

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT7436557

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY AGREEMENT
CONVEYING PARTY DATA	
Name	Execution Date
HUSCO AUTOMOTIVE HOLDINGS LLC	06/15/2022
RECEIVING PARTY DATA	
Name:	JPMORGAN CHASE BANK, N.A.,
Street Address:	1400 WEST CAPITOL DRIVE
Internal Address:	CHASE COMMERCIAL BUILDING
City:	BROOKFIELD
State/Country:	WISCONSIN
Postal Code:	53005
PROPERTY NUMBERS Total: 55	
Property Type	Number
Application Number:	15040414
Application Number:	14808685
Application Number:	15407948
Application Number:	14284595
Application Number:	14926087
Application Number:	13803152
Application Number:	13792396
Application Number:	13449960
Application Number:	13449989
Application Number:	13053823
Application Number:	12103255
Application Number:	12410832
Application Number:	12198691
Application Number:	12103248
Application Number:	12103263
Application Number:	12120575
Application Number:	11779958
Application Number:	10911896
Application Number:	10723513

Property Type	Number
Application Number:	10212331
Application Number:	17461776
Application Number:	17403554
Application Number:	17081374
Application Number:	17039532
Application Number:	17010034
Application Number:	16999916
Application Number:	16915069
Application Number:	16752789
Application Number:	16389010
Application Number:	16352005
Application Number:	17156109
Application Number:	16393060
Application Number:	16225241
Application Number:	15377334
Application Number:	16704992
Application Number:	16784085
Application Number:	15346448
Application Number:	15491076
Application Number:	16378289
Application Number:	15876806
Application Number:	15452663
Application Number:	15969180
Application Number:	15346459
Application Number:	15682998
Application Number:	15216352
Application Number:	17608442
Application Number:	17672221
Application Number:	17825699
Application Number:	17751317
Application Number:	63232495
Application Number:	63234623
Application Number:	63305947
Application Number:	63320992
Application Number:	13231486
Application Number:	62642212

CORRESPONDENCE DATA

Fax Number: (800)914-4240

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: 8663949355

Email: Sarah.Bundy@wolterskluwer.com

Correspondent Name: CT CORPORATION

Address Line 1: 4400 EASTON COMMONS WAY

Address Line 2: SUITE 125

Address Line 4: COLUMBUS, OHIO 43219

NAME OF SUBMITTER:	LAURA RUNYEON
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SIGNATURE:	/Laura Runyeon/
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DATE SIGNED:	07/18/2022
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Total Attachments: 12

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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)

HUSCO Automotive Holdings LLC

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

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

Execution Date(s) June 15, 2022

- ☐ 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: JPMORGAN CHASE BANK, N.A.,

Internal Address: _____

Street Address: Chase Commercial Building

1400 West Capitol Drive

City: Brookfield

State: WI

Country: USA Zip: 53005

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)

B. Patent No.(s)

See Exhibit A attached to Security Agreement See Exhibit A attached to Security Agreement

Additional numbers attached? ☒ Yes ☐ No

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

Name: Laura Runyeon

Internal Address: _____

Street Address: Miles & Stockbridge P.C.

100 Light Street, 10th Floor

City: Baltimore

State: MD Zip: 21202

Phone Number: 410-385-3477

Docket Number: _____

Email Address: lrunyeon@milesstockbridge.com

6. Total number of applications and patents

involved: 56

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 User Name _____

9. Signature: Laura Runyeon

7/16/2022

Signature

Date

Laura Runyeon

Name of Person Signing

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

12

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

PATENT
REEL: 060682 FRAME: 0601

FIRST AMENDED AND RESTATED PATENT SECURITY AGREEMENT

THIS FIRST AMENDED AND RESTATED PATENT SECURITY AGREEMENT (the "Agreement") is entered into as of June 15, 2022 by and between HUSCO AUTOMOTIVE HOLDINGS LLC, a Wisconsin limited liability company (the "Debtor"), and JPMORGAN CHASE BANK, N.A., a national banking association, in its capacity as Agent for and on behalf of the Lenders (in such capacity, the "Agent", or in certain instances, "Secured Party").

