

## Title (en)

PROCESS AND APPARATUS FOR CONTROLLING THE ROTATIONAL SPEED OF A COMBUSTION ENGINE

## Publication

**EP 0077997 B1 19880518 (DE)**

## Application

**EP 82109644 A 19821019**

## Priority

DE 3142360 A 19811026

## Abstract (en)

[origin: US4478183A] A first error signal produced by comparison of actual engine speed value with a reference speed value is modified by blocking out of it a component corresponding to speed deviation within a dead zone speed range. The modified signal is then processed separately by proportional and integrating amplifiers of a PI controller each having a characteristic unsymmetrical with respect to the sign of the error signal. Before processing by the integrating amplifier, the modified error signal is further altered by a contribution from a signal proportional to engine speed to compensate for drifts caused by gradual temperature or atmospheric pressure changes. When the engine is not in idling operation, a feedback contribution is supplied at the same place for preloading the integrator for the next idling operation. The separately processed signals are added together to produce a position reference signal for a displaceable idling speed stop for the engine throttle. A final error signal for control of the displaceable stop is obtained by comparing the position of the reference signal with a signal representing actual stop position. When the throttle is actuated by the driver and engine speed rises out of the drive range, the proportional amplifier is blocked and also the stop displacing mechanism, but an addition is made to the stop position reference signal by which the stop controller causes the stop to set a gap between it and the throttle preventing the throttle switch from returning to idling position until another speed comparison showing exit from the drive condition releases the idling speed control.

## IPC 1-7

**F02D 31/00**

## IPC 8 full level

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