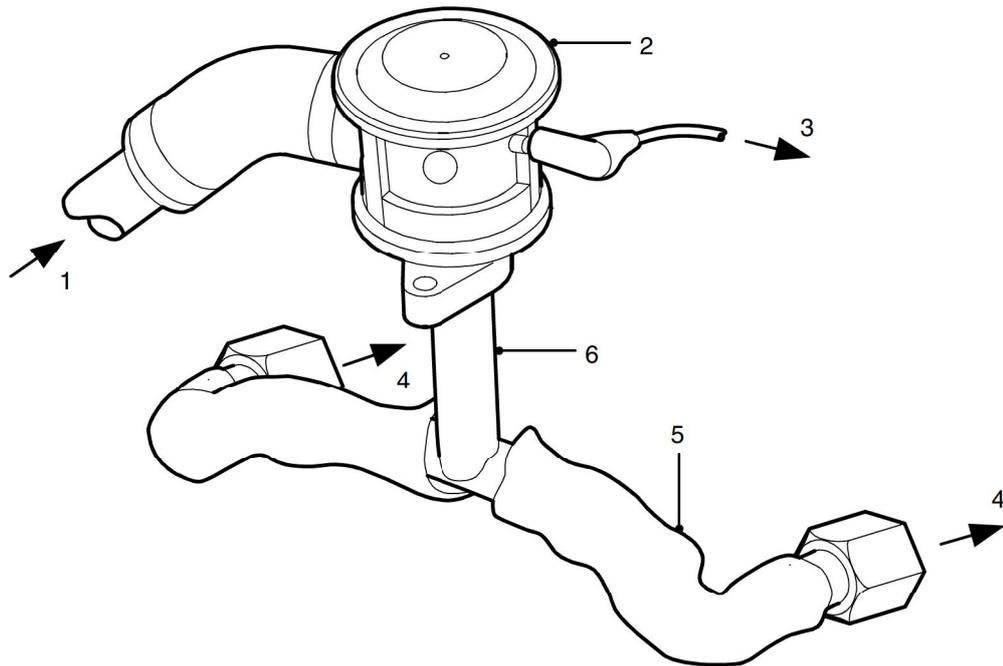




### SAI Control Valves



M17 0205

- |  |   |
|--|---|
| 1 Pressurised air from SAI pump              | 4 Pressurised air to exhaust manifold   |
| 2 Vacuum operated SAI control valve          | 5 Protective heat sleeving              |
| 3 Vacuum hose from SAI vacuum solenoid valve | 6 Air delivery pipe to exhaust manifold |

The SAI control valves are located on brackets at each side of the engine.

The air injection supply pipes connect to a large bore port on the side of each SAI control valve via a short rubber connection hose. A small bore vacuum port is located on each SAI control valve at the opposite side to the air injection supply port. The vacuum supply to each vacuum operated SAI control valve is through small bore nylon hoses from the SAI vacuum solenoid valve. An intermediate connector is included in the vacuum supply line to split the vacuum applied to each vacuum operated valve, so that both valves open and close simultaneously.

When a vacuum is applied to the SAI control valves, the valve opens to allow the pressurised air from the SAI pump through to the exhaust manifolds. The injection air is output from each SAI control valve through a port in the bottom of each unit. A metal pipe connects between the output port of each SAI control valve and each exhaust manifold via an intermediate T-piece. The T-piece splits the pressurised air delivered to ports at the outer side of the two centre exhaust ports on each cylinder head. The pipes between the T-piece and the exhaust manifold are enclosed in thermal sleeving to protect the surrounding components from the very high heat of the exhaust gas, particularly at high engine speeds and loads.

When the SAI vacuum solenoid valve is de-energised, the vacuum supply line opens to atmosphere, this causes the vacuum operated valves to close automatically and completely to prevent further air injection.

As a result of SAI control valve malfunction, certain fault codes may be stored in the ECM diagnostic memory, which can be retrieved using Testbook/T4. These may include the following::