

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3859268

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
GARY H. KAWAHARA	04/20/2016
PAUL GRIFFIN	04/20/2016
JAMES AVRAMOV	04/20/2016
WALTER TAM	04/20/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	ORBITAL ATK, INC.
<b>Street Address:</b>	4700 NATHAN LANE
<b>Internal Address:</b>	MN07-LW58
<b>City:</b>	PLYMOUTH
<b>State/Country:</b>	MINNESOTA
<b>Postal Code:</b>	55442
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15091453
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(801)531-9168
<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>	801-532-1922
<b>Email:</b>	bknielsen@TraskBritt.com
<b>Correspondent Name:</b>	TRASKBRITT
<b>Address Line 1:</b>	P.O. BOX 2550
<b>Address Line 4:</b>	SALT LAKE CITY, UTAH 84110
<b>ATTORNEY DOCKET NUMBER:</b>	2507-P13144US
<b>NAME OF SUBMITTER:</b>	STEPHEN E. PULLEY
<b>SIGNATURE:</b>	/Stephen E. Pulley/
<b>DATE SIGNED:</b>	05/04/2016
<b>Total Attachments: 5</b>	
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**ASSIGNMENT**

**FOR GOOD AND VALUABLE CONSIDERATION**, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned ASSIGNOR does hereby:

**SELL, ASSIGN AND TRANSFER** to **ORBITAL ATK, INC.** (“ASSIGNEE”), a corporation of the State of Delaware, having a place of business at 4700 Nathan Lane, Plymouth, MN 55442, the entire right, title and interest for the United States and all foreign countries in and to any and all improvements that are disclosed in the Application for United States Letters Patent Serial No. 15/091,453, filed on April 5, 2016, entitled **LIQUID STORAGE TANKS AND SYSTEMS AND PROPULSION SYSTEMS FOR SPACE VEHICLES AND RELATED METHODS**, such application and all divisional, continuing, substitute, renewal, reissue and all other applications for patent or the legal equivalent thereof that have been or may be filed in the United States and all foreign countries relating to any of such improvements; all original, reexamined and reissued patents that have been or shall be issued in the United States and all foreign countries on such improvements; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application made in the United States;

**AUTHORIZE** the ASSIGNEE to apply for and receive any and all United States and foreign patents relating to such improvements in its own name;

**AUTHORIZE AND REQUEST** the issuing authority to issue any and all United States and foreign patents granted on such improvements to and in the name of the ASSIGNEE;

**WARRANT AND COVENANT** that no assignment, grant, mortgage, license or other agreement or encumbrance affecting the rights and property herein conveyed has been or will be made or entered into by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

**COVENANT**, when requested and at the expense of the ASSIGNEE, to carry out in good faith the intent and purpose of this Assignment, to execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications relating to any and all such improvements; to execute all rightful oaths, declarations, assignments, powers of attorney and other papers; to communicate to the ASSIGNEE all facts and provide to the ASSIGNEE all documents and things known and accessible to the undersigned relating to such improvements and the history thereof, and testify as to the same in any interference, litigation or other proceeding relating thereto; and generally to do everything possible that the ASSIGNEE shall

consider desirable for vesting title to such improvements in the ASSIGNEE, and to secure, maintain, defend and enforce valid and enforceable patent protection for such improvements;

**AGREE AND ACKNOWLEDGE** that the SALE, ASSIGNMENT AND TRANSFER of rights and property set forth herein is and shall be IRREVOCABLE and BINDING upon the heirs, assigns, representatives and successors of each undersigned ASSIGNOR and EXTEND to the successors, assigns and nominees of the ASSIGNEE.

ASSIGNOR:

Gary H. Kawahara

Date: APRIL 20, 2016

Gary H. Kawahara  
Residing at: 1730 Nelson Avenue, Manhattan Beach, CA 90266

COUNTY OF Los Angeles,  
STATE OF California : ss.

On this 20<sup>th</sup> day of April, 2016, before me personally appeared GARY H. KAWAHARA, to me known to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/she executed the same.



Mayra Pineda  
Notary Public in and for said County and State

My Commission Expires: July 18, 2018

ASSIGNOR:

Paul Griffin

Date: 4/20/16

Paul Griffin

Residing at: 2520 Via Olivera, Palos Verdes Estates, CA 90274

COUNTY OF Los Angeles,  
STATE OF California : ss.

On this 20<sup>th</sup> day of April, 2016, before me personally appeared PAUL GRIFFIN, to me known to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/~~she~~ executed the same.



Mayra Pineda  
Notary Public in and for said County and State

My Commission Expires:

July 18, 2018

ASSIGNOR:

James Avramov  
Residing at: 12476 Current Drive, Eastvale, CA 91752

Date: 4/20/16

COUNTY OF Los Angeles )  
STATE OF California ) : ss.

On this 20<sup>th</sup> day of April, 2016, before me personally appeared JAMES AVRAMOV, to me known to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/~~she~~ executed the same.



Mayra Pineda  
Notary Public in and for said County and State

My Commission Expires: July 18, 2018

ASSIGNOR:

*Walter Tam*  
Walter Tam

Date: *4/20/2016*

Residing at: 1154 Punta Way, Monterey Park, CA 91754

COUNTY OF *Los Angeles* )  
STATE OF *California* ) : ss.

On this *20<sup>th</sup>* day of *April*, 2016, before me personally appeared WALTER TAM, to me known to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/~~she~~ executed the same.



*Mayra Pineda*  
Notary Public in and for said County and State

My Commission Expires: *July 18, 2018*