RECITALS:

WHEREAS, Debtor and Agent entered into a Patent Security Agreement as of May 1, 2009 (the "Original Agreement"); and

WHEREAS, the Debtor and Agent desire to amend and restate the terms of the Original Agreement in its entirety; and

WHEREAS, Debtor and Secured Party are parties to the Fifth Amended and Restated Credit Agreement dated June 15, 2022, together with certain of Debtor's named direct and indirect Subsidiaries, the Lenders party thereto and the Agent, in its capacity as Agent for the Lenders under the Credit Agreement (as amended, restated, modified, substituted, extended and renewed from time to time, the "Credit Agreement") under which the Lenders named therein have agreed to make available to HUSCO International, Inc., a Delaware corporation ("HUSCO U.S.") and HUSCO International Partners, LLP, a limited liability partnership organized and existing under the laws of England and Wales ("HUSCO U.K."), certain credit facilities, all of which are direct obligations of the Debtor or are guaranteed by the Debtor, subject to the terms and conditions contained in the Credit Agreement; and

WHEREAS, each Borrower, the Lenders, the Administrative Agent, the Agent and the Co-Agents have previously entered into the Credit Agreement (as hereinafter defined); and

WHEREAS, each Borrower has requested that the Administrative Agent, the Agent and the Lenders agree to amend the Credit Agreement and to continue to extend credit to the Borrowers; and

WHEREAS, the Debtor is entering into this Agreement to confirm and ratify its grant to the Agent of a continuing security interest in the Patent Collateral (as defined below) pursuant to the Security Agreement; and

WHEREAS, the Debtor is entering into this Agreement to confirm and ratify its grant to the Agent of a continuing security interest in the Patent Collateral (as defined below) pursuant to the Security Agreement; and

WHEREAS, Debtor is a direct or indirect wholly owned subsidiary of the US Borrower, and has received, and will continue to receive, a direct and substantial benefit as a result of the credit extended to the Borrowers by the Lenders under the Credit Agreement.

NOW, THEREFORE, the undersigned, intending to be legally bound, hereby agree that the Original Agreement is amended, restated, and superseded in its entirety by this Agreement; and

NOW, THEREFORE, in consideration of these premises, the parties hereto agree as follows:

AGREEMENT:

1. **Definitions.** Unless otherwise defined herein or the context otherwise requires, terms used in this Agreement, including its preamble and recitals, have the meanings provided in the Credit Agreement.

2. **Confirmation and Grant of Security Interest.** For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Debtor hereby confirms the Debtor's grant of a security interest in the General Intangibles (including, without limitation, the Patent Collateral defined below) pursuant to, and as defined in, the Security Agreement and, without limiting such grant, hereby pledges, assigns and grants to the Agent, for its benefit and the ratable benefit of the Lenders, to secure the prompt and complete payment and performance of the Obligations (as defined in the Security Agreement), a continuing first priority security interest in and to all right, title and interest of the Debtor in and to any and all of the following, whether now or hereafter existing or acquired (the "Patent Collateral"):

(a) all letters patent and applications for letters patent in the United States of America, including all patent applications in preparation for filing in the United States of America and including each patent and patent application referred to in **Exhibit A** hereto;

(b) all patent licenses, including each patent license referred to in **Exhibit A** hereto;

(c) all reissues, divisions, continuations, continuations-in-part, extensions, renewals and reexaminations of any of the items described in the foregoing clauses (a) and (b); and

(d) all proceeds of, and rights associated with, the foregoing (including license royalties and proceeds of infringement suits), the right to sue third parties for past, present or future infringements of any patent or patent application, including any patent or patent application referred to in **Exhibit A** hereto, and for breach or enforcement of any patent license, including any patent license referred to in **Exhibit A** hereto, and all rights corresponding thereto in the United States of America.

3. **Representations and Warranties.** The Debtor represents and warrants to the Agent and the Lenders that, with respect to any Patent Collateral:

(a) Such Patent Collateral is subsisting and has not been adjudged invalid or unenforceable, in whole or in part;

(b) To the best of the Debtor's knowledge, such Patent Collateral is valid and enforceable;

(c) The Debtor has made all necessary filings and recordations to protect its interest in such Patent Collateral, including, without limitation, recordations of all interests in the Patent Collateral in the United States Patent and Trademark Office;

(d) The Debtor is the exclusive owner of the entire and unencumbered right, title and interest in and to such Patent Collateral, and, to the best of Debtor's knowledge, no claim has been made that the use of Patent Collateral does or may violate the asserted rights of any third party;

(e) The Debtor has performed and will continue to perform all acts and has paid and will continue to pay all required fees and taxes to maintain each and every item of Patent Collateral in full force and effect in the United States of America, as applicable; and

(f) The attachments hereto contain true and complete listings and descriptions of all of the Patent Collateral.

