

PATENT ASSIGNMENT

Electronic Version v1.1

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| Kazuya MIKASHIMA | 06/13/2013 |
| Tomoyuki NOGUCHI | 06/13/2013 |
| RECEIVING PARTY DATA | |
| Name: | TOYOTA JIDOSHA KABUSHIKI KAISHA |
| Street Address: | 1, Toyota-cho, Aichi |
| City: | Toyota-shi |
| State/Country: | JAPAN |
| Postal Code: | 471-8571 |
| PROPERTY NUMBERS Total: 1 | |
| Property Type | Number |
| Application Number: | 13984161 |
| CORRESPONDENCE DATA | |
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| ATTORNEY DOCKET NUMBER: | 15577/11 |
| NAME OF SUBMITTER: | Michelle White |
| Signature: | /Michelle White/ |
| Date: | 08/07/2013 |
| Total Attachments: 2 source=15577-11_Assignment#page1.tif source=15577-11_Assignment#page2.tif | |

OP \$40.00 13984161

ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned hereby assign(s), transfer(s) and set(s) over to: TOYOTA JIDOSHA KABUSHIKI KAISHA having the address:

1, Toyota-cho, Toyota-shi, Aichi 471-8571, Japan (hereafter designated as the "ASSIGNEE"), its successors and assigns, the entire right, title, and interest for the United States invention, and all applications for patent and any Letters Patent which may be granted therefore, including said application, and all United States Letters Patent which may be granted thereof, and all divisions, reissues, continuations and extensions thereof, the said interest being the entire ownership of said Letters Patent when granted to be held by said

ASSIGNEE, its successors, assigns or their legal representatives, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been and enjoyed by assignor(s) if the assignment had not been made, the application being known by the title:

CONTROL APPARATUS OF INTERNAL COMBUSTION ENGINE

Attorney Docket No.:

for which the undersigned has/have executed an application for patent in the United States of America on the same day herewith. Where this instrument is not filed concurrently with the application, the following identifying information may be added after execution:

Filing Date : February 8, 2011.

International Filing Number : PCT/JP2011/000686

US Serial No.

1. The undersigned hereby agree(s) to sign and execute any further documents and instruments which may be necessary, lawful and proper in the prosecution of said above-named application or in the preparation and prosecution of any continuing, continuation-in-part, substitute, divisional, renewal, reexamination or reissue application or in any amendments, extension of interference proceedings, or otherwise to secure the title thereto the ASSIGNEE.
2. The undersigned agree(s) to execute all papers and documents and perform any act which may be necessary in connection with the claims or provisions of the International Convention for Protection of Industrial Property of similar agreements.
3. The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the ASSIGNEE.

4. The undersigned hereby authorize(s) and request(s) the Commissioner of patents in the United States to issue any and all Letters Patents resulting from said application or any division or divisions or continuing applications thereof to the said ASSIGNEE.

5. The undersigned hereby grant(s) to the firm of KENYON & KENYON LLP the power to insert on this agreement 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.

IN WITNESS THEREBY, executed by the undersigned on the date(s) opposite the undersigned name(s).

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|-------------------------|-----------------------|-------------------------|
| <u>Kazuya Mikashima</u> | <u>June 13, 2013.</u> | <u>Kazuya MIKASHIMA</u> |
| signed | Date | Typed Name |

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|-------------------------|-----------------------|-------------------------|
| <u>Tomoyuki Noguchi</u> | <u>June 13, 2013.</u> | <u>Tomoyuki NOGUCHI</u> |
| signed | Date | Typed Name |

This assignment may be signed before a U.S. Notary Public or before at least two witnesses who also signed here:

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| _____ | _____ | _____ |
| signed | Date | Typed Name |

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|--------|-------|------------|
| _____ | _____ | _____ |
| signed | Date | Typed Name |