

SESSIONS AT-A-GLANCE

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Wednesday October 17				
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NVH Technology (SETC118)	✓	-	Hall of Ideas H	35
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Tuesday
October 16

Advanced Combustion (Part 1 of 3) (SETC101)

10:30

Room - Hall of Ideas I

This session focuses on advanced combustion technologies in both 4-stroke and 2-stroke engines. The scope of topics includes studies of mixture formation, dilution effects, ignition, abnormal combustion, engine efficiency, flame propagation, and emissions formation.

Organizers:

William P. Attard, MAHLE Powertrain LLC; Yasuo Moriyoshi, Chiba Univ.; Kenji Nishida, Honda R&D Co., Ltd.

Chairpersons:

William P. Attard, MAHLE Powertrain LLC; Kenji Nishida, Honda R&D Co., Ltd.

10:30 (2012-32-0001/20129001)

The Influence of Hot Gas Jet on Combustion Enhancement for Lean Mixture in Plasma Jet Ignition

Ryo Sasaki, Akira Iijima, Hideo Shoji, Koji Yoshida, Nihon University

11:00 (2012-32-0008/20129008)

The Research about Engine Optimization and Emission Characteristic of Dual Fuel Engine Fueled with Natural Gas and Diesel

Ocktaeck Lim, University of Ulsan; Norimasa Iida, Keio University; Gyubaek Cho, Korea Institute of Machinery & Materials; Jamsran Narankhuu

11:30 (2012-32-0007/20129007)

A Comparison of Engine Knock Metrics

Arsham J. Shahlari, Jaal B. Ghandhi, Univ of Wisconsin Madison

Planned by SETC General Committee / EMB Land and Sea Group

Alternative Fuels (Part 1 of 5) (SETC102)

10:30

Room - Hall of Ideas H

This session invites paper focused on aspects of operating small engines on non-petroleum based fuels or non-conventional blends of fuels. This includes performance metrics such as power, efficiency and emissions. It also covers durability considerations including materials compatibility, wear rates, etc. These three particular papers focus on the use of biodiesel.

Organizers:

Shusuke Okada, Yanmar Co., Ltd.; Paul Richards; Koji Yoshida, Nihon University

Chairpersons:

Shusuke Okada, Yanmar Co., Ltd.; David A. Rothamer, Univ. of Wisconsin

10:30 (2012-32-0009/20129009)

Comparison of ULSD, Used Cooking Oil Biodiesel, and JP-8 Performance and Emissions in a Single-Cylinder Compression-Ignition Engine

Michael Mangus, Christopher Depcik, University of Kansas

11:00 (2012-32-0010/20129010)

A Study on the Compression Ignition Characteristics of FAME for Low Compression Ratio Diesel Engine

Yuya Abe, Akira Iijima, Hideo Shoji, Koji Yoshida, Nihon Univ

11:30 (2012-32-0025/20129025)

Impact of CNT Blended Biodiesel Emulsion Fuel in a Diesel Engine: An Experimental Investigation

J. Sathik Basha, R.B. Anand, NIT, Tiruchirappalli, INDIA

Planned by SETC General Committee / EMB Land and Sea Group

The papers in this session are available in SAE Technical Paper Collection, COLL-TP-00305, and also individually. To purchase visit collections.sae.org

Engine Technology (Part 1 of 5) (SETC110)

10:30

Room - Rooms LP

Advanced engine technologies, design, and development for thermal efficiency, performance, and emissions, including cycle simulation.

Organizers:

Dr. Nagesh Mavinahally, MavinTech, LLC.; Hideyuki Okumura, Yamaha Motor Co., Ltd.

Chairpersons:

Nagesh Mavinahally, MavinTech. LLC.; Hideyuki Okumura, Yamaha Motor Co., Ltd.

10:30 (2012-32-0055/20129055)

Improvement of Performance of Single Cylinder Motorcycle Engine by Optimizing the Port Flow Coefficients Through Integrated 1D/3D-CFD Analysis

Balasankar Pinnapedda, Anish Gokhale, Mahindra 2 Wheelers Ltd.

11:00 (2012-32-0065/20129065)

Evaluation of the Effects of Combustion by Multi-Ignition in Natural Gas Engines

Yoshitane Takashima, Hiroki Tanaka, Takahiro Sako, Osaka Gas Co.,Ltd.

11:30 (2012-32-0069/20129069)

Layout of a Charged Power Sport Engine

Christian Zinner, Reinhard Stelzl, Stephan Schmidt, Graz University of Technology; Stefan Leiber, Thomas Schabetsberger, BRP-Powertrain GmbH & Co KG

Planned by SETC General Committee / EMB Land and Sea Group

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Engine and Vehicle Components

(SETC108)

10:30

Room - Rooms KO

Organizers:

Toshimi Kobayashi, Kawasaki Heavy Industries, Ltd.; David James Thornhill, Queen's Univ. of Belfast

Chairpersons:

Robert Kee, Queen's University Belfast; Toshimi Kobayashi, Kawasaki Heavy Industries, Ltd.

10:30 (2012-32-0040/20129040)

Optimization of an Automotive Grade Stepper Motor Idle Air Control Valve for the Small Engine Market

Craig Weldon, Continental Tire Canada Inc.; Dian Hong, Kun Chen, Continental Automotive Wuhu; Jie Ren, Jean Fanielle, Alois Christiaens, Continental Automotive Belgium N.V

11:00 (2012-32-0042/20129042)

Assessment of Durability of Needle Roller Bearing on Crankshaft of Internal Combustion Engine on Basis of Slip Ratio

Takao Kudo, Honda R&D Co.,Ltd. Motorcycle R&D Center

Planned by SETC General Committee / EMB Land and Sea Group

Fuel Supply Systems (SETC112)

10:30

Room - Rooms MQ

Organizers:

Takashi Mitome, Suzuki Motor Corp.; Daniel Nehmer, BRP US Inc.

Chairpersons:

Takashi Mitome, Suzuki Motor Corp.; Daniel Nehmer, John Deere & Co.

10:30 (2012-32-0071/20129071)

Improvement of Spray Characteristics in Port Injectors

Junichi Nakamura, Akira Akabane, Koji Kitamura, Yuzuru Sasaki, Keihin Corp.

11:00 (2012-32-0072/20129072)

Numerical Study on the Hydrogen Fueled SI Engine Combustion Optimization through a Combined Operation of DI and PFI Strategies

Medhat Elkelawy, Huazhong University of Science & Techno.

11:30 (2012-32-0073/20129073)

Study on Strategies of Anti-Wear and Leakage for Fuel Injection System of Dimethyl Ether (DME) Engine

Guangde Zhang, Wuhan University of Science & Technology; Caixia You; Weihua Wang; Lu Xie; Jing Sun

Planned by SETC General Committee / EMB Land and Sea Group

Advanced Combustion (Part 2 of 3) (SETC101)

13:30

Room - Hall of Ideas I

This session focuses on advanced combustion technologies in both 4-stroke and 2-stroke engines. The scope of topics includes studies of mixture formation, dilution effects, ignition, abnormal combustion, engine efficiency, flame propagation, and emissions formation.

