

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

Assignment ID: PATI346075

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	Security Agreement	
CONVEYING PARTY DATA		
Name		Execution Date
Spirit AeroSystems, Inc.		06/30/2024
RECEIVING PARTY DATA		
Company Name:	Morgan Stanley Senior Funding, Inc.	
Street Address:	1300 Thames Street, 4th Floor	
Internal Address:	Thames Street Wharf	
City:	Baltimore	
State/Country:	MARYLAND	
Postal Code:	21231	
PROPERTY NUMBERS Total: 235		
Property Type	Number	
Application Number:	11537764	
Application Number:	11853660	
Application Number:	12750182	
Application Number:	11937713	
Application Number:	11940717	
Application Number:	11941647	
Application Number:	11947488	
Application Number:	11954964	
Application Number:	12110897	
Application Number:	12117147	
Application Number:	12178856	
Application Number:	12183900	
Application Number:	12336059	
Application Number:	12365376	
Application Number:	12371046	
Application Number:	12392303	
Application Number:	12427516	
Application Number:	12498552	
Application Number:	12554526	

PATENT

Property Type	Number
Application Number:	12558042
Application Number:	12238659
Application Number:	12576889
Application Number:	12623586
Application Number:	12644541
Application Number:	12644867
Application Number:	12689089
Application Number:	12717501
Application Number:	12732415
Application Number:	12750153
Application Number:	12754982
Application Number:	12769838
Application Number:	12774816
Application Number:	12816568
Application Number:	12836197
Application Number:	12856084
Application Number:	13008120
Application Number:	13038621
Application Number:	13082024
Application Number:	13086618
Application Number:	13185299
Application Number:	13238775
Application Number:	13238841
Application Number:	13238695
Application Number:	13238733
Application Number:	13238879
Application Number:	13246332
Application Number:	13246377
Application Number:	13246414
Application Number:	13278959
Application Number:	13284493
Application Number:	13288393
Application Number:	13293940
Application Number:	13445587
Application Number:	13445498
Application Number:	13462376
Application Number:	13465127
Application Number:	13473828

Property Type	Number
Application Number:	13552001
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Application Number:	13679569
Application Number:	13688755
Application Number:	13803706
Application Number:	13833693
Application Number:	13939526
Application Number:	13973474
Application Number:	14011320
Application Number:	14062532
Application Number:	14305444
Application Number:	14450995
Application Number:	14451028
Application Number:	14508402
Application Number:	14530784
Application Number:	14570317
Application Number:	14581393
Application Number:	14587482
Application Number:	14613437
Application Number:	14711419
Application Number:	14717592
Application Number:	14875897
Application Number:	14938549
Application Number:	14972972
Application Number:	14979988
Application Number:	15149334
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Property Type	Number
Application Number:	15399925
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Application Number:	16679963
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Property Type	Number
Application Number:	16690445
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Application Number:	16905318
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Application Number:	17024792
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Application Number:	17073583
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Application Number:	17171628
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Application Number:	17307343
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Application Number:	17412440
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Application Number:	17577283
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Application Number:	17668954
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Application Number:	17751345
Application Number:	17901014
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Application Number:	17989931
Application Number:	12365620
Application Number:	12342916
Application Number:	11955041
Application Number:	13829414

Property Type	Number
Application Number:	12185551
Application Number:	16944441
Application Number:	18084895
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Application Number:	17092824
Application Number:	17465967
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Application Number:	17548868
Application Number:	17559773
PCT Number:	US2212709
Application Number:	17590147
Application Number:	17669559
Application Number:	17682878
Application Number:	17748206
Application Number:	17828999
Application Number:	17835147
Application Number:	17835268
Application Number:	17876318
Application Number:	17944865
Application Number:	17961395
Application Number:	17973037
Application Number:	17982129
Application Number:	17982653
Application Number:	18110245
Application Number:	18111828
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Application Number:	18119205
Application Number:	18121962
Application Number:	18122830
Application Number:	18124097
Application Number:	18124109
Application Number:	18125587
Application Number:	18131549
Application Number:	18133367
Application Number:	18134757
Application Number:	18136124
Application Number:	18137045
Application Number:	18140357

Property Type	Number
Application Number:	18195816
Application Number:	18196356
Application Number:	18319162
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Application Number:	18319194
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Application Number:	18325826
Application Number:	18326710
Application Number:	18330540
Application Number:	18330481
Application Number:	18356719
Application Number:	18363024
Application Number:	18363480
Application Number:	18451626
Application Number:	18453407
Application Number:	18454233
Application Number:	63580020
Application Number:	18460468
Application Number:	18477132
Application Number:	18512370
Application Number:	18541308
Application Number:	18419275
Application Number:	18606959
Application Number:	18611220
Application Number:	18630511

CORRESPONDENCE DATA

Fax Number:

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: 8007130755

Email: Michael.Violet@wolterskluwer.com

Correspondent Name: Michael Violet

Address Line 1: 4400 Easton Commons Way

Address Line 2: Suite 125

Address Line 4: Columbus, OHIO 43219

NAME OF SUBMITTER:	Michael Violet
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SIGNATURE:	Michael Violet
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DATE SIGNED:	07/08/2024
Total Attachments: 20 source=14. Spirit (Bridge) - Notice of Grant in Patents#page1.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page2.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page3.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page4.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page5.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page6.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page7.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page8.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page9.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page10.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page11.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page12.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page13.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page14.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page15.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page16.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page17.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page18.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page19.tiff source=14. Spirit (Bridge) - Notice of Grant in Patents#page20.tiff	

RECORDATION FORM COVER SHEET
PATENTS ONLY

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

1. Name of conveying party(ies)

Spirit AeroSystems, Inc.

