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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/425,468	07/23/2021	Andrea ANTHOLZNER	080437.PE688US	5519
23911	7590	08/26/2025	EXAMINER	
CROWELL & MORING LLP			SU, STEPHANIE T	
INTELLECTUAL PROPERTY GROUP			ART UNIT	PAPER NUMBER
P.O. BOX 14300			3662	
WASHINGTON, DC 20044-4300			NOTIFICATION DATE	DELIVERY MODE
			08/26/2025	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANDREA ANTHOLZNER and DANIELA CALINSKI

Appeal 2024-003699
Application 17/425,468
Technology Center 3600

Before LINDA E. HORNER, JILL D. HILL, and
LISA M. GUIJT, *Administrative Patent Judges*.

GUIJT, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner’s decision to reject claims 11–21. *See* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM IN PART.

CLAIMED SUBJECT MATTER

Appellant’s invention relates to “a method and system for onboard diagnosis (OBD) in a vehicle, in particular, a motor vehicle,” and “to the

¹ “Appellant” refers to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Bayerische Motoren Werke Aktiengesellschaft. Appeal Br. 2.

improved coverage of a real driving behavior to carry out onboard diagnoses, for example, of exhaust-gas-influencing systems or subsystems in vehicles.” Spec. ¶ 1. Claims 11, 18, and 19, reproduced below as the independent claims on appeal, represent the claimed subject matter.

11. A method for onboard diagnosis in a vehicle, the method comprising:

determining whether one or more release conditions for a start of an onboard diagnosis are fulfilled;

upon determining that at least one release condition of the one or more release conditions is not fulfilled, controlling at least one vehicle function in such a way that the at least one release condition is fulfilled; and

starting the onboard diagnosis.

18. A computer program product comprising a non-transitory computer readable medium having stored thereon program code which, when executed on one or more processors, carries out acts of:

determining whether one or more release conditions for a start of an onboard diagnosis are fulfilled;

upon determining that at least one release condition of the one or more release conditions is not fulfilled, controlling at least one vehicle function in such a way that the at least one release condition is fulfilled; and

starting the onboard diagnosis.

19. A system for onboard diagnosis in a vehicle, the system comprising one or more processors which are configured to execute a method comprising:

determining whether one or more release conditions for a start of an onboard diagnosis are fulfilled;

upon determining that at least one release condition of the one or more release conditions is not fulfilled, controlling at least one vehicle function in such a way that the at least one release condition is fulfilled; and

starting the onboard diagnosis.

Appeal Br. 12–14 (Claims App.).

THE REFERENCES

The Examiner relies on the following references to reject the claims:

Name	Reference	Date
Yamaki	US 2002/0161495 A1	Oct. 31, 2002
Inoue	US 2009/0025996 A1	Jan. 29, 2009
Tomura	US 2012/0150406 A1	June 14, 2012

THE REJECTIONS

The Examiner maintains the following rejections:

Claim(s) Rejected	35 U.S.C. §	Reference(s)/ Basis
11–16, 18–21	103	Yamaki, Tomura
17	103	Yamaki, Tomura, Inoue

OPINION

Obviousness in view of Yamaki and Tomura: Claims 11–16 and 18–21

Independent claim 11 and dependent claims 12–16

The Examiner finds that claim 11 is “properly rejected under Yamaki due to the conditional language.” Ans. 4. In support, the Examiner finds that “[t]he method of claim 11 contains contingent limitations (e.g., ‘upon determining’) and includes steps that are not required to be performed when the conditional precedent is not met.” *Id.* The Examiner concludes,

therefore, that “the contingent step is not required by the broadest reasonable interpretation of the claim.” *Id.* at 4–5 (citing MPEP 2111.04, Section II; *Ex parte Schulhauser*, Appeal No. 2013-007847, 2016 WL 6277792 (PTAB Apr. 28, 2016) (precedential)).

