

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4451515

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| <b>SUBMISSION TYPE:</b>                                                                                                                                                                         | NEW ASSIGNMENT                     |
| <b>NATURE OF CONVEYANCE:</b>                                                                                                                                                                    | ASSIGNMENT                         |
| <b>CONVEYING PARTY DATA</b>                                                                                                                                                                     |                                    |
| <b>Name</b>                                                                                                                                                                                     | <b>Execution Date</b>              |
| Masatoshi WATANABE                                                                                                                                                                              | 04/27/2017                         |
| Shigeto UMEYAMA                                                                                                                                                                                 | 04/27/2017                         |
| Satoshi NOGUCHI                                                                                                                                                                                 | 04/27/2017                         |
| Motoki KOMIYA                                                                                                                                                                                   | 04/28/2017                         |
| Keisuke KIDO                                                                                                                                                                                    | 04/27/2017                         |
| Hiroto MIURA                                                                                                                                                                                    | 05/18/2017                         |
| <b>RECEIVING PARTY DATA</b>                                                                                                                                                                     |                                    |
| <b>Name:</b>                                                                                                                                                                                    | FUJITSU TEN LIMITED                |
| <b>Street Address:</b>                                                                                                                                                                          | 2-28, GOSHO-DORI 1-CHOME, HYOGO-KU |
| <b>City:</b>                                                                                                                                                                                    | KOBE-SHI, HYOGO                    |
| <b>State/Country:</b>                                                                                                                                                                           | JAPAN                              |
| <b>Postal Code:</b>                                                                                                                                                                             | 652-8510                           |
| <b>Name:</b>                                                                                                                                                                                    | Toyota Jidosha Kabushiki Kaisha    |
| <b>Street Address:</b>                                                                                                                                                                          | 1, Toyota-cho                      |
| <b>City:</b>                                                                                                                                                                                    | Toyota-shi, Aichi-ken              |
| <b>State/Country:</b>                                                                                                                                                                           | Japan                              |
| <b>Postal Code:</b>                                                                                                                                                                             | 471-8571                           |
| <b>PROPERTY NUMBERS Total: 1</b>                                                                                                                                                                |                                    |
| <b>Property Type</b>                                                                                                                                                                            | <b>Number</b>                      |
| <b>Application Number:</b>                                                                                                                                                                      | 15617755                           |
| <b>CORRESPONDENCE DATA</b>                                                                                                                                                                      |                                    |
| <b>Fax Number:</b>                                                                                                                                                                              | (703)836-2787                      |
| <i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i> |                                    |
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| <b>Email:</b>                                                                                                                                                                                   | email@oliff.com                    |
| <b>Correspondent Name:</b>                                                                                                                                                                      | JAMES A. OLIFF                     |
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| <b>Address Line 4:</b>                                                                                                                                                                          | ALEXANDRIA, VIRGINIA 22320-4850    |

PATENT

|                                                                                         |                       |
|-----------------------------------------------------------------------------------------|-----------------------|
| <b>ATTORNEY DOCKET NUMBER:</b>                                                          | 176937                |
| <b>NAME OF SUBMITTER:</b>                                                               | JASMINE L. BARFIELD   |
| <b>SIGNATURE:</b>                                                                       | /Jasmine L. Barfield/ |
| <b>DATE SIGNED:</b>                                                                     | 06/08/2017            |
| <b>Total Attachments: 2</b><br>source=4996064_1#page1.tif<br>source=4996064_1#page2.tif |                       |

## U.S. ASSIGNMENT

IN CONSIDERATION of the sum of One Dollar (\$1.00), and of other good and valuable consideration paid to the undersigned inventor(s) (hereinafter, "ASSIGNOR") by  
(Insert Name(s) & Address(es) of ASSIGNEE(S))

