

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF MARYLAND  
BALTIMORE DIVISION**

**PAICE LLC and THE ABELL FOUNDATION,  
INC.,**

**Plaintiffs,**

**v.**

**HYUNDAI MOTOR COMPANY,  
HYUNDAI MOTOR AMERICA, KIA MOTORS  
CORPORATION, and KIA MOTORS  
AMERICA, INC.**

**Defendants.**

**C.A. No. WDQ-12-499**

**JURY TRIAL DEMANDED**

**SECOND AMENDED COMPLAINT**

Plaintiffs Paice LLC (“Paice”) and The Abell Foundation, Inc. (“Abell”) (collectively referred to as the “Plaintiffs”), by and through the undersigned attorneys, file this Second Amended Complaint for patent infringement against Defendants Hyundai Motor Company and Hyundai Motor America (collectively referred to as “Hyundai”) and Defendants Kia Motors Corporation and Kia Motors America, Inc. (collectively referred to as “Kia”), requesting damages and other relief based upon their personal knowledge as to their own facts and circumstances, and based upon information and belief as to the acts and circumstances of others.

**THE PARTIES**

1. Paice LLC is a Delaware limited liability company with a place of business at 111 S. Calvert Street, Suite 2310, Baltimore, Maryland. Originally established in 1992 by Dr. Alex J. Severinsky, Paice has been engaged in developing innovative hybrid electric technology

to promote fuel efficiency, lower emissions, and superior driving performance. Shortly after Paice was established, it was enrolled and accepted into the University of Maryland's incubator program, which was created to connect promising start-up companies with the local business and technical community.

2. The Abell Foundation, Inc. is a Maryland corporation with a place of business at 111 South Calvert Street, Suite 2300, Baltimore, Maryland. Abell is a non-profit charitable organization dedicated to fighting urban poverty and enhancing the quality of life in Maryland. In addition, Abell is dedicated to promoting national social objectives, such as increasing energy efficiency and producing alternative energy, and invests in companies with innovative technologies in these areas. In 1998, Abell was introduced to Paice through the University of Maryland's incubator program. Recognizing the future promise and benefits of Paice's technology, Abell has invested millions of dollars in support of Paice's innovative technology. As a result of Abell's investment and involvement with Paice, Abell is an equity owner of Paice.

3. On information and belief, Hyundai Motor Company is a Korean company with a place of business at 231 Yangjae-dong, Seocho-gu, Seoul, South Korea 137-938.

4. On information and belief, Kia Motors Corporation is a Korean company with a place of business at 231 Yangjae-dong, Seocho-gu, Seoul, South Korea 137-938.

5. On information and belief, Hyundai Motor America is a California corporation with a place of business at 10550 Talbert Ave., Fountain Valley, CA 92728. Hyundai Motor America is a subsidiary of Hyundai Motor Company and responsible for U.S. operations, such as sales, marketing and distribution, for Hyundai Motor Company.

6. On information and belief, Kia Motors America, Inc. is a California corporation with a place of business at 111 Peters Canyon Rd., Irvine, CA 92606. Kia Motors America, Inc. is a subsidiary of Kia Motors Corporation and responsible for U.S. operations, such as sales, marketing and distribution, for Kia Motors Corporation.

**JURISDICTION AND VENUE**

7. This is a civil action for patent infringement arising under the Patent Laws of the United States, Title 35 of the United States Code. Subject matter jurisdiction over the asserted causes of actions before this Court is proper and founded upon 28 U.S.C. §§ 1331 and 1338.

8. This Court has personal jurisdiction over Hyundai because, among other things, Hyundai has infringed and caused infringement of Plaintiffs' patents in Maryland and within this judicial district.

9. This Court has personal jurisdiction over Kia because, among other things, Kia has infringed and caused infringement of Plaintiffs' patents in Maryland and within this judicial district.

10. Venue is proper in this Court under 28 U.S.C. §§ 1391 and 1400(b) because acts of infringement have been committed in this judicial district, injuries complained of herein occurred in this judicial district, and Hyundai and Kia are subject to personal jurisdiction in this judicial district.

**PATENTS-IN-SUIT**

11. Paice and Abell are co-owners by assignment of all right, title, and interest in and to United States Patent No. 7,237,634 ("the '634 patent"). The '634 patent is entitled

“Hybrid Vehicles” and lists Alex J. Severinsky and Theodore Louckes as inventors. The ’634 patent issued on July 3, 2007. A true and correct copy of the ’634 patent is attached hereto as Exhibit A.

12. Paice and Abell are co-owners by assignment of all right, title, and interest in and to United States Patent No. 7,104,347 (“the ’347 patent”). The ’347 patent is entitled “Hybrid Vehicles” and lists Alex J. Severinsky and Theodore Louckes as inventors. The ’347 patent issued on September 12, 2006. A true and correct copy of the ’347 patent is attached hereto as Exhibit B.

13. Paice and Abell are co-owners by assignment of all right, title, and interest in and to United States Patent No. 7,559,388 (“the ’388 patent”). The ’388 patent is entitled “Hybrid Vehicles” and lists Alex J. Severinsky and Theodore Louckes as inventors. The ’388 patent issued on July 14, 2009. A true and correct copy of the ’388 patent is attached hereto as Exhibit C.

14. Paice and Abell are co-owners by assignment of all right, title, and interest in and to United States Patent No. 6,209,672 (“the ’672 patent”). The ’672 patent is entitled “Hybrid Vehicle” and lists Alex J. Severinsky as inventor. The ’672 patent issued on April 3, 2001. A true and correct copy of the ’672 patent is attached hereto as Exhibit D.

15. Paice and Abell are co-owners by assignment of all right, title, and interest in and to United States Patent No. 8,214,097 (“the ’097 patent”). The ’097 patent is entitled “Hybrid Vehicles” and lists Alex J. Severinsky and Theodore Louckes as inventors. The ’097 patent issued on July 3, 2012. A true and correct copy of the ’097 patent is attached hereto as Exhibit F.

