

Forklift Throttle Body

The throttle body is a component of the intake control system in fuel injected engines in order to regulate the amount of air flow to the engine. This mechanism operates by applying pressure on the operator accelerator pedal input. Normally, the throttle body is situated between the air filter box and the intake manifold. It is often connected to or placed next to the mass airflow sensor. The biggest piece in the throttle body is a butterfly valve called the throttle plate. The throttle plate's main function is so as to regulate air flow.

On most vehicles, the accelerator pedal motion is transferred via the throttle cable, therefore activating the throttle linkages works to move the throttle plate. In vehicles with electronic throttle control, also called "drive-by-wire" an electric motor controls the throttle linkages. The accelerator pedal is attached to a sensor and not to the throttle body. This sensor sends the pedal position to the ECU or likewise known as Engine Control Unit. The ECU is responsible for determining the throttle opening based upon accelerator pedal position along with inputs from other engine sensors. The throttle body consists of a throttle position sensor. The throttle cable is attached to the black portion on the left hand side that is curved in design. The copper coil located close to this is what returns the throttle body to its idle position after the pedal is released.

Throttle plates revolve within the throttle body every time pressure is placed on the accelerator. The throttle passage is then opened so as to enable more air to flow into the intake manifold. Usually, an airflow sensor measures this alteration and communicates with the ECU. In response, the Engine Control Unit then increases the amount of fluid being sent to the fuel injectors so as to generate the desired air-fuel ratio. Generally a throttle position sensor or otherwise called TPS is fixed to the shaft of the throttle plate in order to provide the ECU with information on whether the throttle is in the idle position, the wide-open position or otherwise called "WOT" position or somewhere in between these two extremes.

Various throttle bodies could include adjustments and valves to be able to control the least amount of airflow during the idle period. Even in units which are not "drive-by-wire" there would normally be a small electric motor driven valve, the Idle Air Control Valve or also called IACV which the ECU utilizes to control the amount of air which could bypass the main throttle opening.

In several automobiles it is common for them to have a single throttle body. To be able to improve throttle response, more than one could be utilized and attached together by linkages. High performance automobiles like for instance the BMW M1, together with high performance motorcycles like the Suzuki Hayabusa have a separate throttle body for each cylinder. These models are called ITBs or "individual throttle bodies."

A throttle body is similar to the carburetor in a non-injected engine. Carburetors combine the functionality of the fuel injectors and the throttle body together. They function by mixing the fuel and air together and by controlling the amount of air flow. Cars that include throttle body injection, that is called TBI by GM and CFI by Ford, put the fuel injectors in the throttle body. This permits an older engine the chance to be converted from carburetor to fuel injection without really altering the engine design.