Organizers:

William P. Attard, MAHLE Powertrain LLC; Yasuo Moriyoshi, Chiba Univ.; Kenji Nishida, Honda R&D Co., Ltd.

Chairpersons:

William P Attard, MAHLE Powertrain LLC; Akihito Kasai, Honda R&D Co., Ltd.

13:30 (2012-32-0003)

A Simple Model of Cyclic Variation

Kenneth Seonguk Kim, Jaal Ghandhi, Univ of Wisconsin Madison

14:00 (2012-32-0006/20129006)

Controlled Hot Surface Ignition in Stationary Petrol and Natural Gas Operation

Denis Neher, Fino Scholl, Victor Teschendorff, Maurice Kettner, Karlsruhe University of Applied Sciences; Philipp Huegel, Heiko Kubach, Karlsruhe Institute Of Technology; Markus Klaisle, Senertec Kraft-Wärme-Energiesysteme GmbH; Blanca Giménez Olavarria, University of Valladolid

Tuesday
October 16

14:30 (2012-32-0004/20129004)

Preliminary Results from a Simplified Approach to Modeling the Distribution of Engine Knock

Kenneth Seonguk Kim, Jaal Ghandhi, Univ of Wisconsin Madison

Planned by SETC General Committee / EMB Land and Sea Group

Alternative Fuels (Part 2 of 5) (SETC102)

13:30

Room - Hall of Ideas H

This session invites paper focused on aspects of operating small engines on non-petroleum based fuels or non-conventional blends of fuels. This includes performance metrics such as power, efficiency and emissions. It also covers durability considerations including materials compatibility, wear rates, etc. These two particular papers focus on the use of alcohol in compression ignition engines.

Organizers:

Shusuke Okada, Yanmar Co., Ltd.; Paul Richards; Koji Yoshida, Nihon University

Chairpersons:

Roland Kirchberger, Graz University of Technology; Koji Yoshida, Nihon University

13:30 (2012-32-0011/20129011)

In-Use Performance Testing of Butanol-Extended Fuel in Recreational Marine Engines and Vessels

Jeff R. Wasil, BRP US Inc.; John McKnight, National Marine Manufacturers Assoc; Richard Kolb, Volvo Penta of the Americas; Dave Munz, Gevo Inc; John Adey, Brian Goodwin, American Boat & Yacht Council Inc

14:00 (2012-32-0018/20129018)

Fuel Spray Evaporation and Mixture Formation Processes of Ethanol/Gasoline Blend Injected by Hole-Type Nozzle for DISI Engine

Masaharu Chato, University of Hiroshima; Suguru Fukuda, Honda Motor Co.; Kiyotaka Sato, Tatsuya Fujikawa, Mazda Motor Co.; Run Chen, Zezheng Li, Jiangping Tian, Keiya Nishida, University of Hiroshima

14:30 (2012-32-0023/20129023)

Performance and Emissions Characteristics of an E85 Retrofitted Baja SAE Vehicle

Scott Curran, Oak Ridge National Laboratory; David Irick, William Rohr, The University of Tennessee

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The papers in this session are available in SAE Technical Paper Collection, COLL-TP-00305, and also individually. To purchase visit collections.sae.org

Engine Technology (Part 2 of 5) (SETC110)

13:30

Room - Rooms LP

Advanced engine technologies, design, and development for thermal efficiency, performance, and emissions, including cycle simulation.

Organizers:

Dr. Nagesh Mavinahally, MavinTech, LLC.; Hideyuki Okumura, Yamaha Motor Co., Ltd.

Chairpersons:

James Newton Carroll, Southwest Research Institute; Hideyuki Okumura, Yamaha Motor Co., Ltd.

13:30 (2012-32-0058/20129058)

Development of Electromagnetic Valve in ICE

Akihito Okazaki, Nippon Institute of Technology

14:00 (2012-32-0056/20129056)

Plasma Coating to Replace Cast Iron Cylinder Liners in Production

Thomas Zorn, Gunter Nentwich, Anton Pichler, BRP-Powertrain GmbH & Co. KG

14:30 (2012-32-0061/20129061)

A Study for Generating Power on Operating Parameters of Powerpack Utilizing Linear Engine

Yongil Oh, Ocktaeck Lim, University of Ulsan; Gangchul Kim, Korea Institute of Energy Research; Norimasa Iida, Keio University

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Materials (Part 1 of 2) (SETC116)

13:30

Room - Rooms MQ

This session will focus on the structure, processing, and properties of materials in small engine applications. Some possible topics include lightweighting of engine and vehicle components; heat treatment and surface processing; fatigue, fracture, and wear; coatings; and advanced ceramic, metallic, and polymeric materials.

Organizers:

Hirota Kurita, Yamaha Motor Co., Ltd.; David Palmer, BRP US Inc.

Chairpersons:

Hirota Kurita, Yamaha Motor Co., Ltd.; David Elijah Palmer, BRP US Inc.

13:30 (2012-32-0088/20129088)

Development of Lightweight DLC Coated Valve Lifter Made from Beta Titanium Alloy for Motorcycles

Kosuke Doi, Hirotaka Kurita, Yamaha Motor Co., Ltd

14:00 (2012-32-0091/20129091)

Nickalyn - High Strength Aluminum Alloys of a New Generation

Nikolay Belov, Inventor

14:30 (2012-32-0094/20129094)

Lightening Approach for Small Vehicles by Developing Extruded Aluminum Suspension Arm

Gouki Yotsuya, Ryo Yamauchi, Suzuki Motor Corporation

Planned by SETC General Committee / EMB Land and Sea Group

Two-Stroke Engines (Part 1 of 4) (SETC120)

13:30

Room - Rooms KO

This session contains manuscripts focused on two-stroke engines. Topics such as emissions, performance, and efficiency will be explored. Advanced combustion control, direct fuel injection, simulation models and experimental results will be presented.

Organizers:

Scott A. Miers, Michigan Technological University; Kazuyuki Shiomi, Honda R&D Co., Ltd.

Chairpersons:

Tyng Liu, National Taiwan University; Scott A. Miers, Michigan Technological Univ.

13:30 (2012-32-0119/20129119)

Multi-Layer Stratified (MuLS) Two-Stroke Engine

Nagesh Mavinahally, MavinTech. LLC.; Jay Veerathappa; Sharu Rajgiri, SCR, Inc.; Vinayaka Mavinahalli, Reckon Tech India

14:00 (2012-32-0114/20129114)

Numerical and Experimental Investigation of In-Cylinder Flow in a Loop-Scavenged Two-Stroke Free Piston Engine

Johannes Haag, Cornelius Ferrari, Jan Hendrik Starcke, Michael Stöhr, Uwe Riedel, German Aerospace Center (DLR)

14:30 (2012-32-0116/20129116)

Development of a Compact Intake Porting Design for a 2-Stroke DI Outboard Engine

Paul Westhoff, Justin Johnson, BRP US Inc.

