PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5541593

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JAE-HOON CHUNG	10/16/2017
MALCOLM L. HILLEL	11/07/2017

RECEIVING PARTY DATA

Name:	ROLLS-ROYCE PLC
Street Address:	62 BUCKINGHAM GATE
City:	LONDON
State/Country:	GREAT BRITAIN
Postal Code:	SW1E 6AT

PROPERTY NUMBERS Total: 1

Property Type	Number		
Application Number:	16112940		

CORRESPONDENCE DATA

Fax Number: (317)231-7433

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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Email: hbehlmer@btlaw.com
Correspondent Name: HEATHER BEHLMER

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Address Line 2: 11 SOUTH MERIDIAN STREET
Address Line 4: INDIANAPOLIS, INDIANA 46204

ATTORNEY DOCKET NUMBER:	29920-295699
NAME OF SUBMITTER:	SAMUEL C. GIESTING
SIGNATURE:	/SCG/
DATE SIGNED:	05/28/2019

Total Attachments: 4

source=6481_Assignments_for_Recording_Already_Filed_as_Declarations#page1.tif source=6481_Assignments_for_Recording_Already_Filed_as_Declarations#page2.tif source=6481_Assignments_for_Recording_Already_Filed_as_Declarations#page3.tif source=6481_Assignments_for_Recording_Already_Filed_as_Declarations#page4.tif

PATENT 505494789 REEL: 049288 FRAME: 0814

ASSIGNMENT (BEING FILED FOR DUAL PURPOSE UNDER 37 CFR 1.63(e)) For Application with Filing Date on or after September 16, 2012

ASSIGNMENT

(1-8)	insert Eegui Manie(s) or		CHUNG, Jae-Hoon
(1-0)			HILLEL, Malcolm L
			ar (\$1.00) and other good and valuable consideration paid to each of the undersigned, the receipt and vledged, each undersigned agrees to assign, and hereby does assign, transfer and set over to
(9)	Insert Name of Assig	gnee	ROLLS-ROYCE plc
(10)	Insert Address of As	signee	62 Buckingham Gate, London, SW1E 6AT, Great Britain
(11)	for the United States of Ameri provisional, non-provisional, of Patent, extensions, reissues an Insert Identification	ca as def livisional	and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest ined in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all l, continuation, international, confirmation, substitute and reissue application(s), and all Letters ination certificates that may be granted on the invention known as A Blisk
	such as Title, Case Number, or Foreign	_	6481 DEN
	Application Number	(Atto	rney Docket No)
(12)	Alternative	(12)	U.S. Application Number
	Identification for		
	filed applications	filed	

- 1) Each undersigned agrees to execute all papers necessary in connection with any application and/or patent for the invention and also to execute separate assignments in connection with such applications and patents as the Assignee may deem necessary.
- 2) Each undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning any application or patents for the invention and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.
- 3) Each undersigned agrees to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.
- 4) Each undersigned agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignee.
- 5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office and other issuing authorities to issue any and all patents resulting from said application(s) to the said Assignee, as Assignee of the entire interest, and covenants that he has full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreement(s) in conflict herewith, and agrees that this assignment is binding on Assignor and Assignor's heirs, successors, assigns and legal representatives.
- 6) Each undersigned hereby grants the Assignee's agent the power to insert on this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

PATENT REEL: 049288 FRAME: 0815

(13) Declaration

As an above named inventor, I hereby declare that:

I believe I am the original inventor or an original joint inventor of a claimed invention (or claimed design) in the above-identified application for which this declaration is being submitted.

The application was made or authorized to be made by me.

I have reviewed and understand the contents of the above-identified application, including the claims, and am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR \$1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

In witness whereof, executed by the undersigned on the date opposite the undersigned name.

Inven	ter							
(Print	name)	CHU	NG, Ja	e-Hoon			م مناه	
Date	16	OCT	17		Inventor Signatu	re <u>1</u> 5	<u> </u>	(SEAL)
Cons							olic if within the U.S ast two witnesses wh	
Date	16774	OCTO	<u>BER</u>	17	Witness	44		
Date	16 L	OFEN	ten '	2e)(7	Witness	grander of the same	16	

ASSIGNMENT (BEING FILED FOR DUAL PURPOSE UNDER 37 CFR 1.63(e)) For Application with Filing Date on or after September 16, 2012

ASSIGNMENT

(1-8)	Insert Legal Name(s) of	CHUNG, Jac-Hoon		
(1-0)	Inventor(s)		HILLEL, Malcolm L		
			ur (\$1.00) and other good and valuable consideration paid to each of the undersigned, the receipt and redged, each undersigned agrees to assign, and hereby does assign, transfer and set over to		
(9)	Insert Name of Assi	gnee	ROLLS-ROYCE plc		
(10)	Insert Address of A	ssignee	62 Buckingham Gate, London, SW1E 6AT, Great Britain		
(11)	for the United States of Ameri provisional, non-provisional, o	ica as def divisional	and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest ined in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all, continuation, international, confirmation, substitute and reissue application(s), and all Letters ination certificates that may be granted on the invention known as A Blisk		
	Number, or Foreign		6481 DEN		
	Application Number	(Atto	rney Docket No)		
(12)	Alternative	(12)	U.S. Application Number		
	Identification for				
	Auchtmeation for				
	filed applications	filed			

- 1) Each undersigned agrees to execute all papers necessary in connection with any application and/or patent for the invention and also to execute separate assignments in connection with such applications and patents as the Assignee may deem necessary.
- 2) Each undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning any application or patents for the invention and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.
- 3) Each undersigned agrees to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.
- 4) Each undersigned agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignee.
- 5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office and other issuing authorities to issue any and all patents resulting from said application(s) to the said Assignee, as Assignee of the entire interest, and covenants that he has full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreement(s) in conflict herewith, and agrees that this assignment is binding on Assignor and Assignor's heirs, successors, assigns and legal representatives.
- 6) Each undersigned hereby grants the Assignee's agent the power to insert on this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

PATENT REEL: 049288 FRAME: 0817

(13) Declaration

RECORDED: 05/28/2019

As an above named inventor, I hereby declare that:

I believe I am the original inventor or an original joint inventor of a claimed invention (or claimed design) in the above-identified application for which this declaration is being submitted.

The application was made or authorized to be made by me.

I have reviewed and understand the contents of the above-identified application, including the claims, and am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR 81.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

In witness whereof, executed by the undersigned on the date opposite the undersigned name.

invent	or			
(Print	name) HILLEL, Malcolm I	J.		
Date	7th November 2017	Inventor Signature	Malcoln H	il (SEAL)
Consi	This assignment should preferably be all if outside the U.S.A. If neither, then		-	
Date	7 November 2017	Witness	BD Englair DR BRYCE	CONDUIT
Date	7th November 2017	Witness	SPD:	
			A. Pulisc	CIANO

PATENT REEL: 049288 FRAME: 0818