PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|------------------|----------------|
| KOICHI NAKAMURA | 01/25/2019 |
| TOMOAKI FURUKAWA | 01/25/2019 |
| KIYONORI TAKAGI | 01/25/2019 |

RECEIVING PARTY DATA

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| State/Country: | JAPAN | | |
| Postal Code: | 471-8571 | | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16264006 |

CORRESPONDENCE DATA

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| NAME OF SUBMITTER: | CESARE A. SCLAFANI | |
| SIGNATURE: | /Cesare A. Sclafani/ | |
| DATE SIGNED: | 04/04/2019 | |

Total Attachments: 2

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> **PATENT** REEL: 048804 FRAME: 0157

505413576

ASSIGNMENT

WHEREAS, we, Koichi Nakamura of c/o Toyota Jidosha Kabushiki Kaisha, 1, Toyota-cho, Toyota-shi, Aichi, 471-8571 Japan, Tomoaki Furukawa of c/o Toyota Jidosha Kabushiki Kaisha, 1, Toyota-cho, Toyota-shi, Aichi, 471-8571 Japan, and Kiyonori Takagi of c/o Toyota Jidosha Kabushiki Kaisha, 1, Toyota-cho, Toyota-shi, Aichi, 471-8571 Japan, hereinafter the ASSIGNOR(S), invented certain new and useful Vehicular Cooling Device for which we executed an application for a United States Patent and for which said application for United States Patent was filed on January 31, 2019 ____, under

| X | Patent Application Serial No | 16/264,006 | 1 0 |
|---|------------------------------|------------|------------|
| | Attorney Docket No. | | * |

WHEREAS, the ASSIGNOR(S) hereby authorize(s) and request(s) the attorney(s) and/or agent(s) empowered to act on Toyota Jidosha Kabushiki Kaisha's behalf in the aforementioned application, to insert above the filing date and application number of said application, when known;

WHEREAS, Toyota Jidosha Kabushiki Kaisha, a business of Japan, with a place of business at 1, Toyota-cho, Toyota-shi, Aichi-ken 471-8571, Japan, hereinafter called the ASSIGNEE, is desirous of acquiring the entire right, title and interest in and to said application and the inventions therein disclosed and any Letters Patent that may issue thereon;

AND, WHEREAS, it is the intent of the ASSIGNOR(S) to assign all rights to the above referenced application to the ASSIGNEE, including, but not limited to, all substantive rights in the above-referenced application as well as the right to claim priority, the right to be granted a patent in any and all countries and Regional Patent Offices, including, without limitation, the PCT Contracting States;

NOW, THEREFORE, for good and valuable consideration, receipt whereof is hereby acknowledged, ASSIGNOR(S) hereby sell, assign and transfer unto said ASSIGNEE, its successors and assigns, the entire right, title and interest, including the right to claim priority in and to said application, the inventions therein disclosed, and any improvements thereon, and in any and all Letters Patent that may be granted therefor in the United States and its territorial possessions and in any and all countries and Regional Patent Offices, including, without limitation, the PCT Contracting States, and in and to any and all divisions, continuations, substitutions, renewals, re-examinations, extensions and reissues thereof;

ASSIGNOR(S) hereby authorize and request the Patent Office Officials in the United States and its territorial possessions, and in any and all countries and Regional Patent Offices, including, without limitation, the PCT Contracting States, to issue, when granted, any Letters Patent thereon, and any and all divisions, continuations, substitutions, renewals, re-examinations, extensions and reissues thereof, to said ASSIGNEE, its successors and assigns, as the assignee of the entire right title and interest in and to the same, for the sole use and behalf of the ASSIGNEE and the ASSIGNEE's successors and assigns, to the full end of the term for which the Letters Patent may be granted, including the term of any and all divisions, continuations, substitutions, renewals, re-examinations, extensions and

reissues thereof, as fully and entirely as the same would have been held by the ASSIGNOR(S) had this assignment not been made;

ASSIGNOR(S) hereby authorize said ASSIGNEE, its successors and assigns, to file in its own name applications for patent in foreign countries in connection with the inventions hereby transferred, under the International Convention claiming the priority of said United States application or otherwise, and to secure in its own name the Letters Patent issued thereon, including any and all divisions, continuations, substitutions, renewals, re-examinations, extensions and reissues thereof; and

ASSIGNOR(S) hereby agree that, upon request, ASSIGNOR(S) will sign all papers, and make all rightful oaths, and do all acts which said ASSIGNEE, its successors or assigns, may consider necessary in connection with said United States application, and in connection with any other United States application or foreign applications that may be filed in connection with said inventions, and with any improvements thereon, and in connection with any Letters Patent issued thereon, including any and all divisions, continuations, substitutions, renewals, re-examinations, extensions and reissues thereof.

ASSIGNOR(S):

Date: January 25,2019

By: Jonnako Jumkawa
Tomoaki Furukawa

Date: Tomory 25, 2019

By: Kiyonori Tohagi

Kiyonori Takagi

Date: January 25, 2019

PATENT REEL: 048804 FRAME: 0159