Planned by SETC General Committee / EMB Land and Sea Group

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Diesel Engines (Part 1 of 2) (SETC106)

15:30

Room - Hall of Ideas H

Papers in this session will pertain to studies of naturally aspirated and boosted diesel engines including their design, emission control, NVH, fuel system, fuel type, aftertreatment, combustion quality, or engine control.

Organizers:

Daniel Nehmer, John Deere & Co.; Yoshiro Tokunaga, Kawasaki Heavy Industries, Ltd.

Chairpersons:

Daniel Nehmer, John Deere & Co.; Yoshiro Tokunaga, Kawasaki Heavy Industries, Ltd.

15:30 (2012-32-0034/20129034)

Effect of Hydrogen Induction on Combustion Characteristics of a Dual Fuel Engine Fuelled with Diesel and Hydrogen

Senthil Kumar Masimalai, Madras Institute of Technology

16:00 (2012-32-0032/20129032)

Study of the Characteristic of Diesel Spray Combustion and Soot Formation Using Laser-Induced Incandescence (LII)

Xiaobei Cheng, Liang Chen, Fangqin Yan, Huazhong University of Science and Tech.

16:30 (2012-32-0029/20129029)

Influence of Actual Injector Tip on Multi-Hole Diesel Nozzle Flow

Giancarlo Chiatti, Fulvio Palmieri, Università degli Studi Roma TRE

17:00 (2012-32-0033/20129033)

JAECFD Simulation Analysis of Cavitating Flow in a Real Size Diesel Engine Injector Nozzle

Hagar Alm El-Din Bastawissi; Medhat Elkelawy, Tanta University

Planned by SETC General Committee / EMB Land and Sea Group

Tuesday
October 16

Engine Controls (Part 1 of 3) (SETC109)

15:30

Room - Rooms MQ

Papers in this session are related to design, development and testing of new or innovative electronic controls or control systems for internal combustion engines. Topics may include hardware, software and algorithm/function innovations as well as the associated sensors or actuators employed in the control system. Applications may range from very simple systems for 1-cylinder engines to more complex systems for high-performance or multi-cylinder engines.

Organizers:

Yutaka Nitta, Suzuki Motor Corp.; Tony Szczotka, ROBERT BOSCH CORP

Chairpersons:

Yutaka Nitta, Suzuki Motor Corp.; Tony Szczotka, Robert Bosch Corp.

15:30 (2012-32-0046/20129046)

Use of Highly Integrated Components in the Design of Small Gasoline Engine Controllers

Ralph Ferrara, Freescale Semiconductor

16:00 (2012-32-0050/20129050)

The Control of Air-Fuel Ratio of the Engine Based on Model Predictive Control

Dinggen Li, Yang Ye, Huazhong University of Science & Technology

16:30 (2012-32-0044/20129044)

Model Based Engine Speed Evaluation for Single-Cylinder Engine Control

Silke Seuling, Haris Hamedovic, Wolfgang Fischer, Frank Schuerg, Robert Bosch GmbH

17:00 (2012-32-0043/20129043)

Cost-Innovative 2-Wheeler ECU with Novel Molded Housing Concept and Direct Connecting System

Mike Wolter, Eckhardt Philipp, Andreas Maucher, Stephan Luetzerath, Tobias Kallerhoff, Gunaseelan Rathinam, Robert Bosch GmbH, Germany

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Engine Technology (Part 3 of 5) (SETC110)

15:30

Room - Rooms LP

Advanced engine technologies, design, and development for thermal efficiency, performance, and emissions, including cycle simulation.

Organizers:

Dr. Nagesh Mavinahally, MavinTech, LLC.; Hideyuki Okumura, Yamaha Motor Co., Ltd.

Chairpersons:

Nagesh Mavinahally, MavinTech, LLC.; Hideyuki Okumura, Yamaha Motor Co., Ltd.

15:30 (2012-32-0054/20129054)

Optimization of Engine Cooling Through Conjugate Heat Transfer Simulation and Analysis of Fins

Anish Gokhale, N Karthikeyan, Mahindra 2 Wheelers

16:00 (2012-32-0066/20129066)

Conceptual Design of Small Direct-Injection Spark-Ignition Engine Concepts with Various Injector Positions by Use of CAE-Tools

Joern Schech, Arne Siedentop, Fabian Herbst, Alexander Wiebe, Peter Eilts, Technische Universitaet Braunschweig

16:30 (2012-32-0068/20129068)

An Empirically Integrated CFD Method for Racing Engine Layout and Its Practical Demonstration

Shinsuke Yasui, Daisuke Nakamura, Honda Racing Corporation

Planned by SETC General Committee / EMB Land and Sea Group

The papers in this session are available in SAE Technical Paper Collection, COLL-TP-00307, and also individually. To purchase visit collections.sae.org

HCCI (Part 1 of 2) (SETC113)

15:30

Room - Hall of Ideas I

This session focuses on studies of auto ignition combustion including HCCI and other low temperature combustion regimes. Experimental and simulation studies pertaining to various means of controlling combustion are welcome.

Organizers:

William P. Attard, MAHLE Powertrain LLC; Kenji Nishida, Honda R&D Co., Ltd.

Chairpersons:

William P. Attard, MAHLE Powertrain LLC; Kenji Nishida, Honda R&D Co., Ltd.

15:30 (2012-32-0077/20129077)

An Investigation on DME HCCI Engine about Combustion Phase Control using EGR Stratification by Numerical Analysis

Narankhuu Jamsran, Ocktaeck Lim, University of Ulsan; Norimasa Iida, Keio University

16:00 (2012-32-0074/20129074)

Reactivity Controlled Compression Ignition (RCCI) in a Single-Cylinder Air-Cooled HSDI Diesel Engine

Kyle Pohlkamp, Rolf Reitz, UW-Madison

16:30 (2012-32-0075/20129075)

Analysis of Combustion Characteristics and Efficiency Improvement of a Supercharged HCCI Engine Achieved by Using the Different Ignition Characteristics of Gaseous Fuels

Yoshihiro Ishikawa, Nihon University Graduate School; Akira Iijima, Koji Yoshida, Hideo Shoji, Nihon University

17:00 (2012-32-0076/20129076)

A Computational Study of the Combined Effects of EGR and Boost Pressure on HCCI Autoignition

Dong Won Jung, Norimasa Iida, Keio University

Planned by SETC General Committee / EMB Land and Sea Group

**Measurement and Simulation (Part 1 of 3)
(SETC117)**

15:30

Room - Rooms KO

The session is associated with engine and vehicle simulation tasks and their related measurements. Simulation and measurement methodology as well as the simulation and measurement application on development tasks will find a place within the session.

