

SESSIONS AT-A-GLANCE

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Tuesday 9 September				
Emissions (1 of 2) (SETC10)	✓	-	202D	18
Emissions (2 of 2) (SETC10)	-	✓	202D	19
Engine Technology (1 of 2) (SETC1)	✓	-	202B	18
Engine Technology (2 of 2) (SETC1)	-	✓	202B	19
Opening Ceremony and Keynote Address (SETC18)	✓	-	201A&B	18
Two-Stroke Engine (1 of 2) (SETC3)	✓	-	202A	18
Two-Stroke Engine (2 of 2) (SETC3)	-	✓	202A	20
Vehicle Dynamics/Safety (1 of 2) (SETC15)	✓	-	202E	19
Vehicle Dynamics/Safety (2 of 2) (SETC15)	-	✓	202E	20
Wednesday 10 September				
Alternative Fuel's (1 of 2) (SETC12)	✓	-	202E	21
Alternative Fuel's (2 of 2) (SETC12)	-	✓	202E	22
Collegiate Events (SETC13)	✓	-	202D	21
Design and Simulation (1 of 2) (SETC7)	✓	-	202B	21
Design and Simulation (2 of 2) (SETC7)	-	✓	202B	22
Engine Component (SETC2)	-	✓	202A	23
Fuel Supply Systems (SETC6)	-	✓	202D	23
Lubricants (SETC9)	✓	-	202A	22
Plenary Session (SETC PLENARY)	-	✓	201A&B	23
Thursday 11 September				
Advanced Combustion (SETC14)	✓	-	202D	24
Closing Ceremony (SETC19)	✓	-	201A&B	25
Control Systems (SETC16)	✓	-	202B	24
Hybrid, Electric Drive & Fuel Cell (SETC17)	✓	-	202A	24
Materials (SETC11)	✓	-	202E	24
NVH Technology (SETC5)	✓	-	202A	25

Opening Ceremony and Keynote Address (SETC18)

08.00

Room - 201A&B

Moderators:

Jeff J. White, Southwest Research Institute

Welcoming Remarks:

Yoji Onishi, Kawasaki Heavy Industries, Ltd.

Thomas W. Ryan, Southwest Research Institute

Welcoming Remarks:

Yasuhiro Shimizu, Honda R&D Co., Ltd.

Roch Lambert, BRP US Inc.

Emissions (1 of 2) (SETC10)

10.00

Room - 202D

Emission regulations are continuing to drive development of new technology for small engines. This session will consider advances in catalyst and other emission reduction technologies and their application to small engines.

Organizers:

Hiromi Deguchi, Suzuki Motor Corp.; Jeff J. White, Southwest Research Institute

Chairpersons:

Hiromi Deguchi, Suzuki Motor Corp.; Jeff J. White, Southwest Research Institute

10.00

(2008-32-0004/20084704)

Ring Pack Crevices and Crankcase Pressure Effects on the Hydrocarbon Emissions from an Air-Cooled Utility Engine

Victor Salazar, Jaal Ghandhi, Univ. of Wisconsin Madison

(2008-32-0011/20084711)

Reduction of Nano-particle Emissions from Gasoline 2-Stroke Engines Using CLM - Ceramic Exhaust Filters (Written Only -- No Oral Presentation)

Noah Loren, Robert Miller, GEO2 Technologies

Engine Technology (1 of 2) (SETC1)

10.00

Room - 202B

The primary focus of the session is to encompass technical papers in the areas of engine technologies including but not limited to; the alternate concepts, design and performance of components, engine management systems, manufacturing processes, etc. that contribute to the improvement in over all design and performance of the engine.

Organizers:

Nagesh S. Mavinahally, Cummins Inc.; Tomoo Shiozaki, Honda R&D Co., Ltd

Chairpersons:

Nagesh S. Mavinahally, Techtronic Industries NA Inc.; Kazuyuki Shiomi, Honda R&D Co., Ltd.

