United States District Court,
E.D. Texas, Marshall Division.

PAICE LLC,
Plaintiff.
v.
TOYOTA MOTOR CORP., et al,
Defendants.

No. 2:04-CV-211-DF

Sept. 28, 2005.

Samuel Franklin Baxter, McKool Smith, Marshall, TX, Ahmed J. Davis, Ruffin B. Cordell, Fish & Richardson, PC, Washington, DC, Robert E. Hillman, Fish & Richardson, PC, Boston, MA, for Plaintiff.

Fred Grasso, Jeffrey S. Gerchick, T. Cy Walker, Kenyon & Kenyon, DC, Washington, DC, Nicholas H. Patton, Justin Kurt Truelove, Patton Tidwell & Schroeder, LLP, Texarkana, TX, Thomas F. Makin, George E. Badenoch, John Flock, Sheila Mortazavi, Kenyon & Kenyon, LLP, New York, NY, for Defendants.

CLAIM CONSTRUCTION ORDER CONSTRUING U.S. PATENT NOS. 5,343,970**,** 6,209,672**, & 6,554,088**

DAVID FOLSOM**, District Judge.**

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I. Background

Plaintiff Paice LLC ("Paice") brings this cause of action against Defendants Toyota Motor Corporation, Toyota Motor North American, Inc., and Toyota Motor Sales, U.S.A., Inc. ("Toyota") alleging infringement of U.S. Patent No. 5,343,970 ("the '970 patent"), U.S. Patent No. 6,209,672 ("the ' 672 patent"), and U.S. Patent No. 6,554,088 ("the '088 patent") (collectively, the "patents-in-suit"). These patents are entitled "Hybrid Electric Vehicle," "Hybrid Vehicle," and "Hybrid Vehicles," respectively. Toyota generally denies

any infringement and asserts the affirmative defenses of non-infringement and invalidity. Additionally, Toyota asserts counterclaims for declaratory judgment of non-infringement and of invalidity for the patents-in-suit.

Now before the Court is the claim construction of the respective patents. Paice filed its claim construction brief on March 8, 2005 (Dkt. No. 21) to which Toyota responded on March 28, 2005 (Dkt. No. 28). Toyota filed its claim construction brief on March 9, 2005 (Dkt. No. 22) to which Paice responded on March 29, 2005 (Dkt. No. 27). The Court conducted a claim construction hearing on April 19, 2005. The parties provided the Court with copies of slides used during the hearing. Additionally, on May 4, 2005, the parties submitted a letter to the Court restating each party's proposed claim construction and reflecting that the parties had reached agreement on several previously disputed terms. 5/4/05 Letter from N. Patton to the Court ("5/4/05 Letter"); *see also* 5/13/05 letter from A. Davis to the Court regarding the same ("5/13/05 Letter"). After considering the patents, the parties' submissions, arguments of counsel, and all other relevant pleadings and papers, the Court finds that the claims of the patents-in-suit should be construed as set forth herein.

II. The Legal Principles of Claim Construction

A determination of patent infringement involves two steps. First, the patent claims are construed, and, second, the claims are compared to the allegedly infringing device. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1455 (Fed.Cir.1998) (*en banc*).

The legal principles of claim construction were recently reexamined by the Federal Circuit in Phillips v. AWH Corp., 415 F.3d 1303 (Fed.Cir.2005) (*en banc*). Reversing a summary judgment of non-infringement, an *en banc* panel specifically identified the question before it as: "the extent to which [the court] should resort to and rely on a patent's specification in seeking to ascertain the proper scope of its claims." Id. at 1312. Addressing this question, the Federal Circuit specifically focused on the confusion that had amassed from its recent decisions on the weight afforded dictionaries and related extrinsic evidence as compared to intrinsic evidence. Ultimately, the court found that the specification, "informed, as needed, by the prosecution history," is the "best source for understanding a technical term." Id. at 1315 (quoting Multiform Dessicants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1478 (Fed.Cir.1998)). However, the court was mindful of its decision and quick to point out that *Phillips* is not the swan song of extrinsic evidence, stating:

[W]e recognized that there is no magic formula or catechism for conducting claim construction. Nor is the court barred from considering any particular sources or required to analyze sources in any specific sequence, as long as those sources are not used to contradict claim meaning that is unambiguous in light of the intrinsic evidence.

Phillips, 415 F.3d at 1324 (citations omitted). Consequently, this Court's reading of *Phillips* is that the Federal Circuit has returned to the state of the law prior to its decision in Texas Digital Sys. v. Telegenix, Inc., 308 F.3d 1193 (Fed.Cir.2002), allotting far greater deference to the intrinsic record than to extrinsic evidence.

Additionally, the Federal Circuit in *Phillips* expressly reaffirmed the principles of claim construction as set forth in Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed.Cir.1995) (*en banc*), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996), Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576

(Fed.Cir.1996), and Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111 (Fed.Cir.2004). Thus, the law of claim construction remains intact. Claim construction is a legal question for the courts. Markman, 52 F.3d at 979. The claims of a patent define that which "the patentee is entitled the right to exclude." Innova, 381 F.3d at 1115. And the claims are "generally given their ordinary and customary meaning" as understood by "a person of ordinary skill in the art in question at the time of the invention, *i.e.,* as of the effective filing date of the patent application." Vitronics, 90 F.3d at 1582. However, the Federal Circuit stressed the importance of recognizing that the person of ordinary skill in the art "is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." Phillips, 415 F.3d at 1313.

Advancing the emphasis on the intrinsic evidence, the *Phillips* decision explains how each source, the claims, the specification as a whole, and the prosecution history, should be used by courts in determining how a skilled artesian would understand the disputed claim term. *See, generally, id.* at 1314-17. The court noted that the claims themselves can provide substantial guidance, particularly through claim differentiation. Using an example taken from the claim language at issue in *Phillips,* the Federal Circuit observed that "the claim in this case refers to 'steel baffles,' which strongly implies that the term 'baffles' does not inherently mean objects made of steel." *Id.* at 1314. Thus, the "context in which a term is used in the asserted claim can often illuminate the meaning of the same term in other claims." *Id.* Likewise, other claims of the asserted patent can be enlightening, for example, "the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Id.* at 1315 (citing Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 910 (Fed.Cir.2004).

Still, the claims "must be read in view of the specification, of which they are part." Markman, 52 F.3d at 978. In *Phillips,* the Federal Circuit reiterated the importance of the specification, noting that "the specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.' " Phillips, 415 F.3d at 1315 (quoting Vitronics, 90 F.3d at 1582). To emphasize this position, the court cited extensive case law, as well as "the statutory directive that the inventor provide a 'full' and 'exact' description of the claimed invention." *Id.* at 1316 (citing Merck & Co., v. Teva Pharms. USA, Inc., 347 F.3d 1367, 1371 (Fed.Cir.2003)), *see also* 35 U.S.C. s. 112, para. 1. Consistent with these principles, the court reaffirmed that an inventor's own lexicography and any express disavowal of claim scope is dispositive. *Id.* at 1316. Concluding this point, the court noted the consistency with this approach and the issuance of a patent from the Patent and Trademark Office and found that "[i]t is therefore entirely appropriate for a court, when conducting claim construction, to rely heavily on the written description for guidance as to the meaning of the claims." *Id.* at 1317.

Additionally, the *Phillips* decision provides a terse explanation of the prosecution history's utility in construing claim terms. The court simply reaffirmed that "the prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.* (citing Vitronics, 90 F.3d at 1582-83). It is a significant source for evidencing how the patent office and the inventor understood the invention. *Id.*

Finally, the Federal Circuit curtailed the role of extrinsic evidence in construing claims. In pointing out the less reliable nature of extrinsic evidence, the court reasoned that such evidence (1) is by definition not part of the patent, (2) does not necessarily reflect the views or understanding of a person of ordinary skill in the relevant art, (3) is often produced specifically for litigation, (4) is far reaching to the extent that it may encompass several views, and (5) may distort the true meaning intended by the inventor. *See id.* at 1318.

Consequently, the Federal Circuit expressly disclaimed the approach taken in *Texas Digital*. While noting the *Texas Digital* court's concern with regard to importing limitations from the written description, "one of the cardinal sins of patent law," the Federal Circuit found that "the methodology it adopted placed too much reliance on extrinsic sources such as dictionaries, treatises, and encyclopedias and too little on intrinsic sources, in particular the specification and prosecution history." *Id*. at 1320. Thus, the court renewed its emphasis on the specification's role in claims construction.

Many other principles of claims construction, though not addressed in *Phillips,* remain significant in guiding this Court's charge in claim construction. The Court is mindful that there is a "heavy presumption" in favor of construing claim language as it would be plainly understood by one of ordinary skill in the art. Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 989 (Fed.Cir.1999). Words in patent claims are given their ordinary meaning in the usage of the field of the invention, unless the text of the patent makes clear that a word was used with a special meaning. *See* Multiform Desiccants, Inc., 133 F.3d at 1477. Though a patentee may choose to act as his own lexicographer, the intrinsic evidence must 'clearly set forth' or 'clearly redefine' a claim term so as to put one reasonably skilled in the art on notice that the patentee intended to so redefine the claim term. Bell Atl. Network Servs., Inc. v. Covad Communs. Group, Inc ., 262 F.3d 1258, 1268 (Fed.Cir.2001) (internal citations omitted).

