505319179 02/07/2019 PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:		NEW ASSIGNMENT	NEW ASSIGNMENT			
NATURE OF CONVEYANCE:		ASSIGNMENT	ASSIGNMENT			
CONVEYING PARTY D	ΑΤΑ	· · · ·				
		Name	Execution Date			
ERIC J. DEFENDERFER	1		02/24/2015			
NITISH J. WAGH			02/24/2015			
RANDALL S. BEIKMANI	N		02/24/2015			
JINBIAO LI			03/04/2015			
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City:	DETROIT					
State/Country:	МІСНІЄ	HGAN				
Postal Code:	48265					
	Tatalı d					
PROPERTY NUMBERS Property Type		Number				
Application Number:		16270349				
	I					
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Address Line 1: Address Line 4: ATTORNEY DOCKET NU NAME OF SUBMITTER:		P.O. BOX 51887 PALO ALTO, CALIFORNIA 94303-1887 TULAP032C1 STEVE D BEYER				
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Address Line 1: Address Line 4: ATTORNEY DOCKET NU NAME OF SUBMITTER: SIGNATURE: DATE SIGNED: Total Attachments: 4 source=TULAP032_GM_/	JMBER:	P.O. BOX 51887 PALO ALTO, CALIFORNIA 94303-1887 TULAP032C1 STEVE D BEYER /Steve D Beyer/ 02/07/2019 ent_as_filed#page1.tif				
Address Line 1: Address Line 4: ATTORNEY DOCKET NU NAME OF SUBMITTER: SIGNATURE: DATE SIGNED: Fotal Attachments: 4	JMBER: Assignme	P.O. BOX 51887 PALO ALTO, CALIFORNIA 94303-1887 TULAP032C1 STEVE D BEYER /Steve D Beyer/ 02/07/2019 ent_as_filed#page1.tif ent_as_filed#page2.tif				

PATENT REEL: 048271 FRAME: 0249

ASSIGNMENT OF PATENT APPLICATION

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

METHOD AND APPARATUS FOR DETERMINING OPTIMUM SKIP FIRE FIRING PROFILE

(Atty. Docket No. TULAP032), (check one)

for which I have executed a U.S. patent application on even date herewith. (Accompanying) which bears U.S. Application No.<u>14/638,908</u>. (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 <u>GM Global Technology Operations LLC</u>, 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.

Attorney Docket No.: TULAP032

Page 1 of 2

PATENT REEL: 048271 FRAME: 0250

Authorize and request my attorney/agent to insert above the Application No. in order to assist 6) with recordal of this assignment.

Signed on the date indicated bestoe my signature. 1) Signature: Typed Name: Bric J. DEFENDERFER NHJ.WA 2) Signature: Typed Name: Nitish J. WAGH 3) Signature: Typed Name: Randall S. BEIKMANN

Jinbiao LI

Date: 2/24/2015

Date: February 24, 2015 Date: Feb 24, 2015

4) Signature: Typed Name:

Date:

Page 2 of 2

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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: Typed Name:	Eric J. DEFENDERFER	Date:	
2)	Signature: Typed Name:	Nijish J. WACIH	Date:	
3)	Signature: Typed Name:	Randall S. BEIRMANN	Date:	
4)	Signature: Typed Name:	Joshida	Date:	3/4/15

Anomey Docket No.: TULAP032

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PATENT REEL: 048271 FRAME: 0253

RECORDED: 02/07/2019