Organizers:

Tadao Okazaki, Kubota Corp.; Stephan Schmidt, Graz University of technology

Chairpersons:

Tadao Okazaki, Kubota Corp.; Stephan Schmidt, Graz University of Technology

15:30 (2012-32-0095/20129095)

Assessment of the Influence of Intake Duct Geometrical Parameters on the Tumble Motion Generation in a Small Gasoline Engine

Stefania Falfari, Federico Brusiani, Gian Marco Bianchi, University of Bologna

16:00 (2012-32-0096/20129096)

3D CFD Analysis of the Influence of Some Geometrical Engine Parameters on Small PFI Engine Performances - The Effects on Tumble Motion and Mean Turbulent Intensity Distribution

Stefania Falfari, Gian Marco Bianchi, University of Bologna; Luca Nuti, Piaggio & C SpA

16:30 (2012-32-0098/20129098)

Simulation of Wankel Engine Performance Using Commercial Software for Piston Engines

Leonid Tartakovskiy, Vladimir Baibikov, Marcel Gutman, Mark Veinblat, Technion Israel Inst. of Technology; Jonathan Reif, Elbit Systems Ltd

Planned by SETC General Committee / EMB Land and Sea Group

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Wednesday
October 17

Alternative Fuels (Part 3 of 5) (SETC102)

10:30

Room - Hall of Ideas H

This session invites paper focused on aspects of operating small engines on non-petroleum based fuels or non-conventional blends of fuels. This includes performance metrics such as power, efficiency and emissions. It also covers durability considerations including materials compatibility, wear rates, etc. These three particular papers focus on the use of alcohol in spark ignition engines.

Organizers:

Shusuke Okada, Yanmar Co., Ltd.; Paul Richards; Koji Yoshida, Nihon University

Chairpersons:

Roland Kirchberger, Graz University of Technology; Koji Yoshida, Nihon University

10:30 (2012-32-0013/20129013)

Hydrogen Gas in Diesel Engine using DEE as Ignition Source

Chinnathambi Dhanasekaran, Vels University; Gabriel Mohan Kumar, Park College of Engineering Technology

11:00 (2012-32-0019/20129019)

Ammonia Plus Hydrogen as Fuel in a S.I. Engine: Experimental Results

Stefano Frigo, Roberto Gentili, Universita degli Studi di Pisa; Nicolò Doveri, EDI Progetti

11:30 (2012-32-0015/20129015)

Identification of Optimal CNG -Hydrogen Enrichment Ratio in the Small SI Engines

Bartosz Flekiewicz, Auto Gaz Slask; Marek Flekiewicz, Grzegorz Kubica, Silesian University of Technology

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Engine Technology (Part 4 of 5) (SETC110)

10:30

Room - Rooms LP

Advanced engine technologies, design, and development for thermal efficiency, performance, and emissions, including cycle simulation.

Organizers:

Dr. Nagesh Mavinahally, MavinTech, LLC.; Hideyuki Okumura, Yamaha Motor Co., Ltd.

Chairpersons:

Nagesh Mavinahally, MavinTech, LLC.; James H. Wang, Industrial Technology Research Institute

10:30 (2012-32-0059/20129059)

Expansion to Higher Efficiency - Investigations of the Atkinson Cycle in Small Combustion Engines

Patrick Pertl, Alexander Trattner, Andrea Abis, Stephan Schmidt, Roland Kirchberger, Graz University of Technology; Takaaki Sato, DENSO Automotive Deutschland GmbH

11:00 (2012-32-0060/20129060)

Compressed Air as a Quality and Pollution Free Fuel Substitute in Reciprocating Engines - an Effect of the Cam Profile on the Engine Performance

Takayuki Sugita, Sanyo High School in Hiroshima

11:30 (2012-32-0067/20129067)

Experimental and Numerical Comparison of Fuel Economy for 125cc Motorcycles with Carburetor or Electronic Port Fuel Injection Based on Different Drive Cycles

Frank Schuerg, A. Prashanth, Thorsten Raatz, Robert Bosch GmbH; Dani C, K. Manikandan, V Padmanabhan, Robert Bosch India Ltd

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Hybrid, Electric Drive, and Fuel Cell (Part 1 of 2) (SETC114)

10:30

Room - Rooms KO

In Part 1 of the Hybrid, Electric Drive, and Fuel Cell Session we have three papers. The first describes a novel approach to a hybrid motorcycle designed to reduce fuel consumption. The next two involve ICE range extenders. One is designed for low noise and the other for low cost.

Organizers:

Glenn Bower, Univ. of Wisconsin Madison; Jay Meldrum, Michigan Technological Univ.; Yasuyuki Muramatsu, Yamaha Motor Co., Ltd.

Chairpersons:

Jay Meldrum, Michigan Technological Univ.; Yasuyuki Muramatsu, Yamaha Motor Co., Ltd.

10:30 (2012-32-0086/20129086)

Effect by Fuel Cut with the Strong Hybrid Motorcycle to Improve the Fuel Consumption

Yuki Hosoi, Yamaha Motor Co., Ltd.

11:00 (2012-32-0081/20129081)

A Low NVH Range-Extender Application with a Small V-2 Engine - Based on a New Vibration Compensation System

Martin Pischinger, Dean Tomazic, FEV Inc.; Karsten Wittek, FEV GmbH; Hans-Joachim Esch, Eduard Köhler, KSPG AG; Moritz Baehr, VKA, RWTH Aachen University

11:30 (2012-32-0083/20129083)

Low Cost Range Extender Technology for Hybrid Electric City Scooters

Hans-Juergen Schacht, Oliver Schoegl, Niko Bretterkieber, Roland Kirchberger, Stephan Schmidt, Graz University of Technology

Planned by SETC General Committee / EMB Land and Sea Group

Measurement and Simulation (Part 2 of 3) (SETC117)

10:30

Room - Rooms MQ

The session is associated with engine and vehicle simulation tasks and their related measurements. Simulation and measurement methodology as well as the simulation and measurement application on development tasks will find a place within the session.

Organizers:

Tadao Okazaki, Kubota Corp.; Stephan Schmidt, Graz University of Technology

Chairpersons:

Tadao Okazaki, Kubota Corp.; Stephan Schmidt, Graz University of Technology

10:30 (2012-32-0104/20129104)

Prediction Method of Surface Pressure against Gasket in Consideration of Creep on Cylinder Head in Air-Cooled Engines

Naoto Ono, Makiko Sugano, Atsushi Fukatsu, Hirofumi Fujiwara, Honda R&D Co., Ltd.