Claim construction is not meant to change the scope of the claims but only to clarify their meaning. Embrex, Inc. v. Service Eng'g Corp., 216 F.3d 1343, 1347 (Fed.Cir.2000) ("In claim construction the words of the claims are construed independent of the accused product, in light of the specification, the prosecution history, and the prior art.... The construction of claims is simply a way of elaborating the normally terse claim language[ ] in order to understand and explain, but not to change, the scope of the claims.") (citations and internal quotations omitted).

During claim construction, a court may be required to determine whether 35 U.S.C. s. 112, para. 6 applies to any claim limitations. Under this section, an element in a claim may be expressed as a "means" for performing a specified function without the recital of structure, material, or an act in support:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

To determine whether a s. 112, para. 6 applies to a claim limitation, the court must first look to the claim limitation itself to see if the word "means" is used. Use of the word "means" gives rise to a presumption that s. 112, para. 6 applies, and the absence of the word "means" gives rise to a presumption that s. 112, para. 6 does not apply. York Prods., Inc. v. Cen. Tractor, 99 F.3d 1568 (Fed.Cir.1996); Personalized Media Comm'n, LLC v. Int'l Trade Comm'n, 161 F.3d 696 (Fed.Cir.1998); Apex, Inc. v. Raritan Computer, Inc., 325 F.3d 1364, 1372 (Fed.Cir.2003). The presumptions can be overcome by a preponderance of the evidence. Apex, Inc., 325 F.3d at 1372.

In order to avoid the application of s. 112, para. 6, a claim element need not define a structure so specific as to imply an actual implementation of the structure. The question is whether the phrase "connotes sufficient structure to one of ordinary skill in the art to perform the functions identified by the limitation." Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1583 (Fed.Cir.1996).

Where a court determines that s. 112, para. 6 applies, the means-plus-function claim elements are construed by first "determining what the claimed function is" and then determining what "structures disclosed in the written specification correspond to the 'means' for performing that function." Kemco Sales, Inc. v. Control Papers Co., 208 F.3d 1352, 1360 (Fed.Cir.2000); Cardiac Pacemakers, Inc. v. St. Jude Med., Inc., 296 F.3d 1106, 1113-14 (Fed.Cir.2002). "A means-plus-function claim encompasses all structure in a specification corresponding to that element and equivalent structures." Micro Chem., Inc. v. Great Plains Chem. Co., Inc., 194 F.3d 1250, 1258 (Fed.Cir.1999). Whether or not a disclosed structure can be construed as "corresponding structure" depends upon whether one of ordinary skill in the art would associate the structure in the specification with the claimed functions and whether the associated structure performs the claimed functions. Cardiac Pacemakers, Inc., 296 F.3d at 1113-14. Only where disclosed structure is both associated with and performs the claimed functions can it be corresponding structure under the requirements of s. 112, para. 6.

III. The Patents-in-Suit Generally

The patents at issue are directed to particular features of electric/combustion engine hybrid drive systems. The '970 patent issued on September 6, 1994 from an application filed on September 21, 1992. The patent generally discloses and claims a hybrid vehicle, including an internal combustion engine and one electric motor, both of which can provide torque to the wheels of the vehicle through a controllable torque transfer unit, and that can recharge storage batteries for the motor. The direction of torque transfer is controlled by a microprocessor responsive to the mode of operation of the vehicle.

The '970 patent ***abstract:***

An improved hybrid electric vehicle includes an internal combustion engine and an electric motor. Both the motor and the engine provide torque to drive the vehicle directly through a controllable torque transfer unit. Typically at low speeds or in traffic, the electric motor alone drives the vehicle, using power stored in batteries; under acceleration and during hill climbing both the engine and the motor provide torque to drive the vehicle; and in steady state highway cruising, the internal combustion engine alone drives the vehicle. The internal combustion engine is sized to operate at or near its maximum fuel efficiency during highway cruising. The motor is operable as a generator to charge the batteries as needed and also for regenerative braking. No transmission is employed. The motor operates at significantly lower currents and higher voltages than conventionally and has a rated power at least equal to that of the internal combustion engine. In this manner a cost efficient vehicle is provided, suffering no performance disadvantage compared to conventional vehicles.

The '672 patent issued on April 3, 2001 from an application with a priority date of September 14, 1998. Although the '672 patent is not related to the ' 970 patent, it builds substantially on the teachings of the '970 patent. The '672 patent claims further improvements over the parallel hybrid electric vehicle claimed in the '970 patent. It discloses a "topology" for a hybrid vehicle, wherein an internal combustion engine and a first electric "starting" motor are connected to the road wheels of the vehicle through a clutch. A second "traction" motor is connected to the road wheels to propel the vehicle. The vehicle operating mode is determined by a microprocessor responsive to the "road load ."

The '672 patent ***abstract:***

A hybrid vehicle comprising an internal combustion engine controllably coupled to road wheels of the vehicle by a clutch, a traction motor coupled to road wheels of said vehicle, a starting motor coupled to the engine, both motors being operable as generators, a battery bank for providing electrical energy to and

accepting energy from said motors, and a microprocessor for controlling these components is operated in different modes, depending on its instantaneous torque requirements, the state of charge of the battery bank, and other operating parameters. The mode of operation is selected by the microprocessor in response to a control strategy.
The '088 patent issued on April 29, 2003, and claims priority to two provisional applications dated March 1, 1999, and September 14, 1998, respectively. The '088 patent is a continuation-in-part of the application from which the '672 patent issued and claims several distinct improvements over the hybrid vehicles claimed in the '970 and '672 patents. The only asserted claim in the '088 patent, claim 1, does not involve any matter not included in the '672 patent. The patent discloses the determination of the vehicle's operating mode as a function of the determined "road load" at a given time.

The '088 patent ***abstract:***

A hybrid vehicle comprises an internal combustion engine, a traction motor, a starter motor, and a battery bank, all controlled by a microprocessor in accordance with the vehicle's instantaneous torque demands so that the engine is run only under conditions of high efficiency, typically only when the load is at least equal to 30% of the engine's maximum torque output. In some embodiments, a turbocharger may be provided, activated only when the load exceeds the engine's maximum torque output for an extended period; a two-speed transmission may further be provided, to further broaden the vehicle's load range. A hybrid brake system provides regenerative braking, with mechanical braking available in the event the battery bank is fully charged, in emergencies, or at rest; a control mechanism is provided to control the brake system to provide linear brake feel under varying circumstances.

IV. Claim Construction

The parties request the Court to construe a number of terms appearing in the patents-in-suit. In their respective briefing and during the claims construction hearing, the parties focused their arguments on claims 1, 2, 9, 11, 32, and 38 of the '970 patent, claims 1-3, 13, 15, and 30 of the '672 patent, and claim 1 of the '088 patent. The asserted claims are repeated below, patent by patent, followed by their respective construction:

The '970 Patent, ***Claim 1:***

A hybrid electric vehicle, comprising:
two or more drive wheels receiving torque for propelling said vehicle from an output shaft, and a power unit supplying drive torque to said output shaft, said power unit comprising:

a controllable torque transfer unit adapted to receive torque from two sources via first and second input shafts and transmit said torque to said output shaft;

an engine adapted to consume combustible fuel and supply torque to said torque transfer unit;

an electric motor adapted to receive electricity from a battery and supply torque to said torque transfer unit, said motor also being adapted to be operated as a generator, whereupon said motor receives torque and generates electric energy;

a battery for supply of stored electric energy to said motor, and for receiving and storing electric energy from said motor when operated as a generator; and

a controller for controlling the operation of said engine, said electric motor, and said torque transfer unit, such that said torque transfer unit receives torque from either or both of said internal combustion engine and said electric motor via said first and second input shafts and transmits torque therefrom to said drive wheels by way of said output shaft, and for controlling the relative contributions of the internal combustion engine and electric motor to the torque driving the wheels;

wherein the relative ratios of the rates of rotation of said engine and said electric motor to said input shafts, and the relative ratio of the rate of rotation of an output member of said torque transfer unit to the rate of rotation of said driven wheels, are fixed.

The '970 Patent, ***Claim 2:***

The vehicle of claim 1, wherein said controller means controls flow of combustible fuel to said engine and of electrical energy to said motor, whereby said vehicle may be operated in a variety of operating modes selected dependent on desired vehicle performance.
The '970 Patent, *Claim 7* FN1*:*

FN1. Although the parties have not requested construction of any term in claim 7, the claim is set forth as claim 9, for which claim construction has been requested, depends from claim 7.

A hybrid electric vehicle comprising:
two or more drive wheels receiving torque for propelling said vehicle from an output shaft, and a power unit supplying drive torque to said output shaft, said power unit comprising:

a controllable torque transfer unit adapted to receive torque from two sources and transfer said torque to said output shaft;

an engine adapted to consume combustible fuel and supply torque to said torque transfer unit;

an electric motor adapted to receive electricity from a battery and supply torque to said torque transfer unit, said motor also being adapted to be operable as a generator;

a battery for supply of stored electric energy to said motor, and for receiving and storing electric energy from said motor when operated as a generator; and

a controller for controlling the operation of such engine, said electric motor, and said torque transfer unit such that said torque transfer unit receives torque from either or both of said internal combustion engine and said electric motor and transmits and for controlling the relative contributions of the internal combustion engine and electric motor to the torque driving the wheels, and

wherein said battery provides a maximum current of no more than about 75 amperes at a voltage selected responsive to the characteristics of said motor.

