

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Volkswagen Group of America, Inc.,
Petitioner

v.

Michigan Motor Technologies LLC,
Patent Owner

Case IPR2020-00446
Patent No. 6,763,804

PATENT OWNER'S PRELIMINARY RESPONSE

Under 35 U.S.C. § 42.107

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Exhibit	Description
2001	Expert Declaration of Dr. Russell Leonard

Petitioner Volkswagen Group of America, Inc. ("VWoA" or "Petitioner")

filed a Petition for *Inter Partes* Review of U.S. Patent No. 6,763,804 ("the '804 patent") on February 12, 2020. (IPR2020-00446, Paper No. 1 ("Petition" or "Pet.").)

Through the undersigned Counsel, Patent Owner, Michigan Motor Technologies LLC ("MMT"), submits the following Patent Owner Preliminary Response pursuant to 37 C.F.R. § 42.107 (a). *See also* 37 C.F.R. § 42.107 (b).

I. INTRODUCTION

Patent Owner, MMT, respectfully requests that the Board deny the Petition because Petitioner failed to show that there is a reasonable likelihood that it would prevail with respect to at least one of the claims challenged in the Petition.

Specifically, Petitioner has not demonstrated a reasonable likelihood that any claim of the '804 patent would be obvious in view of the *Itabashi* (Exhibit 1007), *Ohta* (Exhibit 1020), *Burney* (Exhibit 1006), *Ritenour* (Exhibit 1027), *Matsumoto* (Exhibit 1028), GM Manual (Exhibit 1023), or Chrysler Manual (Exhibit 1024) references relied upon by the Petitioner, whether considered individually or in any combination thereof. Petitioner relies on the references as follows:

Ground	References	Basis	Claims Challenged
1	Itabashi	§103	1, 4, 7, 8, 11, 14, 15, 18
2	Itabashi, GM Manual, Chrysler Manual	§103	2, 5, 9, 12, 16, 19

3	Itabashi, Ohta	§103	3, 6, 10, 13, 17, 20
4	Matsumoto, Burney, Ritenour	§103	1, 4, 7, 8, 11, 14, 15, 18
5	Matsumoto, Burney, Ritenour, GM Manual, Chrysler Manual	§103	2, 5, 9, 12, 16, 19
6	Matsumoto, Burney, Ritenour, Ohta	§103	3, 6, 10, 13, 17, 20

Petitioner characterizes the prior art Petitioner is relying upon in the Petition as follows:

- “Itabashi discloses ‘a motor current limit function, which can be applied to a motor driven throttle valve control in an internal combustion engine.’” (Paper 1 at 8.)
- “Matsumoto discloses ‘an internal combustion engine equipped with an electronic throttle control device for electrically driving a throttle valve [and a] failure detecting means for detecting a failure of the electronic throttle control device.’” (*Id.* at 12.)
- “Burney discloses a cruise control system with an electric motor for moving a throttle.” (*Id.* at 15.)
- “Ritenour discloses ‘[a] servosystem drive current [that] includes means for sensing instances when the servomotor drive current exceeds a preset threshold level for a given time....’” (*Id.* at 16.)

- “The GM Manual states that a car battery typically supplies up to 14.5 volts.” (*Id.* at 17.)
- “Ohta discloses the time a throttle valve takes to move from an open position to a closed position.” (*Id.* at 18.)
- “[The] Chrysler Manual, [] states that a typical voltage regulator supplied 13.9-14.6 volts. (*Id.* at 39.)

II. APPLICABLE LEGAL PRINCIPLES

“[T]he decision whether to institute an *inter partes* review is discretionary.” *Unified Patents Inc. v. C-Cation Techs., LLC*, IPR2015-01045, Paper 15 at 3 (PTAB Oct. 7, 2015) (citing 37 C.F.R. § 42.108 (a)). Petitioner has the burden to show that it is likely to prevail as to at least one claim of the ’804 patent. 35 U.S.C. § 314; *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348 (2018).

To make a *prima facie* showing of obviousness under 35 U.S.C. § 103, the Petition must, among other requirements, fulfill the requirements set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966), including demonstrating that the cited references disclose each element of a challenged claim. *In re Magnum Oil Tools Int’l.*, 829 F.3d 1364, 1376 (Fed. Cir. 2016); *see also Apple Inc. v. Contentguard Holdings, Inc.*, IPR2015-00442, Paper 9 at 12-13 (PTAB July 13, 2015).

Petitioner also has the burden to show there would have been some motivation to combine the asserted prior art, and that the proposed combination would render

the patented claims obvious. “Obviousness requires more than a mere showing that the prior art includes separate references covering each separate limitation in a claim under examination.” *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011) (internal citation omitted); *see also In re Magnum Oil Tools Int’l.*, 829 F.3d at 1376. Even if individual modifications or choices were obvious, a petition must explain why making all of the changes at once would be obvious. *Apple Inc. v. Contentguard*, Paper 9 at 16-17 (“[T]he mere fact that individual changes might have been obvious does not make doing all of the changes at once obvious.”).