10.00

(2008-32-0003/20084703)

A Novel Model for Computing the Trapping Efficiency and Residual Gas Fraction Validated with an Innovative Technique for Measuring the Trapping Efficiency

Vittorio Manente, Per Tunestal, Bengt Johansson, Lund Institute of Technology

10.30

(2008-32-0010/20084710)

Application of Chaos Theory to Engine System

Kazuhiro Matsumoto, Hans Diebner, INM; Ichiro Tsuda, Hokkaido Univ.; Yukiharu Hosoi, Yamaha Motor Co., Ltd.

Two-Stroke Engine (1 of 2) (SETC3)

10.00

Room - 202A

Emissions regulations and fuel economy improvements are continuing to drive development of new technology for small engines. This session will consider advances in fuel injection, fuels, modeling, and controls as applied to 2 stroke engines to improve emissions & fuel economy.

Organizers:

Yukio Matsushita, Yamaha Marine Co., Ltd.; Daniel Nehmer, BRP US Inc.

Chairpersons:

Yukio Matsushita, Yamaha Marine Co., Ltd.; Daniel Nehmer, Bombardier Recreational Products NA(BRP)

10.00

(2008-32-0030/20084730)

Comparison of Homogeneous, Stratified and High-Squish Stratified Combustion in a Direct-Injected Two-Stroke Engine

Justin Johnson, BRP US Inc.; Karen Den Braven, Univ. of Idaho

10.30

(2008-32-0037/20084737)

Ion-Current Measurement in Small Two-Stroke SI Engines

Kai W. Beck, Soeren H. Bernhardt, Ulrich Spicher, Universität Karlsruhe (TH); Tim Gegg, Armin Koelmel, Andreas Paa, ANDREAS STIHL AG; Tycho Weissgerber, Marc Westecker, Pulse GmbH

SESSIONS TECHNICAL, BUSINESS & EXECUTIVE

11.00 (2008-32-0042/20084742)

CFD Simulation of a Real World High-Performance Two Stroke Engine with Use of a Multidimensional Coupling Methodology

Dalibor Jajcevic, Raimund Almbauer, Stephan Schmidt, Graz Univ. of Technology; Karl Glinsner, BRP-Rotax GmbH & Co. KG

Vehicle Dynamics/Safety (1 of 2) (SETC15)

10.00

Room - 202E

This session will focus on the application of technology to improve the stability, handling, ride and comfort of two- and three-wheeled vehicles.

Organizers:

Masayuki Baba, Honda R&D Co., Ltd.; Deane B. Jaeger, Harley-Davidson Motor Co.

Chairpersons:

Masayuki Baba, Honda R&D Co., Ltd.; Deane B. Jaeger, Harley-Davidson Motor Co.

10.00 (2008-32-0061/20084761)

Comparison Between Experimental and Numerical Handling Tests for a Three-Wheeled Motorcycle

Francesco Frendo, R. Bartolozzi, Massimo Guiggiani, Univ. of Pisa; O. Di Tanna, Piaggio & C. S.p.A

10.30 (2008-32-0062/20084762)

Stability Analysis of a Three-Wheeled Motorcycle

Antonio Sponziello, Francesco Frendo, Massimo Guiggiani, Univ. of Pisa

11.00 (2008-32-0070/20084770)

Effect of Seat Support Structure Stiffness on Handling of Motorcycles

Sai Praveen Velagapudi, Dheeraj Sharma, R. Anand, Karanam Venkata Mangaraju, R. Babu, TVS Motor Co., Ltd.

Emissions (2 of 2) (SETC10)

13.30

Room - 202D

Emission's regulations are continuing to drive development of new technology for small engines. This session will consider advances in catalyst and other emission's reduction technologies and their application to small engines.

Organizers:

Hiroimi Deguchi, Suzuki Motor Corp.; Jeff J. White, Southwest Research Institute

13.30 (2008-32-0013/20084713)

Development of Paper Exhaust Catalyst Material for Emission Control in Small Internal Combustion Engines

Boateng Onwona-Agyeman, Ryo Suzuki, Hiroaki Yano, Shintarou Yagi, Akihiko Tomoda, FCC CO., Ltd.

