

11-06-2006



U.S. Department of Commerce  
Patent and Trademark Office  
Attorney Docket No. 08350.6448-00000  
Attorney Customer Number: 58,982

To the Director of the U.S. Patent and  
Please record the attached original do

103332163

Mail Stop Assignment Recordation Services

1. Name of conveying party(ies):

- (1) Gregory J. SPECKHART  
(2) Mark Edward HARTMAN  
(3) Jackson WAI  
(4) Joshua Michael WILLIAMS

2. Name and address of receiving party(ies):

Name: Caterpillar Inc.

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ NoInternal  
Address:

3. Nature of conveyance:

Street 100 N.E. Adams Street  
Address:☒ Assignment☐ Merger

City: Peoria

☐ Security Agreement☐ Change of Name

State: IL Zip Code: 61629-5490

☐ Joint Research  
Agreement☐ Government Interest  
Assignment

Additional name(s) &amp; Address(es) attached?

☐ Executive Order 9494,  
Confirmatory License☐ Other:☐ Yes☒ No

Execution Date: (1) Gregory J. SPECKHART - October 31, 2006  
(2) Mark Edward HARTMAN - October 30, 2006  
(3) Jackson WAI - October 30, 2006  
(4) Joshua Michael WILLIAMS - October 30, 2006

Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application: (1) October 31, 2006, (2) October 30, 2006, (3) October 30, 2006, (4) October 30, 2006

A. Patent Application Number(s):

B. Patent Number(s):

11/01/2006 CNGUYEN2 00000053 11589967

04 FC:8021

40.00 DP

Additional numbers attached?

☐ Yes☒ No

4. Name and address of party to whom correspondence concerning document should be mailed:

5. Total number of applications and patents involved:  
1

Name: Roland G. McAndrews

6. Total fee (37 CFR 1.21(h) and 3.41): \$40

Internal Address: FINNEGAN, HENDERSON, FARABOW, GARRETT  
& DUNNER, L.L.P.☒ Enclosed (Please charge deficiency or credit overpayment to deposit account 06-0916)

Street Address: 901 New York Avenue, N.W.

☐ Authorized to be charged to deposit account

City: Washington, D.C.

State: Zip: 20001-4413

7. Deposit Account No.: 06-0916

8. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Signed:

October 31, 2006

Roland G. McAndrews  
Reg. No. 41,450

Date

Total number of pages including cover sheet, attachments and documents: 10

5/2006

PATENT  
REEL: 018483 FRAME: 0948

## ASSIGNMENT

WHEREAS We, the below named inventors, [hereinafter referred to as Assignors], have made an invention entitled:

### ELECTRIC MOTOR SYSTEM IMPLEMENTING VECTOR AND SLIP CONTROL

for which We executed an application for United States Letters Patent concurrently herewith or filed an application for United States Letters Patent on \_\_\_\_\_, 2006 (Serial No. \_\_\_\_\_); and

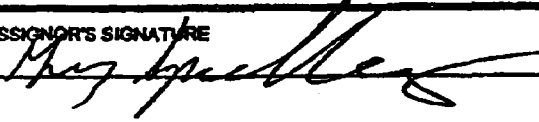
WHEREAS, Caterpillar Inc., a corporation of Delaware corporation whose post office address is 100 N.E. Adams Street, Peoria, IL 61629-6490 (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to 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 and in consideration of the sum of One Dollar (\$1.00) in hand paid and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, We, as Assignors, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, our entire right, title, and interest in and to this invention, provisional application Serial No. \_\_\_\_\_, filed \_\_\_\_\_ (if any), 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 all rights to claim priority on the basis of the above provisional application (if any), as well as all rights to claim priority on the basis of this application, and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, and all extensions, renewals, and reissues thereof; and I/We hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, WE HEREBY covenant that We have the full right to convey the interest assigned by this Assignment, and We have not executed and will not execute any agreement in conflict with this Assignment;

AND, WE HEREBY further covenant and agree that 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 the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

IN TESTIMONY WHEREOF, We have hereunto set our hands.