16. The '634, '347, '388 and '097 patents issued from continuation-in-part applications relating to the '672 patent. The '634, '347, '388, '672 and '097 patents are referred to collectively as the Paice patents.

**DEFENDANTS' KNOWLEDGE OF THE PAICE PATENTS**

17. Since as early as 2002, Paice has contacted employees of Hyundai and Kia on numerous occasions and has offered to discuss its patented hybrid technology. Through these numerous contacts, Hyundai and Kia have knowledge of Plaintiffs' patents and patented technology. Paice has described some of the contacts below and has attached some of the relevant communications to this complaint as Exhibit E.

18. On September 18, 2002, Professor Ulrich Seiffert introduced Dr. H. S. Lee to Paice after learning that Dr. Lee was interested in hybrid vehicle technology. At that time, Dr. Lee was the Senior Executive Vice President of Hyundai Motor Corporation. Dr. Lee later became the Vice Chairman of the Hyundai Kia Motor Research and Development Center.

19. On September 26, 2002, Dr. Severinsky contacted Dr. H. S. Lee and offered to discuss Paice's hybrid technology and work together in developing a hybrid vehicle using Paice's technology. Dr. Severinsky informed Mr. Lee that Paice has "built and tested a prototype drivetrain that proved our technology and patents." Dr. Severinsky directed Dr. Lee to the papers and materials on Paice's website, as well as sent Dr. Lee a copy of the paper Dr. Severinsky was planning to present at an SAE conference in October 2002.

20. The Paice SAE paper (2002-21-0033) was published a few weeks later and described Paice's hybrid technology, as well as identified several Paice patents as references, including U.S. Patent Nos. 6,209,672, 5,343,970, 6,338,391, the published U.S. Patent Appl. No.

09/822,866 (which issued as U.S. Patent No. 6,554,088), and the published PCT Patent Appl. No. PCT/US99/18844.

21. Mr. Nathanael Adamson at Paice had previously worked with Mr. John Krafcik, when they were both at Ford Motor Company. On April 27, 2004, Mr. Adamson contacted Mr. John Krafcik, who was at that time the Vice President of Product Development and Strategic Planning for Hyundai Motor America. Mr. Krafcik is currently the President and CEO of Hyundai Motor America. Mr. Adamson informed Mr. Krafcik that Paice holds several fundamental patents for the method of hybrid system control, that Paice is prepared to selectively license the proprietary method of control technology, and that Paice would value Hyundai as a client for the Paice system.

22. On May 8, 2004, Mr. Adamson offered to meet with Mr. Krafcik to discuss Paice's patented technology. In particular, Mr. Adamson informed Mr. Krafcik that Paice holds several fundamental patents for the method of control to achieve the most economical HEV powertrain and that a few of the claims associated with these patents include:

- Method of engine control under which torque is always above a set value, regardless of mode of operation
- Method of mode control via road load
- Turbocharger control method in conjunction with HEV powertrain
- Torque/Speed characteristic of electric motors in HEVs
- Safe connection of the vehicle high voltage battery sub-system
- Maximum battery current (minimum voltage)
- Application of power filters in HEVs

Mr. Adamson also informed Mr. Krafcik that in conjunction with purchase of a license, Paice could provide engineering services to Hyundai on a time and material basis.

23. Mr. Krafcik indicated that any communications regarding Paice's technology were better channeled through the Hyundai American Technical Center and identified Mr. Skip Hires as a contact. On September 10, 2004, Mr. Adamson contacted Mr. Hires, who was then in the Product Planning Department at the Hyundai American Technical Center. Mr. Hires is currently the Senior Product Manager at the Hyundai Kia America Technical Center.

24. Mr. Adamson informed Mr. Hires that Paice holds several fundamental patents for the method of control to achieve the most economical HEV powertrain and that a few of the claims associated with these patents include:

- Method of engine control under which torque is always above a set value, regardless of mode of operation
- Method of mode control via road load
- Turbocharger control method in conjunction with HEV powertrain
- Torque/Speed characteristic of electric motors in HEVs
- Safe connection of the vehicle high voltage battery sub-system for cars
- Maximum battery current (minimum voltage)
- Application of power filters in HEVs

Mr. Adamson also informed Mr. Hires that Paice's business model includes the sharing the Paice proprietary technology with automakers through licensing arrangements and protecting Paice exclusive licensing rights. Mr. Adamson offered to meet with Mr. Hires to discuss Paice and its hybrid technology.

25. From September through November, 2004, Mr. Adamson sent follow-up communications to Mr. Hires regarding Paice's interest in developing its technology for Hyundai and Kia vehicles and thanking him for forwarding Paice's information to the relevant people in Korea.

26. On November 9, 2006, Mr. Adamson wrote to Mr. Krafcik and informed him that Paice holds a number of fundamental patents relating to hybrid vehicles and was interested in licensing them to Hyundai. In particular, Mr. Adamson stated that:

Paice holds a number of patents and considerable know-how associated with the design of optimum hybrid systems. Paice's patents and know-how relate to, among other aspects, system voltage and the method of control over the system elements and their interrelated functions. These areas are fundamental to the achievement of an optimum hybrid vehicle. As an enterprise, our business model is quite simple: we are anxious to license our technology for reasonable compensation and we can provide certain technical assistance to a licensee when needed.

27. In the November 9, 2006 letter to Mr. Krafcik, Mr. Adamson specifically discussed the Paice litigation against Toyota. Mr. Adamson stated that:

The strength of our approach for control of hybrid vehicle functions is best demonstrated by a jury verdict rendered in the US Federal Court for the Eastern District of Texas in December 2005. At that time and in this court, Toyota was found to have infringed Paice's patent rights with their Prius II and other hybrid models. In August 2006, judgment was entered and Toyota was ordered to make royalty payments to Paice.

28. Mr. Adamson also sent follow-up communications to Mr. Krafcik on numerous other occasions, including in December 2006, January 2007, March 2007, August 2007, September 2007, October 2007, November 2007, and December 2007. In those communications, Mr. Adamson offered to discuss Paice's hybrid technology and expressed Paice's interest to work together in developing hybrid systems incorporating the patented Paice method of control for the full range of Hyundai and Kia models.