11:00 (2012-32-0102/20129102)

Connecting Rod Buckling Analysis Using Eigenvalue and Explicit Methods

Arden Anderson, Mercury Marine; Masahiro Yukioka, Mercury Racing

11:30 (2012-32-0101/20129101)

Strength Analysis of ATV Body Frame Using Computer Simulation

Daisuke Iwata, Yoshinobu Matsumoto, Suzuki Motor Corporation

Planned by SETC General Committee / EMB Land and Sea Group

The papers in this session are available in SAE Technical Paper Collection, COLL-TP-00308, and also individually. To purchase visit collections.sae.org

Two-Stroke Engines (Part 2 of 4) (SETC120)

10:30

Room - Hall of Ideas I

This session contains manuscripts focused on two-stroke engines. Topics such as emissions, performance, and efficiency will be explored. Advanced combustion control, direct fuel injection, simulation models and experimental results will be presented.

Organizers:

Scott A. Miers, Michigan Technological University; Kazuyuki Shiomi, Honda R&D Co., Ltd.

Chairpersons:

Hiromi Deguchi, Suzuki Motor Corp.; Scott A. Miers, Michigan Technological Univ.

10:30 (2012-32-0113/20129113)

Air Assisted Direct Cylinder Barrel Injection of Gasoline in a Two - Stroke S.I Engine

Ciju Paul, Indian Space Research Organization; Pradeep V, A Ramesh, Indian Institute of Technology Madras

11:00 (2012-32-0117/20129117)

Design of Retrofit Kit for LPG Driven Direct Injection Two-Stroke Engines

Yee Hern Tan, University Science Malaysia; Horizon Gitano, University of Kuala Lumpur

11:30 (2012-32-0115/20129115)

Development of a Transfer Port Injection System for Two-Stroke Engines

Yee Hern Tan, University Science Malaysia; Horizon Gitano, University of Kuala Lumpur; Ahmad Syazli Mohd Khalil, University Science Malaysia

Planned by SETC General Committee / EMB Land and Sea Group

The papers in this session are available in SAE Technical Paper Collection, COLL-TP-00309, and also individually. To purchase visit collections.sae.org

Wednesday
October 17

Alternative Fuels (Part 4 of 5) (SETC102)

13:30

Room - Hall of Ideas H

This session invites paper focused on aspects of operating small engines on non-petroleum based fuels or non-conventional blends of fuels. This includes performance metrics such as power, efficiency and emissions. It also covers durability considerations including materials compatibility, wear rates, etc. These two particular papers focus on the use of gaseous fuels.

Organizers:

Shusuke Okada, Yanmar Co., Ltd.; Paul Richards; Koji Yoshida, Nihon University

Chairpersons:

Brian J. Callahan, Achatas Power Inc.; Shusuke Okada, Yanmar Co., Ltd.

13:30 (2012-32-0017/20129017)

Combustion and Emissions with Bio-alcohol and Nonesterified Vegetable Oil Blend Fuels in a Small Diesel Engine

Hideyuki Ogawa, Hari Setiaprada, Hokkaido Univ.; Kosuke Hara, Yanmar Co. Ltd.; Gen Shibata, Hokkaido Univ.

14:00 (2012-32-0020/20129020)

Comparison of Diesel Combustion between Ethanol and Butanol Blended with Gas Oil

Shohei Yamamoto, Yasuhiro Agui, Noritsune Kawaharada, Hironobu Ueki, Daisaku Sakaguchi, Masahiro Ishida, Nagasaki University

Planned by SETC General Committee / EMB Land and Sea Group

Engine Controls (Part 2 of 3) (SETC109)

13:30

Room - Rooms KO

Papers in this session are related to design, development and testing of new or innovative electronic controls or control systems for internal combustion engines. Topics may include hardware, software and algorithm/function innovations as well as the associated sensors or actuators employed in the control system. Applications may range from very simple systems for 1-cylinder engines to more complex systems for high-performance or multi-cylinder engines.

Organizers:

Yutaka Nitta, Suzuki Motor Corp.; Tony Szczotka, ROBERT BOSCH CORP

Chairpersons:

Yutaka Nitta, Suzuki Motor Corp.; Tony Szczotka, Robert Bosch Corp.

13:30 (2012-32-0053/20129053)

Unique Variable Reluctance System for Improved Noise Immunity

Mike Garrard, Freescale Semiconductor U.K.; William E. Edwards, Freescale Semiconductor Inc.

14:00 (2012-32-0048/20129048)

Fundamental Investigations on the Boost Pressure Control System of Charged Aircraft Engines in the Aviation Class ELA1 / Approved Systems Versus New Solutions

Reinhard Stelzl, Roland Kirchberger, Stephan Schmidt, Graz University of Technology; Michael Dopona, Wolfgang Wukisiewitsch, Nigel Foxhall, BRP-Powertrain GmbH & Co KG

14:30 (2012-32-0052/2012-32-0052)

Knock Control on Small Four-Two-Wheeler Engines

Timo Jahn, Frank Schuerg, Stefan Kempf, Robert Bosch GmbH

Planned by SETC General Committee / EMB Land and Sea Group

The papers in this session are available in SAE Technical Paper Collection, COLL-TP-00306, and also individually. To purchase visit collections.sae.org

Engine Technology (Part 5 of 5) (SETC110)

13:30

Room - Rooms LP

Advanced engine technologies, design, and development for thermal efficiency, performance, and emissions, including cycle simulation.

Organizers:

Dr. Nagesh Mavinahally, MavinTech, LLC.; Hideyuki Okumura, Yamaha Motor Co., Ltd.

Chairpersons:

Shosaku Chiba, Honda R&D Co., Ltd.; Nagesh Mavinahally, MavinTech. LLC.

13:30 (2012-32-0057/20129057)

The Numerical Investigation on the Performance of Rotary Engine with Leakage, Different Fuels and Recess Sizes

Dun-Zen Jeng, Ming-June Hsieh, Chih-Chuan Lee, ASRD, CSIST, Taichung, Taiwan; Yu Han, National Chung Hsing University, Taiwan

14:00 (2012-32-0064/20129064)

The Intake and Exhaust Pipe Effect on a Rotary Engine Performance

Dun-Zen Jeng, Ming-June Hsieh, Chih-Chuan Lee, ASRD, CSIST, Taichung, Taiwan; Yu Han, National Chung Hsing University, Taiwan

Planned by SETC General Committee / EMB Land and Sea Group

HCCI (Part 2 of 2) (SETC113)

13:30

Room - Rooms MQ

This session focuses on studies of auto ignition combustion including HCCI and other low temperature combustion regimes. Experimental and simulation studies pertaining to various means of controlling combustion are welcome.

Organizers:

William P. Attard, MAHLE Powertrain LLC; Kenji Nishida, Honda R&D Co., Ltd.

Chairpersons:

William P. Attard, MAHLE Powertrain LLC; Kenji Nishida, Honda R&D Co., Ltd.

