

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. 7,237,634 to Severinsky et al.

IPR Case No.: IPR2015-00722

**REPLY TO PATENT OWNER'S RESPONSE TO PETITION
FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 7,237,634**

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 B. Paice’s “comparison” amendment is improper3

III. Ford is not estopped as Paice alleges4

IV. Ground 1: Claims 161, 215, 228, 233, 235, 236 and 237 are obvious in view of Ibaraki ’882 and the general knowledge of a PHOSITA4

 A. Ibaraki ’882 discloses operating the engine/motor when the “road load” is above/below a “setpoint”4

 1. Paice’s power argument is not based on the figures nor disclosure of Ibaraki ’8826

 2. Fig. 5 of Ibaraki ’882 discloses mode selection based on road load and setpoint11

 3. Even if Ibaraki is power-based, the challenged claims are obvious based on the undisputed mathematical relationship between power and torque12

 B. Ibaraki ’882 discloses operating the motor and engine “when the torque *RL...is more than the MTO*”15

 1. Fig. 5 also discloses operating the motor and engine when “road load” is “more than the MTO”20

 C. Ibaraki ’882 discloses a setpoint substantially less than MTO22

V. Ground 2: Claims 55 and 239 are obvious over Ibaraki ’882, in view of Ibaraki ’626 and the knowledge of a PHOSITA23

VI. Ground 3: Claims 173 and 240 are obvious over Ibaraki ’882, in view of Suga ’104 and the knowledge of a PHOSITA24

VII. Conclusion26

Certificate of Service27

Certificate of Compliance Pursuant to 37 C.F.R. § 42.2428

Updated List of Exhibits

Exhibit No.	Description	Date	Identifier
1260	U.S. Patent No. 7,237,634	July 3, 2007	'634 Patent
1261	Ford Letter to Paice	Sept. 2014	Ford Letter
1262	US Patent 5,789,882	Aug. 4, 1998	Ibaraki '882
1263	US Patent 6,003,626	Dec. 21, 1999	Ibaraki '626
1264	US Patent 5,623,104	Apr. 22, 1997	Suga '104
1265	Declaration of Gregory Davis		Davis Dec.
1266	Toyota Litigations	2005	Toyota Litigation
1267	Hyundai Litigation	2013-2014	Hyundai Litigation
1268	PTAB Decisions & Preliminary Response in 2014-00571		Ford IPRs
1269	7,237,634 File History (certified)	n/a	'634 Patent File History
1270	Excerpt of USPN 7,104,347 File History	n/a	'347 File History
1271	US Patent 7,104,347	Sept. 12, 2006	'347 Patent
1272	Fundamentals of Vehicle Dynamics (Gillespie)	1992	Gillespie
1273	SAE 760121 (Unnewehr-1976)	Feb. 1, 1976	Unnewehr
1274	Microprocessor Design for HEV (Bumby-1988)	Sept. 1, 1988	Masding/Bumby 1988
1275	SAE SP-1331 (1998)	Feb. 1998	SAE SP-1331
1276	Innovations in Design: 1993 Ford Hybrid Electric Vehicle Challenge	Feb. 1994	
1277	1996 & 1997 Future Car Challenge	Feb. 1997 & Feb. 1998	
1278	Introduction to Automotive Powertrain (Davis)		Davis Textbook
1279	US Application 60-100095	Filed Sept. 11, 1998	'095 Provisional
1280	History of Hybrid Electric Vehicle (Wakefield-1998)	1998	Wakefield
1281	SAE 920447 (Burke-1992)	Feb. 1, 1992	Burke 1992

Exhibit No.	Description	Date	Identifier
1282	Vehicle Tester for HEV (Duoba-1997)	Aug. 1, 1997	Duoba 1997
1283	DOE Report to Congress (1994)	April 1995	1994 Report to Congress
1284	SAE SP-1156 (1996)	Feb. 1996	SAE SP-1156
1285	DOE HEV Assessment (1979)	Sept. 30, 1979	HEV Assessment 1979
1286	EPA HEV Final Study (1971)	June 1, 1971	EPA HEV Final Study
1287	WO 9323263A1 (Field)	Nov. 25, 1998	9323263
1288	Toyota Prius (Yamaguchi-1998)	Jan. 1998	Toyota Prius Yamaguchi 1998
1289	US Patent 6,209,672	April 3, 2001	'672 Patent
1290	Propulsion System for Design for EV (Ehsani-1996)	1996	IEEE Eshani 1996
1291	Propulsion System Design for HEV (Ehsani-1997)	Feb. 1997	IEEE Eshani 1997
1292	Bosch Automotive Handbook (1996)	Oct. 1996	Bosch Handbook
1293	SAE SP-1089 (Anderson-1995)	Feb. 1995	SAE SP-1089
1294	Critical Issues in Quantifying HEV Emissions (An 1998)	Aug. 11, 1998	An 1998
1295	1973 Development of the Federal Urban Driving Schedule (SAE 730553)	May 14-18, 1973	
1296	Gregory Davis Resume		
1297	Gregory Davis Data		
1298	US Patent 4,407,132	Oct. 4, 1983	Kawakatsu
1299	US Patent 5,343,970	Sept. 6, 1994	Severinsky
1300	Bumby, J.R. et al. "Optimisation and control of a hybrid electric car" - IEE Proc. A 1987, 134(6)	Nov. 1987	Bumby II
1301	Paice Complaint	Feb. 25, 2014	
1302	Final Decision, IPR2014-00904, Paper 41	December 10, 2015	'904 Decision
1303	Final Decision, IPR2014-00571, Paper 44	September 28, 2015	'571 Decision

Exhibit No.	Description	Date	Identifier
1304	Final Decision, IPR2014-01416, Paper 26	March 10, 2016	'1416 Decision
1305	Deposition Transcript of Neil Hannemann for IPR2014-01416	Sept. 4, 2015	Hannemann '1416 Dep.
1306	Final Decision, IPR2014-00884, Paper 38	December 10, 2015	'884 Decision
1307	Final Decision, IPR2014-00875, Paper 38	November 23, 2015	'875 Decision
1308	Final Decision, IPR2014-01415, Paper 30	March 10, 2016	'1415 Decision
1309	Deposition Transcript of Neil Hannemann for IPR2014-00570	April 8, 2015	Hannemann '570 Dep.
1310	Deposition Transcript of Neil Hannemann for IPR2014-00875	April 30, 2015	Hannemann '875 Dep.
1311	Exhibit 2 from deposition of Neil Hannemann for IPR2014-00875	April 30, 2015	'875 Dep. Exhibit
1312	Patent Owner's Response, IPR2014-00884, Paper 19	March 10, 2015	'884 POR
1313	Modern Electric, Hybrid Electric and Fuel Cell Vehicles	2005	Ehsani
1314	Bosch Handbook	1976	Bosch Handbook 1976
1315	Deposition Transcript of Neil Hannemann for IPR2014-00884	April 30, 2015	Hannemann '884 Dep.
1316	Deposition Transcript of Neil Hannemann for IPR2014-00787	April 27, 2016	Hannemann '787 Dep.
1317	Exhibit 12 from Deposition Transcript of Neil Hannemann (IPR2014-00884)	April 30, 2015	'884 Dep. Exhibit
1318	Patent Owner's Response, IPR2014-01416, Paper 17	June 17, 2015	'1416 POR
1319	Deposition Transcript of Neil Hannemann for IPR2014-00571	April 7, 2015	Hannemann '571 Dep.
1320	Reply Declaration of Dr. Gregory Davis		Davis Reply

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