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance/Execution Date(s):

Execution Date(s) June 30, 2024

- ☐ Assignment ☐ Merger
☒ Security Agreement ☐ Change of Name
☐ Joint Research Agreement
☐ Government Interest Assignment
☐ Executive Order 9424, Confirmatory License
☐ Other _____

2. Name and address of receiving party(ies)

Name: Morgan Stanley Senior Funding, Inc.

Internal Address: Thames Street Wharf

Street Address: 1300 Thames Street, 4th FL

City: Baltimore

State: MD

Country: United States Zip: 21231

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application or patent number(s):

☐ This document serves as an Oath/Declaration (37 CFR 1.63).

A. Patent Application No.(s)

see attached Schedule I

B. Patent No.(s)

see attached Schedule I

Additional numbers attached? ☒ Yes ☐ No

5. Name and address to whom correspondence concerning document should be mailed:

Name: Jason Prechtel, Paralegal (Intellectual Property)

Internal Address: Cahill Gordon & Reindel LLP

Street Address: 32 Old Slip

City: New York

State: New York Zip: 10005

Phone Number: (212) 701-3568

Docket Number: Spirit-Bridge (16270.1581)

Email Address: jprechtel@cahill.com

6. Total number of applications and patents involved: 235

7. Total fee (37 CFR 1.21(h) & 3.41) \$ _____

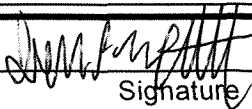
- ☐ Authorized to be charged to deposit account
☐ Enclosed
☐ None required (government interest not affecting title)

8. Payment Information

Deposit Account Number _____

Authorized UserName _____

9. Signature:


Signature

July 8, 2024

Date

Jason Prechtel

Name of Person Signing

Total number of pages including cover sheet, attachments, and documents:

20

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS

June 30, 2024

United States Patent and Trademark Office

Ladies and Gentlemen:


Please be advised that, pursuant to that certain Collateral Agreement, dated as of June 30, 2024 (as the same may be amended, restated, amended and restated, supplemented, extended, and/or otherwise modified in writing from time to time, the “Agreement”), by and among the Obligors party thereto (each, an “Obligor”; and collectively, the “Obligors”), and Morgan Stanley Senior Funding, Inc., as collateral agent (the “Collateral Agent”) for the Secured Parties referenced therein, the undersigned Obligor has, in accordance with the terms of the Agreement, granted a continuing security interest in, and a right to set off against, the patents and patent applications identified on Schedule I hereto to the Collateral Agent, for the benefit of the Secured Parties.

[Signature Pages Follow]

The undersigned Obligor and the Collateral Agent, on behalf of the Secured Parties, hereby acknowledge and agree that the security interest in the foregoing patents and patent applications: (i) may only be terminated in accordance with the terms of the Agreement; (ii) is not to be construed as an assignment of any patent or patent application; and (iii) Obligor hereby acknowledges and affirms that the rights and remedies of the Collateral Agent with respect to the security interest in the foregoing made and granted hereby are more fully set forth in the Agreement, the terms and provisions of which are incorporated herein by reference as if fully set forth herein and that in the event that any provision of this notice is deemed to conflict with the Agreement, the provisions of the Agreement shall control. This Notice of Grant of Security Interest in Patents may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract.

Very truly yours,


Spirit AeroSystems, Inc.,
a Delaware Corporation

By: 
Name: Rhonda Harkins
Title: Treasurer

[Signature Pages Continue]

ACKNOWLEDGED AND AGREED
AS OF THE DATE FIRST WRITTEN ABOVE:

MORGAN STANLEY SENIOR FUNDING, INC.,
as Collateral Agent

By: 
Name: Ethan Plater
Title: Authorized Signatory

[Signature Pages End]

SCHEDULE I**U.S. PATENTS****Issued Patents**

Loan Party	Title	Application #	Issue Date	Patent #
Spirit AeroSystems, Inc.	INTEGRATED INLET ATTACHMENT	11/537764	3/17/2009	7503425
	METHOD AND APPARATUS FOR TENSIONING COMPOSITE MATERIAL	11/853660	5/18/2010	7717694
	METHOD AND APPARATUS FOR TENSIONING COMPOSITE MATERIAL	12/750182	1/4/2011	7862767
	METHOD AND APPARATUS FOR FORMING ADHESIVE STRIPS	11/937713	1/25/2011	7874829
	LOW-LEAKAGE SEAL SYSTEM FOR PIVOT DOOR TYPE THRUST REVERSER	11/940717	2/1/2011	7878451
	SYSTEM FOR ADJUSTMENT OF THRUST REVERSER PIVOT DOOR	11/941647	8/23/2011	8002217
	MODULAR NUMERICALLY CONTROLLED SYSTEM	11/947488	10/30/2012	8296923
	NACELLE INLET THERMAL ANTI-ICING SPRAY DUCT SUPPORT SYSTEM	11/954964	3/8/2011	7900872
	RECONFIGURABLE NUMERICAL CONTROL FOR MULTI LEVEL MODULAR MACHINE	12/110897	7/5/2011	7974732
	SYSTEM AND METHOD FOR REPAIRING COMPOSITE PARTS	12/117147	7/10/2012	8218852
	DILATING FAN DUCT NOZZLE	12/178856	5/18/2010	7716932
	SYSTEM AND METHOD FOR ROBOTIC ACCURACY IMPROVEMENT	12/183900	7/12/2011	7979160
	HINGE LOCATOR DEVICE	12/336059	1/1/2013	8341813
	CONTINUOUS COMPOSITE FAN DUCT AND THRUST REVERSER	12/365376	3/19/2013	8398017
	SYSTEM AND METHOD FOR SELF-CONTAINED STRUCTURAL HEALTH MONITORING FOR COMPOSITE STRUCTURES	12/371046	12/28/2010	7860664
	THRUST REVERSER CONFIGURATION FOR A SHORT FAN DUCT	12/392303	11/27/2012	8316632

