

**PATENT ASSIGNMENT**

Electronic Version v1.1  
 Stylesheet Version v1.1

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

**CONVEYING PARTY DATA**

| Name                   | Execution Date |
|------------------------|----------------|
| Sai S.V. Rajagopalan   | 12/01/2009     |
| Jason Meyer            | 11/30/2009     |
| Shawn W. Midlam-Mohler | 11/30/2009     |
| Kenneth P. Dudek       | 12/18/2009     |
| Stephen Yurkovich      | 11/30/2009     |
| Yann G. Guezennec      | 11/30/2009     |

**RECEIVING PARTY DATA**

|                   |                                       |
|-------------------|---------------------------------------|
| Name:             | GM GLOBAL TECHNOLOGY OPERATIONS, INC. |
| Street Address:   | P.O. BOX 300                          |
| Internal Address: | Mail Code 482-C23-B21                 |
| City:             | DETROIT                               |
| State/Country:    | MICHIGAN                              |
| Postal Code:      | 48265-3000                            |

**PROPERTY NUMBERS Total: 1**

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 12687484 |

**CORRESPONDENCE DATA**

Fax Number: (248)641-0270  
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ATTORNEY DOCKET NUMBER: P009508-PTCS-CD

**501066003**

**PATENT  
 REEL: 023787 FRAME: 0627**

**CH \$40.00 12687484**

NAME OF SUBMITTER:

Michael D. Wiggins

**Total Attachments: 4**

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**ASSIGNMENT**

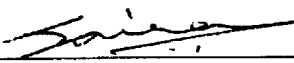
Pursuant to an agreement with my employer, I formally assign to GM GLOBAL TECHNOLOGY OPERATIONS, INC., the entire right, title and interest, in all countries and application types, in the improvements set forth in the United States patent application P009508-PTCS-CD entitled

**CONTROL SYSTEMS AND METHODS USING GEOMETRY BASED EXHAUST MIXING MODEL**

for which I executed a declaration dated as indicated below. If the patent application has been filed, I authorize any patent practitioner associated with Customer Number 74175 to insert the application number and filing date of said application here in parentheses (121087484 filed Jan. 14, 2010) when known.

If the patent application has been filed provisionally, the application number and filing date of said provisional application(s) assigned herein are as follows:

US Provisional Serial No      Filed  
61/247049                              30-SEP-2009

Inventor's signature       Date 12/1/2009

Full name :                      SAI S.V. RAJAGOPALAN                      Declaration dated :  
Residence :                      STERLING HEIGHTS, MICHIGAN                      \_\_\_\_\_

Inventor's signature \_\_\_\_\_      Date \_\_\_\_\_

Full name :                      JASON MEYER                      Declaration dated :  
Residence :                      DAYTON, OHIO                      \_\_\_\_\_

Inventor's signature \_\_\_\_\_      Date \_\_\_\_\_

Full name :                      SHAWN W. MIDLAM-MOHLER                      Declaration dated :  
Residence :                      COLUMBUS, OHIO                      \_\_\_\_\_

Inventor's signature \_\_\_\_\_      Date \_\_\_\_\_

Full name :                      KENNETH P. DUDEK                      Declaration dated :  
Residence :                      ROCHESTER HILLS, MICHIGAN                      \_\_\_\_\_

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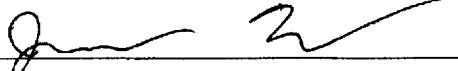
If the patent application has been filed provisionally, the application number and filing date of said provisional application(s) assigned herein are as follows:

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61/247049                      30-SEP-2009

Inventor's signature \_\_\_\_\_ Date \_\_\_\_\_


Full name :                      SAI S.V. RAJAGOPALAN                      Declaration dated :

Residence :                      STERLING HEIGHTS, MICHIGAN                      \_\_\_\_\_

Inventor's signature  Date 11-30-09

Full name :                      JASON MEYER                      Declaration dated :

Residence :                      DAYTON, OHIO                      11-30-09

Inventor's signature  Date 11-30-09

Full name :                      SHAWN W. MIDLAM-MOHLER                      Declaration dated :

Residence :                      COLUMBUS, OHIO                      11-30-09

Inventor's signature \_\_\_\_\_ Date \_\_\_\_\_

Full name :                      KENNETH P. DUDEK                      Declaration dated :

Residence :                      ROCHESTER HILLS, MICHIGAN                      \_\_\_\_\_

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Residence :                      STERLING HEIGHTS, MICHIGAN                      \_\_\_\_\_

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Residence :                      DAYTON, OHIO                      \_\_\_\_\_

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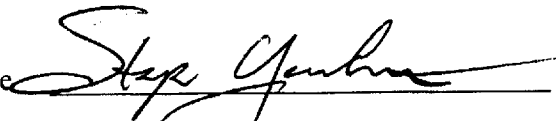
Full name :                      SHAWN W. MIDLAM-MOHLER                      Declaration dated :

Residence :                      COLUMBUS, OHIO                      \_\_\_\_\_

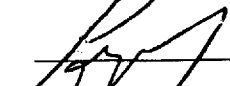
Inventor's signature Kenneth P. Dudek Date 12/18/2009

Full name :                      KENNETH P. DUDEK                      Declaration dated :

Residence :                      ROCHESTER HILLS, MICHIGAN                      12/18/2009

Inventor's signature  Date 11/30/09

Full name : STEPHEN YURKOVICH Declaration dated :  
Residence : COLUMBUS, OHIO \_\_\_\_\_

Inventor's signature  Date 11/30/09

Full name : YANN G. GUEZENNEC Declaration dated :  
Residence : UPPER ARLINGTON, OHIO 11/30/09