LIST OF PAPERS

ANDREY BABUSHKIN, OLEG KOSOV, VICTOR SHEKHOTOVSOV, MIKHAIL LYASHENKO
THE OPTIMIZATION OF THE DESIGN STRENGTH CHARACTERISTICS OF THE FRAME OF THE TRACTOR 11

KAZIMIERZ BACZEWSKI, PIOTR SZCZAWIŃSKI
INVESTIGATION PROPERTIES OF RAPESEED OIL METHYL ESTERS/AVIATION TURBINE FUEL JET A-1 BLENDS 15

PAWEŁ BARANOWSKI, JERZY MAŁACHOWSKI
NUMERICAL INVESTIGATIONS OF TERRAIN VEHICLE TIRE SUBJECTED TO BLAST WAVE 23

WIESŁAW BARNAT, ROBERT PANOWICZ, TADEUSZ NIEZGODA, PAWEŁ DYBCIO
A NUMERICAL ANALYSIS OF INITIAL AND BOUNDARY CONDITIONS INFLUENCE ON THE CREW OF TRACKED VEHICLE AND THE GROUND 31

WIESŁAW BARNAT, ROBERT PANOWICZ, TADEUSZ NIEZGODA
INFLUENCE OF ARMOURVED VEHICLE’S BOTTOM SHAPE ON THE PRESSURE IMPULSE 39

ADAM BARTNICKI
STRENGTH TESTS OF FOLDING BRIDGES’ SPANS 47

KRZYSZTOF BASZUK, LESZEK SZCZĘCH
INVESTIGATION OF THE UNMANNED VEHICLE HYBRID PROPULSION SYSTEM 53

ZDZISŁAW BOGDANOWICZ, KRZYSZTOF GRZELAK
LASER REBUILDING OF ENGINE EXHAUST VALVES 57

WACLAW BORKOWSKI, ZDZISŁAW HRYCICH, BOGUSŁAW MICHAŁOWSKI, PIOTR RYBAK, ANDRZEJ WISNIEWSKI, JÓZEF WYSOCKI
EXPERIMENTAL RESEARCH ON THE DYNAMIC LOADS OF THE WHEELED ARMOURVED PERSONNEL CARRIER 69

WACLAW BORKOWSKI, PIOTR RYBAK, ZDZISŁAW HRYCICH, JÓZEF WYSOCKI, KRZYSZTOF PAPLIŃSKI, BOGUSŁAW MICHAŁOWSKI
OPERATIONAL LOADS OF COMBAT VEHICLES 77

WACLAW BORKOWSKI, ZDZISŁAW HRYCICH, PIOTR RYBAK, JÓZEF WYSOCKI
PROTOTYPE ARTICULATED JOINT IN CONNECTIONS OF THE CONCRETE PROTECTIVE BARRIER 85

ADAM CHARCHALIS
DIAGNOSING OF SHIP PROPULSION ELEMENTS BY VIBRATION MEASUREMENT 93
ELENA CHERKASHINA, MICHAEL LIASHENKO, VICTOR SHEKHOVTsov, MIKHAIL VALENTSEV
INVESTIGATION OF THERMAL INTENSITY OF HYDROPNEUMATIC SPRING OF VEHICLE 99

EDWARD CYPKO, TADEUSZ KALDÓSKI
INFLUENCE OF LUBRICATED SLIDING COUPLE STRUCTURAL MATERIAL TYPE ON GENERATED POTENTIAL DIFFERENCE VALUE 103

ROBERT CZABANOWSKI
DSEFORMABLE GROUND INFLUENCE ON THE FRICTION DRIVE TRANSMISSION BETWEEN DRIVE PULLEY AND ELASTOMETRIC TRACK 109

PIOTR CZOP, PAWEŁ ŠLIWA, JACEK GNILKA, DAMIAN GĄSIOREK
A COMPUTATIONAL FLUID FLOW ANALYSIS OF A DISC VALVE SYSTEM 117

MIROSŁAW DERESZEWSKI, ADAM CHARCHALIS, STANISŁAW POLANOWSKI
ANALYSIS OF DIAGNOSTIC UTILITY OF INSTANTANEOUS ANGULAR SPEED FLUCTUATION OF DIESEL ENGINE CRANKSHAFT 123

AGNIESZKA DEREWO, GRZEGORZ ŚLAWIŃSKI, TADEUSZ NIEZGODA
DEVICE SUPPORTING MILITARY VEHICLES BUOYANCY AND BALLISTIC RESISTANCE 129