14.00 (2008-32-0014/20084714)

Discussion of the Role of Fuel-Oil Diffusion in the Hydrocarbon Emissions from a Small Engine

Victor Salazar, Jaal Ghandhi, Univ. of Wisconsin Madison

14.30 (2008-32-0017/20084717)

Meeting Low Evaporative Fuel Emission Requirements Using Two Layer Technology

Maria Gallahue-Worl, Solvay Advanced Polymers

Engine Technology (2 of 2) (SETC1)

13.30

Room - 202B

The primary focus of the session is to encompass technical papers in the areas of engine technologies including but not limited to the alternate concepts, design and performance of components, engine management systems, manufacturing processes, etc. that contribute to the improvement in overall design and performance of the engine.

Organizers:

Nagesh S. Mavinahally, Cummins Inc; Tomoo Shiozaki, Honda R&D

Chairpersons:

Kazuyuki Shiomi, Honda R&D Co., Ltd.; Nagesh S. Mavinahally, Cummins Inc

13.30 (2008-32-0012/20084712)

Research on Extended Expansion General Purpose Engine - Characteristic of Vibration

Gaku Naoe, Sei Watanabe, Honda R&D Co., Ltd.

14.00 (2008-32-0015/20084715)

Development of Accelerator-by-wire System for Variable Valve Lift and Timing Mechanism with Three Dimensional Cam

Yousuke Shimozuma, Shinsaku Sakoh, Suzuki Motor Corp.

14.30 (2008-32-0016/20084716)

Development of a Motorcycle Engine with a Three-dimensional Cam for Continuous Variable Valve Lift and Timing Mechanism

Isato Taki, Yamauchi Kosaku, Takahashi Kazutoshi, Nakama Kenjiro, Nakamura Muneaki, Suzuki Motor Corp.

15.00 (2008-32-0018/20084718)

Effects on Fuel Economy and NOx Emission Using Stratified Charge and EGR System for a Single Cylinder Motorcycle Engine

Kouji Takasu, Hisatoshi Kinoshita, Ryusuke Kato, Yamaha Motor Co., Ltd.

Two-Stroke Engine (2 of 2) (SETC3)

13.30

Room - 202A

Emissions regulations and fuel economy improvements are continuing to drive development of new technology for small engines. This session will consider advances in fuel injection, fuels, modeling, and controls as applied to 2 stroke engines to improve emissions, fuel economy.

Organizers:

Yukio Matsushita, Yamaha Marine Co., Ltd.; Daniel Nehmer, BRP US, Inc.

Chairpersons:

Yukio Matsushita, Yamaha Marine Co., Ltd.; Daniel Nehmer, Bombardier Recreational Products NA(BRP)

13.30 (2008-32-0045/20084745)

Performance Characterization of a Direct Injection LPG Fuelled Two-Stroke Motorcycle Engine

Yew Heng Teoh, Horizon Walker Gitano, Khairil Faizi Mustafa, Univ. Science Malaysia

14.00 (2008-32-0059/20084759)

Application of Low Pressure Direct Injection and Semi-Direct Injection to a Small Capacity Two-Stroke Engine

Franz Winkler, Roland Oswald, Oliver Schoegl, Roland Kirchberger, Andreas Ebner, Graz University of Technology

14.30 (2008-32-0060/20084760)

Pneumatic Fuel Injection in a Coupled Two-Stroke Engine

Wladyslaw Mitianiec, Cracow Univ. of Technology

15.00 (2008-32-0077/20084777)

Development and Testing of a Novel Mixture Injection System for a Two Stroke SI Engine

Marimuthu Loganathan, Annamakai University; A. Ramesh, Indian Institute of Technology Madras

Vehicle Dynamics/Safety (2 of 2) (SETC15)

13.30

Room - 202E

This session will focus on the application of technology to improve the stability, handling, ride and comfort of two- and three-wheeled vehicles.

Organizers:

Masayuki Baba, Honda R&D Co., Ltd.; Deane B. Jaeger, Harley-Davidson Inc.

Chairpersons:

Masayuki Baba, Honda R&D Co., Ltd.; Deane B. Jaeger, Harley-Davidson Motor Co.

