Title (en)

METHOD AND CONTROL FOR A START-STOP OPERATION DEVICE OF A COMBUSTION ENGINE OF A VEHICLE

Title (de)

VERFAHREN UND VORRICHTUNG FÜR START-STOPP-ANLAGEN VON BRENNKRAFTMASCHINEN IN KRAFTFAHRZEUGEN

Title (fr)

PROCÉDÉ ET DISPOSITIF DESTINÉ À LA COMMANDE D'UN SYSTÈME DE DÉMARRAGE-ARRÊT POUR MOTEUR À COMBUSTION D'UN VÉHICULE

Publication

EP 2379874 A1 20111026 (DE)

Application

EP 09737426 A 20091021

Priority

- EP 2009063763 W 20091021
- DE 102008054979 A 20081219

Abstract (en)

[origin: WO2010069646A1] The invention relates to a starting method for internal combustion engines in motor vehicles, comprising a start-stop system, and to a starting device (10) for carrying out said method, said starting device comprising a starter motor (11) and an insertion device (12, 20) which axially inserts a slip-on pinion (13) into a crown gear (14) of the internal combustion engine when a stop cycle begins. In order to minimize the period until the engine can be restarted, the pinion (13) is resiliently inserted into the still rotating crown gear (14) by means of a pressure spring (25) when the stop phase begins, once the internal combustion engine (15) is switched off but before it comes to a standstill and with the starter motor (11) switched off.

IPC 8 full level

F02N 11/08 (2006.01); F02N 15/06 (2006.01); F02N 15/02 (2006.01); F02N 19/00 (2010.01)

CPC (source: EP KR US)

F02D 29/02 (2013.01 - KR); F02N 11/00 (2013.01 - KR); F02N 11/0855 (2013.01 - EP US); F02N 15/02 (2013.01 - KR); F02N 15/063 (2013.01 - EP US); F02N 11/0814 (2013.01 - EP US); F02N 15/022 (2013.01 - EP US); F02N 15/067 (2013.01 - EP US); F02N 19/005 (2013.01 - EP US); F02N 2019/008 (2013.01 - EP US)

Citation (search report)

See references of WO 2010069646A1

Designated contracting state (EPC)

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 SE SI SK SM TR

DOCDB simple family (publication)

DE 102008054979 A1 20100624; CN 102317615 A 20120111; CN 102317615 B 20141105; EP 2379874 A1 20111026; EP 2379874 B1 20191218; HU E048358 T2 20200828; JP 2012512982 A 20120607; JP 5409805 B2 20140205; KR 101681913 B1 20161202; KR 20110105781 A 20110927; US 10436169 B2 20191008; US 2011308490 A1 20111222; WO 2010069646 A1 20100624

DOCDB simple family (application)

DE 102008054979 A 20081219; CN 200980156973 A 20091021; EP 09737426 A 20091021; EP 2009063763 W 20091021; HU E09737426 A 20091021; JP 2011541247 A 20091021; KR 20117014187 A 20091021; US 200913140948 A 20091021