29. Hyundai and Kia have knowledge of Plaintiffs' patents and are aware of Paice's previous litigations against Toyota Motor Corporation, which involved Plaintiffs' patents on hybrid vehicle technology including some of the same patents asserted here (*e.g.*, the '634



patent, '672 patent, '347 patent). As noted above, Mr. Adamson specifically discussed Paice's litigation against Toyota in a letter sent to Mr. Krafcik on November 9, 2006. At a conference in August 2010, shortly after Paice had settled its ongoing litigations with Toyota, Mr. Krafcik even congratulated Mr. Adamson on Paice's settlement with Toyota.

30. Paice's hybrid patents are well known in the automotive industry. For example, Griffith Hack published a study in 2010 that identified thousands of patents with particular significance and ranked the 10 most dominant hybrid vehicle patents in the world. The study reviewed citations in patent applications to identify those patents that are foundational to the development of hybrid vehicles. According to the study, Paice owns four of the world's 10 most dominant hybrid vehicle patents – U.S. Patent No. 6,209,672 was ranked #1, U.S. Patent No. 5,343,970 was ranked #2, U.S. Patent No. 6,338,391 was ranked #4, and U.S. Patent No. 6,554,088 was ranked #7.

31. Paice's hybrid patents are foundational, but small in number. There are currently 12 issued U.S. patents, with 11 of those patents from the same patent family. The asserted patents are all from that same patent family and issued from continuation-in-part applications relating to the '672 patent, which issued on April 3, 2001.

32. Toyota is a competitor of Hyundai and Kia in the hybrid vehicle market. As a company coming in late to the highly competitive hybrid vehicle market, Hyundai has indicated that was a challenge given the patents of its competitors in hybrid technologies. Paice's litigations against Toyota were followed and written about by the press and well known in the automotive industry. Hyundai and Kia would have been aware of Paice's litigations against Toyota, especially since they were directed to hybrid vehicle technologies.

33. Moreover, in June 2010, Hyundai hired Michael O'Brien as Vice President of Corporate and Product Planning at Hyundai Motor America. Mr. O'Brien is involved with Hyundai's hybrid vehicles. Previously, Mr. O'Brien spent 14 years with Toyota Motor Sales, USA as a corporate manager with the corporate planning division, where he oversaw Toyota's U.S. product strategy and advanced technology vehicles and was involved with Toyota's hybrid vehicles. Given his involvement with hybrid vehicles at Toyota, Mr. O'Brien would have been aware of Paice's litigations against Toyota since Mr. O'Brien was working at Toyota during the timeframe of the litigations, which spanned from June 2004 to July 2010.

34. Hyundai and Kia are related companies and share information and technology, for example: (a) Hyundai Motor Company and Kia Motors Corporation are both subsidiaries of the Hyundai Kia Automotive Group, which is based in Seoul, South Korea; (b) the Hyundai Sonata Hybrid and the Kia Optima Hybrid share the same hybrid powertrain technology; and (c) Hyundai and Kia share the same U.S. technical center, the Hyundai Kia America Technical Center, which is the design, technology and engineering arm for the North American models of the Hyundai Kia Automotive Group.

35. In view of the facts alleged above and attached Exhibit E, Hyundai and Kia have knowledge (or at the very least, "willful blindness") of Paice's patents and their products' infringement. The '634, '347, '388 and '672 patents had issued during the timeframe of communications and dates alleged above. Moreover, all of the asserted patents had issued from continuation-in-part applications relating to the '672 patent, which issued on April 3, 2001.

36. Hyundai and Kia also received notice of infringement of the asserted patents by virtue of Plaintiffs' filing a complaint in this case.

**COUNT I**

**Hyundai's Infringement of U.S. Patent No. 7,237,634**

37. Plaintiffs reallege and incorporate herein by reference the allegations in paragraphs 1-36 above. As described below, Hyundai has infringed and continues to infringe the '634 patent.

38. Hyundai has infringed and continues to infringe, for example, at least claim 16 of the '634 patent under 35 U.S.C. § 271(a), by making, using, offering for sale or selling within the United States, or importing into the United States hybrid vehicles, such as the Hyundai Sonata Hybrid, that infringe the '634 patent either literally or under the doctrine of equivalents.

39. In view of the facts alleged in the section above and attached Exhibit E, Hyundai has knowledge (or at the very least, "willful blindness") of the asserted patents, including the '634 patent, and its products' infringement. The '634, '347, '388 and '672 patents had issued during the timeframe of communications and dates alleged above. Moreover, all of the asserted patents had issued from continuation-in-part applications relating to the '672 patent, which issued on April 3, 2001. Hyundai also received notice of infringement of the '634 patent by virtue of Plaintiffs' filing a complaint in this case.

40. Hyundai has actively induced and continues to induce the infringement by others, including its customers, of the '634 patent under 35 U.S.C. § 271(b) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles, such as the Hyundai Sonata Hybrid, and providing materials and instructions for operation of the same, with the specific intent and knowledge that the hybrid

vehicles, materials and instructions direct, teach, or assist others to infringe the '634 patent by using or operating the hybrid vehicles in a manner that directly infringes the '634 patent. For example, Hyundai provides materials that tout the hybrid vehicle technology and instructions on how to operate Hyundai hybrid vehicles. Hyundai's customers directly infringe the '634 patent by using (*e.g.*, driving) the Hyundai hybrid vehicles that embody the patented invention of the '634 patent.

41. Hyundai has contributed and continues to contribute to the infringement by others, including its customers, of the '634 patent under 35 U.S.C. § 271(c) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles and components, such as the Hyundai Sonata Hybrid, for use in practicing the patented inventions of the '634 patent, knowing that the hybrid vehicles and components are especially made or adapted for use in infringement of the '634 patent, embody a material part of the inventions claimed in the '634 patent, and are not staple articles of commerce suitable for substantial non-infringing use. Hyundai's customers directly infringe the '634 patent by using (*e.g.*, driving) the Hyundai hybrid vehicles that embody the patented invention of the '634 patent.