Appellant argues that the step of controlling at least one vehicle function “is not contingent upon a condition precedent,” but, rather, “explicitly requires the step to be performed,” because the claim term “upon” is distinguishable from the term “if” that was the subject of the precedential decision in *Schulhauser*. Reply Br. 3–4 (citing *Ex parte Erhart*, Appeal No. 2019-004505 (PTAB Jan. 8, 2021) (routine decision)).

We are not persuaded by Appellant’s argument. Claim 11 recites a *method* that requires the performance of a step *upon* determining that at least one release condition of the one or more release conditions is not fulfilled. We agree with the Examiner that this claimed step is performed only if such a determination is made and that this claimed step is not performed if such a determination is not made. Therefore, according to claim 11 as written, the claimed step of controlling at least one vehicle function in such a way that the at least one release condition is fulfilled is a conditional limitation, in that it will only occur upon determining that at least one release condition of the one or more release conditions is not fulfilled. According to *Schulhauser*, conditional steps employed in a method claim need not be found in the prior art if, under the broadest reasonable construction, the method need not invoke the steps. 2016 WL 6277792, at 5. Thus, the Examiner need not find that Tomura discloses the conditional limitation (i.e., “upon determining . . . , controlling . . .”).

The Examiner relies on Yamaki for disclosing the remaining steps of claim 11, including the steps of merely determining whether one or more release conditions for a start of an onboard diagnosis is fulfilled and starting the onboard diagnosis. Appellant does not apprise us of error in these findings by the Examiner relevant to Yamaki. *See* Appeal Br. 6–8 (arguing that Yamaki “teaches away” from the Examiner’s proposed modification of Yamaki to include the “upon determining” claim limitation, in view of Tomura).

Accordingly, we sustain the Examiner’s rejection of independent claim 11. Claims 12 to 16 depend from independent claim 11 and further limit the conditional step of controlling at least one vehicle function as recited in claim 11, without changing the conditional nature of the claimed subject matter under the broadest reasonable interpretation set forth *supra*. Thus, we also sustain the Examiner’s rejection of claims 12 to 16 in view of Yamaki.

Independent claim 18

Independent claim 18 recites “[a] computer program product” and, therefore, we decline to apply *Schulhauser* in the interpretation of claim 18, because claim 18 is not a method claim. *See Schulhauser*, 2016 WL 6277792, at 7 (determining that a system claim requires structure for performing the function should the condition occur).

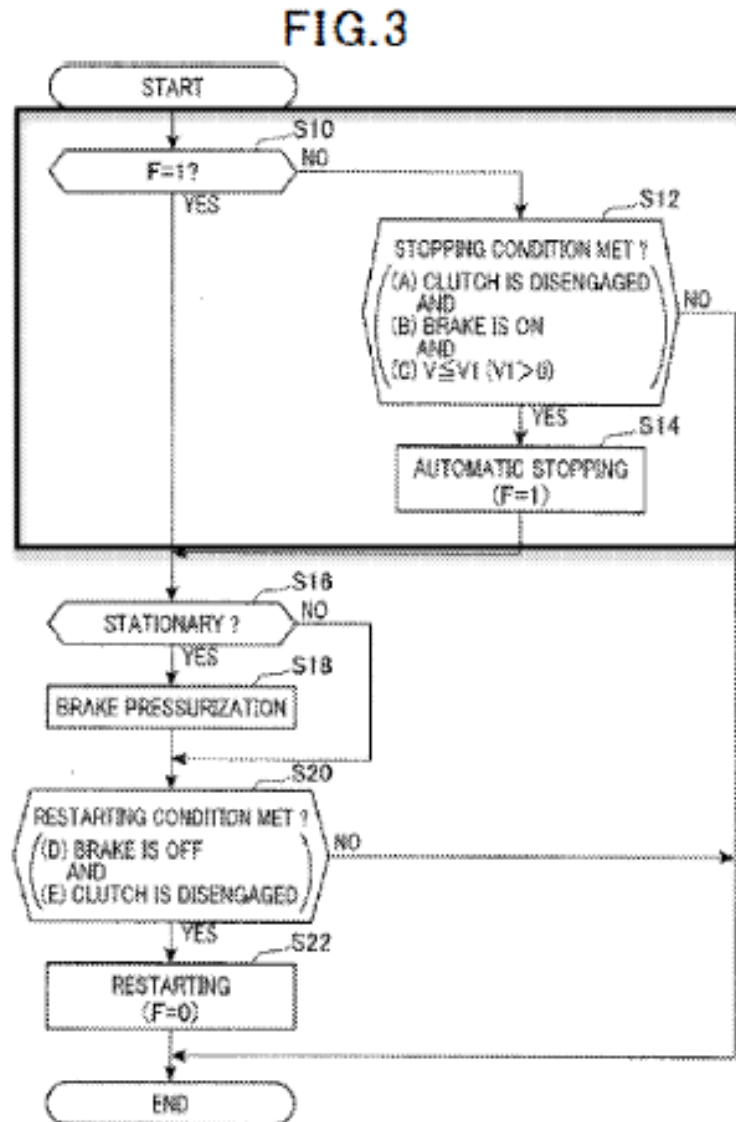
The Examiner relies on Yamaki, which relates to an on-board vehicle control unit with a self-diagnosis system (Yamaki ¶ 4), for disclosing, *inter alia*, a computer program product with program code for carrying out the acts of “determining whether one or more release conditions for a start of an onboard diagnosis are fulfilled” and “starting the onboard diagnosis.” Final