13:30 (2012-32-0078/20129078)

Analysis of the Effects of a Higher Compression Ratio on HCCI Combustion Characteristics using In-cylinder Visualization and Spectroscopic Measurement

Tomoya Tojo, Nihon University Graduate School; Koji Yoshida, Akira Iijima, Hideo Shoji, Nihon University; Akira Terashima, Kenta Suyama, Nihon University Graduate School

14:00 (2012-32-0079/20129079)

A Study of the Mechanism Producing Autoignition in an HCCI Engine Using In-Cylinder Spectroscopy and Chemical Kinetic Simulation

Akira Iijima, Nihon University; Tomoya Tojo, Akira Terashima, Kenta Suyama, Nihon University Graduate School; Koji Yoshida, Hideo Shoji, Nihon University

14:30 (2012-32-0080/20129080)

A Spectroscopic Study of the Effects of Multicomponent Fuel Blends on Supercharged HCCI Combustion

Mitsuo Asanuma, Nihon University Graduate School; Akira Iijima, Koji Yoshida, Hideo Shoji, Nihon University; Go Emori, Nihon University Graduate School

Planned by SETC General Committee / EMB Land and Sea Group

Two-Stroke Engines (Part 3 of 4) (SETC120)

13:30

Room - Hall of Ideas I

This session contains manuscripts focused on two-stroke engines. Topics such as emissions, performance, and efficiency will be explored. Advanced combustion control, direct fuel injection, simulation models and experimental results will be presented.

Organizers:

Scott A. Miers, Michigan Technological University; Kazuyuki Shiomi, Honda R&D Co., Ltd.

Chairpersons:

Akihito Kasai, Honda R&D Co., Ltd.; Scott A. Miers, Michigan Technological Univ.

13:30 (2012-32-0110/20129110)

Spark Ignition System for Direct-Injected Gasoline Two Stroke Engine

Michael J. French, BRP US Inc.

14:00 (2012-32-0118/20129118)

Electronically Controlled Batteryless Injection System for Small Two-Stroke SI Engines

Arno Kinnen, Wolfgang Layher, Heiko Däschner, Andreas STIHL AG & Co. KG

Planned by SETC General Committee / EMB Land and Sea Group

Alternative Fuels (Part 5 of 5) (SETC102)

15:30

Room - Hall of Ideas H

This session invites paper focused on aspects of operating small engines on non-petroleum based fuels or non-conventional blends of fuels. This includes performance metrics such as power, efficiency and emissions. It also covers durability considerations including materials compatibility, wear rates, etc. These three particular papers focus on the use of gaseous fuels including hydrogen.

Organizers:

Shusuke Okada, Yanmar Co., Ltd.; Paul Richards; Koji Yoshida, Nihon University

Chairpersons:

Robert Kee, Queen's University Belfast; Koji Yoshida, Nihon University

15:30 (2012-32-0016/20129016)

A Comparison of the Emissions from Gasoline vs. Compressed Natural Gas for an Electronic Fuel Injected Two Cylinder, Four-Stroke Engine

Amitabh S. Gautam, Robert Garrick, James Howard Lee, Chris M. Deminco, Philip E. Hannum, Larry A. Villasmil, Rochester Institute of Technology

Wednesday October 17

16:00 (2012-32-0021/20129021)

Potential of a Dual Fuel DI Diesel Engine Fuelled with Jatropha Curcas L. Oil and Producing Gas Derived from Biomass

Sopheak Rey, Institute of Technology of Cambodia; Chihiro Kondo, Koji Yamane, Kiyoshi Kawasaki, The University of Shiga Prefecture

Planned by Setc General Committee / EMB Land and Sea Group

Collegiate Events (SETC103)

15:30

Room - Rooms MQ

Papers in this session discuss innovations regarding entries in the SAE Collegiate Design Series (CDS) events. This year two papers describe Formula SAE innovations. The first discusses a novel approach to improved fuel economy using part load mapping. The second describes a highly integrated parallel hybrid design for the Formula Hybrid competition.

Organizers:

Geoffrey McCullough, Queen's Univ. of Belfast; Jay Meldrum, Michigan Technological Univ.; Takashi Mitome, Suzuki Motor Corp.

Chairpersons:

Jay Meldrum, Michigan Technological Univ.; Takashi Mitome, Suzuki Motor Corp.

15:30 (2012-32-0026)

Highly Integrated Parallel Hybrid Powertrain

Dan Cordon, Samuel Wos, Steven Beyerlein, Edwin Odom, Univ of Idaho

16:00 (2012-32-0027/20129027)

Improving the Fuel Economy of a Tuned 600cc FSAE Engine

Thomas Leonard, James Leckey, Geoffrey McCullough, Queen's University of Belfast

Planned by SETC General Committee / EMB Land and Sea Group

Diesel Engines (Part 2 of 2) (SETC106)

15:30

Room - Rooms LP

Papers in this session will pertain to studies of naturally aspirated and boosted diesel engines including their design, emission control, NVH, fuel system, fuel type, aftertreatment, combustion quality, or engine control.

Organizers:

Daniel Nehmer, John Deere & Co.; Yoshiro Tokunaga, Kawasaki Heavy Industries, Ltd.

Chairpersons:

Daniel Nehmer, John Deere & Co.; Yoshiro Tokunaga, Kawasaki Heavy Industries, Ltd.

15:30 (2012-32-0030/20129030)

Soot Particles Generation Characteristics and Size Distribution in Diesel Engine using Improved Detail Soot Model

Ju Hongling, Xiaobei Cheng, Fangyang Wang, Huazhong University of Sci. &Tech.

16:00 (2012-32-0031/20129031)

Simultaneous Reduction of Pressure Rise Rate and Emissions in a Compression Ignition Engine by Use of Dual-Component Fuel Spray

Yoshimitsu Kobashi, Hiroki Maekawa, Satoshi Kato, Kanazawa Institute of Technology; Jiro Senda, Doshisha University

16:30 (2012-32-0035/20129035)

Technical Concepts on Non-Road Small Direct Injection Diesel Engines with Common Rail System

Tomoya Hasegawa, Tamotsu Kuno, Kentaro Kita, Akihiko Kai, Yuji Takemura, Osamu Yoshii, Tadao Okazaki, Hideya Miyazaki, Kubota Corporation

Planned by SETC General Committee / EMB Land and Sea Group

Hybrid, Electric Drive, and Fuel Cell (Part 2 of 2) (SETC114)

15:30

Room - Rooms KO

In Part 2 of the Hybrid, Electric, and Fuel Cell Session we have three papers. The first outlines a new way to predict State of Charge of a battery by an algorithm that augments the traditional Open Circuit Voltage measurement. The next paper discusses a unique hybrid that combines an ammonia fueled IC engine and a lithium battery powered motor. The final paper revisits and models the free piston engine concept.

Organizers:

Glenn Bower, Univ. of Wisconsin Madison; Jay Meldrum, Michigan Technological Univ.; Yasuyuki Muramatsu, Yamaha Motor Co., Ltd.

Chairpersons:

Jay Meldrum, Michigan Technological Univ.; Yasuyuki Muramatsu, Yamaha Motor Co., Ltd.