4. Covenants.

(a) The Debtor shall not, and the Debtor shall not permit any of its licensees to, unless the Debtor shall reasonably and in good faith determine (and notice of such determination shall have been delivered to the Agent) that any of the Patent Collateral is of negligible economic value to the Debtor, do any act, or omit to do any act, whereby any of the Patent Collateral may lapse or become abandoned or dedicated to the public or unenforceable.

(b) The Debtor shall notify the Agent within ten (10) business days if it knows, or has reason to know, that any application or registration relating to any material item of the Patent Collateral may become abandoned or dedicated to the public or placed in the public domain or invalid or unenforceable, or of any adverse determination or development (including the institution of, or any such determination or development in, any proceeding in the United States Patent and Trademark Office or any court) regarding the Debtor's ownership of any of the Patent Collateral, its right to register the same or to keep and maintain and enforce the same.

(c) The Debtor shall, on or before the 30th day following the end of each of the Debtor's fiscal quarters, provide the Agent with written notice of any filing during such fiscal quarter by the Debtor or any of its agents, employees, designees or licensees of any application for the registration of any Patent Collateral with the United States Patent and Trademark Office, and upon request of the Agent, shall execute and deliver any and all agreements, instruments, documents and papers as the Agent may reasonably request to evidence the Agent's security interest in such Patent Collateral and the goodwill and general intangibles of the Debtor relating thereto or represented thereby.

(d) The Debtor shall take all reasonably necessary steps, including in any proceeding before the United States Patent and Trademark Office, to maintain and pursue any application (and to obtain the relevant registration) filed with respect to, and to maintain any registration of the Patent Collateral, including the filing of applications for renewal, affidavits of use, affidavits of incontestability and opposition, interference and cancellation proceedings and the payment of fees and taxes (except to the extent that dedication, abandonment or invalidation is permitted under the foregoing clause (a)).

(e) Following the occurrence and during the continuance of an Event of Default, the Debtor hereby (i) grants to the Agent, for the benefit of the Agent and the Lenders, an irrevocable, nonexclusive license (exercisable without payment of royalty or other compensation to the Debtor) to use, license or sublicense any Patent Collateral now owned or hereafter acquired by the Debtor, and wherever the same may be located, and (ii) irrevocably agrees that the Agent may sell or assign any of the Debtor's Patent Collateral to any person in

accordance with the enforcement of the Agent's rights and remedies under this Security Agreement.

5. Security Agreement. This Agreement has been executed and delivered by the Debtor for the purpose of, among other things, ratifying and confirming the grant of a security interest in the Patent Collateral to the Agent for the benefit of the Lenders under the Security Agreement, and registering the security interest of the Agent in the Patent Collateral with the United States Patent and Trademark Office. The security interest confirmed and granted hereby has been confirmed and granted as a supplement to, and not in limitation of, the security interest granted to the Agent for its benefit and the benefit of each Lender under the Security Agreement. The Security Agreement (and all rights and remedies of the Agent and each Lender thereunder) shall remain in full force and effect in accordance with its terms.

6. Release of Security Interest. Upon termination of the Security Agreement in accordance with Section 16 thereof, the Agent shall, at the Debtor's expense, execute and deliver to the Debtor all instruments and other documents as may be necessary or proper to release the lien on and security interest in the Patent Collateral which has been granted hereunder.

7. Acknowledgment. The Debtor does hereby further acknowledge and affirm that the rights and remedies of the Agent with respect to the security interest in the Patent Collateral granted and confirmed hereby are more fully set forth in the Security Agreement, the terms and provisions of which (including the remedies provided for therein) are incorporated by reference herein as if fully set forth herein.

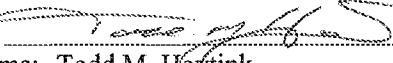
8. Counterparts. This Agreement may be executed by the parties hereto in several counterparts, each of which shall be deemed to be an original and all of which shall constitute together but one and the same agreement.

[Signatures Follow on Succeeding Pages]

**Signature Page 1 to
First Amended and Restated Patent Security Agreement**

IN WITNESS WHEREOF, the Debtor and the Secured Party have executed this Agreement under seal as of the date and year first written above.

