

LIST OF PAPERS

WOJCIECH ADAMSKI, KRZYSZTOF BRZozOWSKI, JACEK NOWAKOWSKI NUMBER OF MEASUREMENT CYCLES AND ACCURACY OF ENGINE INDICATION PROCESS	9
ANDRZEJ AMBROZIK, TOMASZ AMBROZIK, DARIUSZ KURCZYŃSKI, PIOTR ŁAGOWSKI EXAMINATION OF FAST-CHANGING QUANTITIES IN ENGINE WITH COMMON RAIL INJECTION SYSTEM	17
WŁODZIMIERZ BALICKI, ANDRZEJ IRZYCKI, KRZYSZTOF SNOPIKIEWICZ COMPARISON THE PISTON AIR ENGINE PERFORMANCE WITH AVIATION GASOLINE (AVGAS) OR THE E-85 ECOLOGICAL FUEL SUPPLY	25
PIOTR BOJAR, KLAUDIUSZ MIGAWA, MACIEJ WOROPAY PROPOSAL OF A METHOD TO EVALUATE OF INCLUDE OF THE UNDESIRABLE HUMAN FACTORS ON SAFETY OPERATION OF THE TRANSPORT SYSTEM	33
KRZYSZTOF BRZozOWSKI, JACEK NOWAKOWSKI THE IDENTIFICATION OF MODEL PARAMETERS FOR A SEMI-EMPIRICAL MODEL OF WORKING PROCESS IN THE COMPRESSION-IGNITION ENGINE	41
GRZEGORZ BUDZIK, BOGDAN KOZIK, JACEK PACANA, BARTŁOMIEJ ŹMUDA MODELLING AND PROTOTYPING OF AERONAUTICAL PLANETARY GEAR DEMONSTRATOR	49
ADAM CHARCHALIS, ROBERT STAROSTA, WOJCIECH LABUDA MULTI-CRITERIA OPTIMALIZATION OF STEEL BURNISHING PARAMETERS APPLIED TO MARINE PUMPS SHAFT PINS	55
ONDŘEJ DRÁB, ROBERT VOŽENÍLEK, STANISLAV BEROUN MEASUREMENT OF MECHANICAL LOSSES IN THE COMBUSTION ENGINES	63
PIOTR DROGOSZ GEOMETRY OF THE WANKEL ROTARY ENGINE	69
TOMASZ DYL THE INFLUENCE OF EFFECTIVE STRAIN ON THE REDUCE ROUGHNESS AND STRAIN HARDENING SURFACE LAYER SHIP MACHINE ELEMENTS	75
TADEUSZ DZIUBAK, GRZEGORZ TRAWIŃSKI THE EXPERIMENTAL ASSESSMENT OF AIR SUPPLY SYSTEM MODIFICATION ON INLET AIR FILTRATION EFFICIENCY AND MILITARY VEHICLE ENGINE EFFECTIVENESS IMPROVEMENT	79
TOMASZ FIGLUS, ANDRZEJ WILK, PIOTR FOLEGA PROPOSAL OF GEARBOX DESIGN METHOD WITH LOWERED VIBROACTIVITY	87
JAN FILIPCZYK THE STUDY ON THE EFFECTS OF DIFFERENT OPENING RANGES OF WASTE- GATE ON IMPROVING THE WORK PARAMETERS OF SPARK IGNITION ENGINE	93