The '970 Patent, ***Claim 9:***

The vehicle of claim 7, wherein said electric motor is an AC motor, said vehicle further comprises solid state switching means, and said battery provides DC to said switching means, said switching means

comprising means for converting said DC supplied by said battery to AC for supply to said electric motor, and further comprising means for rectifying AC generated by said motor when operated in a regenerative mode to provide DC to charge said battery.

The '970 Patent, ***Claim 11:***

A hybrid electric vehicle, comprising:
two or more drive wheels receiving torque for propelling said vehicle from an output shaft, and a power unit supplying drive torque to said output shaft, said power unit comprising:

a controllable torque transfer unit adapted to receive torque from two sources and transfer said torque to said output shaft;

an engine adapted to consume combustible fuel and supply torque to said torque transfer unit;

an AC electric motor adapted to receive electric energy from a battery and supply torque to said torque transfer unit, said motor being further adapted to be operable as a generator;

a battery for supply of stored electric energy to said motor, and for receiving and storing electric energy from said motor when operated as a generator;

solid state switching means for converting DC supplied by said battery to AC for supply to said electric motor, and for rectifying AC generated by said motor when operated in a regenerative mode to provide DC to charge said battery; and

a controller for controlling the operation of said engine, said electric motor, said solid state switching means, and said torque transfer unit, such that said torque transfer unit receives torque from either or both of said internal combustion engine and said electric motor and transmits torque therefrom to said drive wheels by way of said output shaft, and for controlling the relative contributions of the internal combustion engine and electric motor to the torque driving the wheels.

The '970 Patent, ***Claim 32:***

A hybrid electric vehicle, comprising:
a controllable torque transfer unit, operable to transfer torque in three modes: (a) from either or both of two input shafts to an output member, said output member transmitting torque to drive wheels of said vehicle; (b) between said input shafts; and (c) from said output member to one or both of said input shafts;

an electric motor adapted to apply torque to a first of said input shafts responsive to supplied electrical energy, said motor further being operable in a generator mode, to provide electrical energy when driven by torque transferred thereto via said first input shaft;

a combustible-fuel-burning internal combustion engine adapted to apply torque to a second of said input shafts;

a battery adapted to supply electrical energy to and store energy received from said electric motor; and

a controller adapted to receive input commands from a driver of said vehicle to monitor operation of said vehicle and to control operation of said controllable torque transfer unit, said motor, and said internal

combustion engine, wherein said controller comprises means for performing the following functions responsive to input commands and monitored operation of said vehicle:

selecting an appropriate mode of operation of said vehicle from at least the following possible modes of operation:

low speed running;

steady state running;

acceleration or hill climbing;

battery charging;

braking; and

engine starting;

selecting the appropriate flow paths of electrical energy and/or combustible fuel and of torque to effectuate the selected mode of operation; and

controlling operation of said controllable torque transfer unit, said electric motor and said internal combustion engine in accordance with said selected appropriate flow paths and selected mode of operation.

The '970 Patent, ***Claim 38:***

38. The vehicle of claim 32, wherein said battery supplies DC electrical energy, said electric motor operates on AC energy, said vehicle further comprising a solid state switching network for conversion of DC to AC for powering said motor, and wherein said controller controls operation of said switching network such that said DC is converted to AC of appropriate characteristics to effectuate the mode of operation thus determined.

A. "torque"

The term "torque" appears throughout the claims of the patents-in-suit. Although neither party identified the term as requiring construction, both parties offered a definition of the term in their briefing: "rotary force." Paice's Opening Br., Dkt. No. 21, at 1 ("P.Br."); Paice Reply Br., Dkt. No. 27, at 2 ("P.Resp.Br."); Toyota Resp. Br., Dkt. No., 28, at 5 ("D.Resp.Br."). Paice argues that a definition is unnecessary as the term has a well-understood meaning. P. Resp. Br. at 2.

The Court finds that, although the term "torque" has a plain and ordinary meaning to persons of skill in the art, it will be formally construed for clarification. The patent indicates the term was used in accordance with its plain meaning. Therefore, the term **"torque"** will be construed as **"rotary force."**

B. "drive torque"

The term "drive torque" appears in claim 1 of the '970 patent. Though the parties initially disagreed regarding the appropriate construction of the term, P. Br. at 13 and T. Resp. Br. at 5, they now agree that the term should be construed as: "torque transmitted to the wheels to propel the vehicle." 5/4/05 Letter. The

Court finds this definition is consistent with the use of the term in the patent. The construction, however, will be amended to include the Court's definition of "torque."

Therefore, the claim term **"drive torque"** will be defined as **"rotary force transmitted to the wheels to propel the vehicle."**

C. "controllable torque transfer unit"

The claim term "controllable torque transfer unit" first appears in claim 1 of the '970 patent and then is used throughout the asserted claims. Paice argues that the term should be construed as "a multi-input device or component that is controlled to transfer variable amounts of torque." P. Br. at 13, citing '970 patent at 10:24-30; Claim Construction Hr. Tr. at 17-22; Paice Claim Construction Slide 16.

Toyota argues that the claim term is void of adequate structure because the only recited noun, "unit," fails to denote structure and because one of ordinary skill in the art would not generally understand the term to have a structural meaning. Toyota's Opening Br., Dkt. No. 22, at 8 ("T.Br."); T. Resp. Br. at 5-7; Claim Construction Hr. Tr. 55-67. Therefore, the term must be construed under the requirements of 35 U.S.C. s. 112, para. 6. T. Br. at 8-9. This entails an identification of the claimed function and then an identification of the corresponding structure disclosed in the patent specification to perform that function. T. Br. at 8-9.

Toyota argues that the recited functions for this term, are "receiv[ing] torque from two sources [ ] and transmit[ing] said torque to said output shaft" in claims 1, 7, and 11 and "transfer[ring] torque in three modes (a) from either or both of two inputs shafts to an output member, said output member transmitting torque to drive wheels of said vehicle; (b) between said input shafts; and from said output member to one or both of said input shafts" in claims 15 and 32. In support of the recited functions in claims 1, 7, and 11, Toyota cites the '970 patent at 22:5-7, 22:64-66, 23:41-43 and in support for the recited functions in claims 15 and 32, Toyota cites the '970 patent at 24:42-48 and 26:40-46. T. Br. at 9-10. Toyota then identifies the corresponding structure as: "[f]our constantly-meshing bevel gears, housing having teeth formed on its outer circumference, and locking devices of Fig. 11 of the '970 patent when used to controllably transfer torque and the equivalents of this disclosed structure." T. Br. at 9-10, citing the '970 patent, 15:32-63 and Figure 11.

Paice responds that the term does not invoke the "means-plus-function" requirements of s. 112, para. 6 because those of skill in the art at that time of the invention would understand this term as structure. P. Resp. Br. at 3-4. Paice also points out that the claim does not include the term "means" and notes that there is a strong presumption against invoking the s. 112, para. 6 requirements absent this term. *Id*. Toyota, Paice argues, has not overcome that strong presumption. *Id*.

Toyota argues that Paice fails to demonstrate that the term is structural-and that Paice merely seeks to import limitations from the specification into the claim language. T. Resp. Br. at 5. Paice's attempts to have the Court construe "unit" broadly enough "to cover every conceivable way or means for controlling the transfer of torque" must fail, argues Toyota. T. Resp. Br. at 6, citing Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206 (Fed.Cir.1998). Thus the term should be construed as invoking the requirements of s. 112, para. 6 and construed as Toyota proposes.

The term "controllable torque transfer unit" is used both in the patent claims and specification as indicative of structure. As the word "means" is not recited in the claim term, Toyota bears the burden to demonstrate,

by clear and convincing evidence, that the claim term is insufficient to connote structure to one of skill in the art at the time of the invention if it is to be construed as a means-plus-function term. Merely defining a claim term with functional language is insufficient to invoke s. 112, para. 6 requirements. Greenberg, 91 F.3d at 1583. It is a rare case where a claim term not including the word "means" is found to be a means-plus-function limitation. *See* Lighting World, Inc. v. Birchwood Lighting, Inc., 382 F.3d 1354, 1362 (Fed.Cir.2004) (noting that *Mas-Hamilton* is the only post- *Greenberg* case in which a claim term not using the word "means" was properly construed as a means-plus-function term).

Toyota has presented only attorney argument in an effort to overcome the presumption. In doing so, it falls short of its burden. In support of its efforts, Toyota cites the *Mas-Hamilton Group v. LaGard, Inc*. wherein the term "leaver moving element" was construed under the means-plus-function provisions. There, the Federal Circuit upheld this construction finding that the district court properly concluded that one of skill in the art would not generally understand the term as structure. 156 F.3d at 1213. Toyota has presented no evidence in this case, however, from which this Court can draw such a conclusion for the term "controllable torque transfer unit."

For these reasons, the claim term **"controllable torque transfer unit"** is defined as **"a multi-input device or component that is controlled to transfer variable amounts of torque [rotary force]."**

D. "input shafts"

The term "input shafts" appears throughout the claims of the '970 patent. Though the parties initially disagreed regarding the appropriate construction of the term, P. Br. at 13-14, P. Resp. Br. at 4-5, T. Resp. Br. at 8, they now agree that the term should be construed as: "the mechanical components that transfer torque between the engine and motor, respectively, and the controllable torque transfer unit." 5/4/05 Letter.