The Federal Circuit has found that, even for an obviousness challenge based on a single reference in view of the knowledge and skill of a POSITA, there must be a motivation to make the combination and a reasonable expectation that such a combination would be successful, otherwise a skilled artisan would not arrive at the claimed combination. *In re Stepan Co.*, 868 F.3d 1342, 1345-46 (Fed. Cir. 2017). In other words, when a gap in a single prior art reference requires filling with, for example, the knowledge of one of ordinary skill, there must be a further showing that the skilled artisan would have arrived at the claimed invention.

The lack of a technological obstacle to combining references, in and of itself, does not justify a finding of obviousness. *See In re Omeprazole Patent Litig. v. Apotex Corp.*, 536 F.3d 1361, 1380-81 (Fed. Cir. 2008). A reason for combining disparate prior art references is critical and should be made explicit. *InTouch Techs.*,

Inc. v. VGo Communs., Inc., 751 F.3d 1327, 1351 (Fed. Cir. 2014) (internal citation omitted).

Hindsight analysis is inappropriate. Obviousness must be measured “*at the time the invention was made.*” *Ortho-McNeil Pharm. v. Mylan Labs*, 520 F.3d 1358, 1364 (Fed. Cir. 2008) (emphasis in original). A petition must demonstrate a rationale to combine prior art references without relying on the patent disclosure itself. *Apple Inc. v. Contentguard*, Paper 9 at 15, 17; *see also P&G v. Teva Pharms. USA, Inc.*, 566 F.3d 989, 995 (Fed. Cir. 2009). The Petitioner must not use the patent as a roadmap. *In re NTP, Inc.*, 654 F.3d 1279, 1299 (Fed. Cir. 2011) (internal citation omitted); *see also KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

III. TECHNOLOGY BACKGROUND

The ’804 patent generally relates to electronic throttle servo temperature protection systems to allow full control effort while preventing overheating conditions. (Ex. 1001 at 1:58-63.)

Prior to the invention of the ’804 patent, large control effort continuously available or available for maximum effort at the H-driver and servomotor could possibly lead to overstressing the system’s physical components if a blockage of the throttle plate occurs or the mechanism encounters a mechanical limit. (Ex. 1001 at 1:36-49.) “Specifically, the H-driver and the servomotor could overheat with sustained full control effort under some environmental conditions.” (*Id.*) “In an

effort to avoid permanent damage, some electronic systems shut down when they get to a threshold temperature.” (*Id.*)

IV. THE '804 PATENT

A. Overview of the '804 Patent

The '804 patent teaches an electronic throttle servo overheat protection system and method. (Ex. 1001 at 1:63-2:9.) The invention of the '804 patent is described in the specification as follows:

In accordance with the method, an electric motor actuates the positioning device. The positioning device is then commanded to change to a commanded position. The control effort required to change to the commanded position is detected. It is then determined whether the control effort exceeds a threshold for a predetermined time period. When the control effort exceeds the threshold for the predetermined time period, the control effort is reduced.

(*Id.* at 2:2-9.)

B. Challenged Claims

Petitioner challenges all claims of the '804 patent. (*See generally* Paper 1.)

Claim 1 is an independent from which claims 2-10 depend. (Ex. 1001 at 5:11-6:4.)

Claim 11 is an independent claim from which claims 12-20 depend. (*Id.* at 6:5-48.)

Independent claim 1 recites:

1. A method for controlling a positioning device of an internal combustion engine, the method comprising the steps of:

providing an electric motor for actuating the positioning device;

commanding the positioning device to change to a commanded position;

detecting a control effort required to change to said commanded position;

determining whether said control effort exceeds a threshold for a predetermined time period; and
reducing said control effort when said control effort exceeds said threshold for said predetermined time period;

wherein commanding the positioning device to change to said commanded position comprises at least one of commanding the positioning device to open to a hold open mode and commanding the positioning device to close to a hold close mode.

Independent claim 11 recites:

11. A system for controlling a positioning device of an internal combustion engine to prevent overheat conditions, the system comprising:

an electric motor for actuating the positioning device with a control effort;

a control effort detector coupled to said electric motor and intended to detect said control effort; and

a controller coupled to said electric motor and said control effort detector, said controller including control logic operative to command the positioning device to change to a commanded position, detect a control effort required to change to said commanded position, determine whether said control effort exceeds a threshold for a predetermined time period, and reduce said control effort when said control effort exceeds said threshold for said predetermined time period;

wherein said controller further includes control logic operative to command the positioning device to close to said commanded position in a hold close mode.

