

## LIST OF PAPERS

TOMASZ AMBROZIAK, PIOTR GOŁĘBIOWSKI, DARIUSZ PYZA, ILONA JACYNA-GOLDA, AGNIESZKA MERKISZ-GURANOWSKA IDENTIFICATION AND ANALYSIS OF PARAMETERS FOR THE AREAS OF THE HIGHEST HARMFUL EXHAUST EMISSIONS IN THE MODEL EMITRANSYS	9
WIESŁAW BARNAT, PAWEŁ GOTOWICKI, ANDRZEJ KICZKO, PAWEŁ DYBCIE DYNAMIC RESPONSE OF MINE FLAIL STRUCTURE SUBJECTED TO BLAST LOADING	21
EMILIA BASZANOWSKA, ZBIGNIEW OTREMBA, HENRYK TOCZEK, PETER ROHDE FLUORESCENCE SPECTRA OF OIL AFTER IT CONTACTS WITH AQUATIC ENVIRONMENT	29
JAROSŁAW BEDNARZ ANALYSIS OF DISCRETE-CONTINUOUS MODEL OF VIBROISOLATION SYSTEM OF RAILWAY SUBSTRUCTURE	35
TOMASZ BŁASIŃSKI, ANDRZEJ KAŻMIERCZAK, KONRAD KRAKOWIAN, MICHAŁ CIENCIAŁA ENERGY COSTS SAVINGS BY USE OF MICRO-CHP UNITS IN DOMESTIC HOUSEHOLDS	41
PIOTR BOJAR, LESZEK KNOPIK ANALYSIS OF EXTERNAL FACTORS AFFECTING TRANSPORT PROCESS SAFETY	47
PIOTR BOJAR, BOGDAN LANDOWSKI EVALUATION OF LIQUID FUELS DISTRIBUTION QUALITY ON THE EXAMPLE OF A SELECTED PETROL STATION	55
AGNIESZKA BONDYRA MODELING OF HEAT DIFFUSION IN COMPOSITES	63
WACŁAW BORKOWSKI, ZDZISŁAW HRYCIÓW, PIOTR RYBAK, JÓZEF WYSOCKI, ANDRZEJ WIŚNIEWSKI EXPERIMENTAL RESEARCHES OF DYNAMIC LOADS OF ARMoured PERSONNEL CARRIER AND ITS CREW DURING COLLISION WITH RIGID OBSTACLE AND ALL-TERRAIN VEHICLE	71
DAMIAN BREWCZYŃSKI, GRZEGORZ TORA ANALYSIS OF THE WHEEL ORIENTATION ANGLES IN LOCKHEED F-104S STARFIGHTER AIRCRAFT	79
MAREK CHALIMONIUK, RYSZARD SZCZEPANIK, JÓZEF BŁACHNIO THE RATE OF DECOHESION OF A GAS TURBINE BLADE AS ASSESSED WITH THE X-RAY COMPUTED TOMOGRAPHY (CT)	89
ADRIAN CHMIELEWSKI, ROBERT GUMIŃSKI, KAMIL LUBIKOWSKI, STANISŁAW RADKOWSKI, PRZEMYSŁAW SZULIM BENCH TESTING AND SIMULATION MODEL OF A COGENERATION SYSTEM WITH A STIRLING ENGINE	97

MARIA CICHOLSKA SUITABILITY ANALYSIS OF THERMALLY HARDENED S540Q STEEL SHEETS FOR WELDED CONSTRUCTIONS WORKING IN LOW TEMPERATURES	105
MICHAŁ CIĘNCIAŁA, PIOTR HALLER, PIOTR KARDASZ, ANTONI JANKOWSKI WATER-FUEL MICROEMULSIONS INFLUENCE ON FUEL CONSUMPTION AND EXHAUST GAS EMISSIONS	111
ADAM CZABAN CFD ANALYSIS OF PRESSURE DISTRIBUTION IN SLIDE CONICAL BEARING LUBRICATED WITH NON-NEWTONIAN OIL	117
MIROŚLAW CZECHOWSKI PROPERTIES OF AW 5059 ALUMINIUM ALLOY JOINTS WELDED BY MIG AND FRICTION STIR WELDING (FSW)	125
MIROŚLAW DERESZEWSKI, ADAM CHARCHALIS ATTEMPT OF INJECTORS FAILURE DETECTION BASED ON MEASUREMENT OF THE ANGULAR SPEED DISCRETE VALUE	131
MARCIN FRYCZ, WOJCIECH HORAK EFFECT OF THE MAGNETIC PARTICLES CONCENTRATION ON THE FERRO-OIL'S DYNAMIC VISCOSITY IN PRESENCE OF AN EXTERNAL MAGNETIC FIELD IN THE ASPECT OF SHEAR RATE'S VARIATIONS	139
ALEKSANDER GÓRNIAK, ANDRZEJ KAŻMIERCZAK EXPERIMENTAL STUDIES OF A MOVEABLE WALL TO A SHOCK WAVE	145
JERZY HERDZIK DYNAMIC POSITIONING SYSTEMS DURING EMERGENCY OR UNEXPECTED SITUATIONS	153
ZDZISŁAW HRYCIÓW THE ASSESSMENT OF THE INFLUENCE OF SELECTED PASSIVE SAFETY SYSTEMS ON THE LEVEL OF DYNAMIC LOADS OF SOLDIERS DURING COLLISION	161
MAREK IDZIOR, WOJCIECH KARPIUK, MACIEJ BIELIŃSKI, TOMASZ BOROWCZYK FAILURE'S IDENTIFICATION OF TURBOCHARGERS OF INTERNAL COMBUSTION ENGINES BY MEANS OF MULTI-FUNCTIONAL TEST STAND	169
ANTONI ISKRA, MACIEJ BABIAK, JAROSŁAW KAŁUŻNY MICHAEL GIERSIG, KRZYSZTOF KEMPA THE PROPERTIES OF DAMPING VIBRATIONS BY A LAYER OF CARBON NANOTUBES ON THE LATERAL SURFACE OF A PISTON	177
AGNIESZKA JACH, WOJCIECH RUDY, ANDRZEJ DĄBKOWSKI, ANDRZEJ TEODORCZYK NUMERICAL AND EXPERIMENTAL INVESTIGATIONS ON SELF-IGNITION PROCESS OF HYDROGEN GAS RELEASE	185
MARIANNA JACYNA, JOLANTA ŻAK, ILONA JACYNA-GOŁDA, JERZY MERKISZ, AGNIESZKA MERKISZ-GURANOWSKA, JACEK PIELECHA SELECTED ASPECTS OF THE MODEL OF PROECOLOGICAL TRANSPORT SYSTEM	193

