

Title (en)

Method for heating a throttle valve body and intake air passage for an internal combustion engine

Title (de)

Verfahren zur Beheizung eines Drosselklappenstutzens und Saugrohr für eine Brennkraftmaschine

Title (fr)

Méthode de chauffage d'un corps de papillon et tubulure d'aspiration pour un moteur à combustion interne

Publication

EP 0727573 B1 20000426 (DE)

Application

EP 96101499 A 19960202

Priority

DE 19505407 A 19950217

Abstract (en)

[origin: EP0727573A1] In the inlet manifold (10) the throttle flap (12) is pivotable about its axis (14) by an electric motor (16) supplied with current via wires (24) from a controller (18). Heat losses in the motor are increased by a sequence of pulses at such a high repetition rate that it cannot react mechanically. The heating is limited by a signal to the controller from a temp. sensor in the immediate vicinity of the motor, measuring e.g. the resistance of its winding.

IPC 1-7

F02D 9/10; F02D 11/10

IPC 8 full level

F02M 31/135 (2006.01); **F02D 9/02** (2006.01); **F02D 9/10** (2006.01); **F02D 11/10** (2006.01); **F02M 35/10** (2006.01)

CPC (source: EP US)

F02D 9/1035 (2013.01 - EP US); **F02D 11/10** (2013.01 - EP US); **F02M 35/10268** (2013.01 - EP US); **F02M 35/1038** (2013.01 - EP US);
F02D 2011/102 (2013.01 - EP US); **F05C 2201/021** (2013.01 - EP US)

Designated contracting state (EPC)

BE DE ES FR GB IT SE

DOCDB simple family (publication)

EP 0727573 A1 19960821; EP 0727573 B1 20000426; DE 19505407 A1 19960822; DE 59605013 D1 20000531; ES 2145333 T3 20000701;
JP H08240130 A 19960917; US 5680850 A 19971028

DOCDB simple family (application)

EP 96101499 A 19960202; DE 19505407 A 19950217; DE 59605013 T 19960202; ES 96101499 T 19960202; JP 2977696 A 19960219;
US 60233896 A 19960216