

Title (en)  
STARTER

Title (de)  
STARTER

Title (fr)  
DEMARREUR

Publication  
**EP 1173675 B1 20031210 (DE)**

Application  
**EP 01913708 A 20010222**

Priority  
• DE 0100667 W 20010222  
• DE 10007959 A 20000222

Abstract (en)  
[origin: WO0163123A1] The invention relates to a starter (S) for an internal combustion engine (VM), said starter (S) being provided with a transmission (GT). The inventive starter is further characterized in that said transmission (GT) has a first gear ratio (i1) and a second gear ratio (i2) that is lower than the first gear ratio (i1). During a first starting phase the first gear ratio (i1) is used and during a second starting phase that is after the first starting phase the second gear ratio (i2) is used at least as soon as the ambient temperature is higher than a predetermined value.

IPC 1-7  
**F02N 15/06**

IPC 8 full level  
**F02N 15/02** (2006.01); **F02N 11/04** (2006.01); **F02N 11/08** (2006.01); **F02N 15/06** (2006.01)

CPC (source: EP US)  
**F02N 15/06** (2013.01 - EP US)

Designated contracting state (EPC)  
DE ES FR GB IT

DOCDB simple family (publication)  
**WO 0163123 A1 20010830**; AU 3919401 A 20010903; BR 0104574 A 20020108; CN 1363016 A 20020807; DE 10007959 A1 20010830; DE 10190619 D2 20020516; DE 50101115 D1 20040122; EP 1173675 A1 20020123; EP 1173675 B1 20031210; JP 2003524114 A 20030812; MX PA01010690 A 20020604; US 2002123408 A1 20020905; ZA 200108572 B 20030120

DOCDB simple family (application)  
**DE 0100667 W 20010222**; AU 3919401 A 20010222; BR 0104574 A 20010222; CN 01800293 A 20010222; DE 10007959 A 20000222; DE 10190619 T 20010222; DE 50101115 T 20010222; EP 01913708 A 20010222; JP 2001561912 A 20010222; MX PA01010690 A 20010222; US 3076802 A 20020409; ZA 200108572 A 20011018