

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

WILDCAT LICENSING WILLC,

Plaintiff,

v.

AUDI AG and VOLKSWAGEN AG,

Defendants.

Civil Action No. _____

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Wildcat Licensing WI LLC (“Plaintiff”) brings this action and makes the following allegations of patent infringement relating to U.S. Patent No. RE47,220 (the “’220 Patent” or the “Patent-in-Suit”). Defendants Audi AG and Volkswagen AG (“Defendants”) infringe the Patent-in-Suit in violation of the patent laws of the United States of America, 35 U.S.C. § 1 *et seq.*

INTRODUCTION

1. The Patent-in-Suit encompasses core technology in the field of assembling articles of manufacture. The Patent-in-Suit arose from the research and development efforts of Michael A. Walt, II and Samuel A. Walt, through their company LMS-Walt, Inc. (“LMS-Walt”). The Walts founded LMS-Walt in 1994 and pioneered innovative assembly line fixtures, controls, and quality control testing systems.

2. Michael A. Walt, II has over three decades of experience in the field of assembly. During LMS-Walt’s approximately 15 years in business, he served as the company’s Chief Technical Officer and was directly involved in the design, manufacture, and sale of all of its innovative products. In the early days of the company, he also served as a mechanical and controls designer and engineer, and was responsible for installing and validating the equipment LMS-Walt

sold into customer's facilities. Samuel A. Walt is also an experienced designer of assembly systems, including with regard to their mechanical operation and function.

3. From the inception of LMS-Walt through early 2001, the Walts observed that existing assembly systems could not ensure proper fastening because they could not eliminate operator error from the fastening process. Articles of manufacture including automotive transmissions, suspensions, door panels, chassis, engines, instrument panels, and seats are assembled by connecting various components together with fasteners, such as screws or bolts. Existing assembly systems counted the number of fasteners applied by a line operator but could not verify, for example, that the operator applied the fasteners in the correct sequence.

4. The Patent-in-Suit explains the problems with then-existing assembly systems:

To achieve high volume assembly and to keep conveyor lines short, typically several different screws are fastened by a single worker at a given assembly station along the line. For example, a common arrangement is a seat assembly station where several screws are installed into the seat requiring a predetermined applied torque of the same value. This system includes a mechanism that keeps a seat at a station until the desired number of torque values is achieved with the torque reaction arm that is equal to the number of screws being installed.

While the torque reaction arm is capable of providing an indication of driven torque, this type of system can be easily tricked or subject to failure. In particular, if the worker of the torque reaction arm drives the same screw twice he can accidentally provide two torque values for one screw. In repetitive work operations requiring several tasks at a single assembly station, workers can forget which screw has been properly fastened or otherwise make an accidental error in fastening the same screw twice. The result is that one or more screws have been improperly fastened despite the total number of torque values has been achieved for the station (thereby allowing release of the seat from the station for further downstream assembly).

Even without mistakes, some workers have been known to intentionally bypass or trick existing systems. In particular, there have been instances where a worker drives a screw, then reverses the same screw and then refastens that same screw at the same location to get more than one good output value at the same location to in effect trick the system. Workers have even been known to drive a screw mounted in a panel proximate the assembly station to intentionally bypass or trick the system. The cause of these problems is difficult to understand but it may

include worker frustration or fatigue with respect to properly fastening screws into a seat.

5. The Walts conceived their invention in 2001 and filed their first patent application on the invention later that same year. The Patent-in-Suit solves the long-felt need for a way to conduct critical fastening operations in a mass-assembly environment in a reliable, error-proof manner. The Patent-in-Suit teaches an assembly method that ensures that the fasteners are fastened with the correct torque and in the right sequence.

6. Today, what the Patent-in-Suit refers to as “fool-proof” fastening is referred to as “error-proof” fastening in the industry. Industry publications widely recognize the need for assembly systems to control both the torque and the fastening sequence of fasteners when components are assembled together in a mass-assembly environment. For example:

- *Quality in Assembly: Controller Aids in Setting Up Error-Proofing Applications*: “Any line that relies on manual assembly requires error-proofing technology” so that “[e]ngineers are guided through a series of menus that define the control logic, sensing locations and operation sequence” (<https://www.assemblymag.com/articles/86585-quality-in-assembly-controller-aids-in-setting-up-error-proofing-applications>).

- *Specify a Torque & Tightening Sequence for Critical Fastening Joints*: “The majority of joints consist of more than one bolt and bring together surfaces that are not completely flat. The sequence of tightening bolts can have a major influence on the resulting preloads. With such joints, consideration should be given to specifying the sequence in which the bolts are to tighten. Because the joint surfaces compress, tightening one bolt in the vicinity of another will affect the preload generated by the first bolt tightened”

(<https://www.mountztorque.com/learning-center/article/specify-torque-tightening-sequence-critical-fastening-joints>).

- *The Assembly Show* industry conference, October 23-25, 2018, Rosemont, IL, including a workshop entitled “Technology for Error-Proofing Automated Assembly” (<https://www.assemblymag.com/the-assembly-show/agenda>).

7. Tooling suppliers to the industry also tout that their tooling controls both the torque applied to the fasteners and the fastening sequence. For example:

- *Atlas Copco, Smart Connected Assembly, Empowering the vision of Industry 4.0* at 11, providing an assembly station with tool control for “[m]aking sure your tool is performing correct tightenings for your assembly” (<https://www.atlascopco.com/content/dam/atlas-copco/industrial-technique/general/documents/catalogs/Smart%20Connected%20Assembly%20Catalog.pdf>).

- *Mountz, EZ-Glider Position Control Torque Arms*, providing a “torque arm . . . designed to reduce the risk of improperly fastened screws, ensuring that every screw is . . . correctly tightened in the correct sequence” (<https://www.mountztorque.com/Product-Type/Power-Assembly-Tools/Power-Assembly-Torque-Arms/Position-Control-Torque-Arms>).

- *Advanced Manipulator, The LocatorTM Smart Arm*, providing a torque arm that “[e]liminates assembly errors – only operates if the correct sequence is chosen” (<https://advancedmanipulator.com/torque-arms-smart-arms.html>).

