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SEARCH CONTROL NO. 015415

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DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-846 355 22/2 21/8 16/4.2
BOEING CO SEATTLE WASH
LAUNCH VEHICLE HISTORY, (U)
SEP 65 62P SCHWEITZER, JEROME D. ;ROSS, JAMES E. ;BERGER, BONITA ;
REPT. NO. D2-24015-1

UNCLASSIFIED REPORT
DISTRIBUTION: DDC USERS ONLY.
SUPPLEMENTARY NOTE: INCLUDES REVISION E DATED 14 NOV 68. SEE ALSO AD-380 127L.

DESCRIPTORS: (*LAUNCH VEHICLES(AEROSPACE), PERFORMANCE(ENGINEERING)), (*BOOSTER MOTORS, FLIGHT TESTING), LAUNCHING, STAGING, FAILURE(ELECTRONICS), FAILURE(MECHANICS), MALFUNCTIONS, STATISTICAL DATA, HISTORY, TABLES, GUIDED MISSILES(SURFACE-TO-SURFACE), GUIDED MISSILES(UNDERWATER-TO-SURFACE) (U)
IDENTIFIERS: AGENA, ATLAS, SATURN LAUNCH VEHICLES, THOR, TITAN, CENTAUR, POLARIS, MINUTEMAN (U)

THIS DOCUMENT SUMMARIZES LAUNCHINGS CONDUCTED DURING U. S. SPACE AND MISSILE PROGRAMS. ONLY UNCLASSIFIED STATISTICAL DATA HAVE BEEN PRESENTED. CLASSIFIED LAUNCH INFORMATION AND DESCRIPTIVE INFORMATION REGARDING FAILURES ARE INCLUDED IN AN ACCOMPANYING CONFIDENTIAL DOCUMENT (D2-24015-2). THE REPORT INCLUDES SUCCESS/FAILURE RECORDS AND FAILURE CHARTS, AS WELL AS SUMMARIES OF THE FLIGHTS AND FAILURES CORRELATED TO SYSTEMS. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-831 102L 13/11 21/8.1
ROCKETDYNE CANOGA PARK CALIF
TURBOPUMP: PRELIMINARY CHECKOUT. (U)
DESCRIPTIVE NOTE: FINAL SPECIFICATION,
JUN 66 20P
REPT. NO. SPEC-RA-0210-414
MONITOR: IDEP 511.20.00.00-G1-07S

UNCLASSIFIED REPORT
DISTRIBUTION: USGO; OTHERS TO COMMANDER, SAMSO (SMSDI, IDEP OFFICE) LOS ANGELES AIR FORCE STATION, CALIF. 90045.
SUPPLEMENTARY NOTE: COMPLEMENT TO REPT. NO. IDEP-428.00.00.00-G1-24S.

DESCRIPTORS: (*TURBOPUMPS; CHECKOUT PROCEDURES), GUIDED MISSILES(SURFACE-TO-SURFACE), PUMPS, GEARS, LUBRICATION, SEALS; LEAKAGE(FLUID), LAUNCH VEHICLES(AEROSPACE), CALIBRATION, BEARINGS, PRESSURE, SPECIFICATIONS, ROCKET MOTORS(LIQUID PROPELLANT) (U)
IDENTIFIERS: ATLAS, THOR (U)

THE PURPOSE OF THIS SPECIFICATION IS TO ESTABLISH PROCEDURES FOR TESTING THE TURBOPUMP ASSEMBLIES PRIOR TO OPERATIONAL CHECKOUT. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-831 099L 13/11 21/8.1
ROCKETDYNE CANOGA PARK CALIF
MARK 3 H-1 TURBOPUMP: PRELIMINARY CHECKOUT. (U)
DESCRIPTIVE NOTE: FINAL SPECIFICATION,
FEB 66 24P KLOIBER,G. F. ;
REPT. NO. SPEC-RA02220-322
MONITOR: IDEP 511.20.00.00-G1-09S

UNCLASSIFIED REPORT
DISTRIBUTION: USGO: OTHERS TO COMMANDER, SAMSO (SMSDI, IDEP OFFICE) LOS ANGELES AIR FORCE STATION, CALIF. 90045.
SUPPLEMENTARY NOTE: COMPLEMENT TO REPT. NO. IDEP-428.00.00.00-G1-24S.

DESCRIPTORS: (*TURBOPUMPS; CHECKOUT PROCEDURES), GUIDED MISSILES(SURFACE-TO-SURFACE), PUMPS, GEARS, LUBRICATION, SEALS; LEAKAGE(FLUID), LAUNCH VEHICLES(AEROSPACE), CALIBRATION, BEARINGS, PRESSURE, SPECIFICATIONS, ROCKET MOTORS(LIQUID PROPELLANT) (U)
IDENTIFIERS: ATLAS, THOR (U)

THE PURPOSE OF THIS SPECIFICATION IS TO ESTABLISH PROCEDURES FOR TESTING TURBOPUMP ASSEMBLY 458450 PRIOR TO OPERATIONAL CHECKOUT. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-831 080L 21/4 21/9.1 11/8
ROCKETDYNE CANOGA PARK CALIF
ADDITIVE, EXTREME PRESSURE, FOR MIL-R-25576, AND MIL-F-25558 FUELS. (U)
DESCRIPTIVE NOTE: FINAL SPECIFICATION, OCT 65 8P
REPT. NO. SPEC-RB0140-006
MONITOR: IDEP 511.20.00.00-G1-055

UNCLASSIFIED REPORT
DISTRIBUTION: USGO; OTHERS TO COMMANDER, SAMSO (SMSDI, IDEP OFFICE) LOS ANGELES AIR FORCE STATION, CALIF. 90045.
SUPPLEMENTARY NOTE: COMPLEMENT TO REPT. NO. IDEP-511.20.00.00-G1-03.

DESCRIPTORS: (*FUEL ADDITIVES, SPECIFICATIONS), GUIDED MISSILES(SURFACE-TO-SURFACE), ROCKET MOTORS(LIQUID PROPELLANT), BOOSTER MOTORS, RAMJET ENGINES, JET ENGINE FUELS, LIQUID ROCKET FUELS, KEROSENE, PRESSURE, GEARS, LUBRICATION, LAUNCH VEHICLES(AEROSPACE) (U)
IDENTIFIERS: RJ-1 FUELS, RP-1 FUELS, ATLAS, CGM-17 MISSILES, THOR, PGM-17 MISSILES, H-1 ENGINES (U)

THE SPECIFICATION DESCRIBES AN EXTREME PRESSURE ADDITIVE WHICH MAY BE DILUTED IN RAMJET ENGINE FUEL RJ-1 AND ROCKET FUEL RP1 TO INCREASE THE GEAR LUBRICATING ABILITY OF THESE FLUIDS. THE ADDITIVE IS NORMALLY USED WITHIN A 1 PERCENT TO 3 PERCENT BY VOLUME CONCENTRATION, BUT MAY BE ADDED IN LARGER OR SMALLER CONCENTRATIONS. THE ADDITIVE IS SOLUBLE IN MOST PETROLEUM FUELS AND OILS. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-831 013 16/1
GENERAL DYNAMICS/ASTRONAUTICS SAN DIEGO CALIF
SPECIFICATION FOR SM-65D R AND D CAPTIVE AND FLIGHT TEST PROGRAM AND 117L, MERCURY, AND ABLE FLIGHT TEST PROGRAM AT AMR. (U)
MAR 60 145P
REPT. NO. GDA-AZM-27-089A
CONTRACT: AF 04(645)-4, AF 04(647)-507

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF COMMANDER, SAMSO (SMSDI-STINFO) LOS ANGELES AIR FORCE STATION, CALIF. 90045.