Act. 11 (citing Yamaki ¶ 64); *see also* Yamaki, Fig. 6 (depicting a flowchart that illustrates determining whether a diagnosis running condition is satisfied, and, if not, ending the diagnosis, and if so, continuing with the diagnosis).

The Examiner determines that Yamaki fails to disclose the claimed step of, upon determining that at least one release condition of one or more release conditions is not fulfilled, controlling at least one vehicle function in such a way that the at least one release condition is fulfilled. Final Act. 11.

The Examiner relies on Tomura, which relates to stopping an engine automatically when a predefined stopping condition is met (i.e., idle stop control) (*see, e.g.*, Tomura ¶ 3), for disclosing, generally, “an electrical control unit system . . . [that] control[s] at least one vehicle function in a way to fulfill a condition (“F=1” in S12) when it is not originally fulfilled (S10).” Final Act. 6 (citing, e.g., Tomura ¶¶ 49, 59, Fig. 3).

The Examiner provides an annotated Figure 3 of Tomura, reproduced below.



The Examiner’s annotated Figure 3 of Tomura depicts a flowchart of the steps of a method for an idle stop control, wherein the Examiner has drawn a box around steps S10, S12 and S14. Final Act. 13. The flowchart shows, as an initial step S10, that an idle stop & start electrical control unit (ISS-ECU) “determine[s] whether a value of an automatic stop flag F is 1 or 0, where the value of 0 indicates that the automatic stopping of the engine 10 has not been performed and the value of 1 indicates that the automatic stopping of the engine 10 has been performed.” Tomura ¶ 46. The flowchart depicts

that if the condition of the automatic stopping of the engine 10 is “YES” (i.e., “F=1”), the method continues by performing steps that are not relevant to the Examiner’s findings with respect to the claim (i.e., steps S16, S18, S20, and S22). On the other hand, the flowchart depicts that if the condition of the automatic stopping of the engine 10 is “NO” (i.e., “F=0”), the method continues by performing step S12, which checks if certain stopping conditions have been met, and, if such stopping conditions have been met, the method continues to step S14, which performs “Automatic Stopping,” such that “F=1”.