The Court finds that this definition is consistent with the use of the term in the patent and therefore will construe the term **"input shafts"** as **"the mechanical components that transfer torque between the engine and motor, respectively, and the controllable torque transfer unit."**

E. "a controller for controlling the operation of ... and for controlling the relative contributions of ..."

This claim term appears in claims 1 and 2 of the '970 patent. Paice argues that the term should be construed as "a computerized control device." P. Br. at 14, citing the '970 patent, 10:4-5 and Figure 3; P. Resp. Br. at 5. Toyota initially offered a construction requiring the invocation of s. 112, para. 6, T. Br. at 10 and T. Resp. Br. at 8-10, but has since offered a revised construction: "a computerized control device that performs all of the recited functions." 5/4/05 Letter.

Having considered the claim language and the patent specification, it appears that claim term plainly refers to a computerized control device. *See* '970 patent, 10:4-5 and Figure 3. The parties agree on this much. Toyota's proffered construction also requires that the device "perform[ ] all of the recited functions." The Court finds that the device is necessarily required to perform the recited functions and that it is unnecessary to state this requirement in the claim construction.

Therefore, the claim term **"a controller for controlling the operation of ... and for controlling the relative contributions of ..."** is construed as **"a computerized control device for controlling the operation of ... and for controlling the relative contributions of ..."**

F. "output member"

The term "output member" appears in claim 1 of the '970 patent. The parties agree that the term should be construed as: "A mechanical component that transfers the drive torque out of the controllable torque transfer unit." 5/4/05 Letter.

The Court finds that this definition is consistent with the use of the term in the patent and therefore will construe the term **"output member,"** consistent with the Courts previous constructions, as **"a mechanical component that transfers the drive torque [rotary force] out of the controllable torque transfer unit [a multi-input device or component that is controlled to transfer variable amounts of torque (rotary force)]."**

G. "controller means"

The claim term "controller means" first appears in claim 2 of the '970 patent, which depends from claim 1. The term is used to refer to the same controller as set forth in the above construction of the term "a controller for controlling the operation of ... and for controlling the relative contributions of...." The parties' proposed constructions for this term in claim 2 are identical to those proposed for the related term in claim 1. P. Br. at 15; P. Resp. Br. at 6; 5/4/05 Letter.

For the reasons set forth above, the Court construes **"controller means"** as **"a computerized control device."**

H. "operating mode"

"Operating mode" first appears in claim 2 of the '970 patent; the related term "mode of operation" also appears in claims 32 and 38. The terms are used interchangeably and therefore the same claim construction applies. *See* T. Br. at 12, fn. 8; T. Resp. Br. at 11, fn. 4.

Paice argues that the term is a "simple non-technical term and should be given its ordinary and accustomed meaning." P. Br. at 15. Paice proposes construing the term as a "mode or state of operation." Id.; Claim Construction Hr. Tr. at 23-26; Paice Claim Construction Slide 25.

Toyota argues that the term should be construed as: "a discreet type of operation that differs from other types of operation by the source and/or direction of the flow of energy and torque in the system." 5/4/05 Letter. This proposal is different from the initial construction Toyota proposed: "a mode of operation that is determined by the selection of torque needed to propel the vehicle." T. Br. at 12-13 and 22-23. Toyota argues that Paice's proposed construction is overly broad, failing to reflect the particularized meaning with which the term is used in the patent claims and specification and insufficiently discrete to be selective. T. Resp. Br. at 11-12; Claim Construction Hr. Tr. at 71.

Upon review of the claims and the patent as a whole, it is apparent that the inventor used the term to refer specifically to different states of operation characterized by the source and/or direction of the flow of energy and/or torque in the system. *See* '970 patent at 6:26-30 ("Typically, the electric motor operates under battery power during low speed operation ... In this mode of operation, the energy transfer efficiency from the batteries to the wheels is very high."); 10:44-51 ("FIGS. 4-9 are schematic illustrations of the operation of the parallel hybrid vehicle of the invention ... [and the] flow of potential energy-either electrical energy, or combustible fuel-is shown in dot-dash lines, while flow of mechanical energy, that is, torque, is shown by

dashed lines."); 10:63-11:2; 11:61-68; 13:66-14:3; 14:22-26; 14:37-42; 14:54-56; 15:1-10; 15:66-163; 16:11-16; 16:39-42; 16:43-47; 16:55-61; 17:1-3; 17:34-37; 18:36-40; Figures 4-9; *see also* claim 3 (defining "modes" by the supply of energy and torque).

The common criteria with which the patentee consistently describes each mode of operation demonstrates that the patentee intended that each mode account for the flow of energy and torque. *See* Renishaw PLC V. Marposs Societa' Per Azioni, et al., 158 F.3d 1243, 53 (Fed.Cir.1998) (relying on a patentee's "extremely detailed account of his invention in the written description" as demonstrative of patentee's narrow use of a claim term). Thus, considering the patent as a whole, it is apparent that the patentee acted as his own lexicographer imparting a particularized meaning to the term "operational mode." Digital Biometrics, Inc. v. Identix, Inc., 149 F.3d 1335, 1344 (Fed.Cir.1998) ("The written description is considered, in particular to determine if the patentee acted as his own lexicographer, as our law permits, and ascribed a certain meaning to those claim terms."); *see also* DeMarini Sports, Inc. v. Worth, Inc., 239 F.3d 1314, 1327028 (Fed.Cir.2001). Where, as in the claims of the '970 patent, a patentee specifically defines a term, that definition controls.

Therefore, the term **"operating mode"** and **"mode of operation"** are defined as **"mode or state of operation determined by the source and/or direction of the flow of energy and/or torque [rotary force] in the system."**

I. "solid state switching means" and "solid state switching means for converting ... [and means] for rectifying"

The claim term "solid state switching means for converting ... [and means] for rectifying" appears in claim 11 of the '970 patent and the term "solid state switching means" appears in claim 9 of the '970 patent. The same construction is applicable to both of these terms. *See* P. Resp. Br. at 9; T. Br. at 13 and 18.

Paice argues that the term should be construed as "a solid-state circuit for converting DC to AC and rectifying AC to DC." P. Br. at 16; P. Resp. Br. at 8; Paice Claim Construction Slide 29; Claim Construction Hr. Tr. at 26-29. Paice argues that this is the plain meaning of the term.

Toyota argues that the claim term is void of adequate structure and, therefore, must be construed under the requirements of s. 112, para. 6. T. Br. at 18-20; *see also* Claims Construction Hr. Tr. at 67-70. Toyota argues that the recited functions for this term are "converting said DC supplied by said battery to AC for supply to said electric motor" and "rectifying AC generated by said motor when operated in a regenerative mode to provide DC to charge said battery." T. Br. at 18-19. Toyota argues that the corresponding structure for these functions is "a solid-state switching AC/DC converter/motor controller, which consists of a three-phase bridge circuit comprising six solid state devices connected in parallel with six flyback diodes and a microprocessor for controlling the operation of AC/DC converter/microcontroller." Id. at 19-20, citing '970 patent, 10:4-14, 18:43-55, and Figure 12.

Paice responds that, despite the use of "means" in the claim term, s. 112, para. 6 is not invoked because the claim "sufficiently describes to those of ordinary skill the structure to perform the functions of converting and rectifying." P. Resp. Br. at 8; *see also* P. Br. at 16-17. Paice notes, however, that if this term is construed as invoking s. 112, para. 6, its corresponding structure is "a solid state AC to DC and DC to AC converter." P. Resp. Br. at 8, citing '970 patent, 5:60-69.

Having examined the language of both claims 9 and 11 and the patent as a whole, it is apparent that the claims themselves do not disclose adequate structure for performing the claimed functions. Additionally, the claims use the term "means" followed by a description of the function to be performed. Thus, the requirements of s. 112, para. 6 are invoked. The functions recited for the "solid state switching means" are "converting said DC supplied by said battery to AC for supply to said electric motor" and "rectifying AC generated by said motor when operated in a regenerative mode to provide DC to charge said battery."

After identifying the functions, the Court looks to the patent specification to identify the corresponding structure. This structure is found in the '970 patent, 5:60-69:

It is a further object of the invention to provide a solid-state switching power converter for converting DC power provided by the batteries of a parallel hybrid electric vehicle to AC power of higher frequency than conventionally employed for supply to an AC induction motor for powering the vehicle as needed, and for converting mechanical energy provided to the induction motor when operated as a generator to DC energy for charging the batteries as required.

See, e.g. Signtech USA, Ltd. v. Vutek, Inc., 174 F.3d 1352, 1355-56 (Fed.Cir.1999) (affirming the construction of a means-plus-function limitation where the summary of the invention disclosed the corresponding structure). This disclosed structure, a solid state switching power converter, performs both of the recited functions.

Therefore, the claim terms **"solid state switching means"** and **"solid state switching means for converting ... [and means] for rectifying"** are construed **"a solid-state switching power converter for converting DC to AC and rectifying AC to DC"** and equivalents therefore.

J. "means for performing the following functions responsive to input commands and monitored operation of said vehicle: selecting an appropriate mode of operation ..."

The term "means for performing the following functions responsive to input commands and monitored operation of said vehicle: selecting an appropriate mode of operation ..." appears in claim 32 of the '970 patent. Though the parties initially disagreed regarding the appropriate construction of the term, P. Br. at 18-19, P. Resp. Br. at 9, T. Br. at 13-14, they now agree that the term should be construed as: "Means plus function: A computerized control device and associated components for selecting an operating mode and controlling the engine, motor, and battery to implement that mode." 5/4/05 Letter.