C. Person of Ordinary Skill in the Art

The level of ordinary skill in the art applicable to the '804 around the time of the invention in 2001 is a person with (1) a B.S. in mechanical engineering or a

closely related field with three or more years' experience in either engine systems or engine control systems or (2) at least a M.S. in mechanical engineering. (Exhibit 2001 Leonard Decl. at ¶ 14.)

V. CLAIM CONSTRUCTION

In an *inter partes* review proceeding, “a claim of a patent . . . shall be construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b).

None of the claim terms require specific construction and should receive their plain and ordinary meaning, in the context of the '804 patent specification.

Patent owner reserves the right to construe other terms of the '804 patent throughout this proceeding, if the petition is granted, and in pending district court litigation pending against Petitioner and its parent company.

VI. THE PETITION SHOULD BE REJECTED UNDER § 314(A) BECAUSE PETITIONER IS UNLIKELY TO PREVAIL WITH RESPECT TO ANY CHALLENGED CLAIM

The Board should decline review under 35 U.S.C. § 314(a) because, as set forth in more detail below, there is no likelihood that Petitioner will prevail with respect to any challenged claim.

The prior art references relied upon by Petitioner completely miss the basic inventive concept set forth in the challenged claims of the '804 patent.

Claim 1 of the '804 patent defines the “control effort” as the effort “required to change to said commanded position.” (Ex. 1001 at Claim 1.) Claim 1 of the '804 patent further recites that “said commanded position comprises at least one of commanding the positioning device to open to a hold open mode and commanding the positioning device to a hold close mode.” (*Id.*)

Itabashi is relied upon by Petitioner as the primary reference in each of its first, second, and third grounds of challenge (*See* Petition at 3.)

Matsumoto is relied upon by Petitioner as the primary reference in each of its fourth, fifth, and sixth grounds of challenge. (*Id.*)

Neither Itabashi nor Matsumoto discloses commanding the positioning device (e.g., throttle plate) to at least one of a hold open or hold closed mode, period,¹ much less then determining the control effort required to move the positioning device to the commanded position, determining whether the control effort exceeds a threshold for a predetermined time period, and reducing the control

¹ Emphasis added unless otherwise noted.

effort when the control effort exceeds the threshold for the predetermined time period.

Itabashi “discloses a throttle control system that limits the motor current when the current exceeds a threshold for a predetermined time period.” (Paper 1 at 8.) Patent Owner acknowledges that such a generic throttle control system was known in the art at the time the '804 claimed invention was made. (Ex. 1001 at 1:36-49.) However, the challenged claims of the '804 patent are not directed to and do not broadly encompass such a generic throttle control system. (*See generally* Ex. 1001 Claims 1-20.)

Itabashi does not disclose commanding the positioning device to a hold open or hold closed mode, period, much less then determining whether the control effort required to move the positioning device to the commanded position exceeds a threshold for a predetermined time period. (Ex. 2001 at ¶¶ 33-35.)

Matsumoto does not command the positioning device to a hold open or hold closed mode, period, much less then determining whether the control effort required to move the positioning device to the commanded position exceeds a threshold for a predetermined time period. (Ex. 2001 at ¶¶ 43-45.) *Matsumoto* detects when the throttle valve is stuck. (Ex. 1008 at 2:66-3:3.) *Matsumoto* does not command the throttle valve to a fully open or closed position at all, but rather, *Matsumoto* detects

when the throttle valve is stuck, which Petitioner alleges could theoretically be when the throttle valve is in the fully open or fully closed position, even though *Matsumoto* does not actually disclose this. (Paper 2 at 13.) ***Regardless of where the throttle valve may happen to become stuck, Matsumoto never commands the throttle valve to a fully open or fully closed position,*** much less does *Matsumoto* then detect the control effort required to move the throttle valve to the ***commanded*** fully open or fully closed position. (Ex. 2001 at ¶¶ 44-45.)

The other prior art references relied upon by Petitioner, include *Burney*, *Ritenour*, and *the GM Manual*, and *Chrysler Manual* and certainly do not cure the fatal deficiencies of the primary references *Itabashi* and *Matsumoto*.

In short, none of the prior art references relied upon by Petitioner, considered individually or in any possible combination, render obvious any of the challenged claims of the '804 patent.

The Board should reject the Petition and decide to not institute an *inter partes* review.

VII. CONCLUSION

For the foregoing reasons, the Petition to institute *inter partes* review of any claim of the '804 patent should be denied.

Dated: June 15, 2020

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that there are 2,421 words in this paper, excluding any table of contents, table of authorities, mandatory notices under 37 C.F.R. § 42.8, certificate of word count, certificate of service, or appendix of exhibits. This certification relies on the word count of the word-processing system used to prepare this paper.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on June 15, 2020, I caused a true and correct copy of the foregoing materials to be served via the Patent Office electronic filing system, and electronic service via email to the following attorneys of record pursuant to Petitioner's consent.

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