Loan Party	Title	Application #	Issue Date	Patent #
Spirit AeroSystems, Inc.	TERTIARY LOCK FOR PIVOT DOOR THRUST REVERSER	12/427516	1/14/2014	8628128
	SYSTEM AND METHOD TO FORM AND HEAT-TREAT A METAL PART	12/498552	11/13/2012	8308876
	VIRTUAL PRODUCTION TESTING OF LARGE INTEGRATED PRODUCTS	12/554526	12/4/2012	8326959
	HYBRID BEAM FOR A THRUST REVERSER UNIT	12/558042	12/4/2012	8322653
	APPARATUS AND METHOD FOR WIDTH DETECTION	12/238659	5/3/2011	7936277
	APPARATUS AND METHOD FOR MANUFACTURING AN AIRCRAFT STRINGER	12/576889	9/11/2012	8262969
	TRUSS-SHAPED ENGINE PYLON AND METHOD OF MAKING SAME	12/623586	1/15/2013	8353476
	SYSTEM AND METHOD FOR FORMING CONTOURED NEW AND NEAR-NET SHAPE TITANIUM PARTS	12/644541	2/18/2014	8652276
	APPARATUS FOR INSULATING EXPOSED FASTENERS	12/644867	5/7/2013	8435623
	APPARATUS AND METHOD FOR THICKNESS DETECTION	12/689089	12/31/2013	8619268
	HYBRID TORQUE BOX FOR A THRUST REVERSER	12/717501	11/6/2012	8302907
	METHOD FOR BONDING HONEYCOMB CORES	12/732415	8/28/2012	8251174
	DILATING FAN DUCT NOZZLE	12/750153	3/25/2014	8677758
	SYSTEM FOR PROCESSING COMPOSITE MATERIALS	12/754982	3/12/2013	8393371
	APPARATUS AND METHOD FOR AIRCRAFT ENGINE CORE EXCHANGE	12/769838	5/13/2014	8720059
	VARIABLE FAN DUCT NOZZLE TRANSLATABLE CORE/INNER COWL INCLUDING TWO OVERLAPPING PORTIONS MADE OF DIFFERENT MATERIALS	12/774816	3/11/2014	8667802
	METHOD AND SYSTEM FOR FORMING A COMPLEX MONOLITHIC THERMOSET PART	12/816568	2/19/2013	8377248
	FAIL-SAFE AIRCRAFT ENGINE MOUNTING APPARATUS	12/836197	1/8/2013	8348191
	AERODYNAMIC DEVICE FOR THRUST REVERSER CASCADES	12/856084	7/16/2013	8484944

Loan Party	Title	Application #	Issue Date	Patent #
Spirit AeroSystems, Inc.	APPARATUS AND METHOD FOR SHIELDING A THRUST REVERSER STRUCTURE FROM ENGINE HEAT	13/008120	11/3/2015	9175607
	THRUST REVERSER TRANSLATING SLEEVE ASSEMBLY	13/038621	5/13/2014	8720183
	METHOD AND BLADDER APPARATUS FOR FORMING COMPOSITE PARTS	13/082024	10/15/2013	8556618
	METHOD AND TOOLING FOR MANUFACTURE OF CO-CURED COMPOSITE STRUCTURES	13/086618	6/11/2013	8460502
	TRANSLATING FORMING DIES	13/185299	8/5/2014	8794947
	METHODS AND SYSTEMS FOR FABRICATING COMPOSITE PARTS USING A SMP APPARATUS AS A RIGID LAY-UP TOOL AND BLADDER	13/238775	5/27/2014	8734703
	METHODS AND SYSTEMS FOR CO-BONDING OR CO-CURING COMPOSITE PARTS USING A RIGID/MALLEABLE SMP APPARATUS	13/238841	2/10/2015	8951375
	METHODS AND SYSTEMS FOR FABRICATING COMPOSITE STIFFENERS WITH A RIGID/MALLEABLE SMP APPARATUS	13/238695	8/26/2014	8815145
	METHODS AND SYSTEMS FOR FORMING INTEGRAL COMPOSITE PARTS WITH A SMP APPARATUS	13/238733	2/3/2015	8945325
	METHOD FOR REMOVING A SMP APPARATUS FROM A CURED COMPOSITE PART	13/238879	11/4/2014	8877114
	RECONFIGURABLE SHAPE MEMORY POLYMER TOOLING SUPPORTS	13/246332	7/7/2015	9073240
	RECONFIGURABLE SHAPE MEMORY POLYMER TOOLING SUPPORTS	13/246377	12/17/2013	8608890
	RECONFIGURABLE SHAPE MEMORY POLYMER TOOLING SUPPORTS	13/246414	3/10/2015	8974217
	AUTOMATED MULTI-STAGE MACHINE FOR FORMING COMPOSITE DETAILS	13/278959	9/9/2014	8826509
	PYLON ARRANGEMENT FOR OPEN STRUCTURE	13/284493	5/12/2015	9027875

