

Title (en)

METHOD FOR OPERATING AN INTERNAL COMBUSTION ENGINE OF A MOTOR VEHICLE, AND INTERNAL COMBUSTION ENGINE

Title (de)

VERFAHREN ZUM BETREIBEN EINER VERBRENNUNGSKRAFTMASCHINE EINES KRAFTFAHRZEUGS SOWIE  
VERBRENNUNGSKRAFTMASCHINE

Title (fr)

PROCÉDÉ DE FONCTIONNEMENT D'UN MOTEUR À COMBUSTION INTERNE D'UN VÉHICULE MOTORISÉ, ET MOTEUR À COMBUSTION  
INTERNE

Publication

**EP 4196670 A1 20230621 (DE)**

Application

**EP 21748835 A 20210722**

Priority

- DE 102020004917 A 20200813
- EP 2021070499 W 20210722

Abstract (en)

[origin: WO2022033827A1] The invention relates to a method for operating an internal combustion engine (10) of a motor vehicle, in which method the internal combustion engine (10) has an intake section (20), through which air can flow and via which at least one combustion chamber of the internal combustion engine (10) can be supplied with the air, a compressor (24) arranged in the intake section (20) with a compressor housing (32) and a compressor impeller (28) arranged rotatably in the compressor housing (32), and a line element (36) which is connected fluidically to the intake section (20) at a first connection point (V1) arranged upstream of the compressor impeller (28) and at a second connection point (V2) arranged downstream of the compressor impeller (28), wherein, in order to heat at least the compressor housing (32), the internal combustion engine (10) is operated in a heating mode, in which air is branched off from the intake section (20) at the second connection point (V2), is introduced into the line element (36), is returned to the first connection point (V1) by means of the line element (36), and is introduced into the intake section (20) at the first connection point (V1).

IPC 8 full level

**F02B 37/16** (2006.01); **F02B 29/04** (2006.01); **F02D 41/00** (2006.01); **F02M 31/04** (2006.01); **F02M 35/10** (2006.01)

CPC (source: EP US)

**F02B 29/02** (2013.01 - US); **F02B 29/04** (2013.01 - EP); **F02B 29/0406** (2013.01 - US); **F02B 33/443** (2013.01 - EP); **F02B 37/16** (2013.01 - EP);  
**F02B 37/162** (2019.04 - EP US); **F02B 37/18** (2013.01 - US); **F02M 31/042** (2013.01 - EP); **F02M 35/10255** (2013.01 - EP);  
**F02M 35/1038** (2013.01 - EP); **Y02T 10/12** (2013.01 - EP)

Citation (search report)

See references of WO 2022033827A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

**WO 2022033827 A1 20220217**; CN 116018455 A 20230425; DE 102020004917 A1 20220217; EP 4196670 A1 20230621;  
US 2023349315 A1 20231102

DOCDB simple family (application)

**EP 2021070499 W 20210722**; CN 202180055375 A 20210722; DE 102020004917 A 20200813; EP 21748835 A 20210722;  
US 202118041310 A 20210722