

CONTENTS

TERESA ABRAMOWICZ-GERIGK, ZBIGNIEW BURCIU MANOEUVRING CHARACTERISTICS OF THE PUSH TRAIN WITH AN AUXILIARY STEERING DEVICE	7
MIROSLAW ADAMSKI, MARIUSZ ADAMSKI, ANDRZEJ SZEPMANOWSKI THE MAGNETIC FIELD CURVATURE CORRECTION ALGORITHM DEDICATED FOR HELMET MOUNTED CUEING SYSTEMS	15
MARTA AMBROSEWICZ-WALACIK, BARTOSZ PSZCZÓLKOWSKI, MAŁGORZATA TAŃSKA VEGETABLE OILS AS ADDITIVES TO IMPROVE THE LUBRICITY OF LOW-SULPHUR FUELS	31
DANIEL BACK DA TRINDADE, PAMELA BUGAŁA, DOMENICO SIMONE REVIEW OF LOSS MODELS FOR HIGH PRESSURE TURBINES	37
JÓZEF BŁACHNIO, ARTUR KUŁASZKA, JERZY PERCZYŃSKI THE IMPACT OF UNEVENNESS AND INSTABILITY OF FLUE GAS TEMPERATURE ON THE TECHNICAL CONDITION OF GAS TURBINE BLADES	45
PRZEMYSŁAW BODZIONY, MICHAŁ PATYK, ZBIGNIEW KASZTELEWICZ ANALYSIS OF OPERATING STATES OF HAUL TRUCKS USED IN SURFACE MINING	53
GRZEGORZ BORUTA, WOJCIECH NAPADŁEK THE PRELIMINARY RESEARCH OF THE INFLUENCE OF GREASE MICROCONTAINERS MADE ON THE SURFACE OF THE SLIDE ASSOCIATION ON THE VIBRATION SIGNAL RECORDED FOR THIS ASSOCIATION	59
PAMELA BUGAŁA DEVIATION ANGLE MODELS IN OFF-DESIGN HIGH-PRESSURE TURBINES	69
ADAM CHARCHALIS ESTIMATING THE MAIN DIMENSIONS OF THE SHIP'S HULL	75
JANUSZ ĆWIKŁAK NUMERICAL SIMULATIONS OF A BIRD STRIKE AGAINST A HELICOPTER WINDSHIELD	81
ADAM CZABAN NUMERICAL ANALYSIS OF INFLUENCE OF BEARING MATERIAL THERMAL CONDUCTIVITY COEFFICIENT ON HYDRODYNAMIC LUBRICATION OF A CONICAL SLIDE BEARING	89
SEBASTIAN DREWING, MIROSLAW DERESZEWSKI DIAGNOSTIC OF MALFUNCTION OF FOUR STROKE MARINE ENGINE USING HARMONIC COMPONENTS OF COMBUSTION PRESSURE WAVEFORMS	97
KRZYSZTOF DUDZIK, JAROSŁAW JANUSZKIEWICZ INFLUENCE OF WELDING PARAMETERS OF FSW ON HARDNESS DISTRIBUTION IN JOINTS OF AW-5083 ALLOY	105