ANDRZEJ DĘBOWSKI, DARIUSZ ŻARDECKI
MODELLING OF CENTRE DIFFERENTIAL CONTROL 135

JAN FIGURSKI
LOGISTIC SUPPORT OF „HOMAR” ROCKET SYSTEM 143

KRZYSZTOF GOČMAN, TADEUSZ KAŁDOŃSKI, WALDEMAR MRÓZ, SYLVIA BURYŃSKA, ARTUR PROKOPIUK
STRUCTURAL AND MECHANICAL PROPERTIES OF BORON NITRIDE THIN FILMS DEPOSITED ON STEEL SUBSTRATES BY PULSED LASER DEPOSITION 149

ANDRZEJ GRZĄDZIELA, ADAM CHARCHALIS
VIBRATION DIAGNOSTICS OF MARINE GAS TURBINE ENGINES 157

TADEUSZ KAŁDOŃSKI, PIOTR PAWEŁ WOJDYNA
LIQUID LUBRICANTS FOR SPACE ENGINEERING AND METHODS FOR THEIR TESTING 163

TADEUSZ KAŁDOŃSKI
ALMOST 60 YEARS OF TRIBOLOGY AT THE FACULTY OF MECHANICAL ENGINEERING, MILITARY UNIVERSITY OF TECHNOLOGY 185

TOMASZ JAN KAŁDOŃSKI, ŁUKASZ GRYGIELWICZ, MATEUSZ STAŃCZYK, TADEUSZ KAŁDOŃSKI
INVESTIGATIONS ON LUBRICITY AND SURFACE PROPERTIES OF SELECTED PERFLUOROPOLYETHER OILS 199
INITIAL STUDIES ON LUBRICITY AND SURFACE PROPERTIES OF SELECTED IONIC LIQUIDS 213

ASSESSMENT OF START-UP CHARACTERISTICS OF G9T ENGINE AT LOW TEMPERATURE, FED WITH F-34 FUEL BLENDS WITH BIOCOMPONENTS 227

OPTICAL ANALYSIS OF FAILURE OF COMBUSTION ENGINES ELEMENTS 237

ASSESSMENT OF DYNAMIC QUALITIES OF THE G9T ENGINE WITH COMMON RAIL SYSTEM, FED WITH BATTLEFIELD-USE FUEL BLENDS WITH A BIOCOMPONENT 243

RESEARCHES OF NOXIOUS COMPONENTS OF EXHAUST GASES CONVERSION OCCURS IN CATALYTIC CONVERTER DURING A START-UP OF COMPRESSION IGNITION ENGINE IN LOWERED TEMPERATURE 253

LABORATORY TESTS OF ACTIVE SUSPENSION SYSTEM 263

ARTICULATED ENGINEERING EQUIPMENT STABILITY SIMULATIONS BASED ON Ł34 WHEEL LOADER 273

APPLICATION OF THE PHASE REPRODUCTION METHOD TO THE ANALYSIS OF AN AVIONIC EVENT ON BOARD OF THE W-3 "SOKÓŁ" HELICOPTER 301

METHOD FOR TESTING STEERABILITY AND STABILITY OF MILITARY
VEHICLES MOTION USING SR60E STEERING ROBOT
WITOLD LUTY

AN ANALYSIS OF TIRE RELAXATION IN CONDITIONS OF THE WHEEL SIDE CORNERING AGLE OSCILATIONS
WITOLD LUTY

THE μ-PW FRICTION TESTER AS AN ELEMENT OF ROAD SURFACE SKID RESISTANCE EVALUATION SYSTEM AT THE TRAFFIC ACCIDENT SCENE
MARIAN J. ŁOPATKA, TOMASZ MUSZYŃSKI, ARKADIUSZ RUBIEC

