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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
DIETER FRENO	07/19/2019
THORSTEN PÖHLER	07/16/2019
MARTIN PERNLEITNER	07/18/2019
PAUL STORM	07/18/2019
ELECTRA STAVROPOULOU	07/19/2019
DIRK FRANK	07/16/2019

RECEIVING PARTY DATA

Name:	MTU AERO ENGINES
Street Address:	DACHAUER STRASSE 665
City:	MUENCHEN
State/Country:	GERMANY
Postal Code:	80995
Name:	MAN ENERGY SOLUTIONS SE
Name: Street Address:	MAN ENERGY SOLUTIONS SE STADTBACHSTR. 1
Street Address:	STADTBACHSTR. 1

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16537278

CORRESPONDENCE DATA

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PATENT REEL: 050016 FRAME: 0373

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ATTORNEY DOCKET NUMBER:	410001-782/456395
NAME OF SUBMITTER:	IAN R. BLUM
SIGNATURE:	/lan R. Blum/
DATE SIGNED:	08/09/2019
Total Attachments 0	

Total Attachments: 3

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PATENT REEL: 050016 FRAME: 0374

Attorney Docket Number: 410001-782/456395

ASSIGNMENT

In consideration of One Dollar (\$1.00), and other good and valuable

consideration, the receipt of which is hereby acknowledged, we the undersigned, Dieter FRENO;

Thorsten PÖHLER; Martin PERNLEITNER; Paul STORM; Electra STAVROPOULOU;

Dirk FRANK (hereinafter referred to as "ASSIGNOR"):

Hereby sell, assign and transfer to MAN Energy Solutions SE and MTU Aero

Engines AG (hereinafter referred to as "ASSIGNEE"), a corporation of Germany, having a place

of business at Stadtbachstr. 1, 86153 Augsburg, Germany; Dachauer Strasse 665, 80995

München, Germany, respectively, its successors, assigns and legal representatives, the entire

right, title and interest for the United States and all foreign countries, in and to the invention

which is disclosed in the application for United States Letters Patent, which has been executed

by the undersigned concurrently herewith, and which is entitled

Cooling System For Actively Cooling A Turbine Blade

and in and to said application and all provisional, divisional, continuing, substitute, renewal,

reissue, and all other applications for Letters Patent which have been or shall be filed in the

United States and all foreign countries on said invention; and in and to all original, reissued and

other patents and certificates of invention which have been or shall be issued in the United States

and all foreign countries on said invention;

Agree that said Assignee may apply for and receive Letters Patent for said

invention in its own name, and that, when requested, without further consideration from or

charge to, but at the expense of said Assignee, its successors, assigns and legal representatives, to

carry out in good faith the intent and purpose of this assignment, the undersigned will execute all

divisional, continuing, substitute, renewal, reissue, and all other patent applications on said

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PATENT REEL: 050016 FRAME: 0375 invention; execute all rightful oaths, assignments, powers of attorney and other papers; communicate to said Assignee, its successors, assigns, and representatives, all facts known to the undersigned relating to said invention and the history thereof; and generally do everything possible which said Assignee, its successors, assigns or representatives shall consider desirable for aiding in securing and maintaining proper patent protection for said invention and for vesting title to said invention and all applications for patents and all patents on said invention, in said Assignee, its successors, assigns and legal representatives; and

Covenant with said Assignee, its successors, assigns and legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Date:	07/19/2015	D.A-
	month/day/year	Dieter FRENO
		Witness
		Witness
Date:	07/16/2013 month/day/year	Thorsten PÖHLER,
	Witness	
		Witness

Date:	07/18/2019 month/day/year	Martin PERNLEITNER
		Witness
		Witness
Date:	07/18/2019	Paul Ster
	month/day/year	Paul STORM
		Witness
		Witness
Date:	P106/P1/F0	Estavropoulou
	month/day/year	Electra STAVROPOULOU
		Witness
		Witness
Date:	07/16/2013	Oill Frank
	month/day/year	Dirk FRANK
		Witness
		Witness

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RECORDED: 08/09/2019