UNITED STAT -	TES PATENT AND TRADEMARK OFFICE
BEFORE THE	E PATENT TRIAL AND APPEAL BOARD
	FORD MOTOR COMPANY Petitioner,
	V.
PAICE I	LLC & ABELL FOUNDATION, INC. Patent Owners.
-	
	Case IPR2014-00579 Patent 7,104,347

PATENT OWNER'S MOTION FOR OBSERVATIONS ON THE CROSS EXAMINATION OF DR. GREGORY DAVIS



- 1. In exhibit 2111, on page 70, line 3 to page 71 line 2, Dr. Davis testified that Fig. 7.12(b) of the Masding Thesis (Ex. 2104 at 233) illustrates the "battery recharge mode" disclosed in the Bumby references. This testimony is relevant to paragraphs 78-83 of Dr. Davis' Reply Declaration (Ex. 1140). The testimony is relevant because the "battery recharge mode" shown in Fig. 7.12(b) is activated based on an arbitrary time threshold, which shows that Dr. Davis' opinion that the "battery recharge mode" meets the battery recharge claim limitation of claim 23 ("operating the engine to charge the battery when RL is less than SP") is unsupported by any evidence.
- 2. In exhibit 2111, on page 72, line 5 to 14, Dr. Davis testified that Fig. 7.12(b) of the Masding Thesis (Ex. 2104 at 233) shows that the "battery recharge mode" is entered based purely on time. This testimony is relevant to paragraphs 78-83 of Dr. Davis' Reply Declaration (Ex. 1140). The testimony is relevant because it contradicts Dr. Davis' opinion that the "battery recharge mode" in the Bumby references meets the battery recharge claim limitation of claim 23 ("employing said engine to propel said vehicle when the torque RL required to do so is less than said lower level SP and using the torque between RL and SP to drive said at least one electric motor to charge said battery when the state of charge of said battery indicates the desirability of doing so").



- 3. In exhibit 2111, on page 82, line 14 to page 83 line 1, Dr. Davis testified that Fig. 7.12(b) of the Masding Thesis (Ex. 2104 at 233), was not using the "sub-optimal" control algorithm. This testimony is relevant to paragraphs 71-83 of Dr. Davis' Reply Declaration (Ex. 1140), where Dr. Davis testified that the Bumby references disclose using the "sub-optimal" control algorithm during the "battery recharge mode." The deposition testimony is relevant because it contradicts Dr. Davis' declaration testimony.
- 4. In exhibit 2111, on page 85, lines 10-22, Dr. Davis testified that Fig. 7.12(b) of the Masding Thesis (Ex. 2104 at 233), was using the speed-based controller. This testimony is relevant to paragraphs 13-26 of Dr. Davis' Reply Declaration (Ex. 1140), where Dr. Davis testified that the Masding Thesis (Ex. 2104) shows that the "test rig" disclosed in the Masding Thesis, Bumby 1988 (Ex. 1106), and Masding (Ex. 1107), was using the "sub-optimal" control algorithm. The testimony is relevant because it calls into question the credibility of Dr. Davis' opinion about the whether the "test rig" used the "sub-optimal" control algorithm.
- 5. In exhibit 2111, on page 21, lines 10-17, Dr. Davis testified that the Masding thesis (Ex. 2104) states that the "sub-optimal" controller algorithm was never implemented in a vehicle. On page 22, lines 11-20, Dr. Davis testified that there was no evidence from the Bumby references that the "sub-optimal" control algorithm was ever implemented in a vehicle. This testimony is relevant to



paragraphs 16 to 26 of Dr. Davis' Reply Declaration (Ex. 1140), where Dr. Davis testified that there was a motivation to combine the Bumby references because the "sub-optimal" control algorithm was "operable." The testimony is relevant because it contradicts Dr. Davis' opinion that the "sub-optimal" control algorithm was "operable" and shows that a POSITA would not have been motivated to combine the "sub-optimal" control algorithm of the earlier Bumby references with the "test rig" of the later Bumby references.

- 6. In exhibit 2111, on page 26, line 15 to page 27, line 13, Dr. Davis testified that his reply declaration's testimony that "[t]he transmission control strategy is not part of the Bumby references, and discussion of the transmission control strategy would be speculative" was not as "clear as [it] should have been." This testimony is relevant to paragraphs 34 to 35 of Dr. Davis' Reply Declaration (Ex. 1140), where Dr. Davis testified that the "sub-optimal" control strategy includes controlling the transmission by selecting a gear. The testimony is relevant because it impeaches the credibility of Dr. Davis' explanation of how the "sub-optimal" control algorithm works.
- 7. In exhibit 2111, on page 28, line 12 to page 30 line 6, Dr. Davis testified he could not recall reviewing the papers regarding the Lucas hybrid vehicle in Harding, et al. 1983, and the earlier hybrid built by Bosch described in Fersen 1974, and testified that given the time difference between those papers and



the Bumby references it was "highly unlikely" they were using the "sub-optimal" control strategy. This testimony is relevant to paragraph 40 of Dr. Davis' Reply Declaration (Ex. 1140), where Dr. Davis testified that the "Masding Thesis discloses that a transmission is not necessarily required," and cites to a portion of the Masding thesis (Ex. 2104) that in turn cites to the Harding and Fersen papers. The testimony is relevant because it shows that a POSITA would understand that the Masding Thesis was merely stating that hybrid vehicles in general did not need a transmission and is not related to whether the "sub-optimal" control algorithm requires a transmission.

8. In exhibit 2111, on page 34, line 14 to page 38 line 2, Dr. Davis testified that the support for his opinion that the suboptimal control algorithm can operate without a transmission is the description of the "sub-optimal" control strategy in Ex. 1105, including that "[k]nowing the fixed transmission ratios available, a set of torque and speed values at the torque split point can be defined, the number of which will correspond to the number of discrete gear ratios available," and that "[t]he control algorithm always seeks to place the IC engine operating point within the 'box' using the available transmission ratios." This testimony is relevant to paragraphs 40-50 of Dr. Davis' Reply Declaration (Ex. 1140), where Dr. Davis testified that a transmission is not required by the Bumby "sub-optimal" control strategy." The testimony is relevant because it shows that



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