MULTIFUNCTION SUSPENSION OF EOD ROBOT
MARCIN MICHALCZYK, KRZYSZTOF SZCZĘŚNIAK

THE MODEL OF VERTICAL ACCELERATION IMPACT ON BACKBONE OF MEMBER OF THE CREW
GRZEGORZ MOTRYCZ, PIOTR STRYJEK

DESIGN OF FLATBED FOR CARRYING DAMAGED AFV ROSOMAK BY AIR TRANSPORTATION
TOMASZ MUSZYŃSKI

RESEARCH INTO DRIVE SYSTEM OF EOD/IED ROBOT
WOJCIECH NAPADLEK

LASER PERCUSSIVE STRENGTHENING OF THE ALUMINUM ALLOYS
STANISŁAW NIZIŃSKI, WŁODZIMIERZ KUPICZ

AUTONOMIC LOGISTICS SYSTEM OF INTELLIGENT MILITARY MOTOR VEHICLES
STANISŁAW NIZIŃSKI, WŁODZIMIERZ KUPICZ

OPERATIONAL STRATEGY OF MILITARY MOTOR VEHICLES
WŁADYSŁAW PAPACZ

BIOGAS AS VEHICLE FUEL
KRZYSZTOF M. PAPŁINSKI, EMIL STACHOWICZ

INFLUENCE OF INERTIA MOMENT OF INFANTRY FIGHTING VEHICLE TURRET ON ACCURACY OF AIMING AT A TARGET AND TRACKING OF A TARGET
DARIUSZ PASIEKA, PIOTR WOCKA

NEW CONCEPTS OF VEHICLES, MODELLING AND SIMULATION USING WMI AND MG20 VEHICLES AS AN EXAMPLE
JAN PEROŃCZYK

SELECTED PROBLEMS OF ELECTRICAL DISCHARGE MACHINING (EDM) OF METAL COMPOSITE MATERIALS APPLIED IN MANUFACTURING OF MECHANICAL VEHICLES
MAREK PIĄTEK

PERFORMANCE MONITORING AND DIAGNOSTICS OF DRIVE UNITS OF
HEAVY ARMORED EQUIPMENT
ARKADIY POBEDIN, VALERIY VARFOLOMEEV

AGENCY OF THE SUSPENSION OF THE BACK IDLER ON TRANSPORT VIBRATION OF THE TRACTOR WITH TRIANGULAR CATERPILLAR CONTOUR
ARKADIY POBEDIN, OLEG KOSOV, ALEXANDER DOLOTOW, KIRILL DOLGOV

THE MODELLING OF NOISE EMISSION BY THE GEARBOX OF VEHICLES GAZ 3110, 31105
ARKADIY POBEDIN, OLEG KOSOV, KIRILL SHEKHOVTSEV

VIBRATION ISOLATORS TEST BENCH
ALEX PODZOROV, VYACHESLAV PRYTKOV, ELENA CHERKASHINA, MICHAEL LIASHENKO

THE VEHICLE RIDE COMFORT INCREASE AT THE EXPENSE OF SEMIACTIVE SUSPENSION SYSTEM
FILIP POLAK, JERZY WALENTYNOWICZ

SIMULATION OF THE HYBRID PROPULSION SYSTEM FOR THE SMALL UNMANNED VEHICLE
FILIP POLAK, LESZEK SZCZĘCH

PROPULSION MODULE FOR UNMANNED VEHICLE
KONRAD PRAJNOWSKI, WAWRZYNIEC GOŁĘBIEWSKI

SIMULATIVE COMPARISON OF THE TRACTION PROPERTIES OF DAEWOO LUBLIN 3 MI VAN WITH PARTICULAR TYPES OF GEARBOX
LEON PROCHOWSKI, KAROL ZIEJONKA, ANDRZEJ ŻUCHOWSKI

THE ANALYSIS OF OCCUPANT MOTION IN FRONTAL BARRIER IMPACT OF A CHASSIS FRAME VEHICLE
EUGENIUSZ RATAJCZYK

SYSTEMS FOR DAMAGED CAR BODIES MEASUREMENTS
ARKADIUSZ RYCHLIK, PIOTR SZCZYGLAK

DIAGNOSTIC INFORMATION MODEL OF A MILITARY VEHICLE
PIOTR SASKA, EDYTA KRZYSTAŁA, ARKADIUSZ MĘŻYK

AN ANALYSIS OF AN EXPLOSIVE SHOCK WAVE IMPACT ONTO MILITARY VEHICLES OF CONTEMPORARY WARFARE
WOJCIECH SAWCZUK

APPLICATION OF VIBROACOUSTIC SIGNAL TO DIAGNOSE DISK BRAKING SYSTEM
VICTOR SHEKHOVTSEV, NICKOLAY SOKOLOV-DOBREV, VLADIMIR SHEVTCHUK, MICHAEL LIASHENKO, IVAN IVANOV, ALEXEY KALMIKOV