13.30 (2008-32-0055/20084755)

Disturbance Rejection Control in Motorcycle that Considers Cooperativeness with the Rider's Driving Operation

Yuya Ezaki, Takayuki Koizumi, Nobutaka Tsujiuchi, Doshisha Univ.

14.00 (2008-32-0056/20084756)

Evaluating Lane-Keeping-Assistance System for Motorcycles by Using Rider-Control Model

Nozomi Katagiri, Yoshitaka Marumo, Hitoshi Tsunashima, Nihon Univ.

14.30 (2008-32-0036/20084736)

Characteristics of Motorcycle Traffic Accidents in Japan

Tetsuya Osakabe, Institute for Traffic Accident Research and Data Analysis

15.00 (2008-32-0068/20084768)

Optimization of Damping Characteristics for Two Wheelers

Venkata Mangaraju Karanam, Venkata Mangaraju, D. Govardan, Chandan Chaven, R. Babu, Rauhavan Venkatesan, TVS Motor Co., Ltd.

(2008-32-0033/20084733)

Design of Automatic Slack Adjuster for Drum Brake in 150CC 4-Stroke Bike on Indian Road (Written Only -- No Oral Presentation)

Pradeep C. Chandrasekaran, MAHINDRA & MAHINDRA

SESSIONS TECHNICAL, BUSINESS & EXECUTIVE

Alternative Fuel (1 of 2) (SETC12)

09.00

Room - 202E

This session considers the impact on performance and emissions of introducing alternative fuels to existing engines, both spark ignition and compression ignition.

Organizers:

Paul J. Richards, Innospec, Ltd.; Koji Yoshida, Nihon Univ.

Chairpersons:

James Carroll, Southwest Research Institute; Takashi Mitome, Suzuki Motor Corp.

09.00 (2008-32-0019/20084719)

Assessment on the Impacts of the 3% Ethanol Gasoline Fuel Blend on Passenger Cars and Motorcycles in Taiwan

Mei-Ching Tseng, Rui Rung Lin, Fu-Lung Liu, Industrial Technology Research Institute

09.30 (2008-32-0020/20084720)

Effect of Ethanol on Knock in Spark Ignition Gasoline Engine

Kenjiro Nakama, Kenjiro Nakma, Suzuki Motor Corp.; Jun Kusaka, Yasuhiro Daisho, Waseda Univ.

10.00 (2008-32-0021/20084721)

A Study of Carbureted Motorcycle Exhaust Emissions Using Gasoline-Ethanol Blended Fuels

Kou-Tzeng Lin, Ta-Chuan Liu, Industrial Technology Research Institute

Collegiate Events (SETC13)

09.00

Room - 202D

Papers in this session discuss innovations regarding entries in SAE Collegiate Design Series events. Three papers discuss clean and quiet snowmobile designs entered in the SAE Clean Snowmobile Challenge and two papers involve new engine designs for the Formula SAE event.

Organizers:

Robert Kee, Queen's Univ. of Belfast; Jay Meldrum, Michigan Tech. University; Koji Yoshida, Nihon Univ.

Chairpersons:

Robert Kee, Queen's Univ. of Belfast; Jay Meldrum, Michigan Technological Univ.; Isato Taki, Suzuki Motor Corp.

09.00 (2008-32-0031/20084731)

University of Idaho's Clean Snowmobile Design Using a Direct-Injection Two-Stroke Engine

Nicholas Harker, Univ. of Idaho; Andrew Findlay, Justin Johnson, BRP; Karen Den Braven, Univ. of Idaho

09.30 (2008-32-0049/20084749)

Improving Upon Best Available Technology: A Clean Flex Fuel Snowmobile

Nicholas Rakovec, Glenn Bower, Michael Maney, Brian Olenski, Univ. of Wisconsin Madison

10.00 (2008-32-0053/20084753)

Development of Clean Snowmobile Technology for Operation on High-Blend Ethanol for the 2008 Clean Snowmobile Challenge

Gregory W. Davis, Francis Wilson, Brian Daniel Schickel, Andrew Baker, Kettering Univ.