42. As a result of Hyundai's past and continued unlawful infringement of the '634 patent, Plaintiffs have suffered and will continue to suffer damage. Plaintiffs are entitled to recover damages adequate to compensate for that infringement in an amount that will be ascertained at trial, but in no event less than a reasonable royalty.

43. On information and belief, Hyundai's acts of infringement have been willful and are made with knowledge of Plaintiffs' rights in the '634 patent. Such acts constitute willful

and deliberate infringement, entitling Plaintiffs to enhanced damages and reasonable attorney fees.

## COUNT II

### **Kia's Infringement of U.S. Patent No. 7,237,634**

44. Plaintiffs reallege and incorporate herein by reference the allegations in paragraphs 1-43 above. As described below, Kia has infringed and continues to infringe the '634 patent.

45. Kia has infringed and continues to infringe, for example, at least claim 16 of the '634 patent under 35 U.S.C. § 271(a), by making, using, offering for sale or selling within the United States, or importing into the United States hybrid vehicles, such as the Kia Optima Hybrid, that infringe the '634 patent either literally or under the doctrine of equivalents.

46. In view of the facts alleged in the section above and attached Exhibit E, Kia has knowledge (or at the very least, "willful blindness") of the asserted patents, including the '634 patent, and its products' infringement. The '634, '347, '388 and '672 patents had issued during the timeframe of communications and dates alleged above. Moreover, all of the asserted patents had issued from continuation-in-part applications relating to the '672 patent, which issued on April 3, 2001. Kia also received notice of infringement of the '634 patent by virtue of Plaintiffs' filing a complaint in this case.

47. Kia has actively induced and continues to induce the infringement by others, including its customers, of the '634 patent under 35 U.S.C. § 271(b) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the

United States hybrid vehicles, such as the Kia Optima Hybrid, and providing materials and instructions for operation of the same, with the specific intent and knowledge that the hybrid vehicles, materials and instructions direct, teach, or assist others to infringe the '634 patent by using or operating the hybrid vehicles in a manner that directly infringes the '634 patent. For example, Kia provides materials that tout the hybrid vehicle technology and instructions on how to operate Kia hybrid vehicles. Kia's customers directly infringe the '634 patent by using (*e.g.*, driving) the Kia hybrid vehicles that embody the patented invention of the '634 patent.

48. Kia has contributed and continues to contribute to the infringement by others, including its customers, of the '634 patent under 35 U.S.C. § 271(c) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles and components, such as the Kia Optima Hybrid, for use in practicing the patented inventions of the '634 patent, knowing that the hybrid vehicles and components are especially made or adapted for use in infringement of the '634 patent, embody a material part of the inventions claimed in the '634 patent, and are not staple articles of commerce suitable for substantial non-infringing use. Kia's customers directly infringe the '634 patent by using (*e.g.*, driving) the Kia hybrid vehicles that embody the patented invention of the '634 patent.

49. As a result of Kia's past and continued unlawful infringement of the '634 patent, Plaintiffs have suffered and will continue to suffer damage. Plaintiffs are entitled to recover damages adequate to compensate for that infringement in an amount that will be ascertained at trial, but in no event less than a reasonable royalty.

50. On information and belief, Kia's acts of infringement have been willful and are made with knowledge of Plaintiffs' rights in the '634 patent. Such acts constitute willful and deliberate infringement, entitling Plaintiffs to enhanced damages and reasonable attorney fees.

### **COUNT III**

#### **Hyundai's Infringement of U.S. Patent No. 7,104,347**

51. Plaintiffs reallege and incorporate herein by reference the allegations in paragraphs 1-50 above. As described below, Hyundai has infringed and continues to infringe the '347 patent.

52. Hyundai has infringed and continues to infringe, for example, at least claim 7 of the '347 patent under 35 U.S.C. § 271(a), by making, using, offering for sale or selling within the United States, or importing into the United States hybrid vehicles, such as the Hyundai Sonata Hybrid, that infringe the '347 patent either literally or under the doctrine of equivalents.

53. In view of the facts alleged in the section above and attached Exhibit E, Hyundai has knowledge (or at the very least, "willful blindness") of the asserted patents, including the '347 patent, and its products' infringement. The '634, '347, '388 and '672 patents had issued during the timeframe of communications and dates alleged above. Moreover, all of the asserted patents had issued from continuation-in-part applications relating to the '672 patent, which issued on April 3, 2001. Hyundai also received notice of infringement of the '347 patent by virtue of Plaintiffs' filing a complaint in this case.

54. Hyundai has actively induced and continues to induce the infringement by others, including its customers, of the '347 patent under 35 U.S.C. § 271(b) by, among other

things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles, such as the Hyundai Sonata Hybrid, and providing materials and instructions for operation of the same, with the specific intent and knowledge that the hybrid vehicles, materials and instructions direct, teach, or assist others to infringe the '347 patent by using or operating the hybrid vehicles in a manner that directly infringes the '347 patent. For example, Hyundai provides materials that tout the hybrid vehicle technology and instructions on how to operate Hyundai hybrid vehicles. Hyundai's customers directly infringe the '347 patent by using (*e.g.*, driving) the Hyundai hybrid vehicles that embody the patented invention of the '347 patent.

55. Hyundai has contributed and continues to contribute to the infringement by others, including its customers, of the '347 patent under 35 U.S.C. § 271(c) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles and components, such as the Hyundai Sonata Hybrid, for use in practicing the patented inventions of the '347 patent, knowing that the hybrid vehicles and components are especially made or adapted for use in infringement of the '347 patent, embody a material part of the inventions claimed in the '347 patent, and are not staple articles of commerce suitable for substantial non-infringing use. Hyundai's customers directly infringe the '347 patent by using (*e.g.*, driving) the Hyundai hybrid vehicles that embody the patented invention of the '347 patent.

