

Title (en)

Method to rapidly achieve the service temperature of a mass by use of a liquid or pourable heat transfer medium, particularly for rapid heating of an internal combustion engine during a cold start

Title (de)

Verfahren zur schnellen Einstellung der Betriebstemperatur einer Masse durch einen fliess- oder rieselfähigen Wärmeträger insbesondere zur Schnellaufheizung eines Kraftfahrzeugmotors beim Kaltstart

Title (fr)

Procédé pour atteindre rapidement la température de service d'une masse à l'aide d'un agent caloporteur liquide ou coulant, en particulier pour réchauffage rapide d'un moteur à combustion interne, lors d'un démarrage à froid

Publication

**EP 0542189 B1 19960515 (DE)**

Application

**EP 92119196 A 19921109**

Priority

DE 4136910 A 19911109

Abstract (en)

[origin: EP0542189A1] A method and a device are described for the rapid heating of a vehicle engine during a cold start or of another mass, involved in heat exchange with a system containing a free-flowing heat transfer medium. The heat transfer medium is transferred into an accumulator provided in the heat transfer medium system once steady operation occurs and into that area of the system involved in heat exchange with the mass by the time that operation begins. <IMAGE>

IPC 1-7

**F02N 17/06; F01P 11/20**

IPC 8 full level

**F01P 3/20** (2006.01); **F01P 11/20** (2006.01); **F02N 17/06** (2006.01); **F02N 19/10** (2010.01); **F01P 5/10** (2006.01); **F01P 5/12** (2006.01); **F01P 7/14** (2006.01)

CPC (source: EP US)

**F01P 11/20** (2013.01 - EP US); **F02N 19/10** (2013.01 - EP US); **F01P 2005/105** (2013.01 - EP US); **F01P 2005/125** (2013.01 - EP US); **F01P 2007/146** (2013.01 - EP US); **F01P 2011/205** (2013.01 - EP US); **F01P 2060/08** (2013.01 - EP US)

Cited by

US5765511A; FR2938296A1; WO2010052404A1; WO9631694A1

Designated contracting state (EPC)

DE ES FR GB IT

DOCDB simple family (publication)

**EP 0542189 A1 19930519; EP 0542189 B1 19960515**; DE 4136910 A1 19930513; DE 4136910 C2 19941020; DE 59206296 D1 19960620; ES 2087402 T3 19960716; JP H05248238 A 19930924; US 5299630 A 19940405

DOCDB simple family (application)

**EP 92119196 A 19921109**; DE 4136910 A 19911109; DE 59206296 T 19921109; ES 92119196 T 19921109; JP 29695092 A 19921106; US 97297292 A 19921106