## 503957016 08/11/2016

## PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:		NEW ASSIGNMENT		
NATURE OF CONVEYANCE:		ASSIGNMENT	ASSIGNMENT	
CONVEYING PARTY	Υ DATA			
		Name	Execution Date	
PETER J. MILLER OMAR ABDEL-BAQI		08	8/10/2016	
		08	8/09/2016	
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	ERS Total: 1	Number		
Property Ty	ре	Number		
	pe r: E DATA	15234695		
Property Ty Application Number CORRESPONDENC Fax Number: Correspondence wi using a fax number	pe r: E DATA ill be sent to	15234695 (312)616-5700 the e-mail address first; if that is unsuccessful, it ; if that is unsuccessful, it will be sent via US Mail		
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Property Ty Application Number CORRESPONDENC Fax Number: <i>Correspondence wi</i> <i>using a fax number</i> Phone: Email: Correspondent Nam	pe r: E DATA ill be sent to , if provideo	15234695 (312)616-5700 <b><i>the e-mail address first; if that is unsuccessful, it</i> <i>; if that is unsuccessful, it will be sent via US Mail</i> (312) 616-5600 assignments@leydig.com</b>		
Property Ty Application Number CORRESPONDENC Fax Number: <i>Correspondence wi</i> <i>using a fax number</i> Phone: Email: Correspondent Nam Address Line 1:	pe r: E DATA ill be sent to , if provideo	(312)616-5700 (312)616-5700 (312) 616-5600 assignments@leydig.com J. KARL GROSS LEYDIG, VOIT & MAYER, LTD.		
Property Ty Application Number CORRESPONDENC Fax Number: <i>Correspondence wi</i> <i>using a fax number</i> Phone: Email: Correspondent Nam Address Line 1: Address Line 2:	pe r: E DATA ill be sent to , if provideo	15234695 (312)616-5700 <b>the e-mail address first; if that is unsuccessful, it</b> <b>; if that is unsuccessful, it will be sent via US Mail</b> (312) 616-5600 assignments@leydig.com J. KARL GROSS LEYDIG, VOIT & MAYER, LTD. 180 NORTH STETSON AVE., SUITE 4900		
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SOLE/JOINT INVENTION (Worldwide Rights) Attorney Docket No. 725684 Client Ref. No. 16-0813

## ASSIGNMENT

WHEREAS I/We, the below named inventor(s), [hereinafter referred to as Assignor(s)], have made an invention entitled:

## **POWERTRAIN OPERATION AND REGULATION**

for which I/We will or have filed a patent application; and

WHEREAS, Caterpillar Inc., a corporation of Delaware whose post office address is 100 N.E. Adams Street, Peoria, IL 61629 (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention, and in and to the patent application for this invention and any and all patents to be issued upon this application throughout the world;

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 patents which may be granted thereon, and all reissues thereof, as well as all rights to claim priority in any country or jurisdiction or patent office on the basis of this application, and all patents which may be granted on this invention in any country or jurisdiction or patent office and all patents which may be granted on this invention in any country or jurisdiction or patent office and all patents which may be granted on this invention in any country or jurisdiction or patent office whose duty it is to issue patents on applications as described above, to issue all patents for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I/WE HEREBY covenant that I/We have the full right to convey the interest assigned by this Assignment, and I/We have not executed and will not execute any agreement in conflict with 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 any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or 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 any country or jurisdiction or patent office, 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 Assignee or the attorneys/representatives of Assignee to insert here in parentheses the country, application number, and official filing date (U.S. Patent Application No. <u>15/234,695</u> filed <u>August 11, 2016</u>).

IN TESTIMONY WHEREOF, I/We have hereunto set our hands.

SOLE/JOINT INVENTION (Worldwide Rights) Attorney Docket No. 725684 Client Ref. No. 16-0813

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page 3 of 3

**RECORDED: 08/11/2016**