

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ROBERT BOSCH LLC and DAIMLER AG,
Petitioner,

v.

ORBITAL AUSTRALIA PTY LTD,
Patent Owner.

Case IPR2016-00083
Patent 5,655,365

Before KEN B. BARRETT, JEREMY M. PLENZLER, and
AMANDA F. WIEKER, *Administrative Patent Judges*.

BARRETT, *Administrative Patent Judge*.

DECISION

Denying Institution of *Inter Partes* Review
and Dismissing Motion for Joinder
35 U.S.C. §§ 315(c), 325(d); 37 C.F.R. §§ 42.122, 42.108

I. INTRODUCTION

Robert Bosch LLC and Daimler AG (collectively “Petitioner”) filed a Petition requesting *inter partes* review of U.S. Patent No. 5,655,365 (“the ’365 patent”). Paper 3 (“Pet.”). The Petition challenges the patentability of claims 1, 2, 5, 9, 10, 12–14, and 18 of the ’365 patent on the grounds of anticipation under 35 U.S.C. § 102 and obviousness under 35 U.S.C. § 103. Concurrently with the filing of the Petition, Petitioner filed a Motion for Joinder requesting joinder with one of two *inter partes* review trials currently pending before the Patent Trial and Appeal Board, *Robert Bosch LLC and Daimler AG v. Orbital Australia Pty Ltd*, Cases IPR2015-01258 and IPR2015-01259. Paper 4 (“Joinder Motion”). Specifically, Petitioner requests that the instant proceeding be joined with IPR2015-01258 or, alternatively, IPR2015-01259 should there be no institution in IPR2015-01258. *Id.* at 1. Orbital Australia Pty Ltd, the owner of the ’365 patent, did not file a Preliminary Response to the Petition or an Opposition to the Joinder Motion. We have jurisdiction under 35 U.S.C. § 314(a).

Upon consideration of the Petition, Motion for Joinder, and the specific facts of this case, we exercise our discretion to deny review under 35 U.S.C. § 325(d). Because we determine that the Petition does not warrant institution, we are prohibited from granting, and thus dismiss as moot, the Motion for Joinder under 35 U.S.C. § 315(c).

A. Related Proceedings

Both parties identify, as matters involving the ’365 patent, a district court case *Orbital Australia Pty Ltd. & Orbital Fluid Techs., Inc., v. Daimler AG, Mercedes-Benz USA LLC, Mercedes-Benz US Int’l Inc., Robert*

Bosch GmbH, & Robert Bosch LLC, Case No. 3:14-cv-808-REP (E.D. Va.), later transferred to the Eastern District of Michigan, Case No. 2:15-cv-12398, and Patent Trial and Appeal Board cases IPR2015-01258 and IPR2015-01259. Pet. 57–58; Paper 7.

B. The '365 Patent

The '365 patent pertains to “a method of operating an internal combustion engine in order to produce high exhaust gas temperatures” in the context of catalytic treatment of exhaust gases to reduce contaminants. Ex. 1001, col. 1, ll. 4–9. The patent explains that the catalyst, to effectively reduce contamination levels, must attain a minimum operating temperature, the “light-off” temperature. *Id.*, col. 1, ll. 10–17. The patent is directed to a method to reduce the time required to raise the catalyst to a light-off temperature condition, for example, upon engine start-up after a period of non-operation, and to maintain that condition. *Id.*, col. 1, ll. 19–25, 49–55.

The '365 patent describes a method where the ignition of the air/fuel mixture within at least one engine cylinder is retarded to after top dead centre¹ (ATDC) and, while the ignition is retarded, increasing the fueling rate to that cylinder to a level higher than required when operating normally. *Id.*, col. 1, ll. 56–64. The Specification, explaining why there is a need to increase the fueling rate during the disclosed method of operation, states:

