
CONTENTS

Introduction of new technologies

Style and Design of New Model INSIGHT	Takashi NAGURA, Hidetoshi KABAYAMA Satoshi UCHIDA, Nanae KAWAMURA	1
Development of CITY aimed at Advanced Proud Sedan	Keiichi OHOKA, Shunichi YOSHIDA, Hiroshi FURUMI	7
Development of Flexible-Fuel Motorcycle	Shiro KOKUBU, Atsushi ITO, Hiroshi YAMADA Hideya HORIE, Toshiyuki KUBOTA, Yoichi TAKAHASHI	17
Development of Pianta Gas Canister-fueled Compact Cultivator for Kitchen Garden	Hiroaki KOJIMA, Tomoki ITO Takayuki SATO, Masanori FUJINUMA	27
Introduction of Micro-combined Heat and Power Generation Unit with Backup Function	Hiroyuki EGUCHI, Shunichiro SUEYOSHI, Takeshi YAMAJI Takayuki ENOMOTO, Koichi TSUNO	38
Development of Air-cooled, 4-stroke V-twin Cylinder General Purpose Engine GX690/GXV690	Hiroaki HASEBE, Kazuhisa OGAWA Tomoharu TAJIMA, Mitsuyoshi KANAI	49
Walking Assist Device with Stride Management System	Ken YASUHARA, Kei SHIMADA, Taiji KOYAMA Tetsuya IDO, Keishiro KIKUCHI, Yosuke ENDO	57
Enhancement of Diesel Combustion Noise for Interior Sound Quality – Transfer Path Analysis Using Principal Component Regression Method –	Yasuhiro HISANO, Reiko HIRAIDE	67
Heat Recovery Technology of Automobile Using Thermoelectric Element and Its Effect on Fuel Economy	Masayoshi MORI, Takeshi YAMAGAMI, Nobuyuki ODA Makoto HATTORI, Tomohide HARAGUCHI, Mitsumasa SORAZAWA	73
Prediction of Transient Body Deformation during Handling Maneuvers	Masafumi KYUSE, Kohei UMEHARA	80
Vehicle Dynamics Simulation in Extreme Driving Conditions	Takayuki TOYOSHIMA, James CUNNANE, Mike KENLEY	86
Driver-side i-SRS Airbag System with Continuously Staged Inflation	Makoto NAGAI, Hiroyuki NOZAKI, Yusuke CHIDA Yuu SASAKI, Naoto TANIGUCHI, Munetoshi NAKASHIMA	91
Plastic Window with View Control Function	Takakuni HIRAYAMA, Shinichi IBATO, Masato MURAKAMI	96
Technology for Rapid Manufacture of Prototype Molds for Instrument Panels	Yasuhiro TOGUCHI	101

In-line Recycling Technology for AZ91D Magnesium Alloy Hideaki MIYASHITA, Tsuyoshi KAWABE, Masashi SHIMODA Yuji MOCHIZUKI, Koji NATSUHARA	108
Precision Measurement Method of Circumferential Length and Uncertainty for Steel Ring in CVT-pushing Belt Kenta UMETSU, Hiroyoshi MIKOGAI	114
Approach to Application of Executable Specifications in Development of Automatic Transmission Control Software Yoshihiro MATSUYAMA, Kenji HAGIWARA, Satoshi SEINO	120
Using CAD, CAE, and CAM to Enhance Automotive Body Assembly Design, Analysis, and Fabrication Sachin K. Raje, Daniel J. Turk, Daniel A. Paolini	130
GPS Safety Monitoring System for Takasu Proving Ground Eiji KARASAKI, Masato TAKIKAWA, Hitoshi FUJII, Takekatsu MATSUKURA Hisahiro KOMORI, Yoshikazu TSUBAKI, Kouichi TAKEUCHI	136
Technical papers	
Study of FACE Design, Lighting System Design for Enhanced Detection Rate of Motorcycles Kazuyuki MARUYAMA, Yojiro TSUTSUMI, Yutaka MURATA	143
Analysis and Method of Quantification of Soot in Engine Oil Yosuke OKUYAMA, Daichi SHIMOKOJI, Masashi MARUYAMA Wataru HOSHIKAWA, Ryuuji MATSUKADO	149
Fine Control System for Multi-plate Lock-up Clutch Hiroshi TAKEI, Yutaka ISHIKAWA Yoshiharu SAITO, Yoshimichi TSUBATA	155
Small, Thin-film Electric Potential Sensor for In-situ Evaluation of Fuel Cell Stack Hiromichi YOSHIDA, Nobuki KOIWA Masahiko SATO, Toshifumi SUZUKI	162
Development of Lead-free Bearing for High-speed, High-load Engine Tasuku SAKURAI, Takashi SHIRAIISHI	168
Numerical Analysis of Turbocharger Response Delay Mechanism Takaki MATSUMOTO, Shinrak PARK, Nobuyuki ODA	174