56. As a result of Hyundai's past and continued unlawful infringement of the '347 patent, Plaintiffs have suffered and will continue to suffer damage. Plaintiffs are entitled to



recover damages adequate to compensate for that infringement in an amount that will be ascertained at trial, but in no event less than a reasonable royalty.

57. On information and belief, Hyundai's acts of infringement have been willful and are made with knowledge of Plaintiffs' rights in the '347 patent. Such acts constitute willful and deliberate infringement, entitling Plaintiffs to enhanced damages and reasonable attorney fees.

#### **COUNT IV**

##### **Kia's Infringement of U.S. Patent No. 7,104,347**

58. Plaintiffs reallege and incorporate herein by reference the allegations in paragraphs 1-57 above. As described below, Kia has infringed and continues to infringe the '347 patent.

59. Kia has infringed and continues to infringe, for example, at least claim 7 of the '347 patent under 35 U.S.C. § 271(a), by making, using, offering for sale or selling within the United States, or importing into the United States hybrid vehicles, such as the Kia Optima Hybrid, that infringe the '347 patent either literally or under the doctrine of equivalents.

60. In view of the facts alleged in the section above and attached Exhibit E, Kia has knowledge (or at the very least, "willful blindness") of the asserted patents, including the '347 patent, and its products' infringement. The '634, '347, '388 and '672 patents had issued during the timeframe of communications and dates alleged above. Moreover, all of the asserted patents had issued from continuation-in-part applications relating to the '672 patent, which

issued on April 3, 2001. Kia also received notice of infringement of the '347 patent by virtue of Plaintiffs' filing a complaint in this case.

61. Kia has actively induced and continues to induce the infringement by others, including its customers, of the '347 patent under 35 U.S.C. § 271(b) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles, such as the Kia Optima Hybrid, and providing materials and instructions for operation of the same, with the specific intent and knowledge that the hybrid vehicles, materials and instructions direct, teach, or assist others to infringe the '347 patent by using or operating the hybrid vehicles in a manner that directly infringes the '347 patent. For example, Kia provides materials that tout the hybrid vehicle technology and instructions on how to operate Kia hybrid vehicles. Kia's customers directly infringe the '347 patent by using (*e.g.*, driving) the Kia hybrid vehicles that embody the patented invention of the '347 patent.

62. Kia has contributed and continues to contribute to the infringement by others, including its customers, of the '347 patent under 35 U.S.C. § 271(c) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles and components, such as the Kia Optima Hybrid, for use in practicing the patented inventions of the '347 patent, knowing that the hybrid vehicles and components are especially made or adapted for use in infringement of the '347 patent, embody a material part of the inventions claimed in the '347 patent, and are not staple articles of commerce suitable for substantial non-infringing use. Kia's customers directly infringe the '347 patent by using (*e.g.*, driving) the Kia hybrid vehicles that embody the patented invention of the '347 patent.

63. As a result of Kia's past and continued unlawful infringement of the '347 patent, Plaintiffs have suffered and will continue to suffer damage. Plaintiffs are entitled to recover damages adequate to compensate for that infringement in an amount that will be ascertained at trial, but in no event less than a reasonable royalty.

64. On information and belief, Kia's acts of infringement have been willful and are made with knowledge of Plaintiffs' rights in the '347 patent. Such acts constitute willful and deliberate infringement, entitling Plaintiffs' to enhanced damages and reasonable attorney fees.

#### **COUNT V**

##### **Hyundai's Infringement of U.S. Patent No. 7,559,388**

65. Plaintiffs reallege and incorporate herein by reference the allegations in paragraphs 1-64 above. As described below, Hyundai has infringed and continues to infringe the '388 patent.

66. Hyundai has infringed and continues to infringe, for example, at least claim 1 of the '388 patent under 35 U.S.C. § 271(a), by making, using, offering for sale or selling within the United States, or importing into the United States hybrid vehicles, such as the Hyundai Sonata Hybrid, that infringe the '388 patent either literally or under the doctrine of equivalents.

67. In view of the facts alleged in the section above and attached Exhibit E, Hyundai has knowledge (or at the very least, "willful blindness") of the asserted patents, including the '388 patent, and its products' infringement. The '634, '347, '388 and '672 patents had issued during the timeframe of communications and dates alleged above. Moreover, all of the asserted patents had issued from continuation-in-part applications relating to the '672 patent,

which issued on April 3, 2001. Hyundai also received notice of infringement of the '388 patent by virtue of Plaintiffs' filing a complaint in this case.

68. Hyundai has actively induced and continues to induce the infringement by others, including its customers, of the '388 patent under 35 U.S.C. § 271(b) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles, such as the Hyundai Sonata Hybrid, and providing materials and instructions for operation of the same, with the specific intent and knowledge that the hybrid vehicles, materials and instructions direct, teach, or assist others to infringe the '388 patent by using or operating the hybrid vehicles in a manner that directly infringes the '388 patent. For example, Hyundai provides materials that tout the hybrid vehicle technology and instructions on how to operate Hyundai hybrid vehicles. Hyundai's customers directly infringe the '388 patent by using (*e.g.*, driving) the Hyundai hybrid vehicles that embody the patented invention of the '388 patent.

69. Hyundai has contributed and continues to contribute to the infringement by others, including its customers, of the '388 patent under 35 U.S.C. § 271(c) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles and components, such as the Hyundai Sonata Hybrid, for use in practicing the patented inventions of the '388 patent, knowing that the hybrid vehicles and components are especially made or adapted for use in infringement of the '388 patent, embody a material part of the inventions claimed in the '388 patent, and are not staple articles of commerce suitable for substantial non-infringing use. Hyundai's customers directly infringe the '388 patent

by using (*e.g.*, driving) the Hyundai hybrid vehicles that embody the patented invention of the '388 patent.

70. As a result of Hyundai's past and continued unlawful infringement of the '388 patent, Plaintiffs have suffered and will continue to suffer damage. Plaintiffs are entitled to recover damages adequate to compensate for that infringement in an amount that will be ascertained at trial, but in no event less than a reasonable royalty.

