# 503478973 09/15/2015

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3525598

SUBMISSION TYPE:		NEW ASSIGNM	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:		ASSIGNMENT	ASSIGNMENT		
CONVEYING PARTY	DATA				
		Name			Execution Date
Alan R MAGUIRE					03/13/2015
Kenneth F UDALL					04/02/2015
Phillip J DOORBAR					05/29/2015
RECEIVING PARTY D	ΑΤΑ				
Name:		byce plc			
Street Address:		ingham Gate			
City:	Londtor	0			
State/Country:	Great B	ritain			
Postal Code:	SW1E	AT			
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PROPERTY NUMBER Property Type Application Number: CORRESPONDENCE Fax Number: Correspondence will using a fax number, in Phone: Email: Correspondent Name Address Line 1: Address Line 2: Address Line 4: ATTORNEY DOCKET N NAME OF SUBMITTER	DATA be sent to f provided :	14709883 (703)836-2787 <b>the e-mail address fi</b> ; <b>if that is unsuccess</b> 703-836-6400 email@oliff.com JAMES A. OLIFF DLIFF PLC P.O. BOX 320850 ALEXANDRIA, VIRGIN 166218 ANGELA M. NO	irst; if that is un ful, it will be sei NIA 22320-4850 LAN		

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

### ASSIGNMENT

	Insert	(1)	Alan R MAGUIRE	(2)	Kenneth F UDALL	
(1-8)	Legal Name(s)	(3)	Phillip J DOORBAR	(4)		
	of Inventor(s)	(5)		(6)		
		(7)		(8)		
		the un		iency of which are h	r good and valuable consideration paid to each of ecreby acknowledged, each undersigned agrees to	
(9)	Insert Name of Assignee	(9)	ROLLS-ROYCE PLC			
(10)	Insert Address of Assignee	(10) 62 Buckingham Gate, London, SW1E 6AT, Great Britain				
		(hereinafter designated as the Assignee) and Assignee's heirs, successors, assigns and legal representatives, the entire right; title and interest for the United States of America as defined in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all provisional, non-provisional, divisional, continuation, international, confirmation, substitute and reissue application(s), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as				
(11) Insert Identification such as Title, Case Number, or Foreign		(11)	Fan Disc			
	Application Number	(Attor	ney Docket No. 16621	8	)	
(12)	Alternative Identification for	(12)	U.S. Application Number	14/709,883	3	
	filed applications	filed	May 12, 2015			

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 firm of **OLIFF PLC** 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.

#### (13) Declaration

As an above named inventor, I hereby declare that:

I believe 1 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.

l 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.

Date	13 March 2015	Inventor Signature	Alan R MAGUIRE	(SEAL)
Date		Inventor Signature	Kenneth F UDALL	(SEAL)
Date		Inventor Signature	for Phillip J DOORBAR	(SEAL)
Date		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)
Dute		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)

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

1

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Date	1314 March 2015	Witness	for Alan R MAGUIRE
Date	13th March 2015	Witness	D.M. Acaesan for Alanr R MAGUIRE
Date		Witness	for Kenneth FUDALL
Date		Witness	for Kenneth F UDALL
Date		Witness	for Phillip J DOORBAR
Dute		Witness	for Phillip J DOORBAR