- *ESTIC, Handheld Nutrunner: Tracer Arm*, providing tooling that ensures that “different tightening torques are defined in the tightening order and the tightening part, eliminating operator mistakes and providing high traceability by associating tightening torque with tightening position (coordinates)” (http://www.estic.co.jp/products/product_en.php?ac_id=detail&id=22&targ=toku).

8. Underscoring the importance of the technology taught by the Patent-in-Suit is the fact that it or its related, predecessor publications have been cited by dozens of U.S. and international patent applications in the field.

9. For example, General Motors’ Patent Application Publication Nos. 2009/0158579 and 2011/0023280 cited the predecessor patents to the Patent-in-Suit on July 13, 2011 and February 27, 2013, respectively. General Motors filed the latter patent application in 2009, which acknowledged, years after the priority date of the Patent-in-Suit, the importance and value of “error-checking in the automobile assembly process”:

There is a need for additional error-checking in the automobile assembly process. The automobile assembly process requires joining hundreds to thousands of components, in a precise manner, into the final product. Imprecise assembly leads to loss of time, money, and convenience for the manufacturer and the consumer. For the manufacturer, time and expense is lost in repairing the defectively joined components during the warranty period. For the consumer, time and convenience are lost when defectively joined components are repaired under warranty. Moreover, defectively joined components have a shorter than expected life span.

10. The Walts’ groundbreaking error-proofing technology in the field of assembly has been widely adopted in the industry without license to the Patent-in-Suit. LMS-Walt ceased operations in 2008 as a result of declining revenues in the face of this infringement.

THE PARTIES

WILDCAT LICENSING WILLC

11. Plaintiff is a limited liability company organized and existing under the laws of the State of Wisconsin.

12. Plaintiff acquired the Patent-in-Suit to pursue the monetary damages owed for Defendants' use of the inventions claimed by the Patent-in-Suit.

AUDIAG

13. On information and belief, Audi AG is a German Corporation with a principal place of business located at Auto-Union-Str. 1, 85045, Ingolstadt, Germany.

VOLKSWAGEN AG

14. On information and belief, Volkswagen AG is a German Corporation with a principal place of business located at Berliner Ring 2, 38440, Wolfsburg, Germany.

15. On information and belief, Audi AG is a subsidiary of Volkswagen AG.

JURISDICTION AND VENUE

16. This action arises under the patent laws of the United States, Title 35 of the United States Code. Accordingly, this Court has exclusive subject matter jurisdiction over this action under 28 U.S.C. §§ 1331 and 1338(a).

17. This Court has personal jurisdiction over Defendants in this action because Defendants have committed acts within Delaware giving rise to this action and have established minimum contacts with this forum such that the exercise of jurisdiction over Defendants would not offend traditional notions of fair play and substantial justice. Defendants, directly and/or through subsidiaries or intermediaries (including distributors, retailers, and others), have offered to sell and sold in this District products that Defendants have manufactured by infringing the Patent-in-Suit.

18. Venue is proper in this district under 28 U.S.C. §§ 1391(b)-(d) and 1400(b).

THE PATENT-IN-SUIT

19. The '220 Patent, entitled *Method for Monitoring Proper Fastening of an Article of Assembly at More Than One Location*, was filed on February 6, 2017, and claims priority to November 19, 2001. A true and correct copy of the '220 Patent is attached hereto as Exhibit 1.

20. Plaintiff Wildcat is the owner by assignment of all right, title, and interest in the '220 Patent.

21. The Patent-in-Suit is a narrowing reissue of original U.S. Patent No. 7,062,831 (the "'831 Patent").

22. Claims 22-28 of the original '831 Patent were challenged in *inter partes* review ("IPR") proceeding IPR2014-00305. At the conclusion of this IPR proceeding, the Patent Trial and Appeal Board ("PTAB") held the challenged claims of the original patent invalid. On appeal, the Federal Circuit affirmed the PTAB's decision without opinion.

23. Subsequently, the patent owner filed a narrowing reissue application in order to correct errors in the original patent that led to its invalidation. During the reissue proceeding, the patent owner amended the claims to claim more explicitly the novel and non-obvious improvements disclosed in the Patent-in-Suit, and to distinguish them from the prior art. All of the prior art at issue in the IPR proceeding was cited to the patent examiner in the reissue proceeding.

24. A three-judge panel of the PTAB reversed the examiner's rejections of the reissue claims in a decision issued on August 23, 2018. Subsequently, the United States Patent and Trademark Office duly and legally issued the '220 Patent on February 5, 2019. As such, both the

PTAB and the examiner allowed the Patent-in-Suit to issue over all of the prior art used to invalidate the challenged claims of the original patent.

DEFENDANTS' INFRINGING ACTS

25. On information and belief, Defendants are engaged in the business of assembling automobiles and/or components thereof overseas for importation into the United States.

26. On information and belief, Defendants manufacture automobiles or component parts thereof in facilities outside of the United States for importation into the United States, including at least the Audi A3, A3 Cabriolet, A3 Sportback e-Tron, A4, S4, A5 Cabriolet, S5 Cabriolet, A5, S5, A6, S6, A7, S7, RS7, RS7 Performance, A8, A8L, S8, S8 Plus, A8L W12, Q3 (FWD and Quattro), Q5 Hybrid, Q5, SQ5, TT Coupe and Roadster, TTS Coupe and Roadster, and A6, and the Volkswagen Beetle Convertible, Beetle, Jetta GLI, Jetta, Jetta Hybrid, Golf (1.8 liter), Jetta, Golf (2.0 Liter and TDI), Golf GTI, Golf SportWagen, Jetta, Jetta, Golf SportWagen, Tiguan, CC, Eos, eGolf, Golf R, and Touareg.

27. On information and belief, Defendants import and sell more than approximately 500,000 automobiles per year in the United States. *See* <https://www.automobilemag.com/news/u-s-auto-sales-totaled-17-25-million-calendar-2017/>.

28. On information and belief, each of Defendants' automobiles includes multiple articles of assembly, including but not limited to a transmission, suspension, at least two door panels, chassis, engine, instrument panel, and at least two seats.