Loan Party	Title	Application #	Issue Date	Patent #
Spirit AeroSystems, Inc.	RECONFIGURABLE SHAPE MEMORY POLYMER SUPPORT TOOLING	13/288393	2/3/2015	8945455
	HIGH TEMPERATURE SHAPE MEMORY POLYMER VIA REACTIVE EXTRUSION	13293940	3/11/2014	8668981
	MODULAR HEAD AUTOMATED FABRIC LAMINATING APPARATUS	13/445587	7/1/2014	8763665
	MODULAR HEAD AUTOMATED FABRIC LAMINATING APPARATUS	13/445498	5/5/2015	9023176
	COMPOSITE MATERIAL PART MANUFACTURING PROCESS USING REMOVABLE AND RETAINABLE MATERIAL	13/462376	9/8/2015	9126355
	SYSTEM AND METHOD FOR REPAIRING COMPOSITE PARTS	13/465127	5/19/2015	9036919
	SYSTEM AND METHOD FOR LOCATING AND DISPLAYING AIRCRAFT INFORMATION	13/473828	7/14/2015	9082208
	INTERMEDIATE STRUCTURE FOR INDEPENDENTLY DE- MOUNTABLE PROPULSION COMPONENTS	13/552001	12/15/2015	9212607
	SYSTEM AND METHOD FOR ASSEMBLING AIRCRAFT COMPONENTS	13/553946	12/23/2014	8914979
	INTERMEDIATE STRUCTURE FOR INDEPENDENTLY DE- MOUNTABLE PROPULSION COMPONENTS	14/340132	11/1/2016	9481470
	CASCADE-STYLE VARIABLE AREA FAN DUCT NOZZLE	13/591671	2/9/2016	9255546
	INTERNAL STRINGER INSPECTION SYSTEM FOR INTEGRATED STRUCTURES	13/600395	4/7/2015	8997573
	TRANSLATABLE HEAT SHRINK OVEN FOR APPLYING HEAT SHRINK FILM TO A SILICONE RUBBER BLADDER	13/647214	2/9/2016	9254612
	ENGINE INLET VARYING IMPEDANCE ACOUSTIC LINER SECTION	13/655911	10/21/2014	8863893
	THERMO-RHEOLOGICAL FLUID VALVE FOR RESIN INFUSION	13/674679	3/3/2015	8968617
	SELF ADJUSTING CORNER SCANNER	13/674647	2/23/2016	9267926
	NONDESTRUCTIVE INSPECTION SYSTEM CONTROLLER WITH	13/674605	3/3/2015	8970233

Loan Party	Title	Application #	Issue Date	Patent #
Spirit AeroSystems, Inc.	DYNAMIC POSITION CORRECTION			
	METHODS AND SYSTEMS FOR DIMENSIONAL INSPECTION OF COMPENSATED HARDWARE	13/679472	6/16/2015	9056421
	AUTOCLAVE HEALTH MONITORING AND CONTROL SYSTEM	13/679569	6/28/2016	9375865
	TRUSS-SHAPED ENGINE PYLON AND METHOD OF MAKING SAME	13/688755	10/22/2013	8561943
	SELF-PROPELLED, REDUCED-WATER, INTERNAL NON-DESTRUCTIVE INSPECTION APPARATUS	13/803706	8/23/2016	9423381
	INTEGRATED SHAPE MEMORY POLYMER AND CAUL TOOL	13/833693	8/8/2017	9724870
	METHOD FOR MOUNTING A PYLON TO AN AIRCRAFT	13/939526	2/2/2016	9248921
	METHOD AND BLADDER APPARATUS FOR FORMING COMPOSITE PARTS	13/973474	3/28/2017	9604394
	ALUMINUM-COPPER ALLOYS WITH IMPROVED STRENGTH	14/011320	4/23/2019	10266933
	REMOLDABLE CONTOUR SENSOR HOLDER	14/062532	5/9/2017	9646599
	METHOD OF FABRICATING A BONDED CASCADE ASSEMBLY FOR AN AIRCRAFT THRUST REVERSER	14/305444	3/7/2017	9587582
	SHAPE MEMORY EPOXY COPOLYMERS USING AROMATIC ALCOHOL CURE AGENTS	14/450995	9/6/2016	9434810
	SYSTEM AND METHOD FOR MANUFACTURING AND TESTING COMPOSITE ACOUSTIC PANELS	14/451028	6/13/2017	9676148
	METHOD OF LIQUID RESIN INFUSION OF A COMPOSITE PREFORM	14/508402	4/3/2018	9931795
	BIFURCATION HONEYCOMB SANDWICH STRUCTURE WITH OPTIMIZED DOUBLER	14530784	5/16/2017	9649728
	SECONDARY GROOVE FOR WORK PIECE RETENTION DURING MACHINING	14/570317	2/28/2017	9579855
	METHOD FOR BLADDER REPAIR DURING COMPOSITE PART CURING	14/581393	3/27/2018	9925697
	METHOD AND APPARATUS FOR ABRASIVE STREAM PERFORATION	14/587482	9/20/2016	9446501