1. FULL NAME OF SOLE OR FIRST ASSIGNOR Gregory J. SPECKHART	ASSIGNOR'S SIGNATURE 	DATE 10/31/06
ADDRESS 228 East Oak Cliff Ct., Peoria, IL 61614		CITIZENSHIP USA

1. WITNESS NAME AYOUB DHAUT	WITNESS SIGNATURE <i>Ayoub Dhaut</i>	DATE 10/31/2006
ADDRESS 1609 W. VIKING CT, #807 PEORIA, IL 61614		CITIZENSHIP NEPAL

2. WITNESS NAME James Siegle	WITNESS SIGNATURE <i>James Siegle</i>	DATE 10/31/2006
ADDRESS 4209 W. Hollow Creek Dr., Apt. 201 Peoria, IL 61615		CITIZENSHIP USA

2. FULL NAME OF SECOND ASSIGNOR, IF ANY Mark Edward HARTMAN	ASSIGNOR'S SIGNATURE <i>Mark Edward Hartman</i>	DATE 10/30/06
ADDRESS 6551 North Cedarbrook Lane, Peoria, IL 61614		CITIZENSHIP USA

1. WITNESS NAME HUZEFA GULAMHUSEIN	WITNESS SIGNATURE <i>Huze</i>	DATE 10/30/06
ADDRESS 5801 N. LINDENWOOD, APT 2811 PEORIA, IL 61615		CITIZENSHIP KENYAN

2. WITNESS NAME ALIASGER LUKMANJI	WITNESS SIGNATURE <i>Aliasger</i>	DATE 10/30/06
ADDRESS 2402 W. JUBILEE LN DUNLAP, IL 61525		CITIZENSHIP TANZANIA.

3. FULL NAME OF THIRD ASSIGNOR, IF ANY Jackson WAI	ASSIGNOR'S SIGNATURE	DATE
ADDRESS 5912 North Cypress Dr., Apt. 1209, Peoria, ILL 61615		CITIZENSHIP Singapore

1. WITNESS NAME	WITNESS SIGNATURE	DATE
ADDRESS		CITIZENSHIP

2. WITNESS NAME	WITNESS SIGNATURE	DATE
ADDRESS		CITIZENSHIP

4. FULL NAME OF FOURTH ASSIGNOR, IF ANY Joshua Michael WILLIAMS	ASSIGNOR'S SIGNATURE	DATE
ADDRESS 4733 West Pendleton Place, Peoria, IL 61615		CITIZENSHIP USA

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NOW THEREFORE, be it known that for and in consideration of the sum of One Dollar (\$1.00) in hand paid and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, We, as Assignors, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, our entire right, title, and interest in and to this invention, provisional application Serial No. \_\_\_\_\_, filed \_\_\_\_\_ (if any), 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 all rights to claim priority on the basis of the above provisional application (if any), as well as all rights to claim priority on the basis of this application, and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, and all extensions, renewals, and reissues thereof; and I/We hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, WE HEREBY covenant that We have the full right to convey the interest assigned by this Assignment, and We have not executed and will not execute any agreement in conflict with this Assignment;

AND, WE HEREBY further covenant and agree that 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 the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

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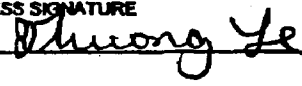
2. FULL NAME OF SECOND ASSIGNOR, IF ANY Mark Edward HARTMAN	ASSIGNOR'S SIGNATURE	DATE
ADDRESS 6551 North Cedarbrook Lane, Peoria, IL 61614		CITIZENSHIP USA

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3. FULL NAME OF THIRD ASSIGNOR, IF ANY Jackson WAI	ASSIGNOR'S SIGNATURE 	DATE 10/30/06
ADDRESS 5912 North Cypress Dr., Apt. 1209, Peoria, ILL 61615		CITIZENSHIP Singapore

1. WITNESS NAME WILLIAM J. TATE	WITNESS SIGNATURE 	DATE 10/30/06
ADDRESS 1417 W. TIMBERDALE DR. DUNLAP, IL 61525		CITIZENSHIP USA

2. WITNESS NAME Thuong D. Le	WITNESS SIGNATURE 	DATE 10/30/06
ADDRESS 6338 N. Upland Terrace Peoria, IL 61615		CITIZENSHIP USA

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4. FULL NAME OF FOURTH ASSIGNOR, IF ANY Joshua Michael WILLIAMS	ASSIGNOR'S SIGNATURE <i>J. M. Williams</i>	DATE 10/30/2006
ADDRESS 4733 West Pendleton Place, Peoria, IL 61615		CITIZENSHIP USA

1. WITNESS NAME <i>Kerth A Keil</i>	WITNESS SIGNATURE <i>Kerth A Keil</i>	DATE 10-30-06
ADDRESS <i>113 W Gran Rio Cebolla</i>		CITIZENSHIP USA
<i>Sahuarita AZ 85629</i>		

2. WITNESS NAME <i>Jonathan D Steinbrink</i>	WITNESS SIGNATURE <i>Jonathan Steinbrink</i>	DATE 10-30-06
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<i>GREEN VALLEY AZ 85614</i>		