29. As explained in detail below, on information and belief, Defendants assemble each of Defendants' articles of assembly by joining one or more pairs of components together with fasteners, such as screws or bolts. For each pair of components the assembly of which is accused of infringement herein, Defendants set two design requirements. The first requirement is a

sequence by which at least first and second fasteners must be inserted within the components to join the components together to reduce the risk of structural failure that would result if the sequence were not followed. The second requirement is that each fastener must be applied with the correct torque as the sequence is followed to reduce the risk of structural failure that would result if the second fastener were inserted before the first fastener was correctly fastened. Hereafter, “Defendants’ Assembly Operations” shall refer to Defendants’ operations for joining components of these articles of assembly together according to these sequence and torque requirements.

COUNT I
INFRINGEMENT OF U.S. PATENT NO. RE47,220

30. Plaintiff references and incorporates by reference all of the preceding paragraphs of this Complaint as if fully set forth herein.

31. On information and belief, Defendants infringe at least claim 31 of the ’220 Patent, by using Defendants’ Assembly Operations to manufacture automobiles and component parts thereof overseas for importation into the United States.

32. On information and belief, Defendants’ Assembly Operations perform error free fastening or error-proofing automated assembly to assemble together two components of an article of assembly such as, for example, an automotive transmission, suspension, door panel, chassis, engine, instrument panel (e.g., air bag assembly), and/or seat (e.g., a seat back to a seat track in a marriage station, cushion pads to seat tracks, seat tracks to risers, and/or recliners to seat backs) to prevent operator error, ensure safety, and prevent liability and costly automobile recalls. On information and belief, Defendants’ Assembly Operations form multiple such assemblies for each automobile.

33. Industry publications refer to the need for error-proofing technology. For example, *Quality in Assembly: Controller Aids in Setting Up Error-Proofing Applications*, indicates that

“[a]ny line that relies on manual assembly requires error-proofing technology” such that “[e]ngineers are guided through a series of menus that define the control logic, sensing locations and operation sequence” (<https://www.assemblymag.com/articles/86585-quality-in-assembly-controller-aids-in-setting-up-error-proofing-applications>).

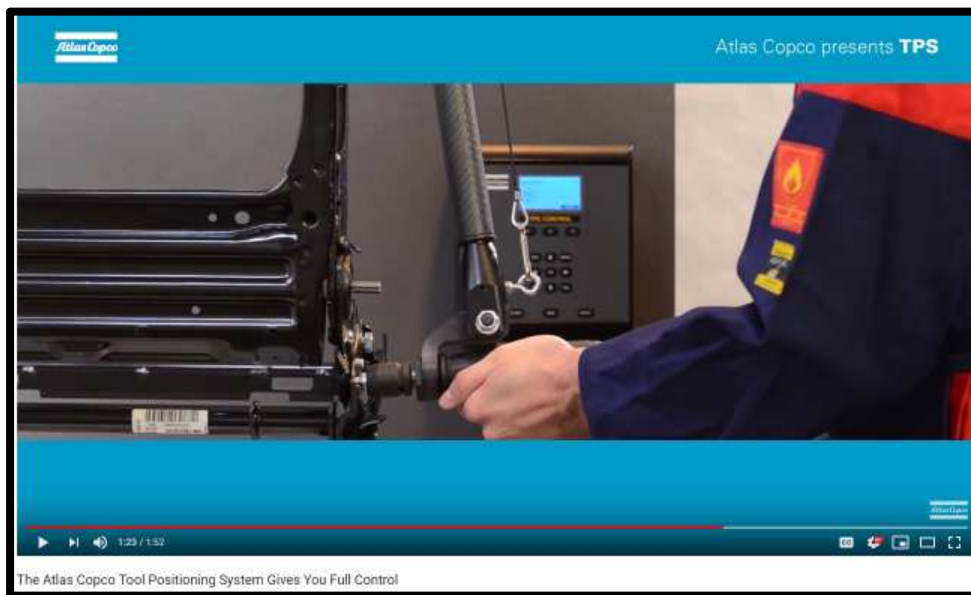
34. On information and belief, Defendants’ Assembly Operations use tooling, alone or in combination with tooling from one or more suppliers, to assemble the components of the article of assembly in a manner that infringes at least claim 31 of the ’220 Patent. For example, on information and belief, Defendants’ Assembly Operations use Atlas Copco tooling to assemble the components of the articles of assembly. *See, e.g.: Assembly Tools – Atlas Copco* (<https://www.youtube.com/watch?v=M1HdNKqJJVQ>) (indicating at approximately 3:25 that “Volkswagen . . . and many more” use Atlas Copco tools).

35. Atlas Copco provides tooling for a “Virtual Station” that “keeps all information about your assembly process” and “[m]ak[es] sure your tool is performing correct tightenings for your assembly”:



Atlas Copco, Smart Connected Assembly, Empowering the vision of Industry 4.0 at 11 (<https://www.atlascopco.com/content/dam/atlas-copco/industrial-technique/general/documents/catalogs/Smart%20Connected%20Assembly%20Catalog.pdf>).

36. Atlas Copco provides, for example, tooling that includes a torque arm to control both the fastening sequence and the torque applied to the fasteners:



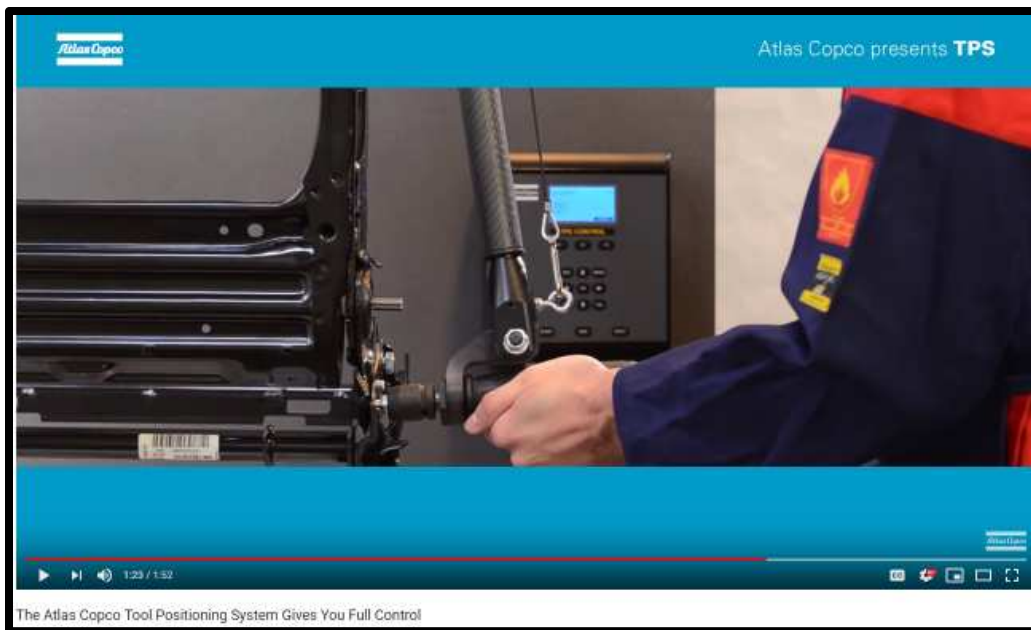
The Atlas Copco Tool Positioning System Gives You Full Control (<https://www.youtube.com/watch?v=1Uyw16Rp3vo>; also viewable at <https://www.atlascopco.com/en-us/itba/products/assembly-solutions/Workplace-solutions-automation/torque-arms-and-tool-positioning>); *see also*, <https://www.atlascopco.com/en-us/itba/products/assembly-solutions/Error-proofing-solutions/Tool-location-system>.

