

engine speed. The three-dimensional control cam has been programmed according to the engine characteristics determined on the engine test bench. Fuel quantity control is also possible by way of suction pipe pressure control instead of throttle valve speed control. Exhaust gas supercharged engines may be fitted with a throttle valve charging pressure control.

Oil Circulation

The injection pump is lubricated directly from the engine lubrication system. The oil lubricates the pump drive gear and locks fuel leakage along the plungers. Dosing of the lubricating oil is by way of the friction bearing of the camshaft. Excess oil is returned to the crankcase.

Mounting of Pump to Engine

The pump can be fitted to the engine in almost any position and it may be driven either by geared belt, gear or chain. The position of the pump lever in relation to the throttle valve arm is adjusted with the aid of a setting linkage. As described in the foregoing, the pump is connected to the fuel and oil system. The automatic choke, which may be fitted to the pump or any other position, is connected to the cooling water circuit and the intake system.

Cold Starting Device

A solenoid valve is used to inject the additional amount of fuel, which is required for cold starting, into the intake system. The valve is connected to the fuel supply system behind the fine filter and opens when the starter motor is operated.

Automatic Choke

Control of the additional fuel and air quantity during warming up of the engine is via a heat-sensitive expanding element in dependence on the cooling water temperature. This decreases the injected fuel quantity as cooling water temperature increases by changing the position of the eccentric shaft and thereby that of the control cam actuated rocker. The air supply is reduced accordingly with the aid of an airregulating cone.

Injector

The valve used is a cone valve opening towards the combustion chamber. The valve cone is drawn into the valve seat by a double tension spring arranged like a pendulum.

The angle of cone and the tension of the spring determine angle of spray and opening pressure respectively.

The valve is suitable for suction chamber and direct injection systems.