JAN FILIPCZYK, HENRYK MADEJ THE APPLICATION OF ON-BOARD DIAGNOSTICS SYSTEMS FOR ASSESSING THE TECHNICAL STATE OF AUTOMOTIVE VEHICLES	99
MAREK FLEKIEWICZ, GRZEGORZ KUBICA COMBUSTION TEMPERATURE AND EXHAUST GAS COMPOSITION IN SI ENGINE FUELLED WITH GASEOUS HYDROCARBON FUELS	105
WITOLD GRZEGOŻEK PERSONAL COMMUTING VEHICLE CONCEPT	113
PIOTR GUSTOF, DAMIAN JĘDRUSIK COMPARISON OF THE TEMPERATURE DISTRIBUTION IN THE DRY AND WET CYLINDER SLEEVE IN UNSTEADY STATE	119
JERZY HERDZIK PROPULSION CHARACTERISTICS OF MULTI-MODE SHIPS IN ASPECT OF SHIP'S DYNAMIC POSITIONING APPLICATION	127
VLADIMÍR HLAVŇA, MARTIN KADÁK, ANDRZEJ MRUK NOx AND EXTREMELY LOW TEMPERATURES OF CHARGING	135
MACIEJ IMIOŁEK, ANDRZEJ PIĘTAK, SŁAWOMIR WIERZBICKI THE EFFECT OF FUEL INJECTION PARAMETERS ON THE COMBUSTION PROCESS IN A SELF-IGNITION ENGINE	143
ANNA BARBARA JANICKA, WOJCIECH WALKOWIAK, AGNIESZKA SOBIANOWSKA-TUREK THE IMPACT OF ACTIVE CERAMIC COATING IMPLEMENTATION ON GASOLINE ENGINE EXHAUST TOXICITY	149
ANTONI JANKOWSKI, PIOTR LAGOWSKI, MARCIN SLEZAK HEAT RELEASE CHARACTERISTICS IN COMBUSTION CHAMBER OF CI ENGINE	155
GRZEGORZ JASTRZĘBSKI, LESZEK UŁANOWICZ EXAMINATION OF HYDRAULIC AMPLIFIERS IN THE ASPECT OF LIFETIME PREDICTION	165
DAMIAN JĘDRUSIK, PIOTR GUSTOF THE MODELING OF THE HEAT LOADS IN THE EXHAUST VALVE FROM AND WITHOUT REGARD OF THE CARBON DEPOSIT	173
ANDRZEJ KAŻMIERCZAK, ALEKSANDER GÓRNIAK, PAWEŁ KAWALIŁO, KONRAD KRAKOWIAN AN APPROACH TO IMPROVE PASSIVE SAFETY BY MEANS OF "ACTIVE BUMPER" WHICH COMPENSATES THE LACK OF CARS COMPATIBILITY AS WELL AS DIFFERENT AGGRESSIVITY WHEN FRONTAL IMPACT OF A LARGE TRUCK AND A MOTOR CAR IS UNDER CONSIDERATION	181
ANDRZEJ KICZKO, TADEUSZ NIEZGODA, JACEK NOWAK, PAWEŁ DZIEWULSKI NUMERICAL IMPLEMENTATION OF CAR IMPACT INTO THE MODIFIED ROAD BARRIER	189
MARIAN KLASZTORNY, PAWEŁ DZIEWULSKI, TADEUSZ NIEZGODA, ANDRZEJ MORKA MODELLING AND NUMERICAL SIMULATION OF THE PROTECTIVE SHIELD – PROTECTED PLATE – TEST STAND SYSTEM UNDER BLAST SHOCK WAVE	197

ZBIGNIEW KNEBA, MICHAŁ ŚMIEJA THE USE OF CAN IN AUTOMATION TEST BENCH TO TEST THE ENGINE COOLING SYSTEM	205
WŁODZIMIERZ KOŃCZEWICZ, PRZEMYSŁAW KRUŻYCKI, HANNA SMOLEŃSKA STUDY ON STRUCTURES AND PROPERTIES OF THE LASER CLADDING EXHAUST VALVE AFTER SERVICE	211
GRZEGORZ KOSZAŁKA CHANGES IN THE TIGHTNESS OF THE COMBUSTION CHAMBER OF AN DIESEL ENGINE DURING LONG-TERM OPERATION	217
RAFAŁ KRAKOWSKI, JERZY WALENTYNOWICZ SIMULATION RESEARCHES OF INFLUENCE OF COMPENSATION TANK VOLUME ON CONTROL PARAMETERS OF COOLING LIQUID TEMPERATURE IN THE PISTON COMBUSTION ENGINE	223
PAWEŁ KRASOWSKI CAPACITY AND FRICTION FORCE IN SLIDE JOURNAL BEARING GAP BY LAMINAR UNSTEADY LUBRICATION	231
JACEK KROPIWNICKI EVALUATION OF THE REFERENCE FUEL CONSUMPTION AND CO ₂ EMISSION OF VEHICLE WITH USING OF THE MAP OF OPERATING CONDITIONS FOR SELECTED AGGLOMERATION	239
STANISŁAW KRUCZYŃSKI, RYSZARD WOŁOSZYN, MAREK STĘPNIEWSKI PROTOTYPE OF THE SPARK PLUG FOR IGNITION OF NATURAL GAS-AIR MIXTURE	247
ANNA KWASIBORSKA MODELLING OF GROUND HANDLING OPERATIONS AT AIRPORT	253
BOGDAN LANDOWSKI APPLYING THE MARKOV DECISION PROCESSES TO MODEL CHANGES TO THE MAINTENANCE STATES OF AN OBJECT	263
SŁAWOMIR ŁUKJANOW, JERZY TOKARZEWSKI INVESTIGATIONS OF ELECTROMAGNETIC COMPATIBILITY (EMC) OF VEHICLES USING OPEN-AREA PARTIALLY SHIELDED TEST SITE MODEL	271
MAREK ŁUTOWICZ DETERMINATION OF THE MECHANICAL POWER LOSSES OF ENGINE-COMPRESSOR GMVH FOR DIAGNOSTIC PURPOSES	279
DANUTA MIEDZIŃSKA, ROBERT PANOWICZ BLAST LOADING ON ALUMINUM FOAM MICROSTRUCTURE	287
ANDRZEJ MISZCZAK, ADAM CZABAN FRICTION FORCES AND FRICTION COEFFICIENT IN SLIDE PARABOLIC MICRO-BEARING WITH CONSIDERATION OF THE ADHESION FORCE	293
JAN MONIETA PROBLEMS OF DETERMINING MEAN INDICATOR PRESSURE OF PISTON COMBUSTION ENGINES FROM DEVELOPED INDICATOR DIAGRAMS	301