DESCRIPTORS: (*GUIDED MISSILE RANGES, FLIGHT TESTING), GUIDED MISSILES(SURFACE-TO-SURFACE), LAUNCH VEHICLES(AEROSPACE), SCIENTIFIC SATELLITES, LUNAR PROBES, ROCKET MOTORS(LIQUID PROPELLANT), ATMOSPHERE ENTRY, ABLATION, MODIFICATION KITS, NOSE CONES, ALL-INERTIAL GUIDANCE, STAGING, GUIDED MISSILE TRACKING SYSTEMS, AIRFRAMES, AERODYNAMIC CONFIGURATIONS, STRUCTURAL PROPERTIES, GUIDED MISSILE COMPONENTS, TELEMETER SYSTEMS, GUIDED MISSILE SAFETY, SUSTAINER MOTORS, VERNIER ROCKET MOTORS, PROPELLANT CONTROL, REENTRY VEHICLES (U)
IDENTIFIERS: ATLAS, CTM-16D MISSILES, SAMOS, MERCURY PROJECT, THOR, AZUSA, MIDAS, MARK 3 REENTRY VEHICLES, MA-2 PROPULSION SYSTEMS (U)

THIS REPORT COVERS THE TEST PROGRAM FOR THE FOLLOWING: (A) CAPTIVE TESTS SM-65D MISSILES, (B) MECHANICAL SYSTEMS FOR D-SERIES AS INSTALLED ON BATTLESHIP TANKS, (C) FLIGHT TESTS FOR RESEARCH AND DEVELOPMENT SM-65D MISSILES, INCLUDING D-AIG (ALL INERTIAL GUIDANCE) MISSILES, (D) BOOSTERS FOR MIDAS (WS1176) PROGRAM AT AMR, (E) MERCURY/ATLAS BOOSTERS PROGRAM SM-65D; (F) ABLE IV LUNAR PROBE ATLAS BOOSTER SM-65D. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-818 574L 16/4.2 16/4.3 22/4 21/8.1
21/8.2
BOEING CO SEATTLE WASH AEROSPACE GROUP
LAUNCH VEHICLE HISTORY, (U)
JUN 67 49P SCHWEITZER,JEROME D. ;ROSS,
JAMES E. ;BERGER,BONITA ;
REPT. NO. D2-24015-1-REV-B

UNCLASSIFIED REPORT
DISTRIBUTION: USGO: OTHERS TO BOEING CO.,
SEATTLE, WASH. 98124.
SUPPLEMENTARY NOTE: INCLUDES REVISIONS A AND B OF
REPORT DATED 10 SEP 65.

DESCRIPTORS: (*GUIDED MISSILES(SURFACE-TO-
SURFACE), LAUNCHING), (*GUIDED
MISSILES(UNDERWATER-TO-SURFACE), LAUNCHING),
(*LAUNCH VEHICLES(AEROSPACE)), (*SOUNDING
ROCKETS), ROCKET MOTORS(LIQUID PROPELLANT),
ROCKET MOTORS(SOLID PROPELLANT), UNITED STATES
GOVERNMENT, PERFORMANCE(ENGINEERING), TABLES,
STAGING, GROUND SUPPORT EQUIPMENT,
FAILURE(MECHANICS), FAILURE(ELECTRONICS),
MALFUNCTIONS, RELIABILITY (U)
IDENTIFIERS: BURNER 2, ABLE(LAUNCH VEHICLE),
AGENA, ATLAS, THOR, TITAN 1, TITAN 2,
TITAN 3, CENTAUR, DELTA(LAUNCH VEHICLE),
POLARIS, SCOUT, MINUTEMAN, MINUTEMAN 2 (U)

THE DOCUMENT SUMMARIZES LAUNCHINGS CONDUCTED DURING U. S. SPACE AND MISSILE PROGRAMS. ONLY UNCLASSIFIED STATISTICAL DATA HAVE BEEN PRESENTED. CLASSIFIED LAUNCH INFORMATION AND DESCRIPTIVE INFORMATION REGARDING FAILURES ARE INCLUDED IN AN ACCOMPANYING CONFIDENTIAL DOCUMENT (D2-24015-2). THIS REPORT INCLUDES SUCCESS/FAILURE RECORDS AND FAILURE CHARTS, AS WELL AS SUMMARIES OF THE FLIGHTS AND FAILURES CORRELATED TO SYSTEMS. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-809 550L 9/1
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF MISSILE AND SPACE SYSTEMS DIV
COAXIAL SWITCH, DESIGN EVALUATION TEST DAC SCN 1A 74988-1. (U)
DESCRIPTIVE NOTE: TECHNICAL MEMO.,
APR 66 12P BRODERICK,P. K. ;
REPT. NO. TM-DSV2L-EE-R5514
MONITOR: IDEP 791-50-05-30-07-01

UNCLASSIFIED REPORT
DISTRIBUTION: USGO; OTHERS TO HEADQUARTERS, SPACE SYSTEMS DIV., ATTN: IDEP OFFICE, SSSD, AIR FORCE UNIT POST OFFICE, LOS ANGELES, CALIF. 90045.

DESCRIPTORS: (*ELECTRIC SWITCHES, PERFORMANCE(ENGINEERING)), GUIDED MISSILES(SURFACE-TO-SURFACE), ENVIRONMENTAL TESTS, VIBRATION, VISUAL INSPECTION, VOLTAGE, DEGRADATION, STANDING WAVE RATIOS (U)
IDENTIFIERS: THOR (U)

THIS REPORT PRESENTS REQUIREMENTS, PROCEDURES, AND RESULTS OF THE DESIGN EVALUATION (TYPE 2) TEST OF THE PROTOTYPE COAXIAL SWITCH, DAC P/N 1A74988-1, S/N 533. THE TEST PROGRAM WAS PERFORMED TO VERIFY THE ABILITY OF THE SWITCH TO FUNCTION UNDER THE DYNAMIC CONDITIONS ENCOUNTERED IN THE CENTER BODY SECTION OF THE DSV-2L VEHICLE. THE DYNAMIC CONDITIONS INCLUDE RANDOM VIBRATION IN THE PITCH AND YAW AXIS, AND RANDOM VIBRATION WITH A SUPER-IMPOSED SINUSOIDAL SWEEP IN THE LONGITUDINAL AXIS. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-807 541L 16/1
BOEING CO SEATTLE WASH
LAUNCH VEHICLE HISTORY. REVISION A. (U)
FEB 67 48P SCHWEITZER, JEROME D. ; ROSS, JAMES E. ;
REPT. NO. D2-24015-1-REV-A

UNCLASSIFIED REPORT
DISTRIBUTION: USGO: OTHERS TO BOEING CO., SEATTLE, WASH. 98124.

DESCRIPTORS: (*LAUNCH VEHICLES(AEROSPACE), LAUNCHING), (*GUIDED MISSILES(SURFACE-TO-SURFACE), LAUNCHING), HISTORY, RELIABILITY, FAILURE(MECHANICS), RECORDS, REPORTS, GUIDED MISSILES(SURFACE-TO-SURFACE), GUIDED MISSILES(UNDERWATER-TO-SURFACE), FLIGHT TESTING, DATA (U)
IDENTIFIERS: ATLAS, AGENA, CENTAUR, DELTA, THOR, TITAN, TITAN 2, TITAN 3, MINUTEMAN, POLARIS, SATURN(BOOSTER), SCOUT (U)

THIS DOCUMENT SUMMARIZES LAUNCHINGS CONDUCTED DURING U. S. SPACE AND MISSILE PROGRAMS. ONLY UNCLASSIFIED STATISTICAL DATA HAVE BEEN PRESENTED. CLASSIFIED LAUNCH INFORMATION AND DESCRIPTIVE INFORMATION REGARDING FAILURES ARE INCLUDED IN AN ACCOMPANYING CONFIDENTIAL DOCUMENT (D2-24015-2). THIS REPORT INCLUDES SUCCESS/FAILURE RECORDS AND FAILURE CHARTS, AS WELL AS SUMMARIES OF THE FLIGHTS AND FAILURES CORRELATED TO SYSTEMS. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-805 065 22/4 21/8.2
BOEING CO SEATTLE WASH AEROSPACE GROUP
BURNER II, GENERAL DESCRIPTION, BOEING MODEL 946 SOLID ROCKET UPPER STAGE. (U)
MAY 66 67P
REPT. NO. D2-82601-1
CONTRACT: AF 04(695)-754

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF SPACE SYSTEMS DIV., LOS ANGELES AIR FORCE STATION, LOS ANGELES, CALIF. 90045.
SUPPLEMENTARY NOTE: SEE ALSO REPT. NO. D2-82601-2, AD-805 066, SECOND PRINTING DATED AUG 66.

