

Title (en)

A COMBUSTION ENGINE HAVING TWO TURBOCHARGERS CONNECTED IN SERIES AND A METHOD FOR OPERATING THIS ENGINE

Title (de)

VERBRENNUNGSMOTOR MIT ZWEI IN REIHE GESCHALTETEN TURBOLADERN UND VERFAHREN ZUM BETREIBEN DIESES MOTORS

Title (fr)

MOTEUR À COMBUSTION AYANT DEUX TURBOCOMPRESSEURS RELIÉS EN SÉRIE ET PROCÉDÉ POUR LE FONCTIONNEMENT DE CE MOTEUR

Publication

**EP 3066327 A1 20160914 (EN)**

Application

**EP 14786701 A 20140919**

Priority

- FI 20136097 A 20131107
- FI 2014050718 W 20140919

Abstract (en)

[origin: WO2015067845A1] The combustion engine (1) according to the invention has two turbochargers (6, 4) connected in series. The first turbocharger (6) is arranged to run in a higher pressure range than the second turbocharger (4), and the first turbocharger is connected to an exhaust pipeline (8) to provide exhaust gas to a turbine wheel (18) of the first turbocharger (6). The engine also has a wastegate (11) that is connected to the exhaust pipeline (8), and an exhaust line (13) between the first turbocharger and the second turbocharger. In case a sudden load change of the engine (1), a control unit (26) is arranged to provide a second fuel injection into cylinders (2) of the engine (1) after main fuel injections to control the first turbocharger (6) to an over speeding state, and to open the wastegate (11) in order to prevent the turbocharger (1) to run in the over speed state.

IPC 8 full level

**F02D 41/40** (2006.01); **F02B 37/00** (2006.01); **F02D 23/02** (2006.01); **F02D 41/00** (2006.01)

CPC (source: EP)

**F02B 37/004** (2013.01); **F02B 37/013** (2013.01); **F02B 37/18** (2013.01); **F02D 23/02** (2013.01); **F02D 41/0007** (2013.01); **F02D 41/402** (2013.01); **F02B 2039/168** (2013.01); **F02B 2275/14** (2013.01); **Y02T 10/12** (2013.01); **Y02T 10/40** (2013.01)

Citation (search report)

See references of WO 2015067845A1

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

DOCDB simple family (publication)

**WO 2015067845 A1 20150514**; EP 3066327 A1 20160914

DOCDB simple family (application)

**FI 2014050718 W 20140919**; EP 14786701 A 20140919