

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4123459

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
STEVEN J. HAASE	10/05/2016
DONAVAN L. DIBBLE	10/19/2016
ALLAN B. RAYL	10/05/2016
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<b>Street Address:</b>	300 RENAISSANCE CENTER
<b>City:</b>	DETROIT
<b>State/Country:</b>	MICHIGAN
<b>Postal Code:</b>	48265
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15298542
<b>CORRESPONDENCE DATA</b>	
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<b>ATTORNEY DOCKET NUMBER:</b>	TULAP057A
<b>NAME OF SUBMITTER:</b>	STEVE D BEYER
<b>SIGNATURE:</b>	/Steve D Beyer/
<b>DATE SIGNED:</b>	11/01/2016
<b>Total Attachments: 2</b>	
source=TULAP057A_GM_ASSIGN_DIBBLE_HAASE_RAYLE_SIGNED#page1.tif	
source=TULAP057A_GM_ASSIGN_DIBBLE_HAASE_RAYLE_SIGNED#page2.tif	

# ASSIGNMENT OF PATENT APPLICATION

Whereas I, an undersigned inventor, have invented certain new and useful improvements as set forth in the patent application entitled:

## COORDINATION OF VEHICLE ACTUATORS DURING FIRING FRACTION TRANSITIONS

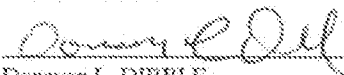
(Atty. Docket No. TULAP057A), (check one)

- for which I have executed a U.S. patent application on even date herewith. (Accompanying)  
 which bears U.S. Application No. 15/298,542. (Not accompanying)  
 which is a U.S. provisional application. (Accompanying)

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, an undersigned inventor, hereby:

- 1) Sell, assign and transfer to GM Global Technology Operations LLC, a corporation having a place of business at 300 Renaissance Center, Detroit, Michigan 48265 ("ASSIGNEE"), the entire right, title and interest in any and all improvements and inventions disclosed in, applications based upon, and patents granted upon (including foreign patents and the right to claim priority), the above-referenced application.
- 2) Authorize and request the Commissioner of Patents to issue any and all United States Patents resulting from said application or any division, continuation, substitute, renewal, re-examination or reissue thereof to the ASSIGNEE.
- 3) Agree to execute all papers and documents and, entirely at the ASSIGNEE's expense, perform any acts which are reasonably necessary in connection with the prosecution of said application, as well as any derivative applications thereof, foreign applications based thereon, and/or the enforcement of patents resulting from such applications.
- 4) Agree that the terms, covenants and conditions of this Assignment shall inure to the benefit of the ASSIGNEE, its successors, assigns and other legal representatives, and shall be binding upon the inventor, as well as the inventor's heirs, legal representatives and assigns.
- 5) Warrant and represent that I have not entered and will not enter into any assignment, contract, or understanding that conflicts with this Assignment.
- 6) Authorize and request my attorney/agent to insert above the Application No. in order to assist with recordal of this assignment.

Signed on the date indicated beside my signature:

- |    |   |                       |
|----|---|-----------------------|
| 1) | Signature: _____  | Date: _____           |
|    | Typed Name: Steven J. HAASE   |                       |
| 2) | Signature: <u></u> | Date: <u>10-19-16</u> |
|    | Typed Name: Donovan L. DIBBLE   |                       |
| 3) | Signature: _____  | Date: _____           |
|    | Typed Name: Allen B. RAYL   |                       |

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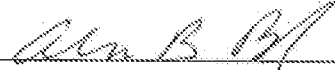
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Signed on the date indicated beside my signature.

- 1) Signature:   
Typed Name: Steven J. HAASE Date: 05 OCT 16
- 2) Signature: \_\_\_\_\_  
Typed Name: Donovan L. DIBBLE Date: \_\_\_\_\_
- 3) Signature:   
Typed Name: Allen B. RAYL Date: 05 OCT 16