

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FORD MOTOR COMPANY
Petitioner,

v.

PAICE LLC & ABELL FOUNDATION, INC.
Patent Owner.

U.S. Patent No. 7,104,347 to Severinsky *et al.*

IPR Case No.: IPR2014-00571

**REPLY DECLARATION OF DR. GREGORY W. DAVIS IN
SUPPORT OF REPLY BRIEF TO *INTER PARTES* REVIEW
OF U.S. PATENT NO. 7,104,347**

Updated Exhibit List

Exhibit No.	Description	Date	Identifier
1001	U.S. Patent No. 7,104,347	n/a	The '347 Patent
1002	'347 Patent File History	n/a	'347 Patent File History
1003	U.S. Patent No. 5,343,970	Sept. 6, 1994	Severinsky '970
1004	U.S. Patent No. 5,586,613	Dec. 24, 1996	Ehsani
1005	Declaration of Gregory Davis	n/a	Davis
1006	Plaintiff Paice LLC's Reply Claim Construction Brief (Case No. 2:04-cv-00211)	Mar. 8, 2005	n/a
1007	Plaintiff Paice LLC's Claim Construction Brief (Case No. 2:04-cv-00211)	Mar. 29, 2005	n/a
1008	Claim Construction Order (Case No. 2:04-cv-00211)	Sept. 28, 2005	n/a
1009	Plaintiff Paice LLC's Opening Claim Construction Brief (Case No. 2:07-cv-00180)	June 25, 2008	n/a
1010	Plaintiff Paice LLC's Reply Brief on Claim Construction (Case No. 2:07-cv-00180)	Aug. 1, 2008	n/a
1011	Claim Construction Order (Case No. 2:07-cv-00180)	Dec. 5, 2008	n/a
1012	Plaintiff Paice LLC and Abell Foundation, Inc.'s Opening Claim Construction Brief (Case No. 1:12-cv-00499)	Nov. 14, 2013	n/a
1013	Plaintiff Paice LLC and Abell Foundation, Inc.'s Responsive Brief on Claim Construction (Case No. 1:12-cv-00499)	Dec. 16, 2013	n/a
1014	U.S. Patent Trial and Appeal Board January 3, 2014 Decision (Appeal No. 2011-004811)	Jan. 3, 2014	n/a
1015	Curriculum Vitae of Gregory Davis		Declaration Ex.
1016	Innovations in Design: 1993 Ford Hybrid Electric Vehicle Challenge	Feb. 1994	Declaration Ex.

Exhibit No.	Description	Date	Identifier
1017	1996 Future Car Challenge	Feb. 1997	Declaration Ex.
1018	1997 Future Car Challenge	Feb. 1998	Declaration Ex.
1019	History of the Electric Automobile – Hybrid Electric Vehicles	1998	Declaration Ex.
1020	Hybrid Vehicle for Fuel Economy		Declaration Ex.
1021	Hybrid/Electric Vehicle Design Options and Evaluations	Feb. 24-28, 1992	Declaration Ex.
1022	Challenges for the Vehicle Tester in Characterizing Hybrid Electric Vehicles	April 9-11, 1997	Declaration Ex.
1023	Electric and Hybrid Vehicles Program	April 1995	Declaration Ex.
1024	Technology for Electric and Hybrid Vehicles	Feb. 1998	Declaration Ex.
1025	Strategies in Electric and Hybrid Vehicle Design	Feb. 1996	Declaration Ex.
1026	Hybrid Vehicle Potential Assessment	Sept. 30, 1979	Declaration Ex.
1027	Final Report Hybrid Heat Engine / Electric Systems Study	June 1, 1971	Declaration Ex.
1028	Transactions of the Institute of Measurements and Control: A microprocessor controlled gearbox for use in electric and hybrid-electric vehicles	Sept. 1, 1988	Declaration Ex.
1029	Propulsion System Design of Electric Vehicles	1996	Declaration Ex.
1030	Propulsion System Design of Electric and Hybrid Vehicles	Feb. 1997	Declaration Ex.
1031	Bosch Handbook	Oct. 1996	Declaration Ex.
1032	Design Innovations in Electric and Hybrid Electric Vehicles	Feb. 1995	Declaration Ex.
1033	U.S. Patent No. 6,209,672	Apr. 3, 2001	Declaration Ex.
1034	Introduction to Automotive Powertrains (Davis Textbook)		Declaration Ex.
1035	Yamaguchi article: Toyota Prius, Automotive Engineering International	Jan. 1998	Declaration Ex.

Exhibit No.	Description	Date	Identifier
1036	60/100,095 Provisional Application	Filed Sept. 11, 1998	Declaration Ex.
1037	Amendment in File History of U.S. Patent 8,214,097	Feb. 29, 2012	n/a
1038	Reply Declaration of Dr. Gregory Davis		Reply Dec.
1039	Deposition Transcript of Mr. Hannemann IPR2014-00571	4/7/2015	Hannemann Depo.
1040	Deposition Transcript of Mr. Hannemann IPR2014-00579	4/7/2015 – 4/8/2015	

1. I, Gregory Davis, hereby declare as follows:
2. I previously submitted a declaration on April 4, 2014 at the request of Ford Motor Company in the matter of *Inter Partes* Review of U.S. Patent No. 7,104,347 (“the ’347 Patent”) to Severinsky et al. (Ex. 1005.)
3. I provide the current Reply Declaration in response to arguments presented by the Patent Owner.
4. Again, it is my opinion that Severinsky 970 looks at the torque required to propel the vehicle in order to determine when to employ the engine. (Ex. 1005 at ¶¶241-255, 276-292.)
5. First, Severinsky ‘970 discloses that the microprocessor continually monitors and discloses using operator input to indicate a change in power to be applied to the wheels. A person having ordinary skill in the art understands torque is related to power by speed (i.e., $\text{power} = \text{torque} * \text{speed}$). Thus, the operator’s input indicating a change in power is related to the torque that should be applied to the wheels.

The operator input devices 70 may include **accelerator and brake pedals**, directional control switches, and the like. **Pressure on the accelerator pedal indicates to the microprocessor that more power is required**; pressure on the brake causes the microprocessor to initiate regenerative braking, as discussed below . . . [I]n general it is an object of the invention to provide a hybrid vehicle that is “user-transparent”, that

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