

STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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FORD MOTOR COMPANY  
Petitioner,

v.

PAICE LLC & ABELL FOUNDATION, INC.  
Patent Owner.

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U.S. Patent No. 7,237,634

IPR Case No.: IPR2015-00787

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**PETITIONER'S RESPONSE TO PATENT OWNER'S  
MOTION FOR OBSERVATIONS ON CROSS EXAMINATION**

## I. Response to Paice's Observations

**Response to Observation 1.** Dr. Davis' deposition testimony does not contradict his reply declaration testimony. First, counsel's questions related to whether the electric motor used in Ibaraki '882 and the electric motor used in U.S. (Kawakatsu) "play an entirely different role in the two control strategies." (Ex. 2714 31:3-32:9). In the portion of testimony cited by Paice, Dr. Davis testified the two control strategies differ because "in Figure 11 [of Ibaraki '882] the motor does provide all the torque requirements of the vehicle at very low speeds." (Ex. 2714 at 32:12-13.) Regardless, Dr. Davis testified that with regards to Figure 11's boundary line B "the whole thing is part of the boundary, the setpoint" (*i.e.*, the flat portion and curved portion of boundary line B). (Ex. 2714 at 33:8-9.) Dr. Davis also testified that "when you go to [*sic*] far to the left" on Figure 11 (*i.e.*, low vehicle speeds), "you can't operate the engine" and all the torque required to propel the vehicle in this region of the graph indicates "operation by the motor only." (Ex. 2714 at 33:10:34-1.) Dr. Davis testimony demonstrates that the engine is "being controlled not to operate" at lower vehicle speeds because Figure 11 confirms this to be a "region where the electric motor alone operates." (Ex. 2714 at 34:2-36:9.)

**Response to Observation 2.** Dr. Davis' deposition testimony does not contradict his reply declaration testimony. As stated in response to observation 1,

Dr. Davis' testified that for boundary line B "the whole thing is part of the boundary, the setpoint" (*i.e.*, the flat portion and curved portion of boundary line B). (Ex. 2714 at 33:8-9.) Dr. Davis testified that "when you go to [*sic*] far to the left" on Figure 11 (*i.e.*, low vehicle speeds), "you can't operate the engine" and all the torque required to propel the vehicle in this region of the graph indicates "operation by the motor only." (Ex. 2714 at 33:10:34-1.) Dr. Davis testimony simply demonstrates that the engine is "being controlled not to operate" at lower vehicle speeds because Figure 11 confirms this to be a "region where the electric motor alone operates." (Ex. 2714 at 34:2-36:9.)

**Response to Observation 3.** When the entire portion of testimony surrounding the two snippets cited by Paice are read in context, Dr. Davis' testimony is not contradictory. (*See* Ex. 2714 at 43:1-53:3.) Specifically, Dr. Davis testified that Ibaraki '882 discloses a "shift actuator" that can "place the transmission" in a "drive position" that includes "park, reverse, neutral, drive and low." (Ex. 2714 at 43:1-17.) Dr. Davis testified that a "drive source selecting data map is provided for each of the[se] drive positions of the transmission" (*i.e.*, park, reverse, neutral, drive and low). (Ex. 2714 at 43:18-25.) Dr. Davis further testified that Ibaraki '882 does not use a different data map (as illustrated by Figure 11) "for every different gear" of the transmission when a specific drive position (*e.g.*, "drive") has been selected because that "wouldn't make any sense." (Ex. 2714 at

52:12-14.)

**Response to Observation 4.** Dr. Davis' deposition testimony does not contradict his reply declaration testimony. Dr. Davis fully testified that "one of ordinary skill would see that line C is either at the upper bound or slightly below or possibly below the upper bound . . . for the engine." (Ex. 2714 at 62:6-10.) Earlier in his deposition, Paice's counsel had similarly asked whether the words "upper bound of [the] engine MTO in any gear" appear anywhere "with respect to Figure 11 of Ibaraki '882." (Ex. 2714 at 7-9.) Dr. Davis directed counsel to his reply declaration (IPR2015-00787, Ex. 1809) where he relied on a textbook introduced by Paice (IPR2015-00787, Ex. 2711) to explain how the "upper bound" of Figure 11 would have been understood by PHOSITA. (Ex. 2714 at 53:7-54:21.) Dr. Davis testified that paragraph 30 of his reply declaration in IPR2015-00787 (Ex. 1809) illustrates a vehicle drive graph having a dashed curved line that is the "upper bound of each individual MTO curve that has been modified by the transmission and provided at the drive wheels." (Ex. 2714 at 53:13-23.) Dr. Davis testified that "at any given vehicle speed the engine is incapable of providing any torque above that [curved] line." (Ex. 2714 at 54:1-3.) Dr. Davis provided the same answer when counsel repeatedly questioned him about the "upper bound curve" shown in Figure 11 in comparison to the curved line shown by Fig. 2.13 of Ex. 1809. (Ex. 2714 at 37:6:42:8.)

**Response to Observation 5.** Dr. Davis' deposition testimony does not contradict his reply declaration testimony. As explained in response to Observation 4, Dr. Davis testified that paragraph 30 of his reply declaration in IPR2015-00787 (Ex. 1809) illustrates a graph from Ex. 2711 having a dashed curved line that is the "upper bound of each individual MTO curve that has been modified by the transmission and provided at the drive wheels." (Ex. 2714 at 53:13-23.) Dr. Davis also testified "one of ordinary skill in the art" would understand that boundary line C could be adjusted to be slightly below the engine's MTO to "achieve a little bit better efficiency" or to ensure the engine has "a little bit of reserve." (Ex. 2714 at 38:25-39:9.) Dr. Davis testified that by looking at the engine graph of Ibaraki '882's (Figure 5) "sweet spot," a PHOSITA would understand that boundary line C could be adjusted slightly below the engine's MTO to narrow the engine operation range and "get even a little bit better efficiency." (Ex. 2714 at 62:13-4.)

**Response to Observation 6.** Dr. Davis' deposition testimony does not contradict his reply declaration testimony. Paragraph 33 states that the "direct drive" curve is the "engine's MTO" which is "not modified and will be far below the hyperbolic 'ideal tractive force'" curve. (Ex. 1809 at ¶33.) Paragraph 34 similarly states that "without a transmission" the engine MTO curve labeled "direct drive" is also "below the engine MTO curve at the wheels for each gear ratio of the transmission that follows the hyperbolic 'ideal tractive force' curve." (Ex. 1809 at

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