

Title (en)

INJECTION PUMP FOR INTERNAL-COMBUSTION ENGINES WITH FUEL INJECTION, PARTICULARLY FOR DIESEL ENGINES, AND CONTROL DEVICE FOR IT

Publication

EP 0027442 B1 19840919 (DE)

Application

EP 80890120 A 19801014

Priority

- AT 227280 A 19800428
- AT 307980 A 19800611
- AT 671779 A 19791015
- AT 770979 A 19791205

Abstract (en)

[origin: EP0027442A1] 1. Injection pump for internal-combustion engines with fuel injection, particularly for Diesel engines, particularly for internal-combustion engines of the type in which fuel injection pump and fuel injection nozzle are integrated to a unit associated to one engine cylinder, in which the pump piston (1) is during operation rotatable around its axis and is during its fuel supply stroke first closing with an edge (34) a bore (9) through which fuel is sucked from the suction space (29) into the working space (10) of the pump piston and is after a further length (10) of its stroke opening with a second edge (35) a bore (9) through which fuel having not been injected is flowing out of the working space of the pump piston, one of said edges extending obliquely to the generatrices of the piston, and in which within a secondary cylindrical bore (13, 205) being continuously in connection with the working space (10) of the pump piston (1) a shuttle (14, 104, 206) is slidably guided and urged in direction to the working space (10) by means of a spring (15, 114, 123, 207), said shuttle being movable against the force of the spring which, reduced to the shuttle's cross-sectional area, is greater than the initial pressure of the pump but smaller than the injection pressure, along a path limited by a stop (17, 22, 27, 112, 210) adjustable in position during operation, characterized in that the bore (9), through which fuel is sucked from the suction space (29) of the fuel injection pump into the working space (10) of the pump piston (1), is arranged such that it becomes closed at the latest at a stroke portion of the pump piston corresponding to the maximum possible advanced fuel injection, that the stop (17, 22, 27, 112, 210) is controlled by at least one operational parameter of the internal combustion engine, that the stop (17, 22, 27, 112, 210) is shiftable in transverse direction to the axis of the shuttle (14, 104, 206) and has a contacting surface (32) which has, as seen in shifting direction, the shape of a control curve, and that the stop (27) is supported on a contacting surface (31) provided with friction-increasing means against the pressure of the fuel created within the working space of the pump piston.

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