ANDRZEJ MORKA, TADEUSZ NIEZGODA NUMERICAL STUDY OF THE PROJECTILE TRAJECTORY DISTURBING DURING THE OBLIQUE IMPACTS	307
ŁUKASZ MUŚLEWSKI IDENTIFICATION AND ANALYSIS OF TRANSPORT SYSTEMS OPERATION QUALITY ASSESSMENT CRITERIA	313
ADRIAN-IOAN NICULESCU, ANTONI JANKOWSKI, JANUSZ GARDULSKI ON „VZN“ DAMPER BEHAVIOUR AT CRASH	321
TADEUSZ NIEZGODA, ROBERT PANOWICZ, KAMIL SYBILSKI, WIESŁAW BARNAT NUMERICAL ANALYSIS OF A SHELL WITH A MAIN SHAPED CHARGE WARHEAD STROKE INTO A BAR ARMOR WITH SQUARE SECTION	327
JACEK NOWAK, TADEUSZ NIEZGODA, ANDRZEJ KICZKO, ROMAN GIELETA CRASH TESTS OF A CAR WITH MODIFIED ROAD BARRIERS	333
ZBIGNIEW OTREMBA, WŁODZIMIERZ KOŃCZEWICZ, PRZEMYSŁAW CZOSKA, PRZEMYSŁAW KRUŻYCKI CONCEPT OF MULTIFUNCTIONAL SMALL CLEANUP SHIP	341
ZBIGNIEW OTREMBA, KAMILA RUDŹ OCEAN OPTICS IN APPLICATION TO REMOTE DETECTION OF AN OIL-IN-WATER EMULSION ORIGINATING FROM THE ENGINE ROOM	347
ROBERT PANOWICZ, WIESŁAW BARTNA, KAMIL SYBIRSKI, TADEUSZ NIEZGODA NUMERICAL ANALYSIS OF A LIGHTARMoured VEHICULAR PERSONNEL CARRIER LOADED WITH A MINE OR IED EXPLOSION ON A HUMAN TRANSPORTED IN IT	355
RAFAŁ PAWLETKO, STANISŁAW POLANOWSKI RESEARCH OF THE INFLUENCE OF MARINE DIESEL ENGINE SULZER AL 25/30 LOAD ON THE TDC POSITION ON THE INDICATION GRAPH	361
ANDRZEJ PIĘTAK, KAMIL DUDA, NATALIA CHRAPLEWSKA POSSIBILITIES OF SUPPLYING INTERNAL COMBUSTION ENGINES BY WOOD GAS	369
LEON PROCHOWSKI, KAROL ZIELONKA DYNAMIC LOADS EXERTED ON LEGS OF SEATED PASSENGERS DURING FRONTAL COLLISION OF A BUS WITH AN OBSTACLE	377
JÓZEF PSZCZÓŁKOWSKI MULTIDIMENSIONAL ENGINE STARTING CHARACTERISTICS	385
ANDRZEJ RÓŻYCKI ANALYSIS OF PERFORMANCES OF A DUAL-FUEL TURBOCHARGED COMPRESSION IGNITION ENGINE	393
GRZEGORZ SŁAWIŃSKI, TADEUSZ NIEZGODA, DANUTA MIEDZIŃSKA, ROMAN GIELETA, ANNA BOCZKOWSKA INFLUENCE OF THE VOLUME FRACTION OF THE CARBONYL IRON PARTICLES ON THE MECHANICAL PROPERTIES OF THE MAGNETORHEOLOGICAL ELASTOMERS	401