37. Defendants provide at least first and second physically separate components that, when assembled together by Defendants' Assembly Operations, form at least a portion of the article of assembly. As explained above, an operator performing error-proof fastening uses an assembly station to assemble together two components of an article of assembly such as, for example, an automotive transmission, suspension, door panel, chassis, engine, instrument panel (e.g., air bag assembly), and/or seat (e.g., a seat back to a seat track in a marriage station, cushion pads to seat tracks, seat tracks to risers, and/or recliners to seat backs). *See, e.g.: The Atlas Copco Tool Positioning System Gives You Full Control* (<https://www.youtube.com/watch?v=>

1Uywl6Rp3vo; also viewable at <https://www.atlascopco.com/en-us/itba/products/assembly-solutions/Workplace-solutions-automation/torque-arms-and-tool-positioning>).

38. On information and belief, Defendants' Assembly Operations join the first and second physically separate components. These components have a single set of discrete portions that, when placed together, form a single process site consisting of a plurality of fastening locations within the single process site including first and second fastening locations. Adjacent surfaces of the two components are placed together to form the single process site consisting of the plurality of fastening locations. For example, as explained above, the error-proof fastening "[m]ak[es] sure your tool is performing correct tightenings for your assembly." *Atlas Copco, Smart Connected Assembly, Empowering the vision of Industry 4.0* at 11 (<https://www.atlascopco.com/content/dam/atlas-copco/industrial-technique/general/documents/catalogs/Smart%20Connected%20Assembly%20Catalog.pdf>). In addition, "[t]he majority of joints consist of more than one bolt . . ." (<https://www.mountztorque.com/learning-center/article/specify-torque-tightening-sequence-critical-fastening-joints>).

39. On information and belief, each of the first and second fastening locations of Defendants' first and second physically separate components consists of a single opening for receiving a single fastener that, when fastened in the single opening by Defendants' Assembly Operations, partially assembles the first and second components together. For example, when a bolt is fastened into one of two available holes, this fastening partially assembles the components together. *See*:



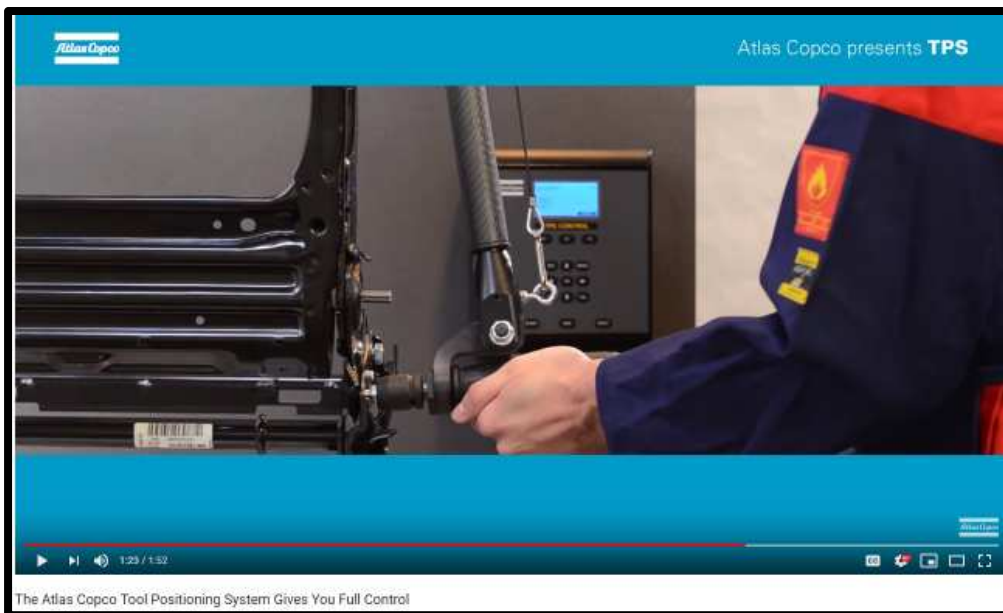
The Atlas Copco Tool Positioning System Gives You Full Control
 (<https://www.youtube.com/watch?v=1Uywl6Rp3vo>; also viewable at
<https://www.atlascopco.com/en-us/itba/products/assembly-solutions/Workplace-solutions-automation/torque-arms-and-tool-positioning>).

40. On information and belief, each pair of components of Defendants’ articles of assembly is structurally designed so that the first and second fastening locations are positioned within the single process site in spaced apart relation to each other such that Defendants’ Assembly Operations must insert a fastener in the first fastening location before a fastener is inserted in the second fastening location to reduce the risk of structural failure of the assembled combination of the first and second components that would arise if a fastener were inserted in the second fastening location before a fastener were inserted in the first fastening location. Defendants’ structural design for each pair of components of Defendants’ articles of assembly determines a fastening sequence to be followed by Defendants’ Assembly Operations for all of the fasteners joining the two components for the first process site. During assembly, Defendants’ Assembly Operations follow this fastening sequence. For example, as explained above, the error-proof fastening “[m]ak[es] sure your tool is performing correct tightenings for your assembly.” *Atlas Copco*,

Smart Connected Assembly, Empowering the vision of Industry 4.0 at 11 (<https://www.atlascopco.com/content/dam/atlascopco/industrial-technique/general/documents/catalogs/Smart%20Connected%20Assembly%20Catalog.pdf>). The particular tightening sequence must be followed because “[t]he sequence of tightening bolts can have a major influence on the resulting preloads. With such joints, consideration should be given to specifying the sequence in which the bolts are to tighten. Because the joint surfaces compress, tightening one bolt in the vicinity of another will affect the preload generated by the first bolt tightened” (<https://www.mountztorque.com/learning-center/article/specify-torque-tightening-sequence-critical-fastening-joints>).