71. On information and belief, Hyundai's acts of infringement have been willful and are made with knowledge of Plaintiffs' rights in the '388 patent. Such acts constitute willful and deliberate infringement, entitling Plaintiffs to enhanced damages and reasonable attorney fees.

## COUNT VI

### **Kia's Infringement of U.S. Patent No. 7,559,388**

72. Plaintiffs reallege and incorporate herein by reference the allegations in paragraphs 1-71 above. As described below, Kia has infringed and continues to infringe the '388 patent.

73. Kia has infringed and continues to infringe, for example, at least claim 1 of the '388 patent under 35 U.S.C. § 271(a), by making, using, offering for sale or selling within the United States, or importing into the United States hybrid vehicles, such as the Kia Optima Hybrid, that infringe the '388 patent either literally or under the doctrine of equivalents.

74. In view of the facts alleged in the section above and attached Exhibit E, Kia has knowledge (or at the very least, "willful blindness") of the asserted patents, including the

'388 patent, and its products' infringement. The '634, '347, '388 and '672 patents had issued during the timeframe of communications and dates alleged above. Moreover, all of the asserted patents had issued from continuation-in-part applications relating to the '672 patent, which issued on April 3, 2001. Kia also received notice of infringement of the '388 patent by virtue of Plaintiffs' filing a complaint in this case.

75. Kia has actively induced and continues to induce the infringement by others, including its customers, of the '388 patent under 35 U.S.C. § 271(b) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles, such as the Kia Optima Hybrid, and providing materials and instructions for operation of the same, with the specific intent and knowledge that the hybrid vehicles, materials and instructions direct, teach, or assist others to infringe the '388 patent by using or operating the hybrid vehicles in a manner that directly infringes the '388 patent. For example, Kia provides materials that tout the hybrid vehicle technology and instructions on how to operate Kia hybrid vehicles. Kia's customers directly infringe the '388 patent by using (*e.g.*, driving) the Kia hybrid vehicles that embody the patented invention of the '388 patent.

76. Kia has contributed and continues to contribute to the infringement by others, including its customers, of the '388 patent under 35 U.S.C. § 271(c) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles and components, such as the Kia Optima Hybrid, for use in practicing the patented inventions of the '388 patent, knowing that the hybrid vehicles and components are especially made or adapted for use in infringement of the '388 patent, embody a material part of the inventions claimed in the '388 patent, and are not staple articles of commerce

suitable for substantial non-infringing use. Kia's customers directly infringe the '388 patent by using (*e.g.*, driving) the Kia hybrid vehicles that embody the patented invention of the '388 patent.

77. As a result of Kia's past and continued unlawful infringement of the '388 patent, Plaintiffs have suffered and will continue to suffer damage. Plaintiffs are entitled to recover damages adequate to compensate for that infringement in an amount that will be ascertained at trial, but in no event less than a reasonable royalty.

78. On information and belief, Kia's acts of infringement have been willful and are made with knowledge of Plaintiffs' rights in the '388 patent. Such acts constitute willful and deliberate infringement, entitling Plaintiffs to enhanced damages and reasonable attorney fees.

## COUNT VII

### **Hyundai's Infringement of U.S. Patent No. 6,209,672**

79. Plaintiffs reallege and incorporate herein by reference the allegations in paragraphs 1-78 above. As described below, Hyundai has infringed and continues to infringe the '672 patent.

80. Hyundai has infringed and continues to infringe, for example, at least claim 15 of the '672 patent under 35 U.S.C. § 271(a), by making, using, offering for sale or selling within the United States, or importing into the United States hybrid vehicles, such as the Hyundai Sonata Hybrid, that infringe the '672 patent either literally or under the doctrine of equivalents.

81. In view of the facts alleged in the section above and attached Exhibit E, Hyundai has knowledge (or at the very least, "willful blindness") of the asserted patents,

including the '672 patent, and its products' infringement. The '634, '347, '388 and '672 patents had issued during the timeframe of communications and dates alleged above. Moreover, all of the asserted patents had issued from continuation-in-part applications relating to the '672 patent, which issued on April 3, 2001. Hyundai also received notice of infringement of the '672 patent by virtue of Plaintiffs' filing a complaint in this case.

82. Hyundai has actively induced and continues to induce the infringement by others, including its customers, of the '672 patent under 35 U.S.C. § 271(b) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles, such as the Hyundai Sonata Hybrid, and providing materials and instructions for operation of the same, with the specific intent and knowledge that the hybrid vehicles, materials and instructions direct, teach, or assist others to infringe the '672 patent by using or operating the hybrid vehicles in a manner that directly infringes the '672 patent. For example, Hyundai provides materials that tout the hybrid vehicle technology and instructions on how to operate Hyundai hybrid vehicles. Hyundai's customers directly infringe the '672 patent by using (*e.g.*, driving) the Hyundai hybrid vehicles that embody the patented invention of the '672 patent.

83. Hyundai has contributed and continues to contribute to the infringement by others, including its customers, of the '672 patent under 35 U.S.C. § 271(c) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles and components, such as the Hyundai Sonata Hybrid, for use in practicing the patented inventions of the '672 patent, knowing that the hybrid vehicles and components are especially made or adapted for use in infringement of the '672 patent, embody a



material part of the inventions claimed in the '672 patent, and are not staple articles of commerce suitable for substantial non-infringing use. Hyundai's customers directly infringe the '672 patent by using (*e.g.*, driving) the Hyundai hybrid vehicles that embody the patented invention of the '672 patent.

84. As a result of Hyundai's past and continued unlawful infringement of the '672 patent, Plaintiffs have suffered and will continue to suffer damage. Plaintiffs are entitled to recover damages adequate to compensate for that infringement in an amount that will be ascertained at trial, but in no event less than a reasonable royalty.

85. On information and belief, Hyundai's acts of infringement have been willful and are made with knowledge of Plaintiffs' rights in the '672 patent. Such acts constitute willful and deliberate infringement, entitling Plaintiffs to enhanced damages and reasonable attorney fees.

