

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

ETHANOL BOOSTING SYSTEMS, LLC,  
and MASSACHUSETTS INSTITUTE OF  
TECHNOLOGY

Plaintiffs,

v.

FORD MOTOR COMPANY

Defendant.

Civil Action No. 19-cv-196-CFC-SRF

**JURY TRIAL DEMANDED**

**[PROPOSED] ORDER**

For the reasons articulated during the *Markman* hearing held on January 8, 2020, the Court adopts the following constructions of the limitations in U.S. Patent No. 8,069,839 ('839), U.S. Patent No. 9,255,519 ('519), U.S. Patent No. 9,810,166 ('166), and U.S. Patent No. 10,138,826 ('826):

**I. Disputed Claim Constructions:**

CLAIM TERM	COURT'S CONSTRUCTION
<p><b>"fuel that is directly injected"</b> ['839 (Claim 1), '166 (Claims 1-4, 19)]</p> <p><b>"directly injected fuel"</b> ['839 (Claims 2-5), '166 (Claims 1, 14, 15)]</p> <p><b>"fuel provided by direct injection"</b> ['166 (Claims 5, 16, 22, 27, 28)]</p> <p><b>"fueling that is provided by the first fueling system"</b> ['826 (Claims 2-8)]</p> <p><b>"fueling from the first fueling system"</b> ['826 (Claims 10, 11)]</p> <p><b>"fuel provided by the first fueling system"</b> ['826 (Claims 13-15, 20, 32-33)]</p>	<p>"a fuel that contains an anti-knock agent that is not gasoline, and that is different from the fuel used for port injection/in the second fueling system"</p>

**EXHIBIT A**

<p><b>“fuel is provided by a first fueling system”</b> [’826 (Claims 21, 31)]</p>	
<p><b>“first fueling system that directly injects fuel”</b> [’519 (Claims 1, 13, 19)]</p> <p><b>“first fueling system”</b> [’519 (Claims 1-3, 5, 10-11, 13-14, 16-19, 21, 24-25, 27-30), ’826 (Claims 1-8, 10-21, 23-26, 31-33)]</p>	<p>The term “fuel” in these limitations is construed to require “a fuel that contains an anti-knock agent that is not gasoline, and that is different from the fuel used for port injection/in the second fueling system.”</p>
<p><b>“direct injection”</b> [’839 (Claims 1, 8), ’519 (Claims 12, 13, 19, 31), ’166 (Claims 1, 5 13, 16, 18-19, 21-22, 25-28, 30), ’826 (Claims 1, 12, 21, 31)]</p> <p><b>“direct fuel injection”</b> [’166 (Claims 1, 19)]</p>	<p>“direct injection of fuel into a cylinder”</p> <p>The term “fuel” in these limitations is further construed to require “a fuel that contains an anti-knock agent that is not gasoline, and that is different from the fuel used for port injection/in the second fueling system.”</p>
<p><b>“above a selected torque value the ratio of fuel that is directly injected to fuel that is port injected increases”</b> [’839 (Claim 1)]</p>	<p>Plain and ordinary meaning</p>
<p><b>“decreases with decreasing torque”</b> [’519 (Claim 1)]</p>	<p>“decreases with decreasing torque unless and until the ratio reaches zero”</p>
<p><b>“closed loop control that utilizes a sensor that detects knock”</b> [’519 (Claim 1)]</p> <p><b>“input from the knock sensor is utilized in a closed loop control system that controls”</b> [’519 (Claims 14, 25)]</p> <p><b>“where closed loop control with a knock detector is used”</b> [’519 (Claims 18, 29)]</p>	<p>Plain and ordinary meaning</p>
<p><b>“torque”</b> [’839 (Claims 1-2, 7-8), ’519 (Claims 1, 3-4, 6, 10-11, 15, 18-20, 22, 26, 29), ’166 (Claims 1-4, 7-8, 10, 14-16, 19-21, 23, 26-29), ’826 (Claim 1-8, 10-15, 20-24, 31-33)]</p>	<p>Plain and ordinary meaning</p>
<p><b>“torque range”</b> [’519 (Claims 19, 20, 22), ’166 (Claims 1, 10, 14-16, 20, 28-29), ’826 (Claims 1-8, 10-15, 20-25, 31-33)]</p>	<p>Plain and ordinary meaning</p>

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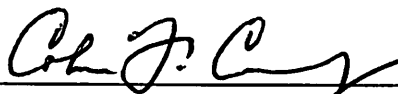
<p><b>“range of torque”</b> [’519 (Claims 1, 4), ’166 (Claims 7-8, 19)]</p>	
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**II. Agreed-Upon Claim Constructions:**

<p align="center"><b>CLAIM TERM</b></p>	<p align="center"><b>AGREED CONSTRUCTION</b></p>
<p><b>“port injection”</b> [’839 (Claims 1), ’166 (Claims 1, 19)]</p> <p><b>“port fuel injection”</b> [’839 (Claim 7), ’166 (Claims 1, 7, 10-12, 19, 22-23, 26, 28), ’826 (Claims 1, 12, 21, 31)]</p>	<p>“injection of fuel into an intake port or intake manifold”</p>
<p><b>“direct injection”</b> [’839 (Claims 1, 8), ’519 (Claims 12, 13, 19, 31), ’166 (Claims 1, 5 13, 16, 18-19, 21-22, 25-28, 30), ’826 (Claims 1, 12, 21, 31)]</p> <p><b>“direct fuel injection”</b> [’166 (Claims 1, 19)]</p>	<p>“direct injection of fuel into a cylinder”</p>
<p><b>“first fueling system that directly injects fuel”</b> [’519 (Claims 1, 13, 19)]</p> <p><b>“first fueling system”</b> [’519 (Claims 1-3, 5, 10-11, 13-14, 16-19, 21, 24-25, 27-30), ’826 (Claims 1-8, 10-21, 23-24, 26, 31-33)]</p> <p><b>“first fueling system that uses direct injection”</b> [’826 (Claims 1, 12)]</p>	<p>Plain and ordinary meaning</p>
<p><b>“second fueling system that injects fuel into a region outside of the cylinder”</b> [’519 (Claim 1)]</p> <p><b>“second fueling system”</b> [’826 (Claims 1, 12, 21, 23-24, 31, 33)]</p> <p><b>“second fueling system using port fuel injection”</b> [’826 (Claims 21, 31)]</p>	<p>Plain and ordinary meaning</p>

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<b>“employs spark retard so as to reduce the amount of fuel that is introduced into the cylinder by the first fueling system” [’519 (Claim 1)]</b>	“uses spark retard so as to reduce the amount of fuel that is introduced into the cylinder by direct injection”
<b>“spark retard is employed to as to reduce the amount of fuel that is provided by the first fueling system to zero” [’519 (Claim 2)]</b>	“spark retard is used so as to reduce to zero the amount of fuel that is provided by direct injection”
<b>“input” [’519 (Claims 13-14, 24-25)]</b>	“information, including one or more signals”



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The Honorable Colm F. Connelly  
United States District Judge