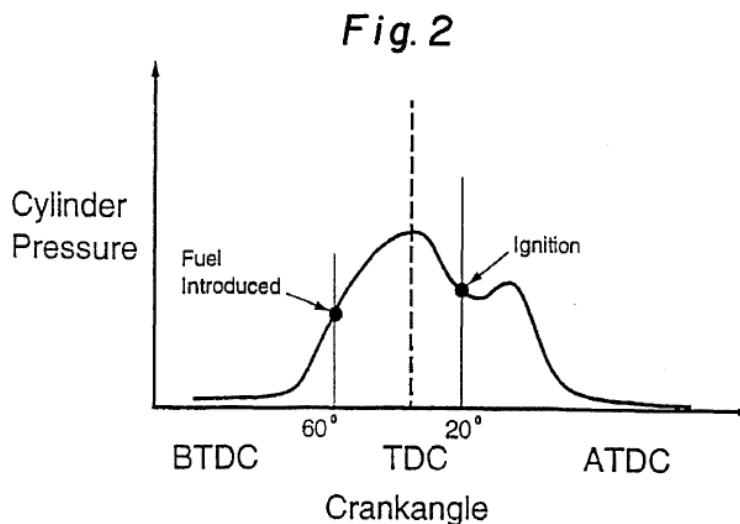
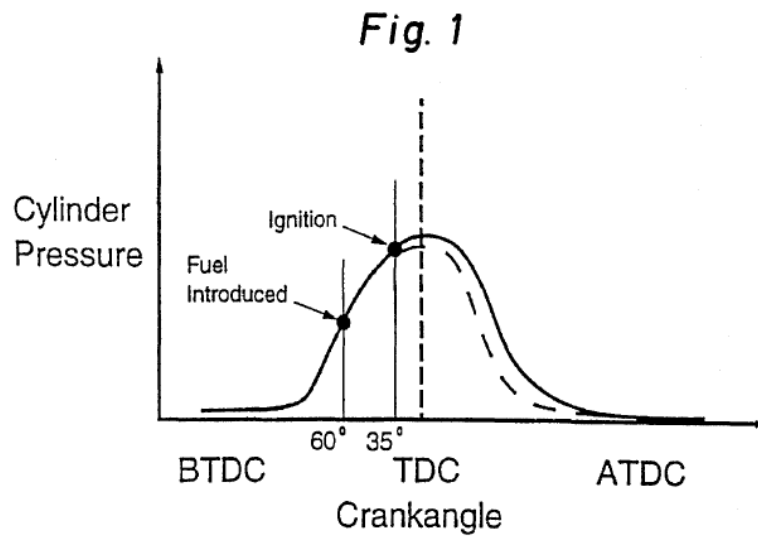
[A]t startup the engine typically will operate at a relatively low load and speed, such as is termed “engine idle”, and therefore the amount of fuel being delivered to the engine is comparatively small and hence, only a relatively small amount

¹ The '365 patent uses Australian spelling for certain words such as “centre” and “fuelling.” We use in this decision both the Australian and American spellings interchangeably.

of heat is available for raising the temperature of the exhaust gases and hence the temperature of the catalytic material to its "light-off" temperature.

Id., col. 1, ll. 26–32. The timing of the introduction of fuel is maintained at before top dead centre (BTDC). *Id.*, col. 6, ll. 16–18 (claim 1).

Figures 1 and 2 of the '365 patent are reproduced below:



Figures 1 and 2 depict graphs showing the cylinder pressure-crankangle characteristics for a typical direct injected two-stroke internal combustion

engine and for such an engine operated according to the method of the '365 patent, respectively. *Id.*, col. 2, ll. 46–52.

C. Illustrative Claim

Claim 1 is an independent claim. Claims 2, 5, 9, 10, 12–14, and 18 depend directly or indirectly from independent claim 1. Claim 1, reproduced below with paragraphing added, is illustrative:

1. A method of operating an internal combustion engine comprising

retarding the ignition of a gas/fuel mixture within at least one cylinder of the engine to after top dead centre (ATDC) in respect of the combustion cycle of said at least one cylinder of the engine and,

while said ignition is so retarded, increasing the fuelling rate of said at least one cylinder to a level higher than that required when the engine is operating normally to thereby assist in increasing the exhaust gas temperature of the engine,

the timing of the introduction of fuel into the at least one cylinder being maintained at before top dead centre (BTDC).

Ex. 1001, col. 6, ll. 7–18.

D. Applied References

W E. Bernhardt and E. Hoffman, <i>Methods for Fast Catalytic System Warm-Up During Vehicle Cold Starts</i> , Society of Automotive Engineers (1972) (“Bernhardt”)			Ex. 1002
Eichler et al. (“Eichler ’791”)	GB 1 447 791	Sept. 2, 1976	Ex. 1003
Griese	US 3,799,134	Mar. 26, 1974	Ex. 1004
Onishi	US 3,572,298	Mar. 23, 1971	Ex. 1005
Ahern	US 4,926,806	May 22, 1990	Ex. 1011

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