PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT2742475

	:	NEW ASSIGNMENT			
NATURE OF CONVE	EYANCE:	ASSIGNMENT	ASSIGNMENT		
CONVEYING PARTY	Y DATA				
		Name	Execution Date		
ROSS DYKSTRA PI	URSIFULL		02/24/2014		
GOPICHANDRA SU	JRNILLA		02/24/2014		
HAO ZHANG			02/24/2014		
MARK MEINHART			01/31/2014		
JOSEPH F. BASMA	']I		02/24/2014		
RECEIVING PARTY	DATA				
Name:	FORD GLOE	AL TECHNOLOGIES, LLC			
Street Address:	FAIRLANE P	LAZA SOUTH, SUITE 800			
Internal Address:	330 TOWN C	ENTER DRIVE			
City:	DEARBORN				
State/Country:	MICHIGAN				
Postal Code:	48126				
	ERS Total: 1	N	Imper		
PROPERTY NUMBE	ERS Total: 1	<u>Νι</u> 14189946	umber		
PROPERTY NUMBE Property 1 Application Number	ERS Total: 1 Type		umber		
PROPERTY NUMBE Property 1 Application Number CORRESPONDENC	ERS Total: 1		umber		
PROPERTY NUMBE Property T Application Number CORRESPONDENC Fax Number: Phone:	ERS Total: 1 Type : E DATA (503 503-	14189946)459-4142 459-4141	umber		
PROPERTY NUMBE Property T Application Number CORRESPONDENC Fax Number: Phone: Email:	ERS Total: 1 Type : E DATA (503 503- fulto	14189946)459-4142 459-4141 n@ahmrt.com			
PROPERTY NUMBE Property T Application Number CORRESPONDENC Fax Number: Phone: Email: <i>Correspondence will</i>	ERS Total: 1 Type : E DATA (503 503- fulto t be sent via US	14189946)459-4142 459-4141 n@ahmrt.com <i>Mail when the email attempt is unsu</i>	uccessful.		
PROPERTY NUMBE Property T Application Number CORRESPONDENC Fax Number: Phone: Email: <i>Correspondence will</i> Correspondent Name	ERS Total: 1 Type : E DATA (503 503- fulto <i>t be sent via US</i> e: ALL	14189946)459-4142 459-4141 n@ahmrt.com <i>Mail when the email attempt is unsu</i> EMAN HALL MCCOY RUSSELL & T	uccessful.		
PROPERTY NUMBE Property T Application Number CORRESPONDENC Fax Number: Phone: Email: <i>Correspondence will</i> Correspondent Name Address Line 1:	ERS Total: 1 Type : E DATA (503 503- fulto t be sent via US e: ALL 806	14189946)459-4142 459-4141 n@ahmrt.com <i>Mail when the email attempt is unsu</i>	uccessful.		
PROPERTY NUMBE Property T Application Number CORRESPONDENC Fax Number: Phone: Email: <i>Correspondence will</i> Correspondent Name Address Line 1: Address Line 4:	ERS Total: 1 Type T E DATA (503 503- fulto <i>be sent via US</i> e: ALL 806 POF	14189946)459-4142 459-4141 n@ahmrt.com <i>Mail when the email attempt is unsu</i> EMAN HALL MCCOY RUSSELL & T S.W. BROADWAY, SUITE 600	uccessful.		
PROPERTY NUMBE Property T Application Number CORRESPONDENC Fax Number: Phone: Email: <i>Correspondence will</i> Correspondent Name Address Line 1:	ERS Total: 1 Type Type E DATA (503 503- fulto 1 be sent via US e: ALL 806 POF T NUMBER:	14189946)459-4142 459-4141 n@ahmrt.com <i>Mail when the email attempt is unsu</i> EMAN HALL MCCOY RUSSELL & T S.W. BROADWAY, SUITE 600 RTLAND, OREGON 97205	uccessful.		

