# EXHIBIT J

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**Obviousness of U.S. Patent No. 7,237,634 Claims 33-44, 46, 49, 50, 52-55, 68, 105, 188, 189, 199-206, 208, 2**
**over Severinsky '970 in View of One or More of Secondary References**

To the extent Severinsky '970 does not disclose any particular limitation below, or aspects thereof, expressly or i
limitation(s) would have been known to a person of skill in the art and/or it would have been obvious to combine
with one or more of the prior art references identified and cited herein, including Adler, Anderson, Drozdz, Farra
Graf, Hosaka '083, Hosaka '697, Kawamura, Lateur, Ma, Moroto, Nii, Onari, Paefgen, Probst, Quigley, Suga, V
Yamaguchi.

| U.S. Patent No. 7,237,634 | Severinsky '970[1] + One or More Secondary Refere |
|---|---|
| 33[pre]. A method for controlling a hybrid vehicle, comprising: | Severinsky '970 discloses a "Hybrid Electric Vehicle" and a "metho hybrid electric vehicle." Severinsky '970 at Abstract. Figure 3 illust diagram of the principal components of [the disclosed] … hybrid veh Severinsky '970 at 7:45-46.<br>Severinsky '970 at Fig. 3: |

[1] U.S. Patent No. 5,343,970 ("Severinsky '970")
[2] U.S. Patent No. 5,533,583 ("Adler"); C. Anderson, et al., *The Effects of APU Characteristics on the Design of* Strategies for Hybrid Electric Vehicles, SAE Technical Paper 950493 (1995) ("Anderson"); U.S. Patent No. 5,89 U.S. Patent No. 5,656,921 ("Farrall"); U.S. Patent No. 6,116,363 ("Frank"); U.S. Patent No. 5,788,004 ("Friedm No. 6,188,945 ("Graf"); U.S. Patent No. 4,721,083 ("Hosaka '083"); U.S. Patent No. 4,625,697 ("Hosaka '697") 4,850,193 ("Kawamura"); U.S. Patent No. 5,823,280 ("Lateur"); WO 92/15778 ("Ma"); U.S. Patent No. 5,697,4 Patent No. 5,650,931 ("Nii"); U.S. Patent No. 5,189,621 ("Onari"); Paefgen, et al., *Der Audi Duo – das erste ser Hybridfahrzeug*, ATZ Automobiletechnische Zeitschrift 99 (1997) 6, p. 316-32 ("Paefgen"); U.K. Patent Applica 2 318 105 ("Probst"); C.P. Quigley, et al., *Predicting the Use of a Hybrid Electric Vehicle*, IFAC Workshop on I Components for Autonomous and Semi-Autonomous Vehicles 29(4) (1996) 129-134 ("Quigley"); U.S. Patent N ("Suga"); O. Vittone, et al., *Fiat Conceptual Approach to Hybrid Cars Design*, 12th International Electric Vehicl ("Vittone"); U.S. Patent No. 5,865,263 ("Yamaguchi").

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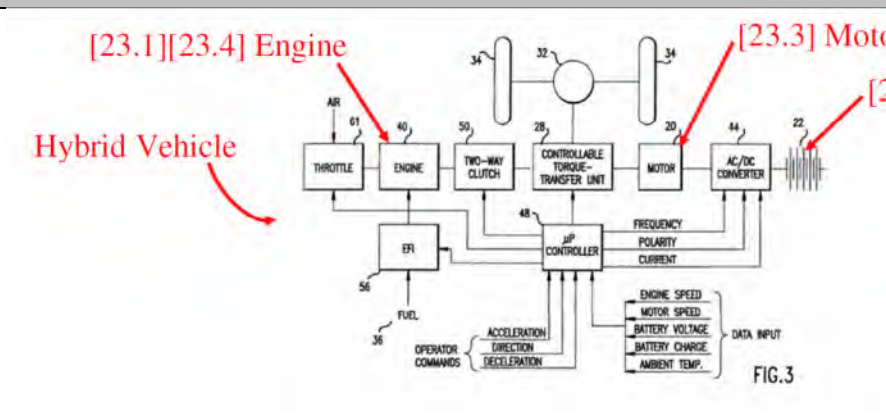
| |  <br>"Like claim 23, Severinsky ['970] discloses the essential component vehicle, including an internal combustion engine, an electric motor, a battery, and a microprocessor for controlling the vehicle's mode of o electric mode, an engine-only mode, or a hybrid mode." IPR2014-00 Decision, page 14.<br>*See also* IPR2015-00801, Final Written Decision, page 20 ("We find is disclosed by Severinsky '970."). |
| [a] determining instantaneous road load (RL) required to propel the hybrid vehicle responsive to an operator command; | Severinsky '970 discloses that the "microprocessor 48" determines t torque required for propulsion of the vehicle" so that the engine is op its most efficient operating range. Severinsky '970 at 16:67-17:15. discloses that the "microprocessor 48" determines whether the "engi or both "the engine 40 and the motor 20" should be operated in order "instantaneous torque required for propulsion of the vehicle." Sever 43. |

