Title (en)

Fuel supply system and method of operating this system

Title (de)

Kraftstofförderanlage und Verfahren zum Betrieb der Kraftstofförderanlage

Title (fr)

Système d'alimentation en carburant et procédé pour faire fonctionner ce système

Publication

EP 1091115 A2 20010411 (DE)

Application

EP 00119392 A 20000912

Priority

DE 19948149 A 19991007

Abstract (en)

The fuel delivery system is designed, so that between the tank (16) and the fuel pump (12) an electric auxiliary pump (18) is positioned, which is arranged parallel to a non-return valve (22) in a Bypass line (20) of the pressure line system (14). The auxiliary pump and the fuel pump is assigned a control unit (24), across which a regulation of the conveying power of the auxiliary pump, results depending on a conveying power of the fuel pump.

Abstract (de)

Die Erfindung betrifft eine Kraftstofförderanlage für eine Verbrennungskraftmaschine eines Kraftfahrzeuges, mit einer Kraftstoffpumpe, die über ein Druckleitungssystem Kraftstoff aus einem Tank zur Verbrennungskraftmaschine fördert und ein Verfahren zum Betrieb einer Kraftstofförderanlage für eine Verbrennungskraftmaschine eines Kraftfahrzeuges. Es ist vorgesehen, daß bei der erfindungsgemäßen Kraftstofförderanlage sich zwischen dem Tank (16) und der Kraftstoffpumpe (12) eine elektrische Zusatzpumpe (18) befindet, die parallel zu einem Rückschlagventil (22) in einem Bypass (20) des Druckleitungssytems (14) angeordnet ist, und daß beim Verfahren eine Förderleistung der Kraftstoffpumpe (12) in einem Steuergerät (24) erfaßt wird und in Abhängigkeit davon eine Förderleistung der Zusatzpumpe (18) eingestellt wird. <IMAGE>

IPC 1-7 (main, further and additional classification)

F02M 37/08

IPC 8 full level (invention and additional information)

F02M 37/08 (2006.01); **F02M 37/18** (2006.01)

CPC (invention and additional information)

F02M 37/18 (2013.01); **F02M 37/08** (2013.01)

Citation (applicant)

None

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

EPO simple patent family

EP 1091115 A2 20010411; EP 1091115 A3 20011205; EP 1091115 B1 20050817; AT 302342 T 20050915; DE 19948149 A1 20010412

INPADOC legal status

2008-11-28 [PG25 FR] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO

- Ref Country Code : FR
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20050817

2008-08-29 [PG25 FR] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO

- Ref Country Code : FR
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20050930

2008-07-31 [PG25 DE] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO

- Ref Country Code : DE
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20080401

2007-12-31 [BERE] BE: LAPSED

- Owner name : VOLKSWAGEN A.G.
- Effective date : 20050930

2006-10-13 [EN] FR: TRANSLATION NOT FILED

2006-09-30 [PGFP DE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE

- Ref Country Code : DE
- Payment date : 20060930
- Year of fee payment : 7

2006-08-18 [PG25 FR] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : FR
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20060818

2006-07-26 [26N] NO OPPOSITION FILED
- Effective date : 20060518

2006-05-15 [REG CH PL] PATENT CEASED

2006-03-22 [REG IE FD4D] EUROPEAN PATENTS DESIGNATING IRELAND TREATED AS ALWAYS HAVING BEEN VOID

2006-03-15 [GBV] GB: EP PATENT (UK) TREATED AS ALWAYS HAVING BEEN VOID IN ACCORDANCE WITH GB SECTION 77(7)/1977
- Effective date : 20050817

2006-02-01 [NLV1] NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT

2006-01-17 [PG25 PT] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : PT
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20060117

2005-11-28 [PG25 ES] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : ES
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20051128

2005-11-17 [PG25 DK] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : DK
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20051117

2005-11-17 [PG25 GR] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : GR
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20051117

2005-11-17 [PG25 SE] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : SE
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20051117

2005-10-17 [PG25 LU] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : LU
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20051017

2005-09-30 [PG25 BE] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : BE
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20050930

2005-09-30 [PG25 CH] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : CH
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20050930

2005-09-30 [PG25 LI] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : LI
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20050930

2005-09-30 [PG25 MC] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : MC
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20050930

2005-09-22 [REF] CORRESPONDS TO:
- Document : DE 50010959 P 20050922

2005-09-21 [REG IE FG4D] EUROPEAN PATENTS GRANTED DESIGNATING IRELAND
- Free text : LANGUAGE OF EP DOCUMENT: GERMAN

2005-09-12 [PG25 AT] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : AT
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20050912

2005-09-12 [PG25 CY] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : CY
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20050912

2005-08-31 [REG CH EP] ENTRY IN THE NATIONAL PHASE

2005-08-17 [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : B1
- Designated State(s) : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

2005-08-17 [REG GB FG4D] EUROPEAN PATENT GRANTED
- Free text : NOT ENGLISH

2005-08-17 [PG25 FI] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : FI
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20050817

2005-08-17 [PG25 GB] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : GB
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20050817

2005-08-17 [PG25 IE] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : IE
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20050817

2005-08-17 [PG25 IT] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : IT
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20050817

2005-08-17 [PG25 NL] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : NL
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20050817

2004-06-30 [17Q] FIRST EXAMINATION REPORT

- Effective date : 20040517

2002-08-28 [AKX] PAYMENT OF DESIGNATION FEES
- Free text : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

2002-08-07 [17P] REQUEST FOR EXAMINATION FILED
- Effective date : 20020605

2001-12-05 [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : A3
- Designated State(s) : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

2001-12-05 [AX] REQUEST FOR EXTENSION OF THE EUROPEAN PATENT TO:
- Free text : AL;LT;LV;MK;RO;SI

2001-04-11 [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : A2
- Designated State(s) : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

2001-04-11 [AX] REQUEST FOR EXTENSION OF THE EUROPEAN PATENT TO:
- Free text : AL;LT;LV;MK;RO;SI