41. On information and belief, Defendants’ Assembly Operations hold the first and second components of the article of assembly in a predetermined position in which the first and second components are placed together to form the single process site. For example, *see: The Atlas Copco Tool Positioning System Gives You Full Control* (<https://www.youtube.com/watch?v=1Uywl6Rp3v0>; also viewable at <https://www.atlascopco.com/en-us/itba/products/assembly-solutions/Workplace-solutions-automation/torque-arms-and-tool-positioning>).

42. On information and belief, an operator for Defendants’ Assembly Operations manually fastens fasteners into the first and second fastening locations of the article of assembly using a fastening tool. The tooling can include, for example, a torque arm:



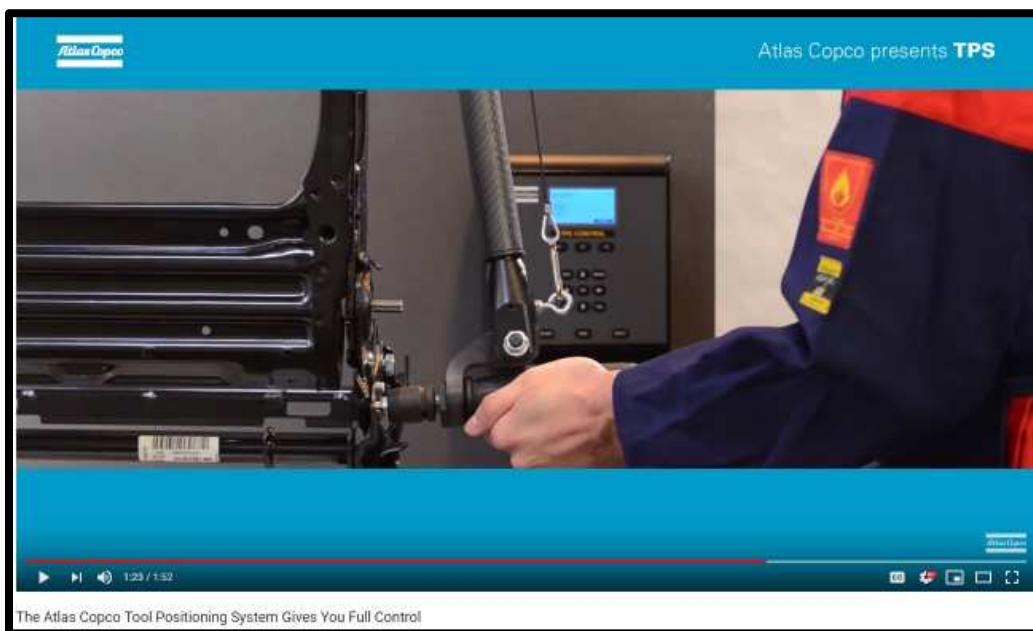
<https://www.atlascopco.com/en-us/itba/products/assembly-solutions/Workplace-solutions-automation/torque-arms-and-tool-positioning>.

43. On information and belief, Defendants provide an electronic controller having stored in a memory thereof before an operator for Defendants' Assembly Operations has commenced manually fastening fasteners using the fastening tool (a) data representative of the location of the first fastening location within the single process site together with first order data indicating that a fastener must be inserted in the first fastening location at a point in time before a fastener is inserted in the second fastening location, and (b) data representative of the location of the second fastening location within the single process site together with second order data indicating that a fastener must be inserted in the second fastening location at a point in time after a fastener has been inserted in the first fastening location, wherein the location data and the first and second order data for the first and second fastening locations form a predetermined fastening sequence that must be followed in order for the first and second components to be assembled together in a manner that reduces the risk of structural failure of the assembled combination that would arise if a fastener were inserted in the second fastening location before a fastener were

inserted in the first fastening location. For example, Defendants provide an electronic controller, and the following data is stored in memory of the electronic controller before the operator for Defendants' Assembly Operations commences manually fastening fasteners using the fastening tool: location data (*e.g.*, three-dimensional data, x, y, z) for each one of the individual fastening locations within the first process site, and data indicative of a predetermined fastening sequence for the fastening locations. Defendants' Assembly Operations ensure that the predetermined fastening sequence is followed by the operator when the fastening tool is used to assemble the components. Doing so reduces the risk of an incorrect assembly that could lead to structural failure of the assembly. For example, as explained above, the error-proof fastening "keeps all information about your assembly process" and "[m]ak[es] sure your tool is performing correct tightenings for your assembly." *Atlas Copco, Smart Connected Assembly, Empowering the vision of Industry 4.0* at 11 (<https://www.atlascopco.com/content/dam/atlas-copco/industrialtechnique/general/documents/catalogs/Smart%20Connected%20Assembly%20Catalog.pdf>). The particular tightening sequence must be used because "[t]he majority of joints consist of more than one bolt and bring together surfaces that are not completely flat. The sequence of tightening bolts can have a major influence on the resulting preloads. With such joints, consideration should be given to specifying the sequence in which the bolts are to tighten. Because the joint surfaces compress, tightening one bolt in the vicinity of another will affect the preload generated by the first bolt tightened" (<https://www.mountztorque.com/learning-center/article/specify-torque-tightening-sequence-critical-fastening-joints>).

44. On information and belief, Defendants provide one or more sensors for sensing the position of the fastening tool. For example, when the operator for Defendants' Assembly Operations moves the fastening tool, which can be mounted on the end of a reaction arm, the one

or more sensors generate signals that allow the control system to compute the position of the operating end of the fastening tool.