The Court finds that this definition is consistent with the use of the term in the patent and therefore will construe the term **"means for performing the following functions responsive to input commands and monitored operation of said vehicle: selecting an appropriate mode of operation ..."** as **"Means plus function: A computerized control device and associated components for selecting an operating mode [mode or state of operation determined by the source and/or direction of the flow of energy and/or torque (rotary force) in the system] and controlling the engine, motor, and battery to implement that mode."**

K. "low speed running [mode]"

Paice argues that the term "low speed running [mode]" is expressly defined in the patent and therefore should be construed as "the vehicle is powered by the motor." P. Br. at 19; P. Resp. Br. at 10; Claim Construction Hearing Tr. at 29-40. Toyota argues that the term should be construed as "a mode of operation

in which energy is provided solely by the battery and torque to the drive wheels is provided solely by the motor." 5/4/05 Letter.

The term "low speed running [mode]" appears in claim 32 of the '970 patent as one of the modes of operation of the claimed vehicle. The term "mode of operation" in claim 32 is used in the same way the term is used in claims 9 and 11, construed above. Thus, the same claim construction is applicable, a "mode or state of operation determined by the source and/or direction of the flow of energy and/or torque in the system." The construction of "low speed running [mode]" must account for the source and/or direction of the flow of energy and/or torque. This is described in the '970 patent at 10:52-66 and Figure 4.

Therefore, the term **"low speed running [mode]"** is construed as **"the mode of operation in which energy flows from the battery to the motor and torque [rotary force] flows from the motor to the road wheels."**

L. "steady state running [mode]"

Paice argues that the term "steady state running [mode]" is expressly defined in the patent and therefore should be construed as "the vehicle is powered by the engine." P. Br. at 19-20; P. Resp. Br. at 11; Claim Construction Hr. Tr. at 31-40. Toyota argues that the term should be construed as "a mode of operation in which energy and torque to the drive wheels are provided solely by the engine." 5/4/05 Letter.

The term "steady state running [mode]" appears in claim 32 of the '970 patent as one of the modes of operation of the claimed vehicle. For the same reasons that the construction of "low speed running [mode]" had to account for the source and/or direction of the flow of energy and/or torque, so must the construction of "steady state running [mode]." This is described in the '970 patent at 13:66-14:7 and Figure 5.

Therefore, the term **"steady state running [mode]"** is construed as **"the mode of operation in which energy flows from the tank into the engine and torque [rotary force] flows from the engine to the road wheels."**

M. "acceleration or hill climbing [mode]"

Paice argues that the term "acceleration or hill climbing [mode]" is expressly defined in the patent and therefore should be construed as "the vehicle is powered by the motor and the engine." P. Br. at 19-20; P. Resp. Br. at 11; Claim Construction Hr. Tr. at 31-40. Toyota argues that the term should be construed as "a mode of operation in which energy is provided by both the engine and the battery and torque to the drive wheels is provided by both the engine and the motor." 5/4/05 Letter.

The term "acceleration or hill climbing [mode]" appears in claim 32 of the ' 970 patent as one of the modes of operation of the claimed vehicle. For the same reasons that the construction of "low speed running [mode]" had to account for the source and/or direction of the flow of energy and/or torque, so must the construction of "acceleration or hill climbing [mode]." This is described in the '970 patent at 14:22-32 and Figure 6.

Therefore, the term **"acceleration or hill climbing [mode]"** is construed as **"the mode of operation in which energy flows from the battery to the motor and from the fuel tank to the engine and both the motor and the engine supply torque [rotary force] to the road wheels."**

N. "battery charging [mode]"

Paice argues that the term "battery charging [mode]" is expressly defined in the patent and therefore should be construed as "energy is generated by the engine to recharge the battery." P. Br. at 20; P. Resp. Br. at 12. Toyota argues that the term should be construed as "a mode of operation in which energy and torque are provided by the engine to drive the motor as a generator to charge the battery." 5/4/05 Letter.

The term "battery charging [mode]" appears in claim 32 of the '970 patent as one of the modes of operation of the claimed vehicle. For the same reasons that the construction of "low speed running [mode]" had to account for the source and/or direction of the flow of energy and/or torque, so must the construction of "battery charging [mode]." This is described in the '970 patent at 15:1-10 and Figure 9.

Therefore, the term **"battery charging [mode]"** is construed as **"the mode of operation in which energy flows from the fuel tank to the engine and the engine drives the motor to generate energy to charge the battery and in which the engine may supply torque [rotary force] to the road wheels."**

O. "braking [mode]"

Paice argues that the term "braking [mode]" is expressly defined in the patent and therefore should be construed as "energy is generated by the motor to recharge the battery." P. Br. at 20; P. Resp. Br. at 12-13. Toyota argues that the term should be construed as "a mode of operation in which energy and torque are provided by the drive wheels to drive the motor as a generator to charge the battery." 5/4/05 Letter.

The term "braking [mode]" appears in claim 32 of the '970 patent as one of the modes of operation of the claimed vehicle. For the same reasons that the construction of "low speed running [mode]" had to account for the source and/or direction of the flow of energy and/or torque, so must the construction of "braking [mode]." This is described in the '970 patent at 14:37-53 and Figure 7.

Therefore, the term **"braking [mode]"** is construed as **"the mode of operation in which energy from the vehicle flows back from the road wheels to the motor to generate energy for storage in the battery."**

P. "engine starting [mode]"

Paice argues that the term "engine starting [mode]" is expressly defined in the patent and therefore should be construed as "the motor is used to start the engine." P. Br. at 20-21; P. Resp. Br. at 13. Toyota argues that the term should be construed as "a mode of operation in which energy is provided by the battery and torque is provided by the motor to the engine to start the engine." 5/4/05 Letter.

The term "engine starting [mode]" appears in claim 32 of the '970 patent as one of the modes of operation of the claimed vehicle. For the same reasons that the construction of "low speed running [mode]" had to account for the source and/or direction of the flow of energy and/or torque, so must the construction of "engine starting [mode]." This is described in the '970 patent at 14:53-64 and Figure 8.

Therefore, the term **"engine starting [mode]"** is construed as **"the mode of operation in which energy flows from the battery to the motor and the motor supplies torque [rotary force] to the engine and to the road wheels."**

Q. "solid state switching network"

The term "solid state switching network" appears in claim 38 of the '970 patent. Though the parties initially disagreed regarding the appropriate construction of the term, P. Br. at 21; P. Resp. Br. at 13-14; T. Resp. Br. at 17-18, they now agree that the term should be construed as: "A solid-state circuit for converting DC to AC and rectifying AC to DC." 5/4/05 Letter.

The Court finds that this definition is consistent with the use of the term in the patent and therefore will construe the term **"solid state switching network"** as **"a solid-state circuit for converting DC to AC and rectifying AC to DC."**

The '672 Patent, ***Claim 1:***

A hybrid vehicle, comprising:
a controller capable of accepting inputs indicative of vehicle operating parameters and providing control signals in response to a control program;

a battery bank;

an internal combustion engine;

a first electric starting motor electrically coupled to said battery bank for (a) accepting electrical energy from said battery bank and (b) providing electrical energy to said battery bank, and said first motor being mechanically coupled to said internal combustion engine, the combination of said internal combustion engine and said first electric motor being mechanically coupled to a clutch controlled by said controller for controllable torque-transmitting connection between said combination and road wheels of said vehicle,

said first motor being responsive to commands from said controller, such that said first electric motor can be controlled to (1) accept torque from said engine to charge said battery bank, (2) accept energy from said battery bank to apply torque to said engine for starting said engine, (3) accept energy from said battery bank to apply torque to said road wheels to propel said vehicle, and (4) accept torque from said road wheels to charge said battery bank; and

a second electric traction motor, electrically coupled to said battery bank, such that said second electric motor can be controlled for (a) accepting electrical energy from said battery bank and (b) providing electrical energy to said battery bank, said second motor being directly coupled to road wheels of said vehicle, without a controllable clutch disposed therebetween, such that said second motor is permanently connected to said road wheels for torque transmission therebetween, and said second motor being responsive to commands from said controller in order to (1) accept energy from said battery bank to apply torque to said road wheels to propel said vehicle, and (2) accept torque from said road wheels to charge said battery bank.

The '672 Patent, ***Claim 2:***

The hybrid vehicle of claim 1, wherein said controller is provided with signals indicative of the instantaneous road load experienced by said vehicle and of the state of charge of said battery bank, and controls operation of said engine, said clutch, and said first and second motors so that said vehicle is operated in a plurality of operating modes responsive to said signals.
The '672 Patent, ***Claim 3:***

The hybrid vehicle of claim 2 wherein said signal indicative of the instantaneous road load experienced by said vehicle is determined by said controller at least in part by monitoring commands provided by the vehicle operator.

The '672 Patent, ***Claim 13:***

The hybrid vehicle of claim 1, wherein the total torque available at the road wheels from said engine is no greater than the total torque available from said first and second motors combined.