DESCRIPTORS: (*LAUNCH VEHICLES(AEROSPACE), ROCKET MOTORS(SOLID PROPELLANT)), DESIGN, AIRFRAMES, ATTITUDE CONTROL SYSTEMS, COMMAND GUIDANCE, TERMINAL GUIDANCE, FLIGHT CONTROL SYSTEMS, CONTROL JETS, INJECTION GUIDANCE, POWER SUPPLIES, ELECTRIC POWER PRODUCTION, DESTRUCTORS, TELEMETER SYSTEMS, NOSE CONES, JETTISONABLE EQUIPMENT, RELEASE MECHANISMS, SYSTEMS ENGINEERING, PERFORMANCE(ENGINEERING), GROUND SUPPORT EQUIPMENT, THIRD-STAGE MOTORS (U)
IDENTIFIERS: BURNER 2, TE-364 MOTORS, THOR (U)

THE BURNER 2 (BOEING MODEL 946) IS AN UPPER STAGE DEVELOPED FOR INITIAL USE ON THE THOR SLV-2 BOOSTER. THE STAGE IS READILY ADAPTABLE FOR USE ON OTHER BOOSTERS OF THE THOR FAMILY, THE ATLAS AND TITAN BOOSTERS, AND AS A THIRD STAGE WITH THE IMPROVED DELTA, AGENA, CENTAUR, AND TITAN TRANSTAGE UPPER STAGES. PRIMARY PROPULSION IS PROVIDED BY A THIOKOL TE-M-364-2 SOLID PROPELLANT ROCKET MOTOR. DESCRIPTIVE MATERIAL ON BURNER 2 IS PRESENTED IN TWO VOLUMES. D2-82601-1 IS AN UNCLASSIFIED DESCRIPTION OF THE STAGE AND ITS SUBSYSTEMS, INCLUDING GENERALIZED PERFORMANCE AND DISCUSSION OF GROWTH CONFIGURATIONS, ALSO DESCRIBED ARE INCREMENTAL MODIFICATIONS BEING PLANNED TO PROGRESSIVELY INCREASE STAGE AND TOTAL LAUNCH SYSTEM PERFORMANCE AND VERSTAILITY. D2-82601-2 (AD-805 066) IS A PERFORMANCE HANDBOOK. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-801 832 22/2
LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF
DISCOVERER. DETAILED TEST OBJECTIVES NUMBER 4.4 (U)
MAR 59 145P
REPT. NO. LMSD-6155-4
CONTRACT: AF 04(647)-97, AF 04(647)-181

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF SPACE SYSTEMS DIV., LOS ANGELES AIR FORCE STATION, CALIF. 90045, ATTN: CODE SSSD.

DESCRIPTORS: (*SPACECRAFT, FLIGHT TESTING), LAUNCH VEHICLES(AEROSPACE), ATMOSPHERE ENTRY, GROUND SUPPORT EQUIPMENT, TELEMETER SYSTEMS, COMMAND + CONTROL SYSTEMS (U)
IDENTIFIERS: DISCOVERER, SATELLITES(ARTIFICIAL), THOR, MARK-1 REENTRY VEHICLES, SCIENTIFIC SATELLITES, SPACE CAPSULES, REENTRY VEHICLES (U)

THE DETAILED TEST OBJECTIVES DEFINE TEST PLANS FOR THE FLIGHT TEST OF THE SPACECRAFT AND ITS ASSOCIATED SYSTEM. IT IS INTENDED AS AN AUTHORITATIVE PLANNING DOCUMENT FOR USE OF THE FLIGHT TEST WORKING GROUP, SYSTEM TEST WORKING GROUP, AND ALL LAUNCH BASE, TRACKING STATION, AND RECOVERY PERSONNEL IN PLANNING FLIGHT TEST OPERATIONS. IN THIS FLIGHT, THE CONFIGURATION WILL INCLUDE AN INSTRUMENTED AEROMEDICAL CAPSULE AND ORBITAL COMMAND, CONTROL, AND SEQUENCING CAPABLE OF EFFECTING CAPSULE RE-ENTRY. OPERATIONAL SUPPORT WILL INCLUDE CAPSULE RECOVERY BY AIR-SNATCH AND/OR SURFACE RECOVERY TECHNIQUES. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-801 808 22/4 9/1 17/7
BOEING CO SEATTLE WASH
CONTRACT END ITEM DETAIL SPECIFICATION, PART II, PRODUCT CONFIGURATION AND ACCEPTANCE TEST REQUIREMENTS, LAUNCH CONTROL AND CHECKOUT EQUIPMENT. (U)
JAN 66 55P
MONITOR: AFSC SPEC-CP-223541A-2

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF SPACE SYSTEMS DIV., LOS ANGELES AIR FORCE STATION, CALIF. 90045. ATTN: SSSIC.
SUPPLEMENTARY NOTE: SEE ALSO PART 1, AD-801 807.

DESCRIPTORS: (*LAUNCH VEHICLES(AEROSPACE), *CHECKOUT EQUIPMENT), ROCKET MOTORS(LIQUID PROPELLANT), SPECIFICATIONS, GROUND SUPPORT EQUIPMENT, TEST EQUIPMENT, LAUNCHING SITES, SIMULATION, QUALITY CONTROL, CONTAINERS, SPARE PARTS, COMMAND + CONTROL SYSTEMS, PRESSURE, TELEMETER SYSTEMS, RELIABILITY, CONFIGURATION, ELECTRICAL EQUIPMENT, ELECTRONIC EQUIPMENT, SPACECRAFT COMPONENTS, FLIGHT CONTROL SYSTEMS (U)
IDENTIFIERS: THOR, AFSCM 375-1, BURNER 2 (U)

THIS SPECIFICATION ESTABLISHES THE REQUIREMENTS FOR COMPLETE IDENTIFICATION AND ACCEPTANCE OF ALL UNITS OF CONTRACT END ITEM (CEI) NUMBER 223541A LAUNCH CONTROL AND CHECKOUT EQUIPMENT TO BE FORMALLY ACCEPTED BY THE AIR FORCE, SUBSEQUENT TO ESTABLISHMENT OF THE PRODUCT CONFIGURATION BASELINE. THE PRODUCT CONFIGURATION BASELINE SHALL BE ESTABLISHED BY FIRST ARTICLE CONFIGURATION INSPECTION (FACI) OF SERIAL NUMBER 1. THIS UNIT AND ALL SUBSEQUENT UNITS, REGARDLESS OF INTENDED USE, SHALL BE ACCEPTED TO THE CONFIGURATION DEFINED BY SERIAL NUMBER 1, UNLESS CHANGES THERETO HAVE BEEN FORMALLY APPROVED AS REQUIRED BY ANA BULLETIN NO. 445. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-801 761 22/4
LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF
DISCOVERER RANGE SAFETY REPORT NUMBER 5.5 (U)
MAY 59 82P
REPT. NO. LMSD-6104-5
CONTRACT: AF 04(647)-181

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF SPACE SYSTEMS DIV., LOS ANGELES AIR FORCE STATION, CALIF. 90045, ATTN: CODE SSSD.

DESCRIPTORS: (*SATELLITES(ARTIFICIAL), LAUNCHING), (*LAUNCHING SITES, SAFETY), GUIDED MISSILE RANGES, ASCENT TRAJECTORIES, AZIMUTH, RANGES(DISTANCE), VELOCITY, FLIGHT PATHS, MALFUNCTIONS, GUIDED MISSILES(SURFACE-TO-SURFACE), AERODYNAMIC CHARACTERISTICS, GUIDED MISSILE SAFETY (U)
IDENTIFIERS: DISCOVERER, THOR, SCIENTIFIC SATELLITES (U)

RANGE SAFETY REPORT NO. 5.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-800 833 22/4 9/5
LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF
STUDY OF AEROSPACE GROUND EQUIPMENT REQUIREMENTS TO SUPPORT PROGRAM I, PROJECT 102. (U)
AUG 61 14P
REPT. NO. LMSC-919576
CONTRACT: AF 04(647)-800

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF SPACE SYSTEMS DIV., LOS ANGELES AIR FORCE STATION, CALIF. 90045, ATTN: CODE SSSD.
SUPPLEMENTARY NOTE: ORIGINAL COPY WAS OF POOR QUALITY. BEST POSSIBLE REPRODUCTION FROM COPY FURNISHED.

