

Title (en)  
INJECTION TIMING ADVANCE DEVICE FOR INJECTION PUMPS FOR COMBUSTION ENGINES

Publication  
**EP 0167697 B1 19900124 (DE)**

Application  
**EP 85100357 A 19850115**

Priority  
DE 3418321 A 19840517

Abstract (en)  
[origin: EP0167697A1] 1. An injection timing adjuster of an injection pump for an internal combustion engine, which adjuster is arranged on the drive of the injection pump, comprising a driving primary part (3) and a driven secondary part (4) which is connected with the injection pump cam shaft (5), wherein the mechanical force transmission from the primary part (3) to the secondary part (4) takes place through a helical gearing (9) and for the achieving of an adjustment of angle of rotation between the primary part (3) and the secondary part (4), a hydraulic displacer device is provided for the shifting of one of the parts (3, 4), which device consists of a hydraulic piston (29) acting upon one part, which piston is movable by pressure charging of a first pressure chamber (36) in the one shifting direction and by pressure charging of a second pressure chamber (37) in the other shifting direction, and in that for the controlling of the movement in the shifting directions a hydraulic control valve is provided which is actuated according to the rotation angle position preset value ascertained by an electric regulating device, the rotation angle position preset value being ascertained at least from the rotation rate of the primary part or of the crank-shaft detected by the pulse emitters, characterised in that the pressure chambers (36, 37) are fed through non-return valves (45) in common by way of a hydraulic medium supply with low-pressure pressure means and the control valve (31) controls the outflows (34) of the pressure chambers (36, 37).

IPC 1-7  
**F02D 1/18**; **F16D 3/10**

IPC 8 full level  
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CPC (source: EP)  
**F02D 1/18** (2013.01); **F02D 1/183** (2013.01)

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