10.30 (2008-32-0073/20084773)

Camshaft Design for an Inlet-Restricted FSAE Engine

Steven McClintock, Jason Walkingshaw, Charles McCartan, Geoffrey McCullough, Geoffrey Cunningham, Queen's Univ. Belfast

11.00 (2008-32-0079/20084779)

Experimental Validation of a FSAE Engine Model

Jason Walkingshaw, Steven McClintock, Geoffrey McCullough, Charles McCartan, Geoffrey Cunningham, Queen's Univ. Belfast

Design and Simulation (1 of 2) (SETC7)

09.00

Room - 202B

This session contains the study on design and testing for parts of small engines and motorcycles. Information regarding the drum brake, stress-strain of a crankcase and cast footrest will be discussed.

Organizers:

Roy Douglas, Queen's Univ. of Belfast; Toshimi Kobayashi, Kawasaki Heavy Industries, Ltd.

Chairpersons:

Roy Douglas, Queen's Univ. of Belfast; Toshimi Kobayashi, Kawasaki Heavy Industries, Ltd.

09.00 (2008-32-0066/20084766)

Numerical and Experimental Study on the Thermo-Mechanical Behavior of Drum Brake

Om Prakash Singh, S Mohan, Venkata Mangaraju, R Babu, TVS Motor Company, India

09.30 (2008-32-0067/20084767)

Simulation and Testing of Dynamic Loads of Two-Wheeler Engine Parts

Krishnaswamy Sriram, TVS Motor Co., Ltd.

10.00 (2008-32-0069/20084769)

Material and Geometric Optimization of Cast Footrest Subjected to Shock Loads

Bapannadora Karedla, TVS Motor Co., Ltd.

Lubricants (SETC9)

09.00

Room - 202A

This session contains a variety of presentations regarding engine oil technologies developed for small engines. There are three papers addressing new lubricants for motorcycles ranging from increasing engine power, to new high-performance oils needed to meet the ever increasing demand of new low emission engines. There are also two papers to address reducing friction and wear required for engine conserving performance in small engines.

Organizers:

Michael S. Brenner, Lubrizol Corp.; Hideo Kaido, Hideo Kaito, Kawasaki Heavy Industries, Ltd.

Chairpersons:

Michael S. Brenner, Lubrizol Corp.; Tadao Okazaki, Kubota Corp.

09.00 (2008-32-0080/20084780)

Development of High Performance Four-Cycle Motorcycle Engine Oil

Akira Yaguchi, Hiroyuki Hoshin, Kazuhiro Yagishita, Kenichi Komiya, Nippon Oil Corporation; Masatoshi Akagi, Honda R&D Co., Ltd.

09.30 (2008-32-0002/20084702)

Lubricant Base Oil Effects on Motorcycle Engine Power

Michael E. Webb, Curt M. Beloy, Bel-Ray Co.

10.00 (2008-32-0005/20084705)

Performance of Motorcycle Engine Oil with Sulfur-based Additive as Substitute Zn - DTP

Akira Mitarai, Moritsugu Kasai, Idemitsu Kosan Co., Ltd.; Masatoshi Akagi, Honda R&D Co., Ltd. Motorcycle R&D Center

10.30 (2008-32-0006/20084706)

Friction and Wear of Surface Coatings in a Small Two-Stroke Utility Engine

Ka Jun Ng, Horizon Walker Gitano, Zaidi Ripin, USM

Alternative Fuel (2 of 2) (SETC12)

13.30

Room - 202E

This session considers the impact on performance and emissions of introducing alternative fuels to existing engines, both spark ignition and compression ignition. Consideration is also given to changes in engine design necessary to make the best use of changes in fuel composition.

Organizers:

Paul J. Richards, Innospec, Ltd.; Koji Yoshida, Nihon Univ.

Chairpersons:

James Carroll, Southwest Research Institute; Takashi Mitome, Suzuki Motor Corp.

