

Title (en)
ENGINE STARTER

Title (de)
ANLASSER FÜR EINE BRENNKRAFTMASCHINE

Title (fr)
DEMARREUR DE MOTEUR

Publication
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Application
EP 01972568 A 20010928

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Abstract (en)
In engine starter system adapted to crank an engine first in a reverse direction, and finally in a normal direction with an electric motor that is connected to a crankshaft of an engine, to ensure a successful cranking at all times, an electric current is supplied to the electric motor for a normal rotation prior to cranking the engine in the reverse direction to move the crankshaft to a suitable angular position at least under a prescribed condition. This control can be accomplished without requiring any special angle sensor. <IMAGE>

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F02N 11/08

IPC 8 full level
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Cited by
WO2017021315A1; ITUB20152786A1; EP1365145A3; CN103154497A; EP3012448A1; RU2708137C2; EP2232050A4; EP3051118A4; EP3581786A4; US9091242B2; US11008992B2; WO2012035199A1; US10100799B2; WO2016016812A1; US10233887B2; WO2016016835A1; US10066591B2; US8839754B2; US10288028B2; TWI708891B

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