

<b>PATENT ASSIGNMENT COVER SHEET</b>
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EPAS ID: PAT3849013

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
BALAJE THUMATI	04/21/2016
NAIL HANOV	04/21/2016
ERIC L NICKS	04/21/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	THE BOEING COMPANY
<b>Street Address:</b>	100 NORTH RIVERSIDE PLAZA
<b>City:</b>	CHICAGO
<b>State/Country:</b>	ILLINOIS
<b>Postal Code:</b>	60606-1596
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15140046
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<i>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.</i>	
<b>Phone:</b>	713-623-4844
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<b>Correspondent Name:</b>	PATTERSON & SHERIDAN - THE BOEING COMPAN
<b>Address Line 1:</b>	24 GREENWAY PLAZA, SUITE 1600
<b>Address Line 4:</b>	HOUSTON, TEXAS 77046
<b>ATTORNEY DOCKET NUMBER:</b>	15-2351 BOCO/0259US
<b>NAME OF SUBMITTER:</b>	JENNIFER WEAVER
<b>SIGNATURE:</b>	/JENNIFER WEAVER/
<b>DATE SIGNED:</b>	04/27/2016
<b>Total Attachments: 2</b>	
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source=BOCO0259US_ExecutedAssignment#page2.tif	

## ASSIGNMENT

WHEREAS, Nail Hanov, residing at, St. Louis, Missouri, Eric L. Nicks, residing at Defiance, Missouri, and Balaje Thumati, residing at Kirkland, Washington, have invented certain new and useful inventions and improvements (hereinafter "Invention") described in the United States patent application entitled **MODEL-BASED METHOD TO DETECT ABNORMAL OPERATIONS IN HEAT EXCHANGERS** for which Assignors are making or have made application for LETTERS PATENT OF THE UNITED STATES, which application has been duly executed by Assignors concurrently herewith; or filed on \_\_\_\_\_ as Application No. \_\_\_\_\_;

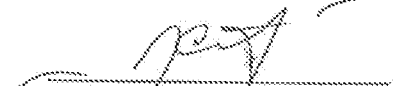
WHEREAS, The Boeing Company, a corporation organized and existing under the laws of the State of Delaware, USA, having a place of business at 100 N. Riverside, Chicago, Illinois 60606-1596, with a mailing address of M/C 1640-2101, 15460 Laguna Canyon Road, Irvine, California 92618, USA (hereinafter called "the Assignee"), is desirous of acquiring the entire right, title and interest in and to the Invention within the United States of America and its territorial possessions and all foreign countries, and in and to any United States or foreign LETTERS PATENT that may be granted therefor;

**NOW, THEREFORE**, for good and valuable consideration, the receipt of which is hereby acknowledged, Assignors have assigned, sold and transferred, and do assign, sell and transfer to the Assignee, its successors and assigns, the entire right, title and interest in and to the Invention within the United States of America and its territorial possessions and all foreign countries, and in and to any LETTERS PATENT of the United States and foreign countries, including utility models, inventor's certificates and like government grants that may be granted for any and all portions thereof, and in and to the patent application identified above and applications for patent filed for the Invention in all foreign countries and all provisional, divisional, reissue, continuation, continuation-in-part applications and extensions of any of the applications for patent or LETTERS PATENT identified herein, including all applications claiming the priority of said applications for patent or LETTERS PATENT identified herein, and the right to apply for LETTERS PATENT in foreign countries with full benefit of such priorities as may now or hereafter be granted to Assignors by local laws or by treaty, including any international convention, for the protection of industrial property, together with the right to extend the protection of the United States LETTERS PATENT to the various territorial possessions now owned or which may be hereafter acquired by the United States of America. Assignee will hold all rights for its own use and benefit and for the use and benefit of its successors or assigns to the full end of the term for which the LETTERS PATENT may be granted, as fully and entirely as the same would have been held and enjoyed by Assignor if this assignment and sale had not been made. Assignors request and authorize the Commissioner of the U.S. Patent and Trademark Office, and foreign counterpart officials of foreign patent offices, to issue respective LETTERS PATENT in the United States and foreign countries when granted, in accordance with this assignment.

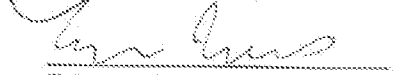
Assignors further covenant and agree with the Assignee that Assignors have a full and unencumbered title to the Invention, which title Assignors warrant to the Assignee. Assignors further agree that Assignors will, without demanding any further consideration therefor, at the

request and expense of the Assignee, do all lawful and just acts, including the execution and acknowledgment of instruments, that may be or become necessary for obtaining, sustaining, extending, reissuing or reexamining United States and foreign LETTERS PATENT or the like for the invention, and for maintaining and perfecting the Assignee's right to the invention and LETTERS PATENT particularly in cases of interference conflict, opposition and litigation.

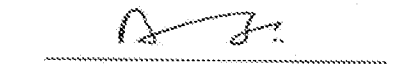
IN TESTIMONY WHEREOF, We have signed this Assignment on the date specified below.

  
\_\_\_\_\_  
Nail Hadov

4/21/16  
Date

  
\_\_\_\_\_  
Eric L. Nicks

4/21/16  
Date

  
\_\_\_\_\_  
Balaje Thumati

4/21/16  
Date