13.30 (2008-32-0023/20084723)

Conversion of a Homogeneous Charge Air-Cooled Engine for Operation on Heavy Fuels

Dan Cordon; Steven Beyerlein, Judi Steciak, Univ. of Idaho

14.00 (2008-32-0024/20084724)

Comparative Performance Analysis of Single Cylinder Automobile Engine by Using LPG and CNG as Fuel

Rajiv Ramchandra Saraf, Government Polytechnic; Dr. Sukrut S. Thipse, A R A I; Dr.P.K. Saxena, MNIT

14.30 (2008-32-0025/20084725)

A Study on Combustion and Emission Characteristics of Small DI Diesel Engine Fuelled with Dimethyl Ether

Yusheng Zhang, Jingzhou Yu, Shaoren Zhou, Chunlan Mo, Huazhong Univ. of Science and Tech.

Design and Simulation (2 of 2) (SETC7)

13.30

Room - 202B

This session concentrates on the application of software techniques to aid the design and development process. These papers cover a range of topics, such as the application of model-based control algorithms and the prediction of exhaust emissions of a small motorcycle on the ECE-40 drive cycle

Organizers:

Roy Douglas, Queen's Univ. of Belfast; Toshimi Kobayashi, Kawasaki Heavy Industries, Ltd.

Chairpersons:

Roy Douglas, Queen's Univ. of Belfast; Toshimi Kobayashi, Kawasaki Heavy Industries, Ltd.

13.30 (2008-32-0038/20084738)

Model Based Control System Design and Control Strategies on ETC

Kenichi Hazu, Yokoyama Munekazu, Mikuni Corp.

14.00 (2008-32-0043/20084743)

Experimental Validation of a Carburetor Model in One-Dimensional Engine Software

Christina Morrissey, Timothy Shedd, Univ. of Wisconsin Madison

14.30 (2008-32-0048/20084748)

Powertrain Real-Time Data Acquisition and Calibration without a Memory Description File

Parker T. Mosman, Kyle Schwulst, ElectroJet Inc.

15.00 (2008-32-0063/20084763)

Combined WAVE-Simulink Simulation to Predict the Exhaust Emissions During an ECE-40 Homologation Cycle for a CVT Vehicle

Giovanni Ferrara, Alessandro Bellissima, Univ. of Florence; Francesco Assirelli, Stefano Di Palma, Piaggio & C. s.p.a.

SESSIONS TECHNICAL, BUSINESS & EXECUTIVE

Engine Component (SETC2)

13.30

Room - 202A

This session will focus on the development of new components and application of new materials for camshafts and transmissions. Also, optimization of engine cooling systems will be discussed.

Organizers:

Hiromi Deguchi, Suzuki Motor Corp.; Robert Fleck, Queen's Univ. of Belfast

Chairpersons:

Hiromi Deguchi, Suzuki Motor Corp.; Robert Fleck, Queen's Univ. of Belfast

13.30 (2008-32-0040/20084740)

New Generation Advanced Hydraulic-Mechanical Transmission with Lock-up Mechanisms and Automatic Start Clutch

Yoshihiro Yoshida, Nobuyuki Yakigaya, Kazuhiko Nakamura, Kazuhiro Takeuchi, Kenichi Nakano, Yasutaka Usukura, Honda R&D Co., Ltd

14.00 (2008-32-0071/20084771)

Optimization of Air-Cooling System of 4-Stroke Scooter Engine

Vishal Kumar, TVS MOTOR COMPANY, INDIA

14.30 (2008-32-0075/20084775)

Composite Assembled Cam Shafts

Ian Howe, North American Hoganas; Thomas Haberberger, Richard Cerini, Alpha Sintered Metals Inc.

15.00 (2008-32-0076/20084776)

Precision Gears with Sintered Cr Materials

Senad Dizdar, Ian Howe, Pernilla Johansson, North American Hoganas

15.30 (2008-32-0078/20084778)

Development of Correlation Model for Manual shift Synchronesh Transmission Efficiency through Experimental Analysis

T M Manoz Kumar, TVS Motor Co., Ltd.