15:30 (2012-32-0084/20129084)

Model Development for the Compression Ignition Free Piston Engine Alternator

Huajie Ding, Xiumin Yu, College of Automotive Eng., Jilin Univ.; Junjie Li, Shanghai Volkswagen Automotive Company

16:00 (2012-32-0082/20129082)

A Heuristic Algorithm for Determining State of Charge of a Lead Acid Battery for Small Engine Applications

Anand Ganesan, Sudharsan Sundaram, Mahindra Two Wheelers Ltd., Pune, India.

16:30 (2012-32-0085/20129085)

A Hybrid Vehicle Powered by Hydrogen and Ammonia

Giuseppe Pozzana, Neri Bonfanti, Pont-Tech srl, Pontedera Italy; Stefano Frigo, Energia e Sistemi Univ. Pisa, Italy; Nicolò Doveri, EDI Progetti&Sviluppo, Pontedera, Italy; Paolo Dario, Scuola Superiore Sant'Anna, Italy; Virgilio Mattoli, Center for Micro-BioRobotics, IIT, Italy; Marina Ragnoli, Acta Energy spa, Crespina, Italy

Planned by SETC General Committee / EMB Land and Sea Group

Two-Stroke Engines (Part 4 of 4) (SETC120)

15:30

Room - Hall of Ideas I

This session contains manuscripts focused on two-stroke engines. Topics such as emissions, performance, and efficiency will be explored. Advanced combustion control, direct fuel injection, simulation models and experimental results will be presented.

Organizers:

Scott A. Miers, Michigan Technological University; Kazuyuki Shiomi, Honda R&D Co., Ltd.

Chairpersons:

Scott A. Miers, Michigan Technological Univ.; Tomoo Shiozaki, Honda R&D Co., Ltd.

15:30 (2012-32-0111/20129111)

Future Engine Technology in Hand-Held Power Tools

Alexander Trattner, Stephan Schmidt, Roland Kirchberger, Helmut Eichlseder, Graz University of Technology; Armin Kölmel, Michael Raffenberg, Tim Gegg, Andreas STIHL AG & Co. KG

16:00 (2012-32-0112/20129112)

The Impact of Titan Inserts in Piston on the Parameters of Two-Stroke Engine Performance

Maciej Bajerlein, Jerzy Merkisz, Lukasz Rymaniak, Andrzej Ziolkowski, Poznan Univ of Technology

Planned by SETC General Committee / EMB Land and Sea Group



The graphic on the left features a vertical stack of icons: a globe, a classical building, a laptop, and a house. Each icon is accompanied by a text label: 'Seminars' (next to the globe), 'Engineering Academies' (next to the building), 'e-Learning' (next to the laptop), and 'Corporate Learning Solutions' (next to the house).

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P110042

Thursday
October 18

Emissions and Environmental Impacts

(SETC107)

08:30

Room - Rooms MQ

This session focuses on general topics in emissions including emission formation mechanisms, techniques to reduce engine-out emissions, impact of fuel composition, after-treatment, and controls and environmental impacts.

Organizers:

James Carroll, Southwest Research Institute; Hiromi Deguchi, Suzuki Motor Corp.; Roy Douglas, Queen's Univ. of Belfast; Philip Pierce, HARLEY DAVIDSON MOTOR CO

Chairpersons:

Hiromi Deguchi, Suzuki Motor Corp.; Philip Pierce, HARLEY DAVIDSON MOTOR CO

08:30 (2012-32-0039/20129039)

Small SI Engine Evaporative Emission Control

Sam Reddy, Evaporative Emissions Consulting Inc.

09:00 (2012-32-0038/20129038)

Influence of the Alcohol Type and Concentration in Alcohol-Blended Fuels on the Combustion and Emission of Small Two-Stroke SI Engines

Markus Bertsch, Kai W. Beck, MOT GmbH; Ulrich Spicher, Karlsruhe Inst of Technology; Armin Kölmel, Ute C. Dawin, Holger Lochmann, Stefan Schweiger, Andreas STIHL AG & Co. KG

09:30 (2012-32-0070/20129070)

Comparison of the Emission Behaviour and Fuel Consumption of a Small Two-Stroke SI Chainsaw under Test-Bed- and Real In-Use Conditions

Markus Bertsch, Kai Beck, MOT GmbH; Patrick Ulmerich, Hans Van den Hoevel, AVL Deutschland GmbH; Ulrich Spicher, Karlsruhe Institute of Technology

10:00 (2012-32-0036/20129036)

Applications to the Off-Road Engines by Ultra-Small DOC Containing Metal Special Structure Design Substrates - Compact & Cost Effective with Small Aftertreatment System

Tetsuo Nohara, Kazunari Komatsu, EMITEC Japan; Tatsuya Morimoto, Keita Naito, Kubota Corporation

Planned by SETC General Committee / EMB Land and Sea Group

Engine Controls (Part 3 of 3) (SETC109)

08:30

Room - Hall of Ideas I

Papers in this session are related to design, development and testing of new or innovative electronic controls or control systems for internal combustion engines. Topics may include hardware, software and algorithm/function innovations as well as the associated sensors or actuators employed in the control system. Applications may range from very simple systems for 1-cylinder engines to more complex systems for high-performance or multi-cylinder engines.

Organizers:

Yutaka Nitta, Suzuki Motor Corp.; Tony Szczotka, ROBERT BOSCH CORP

Chairpersons:

Yutaka Nitta, Suzuki Motor Corp.; Tony Szczotka, Robert Bosch Corp.

08:30 (2012-32-0047/20129047)

Vehicle Calibration Techniques Established and Substantiated for Motorcycles

Satoru Kanno, Koichi Tsunokawa, Takashi Suda, Keihin Corporation

09:00 (2012-32-0051/20129051)

Development of DBW System for Motorcycles with Fast Response and Layout Flexibility

Hiroshi Jimbo, Hiroshi Nakayama, Keihin Corp.

09:30 (2012-32-0049/20129049)

912iS Fuel Injected Aircraft Engine

Michael Dopona, Nigel Foxhall, Christoph Dutzler, BRP-Powertrain GmbH & Co. KG

Planned by SETC General Committee / EMB Land and Sea Group

The papers in this session are available in SAE Technical Paper Collection, COLL-TP-00306, and also individually. To purchase visit collections.sae.org

Materials (Part 2 of 2) (SETC116)

08:30

Room - Rooms LP

This session will focus on the structure, processing, and properties of materials in small engine applications. Some possible topics include lightweighting of engine and vehicle components; heat treatment and surface processing; fatigue, fracture, and wear; coatings; and advanced ceramic, metallic, and polymeric materials.

Organizers:

Hiroataka Kurita, Yamaha Motor Co., Ltd.; David Palmer, BRP US Inc.

Chairpersons:

Hiroataka Kurita, Yamaha Motor Co., Ltd.; David Elijah Palmer, BRP US Inc.

08:30 (2012-32-0089/20129089)

Development of Waterborne Conductive Primer for Motorcycles

Akiko Tanaka, Tomoyuki Inoue, Shinsuke Mochizuki, Honda R&D Co., Ltd.; Masanobu Inoue, Nippon Bee Chemical Co., Ltd.

