

Title (en)

METHOD FOR HEATING COOLING LIQUID TO START PREHEATING AND HEATING SYSTEM

Title (de)

VERFAHREN ZUM ERWÄRMEN EINER KÜHLFLÜSSIGKEIT ZUM STARTEN EINES VORHEIZ- UND HEIZSYSTEMS

Title (fr)

PROCÉDÉ POUR CHAUFFER UN LIQUIDE DE REFROIDISSEMENT POUR DÉMARRER UN PRÉCHAUFFAGE, ET SYSTÈME DE CHAUFFAGE

Publication

EP 2775134 A4 20160316 (EN)

Application

EP 12845117 A 20120419

Priority

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Abstract (en)

[origin: EP2775134A1] A method for heating cooling liquid to start preheating comprising: step 1, supply cooling liquid, which cooling liquid is filled in a circulating water pipe (12); step 2, supply fuel and ignite the fuel to heat the cooling liquid in the circulating water pipe; step 3, connect the circulating water pipe to an engine (1), and the cooling liquid is made to circulate in the circulating water pipe in order to continuously heat the engine; step 4, the exhaust gas generated by fuel combustion is collected and guided to the bottom of the engine for heating same; and step 5, judge the temperature of the engine, and stop burning fuel when the temperature of the engine reaches a threshold value. The method features a low temperature start and a high temperature cut-off with a higher level of safety. Also disclosed is a system of heating cooling liquid to start preheating.

IPC 8 full level

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Citation (search report)

- [Y] CN 201326498 Y 20091014 - SANY AUTOMOBILE MFG CO LTD [CN]
- [Y] US 3072176 A 19630108 - SUNDAY JAMES J
- [Y] US 4756359 A 19880712 - GREER J REX [US]
- [A] US 3750747 A 19730807 - HINGORANY A
- See references of WO 2013063906A1

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