

Title (en)

A STATOR ASSEMBLY WITH AN OVERMOLDING THAT SECURES MAGNETS TO A FLUX RING AND THE FLUX RING TO A STATOR HOUSING

Title (de)

STATORBAUGRUPPE MIT EINER ÜBERFORMUNG, DIE MAGNETE AN EINEM FLUSSRING UND DEN FLUSSRING AN EINEM STATORGEHÄUSE BEFESTIGT

Title (fr)

ENSEMBLE STATOR DOTE D'UN SURMOULAGE FIXANT DES AIMANTS SUR UNE BAGUE MAGNETIQUE ET LA BAGUE MAGNETIQUE SUR UN BOITIER DE STATOR

Publication

EP 1588469 A4 20140430 (EN)

Application

EP 03790418 A 20031210

Priority

- US 0339145 W 20031210
- US 43349602 P 20021213
- US 46864303 A 20030820
- US 70237903 A 20031105

Abstract (en)

[origin: WO2004055956A2] A stator assembly for an electric motor includes a stator housing, an expandable flux ring inserted into the stator housing and a plurality of magnets on an inner surface of the flux ring. Overmold material is molded around the magnets in the flux ring, such as by injection molding. The pressure of the overmold material as it is being molded expands the flux ring pressing the flux ring into engagement with the stator housing. The overmold material secures the magnets to the flux ring and the flux ring to the housing. One of the flux ring and stator housing has a dimple that engages a hole in the other of the flux ring and stator housing to align the flux ring and stator housing. In an aspect, the overmold material is molded to form at least one of a commutator end or rear bearing support, front bearing support and fan baffle. In an aspect, the overmold material is molded to form a keying feature. The keying feature can be slots of different widths between magnetic poles of the stator assembly. In an aspect, the flux ring and housing are preformed as a unit by stamping them from blanks and rolling them together. In a variation, the flux ring blank is rolled first to form the flux ring and the housing blank rolled around the flux ring with the flux ring acting as a rolling arbor.

IPC 8 full level

B25F 5/00 (2006.01); **H02K 1/00** (2006.01); **H02K 1/12** (2006.01); **H02K 1/17** (2006.01); **H02K 1/18** (2006.01); **H02K 5/00** (2006.01); **H02K 5/08** (2006.01); **H02K 1/04** (2006.01); **H02K 5/173** (2006.01); **H02K 15/03** (2006.01); **H02K 23/04** (2006.01)

IPC 8 main group level

H02K (2006.01)

CPC (source: EP KR)

H02K 1/17 (2013.01 - EP KR); **H02K 1/18** (2013.01 - EP); **H02K 5/08** (2013.01 - EP KR); **H02K 23/04** (2013.01 - EP); **H02K 1/04** (2013.01 - EP); **H02K 5/1732** (2013.01 - EP); **H02K 15/03** (2013.01 - EP)

Citation (search report)

- [IY] WO 0180400 A2 20011025 - CRUMAX MAGNETICS INC [US], et al
- [YA] EP 1237252 A2 20020904 - BLACK & DECKER INC [US]
- [Y] EP 1162715 A1 20011212 - ASMO CO LTD [JP]
- [Y] DE 2302947 A1 19730809 - FORD WERKE AG
- See references of WO 2004055956A2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2004055956 A2 20040701; **WO 2004055956 A3 20060518**; AU 2003293467 A1 20040709; AU 2003293467 A2 20040709; AU 2003293467 B2 20071220; BR 0317257 A 20051108; CA 2508260 A1 20040701; EP 1588469 A2 20051026; EP 1588469 A4 20140430; JP 2006518177 A 20060803; KR 20050084230 A 20050826; MX PA05006227 A 20050819

DOCDB simple family (application)

US 0339145 W 20031210; AU 2003293467 A 20031210; BR 0317257 A 20031210; CA 2508260 A 20031210; EP 03790418 A 20031210; JP 2005508313 A 20031210; KR 20057010492 A 20050610; MX PA05006227 A 20031210