09:00 (2012-32-0092/20129092)

Optimizing the Cylinder Running Surface / Piston System of Internal Combustion Engines Towards Lower Emissions

Peter Ernst, Sulzer Metco AG (Switzerland); Bernd Distler, Sulzer Metco (US) Inc.

09:30 (2012-32-0090/20129090)

Evaluation of the Tribological Property of Resin Coating by the Addition of Nylon and Graphite Particles

Nobuyuki Suzuki, Akio Hikasa, Suzuki Motor Corp.

Planned by SETC General Committee / EMB Land and Sea Group

Measurement and Simulation (Part 3 of 3) (SETC117)

08:30

Room - Rooms KO

The session is associated with engine and vehicle simulation tasks and their related measurements. Simulation and measurement methodology as well as the simulation and measurement application on development tasks will find a place within the session.

Organizers:

Tadao Okazaki, Kubota Corp.; Stephan Schmidt, Graz University of technology

Chairpersons:

Tadao Okazaki, Kubota Corp.; Stephan Schmidt, Graz University of Technology

08:30 (2012-32-0105/20129105)

Development of a Micro-Engine Testing System

Andrew Wiegand, Scott Miers, Jason Blough, Michigan Technological University; Darin Kowalski, Andy Biske, US Army TARDEC

09:00 (2012-32-0099/20129099)

Fuel Consumption and Power Performance Prediction in Outboard Motors for High-Speed Planing Boats using CFD Simulation

Shunsuke Kurioka, Honda R&D Co., Ltd.

09:30 (2012-32-0100/20129100)

Investigation of Combustion Diagnosis System Applied for the Development of General Purpose Utility Engines

Toshiro Kiura, Naohiro Ikeda, Takayuki Aoki, Honda R&D Co., Ltd.

10:00 (2012-32-0097/20129097)

Development of Real World Driving Cycle for Vehicle Durability Evaluation

Gagandeep Singh Risam, Anil Singanamalli, Sasun C, Rajasekaran T, TVS Motor Company Ltd.

Planned by SETC General Committee / EMB Land and Sea Group

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NVH Technology (SETC118)

08:30

Room - Hall of Ideas H

All aspects of small engine related noise and vibration are covered in this session including: generation, experimental techniques, measurement, numerical analysis, NVH materials, source identification, NVH quality and novel solutions.

Organizers:

Ken Kicinski, HARLEY-DAVIDSON; Masahiko Sugimoto, Kubota Corporation

Chairpersons:

Ken Kicinski, HARLEY-DAVIDSON; Toshimi Kobayashi, Kawasaki Heavy Industries, Ltd.

08:30 (2012-32-0106/20129106)

360° vs. 270° vs. 180°: The Difference of Balancing a 2 Cylinder Inline Engine: Design, Simulation, Comparative Measurements

Christian Hubmann, Wolfgang Schoeffmann, Hubert Friedl, Bernhard Graf, AVL LIST GmbH

09:00 (2012-32-0108/20129108)

Study of Engine Mount Layout for Industrial Diesel

Masahiro Akei, Kouichi Kouzato, Toshiyuki Uyama, Yanmar Co. Ltd.

09:30 (2012-32-0107/20129107)

Acoustic Studies of Micro-Perforates for Small Engine Silencers

Raimo Kabral, TUT/KTH Royal Institute of Technology; Hans Rämmal, Jüri Lavrentjev, Tallinn University of Technology

Thursday October 18

10:00 (2012-32-0109/20129109)

A Novel Design for Cruiser Type Motorcycle Silencer Based on Micro-Perforated Elements

Raimo Kabral, TUT/KTH Royal Institute of Technology; Hans Rämml, Fabio Auriemma, Tallinn University of Technology; Janek Lupp, Lettore; Risto Koiv, Tallinn University of Technology; Heiki Tiikoja, KTH Royal Institute of Technology; Jüri Lavrentjev, Tallinn University of Technology

Planned by SETC General Committee / EMB Land and Sea Group

Advanced Combustion (Part 3 of 3) (SETC101)

11:00

Room - Rooms LP

This session focuses on advanced combustion technologies in both 4-stroke and 2-stroke engines. The scope of topics includes studies of mixture formation, dilution effects, ignition, abnormal combustion, engine efficiency, flame propagation, and emissions formation.

Organizers:

William P. Attard, MAHLE Powertrain LLC; Yasuo Moriyoshi, Chiba Univ.; Kenji Nishida, Honda R&D Co., Ltd.

Chairpersons:

William P. Attard, MAHLE Powertrain LLC; Yoshimitsu Kobashi, Kanazawa Institute of Technology

11:00 (2012-32-0002/20129002)

Visualization of Propane and Natural Gas Spark Ignition and Turbulent Jet Ignition Combustion

Elisa Toulson, Andrew Huisjen, Xuefei Chen, Cody Squibb, Guoming Zhu, Harold Schock, Michigan State University; William P. Attard, MAHLE Powertrain LLC

11:30 (2012-32-0005/20129005)

Effects of Turbulence on Mixture Stratification in a Small-Bore Utility Engine

Michael Tess, Jaal Ghandi, Univ of Wisconsin Madison

Planned by SETC General Committee / EMB Land and Sea Group

Lubricants (SETC115)

11:00

Room - Rooms MQ

Lubricants, Lubricant Performance, Lubricant Additives, Tribology, Friction, and Wear

Organizers:

Brent R. Dohner, Lubrizol Corp.; Tomoo Shiozaki, Honda R&D Co., Ltd.

Chairpersons:

Brent R. Dohner, Lubrizol Corp.; Hirotaka Kurita, Yamaha Motor Co., Ltd.

11:00 (2012-32-0087/20129087)

Highly Efficient Lubricant for Sport Motorcycle Application - Fuel Economy and Durability Testing

Gianluigi Zoli, Cliff Newman, May Turner, Matthew Symonds, Castrol Ltd

Planned by SETC General Committee / EMB Land and Sea Group

Vehicle Dynamics (SETC121)

11:00

Room - Rooms KO

Organizers:

Masayuki Baba, Honda R&D Co., Ltd.; Kay Stepper, Bosch Industries

Chairpersons:

Masayuki Baba, Honda R&D Co., Ltd.; Brian J. Callahan, Achates Power Inc.

11:00 (2012-32-0122/20129122)

Relation between the Weave Mode in Low Speed Range and Slalom Running of Motorcycles

Tomoaki Kishi, Toshifumi Uchiyama, Shigeru Fujii, Yamaha Motor Co., Ltd.

11:30 (2012-32-0123/20129123)

Research on Engine Torque Control with Acceleration Performance for MotoGP Class Racing Motorcycles

Yukihide Akitsu, Honda Racing Corporation

Planned by SETC General Committee / EMB Land and Sea Group