DESCRIPTORS: (*GROUND SUPPORT EQUIPMENT, LAUNCHING SITES), CHECKOUT EQUIPMENT, CHECKOUT PROCEDURES, HANDLING, MANAGEMENT PLANNING, SCHEDULING, LAUNCH VEHICLES(AEROSPACE), TEST EQUIPMENT, CONTROL PANELS, ELECTRIC CABLES, ELECTRONIC EQUIPMENT, ELECTRICAL EQUIPMENT, MAINTENANCE EQUIPMENT (U)
IDENTIFIERS: AGENA, PROJECT 102, THOR, DISCOVERER (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-675 988 22/1 14/4
AEROSPACE CORP EL SEGUNDO CALIF EL SEGUNDO TECHNICAL OPERATIONS
ECONOMICS OF RELIABILITY IMPROVEMENT FOR SPACE LAUNCH VEHICLES. (U)
DESCRIPTIVE NOTE: REPT. FOR 1 OCT 66-1 JUL 67,
JUN 68 205P HECHT, HERBERT ;
REPT. NO. TR-0158(9990)-1
CONTRACT: F04695-67-C-0158
MONITOR: SAMSO TR-68-340

UNCLASSIFIED REPORT

DESCRIPTORS: (*LAUNCH VEHICLES(AEROSPACE), *VALUE ENGINEERING), RELIABILITY, DESIGN, COST EFFECTIVENESS, PERFORMANCE(ENGINEERING), FAILURE(ELECTRONICS), FAILURE(MECHANICS), SCHEDULING, BUDGETS, REDUNDANT COMPONENTS, MANAGEMENT PLANNING, MATERIAL CONTROL, CONTRACTS, FEASIBILITY STUDIES, INDUSTRIAL PRODUCTION, ECONOMICS, QUALITY CONTROL, NUMERICAL ANALYSIS, PARTIAL DIFFERENTIAL EQUATIONS, RANDOM VARIABLES, ANALYSIS OF VARIANCE, PROBABILITY, DECISION MAKING, ADVANCED PLANNING (U)
IDENTIFIERS: TITAN 3, ATLAS, THOR, SATURN 1 LAUNCH VEHICLES, SCOUT, FAILURE/VALUE RATIO, GEMINI, CONTRACT PROPOSALS (U)

PRESENT METHODS FOR PLANNING RELIABILITY IMPROVEMENT OF LAUNCH VEHICLES ARE REVIEWED. A THEORETICAL CRITERION FOR OPTIMUM ALLOCATION OF RESOURCES FOR RELIABILITY IMPROVEMENT EXISTS THAT REQUIRES EQUAL MARGINAL FAILURE REDUCTION FOR ALL ELEMENTS TO BE IMPROVED. THIS IS OF LITTLE PRACTICAL VALUE BECAUSE SUITABLE EXPRESSIONS FOR FAILURE REDUCTION AS A FUNCTION OF RESOURCE EXPENDITURE ARE NOT AVAILABLE FOR ALL ELEMENTS OF THE LAUNCH VEHICLE. A KEY FINDING IS THAT A GOOD PRACTICAL APPROXIMATION FOR THE MARGINAL FAILURE REDUCTION IS THE FAILURE/VALUE RATIO WHICH CAN BE COMPUTED FROM AVAILABLE INFORMATION. THIS PERMITS A CRITERION PREVIOUSLY ONLY OF THEORETICAL IMPORTANCE TO BE USED IN A PRACTICAL SITUATION. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-607 574
TRW SPACE TECHNOLOGY LABS LOS ANGELES CALIF
DETAILED ERROR ANALYSIS FOR SPIN-STABILIZED MISSIONS. (U)

JUL 59 33P LINDBERG,H. E. ;
REPT. NO. STL/TN-59-0000-00282 ,STL/EM-9-13

UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE:

DESCRIPTORS: (*STABILIZATION SYSTEMS, ERRORS), (*GUIDED MISSILE COMPONENTS, STABILIZATION SYSTEMS), (*LAUNCH VEHICLES (AEROSPACE), STABILIZATION SYSTEMS), SATELLITES (ARTIFICIAL), SPACE PROBES, SPIN, ROCKETS, THRUST, STAGING, ALGINMENT, CENTER OF GRAVITY, GUIDED MISSILE TRAJECTORIES, LAUNCHING, THIRD-STAGE MOTORS, FOURTH-STAGE MOTORS (U)

THE NOTE IS INTENDED AS A COMPUTATION GUIDE FOR FINDING THE TOTAL VELOCITY ERROR, IN BOTH MAGNITUDE AND DIRECTION, FOR THE SPIN-STABILIZED PORTION OF SATELLITE AND DEEP-SPACE PROBE MISSIONS. THE TIME SEQUENCE OF EVENTS AND SPIN-UP METHOD USED ARE TYPICAL OF THE ABLE MISSIONS, BUT IT IS ANTICIPATED THAT ONLY MINOR MODIFICATIONS WILL HAVE TO BE MADE IN ORDER TO MAKE COMPUTATIONS FOR OTHER MISSIONS. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-605 308
AEROJET-GENERAL CORP AZUSA CALIF
ALLOWABLE MEASURED LATERAL CENTER-OFGRAVITY OFFSET OF DRY ABLESTAR STAGE. (U)
DESCRIPTIVE NOTE: SPECIAL REPT.
AUG 62 1V DEGROOT,L. D. ;
REPT. NO. AGC-2251A ,AGC-2251SUPPL.

UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE:

DESCRIPTORS: (*STAGING, CENTER OF GRAVITY), (*CENTER OF GRAVITY, LAUNCH VEHICLES (AEROSPACE)), (*GUIDED MISSILES (SURFACE-TO-SURFACE), CENTER OF GRAVITY), THRUST VECTOR CONTROL SYSTEMS, PAYLOAD, PROPULSION, LOAD DISTRIBUTION, STATISTICAL ANALYSIS (U)
IDENTIFIERS: THOR (U)

THIS DOCUMENT IS A SUPPLEMENT TO AGC SPECIAL REPORT 2251, 'ANALYSIS OF LATERAL CENTER-OF-GRAVITY DISPLACEMENT IN THE ABLESTAR STAGE.' THIS REPORT CONSIDERS THE EFFECT OF THE UNCERTAINTY IN ALIGNING THE THRUST CHAMBER ON THE ALLOWABLE MEASURED CENTER-OF-GRAVITY OFFSET OF THE DRY ABLESTAR STAGE. THIS EFFECT WAS NOT TAKEN INTO ACCOUNT IN REPORT 2251. THE NEW RESULTS SHOW THAT THE ALLOWABLE CENTER-OF-GRAVITY OFFSET IS REDUCED APPROXIMATELY 20 PERCENT. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-490 622
ROCKETDYNE CANOGA PARK CALIF
ACCEPTANCE TEST METHODS FOR IOC, GROUND SUPPORT EQUIPMENT FOR THE WS-315A PROPULSION SYSTEM, (U)
MAR 58 15P CRAIG,R. E. ;
REPT. NO. R575

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*ROCKET MOTORS, GROUND SUPPORT EQUIPMENT), (*GROUND SUPPORT EQUIPMENT, ACCEPTABILITY), TESTS, TEST METHODS, GUIDED MISSILES (SURFACE-TO-SURFACE) (U)
IDENTIFIERS: THOR (U)

PRESENTED IS A GUIDE FOR THOSE PERSONNEL CALLED UPON TO WITNESS AND APPROVE ACCEPTANCE TESTING OF THE APPLICABLE GROUND SUPPORT EQUIPMENT AND WHO NEED GENERAL INFORMATION AS TO TEST METHODS IN LESS DETAIL THAN WOULD BE NORMAL TO A PROCESS SPECIFICATION CONTAINING THE DETAILED PROCEDURES FOR CONDUCTING THESE TESTS. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-485 313 21/8.1 20/4 20/1 16/4
22/4

MARTIN CO DENVER COLO
A STUDY OF SYSTEM COUPLED INSTABILITY ANALYSIS TECHNIQUES. PART II. (U)

DESCRIPTIVE NOTE: FINAL REPT. MAY 65-JUN 66,
JUL 66 322P BIKLE ,F. E. ;FIDLER ,L. E.
;ROHRS,J. B. ;

REPT. NO. CR-66-36-PT-2

CONTRACT: AF 04(611)-10795

PROJ: AF-6753

MONITOR: AFRPL TR-66-143-PT-2

UNCLASSIFIED REPORT

DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF AIR FORCE PROPULSION LAB., EDWARDS, CALIF. 93523, ATTN: RPRPT/STINFO.

