501820870 02/15/2012

PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

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

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------------|----------------|
| Alan W. Hayman | 08/29/2011 |
| Robert S. McAlpine | 08/29/2011 |

RECEIVING PARTY DATA

| Name: | GM GLOBAL TECHNOLOGY OPERATIONS LLC |
|-------------------|-------------------------------------|
| Street Address: | 300 Renaissance Center |
| Internal Address: | M/C 482-C23-B21 |
| City: | Detroit |
| State/Country: | MICHIGAN |
| Postal Code: | 48265-3000 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 13220187 |

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| ATTORNEY DOCKET NUMBER: | P013041 |
|-------------------------|------------------|
| NAME OF SUBMITTER: | Karl F. Barr Jr. |

Total Attachments: 1 source=61H7829#page1.tif

PATENT REEL: 027707 FRAME: 0041

501820870

ASSIGNMENT

Pursuant to an agreement with my employer, I formally assign to GM GLOBAL TECHNOLOGY OPERATIONS LLC, the entire right, title and interest, in all countries and application types, in the improvements set forth in the United States patent application P013041-PTUS-RRM entitled

INTERNAL COMBUSTION ENGINE

| for which I executed a declaration. If the patent application has been filed, I authorize any |
|--|
| practitioner associated with Customer No. 80748 to insert the application number and filing date |
| of said application here in parentheses (13/226187 filed August 29, 2011) |
| 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
61/378557

Inventor's signature

Full name:

ALAN W. HAYMAN

Residence:

Romeo, M.

Inventor's signature Steet Siller Date 8-29-1/

Full name: ROBERT S MCALPINE

Residence: Lake Orion, MI

PATENT REEL: 027707 FRAME: 0042

RECORDED: 02/15/2012