UNITED STATES PATENT AND TRADEMARK OFFICE —————— BEFORE THE PATENT TRIAL AND APPEAL BOARD

FORD MOTOR COMPANY Petitioner,

V.

PAICE LLC & ABELL FOUNDATION, INC. Patent Owners.

U.S. Patent No. 8,214,097 to Severinsky *et al*. IPR Case No. <u>IPR2015-00792</u>

DECLARATION OF DR. JEFFREY L. STEIN IN SUPPORT OF PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE



Case No.: IPR2015-00792 Attorney Docket No. FPGP0110IPR3

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	A.	Regarding Independent claims 1, 11 and 21, Severinsky '970 discloses when to operate the engine based on " <i>RL</i> ", <i>i.e.</i> , the "torque required to propel the vehicle"				
		1.	Severinsky '970 teaches starting and stopping the engine based on road load or torque required to operate the vehicle	11		
	В.	Severinsky '970 discloses the additional "abnormal and transient conditions" limitations of claims 7, 17, 27 and 37				
III.	Ground 1-2:					
	A.	Independent claims 1, 11, 21 and 30				
		1.	Takaoka's control strategy for reducing engine load fluctuation is not referring to the mechanical design of an engine	19		
			a. Paice characterized Takaoka as teaching a control strategy during the prosecution of the '347 Patent	22		
		2.	Takaoka's control strategy for reducing engine load is simply another way of saying that the rate of change of engine torque is controlled to maintain combustion at a stoichiometric ratio	23		
	B.	Ratio	onale to combine Severinsky '970 and Takaoka	24		
		1.	Severinsky '970 does not teach away from operating at the stoichiometric ratio	24		



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	2.	Severinsky '9'	70 does	not teach	away	from	Takaoka's	
		"underpowered	l" engine					30
		1	\mathcal{L}					
IV.	Conclusion.							32



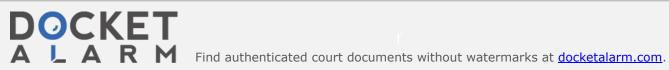
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Updated Exhibit List

Exhibit	Description	Identifier
No.		
1201	U.S. Patent No. 8,214,097	'097
		Patent
1202	Declaration of Dr. Jeffrey L. Stein	Stein
		Decl.
1203	Paice LLC v. Ford Motor Company, Case No. 1:14-cv-	Paice
	00492, District of MD, Baltimore Div., Complaint (Feb. 19, 2014)	Complaint
1204	Ford's letter to Paice dated September 22, 2014	Ford
		Letter
1205	U.S. Patent No. 5,343,970	Severinsk
		y '970
1206	Toshifumi Takaoka et al., A High-Expansion Ratio	Takaoka
	Gasoline Engine for the Toyota Hybrid System, Toyota	
	Technical Review Vol. 47, No. 2 (April 1998) (available	
	at: https://www.worldcat.org/title/a-high-expansion-ratio-	
	gasoline-engine-for-the-toyota-hybrid-	
	<pre>system/oclc/205516653&referer=brief_results.)</pre>	
1207	Ford Motor co. v. Paice LLC, Case IPR2014-01415,	IPR2014-
	Paper 9, Patent Owner Preliminary Response (P.T.A.B.	01415 PO
	Dec. 16, 2014)	Preliminar
		у
		Response
1208	Declaration of Walt Johnson, Librarian at Patent and	Librarian
	Trademark Resource Center (PTRC), Minneapolis	Decl.
	Central Library	
1209	U.S. Patent No. 5,865,263	Yamaguch
		i
1210	File History of U.S. Patent No. 8,214,097	'097 File
		History
1211	U.S. Patent No. 7,104,347	'347
		Patent
1212	File History of U.S. Patent No. 7,104,347	'347 File
		History
1213	Paice LLC v. Toyota Motor Corp. et al., Case No. 2:04-	Toyota



Exhibit No.	Description	Identifier
	cv-211, E.D. Texas, Claim Construction Order (Dec. 5, 2008)	Litigation
1214	Paice, LLC v. Hyundai Motor Corp. et a., Case No. 2:12-cv-0499, District of MD, Baltimore Div., Claim Construction Order (July 24, 2014)	•
1215	Ford Motor Co. v. Paice, LLC, Case IPR2014-00571, Paper 12, Decision (P.T.A.B. Sept. 30, 2014)	IPR2014- 00571 Decision
1216	U.S. Patent No. 7,237,634	'634 Patent
1217	Ford Motor Co. v. Paice, LLC, Case IPR2014-00571, Paper 20, Patent Owner Response (P.T.A.B. Jan. 21, 2015)	IPR2014- 0571 PO Response
1218	U.S. Patent No. 4,335,429	Kawakats u
1219	Catherine Anderson & Erin Pettit, <i>The Effects of APU Characteristics on the Design of Hybrid Control Strategies for Hybrid Electric Vehicles</i> , SAE Technical Paper 950493 (February, 1995) (available at http://papers.sae.org/950493/ .)	Anderson
1220	Curriculum Vitae of Dr. Jeffery L. Stein	Dr. Stein CV
1221	John B. Heywood, <i>Internal Combustion Engine Fundamentals</i> (McGraw-Hill 1988) (available at http://catalog.loc.gov/vwebv/holdingsInfo?searchId=2094 http://catalog.loc.gov/vwebv/holdingsInfo?searchId=2094 http://catalog.loc.gov/vwebv/holdingsInfo?searchId=2094 https://catalog.loc.gov/vwebv/holdingsInfo?searchId=2094 <a catalog.loc.gov="" holdingsinfo?searchid='1000"' href="https://catalog.gov/wwb.number.gov/wwb.number.gov/maintalog.gov/wwb.number.gov/maintalog.gov/wwb.number.gov/maintalog.gov/maintalog.gov/wwb.number.gov/maintalog.gov/maintalog.gov/maintalog.gov/maintalog.gov/wwb.number.gov/maintalog.gov/</td><td>Heywood</td></tr><tr><td>1222</td><td>Willard W. Pulkrabek, Engineering Fundamentals of the Internal Combustion Engine (Prentice Hall, 1997) (available at http://catalog.loc.gov/vwebv/holdingsInfo?searchId=1000 3&recCount=25&recPointer=1&bibId=2109503.)	Pulkrabek
1223	Hawley, G.G., <i>The Condensed Chemical Dictionary</i> , Van Nostrand Reinhold Co., 9 th ed. (1977) (available at http://catalog.loc.gov/vwebv/holdingsInfo?searchId=2154 http://catalog.gov/vwebv/holdingsInfo?searchId=2154 http://catalog.gov/wbb/holdingsInfo?searchId=2154 http://catalog.gov/wbb/holdingsInfo?searchId=2154 http://catalog.gov/wbb/holdingsInfo?searchId=2154 http://catalog.gov/wbb/holdingsInfo?searchId=2154 http://catalog.gov/wbb/holdingsInfo?searchI	Hawley
1224	U.S. Patent No. 913,846	Pieper
1225	Michael Duoba, Ctr. for Transp. Research, Argonne	Duoba



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