Loan Party	Title	Application #	Issue Date	Patent #
Spirit AeroSystems, Inc.	LOCALIZED HEAT TREATING OF NET SHAPE TITANIUM PARTS	14/613437	4/24/2018	9951405
	ULTRASONIC INSPECTION END EFFECTOR	14/711419	10/3/2017	9778231
	SYSTEM AND METHOD FOR MACHINE AXIS COORDINATION FOR ULTRASONIC INSPECTION	14/717592	11/14/2017	9816967
	HYBRID THRUST REVERSER INNER WALL FOR AIRCRAFT ENGINES	14/875897	6/12/2018	9995247
	METHOD FOR JOULE HEATING DIFFUSION BONDED HONEYCOMB CORE	14/938549	6/4/2019	10,307,856
	METHOD TO PREVENT ABNORMAL GRAIN GROWTH FOR BETA ANNEALED TI-6AL-4V FORGINGS	14/972972	10/9/2018	10094013
	APPARATUS AND METHOD FOR STABILIZING A FORMABLE MATERIAL WHILE FORMING	14/979988	3/20/2018	9919352
	METHOD FOR ELIMINATING RADIUS WRINKLES IN COMPOSITE LAMINATES	15149334	8/28/2018	10059065
	MODULAR FILM-COVERED ELASTOMERIC INSPECTION DEVICE	15/232923	7/9/2019	10345271
	SYSTEM AND METHOD FOR REDUCING AIR INGRESSION INTO SEALANT TUBES	15/292329	6/5/2018	9987656
	METHOD OF FABRICATING A BONDED CASCADE ASSEMBLY FOR AN AIRCRAFT THRUST REVERSER	15/341459	10/31/2017	9803587
	MONOLITHIC LIPSkin AND METHOD OF FABRICATION	15/399925	3/16/2021	10946974
	SELF-LUBRICATED DRILL BLOCK	15/403715	12/11/2018	10150165
	METHOD AND APPARATUS FOR ACOUSTIC PERFORATION OF CORE SANDWICH PANELS	15/431347	7/7/2020	10,702,928
	STRUCTURE AND METHOD OF MAKING SAME INVOLVING WELDING OTHERWISE NON- WELDABLE MATERIALS	15/442295	5/26/2020	10,661,381
	CASCADE PIVOT DOOR-TYPE THRUST REVERSER FOR TURBOFAN ENGINE	15/455834	9/17/2019	10,415,503
	AIRCRAFT ENGINE ATTACHMENT ASSEMBLY	15/612220	3/10/2020	10,583,930

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Spirit AeroSystems, Inc.	METHOD OF FABRICATING A THRUST REVERSER CASCADE ASSEMBLY	15/677642	3/24/2020	10,598,127
	HIGH-MOUNTED AIRCRAFT NACELLE	15/689304	10/27/2020	10814995
	METHOD AND SYSTEM OF JOINING THICK SHEETS OF NON-WELDABLE MATERIAL USING ULTRASONIC JOINING	15/717197	9/11/2018	10071439
	OPTICAL MEASUREMENT DEVICE FOR INSPECTION OF DISCONTINUITIES IN AEROSTRUCTURES	15/786213	11/17/2020	10,837,916
	ACOUSTIC PANEL EMPLOYING ROUNDED PARTICLES IN SEPTUM LAYER AND SYSTEM AND METHOD FOR MAKING SAME	15/828769	10/20/2020	10810988
	ROLLER DEVICE WITH TAILORABLE COMPLIANCE FOR AUTOMATED FIBER PLACEMENT	15/878736	2/23/2021	10,926,491
	AUTOMATED FIBER PLACEMENT AND IN-SITU FIBER IMPREGNATION SYSTEM AND METHOD	16/013,461	8/25/2020	10,751,954
	SYSTEM AND METHOD FOR WELDING THERMOPLASTIC COMPONENTS TO CREATE COMPOSITE STRUCTURES	16/013,420	7/7/2020	10,703,049
	SYSTEM AND METHOD FOR SPLICING PLIES IN STRINGER SHEETS	16/015,412	3/2/2021	10933596
	SYSTEM INCLUDING HIDDEN DRAG LINK ASSEMBLY FOR ACTUATING BLOCKER DOOR OF THRUST REVERSER	16/019,851	11/24/2020	10,844,807
	SYSTEM INCLUDING TELESCOPING HIDDEN DRAG LINK ASSEMBLY FOR ACTUATING BLOCKER DOOR OF THRUST REVERSER	16/019,830	7/28/2020	10,724,473
	SYSTEM AND METHOD EMPLOYING ACTIVE THERMAL BUFFER ELEMENT FOR IMPROVED JOULE HEATING	16/022139	8/23/2022	11,420,278
	METHOD FOR ELIMINATING WRINKLES OR BRIDGING IN COMPOSITE LAMINATE CORNERS OR BENDS	16/050,061	9/29/2020	10786953

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Spirit AeroSystems, Inc.	METHOD AND SYSTEM OF JOINING THICK SHEETS OF NON-WELDABLE MATERIAL USING ULTRASONIC JOINING	16/059,146	9/17/2019	10,413,993
	A METHOD FOR EXTRACTING TRAPPED TOOLING FROM COMPOSITE STRUCTURE	16/100,413	8/3/2021	11,077,578
	MULTI-FUNCTION SYSTEM SUPPORT TRAY	16/105,635	7/21/2020	10,718,449
	NACELLE AERODYNAMIC SPOILER	16/111,379	7/27/2021	11,072,415
	METHOD TO PREVENT ABNORMAL GRAIN GROWTH FOR BETA ANNEALED TI-6AL-4V FORGINGS	16/151,512	11/3/2020	10822682
	CASCADE SEGMENT FOR THRUST REVERSER WITH REPEATING MODULAR UNITS, AND METHOD OF MANUFACTURING SAME	16/156,547	12/15/2020	10,865,736
	CURING SHIELD	16/178,980	5/19/2020	10654223
	ACOUSTIC PANEL EMPLOYING CHOPPED FIBERS IN SEPTUM LAYER AND METHOD FOR MAKING SAME	16/219,336	10/19/2021	11,151,971
	PEEN-FORMING OF THERMOPOLASTIC COMPOSITE MATERIAL	16/368,115	9/6/2022	11,433,624
	IN-LINE LASER PROFILOMETRY INSPECTION SYSTEM / WAVE (WIDTH ANGLE VERIFICATION EQUIPMENT)	16399377	3/17/2020	10,591,420
	METHOD OF FUSING THERMOPLASTIC COMPOSITE STRUCTURES	16/404,794	11/10/2020	10828880
	COMPOSITE STRINGER END CAP	16/435,652	10/20/2020	10807699
	FAIL-SAFE ENGINE SUPPORT METHOD	16/509,817	3/15/2022	11,273,923
	SYSTEM AND METHOD FOR FABRICATING AND CURING LARGE COMPOSITE STRUCTURES	16/525,772	11/9/2021	11,167,508
	METHOD FOR SECURING CORE TO TOOL DURING MACHINING	16/551,913	11/29/2022	11,511,502
	CONTINUOUS MANUFACTURING PROCESS FOR COMPOSITE PARTS	16/576,018	4/12/2022	11298902