Signature:	/Maxfield Fulton/
Date:	02/25/2014
Total Attachments: 5 source=Executed Assignment 83415687#pa source=Executed Assignment 83415687#pa source=Executed Assignment 83415687#pa source=Executed Assignment 83415687#pa	age2.tif age3.tif age4.tif

ASSIGNMENT AND DECLARATION (37 C.F.R. 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76)

Title of Invent	tion	METHODS FOR DETERMINING FUEL BULK MODULUS IN A HIGH-
		PRESSURE PUMP
This declaration	is direc	ted to:
	The attached application, or United States application or PCT international application number filed on	
The above-ident	ified apj	plication was made or authorized to be made by me.
I hereby state the including the cla		ve reviewed and understand the contents of the specification in the above-identified application
1 believe that I a	m the or	iginal inventor or an original joint inventor of a claimed invention in the application.
continuation-in-p	bart app	o disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for dications, material information which became available between the filing date of the prior nal or PCT international filing date of the continuation-in-part application.
FORD GLOBAI of the State of I hereinafter referi interest, domesti- of the ASSIGNE for the invention name or names, a insert the serial 14/189,946 ASSIGNEE, its applications, in a	C TECH Delawar red to a c and fo IE, its s s and di or in my /applica 6 success ind to the plication	nent agreement heretofore made or by contractual obligation, I do sell, assign and set over unto NOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the laws e, baving its principal place of business at Dearborn. County of Wayne, and State of Michigan, s the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and reign, in and to the inventions and discoveries in the above-identified invention including the right accessors, assigns or other legal representatives to make applications and to receive Letters Patent scoveries in any and all countries, entities and intergovernmental organizations, in its or their own γ name, at its or their election (and I hereby authorize the ASSIGNEE or ASSIGNEE's attorney to tion number and filing date of the application to receive Letters Patent herein: Serial No, Filing Date February 25, 2014), and I hereby sell, assign and set over to the sors, assigns or other legal representatives, all rights of priority, including any provisional is inventions and discoveries in any and all countries, entities and intergovernmental organizations, in second second to the filing date hereof, continuations, continuations-in-part, divisionals, ue applications.
including applica organizations, an	ations found to per	myself, my heirs, successors, assigns or other legal representatives to execute any and all papers, or Letters Patent of any and all kinds and in any and all countries, entities and intergovernmental form any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives ecure thereto the rights herein sold, assigned and set over.
And I hereby rep	resent a	nd warrant that I have not granted any rights inconsistent with the rights granted herein.
or imprisonment.	of not n	at any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine nore than five (5) years or both.
LEGAL NAME		A B Want 7 A
Inventor: <u>R</u>	oss Dyk	stra Pursifull Date: 24 FOS 2014
Signature:	2	for Dyartin Purilpull
Note: An Applicat	tion Data lectaratio	A Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form.

ASSIGNMENT AND DECLARATION (37 C.F.R. 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76)

Title of Invent	tion METHODS FOR DETERMINING FUEL BULK MODULUS IN A HIGH- PRESSURE PUMP	
This declaration	is directed to:	
	The attached application, or United States application or PCT international application number filed on	
The above-identi	ified application was made or authorized to be made by me.	
I hereby state th including the cla	hat I have reviewed and understand the contents of the specification in the above-identified application tims.	
I believe that 1 ar	m the original inventor or an original joint inventor of a claimed invention in the application.	
continuation-in-p	te duty to disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for part applications, material information which became available between the filing date of the prior the national or PCT international filing date of the continuation-in-part application.	
FORD GLOBAI of the State of I hereinafter referi interest, domesti- of the ASSIGNE for the invention name or names, insert the serial 14/189,940 ASSIGNEE, its applications, in a including all ap reexaminations a And I hereby ag including applica- organizations, an may deem necess	employment agreement heretofore made or by contractual obligation, I do sell, assign and set over unt L TECHNOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the law Delaware, having its principal place of business at Dearborn, County of Wayne, and State of Michigan red to as the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title an ic and foreign, in and to the inventions and discoveries in the above-identified invention including the right EE, its successors, assigns or other legal representatives to make applications and to receive Letters Pater ts and discoveries in any and all countries, entities and intergovernmental organizations, in its or their ow or in my name, at its or their election (and I hereby authorize the ASSIGNEE or ASSIGNEE's attorney to l'application number and filing date of the application to receive Letters Patent herein: Serial No <u>6</u>	
· · ·	present and warrant that I have not granted any rights inconsistent with the rights granted herein.	
or imprisonment	viedge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fin t of not more than five (5) years or both.	
LEGAL NAME	OF INVENTOR Jopichandra Sumilla Date: 2/24/2014	
	<u>Ropichandra, summa</u> Date: <u></u>	
organitato.		
	ation Data Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this forn declaration form for each additional inventor.	

