504158318 12/29/2016

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4204992

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TOYOTA MOTOR ENGINEERING & MANUFACTURING NORTH AMERICA, INC.	12/21/2016

RECEIVING PARTY DATA

Name:	TOYOTA JIDOSHA KABUSHIKI KAISHA	
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PROPERTY NUMBERS Total: 1

Property Type	Number
Patent Number:	9531378

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SIGNATURE:	/Jenica Roberts/
DATE SIGNED:	12/29/2016

Total Attachments: 2

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PATENT 504158318 REEL: 040816 FRAME: 0819

ASSIGNMENT

WHEREAS, Toyota Motor Engineering & Manufacturing North America, Inc., a Kentucky corporation, having a place of business at 25 Atlantic Avenue, Erlanger, Kentucky 41018, is a joint owner with VIRGINIA TECH INTELLECTUAL PROPERTIES, INC., by assignment, of the application for letters patent Application No. 14/845,081, filed September 3, 2015; and which will issue as Letters Patent of the United States of America No. 9,531,378, on December 27, 2016; and

WHEREAS, Toyota Jidosha Kabushiki Kaisha having a place of business at 1,

Toyota-cho, Toyota-shi, Aichi-ken 471-8571, Japan, a corporation organized and existing
under the laws of the Country of Japan (hereinafter referred to as "ASSIGNEE") is

desirous of acquiring right, title and interest in and to said Letters Patent;

NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00) and other valuable consideration, the receipt of which is hereby acknowledged, Toyota Motor Engineering & Manufacturing North America, Inc. by these presents do sell, assign, and transfer unto ASSIGNEE the right, title and interest to the extent held by them for the territory of the United States of America, in and to the aforesaid Letters Patent and the invention described therein, and any reissue or reissues of said Letters Patent to the full end of the term for which said Letters Patent have been granted or reissues may be granted, said invention and Letters Patent to be held and enjoyed by the ASSIGNEE for the use and behoof of their successors, assigns or other legal representatives, and for claims for damage by reason of infringement past and present, as

PATENT REEL: 040816 FRAME: 0820 fully and entirely as the same would have been held by Toyota Motor Engineering & Manufacturing North America, Inc. had this Assignment and sale not been made.

IN TESTIMONY WHEREOF, Toyota Motor Engineering & Manufacturing

North America, Inc. has caused these presents to be signed by its officer thereunto duly
authorized.

TOYOTA MOTOR ENGINEERING & MANUFACTURING NORTH

AMERICA, INC.

Date: 12/2//25/Ca

Name: Frederick W. Man, II

Title: Intellectual Property Counsel

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RECORDED: 12/29/2016