### **COUNT VIII**

#### **Kia's Infringement of U.S. Patent No. 6,209,672**

86. Plaintiffs reallege and incorporate herein by reference the allegations in paragraphs 1-85 above. As described below, Kia has infringed and continues to infringe the '672 patent.

87. Kia has infringed and continues to infringe, for example, at least claim 15 of the '672 patent under 35 U.S.C. § 271(a), by making, using, offering for sale or selling within the United States, or importing into the United States hybrid vehicles, such as the Kia Optima Hybrid, that infringe the '672 patent either literally or under the doctrine of equivalents.

88. In view of the facts alleged in the section above and attached Exhibit E, Kia has knowledge (or at the very least, “willful blindness”) of the asserted patents, including the ‘672 patent, and its products’ infringement. The ‘634, ‘347, ‘388 and ‘672 patents had issued during the timeframe of communications and dates alleged above. Moreover, all of the asserted patents had issued from continuation-in-part applications relating to the ‘672 patent, which issued on April 3, 2001. Kia also received notice of infringement of the ‘672 patent by virtue of Plaintiffs’ filing a complaint in this case.

89. Kia has actively induced and continues to induce the infringement by others, including its customers, of the ‘672 patent under 35 U.S.C. § 271(b) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles, such as the Kia Optima Hybrid, and providing materials and instructions for operation of the same, with the specific intent and knowledge that the hybrid vehicles, materials and instructions direct, teach, or assist others to infringe the ‘672 patent by using or operating the hybrid vehicles in a manner that directly infringes the ‘672 patent. For example, Kia provides materials that tout the hybrid vehicle technology and instructions on how to operate Kia hybrid vehicles. Kia’s customers directly infringe the ‘672 patent by using (*e.g.*, driving) the Kia hybrid vehicles that embody the patented invention of the ‘672 patent.

90. Kia has contributed and continues to contribute to the infringement by others, including its customers, of the ‘672 patent under 35 U.S.C. § 271(c) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles and components, such as the Kia Optima Hybrid, for use in practicing the patented inventions of the ‘672 patent, knowing that the hybrid vehicles and

components are especially made or adapted for use in infringement of the '672 patent, embody a material part of the inventions claimed in the '672 patent, and are not staple articles of commerce suitable for substantial non-infringing use. Kia's customers directly infringe the '672 patent by using (*e.g.*, driving) the Kia hybrid vehicles that embody the patented invention of the '672 patent.

91. As a result of Kia's past and continued unlawful infringement of the '672 patent, Plaintiffs have suffered and will continue to suffer damage. Plaintiffs are entitled to recover damages adequate to compensate for that infringement in an amount that will be ascertained at trial, but in no event less than a reasonable royalty.

92. On information and belief, Kia's acts of infringement have been willful and are made with knowledge of Plaintiffs' rights in the '672 patent. Such acts constitute willful and deliberate infringement, entitling Plaintiffs to enhanced damages and reasonable attorney fees.

### **COUNT IX**

#### **Hyundai's Infringement of U.S. Patent No. 8,214,097**

93. Plaintiffs reallege and incorporate herein by reference the allegations in paragraphs 1-92 above. As described below, Hyundai has infringed and continues to infringe the '097 patent.

94. Hyundai has infringed and continues to infringe, for example, at least claim 1 of the '097 patent under 35 U.S.C. § 271(a), by making, using, offering for sale or selling within the United States, or importing into the United States hybrid vehicles, such as the Hyundai Sonata Hybrid, that infringe the '097 patent either literally or under the doctrine of equivalents.

95. In view of the facts alleged in the section above and attached Exhibit E, Hyundai has knowledge (or at the very least, “willful blindness”) of the asserted patents, including the ‘097 patent, and its products’ infringement. The ‘097 patent had issued from continuation-in-part applications relating to the ‘672 patent, which issued on April 3, 2001. The ‘097 patent shares the same specification as the ‘634, ‘347 and ‘388 patents. Plaintiffs notified Hyundai of the ‘097 patent on June 5, 2013. Hyundai also received notice of infringement of the ‘097 patent by virtue of Plaintiffs’ filing a complaint in this case.

96. Hyundai has actively induced and continues to induce the infringement by others, including its customers, of the ‘097 patent under 35 U.S.C. § 271(b) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles, such as the Hyundai Sonata Hybrid, and providing materials and instructions for operation of the same, with the specific intent and knowledge that the hybrid vehicles, materials and instructions direct, teach, or assist others to infringe the ‘097 patent by using or operating the hybrid vehicles in a manner that directly infringes the ‘097 patent. For example, Hyundai provides materials that tout the hybrid vehicle technology and instructions on how to operate Hyundai hybrid vehicles. Hyundai’s customers directly infringe the ‘097 patent by using (*e.g.*, driving) the Hyundai hybrid vehicles that embody the patented invention of the ‘097 patent.

97. Hyundai has contributed and continues to contribute to the infringement by others, including its customers, of the ‘097 patent under 35 U.S.C. § 271(c) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles and components, such as the Hyundai Sonata Hybrid, for use in

practicing the patented inventions of the '097 patent, knowing that the hybrid vehicles and components are especially made or adapted for use in infringement of the '097 patent, embody a material part of the inventions claimed in the '097 patent, and are not staple articles of commerce suitable for substantial non-infringing use. Hyundai's customers directly infringe the '097 patent by using (*e.g.*, driving) the Hyundai hybrid vehicles that embody the patented invention of the '097 patent.

98. As a result of Hyundai's past and continued unlawful infringement of the '097 patent, Plaintiffs have suffered and will continue to suffer damage. Plaintiffs are entitled to recover damages adequate to compensate for that infringement in an amount that will be ascertained at trial, but in no event less than a reasonable royalty.

### **COUNT X**

#### **Kia's Infringement of U.S. Patent No. 8,214,097**

99. Plaintiffs reallege and incorporate herein by reference the allegations in paragraphs 1-98 above. As described below, Kia has infringed and continues to infringe the '097 patent.