HUSCO Automotive Holdings LLC

By 
Name: Todd M. Hoytink
Title: Treasurer

**Signature Page 2 to
First Amended and Restated Patent Security Agreement**

IN WITNESS WHEREOF, the Debtor and the Secured Party have executed this Agreement under seal as of the date and year first written above.

JPMorgan Chase Bank, N.A., as Agent for the Lenders
under the Credit Agreement

By Sally Weiland
Name: Sally Weiland
Title: Authorized Officer

EXHIBIT A
to
First Amended and Restated Patent Security Agreement

Active Patents/Applications Assigned to HUSCO AUTOMOTIVE HOLDINGS LLC

Publication Number	Type	Application Date	Application Number	Title	Estimated Expiry Date	Presumed Priority Number
US9903280	Patent	2016-02-10	US15/040414	Control valve with annular poppet check valve	2036-08-17	62/114842
US9797276	Patent	2015-07-24	US14/808685	System for varying cylinder valve timing in an internal combustion engine	2033-09-06	US14/808685
US9761364	Patent	2017-01-17	US15/407948	Methods and systems for a push pin actuator	2035-10-29	62/073332
US9659698	Patent	2014-05-22	US14/284595	Electromechanical solenoid having a pole piece alignment member	2034-06-12	US14/284595
US9583249	Patent	2015-10-29	US14/926087	Methods and systems for push pin actuator	2035-10-29	62/073332
US9582008	Patent	2013-03-14	US13/803152	Systems and methods for fluid pump outlet pressure regulation	2034-12-05	US13/803152
US9115610	Patent	2013-03-11	US13/792396	System for varying cylinder valve timing in an internal combustion engine	2033-03-11	US13/792396
US8656948	Patent	2011-09-13	US13/231486	Hydraulic valve with an annular filter element secured by a helical spring	2032-03-29	US13/231486
US8573559 ¹	Patent	2012-04-18	US13/449960	Control valve with area independent pressure sensing	2032-07-04	US13/449960
US8534639 ²	Patent	2012-04-18	US13/449989	Solenoid valve with a digressively damped armature	2032-05-18	US13/449989

¹ Assigned to HUSCO AUTOMOTIVE HOLDINGS LLC

² Assigned to HUSCO AUTOMOTIVE HOLDINGS LLC

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US8225818	Patent	2011-03-22	US13/053823	Hydraulic valve arrangement with an annular check valve element	2031-03-22	US13/053823
US8186378	Patent	2008-04-15	US12/103255	Filter band for an electrohydraulic valve	2031-03-30	US12/103255
US8127790	Patent	2009-03-25	US12/410832	Hydraulic valve with a filter and check valve band	2030-08-14	US12/410832
US8056576	Patent	2008-08-26	US12/198691	Dual setpoint pressure controlled hydraulic valve	2030-09-15	60/968090
US8006719	Patent	2008-04-15	US12/103248	Electrohydraulic valve having a solenoid actuator plunger with an armature and a bearing	2030-04-13	US12/103248
US7992839	Patent	2008-04-15	US12/103263	Electrohydraulic valve having a solenoid actuator plunger with an armature and a bushing	2030-05-22	US12/103263
US7908912	Patent	2008-05-14	US12/120575	Oil sensing system for an internal combustion engine	2029-04-07	60/938328
US7878311	Patent	2007-07-19	US11/779958	Piston with an integral electrically operated adjustment valve for a hydraulic vibration damper	2029-11-30	US11/779958
US7007925	Patent	2004-08-05	US10/911896	Electrohydraulic valve having an armature with a rolling bearing	2024-09-17	US10/911896
US6807943	Patent	2003-11-26	US10/723513	Motor vehicle fuel injection system with a high flow control valve	2022-08-05	US10/723513
US6793196	Patent	2002-08-05	US10/212331	High flow control valve for motor vehicle fuel injection systems	2023-01-11	US10/212331
US20220068533	Pending Application	2021-08-30	US17/461776	Systems and Methods for a Self-Shorting Bi-Stable Solenoid	-	63/071454
US20220049759	Pending Application	2021-08-16	US17/403554	Systems and Methods for Variable Compression Ratio Phaser	-	63/066659

