

Title (en)

Injection timing advance device for injection pumps of reciprocating internal-combustion engines.

Title (de)

Einspritzzeitpunktversteller für eine Einspritzpumpe einer Hubkolbenbrennkraftmaschine.

Title (fr)

Mécanisme d'avance à injection pour des pompes à injection de moteurs alternatifs à combustion interne.

Publication

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Application

EP 84101698 A 19840218

Priority

DE 3313733 A 19830415

Abstract (en)

1. An injection timing controller for an injection pump of a reciprocating-piston internal combustion engine, the controller comprising a drive gear (3) drivable by the internal combustion engine and being provided with axially displaceable helical gearing (4) by means of which it is coaxially mounted on an end portion of a cam shaft (1) of the injection pump in which - for the purpose of adjusting the drive gear's (3) rotational angular position in relation to the cam shaft (1) - its axial position on the cam shaft (1) is adjustable by means of an adjusting device of the controller, the adjusting device being operable in dependence on at least one operating parameter of the reciprocating internal combustion engine, characterized in that the adjusting device comprises : a screwthreaded spindle (7) having two oppositely directed threads and being arranged coaxially with the cam shaft (1) ; and an electric eddy-current brake (10, 11) including a casing-fastenable stator as the primary element (11) and a rotor mounted rotationally fast on the screw-threaded spindle (7) as the secondary element (10), in that the spindle (7) is screwed by one of its threads into the cam shaft (1) and by its other thread into the centre of a cup-shaped housing (5) fastened to the drive gear (3), in that an electric regulator operable in dependence on a number of operating parameters of the internal combustion engine controls by means of an electric signal the primary element (11) of the eddy-current brake (10, 11), and in that when in operation the primary element has received the electric signal the secondary element (10) together with the screw-threaded spindle (7) are turned, against the bias of a restoring spring (8), in relation to the cam shaft (1) and the drive gear (3).

Abstract (de)

Einspritzzeitpunktversteller, bei dem das Antriebszahnrad (3) auf der verlängerten Einspritzpumpen-Nockenwelle (1) mit einem schrägverzahnten Gleitsitz (4) axial und radial verschiebbar ist. Dabei wird die Verschiebung durch eine zentrale Gewindespindel (7) vorgenommen, deren Verdrehung durch eine Wirbelstrombremse (10, 11) erfolgt, bei der eine Änderung des Bremsmoments den Verstellweg ergibt. Hierbei wird der Bremsstrom von einem elektrischen Regler geliefert, der die Verstellung in Abhängigkeit von mehreren Motorbetriebsgrößen einstellt.

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IPC 8 full level

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CPC (source: EP)

F02D 1/16 (2013.01); **F02D 1/18** (2013.01)

Citation (search report)

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