ASSIGNMENT AND DECLARATION (37 C.F.R. 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76)

Title of Invention	METHODS FOR DETERMINING FUEL BULK MODULUS IN A HIGH- PRESSURE PUMP
This declaration is direct	
The at	ached application, or States application or PCT international application number filed on
The above-identified app	lication was made or authorized to be made by me.
I hereby state that I hav including the claims.	reviewed and understand the contents of the specification in the above-identified application,
I believe that I am the ori	ginal inventor or an original joint inventor of a claimed invention in the application.
continuation-in-part app	disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for lications, material information which became available between the filing date of the prior nal or PCT international filing date of the continuation-in-part application.
FORD GLOBAL TECH of the State of Delaward hereinafter referred to as interest, domestic and fo of the ASSIGNEE, its su for the inventions and di name or names, or in my insert the serial/application 14/189,946 ASSIGNEE, its success applications, in and to the	nent agreement heretofore made or by contractual obligation, I do sell, assign and set over unto NOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the laws e, having its principal place of business at Dearborn, County of Wayne, and State of Michigan, a the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and reign, in and to the inventions and discoveries in the above-identified invention including the right accessors, assigns or other legal representatives to make applications and to receive Letters Patent scoveries in any and all countries, entities and intergovernmental organizations, in its or their own name, at its or their election (and I hereby authorize the ASSIGNEE or ASSIGNEE's attorney to tion number and filing date of the application to receive Letters Patent herein: Serial No, Filing Date February 25, 2014), and I hereby sell, assign and set over to the sors, assigns or other legal representatives, all rights of priority, including any provisional e inventions and discoveries in any and all countries, entities and intergovernmental organizations, we applications and discoveries in any and all countries, entities and intergovernmental organizations, so the sors, assigns or other legal representatives, all rights of priority, including any provisional e inventions and discoveries in any and all countries, entities and intergovernmental organizations, in explicitions are claiming benefit of the filing date hereof, continuations, continuations-in-part, divisionals, we applications.
including applications for organizations, and to per	nyself, my heirs, successors, assigns or other legal representatives to execute any and all papers, or Letters Patent of any and all kinds and in any and all countries, entities and intergovernmental form any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives ecure thereto the rights herein sold, assigned and set over.
And I hereby represent a	nd warrant that I have not granted any rights inconsistent with the rights granted herein.
or imprisonment of not n	at any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine nore than five (5) years or both.
LEGAL NAME OF INV Inventor: Hao Zha	
Signature: $H_{q_{\infty}}$	Zhuy,
sugnature.	
	a Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form, in form for each additional inventor.