US20210125 765	Pending Application	2020-10-27	US17/081374	Systems and methods for a solenoid having a permanent magnet	-	62/926937
US20210098 168	Pending Application	2020-09-30	US17/039532	Systems and methods for an electromagnetic actuator having a dual-flanged unitary pole piece	-	62/908783
US20210062 687	Pending Application	2020-09-02	US17/010034	Systems and methods for a poppet valve assembly	-	62/895332 63/025015
US20210057 136	Pending Application	2020-08-21	US16/999916	Systems and methods for multi-stable solenoid	-	62/890300
US20200408 317	Pending Application	2020-06-29	US16/915069	Systems and Methods for a Control Valve with an Intermediate Position	-	62/868194
US20200240 495	Pending Application	2020-01-27	US16/752789	Systems and methods for a linear actuator	-	62/797705
US20190323 467*	Pending Application	2019-04-19	US16/389010	Systems and methods for a solenoid having a dimpled armature tube	-	62/660132
US11361894	Patent	2019-03-13	US16/352005	Bi-stable solenoid with an intermediate condition	-	62/642212
US11352916	Patent	2021-01-22	US17/156109	Mechanical Cam Phasing Systems and Methods	-	62/776924
US11201025	Patent	2019-04-24	US16/393060	Systems and methods for an electromagnetic actuator	2037-06-06	62/309505
US11053990	Patent	2018-12-19	US16/225241	Systems and methods for a two-way clutch with a predetermined interference	2038-12-19	62/607570
US10907740	Patent	2016-12-13	US15/377334	Control valve having a metal sleeve within a plastic valve body	2036-12-13	62/267575
US10900387	Patent	2019-12-05	US16/704992	Mechanical cam phasing systems and methods	2039-12-05	62/776924
US10865665	Patent	2020-02-06	US16/784085	Cam phasing systems and methods	2038-01-22	62/449096 62/449098 62/448611

US10851907	Patent	2016-11-08	US15/346448	System and methods for an electromagnetic actuator	2037-04-30	62/252675
US10734147	Patent	2017-04-19	US15/491076	Electromechanical solenoid having a pole piece alignment member	2035-04-06	US15/491076
US10711657	Patent	2019-04-08	US16/378289	Mechanical cam phasing systems and methods	2036-07-21	62/196115
US10557383	Patent	2018-01-22	US15/876806	Cam phasing systems and methods	2038-01-22	62/448611 62/449096 62/449098
US10371278	Patent	2017-03-07	US15/452663	Systems and methods for an electromagnetic actuator having a unitary pole piece	2037-03-07	62/304607 62/385042
US10344631	Patent	2018-05-02	US15/969180	Mechanical cam phasing systems and methods	2036-07-21	62/196115
US10319549	Patent	2016-11-08	US15/346459	Systems and methods for an electromagnetic actuator	2036-11-08	62/309505
US10174648	Patent	2017-08-22	US15/682998	Systems and methods for Cam phasing control	2037-08-22	62/378314
US10072537	Patent	2016-07-21	US15/216352	Mechanical cam phasing system and methods	2036-10-10	62/196115
Not Yet Published	Pending Application	2021-11-02	US17/608442	Systems and Methods for Controlled Relative Rotational Motion		US62/842940
Not Yet Published	Pending Application	2022-02-15	US17/672221	Multi-Stable Solenoid Having an Intermediate Pole Piece		US63/149605
Not Yet Published	Pending Application	2022-05-26	US17/825699	Systems and Methods for a Rotary Disconnect		63/193411 63/318377
Not Yet Published	Pending Application	2022-05-23	US17/751317	Solenoid Valve		
NA	Provisional Application	2021-08-12	US63/232495	Cam Phase Actuator Control Systems and Methods	8/12/2022	US63/232495
NA	Provisional Application	2021-08-18	US63/234623	Systems and Methods for a Control Valve with a Cam Actuator	8/18/2022	US63/234623

NA	Provisional Application	2022-02-02	US63/305947	Systems and Methods for Backlash Compensation in Cam Phasing Systems	2/2/2023	US63/305947
NA	Provisional Application	2021-03-17	US63/320992	Systems and Methods for Variable Compression Ratio Phaser Having a Dual Torsion Spring Arrangement	3/17/2023	US63/320992
NA	Not yet filed - Provisional	NA	NA	Actuator Housing with Integrated Position Sensor		
NA	Not yet filed - CON Application	NA	NA	Bi-stable solenoid with an intermediate condition	-	62/642212