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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
VLADISLAV GAVRILETS	08/08/2017
HUAN T. PHAN	08/08/2017
JAMES H. DOTY	08/08/2017

RECEIVING PARTY DATA

Name:	ROCKWELL COLLINS, INC.	
Street Address:	400 COLLINS ROAD NE	
Internal Address:	M/S 124-323	
City:	CEDAR RAPIDS	
State/Country:	IOWA	
Postal Code:	52498	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15673273

CORRESPONDENCE DATA

Fax Number: (319)295-8777

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.

Phone: 319-263-0949

ipdocketing@foley.com, cfitzsimmons@foley.com Email: ROCKWELL COLLINS, INC. INTELLECTUAL PROP **Correspondent Name:**

400 COLLINS ROAD NE Address Line 1:

Address Line 2: M/S 124-323

Address Line 4: CEDAR RAPIDS, IOWA 52498

ATTORNEY DOCKET NUMBER:	17ST342 (047141-1288)
NAME OF SUBMITTER:	JOSEPH N. ZIEBERT
SIGNATURE:	/Joseph N. Ziebert/
DATE SIGNED:	08/09/2017

Total Attachments: 5

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> **PATENT** REEL: 043250 FRAME: 0047 504496990

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> PATENT REEL: 043250 FRAME: 0048

ASSIGNMENT - WORLDWIDE

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor (hereinafter referred to singly and collectively as "ASSIGNOR") has sold, assigned, and transferred, and by these presents hereby sells, assigns, and transfers, unto

Rockwell Collins, Inc. 400 Collins Road NE M S 124-323 Cedar Rapids, Iowa 52498

(hereinafter referred to as "ASSIGNEE") its successors and assigns, the full and exclusive right, title and interest for the United States, its territories and possessions, and all foreign countries in and to this invention relating to

HEADING OR PITCH DETERMINATION SYSTEMS AND METHODS WITH HIGH CONFIDENCE ERROR BOUNDS

as set forth it	this United States Patent Application	
check one	[X] executed concurrently herewith, [] executed on	Filed

as well as in and to (a) all improvements and modifications of the above-identified invention or inventions. (b) the above-identified application and all other applications for Letters Patent of the United States and countries foreign thereto for above-identified invention or inventions and all improvements and modifications thereof, (c) all Letters Patent which may issue from said applications in the United States and countries foreign thereto, (d) all divisions, continuations, reissues, and extensions of said applications and Letters Patent, and (e) the right to claim for any of said applications the full benefits and priority rights under the Patent Cooperation Treaty, the Paris Convention and any other international agreement; such right, title, and interest to be held and enjoyed by ASSIGNEE, its successors and assigns, to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by ASSIGNOR had this Assignment not been made.

ASSIGNOR HEREBY AUTHORIZES ASSIGNEE to file patent applications in any or all countries on the above-identified invention or inventions in the name of the undersigned or in the name of ASSIGNEE or otherwise as ASSIGNEE may deem advisable under the International Convention or otherwise.

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ASSIGNOR HEREBY AUTHORIZES AND REQUESTS the Commissioner of Patents and Trademarks to issue said Letters Patent to ASSIGNEE as assignee of the entire interest, for the sole use and benefit of ASSIGNEE, its successors and assigns.

ASSIGNOR HEREBY AGREES (a) to communicate to ASSIGNEE, its successors and assigns, or their representative or agents, all facts and information known or available to ASSIGNOR respecting said invention or inventions, improvements, and modifications including evidence for interference, reexamination, reissue, opposition, revocation, extension, or infringement purposes or other legal, judicial, or administrative proceedings, whenever requested by ASSIGNEE; (b) to testify in person or by affidavit as required by ASSIGNEE, its successors and assigns, in any such proceeding in the United States or a country foreign thereto; (c) to execute and deliver, upon request by ASSIGNEE, all lawful papers including, but not limited to, original, divisional, continuation, and reissue applications, renewals, assignments, powers of attorney, oaths, affidavits, and declarations, depositions; and (d) to provide all reasonable assistance to ASSIGNEE, its successors and assigns, in obtaining and enforcing proper title in and protection for said invention or inventions, improvements, and modifications under the intellectual property laws of the United States and countries foreign thereto.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the law firm of Foley & Lardner LLP the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

ASSIGNOR UNDERSTANDS AND AGREES that the attorneys and agents of the law firm of Foley & Lardner LLP do not personally represent ASSIGNOR OR ASSIGNOR's legal interests, but instead represent the interests of ASSIGNEE; since said attorneys and agents cannot provide legal advice to ASSIGNOR with respect to this Assignment, ASSIGNOR acknowledges its right to seek its own independent legal counsel.

Executed this 8 day of Argust 2017

VEADISCAU GAURICETS

VLADISLAV GAVRILETS

State of Vicania (County of P. 200 h III)

On A jast G 2017, before me, A Lan A Shoire Metal Public)
Date Here insert Name and Title of the Officer (Notary Public)

personally appeared <u>VLADISLAV GAVRILETS</u>
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/their executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

eimmen /

Signature of Notary Public

ADAM A. SHREINER

NOTARY PUBLIC

Place Notary Seal Above COMMONWEALTH OF VIRGINIA

#7500089, COMMISSION EXP. 03/31/2019

Atty. Dkt. No. 17ST342 (047141-1288)

Executed this 8th day of August 2017	g antiropie antiropie
· · · · · · · · · · · · · · · · · · ·	Jr.
	HUAN T, PHAN

00 <u>8t AV 14</u>, (

, before me,

Here insert Name and Title of the Officer (Notary Public)

personally appeared <u>HUAN T. PHAN</u>
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/their executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTX OF PERXITY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature

Signatury of Notary Public



CARYN RENEE' ROWE
Commission Number 803570
My Commission Expires
March 29, 2020

Place Notary Seal Above

Atty. Dkt. No. 17ST342 (047141-1288)

Executed this 8 day of August 2017.

AMES H. DOTY

State of Jours County of LINA

, before me,

Here insert Name and Title of the Officer (Notary Public

personally appeared <u>JAMES H. DOTY</u> Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/their executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERIURY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature

CARYN RENEE ROWE
Commission Number 803520
My Commission Expires
March 29, 2020

Place Notary Seal Above

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RECORDED: 08/09/2017