ASSIGNMENT AND DECLARATION (37 C.F.R. 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76)

Title of Inventior	METHODS FOR DETERMINING FUEL BULK MODULUS IN A HIGH- PRESSURE PUMP
This declaration is c	
	he attached application, or nited States application or PCT international application number filed on
The above-identified	d application was made or authorized to be made by me.
I hereby state that including the claims	I have reviewed and understand the contents of the specification in the above-identified application,
I believe that I am th	ne original inventor or an original joint inventor of a claimed invention in the application.
continuation-in-part	uty to disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for applications, material information which became available between the filing date of the prior national or PCT international filing date of the continuation-in-part application.
FORD GLOBAL TI of the State of Dela hereinafter referred interest, domestic ar of the ASSIGNEE, for the inventions ar name or names, or i insert the serial/ap 14/189,946 ASSIGNEE, its su applications, in and including all applic reexaminations and the And I hereby agree including application	for myself, my heirs, successors, assigns or other legal representatives to execute any and all papers, ns for Letters Patent of any and all kinds and in any and all countries, entities and intergovernmental
may deem necessary	o perform any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives to secure thereto the rights herein sold, assigned and set over.
· · · · · · · · · · · · · · · · · · ·	ent and warrant that I have not granted any rights inconsistent with the rights granted herein.
or imprisonment of r	ge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine not more than five (5) years or both.
LEGAL NAME OF Inventor: Mark	I I IN I I PALATION
Inventor: <u>Mark Meinhart</u> Date: <u>1/3//2017</u> Signature: <u>Use Header</u>	
-	Data Sheet (PTO/SB/14 or equivalent) including naming the vertice ferentian action action
	Data Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form, aration form for each additional inventor.

PATENT REEL: 032297 FRAME: 0191

ASSIGNMENT AND DECLARATION (37 C.F.R. 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76)

Title of Invent	ion	METHODS FOR DETERMINING FUEL BULK MODULUS IN A HIGH- PRESSURE PUMP
This declaration	is direct	ed to:
	The attached application, or United States application or PCT international application number filed on	
The above-identi	fied app	olication was made or authorized to be made by me.
I hereby state th including the cla		ve reviewed and understand the contents of the specification in the above-identified application,
I believe that I as	n the or	iginal inventor or an original joint inventor of a claimed invention in the application.
continuation-in-p	art app	o disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for dications, material information which became available between the filing date of the prior nal or PCT international filing date of the continuation-in-part application.
FORD GLOBAI of the State of I hereinafter refer- interest, domesti- of the ASSIGNE for the invention name or names, insert the serial 14/189,940 ASSIGNEE, its applications, in a	. TECH Delawar red to a c and fc E, its s s and d or in my /applica 6 succes und to ff plicatio	ment agreement heretofore made or by contractual obligation, I do sell, assign and set over unto NOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the laws e, having its principal place of business at Dearborn, County of Wayne, and State of Michigan, s the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and oreign, in and to the inventions and discoveries in the above-identified invention including the right uccessors, assigns or other legal representatives to make applications and to receive Letters Patent iscoveries in any and all countries, entities and intergovernmental organizations, in its or their own y name, at its or their election (and I hereby authorize the ASSIGNEE or ASSIGNEE's attorney to thom number and filing date of the application to receive Letters Patent herein: Serial No, Filing Date February 25, 2014), and I hereby sell, assign and set over to the sors, assigns or other legal representatives, all rights of priority, including any provisional to inventions and discoveries in any and all countries, entities and receive and intergovernmental organizations is solved to the applications of the representatives, all rights of priority, including any provisional to inventions and discoveries in any and all countries, entities and intergovernmental organizations, is claiming benefit of the filing date hereof, continuations, continuations-in-part, divisionals, are applications.
including applications are application or a second	ations fo ud to pe	myself, my heirs, successors, assigns or other legal representatives to execute any and all papers, or Letters Patent of any and all kinds and in any and all countries, entities and intergovernmental rform any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives secure thereto the rights herein sold, assigned and set over.
And I hereby rep	resent a	nd warrant that I have not granted any rights inconsistent with the rights granted herein.
or imprisonment	of not r	hat any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine nore than five (5) years or both.
LEGAL NAME Inventor: J		Basmaji Date: 2/24/14
Signature:	Δ	versh & Rown
	4	
Note: An Applica Use an additional of	ation/Dat declaratio	a Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form, on form for each additional inventor,

RECORDED: 02/25/2014