KRZYSZTOF DUDZIK, BURKHARD ZIEGLER THE POSSIBILITY OF APPLICATION OF THE ACOUSTIC EMISSION METHOD FOR MONITORING FRICTION PROCESSES	113
WOJCIECH DZIĘGIELEWSKI, URSZULA KAŻMIERCZAK, ANDRZEJ KULCZYCKI, DARIUSZ OZIMINA IMPACT OF THE ADDITIVES USED IN MINERAL JET FUELS ON THE LUBRICATING PROPERTIES OF SYNTHETIC FUELS FOR TURBINE AIRCRAFT ENGINES	121
MATEUSZ GANDYK, PIOTR HALLER, ANTONI JANKOWSKI COMPUTATIONAL INVESTIGATION OF COMPRESSION RATIO AND BORE DIAMETER INFLUENCE ON ENGINE PERFORMANCE AND KNOCK INTENSITY	129
WOJCIECH GIS, MACIEJ GIS HYDROGENIZATION OF ROAD TRANSPORT ON THE EXAMPLE OF SWEDEN, POLAND AND JAPAN	135
GRZEGORZ HAJDUKIEWICZ IMPACT OF THE TYPE OF QUENCH AGING AFTER HYPERQUENCHING ON THE MECHANICAL STRENGTH PROPERTIES OF AW-7020 ALLOY	141
JERZY HERDZIK THE IMPACT OF METHANE SLIP FROM VESSELS ON ENVIRONMENT	149
JERZY HERDZIK CHOSEN PROBLEMS OF TRANSPORT AND VESSEL'S FUELLING BY LIQUEFIED NATURAL GAS	157
WOJCIECH JUDT, JAROSŁAW BARTOSZEWICZ NUMERICAL ANALYSIS OF A HEAT TRANSFER IN ECONOMIZER DEDICATED FOR 250 KW POWER SOLID FUEL HEATING BOILER	163
MARCIN KALISZEWSKI, PAWEŁ MAZURO ANALYSIS OF THERMAL AND MECHANICAL STRESSES OF RENAULT PREMIUM DXI11 460 EEV FOUR-STROKE PISTON	169
MIROŚLAW KARCZEWSKI, LESZEK SZCZĘCH, FILIP POLAK ENERGETIC BALANCE OF UNMANNED GROUND VEHICLE HYBRID POWER TRANSMISSION	177
JERZY KOWALSKI, JAN NAGÓRSKI, GRZEGORZ SIKORA EXPERIMENTAL RESEARCH ON INFLUENCE OF THE FUEL NOZZLE GEOMETRY ON THE FUEL CONSUMPTION OF THE MARINE 4-STROKE DIESEL ENGINE	185
RAFAŁ KRAKOWSKI ANALYSIS OF SELECTED SIMULATED FAILURE OF A RECIPROCATING COMPRESSOR USING COMPUTER DIAGNOSTIC SYSTEM	191
PIOTR KUCYBAŁA, ARTUR GAWLIK, JANUSZ POBĘDZA, PAWEŁ WALCZAK THE USE OF A THERMOCLIMATIC CHAMBER FOR TECHNOCLIMATIC TESTS OF SPECIAL VEHICLES AND MOBILE MACHINES	199

LESŁAW KYZIOŁ STRESS DISTRIBUTION IN AN ANISOTROPIC BEAM SUBJECTED TO LOAD	207
WOJCIECH LABUDA FINISHING TREATMENT OF MARINE PUMP SHAFTS MADE OF X5CRNI18-10 STEEL	215
BOGDAN LANDOWSKI, DANIEL PERCZYŃSKI A STOCHASTIC MODEL OF CHANGES IN THE OPERATIONAL STATES OF MEANS OF TRANSPORT	223
MARCIN LENARCZYK, ROMAN DOMAŃSKI THERMAL BARRIER CONCEPTS AGAINST CONTINUOUS LASER IRRADIATION	231
MARIETTA MARKIEWICZ-PATALON, ŁUKASZ MUŚLEWSKI, JERZY KASZKOWIAK LESZEK KNOPIK ANALYSIS OF SELECTED OPERATING PARAMETERS OF ENGINE POWERED BY A MIXTURE OF BIOCOMPONENTS AND DIESEL OIL	239
KATARZYNA MARKOWSKA, MICHAŁ WOŹNIAK MOTOR VEHICLE DIAGNOSTICS IN MILITARY UNITS	245
LECH MURAWSKI COMPARATIVE ANALYSIS OF THE CALCULATION METHODS OF THE MARINE PROPELLER'S BLADE THICKNESS	253
ZBIGNIEW OTREMBIA, MARTA AMBROSEWICZ-WALACIK SPECTROFLUORIMETRY OF CHOSEN DISTILLATES OF OIL AFTER PYROLYSIS OF SCRAP TIRES	261
ZBIGNIEW PAWELSKI, ZBIGNIEW ZDZIENNICKI, GRZEGORZ USZPOLEWICZ PROPERTIES OF A THREE DISC CYKLOID GEAR AS A RESULT OF BENCH TEST	269
FILIP POLAK E-REV's HYBRID VEHICLE RANGE MODELING	281
RAFAŁ PRUSAK, ZBIGNIEW SKUZA, MAREK KURTYKA, ZBIGNIEW REMBIESA POTENTIAL OF BIOMASS-TO-FUEL CONVERSION TECHNOLOGIES FOR POWER AND MEANS OF TRANSPORT	287
PAWEŁ PRZYBYLEK, MARZENA KORBELA, ROBERT SZCZEPANIAK, ANDRZEJ KOMOREK, ANETA KRZYŻAK, ROBERT BABEL, WOJCIECH KUCHARCZYK THE EFFECT OF THE ADDITION OF NANOTUBES UPON THE THERMO- PROTECTIVE PROPERTIES OF THE ARAMID-REINFORCED COMPOSITE	295
ALFREDAS RIMKUS, SAUGIRDAS PUKALSKAS, ROMUALDAS JUKNELEVIČIUS JONAS MATIJOŠIUS, DONATAS KRIAUCIŪNAS EVALUATING COMBUSTION, PERFORMANCE AND EMISSION CHARACTERISTICS OF CI ENGINE OPERATING ON DIESEL FUEL ENRICHED WITH HHO GAS	303
ADAM ROJEWSKI, JAROSŁAW BARTOSZEWICZ DIAGNOSTICS AND ANALYSIS OF JET ENGINE MALFUNCTIONS	313