The Atlas Copco Tool Positioning System Gives You Full Control (<https://www.youtube.com/watch?v=1Uywl6Rp3vo>; also viewable at <https://www.atlascopco.com/en-us/itba/products/assembly-solutions/Workplace-solutions-automation/torque-arms-and-tool-positioning>).

45. On information and belief, Defendants' Assembly Operations electronically compare the sensed position of the fastening tool with the data representative of the location of the first and second fastening locations to determine if the fastening tool is located in operative relation to one of the first and second fastening locations and then use the order data associated with the one of the first and second fastening locations to ensure the operator's use of the fastening tool conforms to the predetermined sequence of fastening among the first and second fastening locations by (a) enabling the fastening tool, when it is positioned in operative relation to the first fastening location, to insert a fastener in the first fastening location only if the operator has not inserted a fastener in the second fastening location, and (b) enabling the fastening tool, when it is positioned in operative relation to the second fastening location, only if the operator already has

inserted a fastener in the first fastening location, which reduces the risk of structural failure of the assembled combination that would arise if a fastener were inserted in the second fastening location before a fastener were inserted in the first fastening location. When the fastening tool is positioned in operative relation to a particular fastening location, Defendants' Assembly Operations consult the stored order data to ensure that the operator's use of the fastening tool conforms to the predetermined fastening sequence. For example, "[w]ith visual feedback on the display, the correct sequence and position are guaranteed." "A blue display lets you know the tool is in the right position":



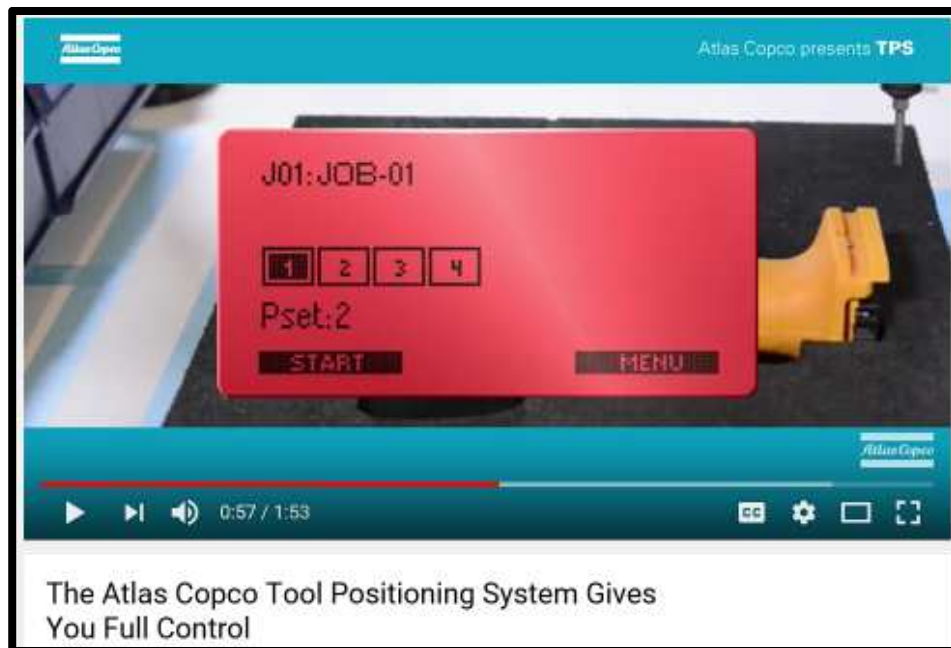
(<https://www.youtube.com/watch?v=1Uyw16Rp3vo>; also viewable at <https://www.atlascopco.com/en-us/itba/products/assembly-solutions/Workplace-solutions-automation/torque-arms-and-tool-positioning>)

“The solid green display says the job is done with the right torque and the correct sequence”:



Id.

“A red display alerts when the tool is out of position”:



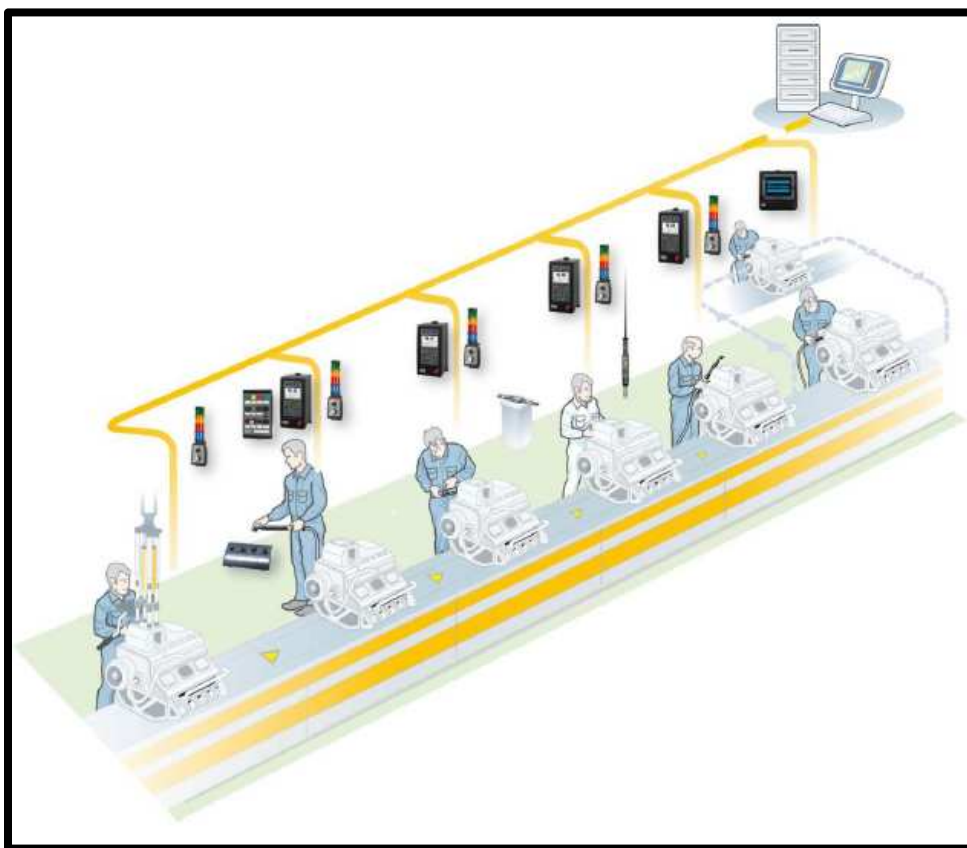
Id.; see also, <https://www.youtube.com/watch?v=CCgCrDP24x4> (“[t]he [Mountz] position control torque arm ensures the operator applies the correct torque in the right sequence”).