FUJITSU TEN LIMITED

2-28, Goshō-dori 1-chome, Hyogo-ku, Kobe-shi, Hyogo 652-8510 Japan

TOYOTA JIDOSHA KABUSHIKI KAISHA

1, Toyota-cho, Toyota-shi, Aichi-ken, 471-8571 Japan

(hereinafter, "ASSIGNEE"), the receipt of which is hereby acknowledged, the undersigned ASSIGNOR hereby sells, assigns and transfers to ASSIGNEE the entire and exclusive right, title and interest to the invention entitled  
(Title of Invention)

## CONTROLLER AND ABNORMALITY DETECTING METHOD OF AIR-FUEL-RATIO SENSOR

relating to International Patent Application PCT/JP / and/or for which application for Letters Patent of the United States was executed on even date herewith or, if not so executed, was:

(a) executed on / (Insert date of execution of application, if not concurrent)

(b) filed on /

Serial No. /

Assignee's attorney is hereby authorized to insert in (b) the specified data, when known.

and to said application and all Letters Patent(s) of the United States granted on said application and any continuation, division, renewal, substitute, reissue or reexamination application based thereon, for the full term or terms for which the said Letters Patent(s) may be granted and including any extensions thereof (collectively, hereinafter, "said application(s) and Letters Patent(s)").

The ASSIGNOR agree(s), when requested by said ASSIGNEE and without charge to but at the expense of said ASSIGNEE, to do all acts which the ASSIGNEE may deem necessary, desirable or expedient, for securing, maintaining and enforcing protection for said invention, including in the preparation and prosecution of said application(s) and the issuance of said Letters Patent(s), in any interference, reissue, reexamination, or public use proceeding, and in any litigation or other legal proceeding which may arise or be declared in relation to same, such acts to include but not be limited to executing all papers, including separate assignments and declarations, taking all rightful oaths, providing sworn testimony, and obtaining and producing evidence.

IN WITNESS WHEREOF, the undersigned inventor(s) has (have) affixed his/her/their signature(s).

|                                      |                                   |                         |
|--------------------------------------|-----------------------------------|-------------------------|
| 1) Masatoshi WATANABE<br>(Signature) | Masatoshi WATANABE<br>(Type Name) | Apr. 27, 2017<br>(Date) |
| 2) Shigeto UMEYAMA<br>(Signature)    | Shigeto UMEYAMA<br>(Type Name)    | Apr. 27, 2017<br>(Date) |
| 3) Satoshi NOGUCHI<br>(Signature)    | Satoshi NOGUCHI<br>(Type Name)    | Apr. 27, 2017<br>(Date) |
| 4) Motoki KOMIYA<br>(Signature)      | Motoki KOMIYA<br>(Type Name)      | Apr. 28, 2017<br>(Date) |
| 5) Keisuke KIDO<br>(Signature)       | Keisuke KIDO<br>(Type Name)       | Apr. 27, 2017<br>(Date) |
| 6) _____<br>(Signature)              | Hiroto MIURA<br>(Type Name)       | _____<br>(Date)         |

(TSN 201701272 US00)  
PFTA-17205-US

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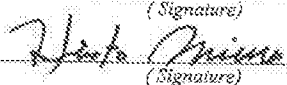
Serial No. /

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IN WITNESS WHEREOF, the undersigned inventor(s) has (have) affixed his/her/their signature(s).

|                                                                                                       |                                   |                       |
|-------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------|
| 1) _____<br>(Signature)                                                                               | Masatoshi WATANABE<br>(Type Name) | _____<br>(Date)       |
| 2) _____<br>(Signature)                                                                               | Shigeto UMEYAMA<br>(Type Name)    | _____<br>(Date)       |
| 3) _____<br>(Signature)                                                                               | Satoshi NOGUCHI<br>(Type Name)    | _____<br>(Date)       |
| 4) _____<br>(Signature)                                                                               | Motoki KOMIYA<br>(Type Name)      | _____<br>(Date)       |
| 5) _____<br>(Signature)                                                                               | Keisuke KIDO<br>(Type Name)       | _____<br>(Date)       |
| 6) <br>(Signature) | Hiroto MIURA<br>(Type Name)       | 18 May 2017<br>(Date) |