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

### ASSIGNMENT

	Insert	(1)	Alan R MAGUIRE	(2)	Kenneth F UDALL		
(1-8)	Legal Name(s)	(3)	Phillip J DOORBAR	(4)			
	of Inventor(s)	(5)		(6)			
		(7)	·······	(8)			
		In consideration of the sum of one dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, the receipt and sufficiency of which are hereby acknowledged, each undersigned agrees to assign, and hereby does assign, transfer and set over to					
(9)	Insert Name of Assignee	(9)	(9) ROLLS-ROYCE PLC				
(10)	Insert Address of Assignee	(10) 62 Buckingham Gate, London, SW1E 6AT, Great Britain					
	, end	the ent inventi continu	ire right, title and interest for the on, and in all applications for pa pation, international, confirmation	United States of Al tent including any a on, substitute and rei	irs, successors, assigns and legal representatives, merica as defined in 35 U.S.C. §100, in the and all provisional, non-provisional, divisional, issue application(s), and all Letters Patent, y be granted on the invention known as		
(11) Insert Identification (11) I such as Title, Case — Number, or Foreign		Fan Disc	, <u></u> , <u></u> _, <u></u> , <u>_</u> _, <u>_</u> , <u>_</u>				
	Application Number	(Attor	ney Docket No. 1662	18	)		
(12)	Alternative	(12)	U.S. Application Number	14/709,88	33		
	Identification for filed applications	filed	May 12, 2015				

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.

 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.

and agrees that this assignment is binding on Assignor and Assignor's heirs, successors, assigns and legal representatives. 6) Each undersigned hereby grants the firm of **OLIFP PLC** 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.

#### (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.

Date		Inventor Signature	Alan R MAGUIRE	(SEAL)
Date	2nd April 2015	Inventor Signature	Kenneth F Udall Kenneth F UDALL	(SEAL)
Date		Inventor Signature	for Phillip J DOORBAR	(SEAL)
Date		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)
neither	This assignment should preferably be signed , then it should be signed before at least two wi		blic if within the U.S.A. (b) a U.S. Consul if outside th ere:	e U.S.A. If
Date		Witness	for Alan R MAGUIRE	
Date		Witness	for Alanr R MAGUIRE	
Date	2nd April 2015	Witness	for Kenneth F UDALL	odgers
Date	2nd April 2015	Witness	for Kenneth F UDALL Kenneth Jule	lun
Date		Witness	for Phillip J DOORBAR	
Date		Witness	for Phillip J DOORBAR	

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

( )

. I. I.

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

### ASSIGNMENT

	Insert	(1)	Alan R MAGUIRE	(2)	Kenneth F UDALL	
(1-8)	Legal Name(s)	(3)	Phillip J DOORBAR	(4)		
	of Inventor(s)	(5)		(6)		
		(7)		(8)	ANTERNA MARK ARABA ANTERIA MARKA M	
		the und		ency of which are h	good and valuable consideration paid to cach of ereby acknowledged, each undersigned agrees to	
(9)	Insert Name of Assignce	(9)	ROLLS-ROYCE PLC			
(10)	Insert Address of Assignce	(10) 62 Buckingham Gate, London, SW1E 6AT, Great Britain				
		(hereinafter designated as the Assignee) and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest for the United States of America as defined in 35 U.S.C. § 100, in the invention, and in all applications for patent including any and all provisional, non-provisional, divisional, continuation, international, confirmation, substitute and reissue application(s), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as				
(11) Insert Identification such as Title, Case		(11)	Fan Disc			
	Number, or Foreign Application Number	(Attor	ney Docket No. 166218		)	
(12)	Alternative Identification for	(12)	U.S. Application Number	14/709,88	33	
	filed applications	filed	May 12, 2015			

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.

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5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office and other issuing authorities

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 firm of OLIFF PLC 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.

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I have reviewed and understand the contents of the above-identified application, including the claims, and an 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.

Date	<u></u>	Inventor Signature	Alan R MAGUIRE	(SEAL)
Date		Inventor Signature	Kenneth FUDALL	(SEAL)
Date	29th MAY 2015.	Inventor Signature	for Phillip J DOORBAR	(SEAL)
Date		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)
Date	ante Papa anti A din concentra de la state papa de la superiori antigenera concentra de provisiones	Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)

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

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Date		Witness	for Alan R MAGUIRE
Date		Witness	for Alanr R MAGUIRE
Date		Witness	for Kenneth F UDALL
Date		Witness	for Kenneth F UDALL
Ďate	29th MAY 2015.	Witness	for Phillip J DOORBAR
Date	29th MAY 2015	Witness	for Phillip J DOORBAR CUUTN
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