SUPPLEMENTARY NOTE: SEE ALSO PART 1, AD-485 312.

DESCRIPTORS: (*FLUID FLOW, OSCILLATION), (*ROCKET MOTORS(LIQUID PROPELLANT), STABILITY), CAVITATION, HYDRAULIC SYSTEMS, PNEUMATIC SYSTEMS, TRANSIENTS, THERMODYNAMICS, ENTHALPY, PUMPS, IMPELLERS, EQUATIONS OF MOTION, MODEL THEORY, PRESSURIZATION, RESPONSE, DYNAMICS, FLUID DYNAMIC PROPERTIES, PROPELLANT TANKS, PROPELLANT CONTROL, TURBOPUMPS (U)

IDENTIFIERS: POGO INSTABILITY, THOR, TITAN, ATLAS (U)

THIS REPORT IS CONCERNED WITH THE STUDY OF INSTABILITIES, GENERALLY REFERRED TO AS POGO, RESULTING FROM COUPLING BETWEEN LIQUID FUELED PROPULSION SYSTEM AND STRUCTURAL DYNAMICS. THIS REPORT DEALS WITH BOTH THE LIQUID SYSTEM POGO EXPERIENCED ON THE THOR AND TITAN VEHICLES AS WELL AS THE GAS POGO ASSOCIATED WITH THE PRESSURIZATION SYSTEM OF THE ATLAS VEHICLE. RESULTS OF TESTS AND ANALYSIS INDICATE THAT SYSTEMS RESPONSE TRENDS RESULTING FROM PARAMETER CHARACTERISTICS AFFECTED BY BOTH STEADY STATE AND VARYING OPERATING CONDITIONS CAN BE STUDIED ON RELATIVELY INEXPENSIVE SUBSCALE TEST CONFIGURATIONS. NEITHER TESTS NOR ANALYSIS WERE, HOWEVER, CARRIED FAR ENOUGH TO ESTABLISH ANY SCALING PARAMETERS THAT COULD BE APPLIED BETWEEN SUBSCALE AND FULL SCALE SYSTEMS. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-478 042 21/8.1
MARTIN CO DENVER COLO
A STUDY OF SYSTEM COUPLED INSTABILITY ANALYSIS TECHNIQUES. (U)
DESCRIPTIVE NOTE: QUARTERLY TECHNICAL REPT. NO. 3, NOV 65-JAN 66,
FEB 66 67P BIKLE ,F. E. ;FIDLER ,L. E. ;ROHRS,J. B. ;
CONTRACT: AF04(611)-10795
PROJ: AF-6753
MONITOR: AFRPL TR-66-36

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF AIR FORCE FLIGHT TEST CENTER, (AFSC) EDWARDS AFB, CALIF. ATTN: AFRPL.

DESCRIPTORS: (*ROCKET MOTORS(LIQUID PROPELLANT), STABILITY), SCALE, MODEL TESTS, OSCILLATION, TURBOPUMPS, CAVITATION, CAVITATION NOISE, EXCITATION, DETERMINATION, COMBUSTION, ENGINE SURGE, AIRFRAMES, TEST METHODS, FLOWMETERS, FLUID FLOW, GAS FLOW, PRESSURIZATION, VIBRATION, DAMPING, LAUNCH VEHICLES(AEROSPACE) (U)
IDENTIFIERS: POGO(STABILITY), ULLAGE, COMBUSTION INSTABILITY, TITAN, THOR, ATLAS (U)

RESEARCH IS PRESENTED ON THE SUBJECT OF COUPLED STRUCTURAL/PROPULSION SYSTEM INSTABILITY GENERALLY REFERRED TO AS POGO. THE PRIME OBJECTIVE OF THE STUDY IS TO DETERMINE THE FEASIBILITY OF USING SMALL-SCALE TEST CONFIGURATIONS TO DEFINE THE PARAMETERS CRITICALLY AFFECTING STABILITY. BOTH THE LIQUID SYSTEM POGO EXPERIENCED ON THOR AND TITAN VEHICLES ARE DISCUSSED AS WELL AS THE GAS SYSTEM POGO EXPERIENCED ON ATLAS VEHICLES. SUB-SCALE TEST METHODS AND CONFIGURATIONS ARE PRESENTED WITH AN ANALYSIS OF PHYSICAL GENERATION OF CAVITATION COMPLIANCE IN TURBO-PUMPS. PRELIMINARY TEST RESULTS INDICATE THAT INEXPENSIVE COMMERCIAL TURBO-PUMPS CAN BE USED EFFECTIVELY TO STUDY CAVITATION PHENOMENON IN ROCKET-ENGINE PROPULSION SYSTEMS. SYSTEM EXCITATION BY OSCILLATION OF THE PUMP ASSEMBLY IS ACCOMPANIED BY A HIGH NOISE CONTENT IN THE SYSTEM RESPONSE. A COMPARISON WITH A PISTON PULSER IN THE DISCHARGE LINE IS CONSIDERED. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-474 553 16/2 14/5
AVCO EVERETT RESEARCH LAB EVERETT MASS
A PROCEDURE FOR THE RAPID DETERMINATION OF THE SPLASH POINT OF A RE-ENTRY BODY FROM A PHOTOGRAPH OF ITS TRACK IN SPACE. PART I. (U)
DESCRIPTIVE NOTE: RESEARCH NOTE,
JUN 59 31P BROWN,HERBERT K. ;
REPT. NO. RN-127
CONTRACT: DA-19-020-ORD-4765

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF ARMY ROCKET AND GUIDED MISSILE AGENCY, HUNTSVILLE, ALA.
SUPPLEMENTARY NOTE: SEE ALSO PART 2, AD-367 663.

DESCRIPTORS: (*REENTRY VEHICLES, *IMPACT PREDICTION), (*POSITION FINDING, REENTRY VEHICLES), RECOVERY, NOSE CONES, DATA TRANSMISSION SYSTEMS, GUIDED MISSILE TRACKING SYSTEMS, PHOTOINTERPRETATION, TRACKING CAMERAS, MATHEMATICAL ANALYSIS, DETERMINATION, PHOTOGRAPHS, PLOTTERS, GUIDED MISSILE TRAJECTORIES, APPROXIMATION(MATHEMATICS), GUIDED MISSILES(SURFACE-TO-SURFACE), PHOTOGRAPHIC DATA LINKS, OPTICAL TRACKING, RADAR TRACKING (U)
IDENTIFIERS: SPLASH POINT, THOR, ABLE (U)

AN IMPORTANT FEATURE OF A LONG RANGE MISSILE TEST IS THE RECOVERY OF THE MISSILE. HOWEVER, DUE TO THE SMALL CONE OF VISIBILITY PRESENTED BY THE MISSILE AND ITS IDENTIFYING PARAPHERNALIA, AN OBSERVER IN A SEARCH PLANE CAN LOCATE THE MISSILE ONLY IF HE HAS A GOOD IDEA OF THE LATITUDE AND LONGITUDE OF THE SPLASH POINT. FURTHERMORE, SINCE A RAPID RECOVERY OF THE MISSILE IS VITAL, IT IS IMPERATIVE THAT THIS INFORMATION OF THE APPROXIMATE SPLASH POINT BE AVAILABLE TO THE SEARCH PLANES AS SOON AS POSSIBLE. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-465 995L
ASTROPHYSICS RESEARCH CORP LOS ANGELES CALIF
A RAPID SEMI-EMPIRICAL METHOD FOR DESCRIBING FLOW FIELDS OF HIGH ALTITUDE ROCKET EXHAUSTS. (U)
DESCRIPTIVE NOTE: SCIENTIFIC REPT.,
FEB 65 118P BERESH,BRUCE A. ;
CONTRACT: NONR429100