Fuel Supply Systems (SETC6)

13.30

Room - 202D

This session will focus on the unique requirements and challenges to optimize fuel delivery and combustion quality for small engine applications, due to wide ranging environmental conditions as well as fuel type and quality. It will include presentations related to fuel pumps, injectors and other components related to the delivery of the fuel from the tank to the engine as well as optimization of the combustion process, and will discuss systemic and component related issues.

Organizers:

Ryozo Okita, Yamaha Marine Co., Ltd.; Anthony A. Szczotka, Robert Bosch LLC

Chairpersons:

Ryozo Okita, Yamaha Marine Co., Ltd.; Anthony A. Szczotka, Robert Bosch LLC

13.30 (2008-32-0039/20084739)

Development of Compact Fuel Pump Module for Motorcycles

Minoru Ueda, Shunji Akamatsu, Mineo Torikai, Mitsuru Fukuda, Keihin Corporation; Masaki Ueno, Honda R&D Co., Ltd.

14.00 (2008-32-0064/20084764)

Investigation of Spray and Numerical Model Applied for Fuel-Injection Small Engines

Toshiro Kiura, Honda R&D Co., Ltd. Power Product R&D Center; Timothy Shedd, Benjamin Blaser, Univ. of Wisconsin Madison

14.30 (2008-32-0065/20084765)

Practical Design Approach to Improve Injection System for Industrial Diesel Engines Using Simulation Techniques

Tadao Okazaki, Masato Ueda, Takashi Onishi, Masahiko Sugimoto, Kubota Corp.; Mika Kato, Kubota System Inc.

(2008-32-0051/20084751)

Control of Fuel Vapor on Low Pressure Fuel Injection Systems for Small Engines (Written Only -- No Oral Presentation)

Paul Ravenhill, Jeffrey Allen, Scion Sprays, Ltd.

Plenary Session (SETC PLENARY)

16.30

Room - 201A&B

This plenary session will focus on the future fuel and emissions challenges that face the small engine industry. The talks will include information about proposed and pending fuel initiatives, and their likely impact on the industry. The impact that upcoming emissions standards will have on future engine technologies for the motorcycle and marine sectors will also be presented. The effect of future fuel composition and its global availability on the emissions challenge will also be addressed. Following presentations by the panelists there will be an open question period.

Moderators:

Jaal B. Gandhi, Univ. of Wisconsin Madison

Panelists:

Jeffrey Coughlin, Harley-Davidson Motor Co.
David Foulkes, Mercury Marine
Brian West, Oak Ridge National Laboratory

Advanced Combustion (SETC14)

09.00

Room - 202D

This session will focus on papers that describe advances in combustion system development by utilizing new diagnostics; the performance of modern combustion systems such as HCCI and other low temperature combustion systems; and fundamental studies of combustion in engines.

Organizers:

Jaal B. Ghandhi, Univ. of Wisconsin - Madison; Minoru Iida, Yamaha Motor Co., Ltd.

Chairpersons:

Jaal B. Ghandhi, Univ. of Wisconsin - Madison; Minoru Iida, Yamaha Motor Co., Ltd.

09.00 (2008-32-0026/20084726)

A Study on the Combustion and Emission Characteristics of Diesel Fuel Blended with Ethanol in an HCCI Engine

Yung-Jin Kim, Ki-Bum Kim, Ki-Hyung Lee, Hanyang University

09.30 (2008-32-0028/20084728)

Knock Detection for a Large Displacement Air-Cooled V-Twin Motorcycle Engine Using In-Cylinder Ionization Signals

Nicholas Danne, David L.S. Hung, Visteon Corp.; Guoming Zhu, Michigan State Univ.; Jay McKoskey, Polaris Industries Inc

Control Systems (SETC16)

09.00

Room - 202B

Papers in this session discuss design, testing, and results of new and novel systems to control fuel and ignition, and the sensors, electronics, and strategies employed. Applications for these systems range from simple single-cylinder lawn and garden equipment to multi-cylinder vehicular engines.

Organizers:

James Carroll, Southwest Research Institute; Ryozo Okita, Yamaha Marine Co., Ltd.