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Spirit AeroSystems, Inc.	MODULAR FLOOR SYSTEM FOR LARGE VEHICLE CONSTRUCTION	16/576,055	10/4/2022	11,459,122
	INTEGRATED PICK, PLACE, AND FORMING APPARATUS AND METHOD FOR COMPOSITE CHARGES OVER COMPLEX GEOMETRIES	16/679,963	12/14/2021	11,198,262
	COMPOSITE AERODYNAMIC STRUCTURE	16/684,118	4/4/2022	11,292,578
	BULB STIFFENER WITH SINUSOIDAL WEB	16/690,445	11/22/2022	11505301
	SYSTEM AND METHOD FOR DRILLING HOLES AND INSTALLING FASTENERS IN VEHICLE STRUCTURES	16/718,493	6/28/2022	11,370,073
	FASTENER INSERTION GUN FOR INSTALLING FASTENERS IN VEHICLE STRUCTURES	16/718,511	11/8/2022	11,491,533
	METHOD AND APPARATUS FOR FABRICATING REFORMABLE STIFFENING ELEMENTS	16/720,491	2/22/2022	US11254410
	CAP FOR TEMPORARY FASTENER	16/722,150	10/11/2022	11,466,719
	SYSTEM AND METHOD FOR FABRICATING AND CURING LARGE COMPOSITE STRUCTURES	16/783,226	11/9/2021	11,167,515
	SYSTEM AND METHOD FOR FORMING INTEGRAL FLANGE IN COMPOSITE LAMINATE STRUCTURE AFTER LAYUP	16/826,441	10/19/2021	11,148,372
	SYSTEM AND METHOD FOR WELDING THERMOPLASTIC COMPONENTS TO CREATE COMPOSITE STRUCTURES	16/874,069	8/3/2021	11,077,624
	SYSTEM AND APPARATUS FOR MANUFACTURING SIMPLE CURVATURE THERMOPLASTIC COMPOSITE PARTS	16/883,518	4/25/2023	11,633,927
	METHOD OF MANUFACTURING SIMPLE CURVATURE THERMOPLASTIC COMPOSITE PARTS	16/883,530	4/18/2023	11,628,628
	LIGHTNING STRIKE PROTECTION SURFACER AND METHOD OF MANUFACTURING THE SAME	16/905,318	11/22/2022	11504925
	METHOD OF MANUFACTURING FOLDED STRUCTURE WITH ADDITIVE FEATURES	16/929,195	9/26/2023	11,766,828

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Spirit AeroSystems, Inc.	OPTICAL MEASUREMENT DEVICE FOR INSPECTION OF DISCONTINUITIES IN AEROSTRUCTURES	16/943,205	6/20/2023	11680910
	AUTOMATED FIBER PLACEMENT AND IN-SITU FIBER IMPREGNATION SYSTEM AND METHOD	16/998,584	4/19/2022	11,305,497
	FEATURE INSPECTION SYSTEM (SPIFI)	17/024,792	4/18/2023	11,631,184
	METHOD OF FUSING THERMOPLASTIC COMPOSITE STRUCTURES	17/028,569	10/4/2022	11,459,081
	COMPOSITE PYLON	17/073,583	6/20/2023	11679888
	THRUST LOAD REACTION ASSEMBLY	17/120,404	7/25/2023	11708169
	TEXTILE CASCADE ASSEMBLY	17/165,433	10/4/2022	11,459,979
	FLEXIBLE SLEEVE FOR ADJUSTABLE FAN DUCT NOZZLE	17/167,241	8/8/2023	11719189
	METHOD OF SEAMLESSLY BAGGING COMPOSITE PARTS	17/171,628	5/30/2023	11660829
	INTEGRATED PICK, PLACE, AND FORMING APPARATUS AND METHOD FOR COMPOSITE CHARGES OVER COMPLEX GEOMETRIES	17/206,312	6/21/2022	11,364,692
	SYSTEM AND METHOD FOR WELDING THERMOPLASTIC COMPONENTS TO CREATE COMPOSITE STRUCTURES	17/307,343	5/10/2022	11325320
	METHODS OF FABRICATING MULTI-REGION U-SHAPED COMPOSITE STRUCTURES	17/328,426	2/7/2023	11,571,863
	SYSTEM AND METHOD FOR THERMOPLASTIC WELDING USING AN INDUCED THERMAL GRADIENT	17/412,440	2/7/2023	11,571,861
	THRUST REVERSER INTERSPATIAL BLOCKER SYSTEM	17/507,836	2/20/2024	11905913
	SYSTEM AND METHOD FOR PROMOTING INTER-PLY SLIPPAGE	17/577,283	9/12/2023	11752711
	RESISTANCE WELDING METHODS AND APPARATUS	17/580,240	3/21/2023	11,607,852