ANTONI JANOKWSKI CHOSEN PROBLEMS OF COMBUSTION PROCESSES OF ADVANCED COMBUSTION ENGINES	203
PIOTR KALINA, BOGUSŁAW NIEDZIAŁEK, WALDEMAR GRYGLEWSKI, ANDRZEJ IRZYCKI, KRZYSZTOF SNOPKIEWICZ GTD-350 ENGINE POWERED BY LPG – RESEARCH WORK	209
TOMASZ KAMIŃSKI, MICHAŁ NIEZGODA, MIKOŁAJ KRUSZEWSKI, PRZEMYSŁAW FILIPEK, ANDRZEJ WŁODARCZYK CONCEPT OF SWIMMING FLAT-BOTTOMED EVACUATION PLATFORM	215
MIROSLAW KARCZEWSKI, LESZEK SZCZĘCH, JERZY WALENTYNOWICZ EVALUATION OF THE TECHNICAL CONDITION OF THE POWERPACK FOR AMV ROSOMAK ON THE DYNAMOMETER TEST STAND	221
D. KARTHIKEYAN, C.G. SARAVANAN EXPERIMENTAL ANALYSIS OF FLYASH BASED, ION EXCHANGED ZEOLITE AS CATALYST FOR SI ENGINE EXHAUST EMISSION CONTROL	229
GRZEGORZ KOSZAŁKA, ANDRZEJ NIEWCZAS, MARIUSZ GOLEC, MACIEJ KACZOR, LESZEK TARATUTA, ŁUKASZ GŁOWACZ A MODULAR LOW-BED SEMI-TRAILER FOR TRANSPORTATION OF MACHINES AND OTHER HEAVY AND BIG LOADS	237
KONRAD KRAKOWIAN, ANDRZEJ KAŻMIERCZAK, AGATA WDOWIKOWSKA MODERN DIESEL ENGINES NOX PARTICLES EMISSION	245
MAREK ŁEPKOWSKI THE ANALYSIS OF USING EU FUNDS IN POLAND UNDER HUMAN CAPITAL OPERATIONAL PROGRAM (HCOP/POKL)	251
BORYS ŁUKASIK, SABINA CZYŻ, ANDRZEJ IRZYCKI, ARTUR ROWIŃSKI THE STUDY OF THE CONTINUOUSLY ROTATING DETONATION COMBUSTION CHAMBER SUPPLIED WITH DIFFERENT TYPES OF FUEL	259
ANDRZEJ MARCZUK, WOJCIECH MISZTAŁ ORGANIZATION OF WORK OF TRANSPORTATION MEANS IN COMBINED TRANSPORT	267
HARI MUHAMMAD, HINDAWAN HARIOWIBOWO AERODYNAMIC MODEL IDENTIFICATION OF TURBOPROP AIRCRAFT BASED ON FLIGHT TEST DATA	275
EWA ODACHOWSKA, MONIKA UCIŃSKA DETERMINANTS OF DRIVERS' RISKY BEHAVIOUR	283
PIOTR ORLIŃSKI THE EFFECT OF DIESEL FUEL MIXTURE AND CAMELINA OIL ESTER ON SELECTED PARAMETERS OF COMBUSTION PROCESS	291
WOJCIECH PAWLAK, JÓZEF BŁACHNIO THE COMPUTER-AIDED ANALYSIS OF IMAGES TO ASSESS CONDITION OF GAS TURBINE BLADES	299