The Examiner finds that “the value ‘F=1’ is a ‘release condition,’” as claimed (Ans. 6), and, therefore, Tomura’s Figure 3 illustrates that upon determining that at least one release condition is not fulfilled (i.e., “F=0”), Tomura teaches “controlling at least one function in such a way that the at least one release condition is fulfilled” by controlling the automatic stopping of the vehicle, such that F=1. *Id.*; *see also* Final Act. 9–10 (also referring to step S12). Notably, Tomura teaches that, when restarting the engine, it is important “to ensure the driving force of the vehicle and proper application of the braking force to the wheel.” Tomura ¶ 10.

The Examiner reasons that it would have been obvious to modify Yamaki’s onboard diagnosis (OBD) system, which monitors vehicle maintenance conditions, “to incorporate controlling at least one vehicle function such that a condition is fulfilled,” as taught in Tomura, “to ensure the driving force of the vehicle and proper application of the braking force to the wheel, according to various situations of the vehicle.” Final Act. 13 (quoting Tomura ¶ 10). The Examiner further reasons that “[o]ne having ordinary skill in the art would further recognize that it would have been

obvious to perform controlling in a way (e.g., regulating engine status) that would satisfy a release condition, such as the stopping of a vehicle engine, because stopping the vehicle to perform a vehicle diagnosis would enhance reliability of the vehicle control. Ans. 5 (citing Tomura ¶ 40).

Appellant argues that “the portion of Tomura cited in support of a motivation to modify Yamaki is not relevant to the quoted claim feature.” Appeal Br. 8; *see also id.* at 10 (indicating that the same arguments presented for independent claim 11 are being made for independent claims 18 and 19). In support, Appellant submits that Tomura, as relied on by the Examiner, relates to “vehicle-mounted devices during automatic stoppage of the engine.” *Id.* at 8.

We are persuaded by Appellant’s argument. In the context of idle stop control, Tomura discloses the advantages of ensuring sufficient vehicle driving force and proper brake application in the event the automatic stop has not been performed; however, we agree with Appellant that the Examiner does not provide a sufficient factual basis as to why these advantages support modifying Yamaki’s OBD system relative to maintenance conditions. In other words, the Examiner does not sufficiently explain why ensuring vehicle driving force and proper brake application in the context of stopping an engine is relevant to determining whether Yamaki’s diagnosis release conditions are satisfied to complete an onboard diagnostic check of a vehicle. The Examiner’s characterization of Tomura’s automatic stoppage as “regulating engine status” appears to be improper hindsight, as Appellant’s Specification discloses, in the context of controlling a vehicle function to fulfill a release condition in order to start the onboard diagnosis, that “the release conditions can be achieved by

controlling or regulating at least one vehicle function, for example, a simple regulation of the engine status.” Spec. ¶ 9.

Accordingly, we do not sustain the Examiner’s rejection of independent claim 18.

Independent claim 19 and dependent claims 20 and 21

The Examiner relies on the same deficient reasoning from Tomura in the rejection of independent claim 19 as relied on in the rejection of independent claim 18. Final Act. 15–16. Therefore, for the same reasons as stated *supra*, we also do not sustain the Examiner’s rejection of independent claim 19 and claims 20 and 21 depending therefrom.

Obviousness in view of Yamaki, Tomura, and Inoue: Dependent claim 17

Claim 17 depends from independent claim 11 and, similar to dependent claims 12 to 16, further limits the conditional step of controlling at least one vehicle function as recited in claim 11, without changing the conditional nature of the claimed subject matter under the broadest reasonable interpretation set forth *supra*. Thus, we also sustain the Examiner’s rejection of claim 17 in view of Yamaki.

CONCLUSION

The Examiner's rejection of claims 11–17 is affirmed.

The Examiner's rejection of claims 18–21 is reversed.

DECISION SUMMARY

The following table summarizes our decision:

Claim(s) Rejected	35 U.S.C. §	Reference(s)/ Basis	Affirmed	Reversed
11–16, 18–21	103	Yamaki, Tomura	11–16	18–21
17	103	Yamaki, Tomura, Inoue	17	
Overall Outcome			11–17	18–21

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED IN PART