

Title (en)
Positioning device for a throttle valve

Title (de)
Stelleinrichtung für eine Drosselklappe

Title (fr)
Dispositif de positionnement d'un papillon

Publication
EP 1331380 A2 20030730 (DE)

Application
EP 02027233 A 20021206

Priority
DE 10203042 A 20020126

Abstract (en)
Adjusting device for adjusting a throttle valve of an internal combustion engine with progressive force/path transformation between an operating device and the throttle valve comprises a first restoring spring. Compensation of the increase in operating force is achieved. Preferred Features: A first (12) and a second spring (13) produce a restoring force. At least part of the increase in operating force induced by the first spring is equalized by the second spring. The sum of the restoring forces of the first and second springs is sufficient in the region of small throttle valve angles to cause complete closure of the throttle valve. The first spring is a torsion or flat spiral spring. The second spring is a tension or compression spring.

Abstract (de)
Stelleinrichtung zum Verstellen einer Drosselklappe einer Brennkraftmaschine mit progressiver Kraft-/Wegwandlung zwischen Betätigungsseinrichtung und Drosselklappe mit einer ersten Rückstellfeder, wobei der progressivitätsbedingte Betätigungskraftanstieges mittels einer zweiten Rückstellfeder kompensiert wird. <IMAGE>

IPC 1-7
F02D 9/10

IPC 8 full level
F02D 9/10 (2006.01); **F02D 9/02** (2006.01)

CPC (source: EP)
F02D 9/1065 (2013.01); **F02D 2009/0269** (2013.01); **F02D 2009/0272** (2013.01)

Citation (applicant)
DE 3403760 C2 19921001

Citation (examination)
EP 0290980 A2 19881117 - NIPPON DENSO CO [JP]

Designated contracting state (EPC)
AT DE GB IT

DOCDB simple family (publication)
EP 1331380 A2 20030730; EP 1331380 A3 20070516; DE 10203042 A1 20030731

DOCDB simple family (application)
EP 02027233 A 20021206; DE 10203042 A 20020126