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|---|---|
| | Severinsky '970 also discloses that the vehicle is operated "*responsiv* *command,*" such as application of "accelerator and brake pedals." S 13:16-21.<br><br>Severinsky '970 discloses that the "microprocessor 48" determines th instantaneous torque required for propulsion of the vehicle" is negati starts down a hill, and the operator lifts his foot from the accelerator '970 at 10:32-34. During such negative torque requirements, Severin that "the kinetic energy of the vehicle and the engine's excess torque drive the motor 20 as a generator so as to charge the batteries." Seve 10:32-36. Severinsky '970 also teaches a "regenerative braking or co Severinsky '970 at 14:37-53. In this mode the "microprocessor 48" operator's inputs and the vehicle's performance and will determine " torque is available." Severinsky '970 at 14:15-21. Specifically, "the torque required for propulsion of the vehicle" is negative during "dow "the kinetic energy of the vehicle will be fed back from the road whe electric motor 20" and stored in the battery. Severinsky '970 at 14:4<br><br>Severinsky '970 further discloses that the "microprocessor 48" deter instantaneous torque required for propulsion of the vehicle" may be p vehicle "starts to climb a hill." Severinsky '970 at 10:36-37. During requirements "the motor 20 is used to supplement the output torque o Severinsky '970 at 10:37-38. Severinsky '970 also discloses that the 48" determines that "the instantaneous torque required for propulsion also be positive when the vehicle is "accelerating and the like." Seve 10:40. During this positive torque requirement the "motor 20" is aga additional power as needed for acceleration." Severinsky '970 at 9:5<br><br>Severinsky '970 accounts for external forces that act on the vehicle s "instantaneous torque required for propulsion of the vehicle" may be |

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| | response to an operator's command and the correct vehicle operation Severinsky '970 at 14:9-18.<br><br>A skilled artisan would have understood that "wind conditions, road are used to calculate the textbook definition of "road load." Severins specifically acknowledges that the textbook "road load" forces are ac "responsive to the operator's control inputs" (e.g., operation of the ac pedals) in order to determine the "instantaneous torque required to pr<br><br>It was known prior to September 1998 that the textbook "road load" "the instantaneous torque required for propulsion of the vehicle" to b negative. For instance, "the instantaneous torque required for propul may be negative when traveling downhill, thereby requiring the drive accelerator pedal or press down on the brake pedal in order to slow d acceleration. Alternatively, "the instantaneous torque required for pr vehicle" may be positive when traveling up a hill or when the driver acceleration, thereby requiring the driver to press down the accelerat<br><br>The '634 Patent also confirms that Severinsky '970 teaches a hybrid an operational mode by determining "the instantaneous torque requir vehicle." '634 Patent at 35:3-17.<br><br>The '634 Patent itself states that the torque-based control strategy dis Severinsky '970 is employed by the hybrid vehicle disclosed in the ' Patent at 25:4-24.<br><br>"Although Severinsky describes the use of 'speed' as a factor consid microprocessor, Severinsky makes clear that the microprocessor also 'torque' requirements in determining when to run the engine." IPR2 Written Decision, at 16. "And, while Severinsky may not use the ter expressly, its description of the engine's operation being 'responsive by the vehicle's propulsion requirements' is the same as the engine b |

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