

Title (en)
Starting device for engines

Title (de)
Anlassvorrichtung für Brennkraftmaschinen

Title (fr)
Dispositif de démarrage pour moteurs à combustion

Publication
EP 2028365 A3 20100519 (EN)

Application
EP 08014722 A 20080819

Priority
JP 2007213970 A 20070820

Abstract (en)
[origin: EP2028365A2] A starting device for engines (1) comprises a first rotor (2), a second rotor (3) and a one-way clutch (4). The one-way clutch (4) comprises a clutch inner (41) independently or integrally formed with the first rotor (2) and fixed to the first rotor (2); a clutch outer (42) disposed in an outer circumference side of the clutch inner (41) and fixed to the second rotor (3); and a clutch engaging member (43) disposed in a space formed between the clutch inner (41) and the clutch outer (42). A seal member (5) is disposed between the clutch-engaging member (43) and the first rotor (2), and between the clutch outer (42) and the clutch inner (41). The seal member (5) comprises an outer circumference contacting an inner circumference of the clutch outer (42) and an inner circumference contacting an outer circumference of the clutch inner (41). Either the outer circumference side or the inner circumference side is fixed, while the other side is left free and provided with a lip portion (5a).

IPC 8 full level
F02N 15/02 (2006.01); **F02N 11/00** (2006.01); **F16C 33/72** (2006.01); **F16D 41/07** (2006.01); **F16J 15/3232** (2016.01)

CPC (source: EP)
F02N 15/023 (2013.01); **F02N 11/0814** (2013.01); **F02N 2250/08** (2013.01)

Citation (search report)

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- [YA] WO 2007012943 A1 20070201 - TOYOTA MOTOR CO LTD [JP], et al
- [E] DE 102008049696 A1 20090507 - DENSO CORP [JP]
- [A] EP 1748181 A2 20070131 - TOYOTA MOTOR CO LTD [JP]

Cited by
CN102428266A; DE102014202696A1; CN105849428A; DE102014202696B4; US10495154B2; WO2011113412A3

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 MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA MK RS

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EP 2028365 A2 20090225; EP 2028365 A3 20100519; EP 2028365 B1 20120516; JP 2009047075 A 20090305

DOCDB simple family (application)
EP 08014722 A 20080819; JP 2007213970 A 20070820