

# (12) International Application Status Report

**Received at International Bureau:** 02 March 2016 (02.03.2016)

**Information valid as of:** 04 March 2016 (04.03.2016)

**Report generated on:** 21 January 2021 (21.01.2021)

**(10) Publication number:**

WO2016/139174

**(43) Publication date:**

09 September 2016 (09.09.2016)

**(26) Publication language:**

English (EN)

**(21) Application Number:**

PCT/EP2016/054210

**(22) Filing Date:**

29 February 2016 (29.02.2016)

**(25) Filing language:**

English (EN)

**(31) Priority number(s):**

102015902335582 (IT)

**(31) Priority date(s):**

03 March 2015 (03.03.2015)

**(31) Priority status:**

Priority document received (in compliance with PCT Rule 17.1)

**(51) International Patent Classification:**

**F02D 41/30** (2006.01); **F02M 37/04** (2006.01); **F02M 37/08** (2006.01); **F02D 41/38** (2006.01); F02D 41/22 (2006.01); F02D 41/20 (2006.01)

**(71) Applicant(s):**

ROBERT BOSCH GMBH [DE/DE]; Postfach 30 02 20 70442 Stuttgart (DE) *(for all designated states)*

**(72) Inventor(s):**

MATTIA, Antonio; Via Liguria, 6 70026 Modugno (IT)

GISSI, Ruggiero; Via Paolo Ricci 2/0 70051 Barletta (BA) (IT)

**(54) Title (EN):** METHOD AND SYSTEM FOR RESTORING CORRECT OPERATION OF A PREFEED PUMP OF A PUMP UNIT USED TO FEED FUEL TO AN INTERNAL-COMBUSTION ENGINE

**(54) Title (FR):** PROCÉDÉ ET SYSTÈME PERMETTANT DE RÉTABLIR UN FONCTIONNEMENT CORRECT D'UNE POMPE DE PRÉ-ALIMENTATION D'UNE UNITÉ POMPE UTILISÉE POUR ALIMENTER EN CARBURANT UN MOTEUR À COMBUSTION INTERNE

**(57) Abstract:**

**(EN):** Method for restoring correct operation and avoiding irreversible seizing of a prefeed pump of a pump unit for fuel (1) for an internal-combustion engine (3), in which an electronic pump control unit (36) associated with the prefeed pump (7) measures the power supply current (IS) of the related electric motor (24) and the engine control unit (38) temporarily inverts the direction of rotation of the electric motor (24) if the measured phase current (IS) exceeds a predetermined threshold current value (1ST) in order to purge the prefeed pump (7) of any dust and/or waste and/or hard particles.

**(FR):** L'invention concerne un procédé permettant de rétablir un fonctionnement correct et éviter le grippage irréversible d'une pompe de pré-alimentation d'une unité pompe à carburant (1) pour un moteur à combustion interne (3), dans lequel une unité de commande de pompe électronique (36) associée à la pompe de pré-alimentation (7) mesure le courant d'alimentation électrique (IS) du moteur électrique associé (24) et l'unité de commande de moteur (38) inverse temporairement la direction de rotation du moteur électrique (24) si le courant de phase mesuré (IS) dépasse une valeur de courant seuil prédéterminée (1ST) afin de purger la pompe de pré-alimentation (7) de quelconques poussières et/ou déchets et/ou particules dures.

**International search report:**

Received at International Bureau: 16 May 2016 (16.05.2016) [EP]

**International Report on Patentability (IPRP) Chapter II of the PCT:**

Not available

**(81) Designated States:**

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH,

PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

European Patent Office (EPO) : AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR

African Intellectual Property Organization (OAPI) : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG

African Regional Intellectual Property Organization (ARIPO) : BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW

Eurasian Patent Organization (EAPO) : AM, AZ, BY, KG, KZ, RU, TJ, TM