

Title (en)
SYSTEM FOR CONTROLLING THE TEMPERATURE OF A TEMPERATURE CONTROL FLUID IN AN INTERNAL COMBUSTION ENGINE

Title (de)
SYSTEM ZUM REGELN DER TEMPERATUR DER KÜHLUNGSFLÜSSIGKEIT IN EINER BRENNKRAFTMASCHINE

Title (fr)
SYSTEME DE REGLAGE DE LA TEMPERATURE D'UN FLUIDE DE REGLAGE DE LA TEMPERATURE DANS UN MOTEUR A COMBUSTION INTERNE

Publication
EP 0827565 B1 19991117 (EN)

Application
EP 96920232 A 19960516

Priority

- US 9606994 W 19960516
- US 44815095 A 19950523
- US 44746895 A 19950523
- US 53347195 A 19950925
- US 57660895 A 19951221
- US 57671395 A 19951221
- US 57660995 A 19951221

Abstract (en)
[origin: WO9637692A1] A temperature control system in an internal combustion engine includes a heating arrangement which channels a flow of temperature control fluid from an engine to and from an exhaust heating assembly (142) which is located adjacent to an exhaust manifold (140) in the engine. The exhaust heat assembly (142) permits the transfer of heat from the exhaust gases flowing in the exhaust manifold (140) to the temperature control fluid. The heated temperature control fluid is then directed back to the engine for efficient heating. In one embodiment, the temperature control fluid is directed through a heat exchanger in the engine oil pan (28) so as to maintain the temperature of the engine lubricating oil at or near its optimum operating temperature. In a second embodiment, the temperature control fluid is directed from the exhaust heat assembly to the intake manifold (130) so as to increase the temperature of the intake air prior to combustion.

IPC 1-7
F01P 3/20

IPC 8 full level
F01P 3/20 (2006.01); **F01P 7/14** (2006.01)

CPC (source: EP)
F01P 3/20 (2013.01); **F01P 2007/146** (2013.01); **F01P 2023/08** (2013.01); **F01P 2025/08** (2013.01); **F01P 2025/13** (2013.01); **F01P 2025/40** (2013.01); **F01P 2037/02** (2013.01); **F01P 2060/04** (2013.01); **F01P 2060/08** (2013.01); **F01P 2060/10** (2013.01); **F01P 2060/16** (2013.01); **F01P 2070/08** (2013.01)

Cited by
FR3101447A1; CN114502400A; WO2021064309A1

Designated contracting state (EPC)
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
WO 9637692 A1 19961128; AT E186765 T1 19991215; AU 5860496 A 19961211; CA 2217770 A1 19961128; CA 2217770 C 20070911; DE 69605193 D1 19991223; EP 0827565 A1 19980311; EP 0827565 B1 19991117

DOCDB simple family (application)
US 9606994 W 19960516; AT 96920232 T 19960516; AU 5860496 A 19960516; CA 2217770 A 19960516; DE 69605193 T 19960516; EP 96920232 A 19960516