

Title (en)

A starter system for an internal combustion engine.

Title (de)

Anlassvorrichtung für einen Verbrennungsmotor.

Title (fr)

Système de démarrage pour un moteur à combustion interne.

Publication

**EP 0537754 A1 19930421 (EN)**

Application

**EP 92117658 A 19921015**

Priority

IT TO910781 A 19911015

Abstract (en)

A starter system for an internal combustion engine, including a dc voltage source (1), an electric starter motor (M) operable to cause the rotation of a translatable pinion (12), an electromagnetic control device (20; 11), and a control circuit (14-18), provided to control the coupling of the electric motor (M) and the electromagnetic control device (20; 11) to the voltage source (1). The control circuit includes a sensor (14) operable to supply electrical signals indicating the speed of rotation of the crankshaft (13) of the internal combustion engine; a switch (6) interposed between the said voltage source (1) and the electromagnetic control device (20; 11), and a comparison circuit (15) provided to control the passage of current through the switch (6) towards the electromagnetic control device (20) in dependence on the speed of rotation of the engine at the end of predetermined time periods. <IMAGE>

IPC 1-7

**F02N 11/08**

IPC 8 full level

**F02N 11/08** (2006.01)

CPC (source: EP)

**F02N 11/0851** (2013.01); **F02N 11/0859** (2013.01); **F02N 2200/022** (2013.01); **F02N 2300/102** (2013.01)

Citation (search report)

- [AD] EP 0373777 A1 19900620 - GEN MOTORS CORP [US]
- [A] DE 3233631 A1 19830421 - NISSAN MOTOR [JP]
- [A] EP 0244521 A1 19871111 - NIPPON DENSO CO [JP]
- [A] PATENT ABSTRACTS OF JAPAN vol. 10, no. 281 (M-520)(2337) 25 September 1986 & JP-A-61 101 672 ( HITACHI LTD ) 20 May 1986

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FR2749451A1; FR2922604A1; US6597149B1; WO0101543A1

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**EP 0537754 A1 19930421**; **EP 0537754 B1 19951206**; DE 69206572 D1 19960118; DE 69206572 T2 19960515; ES 2082321 T3 19960316; IT 1249838 B 19950328; IT TO910781 A0 19911015; IT TO910781 A1 19930416

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