The '672 Patent, ***Claim 15:***

A method for controlling the operation of a hybrid vehicle operable in a plurality of differing modes, comprising the steps of:

providing a hybrid vehicle comprising an internal combustion engine for providing torque up to a maximum torque output (MTO), said engine being controllably coupled to road wheels of said vehicle by a clutch, a traction motor being coupled to road wheels of said vehicle, a starting motor coupled to said engine, both said motors being operable as generators, a battery bank for providing electrical energy to and accepting energy from said motors, and a controller for controlling operation of said engine, clutch, and first and second motors, and controlling flow of electrical energy between said motors and said battery bank,

and operating said controller to control selection of the operational mode of said vehicle between a low-speed mode I, a cruising mode IV, and an acceleration mode V, wherein torque to propel said vehicle is provided by said traction motor, said engine, and both, respectively, in response to monitoring the instantaneous torque requirements required for propulsion of the vehicle (RL).

The '672 Patent, ***Claim 30:***

A hybrid vehicle operable in a plurality of differing modes, said vehicle comprising an internal combustion engine for providing torque up to a maximum torque output (MTO) and at least one traction motor being coupled to road wheels of said vehicle, said at least one motor being operable as a generator, a battery bank for providing electrical energy to and accepting energy from said motor, a controller for controlling operation of said engine and said at least one motor, and controlling flow of electrical energy between said motor and said battery bank, and at least one controllable inverter/charger connected between said motor and said battery bank, said controllable inverter/charger comprising a plurality of pairs of elements controllably switched in response to commands from said controller for operating said motor to supply propulsive torque to said road wheels in response to energy from said battery bank, and for converting torque transmitted from said road wheels to said motor into energy for recharging said battery bank, wherein said battery bank is configured as a number of batteries connected by normally-open switching devices, such that said batteries are electrically isolated from one another in the event power is cut off from said switching devices.

R. "clutch"

The term "clutch" first appears in claim 1 of the '672 patent but is used in several of the '672 patent claims. Paice argues that "clutch" should be construed as "a device that selectively permits or prohibits transfer of torque and rotation." P. Br. at 22; P. Resp. Br. at 14-15; Claim Construction Hr. Tr. at 41-46; Paice Claim Construction Slides 54-55. The term is used according to its plain meaning, Paice argues, and this proposed construction sets forth that meaning. P. Br. at 22-23, citing '672 patent, 13:25-26, 19:20-56, 19:39-52, and 12:62-66.

Toyota argues that the term should be construed as: "A mechanical device that selectively engages to transfer torque or rotation and disengages to stop the transfer of torque or rotation. The device cannot be an unlockable planetary gear set used as a continuously variable ratio transmission." 5/4/05 Letter. Toyota cites the '672 patent at 9:38-50 and at 8:57-65 arguing that, in these discussions of prior art, the inventor excluded certain structural devices, such as a planetary gearset that cannot be locked, from the definition of "clutch" as used in the patent. T. Br. at 30-31; T. Resp. Br. at 18; *see also* Claim Construction Hr. Tr. at 84. Toyota argues that the inventor excluded these devices from the invention in order to claim over the prior art and that Paice cannot recapture in claim construction what was excluded during prosecution. Id. To now construe "clutch" as including planetary gearsets that cannot be locked, Toyota argues, would render the patent invalid in light of the prior art. T. Resp. Br. at 19. Because patents are to be construed to maintain their validity, Toyota argues, "clutch" must be construed to exclude the disclaimed devices. Id. at 19-20.

Paice responds that there is no clear and unambiguous disavowal of structure and that, instead, the passages Toyota cites for this proposition amount to "an acknowledgement that a planetary gearset can be used as a clutch when used properly." P. Resp. Br. at 14. Paice further argues that other passages in the specification demonstrate that the inventor contemplated the use of planetary gearsets within the scope of the invention. P. Resp. Br. at 15, citing '672 patent, 22:4-9.

The parties essentially agree, as Paice notes, on the plain meaning of "clutch." P. Resp. Br. at 14. Their disagreement stems from the alleged disclaimer of certain of potential "clutches ."

There is "a 'heavy presumption' that claim terms carry their full ordinary and customary meaning unless the patentee unequivocally imparted a novel meaning to those terms or expressly relinquished claim scope during prosecution." Omega Eng'g, Inc., v. Raytek Corp., 334 F.3d 1314, 1323 (Fed.Cir.2003). In order to modify the claims by importing a limitation, a disavowal of claim scope must be "clear and unambiguous." *See* Innova/Pure Water, Inc., v. Safari Water Filtration Sys., 381 F.3d 1111, 1123-1124 (Fed.Cir.2004).

It is in the following passages that Toyota argues the inventor manifestly disavowed coverage of a planetary gearset that does not lock from the "clutch" in the '672 patent:

According to the Wilson article, Toyota describes this vehicle as a "series-parallel hybrid"; regardless of the label applied, its powertrain appears to be similar to that of the Berman patents described above, that is, torque from either or both of an internal combustion engine and an electric motor are controllably combined in a "power-split mechanism" and transmitted to the drive wheels through a planetary gearset providing the functionality of a variable-ratio transmission.

* * *

It will be appreciated by those of skill in the art that there are significant limitations inherent in the use of planetary gearsets as a means for connecting different sources, e.g., an internal combustion engine and an electric motor, to the drive wheels of a vehicle, namely, that unless the planetary gearset is effectively locked (anathematic to its use as a continuously-variable transmission, e.g., in the Toyota vehicle) it is capable of additive combination of shaft speeds, but not of output torque. Hence, the principal advantage of the parallel hybrid drivetrain, additive combination of the output torque of both the electric motor and the internal combustion engine, is only available when the planetary gearset is locked. This fact is acknowledged by Lateur, for example, at col. 6, line 27.
'672 patent, 8:57-65 and 9:38-50.

These passages do not amount to clear and unambiguous disavowal of claim scope. It appears, at least from the second passage, that the inventor acknowledged that a planetary gearset includes the ability to act as a clutch. Without a stronger showing of disavowal, the claim is presumed to carry its ordinary meaning.

Therefore, the term **"clutch"** is construed as **"a device that selectively permits or prohibits transfer of torque [rotary force] and rotation."**

S. "controllable clutch"

The term "controllable clutch" first appears in claim 1 of the '672 patent. Paice argues that the term should be construed in accordance with its plain meaning, as "a clutch that is capable of being controlled by a controller." P. Br. at 23; *see also* P. Resp. Br. at 15. Toyota agrees with Paice's construction, provided the term "clutch" is construed as Toyota argued for above. 5/4/05 Letter.

In accordance with plain meaning of the term, the Court will construe the term **"controllable clutch"** as **"a clutch [device that selectively permits or prohibits transfer of torque (rotary force) and rotation] that is capable of being controlled by a controller."**

T. "directly coupled"

The term "directly coupled" first appears in claim 1 of the '672 patent. Paice argues that the term should be construed as "mechanically connected without a clutch in between." P. Br. at 22-23. Paice argues that the prosecution history supports this definition as, after an obviousness rejection, the inventor amended the proposed claim language to indicate that the traction motor in the claimed vehicle is "directly and permanently" connected to the road wheels without a clutch therebetween. Id. citing '672 File History, September 27, 2000 Amendment at 8; *see also* Paice Claim Construction Slides 62-63; Claim Construction Hr. Tr. at 45-46. Paice cites passages in the patent to demonstrate that the patentee expressly contemplated embodiments of the claimed vehicle including intervening structural elements between the traction motor and road wheels. P. Resp. Br. at 16-17, citing ' 672 patent, Figures 3 and 4.

Toyota argues that the proper construction for "directly coupled" is "mechanically coupled without any intervening clutch or gear train components other than differential." 5/4/05 Letter. Toyota first argued in favor of construing the term as "connected without any intervening structural elements," based upon the same prosecution history amendment cited by Paice. T. Br. at 28-29. Toyota opposed Paice's proffered definition as overly broad, contrary to the ordinary meaning of the term, and without support: "Paice bases its construction on the false belief that one of ordinary skill in the art would understand the phrase 'directly connected' to mean that any component in a vehicle drivetrain that impacts how torque is directed within the claimed vehicle, *except for the clutch,* can be disposed between the traction motor and the road wheels." T. Resp. Br. at 20 (emphasis supplied). Though Toyota's proposed definition has broadened somewhat, it is clear Toyota seeks a construction that requires a direct and permanent connection of the traction motor to the road wheels as this limitation was added to overcome prior art. T. Br. at 29.

The claim language itself is clear that the coupling between the traction motor and road wheels must be permanent and that no clutch can be placed between the two: "said second motor being directly coupled to road wheels of said vehicle, without a controllable clutch disposed therebetween, such that said second motor is permanently connected to said road wheels for torque transmission therebetween...." The claim language, however, supports no further limitations.

An examination of the patent specification demonstrates that there is a "direct connection" between the traction motor and the road wheels even where a differential and drive are placed between the two:

A relatively high-powered "traction" motor is *connected directly* to the output shaft of the vehicle; the traction motor provides torque to propel the vehicle in low-speed situations, and provides additional torque when required, e. g., for acceleration, passing, or hill-climbing during highspeed driving.

* * *

In the FIG. 3 embodiment, a traction motor 25 is *connected directly* to the vehicle differential 32, and thence to the road wheels 34. A starting motor 21 is *connected directly* to the internal combustion engine 40.