Provided that the operator's use of the fastening tool conforms to the predetermined fastening sequence, Defendants' Assembly Operations enable the fastening tool. *Id.* Requiring the operator's use of the fastening tool to conform to the predetermined fastening sequence reduces the risk of structural failure of the assembly that would arise if the predetermined fastening sequence were not followed. For example, *see: Specify a Torque & Tightening Sequence for Critical Fastening Joints* (<https://www.mountztorque.com/learning-center/article/specify-torque-tightening-sequence-critical-fastening-joints>) ("The majority of joints consist of more than one bolt and bring together surfaces that are not completely flat. The sequence of tightening bolts can have a major influence on the resulting preloads. With such joints, consideration should be given to specifying the sequence in which the bolts are to tighten. Because the joint surfaces compress, tightening one bolt in the vicinity of another will affect the preload generated by the first bolt tightened.").

46. On information and belief, Defendants' Assembly Operations provide a sequence output each time that the operator attempts to fasten a fastener in one of the first and second fastening locations indicating whether the predetermined fastening sequence has been achieved. For example, as explained in the immediately preceding paragraph, each time the operator attempts to fasten a fastener in a fastening location, Defendants' Assembly Operations enable the fastening tool when the predetermined fastening sequence is followed. A sequence output is provided each time the operator attempts to fasten a fastener (e.g., "[t]he solid green display says the job is done with the right torque and the correct sequence" and "[a] red display alerts when the tool is out of position," and indicating that the tool is enabled or disabled depending on whether the predetermined fastening sequence is followed). *The Atlas Copco Tool Positioning System Gives You Full Control* (<https://www.youtube.com/watch?v=1Uywl6Rp3vo>; also viewable at

<https://www.atlascopco.com/en-us/itba/products/assembly-solutions/Workplace-solutions-automation/torque-arms-and-tool-positioning>).

47. On information and belief, Defendants’ electronic controller also has stored in its memory first and second predetermined torque values that represent torque values that the operator for Defendants’ Assembly Operations is supposed to apply to fasteners inserted in the first and second fastening locations when the operator’s use of the fastening tool conforms to the predetermined sequence of fastening. For example, a “programmed Job function automatically selects the correct tightening sequence and parameters” to assemble an object having “bolts that require different torque values”:




Job example

The figure to the right shows an example of an object with bolts that require different torque values.

Four bolts that require a torque of: 39 Nm
 Three bolts that require a torque of: 70 Nm
 One bolt that requires a torque of: 88 Nm

For this example three different Psets have to be created:

- Pset1: final target 39 Nm
- Pset2: final target 70 Nm
- Pset3: final target 88 Nm




By combining the Psets in the above example, the following Job list is created (see table below).

PF	Pset	Pset name	Batch size	Max coherent NOK
1	1	Pset1	4	3
1	2	Pset2	3	-
1	3	Pset3	1	-

The Job in this example is performed by one single PF. "Batch size" means the number of times the tightening should be repeated with the same Pset. JOB OK is signaled when all tightenings within the Job have been performed correctly.

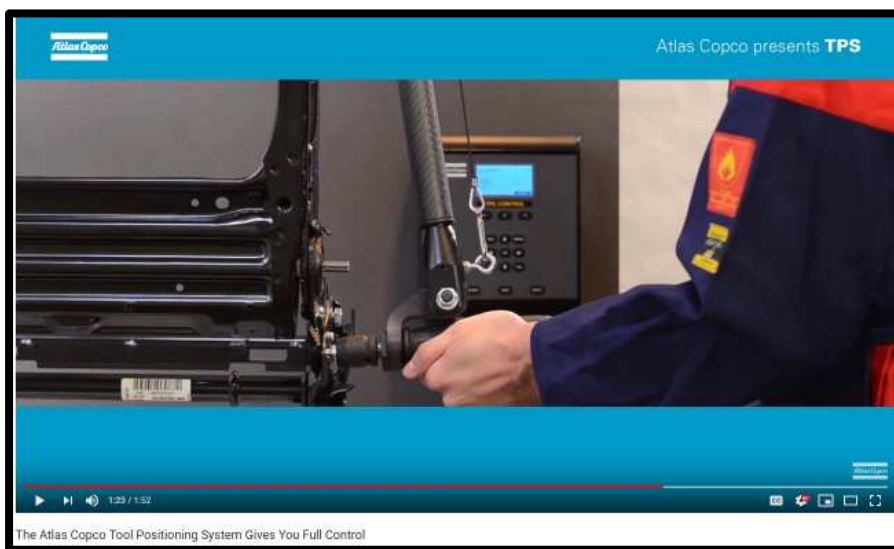
If P153 or M208 Max coherent NOKs, or P151 or M203 Batch size are used for the Psets or Multistages included in the Job, these settings are ignored by the Job setting. The same is true for other Job settings.

 If the torque controller is powered off before the completion of the Job, the Job is lost.

Atlas Copco User guide Power Focus at 17, 18 and 118 (http://www.edlosales.com/9836312301_109_SR3.pdf); *id.* at 117 (“The Job function is advantageous when an object has bolts or screws that require different torque and angle values for tightening.”); *id.* at 124 (exemplary display indicative of the job status); *see also*, *The Atlas Copco Tool Positioning System Gives You Full Control* (<https://www.youtube.com/watch?v=1Uywl6Rp3vo>) (“The solid green display says the job is done with the right torque and the correct sequence”); <https://www.youtube.com/watch?v=CCgCrDP24x4> (“[t]he [Mountz] position control torque arm ensures the operator applies the correct torque in the right sequence”); <https://www.mountztorque.com/products/power-assembly-tools/torque-arms/ez-glider-position-control-torque-arm> (the tooling “[s]ecure[s] the assembly process by ensuring that every screw is in the correct location at the right torque” and “[d]etects - cross threading, omissions, unfinished rundowns and cycle complete”).