UNCLASSIFIED REPORT
NOTICE: ALL RELEASE OF THIS DOCUMENT IS CON-TROLLED. ALL CERTIFIED REQUESTERS SHALL OBTAINRELEASE APPROVAL FROM OFFICE OF NAVAL RESEARCH,WASHINGTON, D. C. ATTN: CODE 418.
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*NOZZLE GAS FLOW, HIGH ALTITUDE), (*EXHAUST GASES, HIGH ALTITUDE), JETS, CONFIGURATION, THEORY, SUPERSONIC CHARACTERISTICS, SHOCK WAVES, SUPERSONIC FLOW, ROCKET TRAJECTORIES, TRANSPORT PROPERTIES, WAKE, AXIALLY SYMMETRIC FLOW, COMPRESSIBLE FLOW, HYPERSONIC FLOW, GUIDED MISSILES(SURFACE-TO-SURFACE), MATHEMATICAL ANALYSIS, EQUATIONS, PRESSURE, GRAPHICS, GAS FLOW, ROCKET MOTORS(LIQUID PROPELLANT), ROCKET MOTORS(SOLID PROPELLANT) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-463 030L
ROYAL AIRCRAFT ESTABLISHMENT FARNBOROUGH (ENGLAND)
DEDUCTIONS FROM THE ORBITAL BEHAVIOUR OF SOME AGENA ROCKETS. (U)
DESCRIPTIVE NOTE: TECHNICAL MEMO.,
MAR 65 11P KING-HELE,D. G. ;QUINN, EILEEN ;
REPT. NO. TM-SPACE-59

UNCLASSIFIED REPORT
NOTICE: RELEASE ONLY TO U. S. GOVERNMENT AGEN-CIES IS AUTHORIZED. OTHER CERTIFIED REQUESTERSSHALL OBTAIN RELEASE APPROVAL FROM BRITISHMINISTRY OF AVIATION VIA THE APPROPRIATECHANNELS.
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*LAUNCH VEHICLES (AEROSPACE), ORBITAL TRAJECTORIES), (*AIR, DENSITY), WEIGHT, CONFIGURATION, PAYLOAD, MATHEMATICAL PREDICTION, ERRORS, SATELLITES (ARTIFICIAL), PERIODIC VARIATIONS, GUIDED MISSILE TRAJECTORIES, DRAG, STABILITY, TUMBLING, DETERMINATIO(U)
IDENTIFIERS: AGENA, THOR (U)

THE ORBITS OF CERTAIN AGENA ROCKETS ARE ANALYSED TO OBTAIN INFORMATION ABOUT THEIR MASSES WHICH WILL BE USEFUL IN FUTURE DETERMINATIONS OF AIR DENSITY. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-461 205
ARNOLD ENGINEERING DEVELOPMENT CENTER ARNOLD AIR FORCE STATION TENN
RESULTS OF TESTING TWO HPC-ABL X-258 E-4 (S/N'S RH 106 AND RH 105) SOLID-PROPELLANT ROCKET MOTORS UNDER THE COMBINED EFFECTS OF SIMULATED ALTITUDE AND ROTATIONAL SPIN. (U)
DESCRIPTIVE NOTE: TECHNICAL REPT.,
APR 65 56P HARRIS,J. E. ;NELIUS,M. A. ; STEVENSON,C. W.;
REPT. NO. AEDC-TR-65-71
CONTRACT: AF40 600 1000
PROJ: 921E ,ARO PROJ.RC0531

UNCLASSIFIED REPORT
RELEASE OR ANNOUNCEMENT TO FOREIGN GOVERNMENTSOR THEIR NATIONALS IS NOT AUTHORIZED.
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*ROCKET MOTORS (SOLID PROPELLANT), CAPTIVE TESTS), HIGH ALTITUDE, SIMULATION, ROCKET CASES, PHENOLIC PLASTICS, THERMAL INSULATION, ROCKET IGNITERS, TANTALUM, THRUST VECTOR CONTROL SYSTEMS, LAUNCH VEHICLES (AEROSPACE), GUIDED MISSILES (SURFACE-TO-SURFACE), FLIGHT TESTING, ROCKET MOTOR NOZZLES, INSTRUMENTATION, THIRD-STAGE MOTORS, FOURTH-STAGE MOTORS, ROTATION, SPIN, TEMPERATURE, SPECIFIC IMPULSE, THRUST, INTERIOR BALLISTICS, DESIGN, CONFIGURATION, GLASS TEXTILES (U)
IDENTIFIERS: X-258 MOTORS, THOR, SCOUT (U)

TWO HPC-ABL X-258 MODEL E-4 SOLLID-PROPELLANT ROCKET MOTORS (S/N'S RH 106 AND RH 105) WERE SUCCESSFULLY FIRED AT AN AVERAGE SIMULATED ALTITUDE OF 96,000 FT WHILE MOUNTED IN A SPIN FIXTURE, WHICH ROTATED THE MOTORS ABOUT THEIR AXIAL CENTERLINES AT APPROXIMATELY 200 RPM. THE PROGRAM OBJECTIVES WERE TO EVALUATE THE EFFECTIVENESS OF FOUR STRATEGICALLY LOCATED BORIC ACID PHENOLIC INSULATOR STRIPS IN REDUCING THE CASE TEMPERATURES OF THE X-258 MOTOR AND TO DEFINE THE BALLISTIC PERFORMANCE OF THE MOTOR UNDER THE COMBINED EFFECTS OF ROTATIONAL SPIN AND NEAR VACUUM ENVIRONMENT. POST-FIRE MOTOR EXAMINATIONS REVEALED THAT ONLY SLIGHT MOTOR CASE DISCOLORATION DUE TO CASE HEATING WAS SUSTAINED BY EACH OF THE TWO MOTORS, NO SECTION OF EITHER MOTOR WAS CHARRED, AND NOT SOFT SPOTS WERE FOUND AS WAS THE CASE DURING PREVIOUS FIRINGS. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-460 000
NAVAL RESEARCH LAB WASHINGTON D C
THE SHOCK AND VIBRATION BULLETIN 34, PART 2. (U)
DEC 64 317P
REPT. NO. NRL-BULL-34-PT-2

UNCLASSIFIED REPORT
RELEASE OR ANNOUNCEMENT TO FOREIGN GOVERNMENTSOR THEIR NATIONALS IS NOT AUTHORIZED.
SUPPLEMENTARY NOTE: PAPERS PRESENTED AT THE 34TH SYMPOSIUM ON SHOCK, VIBRATION AND ASSOCIATED ENVIRONMENTS, 13-15 OCT 64, AT PACIFIC GROVE, CALIF.

DESCRIPTORS: (*SHOCK (MECHANICS), SYMPOSIA), (*VIBRATION, SYMPOSIA), LAUNCH VEHICLES (AEROSPACE), WIND, BUFFETING, WIND TUNNEL MODELS, SPACECRAFT, PRESSURE, STATISTICAL ANALYSIS, EXCITATION, STRUCTURES, RESONANCE, STOCHASTIC PROCESSES, CANTILEVER BEAMS, DIGITAL COMPUTERS, ROCKET MOTORS, CAPTIVE TESTS, STATICS, DYNAMICS, FORCE (MECHANICS), ULTRASONIC PROPERTIES, X BAND, MICROWAVE EQUIPMENT, ELECTRONIC EQUIPMENT, PACKAGING, MANNED SPACECRAFT, VEHICLES (U)
IDENTIFIERS: THOR, GEMINI (U)

CONTENTS: PREDICTION OF LAUNCH VEHICLE TRANSONIC BUFFETING FROM WIND TUNNEL DATA, SPACECRAFT ADAPTER RESPONSE TO FLUCTUATING PRESSURE, SUBHARMONIC BEHAVIOR OF THIN-WALLED ELASTIC BEAM, PREDICTION AND MEASUREMENT OF VIBRATION RESPONSE OF THE PEGASUS MICROMETEOROID MEASURING SATELLITE, SPECTRA OF NONSTATIONARY RANDOM PROCESSES, RESPONSE OF MULTI-DEGREE-OF-FREEDOM SYSTEM TO RANDOM EXCITATION, STRUCTURAL RESPONSE TO A VELOCITY-DEPENDENT STOCHASTIC EXCITATION, VIBRATIONS OF A CANTILEVER BEAM CONSIDERING A NONRIGID WALL SUPPORT, DIGITAL COMPUTER APPLICATION TO NONLINEAR VIBRATIONS, INTEGRATION OF A COMPUTER INTO THE DESIGN PROCESS, DYNAMIC RESPONSE ANALYSIS OF COMPLEX MECHANICAL SYSTEMS, CONSIDERATIONS OF CAPTIVE FIRING VIBRATION ON NONOPERATING PROPULSION SYSTEM COMPONENTS, A PRACTICAL APPLICATION OF A DIGITAL COMPUTER PROGRAM DURING THE DESIGN PHASE OF AN AEROSPACE STRUCTURE, AND STATIC AND DYNAMIC ANALYSIS BY A MATRIX FORCE METHOD. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-458 211
AEROSPACE CORP EL SEGUNDO CALIF
INSTABILITY MODEL OF MISSILE LONGITUDINAL OSCILLATION DUE TO PROPULSION FEEDBACK. (U)
SEP 64 51P RUBIN,S. ;
REPT. NO. TOR-269(4126)-28
CONTRACT: AF04 695 269