* * *

In [Fig. 4], the output shaft of starting motor 21 is shown connected to that of engine 40 by spur gears and traction motor 25 is *connected* to the output shaft 55 by drive indicated at 54. Numerous other arrangements will occur to those of skill in the art. However, *in each case there is no variable-ratio transmission between the sources of torque-that is, the motors 21 and 25, and the engine 40-and the road wheels 34*.
'672 patent, 13:2-7, 19:19:21, and 22:11-19 (all emphasis added). The claim language, specification, and figures demonstrate that the "direct coupling" in claim 1 requires a connection between the traction motor and the road wheels that is permanent and that cannot be disengaged. *See also* '672 File History, September 27, 2000 Amendment at 8 ("According to applicant's invention, only the starter motor and engine need to be disconnectible from the wheels for smooth starting, while the traction motor can be connected to the road wheels at all times."). It does not, however, include the limitation that no gear train components other than a differential can be placed between these structural elements.
Therefore, the term **"directly coupled"** is construed as **"mechanically and permanently connected without a clutch [a device that selectively permits or prohibits transfer of torque (rotary force) and rotation] or other structural elements that disengage the connection between the motor and road wheels."**

U. "instantaneous road load," "road load," and "RL"

The term "instantaneous road load" first appears in claim 2 of the '672 patent and then in several other claims in the patent. The parties agree that the term should be construed consistently throughout the claims. P. Br. at 24; T. Br. at 25. Further, "instantaneous road load," "road load," and the symbol "RL" are used interchangeably in the patent and its claims and will be construed with the same definition. *See* P. Br. at 25; T. Br. at 25.

Paice argues that the term should be construed as "instantaneous torque required for propulsion of the vehicle." P. Br. at 24; Claim Construction Hr. Tr. at 46-48; Paice Claim Construction Slide 65. Paice argues that this definition is expressly set forth in claim 15 and, as such, this definition should control.

Toyota argues that the term should be construed as "an input parameter based on the instantaneous amount of torque required to propel the vehicle, which cannot be determined solely by detecting a combination of vehicle speed, accelerator pedal position, shift position, braking state, battery charge and/or previously determined relationships laid out in a multi-dimensional 'map' of sorted values ." 5/4/05 Letter. Toyota agrees that the '672 patent uses "road load" to refer to the vehicle's "instantaneous torque requirements" but maintains that Paice's construction is incorrect. T. Br. at 25; *see also* P. Resp. Br. at 17. Its definition, Toyota argues, accounts for the patentee's disclaimer during prosecution. In order to distinguish the invention of the

' 672 patent over prior art, the patentee "defined and clarified the phrase ... as depending on inputs different from those disclosed in the prior art." T. Br. at 25; T. Resp. Br. at 21-22. Toyota argues that the inventor, in distinguishing the '672 invention from the prior art, "disclaimed any system in which 'road load' is determined only using [the] parameters set forth in the prior art (i .e., vehicle speed, accelerator position, brake state, and shift position)." T. Br. at 26-27; *see also* Claim Construction Hr. Tr. at 84-88; T. Resp. Br. at 21-22.

Paice responds that Toyota conflates the term "road load" with the measured parameters that may be used to derive road load. Paice argues that the passages Toyota cites from the prosecution history are only representations by the patentee regarding how the mode switching determinations were made in certain prior art and is not a disavowal of road load calculated using certain input parameters. P. Resp. Br. at 18-20. Instead of having to disclaim parameters used in the prior art to determine road load, Paice argues, a distinguishing feature of the '672 invention is that road load is used to control determination of operational mode. P. Resp. Br. at 18-19.

Claim 15 of the '672 patent defines "road load" as "instantaneous torque required for propulsion of the vehicle." The use of the term in the patent specification does not conflict with this definition. *See* '672 patent, 28:58-61. The parties agree that the term means at least this much.

The prosecution history cited by Toyota in support the additional limitations it seeks-"which cannot be determined solely by detecting a combination of vehicle speed, accelerator pedal position, shift position, braking state, battery charge and/or previously determined relationships laid out in a multi-dimensional 'map' of sorted values"-does not amount to the clear and unambiguous disavowal necessary for inclusion of these limitations in claim construction. In discussing the Koide reference, the patentee acknowledges the input parameters used to control the vehicle's operating mode. '672 File History, September 27, 2000 Amendment at 12. The patentee then distinguishes the invention of the '672 patent from the Koide and Schmidt-Bruken prior art references because those references "explicitly teach controlling the vehicle operating mode in response to vehicle speed, not road load." Id. This does not amount to disavowing the use of those same parameters found in the prior art to calculate "road load."

Therefore, the term **"road load," "instantaneous road load,"** and **"RL"** are construed as **"instantaneous torque [rotary force] required for propulsion of the vehicle."**

V. "monitoring commands provided by the vehicle operation"

The term "monitoring commands provided by the vehicle operation" appears in claim 3 of the '672 patent. Though the parties initially disagreed regarding the appropriate construction of the term, P. Br. at 25, P. Resp. Br. at 20, T. Resp. Br. at 22, they now agree that the term should be construed as: "determining the vehicle operator's input commands." 5/4/05 Letter.

The Court finds that this definition is consistent with the use of the term in the patent, but that changing the term "monitoring" to "determining" is unnecessary. "Monitoring" is a plainly understood term and does not need further construction. Therefore, the Court construes the term **"monitoring commands provided by the vehicle operation"** as **"monitoring the vehicle operator's input commands."**

W. "total torque available at the road wheels from said engine"

The term "total torque available at the road wheels from said engine" appears in claim 13 of the '672 patent.

Though the parties initially disagreed regarding the appropriate construction of the term, P. Br. at 26, P. Resp. Br. at 20-21, T. Resp. Br. at 22, they now agree that the term should be construed as: "The maximum torque that the engine delivers to the wheels." 5/4/05 Letter.

The Court finds that this definition is consistent with the use of the term in the patent and therefore will construe the term **"total torque available at the road wheels from said engine"** as **"the maximum torque [rotary force] that the engine delivers to the wheels."**

X. "operating said controller to control selection between a low-speed mode I, a cruising mode IV, and an acceleration mode V"

The term "operating said controller to control selection between a low-speed mode I, a cruising mode IV, and an acceleration mode V" appears in claim 15 of the '672 patent. Though the parties initially disagreed regarding the appropriate construction of the term, P. Br. at 27, P. Resp. Br. at 21, T. Resp. Br. at 23, they now agree that the term should be construed as: "operating the computerized control device such that it controls whether torque to propel the vehicle is provided by the motor, the engine or the motor or engine." 5/4/05 Letter.

The Court finds that this definition is consistent with the use of the term in the patent and therefore construes the term **"operating said controller to control selection between a low-speed mode I, a cruising mode IV, and an acceleration mode V"** as **"operating the computerized control device such that it controls whether torque [rotary force] to propel the vehicle is provided by the motor, the engine or the motor or engine."**

Y. "low-speed mode I"

Paice argues that the term "low-speed mode I" is expressly defined in the patent and therefore should be construed as "the vehicle is powered by the motor." P. Resp. Br. at 21-22. Toyota agrees that the term is expressly defined in the patent, but argues that the it should be construed as "a mode of operation in which the clutch is disengaged, energy is provided solely by the battery and torque to drive the wheels is provided solely by the motor." 5/4/05 Letter; *see also* T. Br. at 23-25, citing '672 patent, Figure 8(b).

The term "low-speed mode I" appears in claim 15 of the '672 patent as one of the modes of operation of the claimed vehicle. The term "mode of operation" is construed as "mode or state of operation determined by the source and/or direction of the flow of energy and/or torque in the system." *See* construction infra. The construction of "low-speed mode I" must account for the source and/or direction of the flow of energy and/or torque. This is described in the '672 patent at 28:50-57 and Figure 8(a).

Therefore, the term **"low-speed mode I"** is construed as **"the mode of operation in which energy flows from the battery bank to the traction motor and torque [rotary force] flows from the traction motor to the road wheels."**

Z. "cruising mode IV"

Paice argues that the term "cruising mode IV" is expressly defined in the patent and therefore should be construed as "the vehicle is powered by the engine." P. Resp. Br. at 22-23. Toyota argues that the term should be construed as "a mode of operation in which the clutch is engaged and energy and torque to drive the wheels are provided solely by the engine." 5/4/05 Letter; see also T. Br. at 23-25 citing Figure 8(c).

The term "cruising mode IV" appears in claim 15 of the '672 patent as one of the modes of operation of the claimed vehicle. For the same reasons that the construction of "low-speed mode I" had to account for the source and/or direction of the flow of energy and/or torque, so must the construction of "cruising mode IV." This is described in the '672 patent at 29:6-29:22 and Figure 8(c).

Therefore, the term **"cruising mode IV"** is construed as **"the mode of operation in which energy flows from the tank into the engine and torque [rotary force] flows from the engine to the road wheels."**

AA. "acceleration mode V"

Paice argues that the term "acceleration mode V" is expressly defined in the patent and therefore should be construed as "the vehicle is powered by the motor and the engine." P. Resp. Br. at 23. Toyota agrees that the term is expressly defined in the patent, but argues that the it should be construed as "a mode of operation in which the clutch is engaged, energy is provided by the engine and battery and torque to drive the wheels is provided by the engine and motor." 5/4/05 Letter; *see also* T. Br. at 23-25, citing '672 patent, Figure 8(d).

The term "acceleration mode V" appears in claim 15 of the '672 patent as one of the modes of operation of the claimed vehicle. For the same reasons that the construction of "low-speed mode I" had to account for the source and/or direction of the flow of energy and/or torque, so must the construction of "acceleration mode V." This is described in the '672 patent at 29:23-29 and Figure 8(d).

