Title (en)
Fuel injector

Title (de)
Kraftstoffinjektor

Title (fr)
Injecteur de combustible

Publication
EP 0957262 A3 20001122 (EN)

Application
EP 99303515 A 19990505

Priority
GB 9810208 A 19980513

Abstract (en)
[origin: EP0957262A2] A fuel injector is disclosed which incorporates an adapter plate (26), at least one of the upper and lower surfaces of which is shaped to include formations defining restricted flow passages. <IMAGE>

IPC 1-7 (main, further and additional classification)
F02M 55/00; F02M 47/02; F02M 61/16

IPC 8 full level (invention and additional information)
F02M 47/00 (2006.01); **F02M 47/02** (2006.01); **F02M 55/00** (2006.01); **F02M 61/16** (2006.01)

CPC (invention and additional information)
F02M 55/005 (2013.01); **F02M 47/027** (2013.01); **F02M 55/00** (2013.01); **F02M 55/002** (2013.01); **F02M 61/16** (2013.01); **F02M 61/165** (2013.01); F02M 2200/16 (2013.01); F02M 2200/28 (2013.01); F02M 2200/8069 (2013.01)

Citation (search report)
- [XA] GB 2112065 A 19830713 - DAIMLER BENZ AG
- [PA] EP 0844385 A1 19980527 - DENSO CORP [JP]
- [A] DE 19738351 A1 19980305 - DENSO CORP [JP]
- [A] US 5699770 A 19971223 - MATSUMOTO SHUICHI [JP], et al

Cited by
WO2007012433A1; EP1956230A1; EP1245826A3; EP2085606A1; FR3030009A1; CN106414989A; EP1296055A3; CN106414990A; EP1236886A3; US7475829B2; US7475674B2; GB2428742A; DE102005035347B3; DE10115169A1; DE10155187A1; DE10155187B4; GB2428742B; KR101029214B1; WO2005113977A1; WO2017194625A1; US7007869B2; WO2005045233A1; WO03038266A1; WO2016091544A1; WO03072932A1; WO02063159A1; WO2016050444A1

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 0957262 A2 19991117; EP 0957262 A3 20001122; EP 0957262 B1 20040901; DE 69919777 D1 20041007; DE 69919777 T2 20050915; GB 9810208 D0 19980708; JP 2000002166 A 20000107

INPADOC legal status

2016-04-29 [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 : 20151201

2015-12-01 [REG DE R119] APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE
- Document : DE 69919777

2014-08-29 [PGFP DE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : DE
- Payment date : 20140529
- Year of fee payment : 16

2014-08-07 [REG DE R081] CHANGE OF APPLICANT/PATENTEE
- Owner name : DELPHI INTERNATIONAL OPERATIONS LUXEMBOURG S.A, LU
- Free text : FORMER OWNER: DELPHI TECHNOLOGIES HOLDING S.A.R.L., BASCHARAGE, LU
- Document : DE 69919777
- Effective date : 20140702

2014-08-07 [REG DE R082] CHANGE OF REPRESENTATIVE
- Document : DE 69919777
- Representative's name : MANITZ, FINSTERWALD & PARTNER GBR, DE
- Effective date : 20140702

2014-07-02 [REG DE R082] CHANGE OF REPRESENTATIVE
- Document : DE 69919777
- Representative's name : MANITZ, FINSTERWALD & PARTNER GBR, DE

2011-05-31 [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 NON-PAYMENT OF DUE FEES
- Effective date : 20100531

2011-02-18 [REG FR ST] NOTIFICATION OF LAPSE
- Effective date : 20110131

2009-08-31 [PGFP FR] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : FR
- Payment date : 20090515
- Year of fee payment : 11

2006-01-25 [GBPC] GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE
- Effective date : 20050505

2005-08-24 [26N] NO OPPOSITION FILED
- Effective date : 20050602

2005-05-05 [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 NON-PAYMENT OF DUE FEES
- Effective date : 20050505

2005-02-25 [ET] FR: TRANSLATION FILED

2004-12-12 [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 : 20041212

2004-10-07 [REF] CORRESPONDS TO:
- Document : DE 69919777 P 20041007

2004-09-01 [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : B1
- Designated State(s) : DE ES FR GB IT

2004-09-01 [REG GB FG4D] EUROPEAN PATENT GRANTED

2004-09-01 [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 : 20040901

2004-01-07 [17Q] FIRST EXAMINATION REPORT
- Effective date : 20031117

2001-08-08 [AKX] PAYMENT OF DESIGNATION FEES
- Free text : DE ES FR GB IT

2001-07-04 [17P] REQUEST FOR EXAMINATION FILED
- Effective date : 20010510

2001-03-21 [RAP1] TRANSFER OF RIGHTS OF AN APPLICATION
- Owner name : DELPHI TECHNOLOGIES, INC.

2000-11-22 [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

2000-11-22 [AX] REQUEST FOR EXTENSION OF THE EUROPEAN PATENT TO:
- Free text : AL;LT;LV;MK;RO;SI

2000-01-26 [RAP1] TRANSFER OF RIGHTS OF AN APPLICATION
- Owner name : LUCAS INDUSTRIES LIMITED

1999-11-17 [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : A2

- Designated State(s) : DE ES FR GB IT

1999-11-17 [AX] REQUEST FOR EXTENSION OF THE EUROPEAN PATENT TO:
- Free text : AL;LT;LV;MK;RO;SI