JANUSZ SZPYTKO MANUFACTURE TRANSPORT DEVICES DEVELOPMENT BASED ON SELECTED EXAMPLES	407
PIOTR SZURGOTT, MARIAN KLASZTORNY, TADEUSZ NIEZGODA MODELLING AND NUMERICAL SIMULATION OF SYMMETRIC VIBRATIONS OF THE KNI 140070 VIADUCT – – BALLASTED TRACK – KTX TRAIN SYSTEM	415
ROMANA EWA ŚLIWA, GRZEGORZ BUDZIK, JACEK BERNACZEK APPLICATION OF RAPID PROTOTYPING – SLA, FDM – TO MANUFACTURE MODEL OF AIRCRAFT WHEEL HUB	423
MICHAŁ ŚMIEJA THE FLEXRAY NETWORKS IN THE MODERN MOTORCARS	431
HENRYK ŚNIEGOCKI ASSESSMENT OF CORRECTNESS OF INFORMATION OBTAINED FROM AUTOMATIC IDENTIFICATION OF SHIP'S SYSTEM (AIS)	437
HENRYK ŚNIEGOCKI SIMULATORS USES FOR TRAINING OF MERCHANT VESSELS OFFICERS	443
TOMASZ TARGOSIŃSKI ADAPTIVE DRIVING BEAM – NEW CONCEPT OF VEHICLE FRONT-LIGHTING	453
DANIEL TRZEBIŃSKI, IRENEUSZ SZCZYGIEL NUMERICAL MODELING OF INTERIOR CAR COMPARTMENT - FIRST ANALYSIS	461
LESZEK UŁANOWICZ ANALYSIS OF DYNAMIC PROPERTIES OF HYDRAULIC LINES FOR FLUID POWER TRANSMISSION	467
ADAM USTRZYCKI, HUBERT KUSZEWSKI, PAWEŁ WOŚ THE EFFECT OF LENGTH OF HIGH PRESSURE PIPES ON INJECTION PROCESS IN COMMON RAIL SYSTEM OF DIESEL ENGINE	477
KRZYSZTOF WIERZCHOLSKI, ANDRZEJ MISZCZAK ADHESION INFLUENCE ON THE OIL VELOCITY AND FRICTION FORCES IN HYPERBOLIC MICROBEARING GAP	483
KRZYSZTOF WIERZCHOLSKI, ANDRZEJ MISZCZAK TRIBOLOGICAL SYSTEMS OF SURFACES WITH FRICTIONAL RESISTANCE REDUCTION	491
GRZEGORZ WOJNAR MINIMIZATION OF DYNAMIC FORCES IN GEAR MESHING BY SELECTION OF THE FLEXIBLE COUPLINGS PARAMETERS	497
MACIEJ WOROPAY, KLAUDIUSZ MIGAWA, PIOTR BOJAR THE METHOD OF EVALUATION OF THE AVAILABILITY OF THE TRANSPORT SYSTEM FOR THE REALIZATION OF THE ASSIGNED TRANSPORT TASK	505
MACIEJ WOROPAY, DANIEL PERCZYŃSKI ECONOMIC ASPECTS OF SELECTING MEANS OF BUS TRANSPORT	513

PAWEŁ WOŚ, HUBERT KUSZEWSKI, ADAM USTRZYCKI EXHAUST EMISSION FEATURES OF VARIABLE COMPRESSION RATIO (VCR) DIESEL ENGINE	521
BEATA ZDUNIAK, ANDRZEJ MORKA, ROMAN GIELETA STUDY OF FEM MODEL FOR TENSION AND COMPRESSION TEST FOR ALUMINUM ALLOYS SAMPLES IN ORDER TO SET MATERIAL DATA	527
PIOTR ŹACH THE INNOVATIONS IN DESCRIPTION OF PROPRIETY OF STRUCTURES THE HYPER-ELASTIC MATERIALS	533
BOGDAN ŻÓLTOWSKI MODELLING IN TECHNICAL DIAGNOSTICS	541