Therefore, the term **"acceleration mode V"** is construed as **"the mode of operation in which energy flows from the fuel tank to the engine and from the battery bank to at least one motor and torque [rotary force] flows from the engine and at least one motor to the road wheels."**

BB. "monitoring the instantaneous torque requirements required for propulsion of the vehicle (RL)"

Claim 15 of the '672 patent contains the term "monitoring the instantaneous torque requirements required for propulsion of the vehicle (RL)." Paice argues that the term should be construed, according to its plain meaning, as "determining the instantaneous torque requirements required for propulsion of the vehicle." P. Br. at 28.

Toyota argues the term should be construed as "monitoring an input parameter which reflects the instantaneous amount of torque required to propel the vehicle, but the monitoring must detect some input other than or an [SIC] addition to the combination of vehicle speed, accelerator pedal positions, shift position, braking state, battery charge and/or previously determined relationships laid out in a multi-dimensional 'map' of stored values." 5/4/05 Letter. Toyota's proposed construction reflects its position regarding the construction for "instantaneous road load" discussed above.

The Court finds it need look no further than the claim itself to arrive at the plain and ordinary meaning of this claim term and finds that no construction is required.

CC. "operating mode"

The term "operating mode" appears in claim 15 of the '672 patent. The parties are in agreement that the term should be construed the same way in the '672 patent as in the '970 patent and, after a review of the '672 patent claims and specification, the Court agrees. P. Br. at 28; T. Resp. Br. at 24. Therefore, the term

"operating mode" is construed as **"mode or state of operation determined by the source and/or direction of the flow of energy and/or torque [rotary force] in the system."**

DD. "at least one traction motor being coupled to road wheels of said vehicle"

The claim term "at least one traction motor being coupled to road wheels of said vehicle" appears in claim 30 of the '672 patent. Paice argues that the term should be construed as "at least one electric motor capable of imparting torque to the road wheels." P. Br. at 29; P. Resp. Br. at 24-26; *see also* Paice Claim Construction Slide 72.

Toyota initially argued that the claim term should be construed to require that the traction motor be "directly coupled" to the road wheels of the vehicle. T. Br. at 28-29; T. Resp. Br. at 25. Toyota now argues that the claim should be construed as "at least one motor mechanically coupled to the road wheels without any intervening clutch or gear train components other than a differential," but cites no support and makes no argument in favor of this construction. 5/4/05 Letter.

The Court finds it need look no further than the claim itself to arrive at the plain and ordinary meaning of this claim term and finds that no construction is required.

EE. "a controller for controlling operation ... and controlling flow"

The term "a controller for controlling operation ... and controlling flow" appears in claim 30 of the '672 patent. The parties are in agreement that the term should be construed the same way in the '672 patent as the terms "a controller for controlling the operation of ... and for controlling the relative contributions of ..." and "control means" in claims 1 and 2 of the ' 970 patent. P. Br. at 30; T. Resp. Br. at 25. Having reviewed the '672 patent claims and specification, the Court agrees.

Therefore, the term **"a controller for controlling operation ... and controlling flow"** is construed as **"a computerized control device for controlling operation ... and controlling flow."**

FF. "configured as a number of batteries connected by normally open switching devices, such that said batteries are electrically isolated from one another in the event power is cut off from said switching devices"

The claim term "configured as a number of batteries connected by normally open switching devices, such that said batteries are electrically isolated from one another in the event power is cut off from said switching devices" appears in claim 30 of the '672 patent.

Paice argues the term should be construed as "at least two batteries connected through switches that open if power is cut off." P. Br. at 30. Paice arrives at this construction stating that the patent does not expressly define the term but that the specification provides "clear guidance regarding the ordinary meaning of this language to those of ordinary skill." P. Br. at 30, citing ' 672 patent, 27:31-37 and 27:49-53. Paice argues that "[e]ach exemplary 'fail-safe condition' disclosed in the specification involves a power ending event that cuts off power to the relays, thereby causing the relays to open." P. Br. at 30 citing '672 patent, 27:53-57.

Though Toyota initially offered no construction for this term, Toyota now proffers "a configuration of batteries with normally open switches between every battery that open if power is cut off" as the construction. 5/4/05 Letter. Toyota provides no support or argument in favor of this construction. Id.; *see*

also 5/13/05 Letter.

The Court finds that Paice's position is consistent with the claim language and the patent specification. Therefore, the claim term **"configured as a number of batteries connected by normally open switching devices, such that said batteries are electrically isolated from one another in the event power is cut off from said switching devices"** is construed as **"at least two batteries connected through switches that open if power is cut off."**

The '088 claim at issue:

1. In a method of controlling an internal combustion engine of a hybrid vehicle, said engine being operatively connected to drive wheels of said vehicle through a clutch, said vehicle further comprising a traction motor operatively connected to drive wheels of said vehicle, a starter/generator motor operatively connected to said engine for starting said engine and for providing electrical power in response to torque from said engine, a battery bank adapted to store electrical energy to power said traction motor and to start said engine, at least one inverter/charger adapted to cooperate with said traction motor and said starter/generator such that said traction motor can be operated to provide torque to said road wheels responsive to electrical power from said battery bank, or to provide electrical power to said battery bank responsive to torque from said road wheels, and such that said starter/generator can be operated to provide torque to start said engine, or to provide electrical power to said battery bank responsive to torque provided by said engine, and a microprocessor adapted to control operation of said engine, said traction motor, said starter/generator, and said at least one inverter/charger, so as to control flow of torque and electrical power therebetween in response to sensed parameters, the improvement comprising:
establishing at least four vehicle operating modes, including:

a mode I, wherein said engine is not operated and said vehicle is propelled by torque from said traction motor in response to electrical power drawn from said battery bank;

a mode II, wherein said vehicle is propelled by torque from said traction motor in response to electrical power drawn from said battery bank, and said starter/generator is driven by torque provided by said engine to provide electrical power to recharge said battery bank;

a mode IV, wherein said vehicle is propelled by torque from said engine; and a mode V, wherein said vehicle is propelled by torque from said engine and from said traction motor in response to electrical power drawn from said battery bank;

wherein said microprocessor controls operation of said V engine, said traction motor, said starter/generator, and said at least one inverter/charger so as to operate said vehicle in a selected one of said operating modes in response to the instantaneous torque demands (RL) of said vehicle, and said selected operating mode being selected such that said engine is operated only in response to a load equal at least to a predetermined minimum value of its maximum torque output.

GG. "instantaneous torque demands" and "RL"

The term "instantaneous torque demands" appears in claim 1 of the ' 088 patent. The parties are in agreement that the term should be construed the same way in the '088 patent as the terms "instantaneous road load," "road load," and "RL" in the '672 patent and, after a review of the '088 patent claims and specification, the Court agrees. P. Resp. Br. at 28-29; T. Resp. Br. at 27.

Therefore, the term **"instantaneous torque demands"** is construed as **"instantaneous torque [rotary force] required for propulsion of the vehicle."**

HH. "said microprocessor controls operation ... so as to operate said vehicle in a selected one of said operating modes in response to the instantaneous torque demands (RL) of said vehicle"

The term "said microprocessor controls operation ... so as to operate said vehicle in a selected one of said operating modes in response to the instantaneous torque demands (RL) of said vehicle" appears in claim 1 of the ' 088 patent. Though the parties initially disagreed regarding the appropriate construction of the term, P. Br. at 32, P. Resp. Br. at 29, T. Br. at 32, T. Resp. Br. at 28, they now agree that the term should be construed as: "operating the computerized control device such that it determines the mode of operation based on instantaneous torque requirements for propulsion of the vehicle." 5/4/05 Letter.

The Court finds that this definition is consistent with the use of the term in the patent and therefore will construe the term **"said microprocessor controls operation ... so as to operate said vehicle in a selected one of said operating modes in response to the instantaneous torque demands (RL) of said vehicle"** as **"operating the computerized control device such that it determines the mode of operation based on instantaneous torque [rotary force] requirements for propulsion of the vehicle."**

II. "operating mode"

The term "operating mode" appears in claim 1 of the '088 patent. The parties are in agreement that the term should be construed the same way in the '088 patent as in the '970 and '672 patents and, after a review of the '088 patent claims and specification, the Court agrees. P. Br. at 32; T. Br. at 24 and 28.

Therefore, the term **"operating mode"** is defined as **"mode or state of operation determined by the source and/or direction of the flow of energy and/or torque [rotary force] in the system."**

JJ. "said selected operating mode being selected such that said engine is operated only in response to a load equal at least to a predetermined value of its maximum torque output"

The term "said selected operating mode being selected such that said engine is operated only in response to a load equal at least to a predetermined value of its maximum torque output" appears in claim 1 of the '088 patent. Though the parties initially disagreed regarding the appropriate construction of the term, P. Br. at 32-33, P. Resp. Br. at 30, T. Resp. Br. at 28, they now agree that the term should be construed as: "selecting an operating mode in which the engine is operated only when the load on the engine's exceeds a predetermined amount of the engine's maximum torque output ." 5/4/05 Letter.

The Court finds that this definition is consistent with the use of the term in the patent and therefore will construe the term **"said selected operating mode being selected such that said engine is operated only in response to a load equal at least to a predetermined value of its maximum torque output" as "selecting an operating mode in which the engine is operated only when the load on the engine's exceeds a predetermined amount of the engine's maximum torque [rotary force] output."**

V. Conclusion

Accordingly, the Court hereby ORDERS the disputed claim terms construed consistent herewith.

E.D.Tex.,2005.
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