RAFAŁ PAWLETKO, STANISŁAW POLANOWSKI INFLUENCE OF CLOGGED INJECTOR NOZZLES ON THE HEAT RELEASE CHARACTERISTICS	307
STEFAN POSTRZEDNIK, ZBIGNIEW ŻMUDKA, GRZEGORZ PRZYBYŁA INFLUENCE OF THE EXHAUST GAS RECIRCULATION ON THE OXYGEN CONTENTS AND ITS EXCESS RATIO IN THE ENGINE COMBUSTION CHAMBER	315
KONRAD PRAJWOWSKI IMPACT OF AN EXTERNAL, SO CALLED BOX, MODULE ON GASES COMPOSITION OF THE ROVER 2.0 CDTI ENGINE	323
GRZEGORZ PRZYBYŁA, ANDRZEJ SZŁEK, ŁUKASZ ZIÓLKOWSKI THE LEAN MIXTURE COMBUSTION OF SIMULATED PRODUCER GAS IN SI ENGINE	331
JAN ROSŁANOWSKI, ADAM CHARCHALIS MATERIAL CONSUMPTION CRITERIA OF PISTON-CON-ROD ELEMENTS SYSTEM OF COMBUSTION ENGINE	339
PIOTR RYBAK, WAĆŁAW BORKOWSKI, ZDZISŁAW HRYCIÓW, BOGUSŁAW MICHAŁOWSKI, ANDRZEJ WIŚNIEWSKI, JÓZEF WYSOCKI NUMERICAL RESEARCH ON THE SPECIAL CONTAINER OF INCREASED TECHNICAL AND DESIGN REQUIREMENTS	347
PIOTR RYBAK, WAĆŁAW BORKOWSKI, ZDZISŁAW HRYCIÓW, BOGUSŁAW MICHAŁOWSKI, ANDRZEJ WIŚNIEWSKI, JÓZEF WYSOCKI STUDIES ON THE SUPPORTING STRUCTURE OF THE "CROSSBOW" ROCKET LAUNCHER IN THE ASPECT OF IMPROVEMENT OF ITS RESISTANCE PROPERTIES	353
HUBERT SAR, JANUSZ POKORSKI, PIOTR FUNDOWICZ, ANDRZEJ REŃSKI APPLICATION OF GPS RECEIVER TO ROAD TESTS OF AUTOMOBILE	359
KRZYSZTOF SICZEK, MACIEJ KUCHAR RESEARCHES ON THE AMOUNT OF RECUPERATED ENERGY BY ELECTROMAGNETIC SHOCK ABSORBER IN SMALL CAR	367
GRZEGORZ SIKORA THE STUDIES ON LUBRICITY AND CONTAMINATION ANALYSIS OF THE PERSONAL CAR'S LUBRICATING OIL, WITH TAKING OIL AGEING INTO ACCOUNT	375
GRZEGORZ SŁAWIŃSKI, TADEUSZ NIEZGODA, WIESŁAW BARNAT, MARCIN WOJTKOWSKI NUMERICAL ANALYSIS OF THE INFLUENCE OF BLAST WAVE ON HUMAN BODY	381
ZDZISŁAW STELMASIAK DUAL FUELLING CI ENGINE WITH METHANOL AND DIESEL OIL	387
RYSZARD SZCZEPANIK EXAMINATION OF THE DYNAMIC PROPERTIES OF 1ST STAGE ROTOR BLADES IN ONE-PASS ENGINE COMPRESSORS UNDER OPERATING CONDITIONS	395

PIOTR SZURGOTT, KRZYSZTOF BERNYŚ NUMERICAL ANALYSIS OF LOAD DISTRIBUTION IN RAILWAY TRACK UNDER WHEELSET	405
GEORGIY VISHNEVETSKY, VALENTIN KOVALENKO, SERGII SYDORENKO, DAMIAN BREWCZYŃSKI OPTIMAL PROJECT PARAMETERS OF THE BRIDGE CRANES MAIN BEAMS	411
JERZY WALENTYNOWICZ, GRZEGORZ TRAWIŃSKI, GRZEGORZ DYGA, FILIP POLAK, GRZEGORZ BORUTA PRELIMINARY ANALYSIS OF VIBRATION SIGNAL TEST RESULTS REGISTERED AT BENCH TEST STAND OF AMV ROSOMAK DRIVING AXIS	419
KRZYSZTOF WIERZCHOLSKI SOLUTIONS OF RECURRENCES WITH VARIABLE COEFFICIENTS FOR SLIDE BEARING WEAR DETERMINATION	427
PIOTR WYGONIK THE INFLUENCE OF MULTI-ROLE AIRCRAFT MISSION TYPE ON THE LOW BYPASS ENGINE PERFORMANCE PARAMETERS	435
M. H. YASIN, R. MAMAT, A. A. ABDULLAH, N. R. ABDULLAH, M.L. WYSZYNSKI CYCLE-TO-CYCLE VARIATIONS OF A DIESEL ENGINE OPERATING WITH PALM BIODIESEL	443
ANDRZEJ ŻYLUK, MARIUSZ PIETRASZEK FEASIBILITY OF MEASUREMENTS IN EXAMINATION OF AIR WEAPONS	451