THE RESEARCH OF THE DYNAMIC LOAD OF THE POWER TRAIN OF THE CATERPILLAR TRACTOR CHETRA 6C-315
PRZEMYSŁAW SIMIŃSKI

SAFETY AND ANALYSIS OF MODERN TRANSPORT ARTICULATED VEHICLES
MOTORIC PROPERTIES

PRZEMYSŁAW SIMIŃSKI

TESTING OF „MAMUT” THE EVACUATION & TECHNICAL RECOVERY WHEELED VEHICLE 555

JANUSZ ŚLIWIŃSKI

PROTECTION OF VEHICLES AGAINST MINES 565

TOMasz SMAL, MAREK RoŚKOWICZ

EXPEDIENT REPAIR OF HYDRO-PNEUMATIC PIPES WITH ADHESIVES 573

ZBIgniew SOBCZYK

TOTAL CURRENT MEASUREMENT INTERRUPTS DETECTION METHOD IN AUTOMOTIVE BULBS CIRCUITS 579

ROBERT SosNOWICZ, PRZEMYSŁAW WACHOWIAK, Maciej DORczUK

CONCEPTION OF MILITARY VEHICLE CLASSIFICATION 585

ROBERT SosNOWICZ, PRZEMYSŁAW WACHOWIAK, Maciej DORczUK, Cezary RZYMKOWSKI, Adam DACKO, Tomasz DzwEwoŃSKI, Jacek TocZYSKI (PH.D. STUDENT)

SEAT AS AN ELEMENT IMPROVING PHYSICAL PROTECTION OF SOLDIERS DURING EXPLOSION OF MINES UNDER THE ARMoured MILITARY VEHICLES 595

PIOTR SPRAWKA

THE SYSTEM OF ACTIVE BASES PROTECTION IN THE AREAS OF COMBAT TASKS 603

SŁAWOMiR STACHURA

STATIC ANALYSIS AND STABILITY OF THE GRILLAGE 609

TOMasz L. STANCZYK, RAFAŁ JURECKI, MAREK JaŚKIEWICZ, STAŃSŁAW WALCZAK, ROBERT JANcZUR

RESEARCHES ON THE REACTION OF A PEDESTRIAN STEPPING INTO THE ROAD FROM THE RIGHT SIDE FROM BEHIND AND AN OBSTACLE REALIZED ON THE TRACK 615

TOMasz STOECK

EVALUATION OF THE CARRIAGE OF DISABLED PEOPLE BY MEANS OF MUNICIPAL TRANSPORT IN SZCZECIN 623

PIOTR STRYJEK, GRZEGORZ MOTRYCZ, JERZY GRZESIak

THE EFFECT OF THE DRIVER AND CONSTRUCTION CHANGES IN VEHICLE SUSPENSION SYSTEMS ON THE ABILITY TO PERFORM SUDDEN MANOEUVRES ON THE ROAD ON THE BASIS OF TESTS CARRIED OUT ON POLICE CARS 631

MAREK SZUDROWICZ

ANALYSIS OF BAR AND NET SCREENS STRUCTURE PROTECTING VEHICLES AGAINST ANTI-TANK GRENADES FIRED FROM RPG-7 639

PIOTR SZURGOTT, TADEUSZ NIEZGODA
THERMOMECHANICAL FE ANALYSIS OF THE ENGINE PISTON MADE OF COMPOSITE MATERIAL WITH LOW HISTERESIS

ANDRZEJ ŚWIDERSKI

THE SELECTED ASPECTS OF THE QUALITY ASSESSMENT OF TRANSPORT SERVICES

JERZY ŚWITEK

STABILITY OF MOTION OF THE CREWED AUTONOMOUS UNDERWATER VEHICLE

ŁUKASZ TRZCIŃSKI

THE PRELIMINARY DESIGN OF MULTIPURPOSE ENGINEERING MACHINE

JERZY WALENTYNOWICZ

INFLUENCE THE HIGHER TEMPERATURE OF THE COOLING LIQUID ON OPERATIONAL PARAMETER OF THE PISTON COMBUSTION ENGINE

MIROSŁAW WENDEKER, ŁUKASZ GRABOWSKI, KONRAD PIETRYKOWSKI, PAWEL MAGRYTA

FLOW SIMULATION THROUGH WANKEL ENGINE THROTTLE USING COMPUTATIONAL FLUID DYNAMICS

MIROSŁAW WENDEKER, PAWEL MAGRYTA, ADAM MAJCZAK, MICHAŁ BIAŁY

MODELING THE THERMAL LOADS IN THE SUBARU EJ25 ENGINE

DARIUSZ ŻARDECKI

MODELLING OF EPS TYPE STEERING SYSTEMS INCLUDING FREEPLAY AND FRICTION IN STEERING MECHANISM

ANDRZEJ ŻUCHOWSKI, JERZY JACKOWSKI

ANALYSIS OF PROPERTIES OF OPERATION OF THE SUPPORTING EQUIPMENT FOR THE SEAT BELTS