Chairpersons:

James Carroll, James Carroll, Southwest Research Institute

09.00 (2008-32-0054/20084754)

A Scalable Engine Management System Architecture for Motorcycle/Small-Vehicle Application

Mahesh Balike, Richard Tricoli, Visteon Corp.

(2008-32-0052/20084752)

Engine Management System for Fuel Injection System Specifically Designed for Small Engines (Written Only -- No Oral Presentation)

Jeffrey Allen, Scion Sprays, Ltd.

Hybrid, Electric Drive & Fuel Cell (SETC17)

09.00

Room - 202A

This session's paper discusses electrical power generation in a small cogeneration gas engine.

Organizers:

Jay Meldrum, Michigan Tech. University; Takashi Mitome, American Suzuki Motor Corp.

Chairpersons:

Jay Meldrum, Michigan Tech. University; Takashi Mitome, Suzuki Motor Corp.

09.00 (2008-32-0044/20084744)

Study of Power Generation Loss Decrease in Small Gas Engine Cogeneration

Masanori Ueno, Hiroyuki Eguchi, Takayuki Enomoto, Makoto Ogawa, Honda R&D Co., Ltd.

Materials (SETC11)

09.00

Room - 202E

Materials selection is a fundamental parameter influencing the successful introduction of a new product. Material choices require balancing material performance against total cost. This session will introduce participants to advances in PM steels for power transmission components that can optimize both performance and cost.

Organizers:

James Bonifield, Bombardier Recreational Products NA(BRP); Takashi Mitome, Suzuki Motor Corp.

Chairpersons:

James Bonifield, Bombardier Recreational Products NA(BRP); Hiroshi Yamagata, Yamaha Motor Co., Ltd.

09.00 (2008-32-0041/20084741)

Development of Small-Sized Multilayer Fuel Tank for Motorcycles and ATVs Complying with EPA Gasoline Permeation Control

Akihito Kobayashi, Takahiro Matayoshi, Ko Kurata, Hidesaburo Gotsu, Honda R&D Co., Ltd.

09.30 (2008-32-0047/2004747)

Development of Compound Coating that Reduces Permeation of Chloride Ion in Salty Water for Hexavalent-Chromium-Free Metal Gasket for PWC Engines

Yasuaki Nagai, Shinsuke Mochizuki, Kaoru Hanawa, Kenji Okubo, Honda R&D Co., Ltd.; Shingo Watanabe, Tsunehiko Abe, Nippon Leakless Corporation

10.00 (2008-32-0058/20084758)

The Potential for use of Heat Treated Aluminum High Pressure Die-Castings in Engine Applications

Roger Neil Lumley, CSIRO Light Metals Flagship

SESSIONS TECHNICAL, BUSINESS & EXECUTIVE

10.30 (2008-32-0074/20084774)

Lean Cr Containing PM Materials for Optimized Cost-Performance

David Milligan, North American Hoganas; Thomas Haberberger, Alpha Sintered Metals; Ian Howe, North American Hoganas; Richard Cerini, Alpha Sintered Metals Inc

09.30 (2008-32-0057/20084757)

Application of Statistical Energy Analysis to Noise Prediction of Co-generation System

Hiroshi Uehara, Yanmar Co., Ltd.; Takayuki Koizumi, Nobutaka Tsujiuchi, Satoshi Morita, Tomoya Minamino, Doshisha Univ.

NVH Technology (SETC5)

09.30

Room - 202A

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

Organizers:

Kenneth Kicinski, Harley-Davidson Motor Co.; Tadao Okazaki, Kubota Corp.

Chairpersons:

Kenneth Kicinski, Harley-Davidson Motor Co.; Tadao Okazaki, Kubota Corp.

10.00 (2008-32-0035/20084735)

Low-Noise Leaf Blower with Low-Emission Stratified Engine

Markus Herzog, Christian M. Moeser, Gerhard Osburg, Ulrich Keck, ANDREAS STIHL AG & Co. KG; Kai-Ulrich Machens

Closing Ceremony (SETC19)

11.00

Room - 201A&B

Presenters:

Shed Mohamad Aidid, Kah Motor Co.; Sakae Mizumura, Honda R&D Co., Ltd.

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