48. On information and belief, when the operator for Defendants’ Assembly Operations uses Defendants’ fastening tool in conformance with the predetermined sequence of fastening, Defendants’ Assembly Operations (a) measure torque applied to a fastener by the fastening tool as it is being fastened in the first fastening location and then compare the measured torque to the first predetermined torque value, (b) require that the torque applied to the fastener located in the first fastening location equal the first predetermined torque value before the operator is allowed to insert

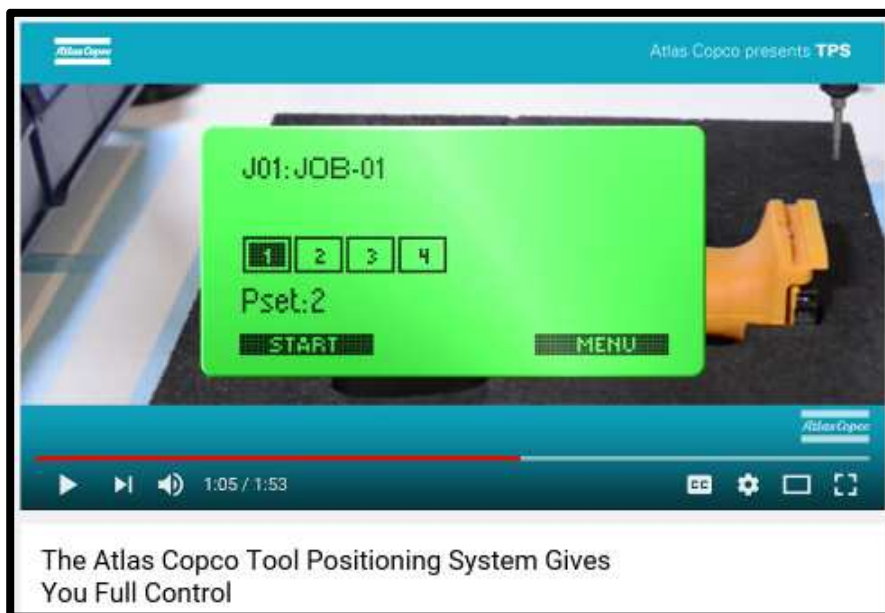
a fastener in the second fastening location, which reduces the risk of structural failure of the assembled combination that would result if the operator were allowed to insert a fastener in the second fastening location when the torque applied to the first fastener does not equal the first predetermined torque value, (c) measure torque applied to a fastener by the fastening tool as it is being inserted in the second fastening location and then compare the measured torque to the second predetermined torque value, and (d) require that the torque applied to the fastener located in the second fastening location equal the second predetermined torque value after the first fastener has been inserted in the first fastening location at the first predetermined torque value, which reduces the risk of structural failure of the assembled combination that would result if the operator were allowed to complete assembly of the first and second components when the torque applied to the fastener inserted in the second fastening location did not equal the second predetermined torque value. For example, as explained above, Defendants' Assembly Operations ensure on a fastener-by-fastener basis that the correct torque is applied to each fastener:



The Atlas Copco Tool Positioning System Gives You Full Control
([https://www.youtube.com/watch?v=1Uywl6Rp3vo](https://www.youtube.com/watch?v=1Uywl6Rp3vo;)); also viewable at

<https://www.atlascopco.com/en-us/itba/products/assembly-solutions/Workplace-solutions-automation/torque-arms-and-tool-positioning>).

After each fastening of a fastener, “[t]he solid green display says the job is done with the right torque and the correct sequence”:



Id.; see also, <https://www.youtube.com/watch?v=CCgCrDP24x4> (“[t]he [Mountz] position control torque arm ensures the operator applies the correct torque in the right sequence”); *Specify a Torque & Tightening Sequence for Critical Fastening Joints* (<https://www.mountztorque.com/learning-center/article/specify-torque-tightening-sequence-critical-fastening-joints>) (“The majority of joints consist of more than one bolt and bring together surfaces that are not completely flat. The sequence of tightening bolts can have a major influence on the resulting preloads. With such joints, consideration should be given to specifying the sequence in which the bolts are to tighten. Because the joint surfaces compress, tightening one bolt in the vicinity of another will affect the preload generated by the first bolt tightened.”).

49. By using Defendants’ Assembly Operations to manufacture automobiles and component parts thereof overseas for importation of such automobiles and component parts thereof into the United States, Defendants have injured Plaintiff and are liable to the Plaintiff for directly infringing one or more claims of the ’220 Patent, including at least claim 31, pursuant to 35 U.S.C. § 271(g).

50. On information and belief, Defendants also indirectly infringe the '220 Patent by actively inducing infringement under 35 U.S.C. § 271(b), including by way of instructing suppliers to practice the claimed invention in the manner explained above with regard to Defendants' direct infringement. Defendants have had knowledge of the '220 Patent and of their infringement thereof since at least service of this Complaint in this matter.

51. On information and belief, from the time they received notice of their infringement of the '220 Patent, Defendants have not had any good faith basis to believe they do not infringe or that the '220 Patent is invalid. Defendants' infringement, therefore, has been willful.

52. By reason of Defendants' infringement of the '220 Patent, Plaintiff has suffered substantial damages.

53. Plaintiff should be awarded damages in accordance with 35 U.S.C. §§ 271, 281, and 284, in an amount adequate to compensate for Defendants' infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants together with interest and costs as fixed by the Court.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff respectfully requests that this Court enter:

- A. A judgment in favor of Plaintiff that Defendants have infringed, either literally and/or under the doctrine of equivalents, the '220 Patent;
- B. An award of damages resulting from Defendants' acts of infringement in accordance with 35 U.S.C. § 284;
- C. A judgment and order finding that Defendants' infringement was willful, wanton, malicious, bad-faith, deliberate, consciously wrongful, flagrant, or characteristic of a pirate within the meaning of 35 U.S.C. § 284 and awarding to Plaintiff enhanced damages;

- D. A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to Plaintiff its reasonable attorneys' fees against Defendants; and
- E. Any and all other relief as the Court may deem just and proper.

JURY TRIAL DEMANDED

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiff requests a trial by jury of any issues so triable by right.

Dated: May 6, 2019

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