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| PATENT ASSIGNMENT COVER SHEET |
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| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| TAKERU SHIRASAWA | 10/30/2018 |
| TORU KIDOKORO | 10/30/2018 |
| MAKOTO OGISO | 10/31/2018 |
| KENJI FURUI | 10/30/2018 |
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| PROPERTY NUMBERS Total: 1 | |
| Property Type | Number |
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| DATE SIGNED: | 12/20/2018 |
| Total Attachments: 2 | |
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| source=0113Assign#page2.tif | |

ASSIGNMENT AND DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION

WHEREAS I/We, the below named inventor(s), (hereinafter referred to as Assignor(s)), of a claimed invention in an application for United States Letters Patent entitled:

ABNORMALITY DIAGNOSIS SYSTEM FOR AN EXHAUST GAS PURIFICATION APPARATUS
filed herewith or on _____ as United States Application No. _____ (Confirmation No. _____) attached hereto and/or PCT International Application No. _____

WHEREAS, **TOYOTA JIDOSHA KABUSHIKI KAISHA**
a corporation of **JAPAN**

whose post office address is **1, Toyota-cho, Toyota-shi, Aichi-ken, 471-8571 JAPAN**

(hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention, the application for United States Letters Patent on this invention and the Letters Patent to be issued upon this application;

NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I/WE, as Assignor(s), have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my/our entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof; and I/WE hereby authorize and request the Director of the United States Patent and Trademark Office to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I/WE HEREBY further covenant and agree that I/We will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to me/us respecting this invention and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors and assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

AND, I/WE HEREBY authorize and request that the attorneys having Power of Attorney in this application, insert here in parentheses (Application No. _____, filed _____) the filing date and application number of said application when known.

As a named inventor below, I hereby declare that: (1) This declaration is directed to the above-identified application; (2) the above-identified application was made or authorized to be made by me; (3) my residence and mailing address are as stated below next to my name; and (4) I believe I am an original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any willful false statements made in this declaration are punishable by fine or imprisonment of not more than five (5) years, or both, under section 1001 of Title 18 of the United States Code.

As a below named inventor, I have reviewed and understand the contents of the application, including the claims, and am aware of the duty to disclose to the USPTO all information known to me to be material to patentability as defined in 37C.F.R. § 1.56.

Authorization To Permit Access To Application by Participating Offices:

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the above-identified patent application is filed access to the above-identified patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the Applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the above-identified application is filed to have access to the above identified patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the above-identified patent application with respect to: 1) the above-identified patent application-as-filed; 2) any foreign application to which the above-identified patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the above-identified patent application; and 3) any U.S. application-as-filed from which benefit is sought in the above-identified patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing the Authorization to Permit Access to Application by Participating Offices.

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