

Title (en)

CONTROL FOR SHUTTERS AND BLOWER FOR COOLING AIR IN A MOTOR VEHICLE

Publication

EP 0254815 B1 19910605 (DE)

Application

EP 87105938 A 19870423

Priority

DE 3625375 A 19860726

Abstract (en)

[origin: US4779577A] To control the cooling air requirements of an internal combustion engine and additional assemblies on a motor vehicle, a combination of cooling air flaps adjustable by an electric motor and a ventilator blower whose rpm is adjustable and which are powered by electric motors is used. One closed, one partially open, and one fully open position of the cooling air flaps as well as the rotational speed of the blower are controlled as a function of the cooling requirements of the internal combustion engine and the states of an air conditioner, a temperature of an automatic transmission fluid, a temperature of an intake manifold of the internal combustion engine, and the position of an ignition switch and an engine hood contact switch in such fashion that a cooling air stream which changes nearly continuously with the cooling requirements is created in the cooling air duct. Advantageously, in addition to the optimum protection of the system and a favorable fuel consumption, a shortened warmup phase of the internal combustion engine and improved aerodynamics of the motor vehicle are achieved by limiting the throughflow of the internal combustion engine chamber with the cooling air flaps closed or partially open.

IPC 1-7

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IPC 8 full level

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CPC (source: EP US)

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Cited by

WO2011027203A1; CN102905924A; KR20130117569A; CN102482984A; EP0578564A1; FR2693231A1; EP2325035A1; AU2010241372B2; EP2327579A1; AU2010241373B2; EP2172357A3; KR20140026788A; US8645028B2; US8571749B2

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