

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
CONVEYING PARTY DATA													
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Toshihiro Kato</td> <td>02/13/2013</td> </tr> <tr> <td>Isao Nakajima</td> <td>02/13/2013</td> </tr> <tr> <td>Kiyotaka Kushihama</td> <td>02/13/2013</td> </tr> <tr> <td>Tatsuro Shimada</td> <td>02/13/2013</td> </tr> <tr> <td>Shinichi Nakagoshi</td> <td>02/13/2013</td> </tr> </tbody> </table>		Name	Execution Date	Toshihiro Kato	02/13/2013	Isao Nakajima	02/13/2013	Kiyotaka Kushihama	02/13/2013	Tatsuro Shimada	02/13/2013	Shinichi Nakagoshi	02/13/2013
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RECEIVING PARTY DATA													
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City:	Toyota-shi, Aichi-ken												
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Postal Code:	471-8571												
PROPERTY NUMBERS Total: 1													
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13772935</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13772935								
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CORRESPONDENCE DATA													
Fax Number:	2486475210												
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NAME OF SUBMITTER:	Thomas E. Anderson												
Signature:	/Thomas E. Anderson/												

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Date:

04/10/2013

Total Attachments: 3

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ASSIGNMENT BY INVENTORS

THIS ASSIGNMENT, made this 13th day of February, 2013, by Toshihiro KATO, Isao NAKAJIMA, Kiyotaka KUSHIHAMA, Tatsuro SHIMADA and Shinichi NAKAGOSHI (hereinafter referred to as Assignors), residing at Toyota-shi, Aichi-ken, Japan; and Toyota-shi, Aichi-ken, Japan; and Nagoya-shi, Aichi-ken, Japan; and Toyota-shi, Aichi-ken, Japan; and Toyota-shi, Aichi-ken, Japan, respectively;

WHEREAS, Assignors have invented certain new and useful improvements in
AIR-FUEL RATIO VARIATION ABNORMALITY DETECTING DEVICE AND
AIR-FUEL RATIO VARIATION ABNORMALITY DETECTING METHOD

a Patent application for Letters Patent of the United States, filed on February 22, 2013
as U.S. Application No. 13/772,935 and

WHEREAS, TOYOTA JIDOSHA KABUSHIKI KAISHA organized under and pursuant to the laws of Japan having its principal place of business at 1, Toyota-cho, Toyota-shi, Aichi-ken, 471-8571 Japan (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said inventions and said Application for Letters Patent of the United States, and in and to any Letters Patent of the United States to be obtained therefore and thereon.

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions and application for Letters Patent, and in and to any and all direct and indirect divisions, continuations and continuations-in-part of said application, and any and all Letters Patent in the United States and all foreign countries which may be granted therefor and thereon, and reissues, reexaminations and extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by Assignee, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns, to the full end of the term or

terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignors, had this sale and assignment not been made.

AND for the same consideration, Assignors hereby represent and warrant to Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles and/or interests that have arisen to Assignee under law or that have already been transferred to Assignee, Assignors are the sole and lawful owners of the entire right, title and interest in and to the said inventions and application for Letters Patent above-mentioned, and that the same are unencumbered and that Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives and assigns, that Assignors will sign all papers and documents, take all lawful oaths and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said inventions, without charge to Assignee, its successors, legal representatives and assigns, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns, shall advise: that any proceeding in connection with said inventions, or said Patent application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said inventions in any country, including but not limited to interference proceedings, is lawful and desirable; or, that any division, continuation or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable.

AND Assignors hereby request the Commissioner of Patent and Trademarks to issue said Letters Patent of the United States to Assignee, as Assignee of said inventions and the Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns.

AND Assignors hereby grant the following individuals the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply

with the rules of the United States Patent and Trademark Office for recordation of this document:

GIFFORD, KRASS, SPRINKLE, ANDERSON & CITKOWSKI, P.C.

All practitioners at Customer Number 25006

AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.

Date: February 13, 2013 Signature: *Toshihiro Kato*
Toshihiro KATO

Date: February 13, 2013 Signature: *Isao Nakajima*
Isao NAKAJIMA

Date: February 13, 2013 Signature: *Kiyotaka Kushiharma*
Kiyotaka KUSHIHAMA

Date: February 13, 2013 Signature: *Tatsuro Shimada*
Tatsuro SHIMADA

Date: February 13, 2013 Signature: *Shinichi Nakagoshi*
Shinichi NAKAGOSHI