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Spirit AeroSystems, Inc.	METHOD AND APPARATUS FOR FABRICATING REFORMABLE STIFFENING ELEMENTS	17/668,954	7/25/2023	11708143
	CONTINUOUS MANUFACTURING PROCESS FOR COMPOSITE PARTS	17/692,104	1/9/2024	11865803
	SYSTEM AND METHOD FOR DRILLING HOLES AND INSTALLING FASTENERS IN VEHICLE STRUCTURES	17/751,345	8/15/2023	11724345
	CAP FOR TEMPORARY FASTENER	17/901,014	8/29/2023	11739781
	TEXTILE CASCADE ASSEMBLY	17/900,946	9/26/2023	11767809
	LIGHTNING STRIKE PROTECTION SURFACER AND METHOD OF MANUFACTURING THE SAME	17/989,931	8/1/2023	11712860
	INTEGRAL COMPOSITE SLIDER FOR AIRCRAFTS*	12365620	5/8/2012	8172176
	ENERGY-ABSORBING STRUCTURAL COMPOSITE ELEMENT*	12342916	5/22/2012	8181422
	PARTIAL CASCADE THRUST REVERSER*	11955041	6/19/2012	8201390
	METHOD OF PART VERIFICATION	13829414	5/24/2016	9348948
	ENGINE PYLON MADE FROM COMPOSITE MATERIAL*	12185551	6/26/2012	8205825
	SYSTEM INCLUDING BREAKAWAY FASTENERS FOR FABRICATION OF COMPOSITE PARTS	16/944,441	5/21/2024	11,988,237
	METHODS OF FABRICATING MULTI-REGION U-SHAPED COMPOSITE STRUCTURES	18/084,895	9/12/2023	11752705

*The Obligor intends to allow these Patents to lapse in the ordinary course of business.

Applications

Loan Party	Title	Application #	Filing Date
Spirit AeroSystems, Inc.	STRINGER PLUG	16/178,916	11/2/2018
	METHOD AND APPARATUS FOR IN-SITU THERMAL MANAGEMENT AND HEAT TREATMENT OF ADDITIVELY MANUFACTURING COMPONENTS	17/092,824	11/9/2020
	FEATURE INSPECTION SYSTEM (SPIFI)	17/465,967	9/3/2021
	INJECTION MOLDING OF COMPOSITE PARTS	17/487,090	9/28/2021
	AIRCRAFT ENGINE ATTACHMENT ASSEMBLY	17/548,868	12/13/2021
	METHOD FOR MANUFACTURING METAL MATRIX COMPOSITE	17/559773	12/22/2021
	SYSTEM AND METHOD FOR PROMOTING INTER-PLY SLIPPAGE	PCT/US2022/012709	1/18/2022
Spirit AeroSystems, Inc.	SYSTEM AND METHOD FOR WELDING THERMOPLASTIC COMPONENTS TO CREATE COMPOSITE STRUCTURES	17/590,147	2/1/2022

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SYSTEM AND METHOD FOR DRILLING HOLES AND INSTALLING FASTENERS IN VEHICLE STRUCTURES	17/669,559	2/11/2022
A METHOD TO FORM & HEAT TREAT NEAR NET SHAPE COMPLEX AEROSPACE STRUCTURES RAPIDLY FROM SHEET METAL	17/682,878	2/28/2022
MOUNTING SYSTEM FOR AIRCRAFT ENGINE	17/748,206	5/19/2022
METHOD OF JOINING MOLDED OR THREE-DIMENSIONAL PRINTED PARTS TO THERMOPLASTIC COMPOSITE STRUCTURES	17/828,999	5/31/2022
SEMI-CONFORMABLE PRESSURE APPLICATION SYSTEM	17/835,147	6/8/2022
BLOW THROUGH PISTOL GRIP DRILL MOTOR - THROUGH HOLE COUNTERSINK CAGE/CUTTER	17/835,268	6/8/2022
PEEN-FORMING OF THERMPOLASTIC COMPOSITE MATERIAL	17/876,318	7/28/2022
SYSTEM FOR FUSING THERMOPLASTIC COMPOSITE STRUCTURES	17/944,865	9/14/2022
METHOD FOR SECURING CORE TO TOOL DURING MACHINING	17/961,395	10/6/2022
BULB STIFFENER WITH SINUSOIDAL WEB	17/973,037	10/25/2022
METHOD OF INTEGRATING METALLIC COMPONENTS TO FORM MACHINING PREFORM	17/982,129	11/7/2022
METHOD FOR CONTROL OF SEMI-CRYSTALLINE THERMOPLASTIC MELT FRONT TO FACILITATE LOW POROSITY CONSOLIDATION IN OUT OF AUTOCLAVE PROCESSING	17/982,653	11/8/2022
RESISTANCE WELDING METHODS AND APPARATUS	18/110245	2/15/2023
METHOD TO PRODUCE NET SHAPE PRECIPITATION HARDENING, DESIGNER AND OFF STOICHIOMETRIC NICKEL, IRON, OR	18/111,828	2/20/2023