UNCLASSIFIED REPORT
RELEASE OR ANNOUNCEMENT TO FOREIGN GOVERNMENTS ORTHEIR NATIONALS IS NOT AUTHORIZED.
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*GUIDED MISSILES, OSCILLATION), STABILITY, LAUNCH VEHICLES (AEROSPACE), GUIDED MISSILES (SURFACE-TO-SURFACE), MATHEMATICAL MODELS, EQUATIONS, LIQUID ROCKET PROPELLANTS, BOOSTER MOTORS, SECOND-STAGE MOTORS, ROCKET MOTORS (LIQUID PROPELLANT), THRUST, MATHEMATICAL ANALYSIS, ACCELERATION, COMBUSTION CHAMBER GASES, FEEDBACK (U)
IDENTIFIERS: ATLAS, AGENA, TITAN, THOR, DELTA, POGO, GEMINI (U)

THE ANALYTICAL BASIS IS PRESENTED FOR AN INSTABILITY MODEL OF MISSILE LONGITUDINAL OSCILLATION DUE TO PROPULSION FEEDBACK. THE LINEAR PERFORMANCE EQUATIONS FOR THE ELEMENTS OF THE CLOSEDLOOP SYSTEM ARE DERIVED AND DISCUSSED. A BLOCK DIAGRAM OF AN ANALOG MODEL OF THE SYSTEM IS PRESENTED, AND THE PERFORMANCE OF CERTAIN CORRECTIVE DEVICES IS INCLUDED. THE PROPULSION FEEDBACK TRANSFER FUNCTION (THRUST RESULTING FROM MISSILE ACCELERATION) IS CONSTRUCTED AND ITS RESONANT CHARACTER EXPLORED IN DETAIL. AFTER MAKING CERTAIN SIMPLIFYING ASSUMPTIONS, VARIOUS RELATIONSHIPS AND INTERACTIONS WITHIN THE CLOSED-LOOP SYSTEM ARE CONSIDERED. A DOMINANT FACTOR IN THE SYSTEM STABILITY IS THE LOCATION OF RESONANCES IN THE PROPULSION SYSTEM SUCTION LINES RELATIVE TO THE FREQUENCIES OF THE LONGITUDINAL MODES OF THE STRUCTURE. COMPLIANCE AT A PUMP INLET DUE TO CAVITATION LEADS TO A SUCTION LINE RESONANCE WHICH DEPENDS ON THE DEGREE OF CAVITATION AND HENCE ON THE PUMP OPERATING POINT. ON LONG SUCTION LINES, ORGAN-PIPE EFFECTS ALSO PLAY A ROLE. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-454 321
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF
VINSON PRIORITY RELIEF VALVE, D/E TEST. (U)
MAR 64 4P
REPT. NO. DSV2G MS R3936
MONITOR: IDEP 925 10 73 47D7 03

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*PNEUMATIC VALVES, DESIGN), SAFETY VALVES, LIFE EXPECTANCY, VIBRATION, SHOCK (MECHANICS), HELIUM, PROPELLANT TANKS, NITRIC ACID (U)
IDENTIFIERS: IDEP, THOR, ASSET (U)

EVALUATION TESTS OF A 100-1000 PSIG CRYOGENIC FLUIDS RELIEF, POPPET, PRESSURE VALVE.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-454 063
AEROJET-GENERAL CORP AZUSA CALIF
ABLESTAR EXPERIMENTAL SLOSHING STUDIES, (U)
AUG 62 1V BRADY,W. F. ;POPE,M. D. ;
PODE,L. ;
REPT. NO. SR S5432 01 1 ,SR SGC32R19
CONTRACT: AF04 695 95 ,AF04 647 621

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*PROPELLANT TANKS, SLOSHING), (*LIQUID ROCKET PROPELLANTS, SLOSHING), TESTS, TEST FACILITIES, TEST METHODS, LAUNCH VEHICLES (AEROSPACE), SIMULATION, MODEL TESTS, MODELS (SIMULATIONS), EXPERIMENTAL DATA, THEORY, MATHEMATICAL MODELS, MATHEMATICAL ANALYSIS, DAMPING, HEMISPHERICAL SHELLS, CYLINDRICAL BODIES, ANALOG COMPUTERS, HYDRODYNAMICS, ROLL, TORQUE, PITCH (MOTION), YAW, RESONANCE, FREQUENCY, COUNTERMEASURES, TABLES, GRAPHICS, EQUATIONS (U)
IDENTIFIERS: THOR, BAFFLES (U)

FULL-SCALE TESTS WERE PERFORMED IN A PROTOTYPE TANK ASSEMBLY USING FLUIDS WHICH SATISFIED DYNAMIC SIMILITUDE REQUIREMENTS WITH RESPECT TO BOTH INERTIA FORCES AND VISCOUS FORCES. THE SUBSCALE TESTS WERE CONDUCTED WITH A 1/6 SCALE PLEXIGLAS TANK. EXPERIMENTAL DAMPING DATA WERE OBTAINED FOR VARIOUS FLUID LEVELS RANGING FROM NEARLY FULL TO NEARLY EMPTY. THE RING/DOME DAMPING EQUATIONS DEVELOPED BY J. W. MILES, ET AL. WERE DETERMINED TO HAVE GIVEN CONSERVATIVE ESTIMATES OF ABLESTAR SLOSH DAMPING. THE FULL-SCALE TEST RIG WAS SIMULATED ON AN ANALOG COMPUTER. THE PROPELLANT SLOSHING MECHANISM IN THE ABLESTAR CAN BE ACCURATELY REPRESENTED BY A LUMPED-PARAMETER SYSTEM OF SPRINGS, MASSES AND DASHPOTS. FOR THE ABLESTAR CONFIGURATION AT BURNING TIMES OF 42 AND 97 SECONDS, THE EQUATIONS USED FOR CALCULATING THE EQUIVALENT SLOSHING MASSES AND THEIR ATTACH POINTS GAVE RESULTS WHICH WERE IN ERROR BY APPROXIMATELY 25%. FINALLY, THE DATA SHOWED THAT ROLL TORQUE WAS PRODUCED BY PROPELLANT SLOSHING ONLY WHEN THE TANK WAS EXCITED SIMULTANEOUSLY IN PITCH AND YAW AND THAT THE TORQUE REACHED A MAXIMUM WHEN THE PITCH AND YAW INPUTS WERE 90 DEGREES OUT OF PHASE. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-453 496
AEROJET-GENERAL CORP AZUSA CALIF
REPORT OF STRUCTURAL TESTING OF COMPONENTS FOR SECOND STAGE ABLESTAR. (U)
DESCRIPTIVE NOTE: FINAL REPT., NOV 58-JUL 60, DEC 60 lv
LUNDE,G. A. ;SIMON,B. M. ;
REPT. NO. 1907
CONTRACT: AF04 647 378

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*ROCKET MOTORS (LIQUID PROPELLANT), PROPELLANT TANKS), GUIDED MISSILES (SURFACE-TO-SURFACE), HYDROSTATIC PRESSURE, INSTRUMENTATION, STRAIN GAGES, STRESSES, SECOND-STAGE MOTORS, STAGING, AIRFRAMES, PRESSURE VESSELS, HELIUM, STRAIN (MECHANICS), PRESSURE, FAILURE (MECHANICS), TESTS (U)
IDENTIFIERS: AJ-10 ENGINES, THOR, TRANSITION SECTION (U)