100. Kia has infringed and continues to infringe, for example, at least claim 1 of the '097 patent under 35 U.S.C. § 271(a), by making, using, offering for sale or selling within the United States, or importing into the United States hybrid vehicles, such as the Kia Optima Hybrid, that infringe the '097 patent either literally or under the doctrine of equivalents.

101. In view of the facts alleged in the section above and attached Exhibit E, Kia has knowledge (or at the very least, "willful blindness") of the asserted patents, including the

'097 patent, and its products' infringement. The '097 patent had issued from continuation-in-part applications relating to the '672 patent, which issued on April 3, 2001. The '097 patent shares the same specification as the '634, '347 and '388 patents. Plaintiffs notified Kia of the '097 patent on June 5, 2013. Kia also received notice of infringement of the '097 patent by virtue of Plaintiffs' filing a complaint in this case.

102. Kia has actively induced and continues to induce the infringement by others, including its customers, of the '097 patent under 35 U.S.C. § 271(b) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles, such as the Kia Optima Hybrid, and providing materials and instructions for operation of the same, with the specific intent and knowledge that the hybrid vehicles, materials and instructions direct, teach, or assist others to infringe the '097 patent by using or operating the hybrid vehicles in a manner that directly infringes the '097 patent. For example, Kia provides materials that tout the hybrid vehicle technology and instructions on how to operate Kia hybrid vehicles. Kia's customers directly infringe the '097 patent by using (*e.g.*, driving) the Kia hybrid vehicles that embody the patented invention of the '097 patent.

103. Kia has contributed and continues to contribute to the infringement by others, including its customers, of the '097 patent under 35 U.S.C. § 271(c) by, among other things, manufacturing, selling, offering for sale within the United States and/or importing into the United States hybrid vehicles and components, such as the Kia Optima Hybrid, for use in practicing the patented inventions of the '097 patent, knowing that the hybrid vehicles and components are especially made or adapted for use in infringement of the '097 patent, embody a material part of the inventions claimed in the '097 patent, and are not staple articles of commerce

suitable for substantial non-infringing use. Kia's customers directly infringe the '097 patent by using (*e.g.*, driving) the Kia hybrid vehicles that embody the patented invention of the '097 patent.

104. As a result of Kia's past and continued unlawful infringement of the '097 patent, Plaintiffs have suffered and will continue to suffer damage. Plaintiffs are entitled to recover damages adequate to compensate for that infringement in an amount that will be ascertained at trial, but in no event less than a reasonable royalty.

#### **JURY DEMAND**

Pursuant to Federal Rule of Civil Procedure 38, Plaintiffs demand a trial by jury on all issues so triable.

#### **PRAYER FOR RELIEF**

**WHEREFORE**, Plaintiffs Paice and Abell respectfully request the following relief:

- 1) A judgment that the '634, '347, '388, '672 and '097 patents have been infringed by Hyundai;
- 2) A judgment that the '634, '347, '388, '672 and '097 patents have been infringed by Kia;
- 3) A judgment that Hyundai's infringement of the '634, '347, '388 and '672 patents has been willful;
- 4) A judgment that Kia's infringement of the '634, '347, '388 and '672 patents has been willful;

- 5) Awarding Paice and Abell damages adequate to compensate for the infringement, pre- and post-judgment interest as allowed by law, costs, and all other damages permitted by 35 U.S.C. § 284, including enhanced damages as a result of Hyundai's willful infringement;
- 6) Awarding Paice and Abell damages adequate to compensate for the infringement, pre- and post-judgment interest as allowed by law, costs, and all other damages permitted by 35 U.S.C. § 284, including enhanced damages as a result of Kia's willful infringement;
- 7) Declaring that this case is an exceptional one under 35 U.S.C. § 285, and awarding Paice and Abell their reasonable attorneys' fees;
- 8) Permanently enjoining Hyundai and its officers, agents, servants, employees, affiliates, representatives, successors and assigns, attorneys, and any others acting in concert with Hyundai, from further infringement, inducement and contributory infringement of the '634, '347, '388, '672 and '097 patents. Alternatively, Paice and Abell request a determination of an ongoing royalty taking into account the parties' changed post-verdict status if Hyundai decides to engage in willful post-verdict infringement;
- 9) Permanently enjoining Kia and its officers, agents, servants, employees, affiliates, representatives, successors and assigns, attorneys, and any others acting in concert with Kia, from further infringement, inducement and contributory infringement of the '634, '347, '388, '672 and '097 patents. Alternatively, Paice and Abell request a determination of an ongoing royalty taking into account the parties'



changed post-verdict status if Kia decides to engage in willful post-verdict infringement;

- 10) Awarding Paice and Abell such further, necessary and proper relief as this Court may deem just and reasonable.

Dated: \_\_\_\_\_

Respectfully submitted,

By: /s/

James P. Ulwick (MD Bar No. 00536)  
Jean Lewis (MD Bar No. 27562)  
Stephanie Shea (MD Bar No. 28987)  
KRAMON & GRAHAM, P.A.  
One South Street, Suite 2600  
Baltimore, MD 21202  
Telephone: 410-752-6030  
Facsimile: 410-539-1269  
Email: [julwick@kg-law.com](mailto:julwick@kg-law.com)  
Email: [jlewis@kg-law.com](mailto:jlewis@kg-law.com)  
Email: [sshea@kg-law.com](mailto:sshea@kg-law.com)

Ruffin B. Cordell (*pro hac vice*)  
Linda Liu Kordziel (MD Bar No. 15212)  
Ahmed J. Davis (MD Bar No. 17812)  
FISH & RICHARDSON P.C.  
1425 K Street, N.W., 11th Floor  
Washington, DC 20005  
Telephone: 202-783-5070  
Facsimile: 202-783-2331  
Email: [cordell@fr.com](mailto:cordell@fr.com)  
Email: [kordziel@fr.com](mailto:kordziel@fr.com)  
Email: [davis@fr.com](mailto:davis@fr.com)

Counsel for Plaintiffs  
PAICE LLC and THE ABELL FOUNDATION,  
INC.