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COBALT BASE SUPERALLOYS DIRECTLY VIA ELECTRO- METALLURGY		
METHOD TO PRODUCE VOID-FREE FERROUS & NON-FERROUS AEROSPACE STRUCTURAL CASTINGS	18/111635	2/20/2023
METHOD OF FORMING COMPOSITES BY JOULE HEATING OF ENVELOPING METALLIC SHEETS	18/119,205	3/8/2023
METHOD FOR USING EXPENDABLE FLEXURES FOR FORMING COMPOSITE LAMINATES	18/121,962	3/15/2023
METHOD FOR USING AUTOMATED FIBER PLACEMENT TO FABRICATE RADIUS FILLER NOODLE AND LOCATING STIFFENING ELEMENTS ON A COMPOSITE SKIN	18/122830	3/17/2023
MECHANIZED PROCESS FOR THE PRODUCTION OF A CONTINUOUS CARBON FIBER REINFORCED THERMOPLASTIC COMPOSITE HONEYCOMB CORE	18/124,097	3/21/2023
MECHANIZED PROCESS FOR THE PRODUCTION OF A CONTINUOUS CARBON FIBER REINFORCED THERMOPLASTIC COMPOSITE HONEYCOMB CORE	18/124,109	3/21/2023
FOD COLLECTION DRILL ATTACHMENT	18/125587	3/23/2023
METHOD TO PRODUCE LOW COST METAL MATRIX COMPOSITES FOR INDUSTRIAL, SPORTS & COMMERCIAL APPLICATIONS	18/131,549	4/6/2023
FIREPROOF SIGHT GLASS WINDOW FOR ENGINE NACELLE	18/133,367	4/11/2023
METHOD FOR ROLL FORMING THERMOPLASTIC COMPOSITES	18/134,757	4/14/2023
FEATURE INSPECTION SYSTEM (SPIFI)	18/136,124	4/18/2023
DRILL GUIDE BUSHING.	18/137,045	4/20/2023

	FIREPROOF SWIVEL TYPE ACCESS DOOR FOR ENGINE NACELLE	18/140,357	4/27/2023
	OPTICAL MEASUREMENT DEVICE FOR INSPECTION OF DISCONTINUITIES IN AEROSTRUCTURES	18/195,816	5/10/2023
	METHOD OF SEAMLESSLY BAGGING COMPOSITE PARTS	18/196,356	5/11/2023
	SYSTEM AND METHOD FOR SECONDARY CONSOLIDATION OF THERMOPLASTIC COMPOSITES	18/319,162	5/17/2023
	THERMOPLASTIC COMPOSITE BROADGOOD AND DEPOSITION MEANS	18/319,170	5/17/2023
	SYSTEM AND METHOD FOR INDUCTION FUSING OF THERMOPLASTIC COMPOSITES	18/319,194	5/17/2023
	METHOD AND APPARATUS FOR FABRICATING REFORMABLE STIFFENING ELEMENTS	18/322,332	5/23/2023
Spirit AeroSystems, Inc.	METHOD OF VOLATILE TRANSPORT DURING FABRICATION OF CERAMIC MATRIX COMPOSITE	18/325,835	5/23/2023
	3D PRINTED POWDER CONTAINMENT CRATE	18/325,826	5/30/2023
	METHODS AND METHODOLOGY OR MULTI-PART SEPARATION BASED ON ADDITIVE MANUFACTURING MULTI-PIECE BUILD PLATE	18/326,710	5/31/2023
	FAN DUCT AERODYNAMIC SEAL AROUND BIFURCATION FAIRING	18/330,540	6/7/2023
	PROPULSION INSTALLATION	18/330,481	6/7/2023
	CONICAL INDEXING BOLT	18/356,719	7/21/2023
	SYSTEM AND METHOD FOR PROMOTING INTER-PLY SLIPPAGE	18/363,024	8/1/2023
	METHOD FOR ACTIVELY COOLING AND SUPPORTING COMPONENTS DURING THERMOPLASTIC COMPOSITE WELDING	18/363,480	8/1/2023

CLOSED LOOP ROBOTIC SEALING THROUGH PREDICTIVE PATH PLANNING USING AR CAPTURED SEAM CONTOUR – TO IMPROVE SEAL QUALITY AND THROUGHPUT	18/451,626	8/17/2023
SPATIAL MAPPING OF AIRFRAME DIGITAL IMAGES TO AIRCRAFT REFERENCE FRAME USING MOTION CAPTURE FOR LOCALIZATION	18/453,407	8/22/2023
METHOD OF MANUFACTURING FOLDED STRUCTURE WITH ADDITIVE FEATURES	18/454,233	8/23/2023
TOPOGRAPHICAL INSPECTION	63/580,020	9/1/2023
MAXIMIZING THE LAMINATE QUALITY AND STRENGTH OF CURVED COMPOSITE STRUCTURAL COMPONENTS MANUFACTURED WITH AUTOMATED FIBER PLACEMENT (AFP) TECHNOLOGIES BY OBJECTIVE CHARACTERIZATION AND MANAGEMENT OF TH	18/460,468	9/1/2023
DYNAMIC BACKGROUND KEYING FOR METROLOGY	18/477,132	9/28/2023
COMPOSITE LAMINATE HEATING TOOL AND METHOD FOR FORMING SAME	18/512,370	11/17/2023
DYNAMIC CURING PROTOCOL (DCP)	18/541,308	12/15/2023
CERAMIC MATRIX COMPOSITE SANDWICH STRUCTURE AND METHOD OF MANUFACTURE	18/419,275	1/22/2024
SYSTEM INCLUDING BREAKAWAY FASTENERS FOR FABRICATION OF COMPOSITE PARTS	18/606,959	3/15/2024
METHOD AND APPARATUS FOR MANUFACTURING A COMPOSITE PRODUCT	18/611,220	3/20/2024
DEBURR TOOL	18/630,511	4/9/2024