PAWEŁ RUCHAŁA, KAMILA GRABOWSKA, PRZEMYSŁAW MAŁACHOWSKI, LUCAS SANTOS DANIEL BACK USE AND CALIBRATION OF 5-HOLE PRESSURE PROBES TO MEASUREMENT OF AIRFLOW VELOCITY	319
ZBIGNIEW SKORUPKA ADAPTIVE LANDING GEAR CONTROL SYSTEM ASSUMPTIONS	329
ZBIGNIEW SKORUPKA, AGNIESZKA SOBIESZEK STRAIN GAUGE PIN BASED FORCE MEASUREMENT	339
JAROSŁAW STANISŁAWSKI PERFORMANCE REQUIREMENTS AND SIMULATION OF ROTOR OPERATION FOR HIGH-MOUNTAIN RESCUE HELICOPTER	341
ROBERT SZCZEPANIAK, ROBERT BĄBEL, ANNA GRZYWACZ, WIT STRYCNIEWICZ GRZEGORZ KOWALECZKO THE EFFECT OF USING THE KLINE-FOGLEMAN MODIFICATION UPON THE COEFFICIENT CHARACTERISTICS OF AERODYNAMIC FORCES IN THE AIRFOIL	349
ADAM SZELEZIŃSKI, ADAM MUC, LECH MURAWSKI TIME – FREQUENCY DYNAMIC CHARACTERISTICS 2D IN THE QUALITY ASSESMENT OF WELDED JOINTS	357
ARTÚR SZILÁGYI, ÁKOS BERECHKY COMPARISON OF THE ENVIRONMENTAL IMPACTS OF A PLUG-IN HYBRID AND A FULL ELECTRIC CAR USING LIFE CYCLE ASSESSMENT	363
AGNIESZKA ALEKSANDRA SZOKAŁO, MARCIN RYCHTER ANALYSIS OF THE USE OF OBD II / EOBD CONGESTION DIAGNOSTICS IN THE LIGHT OF VEHICLES OPERATION AND THEIR TECHNICAL CONDITION	371
REINHARD TATSCHL, PETER PRIESCHING, JÜRGEN SCHNEIDER MULTIDIMENSIONAL SIMULATION OF COMBUSTION AND KNOCK ONSET IN GAS ENGINES	379
WOJCIECH TUTAK, ARKADIUSZ JAMROZIK COMBUSTION OF MIXTURE OF DIESEL FUEL WITH GASOLINE IN A COMPRESSION IGNITION ENGINE	391
LESZEK UŁANOWICZ, ANDRZEJ ŻYLUK METHOD FOR ESTIMATING THE STATIC FRICTION DEGREE IN THE SLIDE PAIR OF THE MINIATURISED ELECTROHYDRAULIC SERVOMECHANISM	399
MALGORZATA WOJTAS, ŁUKASZ CZAJKOWSKI, AGNIESZKA SOBIESZEK THE INFLUENCE OF THE BLADES LEADING EDGE ANTI-EROSION PROTECTION ON MAIN ROTOR PERFORMANCES	40
MÁTÉ ZÖLDY, SÁNDOR VASS DETAILED MODELLING OF THE INTERNAL PROCESSES OF AN INJECTOR FOR COMMON RAIL SYSTEMS	415