A CONDENSED TEST SUMMARY AND ANALYSIS OF THE BASIC COMPONENTS OF THE ABLESTAR (AJ10-104) ROCKET SYSTEM IS PRESENTED. THE REPORT COVERS TEST RESULTS OF THE MAIN TANKAGE, THE TRANSITION SECTION, AND THE HELIUM AND NITROGEN SPHERES. A SPECIAL REPORT ON THE TITANIUM HELIUM SPHERES IS INCLUDED IN THIS REPORT. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-452 756
SPACE-GENERAL CORP EL MONTE CALIF
ABLESTAR STAGE LAUNCH CAPABILITY FROM VANDENBERG AIR FORCE BASE. (U)
DESCRIPTIVE NOTE: LETTER PROGRAM PROGRESS REPT. NO. 6 FOR DEC 62,
JAN 63 14P GAVLIN,F. J. ;
REPT. NO. L245 01 6
CONTRACT: AF04 695 181

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*LAUNCHING SITES, GUIDED MISSILES (SURFACE-TO-SURFACE)), GROUND SUPPORT EQUIPMENT, INSTRUMENTATION, INSTALLATION, GUIDED MISSILE RANGES, CHECKOUT EQUIPMENT, CONSTRUCTION, MAINTENANCE EQUIPMENT, LIQUID ROCKET PROPELLANTS, HANDLING, ELECTRICAL EQUIPMENT (U)
IDENTIFIERS: THOR (U)

ABLESTAR STAGE LAUNCH CAPABILITY FROM VANDENBERG AIR FORCE BASE,

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-451 856
AEROJET-GENERAL CORP AZUSA CALIF
STRESS ON STRUCTURAL COMPONENTS AJ10-104 (ABLESTAR) SECOND-STAGE UNIT. (U)
DESCRIPTIVE NOTE: FINAL REPT., NOV 58-JUL 60,
NOV 60 104P SIMON,B. ;BRODE,D. ;
REPT. NO. 1786
CONTRACT: AF04 647 378
MONITOR: AFBMD 60 11 2

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*ROCKET MOTORS (LIQUID PROPELLANT), STRUCTURAL PROPERTIES), SECOND-STAGE MOTORS, STRUCTURE, STRESSES, ANALYSIS, PROPELLANT TANKS, PRESSURE VESSELS, MOUNTING BRACKETS, AIRFRAMES, PRESSURE, DEFLECTION, TENSILE PROPERTIES, GUIDED MISSILE COMPONENTS, FLANGES, JOINTS, LOADING (MECHANICS) (U)
IDENTIFIERS: AJ-10 ENGINES, THOR (U)

A CONDENSED STRUCTURAL ANALYSIS OF THE BASIC COMPONENTS OF THE ABLESTAR (AJ10-104) ROCKET SYSTEM IS PRESENTED. THE REPORT COVERS ANALYSES OF THE MAIN TANKAGE, INCLUDING BOTH THE OXIDIZER AND FUEL TANKS WITH ASSOCIATED JOINTS, FLANGES, AND BOSSES, AND THE HELIUM AND NITROGEN TANKS WITH ASSOCIATED BRACKETS, BOSSES, AND FLANGES. IT ALSO CONTAINS THE ANALYSIS OF THE INTERSTAGE STRUCTURE FOR THE MAXIMUM IN-FLIGHT CONDITIONS. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-449 362
AEROJET-GENERAL CORP AZUSA CALIF
EFFECT OF ABLESTAR LATERAL CENTER OF MASS OFFSET ON ORBITAL PARAMETERS. (U)
FEB 62 8P DE GROOT,L. D. ;LILEY,B. ;
REPT. NO. SR2231

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*LAUNCH VEHICLES (AEROSPACE), PERFORMANCE (ENGINEERING)), CENTER OF MASS, DEFLECTION, NAVIGATION SATELLITES, ORBITAL TRAJECTORIES, INJECTION, PAYLOAD, PERTURBATION THEORY, COMMAND GUIDANCE, INJECTION GUIDANCE, MATHEMATICAL ANALYSIS (U)
IDENTIFIERS: THOR, TRANSIT (U)

THIS REPORT EXAMINES THE EFFECT OF THE DISPLACEMENT OF THE ABLESTAR CENTER OF MASS FROM THE LONGITUDINAL REFERENCE LINE ON THE PERTINENT PARAMETERS ASSOCIATED WITH THE PAYLOAD ORBIT. FOR A NOMINAL TRANSIT 4B TRAJECTORY, PERTURBATIONS DUE TO A CENTER-OF-MASS OFFSET TOTALING 0.6 INCH AT BURNOUT ARE SHOWN TO YIELD RELATIVELY SMALL ORBITAL ERRORS, THE MOST SIGNIFICANT BEING A CHANGE IN ICLINATION OF 0.1 DEGREE. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-449 284
AEROJET-GENERAL CORP AZUSA CALIF
PROGRAM PLAN FOR THE ABLESTAR STAGES FOR TRANSIT PROJECTS. (U)
JAN 61 1V BLANDING ,C. A. ;D'ABUSCO, J. S. ;
REPT. NO. AGC-S5285011
CONTRACT: AF04 647 754

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*LAUNCH VEHICLES (AEROSPACE), NAVIGATION SATELLITES), ROCKET MOTORS, (LIQUID PROPELLANT), MANAGEMENT ENGINEERING, RELIABILITY, MANUFACTURING METHODS, QUALITY CONTROL, CHECKOUT PROCEDURES, CHECKOUT EQUIPMENT, SPARE PARTS, INSTALLATION, FLIGHT TESTING, SCHEDULING, MANAGEMENT PLANNING (U)
IDENTIFIERS: THOR, TRANSIT (U)

THIS DOCUMENT SETS FORTH, BY WORK-STATEMENT ITEM, THE PLAN OF PERFORMANCE FOR EACH CONTRACTUAL ITEM. THIS PLAN IS PREDICATED ON THE LAUNCH SCHEDULES SPECIFIED IN AIR FORCE DOCUMENT NO. 04-647-61-114 DATED 12 DECEMBER 1960. DETAILED MILESTONE SCHEDULES SUPPORTING THE SCOPE AND TIME SPAN OF THE TASKS OUTLINED IN THIS PLAN WILL BE SUBMITTED AT A LATER DATE. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-448 372
AEROJET-GENERAL CORP AZUSA CALIF
FABRICATION AND LAUNCH OF ABLESTAR STAGES., (U)
DESCRIPTIVE NOTE: LETTER PROGRESS REPT. NO. 5,
SEP 62 1P GAVLIN,F. J. ;
REPT. NO. L5432 01 5
CONTRACT: AF04 695 95

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*LAUNCH VEHICLES (AEROSPACE), ENGINEERING), SPECIFICATIONS, RELIABILITY, PERFORMANCE (ENGINEERING), WEIGHT, DATA, STRUCTURAL PARTS, STAGING, ELECTRONIC EQUIPMENT, GUIDANCE, MANUFACTURING METHODS, GUIDED MISSILE COMPONENTS, CHECKOUT PROCEDURES, FAILURE (MECHANICS) (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-448 092
AEROSPACE CORP EL SEGUNDO CALIF
DATA ACQUISITION, HANDLING, AND EVALUATION, PROJECT TRANSIT 4-B. (U)
NOV 61 1V
REPT. NO. TOR930 2102 5
CONTRACT: AF04 647 930

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*DATA TRANSMISSION SYSTEMS, ANALYSIS), (*LAUNCH VEHICLES (AEROSPACE), PERFORMANCE (ENGINEERING)), DATA, HANDLING, ORBITAL TRAJECTORIES, RADAR TRACKING, LAUNCHING, RADAR STATIONS (U)
IDENTIFIERS: THOR, TRANSIT 4-B PROJECT (U)

PLANS AND PROCEDURES TO BE USED FOR THE ACQUISITION, TRANSMISSION, AND ANALYSIS OF THE LAUNCH PHASE, AND ORBIT DATA FOR THE THOR/ABLESTAR VEHICLE USED ON THE TRANSIT 4-B MISSION ARE PRESENTED. DATA ACCUMULATED BY THESE METHODS WILL BE UTILIZED IN EVALUATING THE FLIGHT TEST OBJECTIVES UNDER THE COGNIZANCE OF THE U.S. AIR FORCE SPACE SYSTEMS DIVISION AND ITS ASSOCIATE CONTRACTORS. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-447 985
AEROJET-GENERAL CORP AZUSA CALIF
ACTUAL WEIGHT AND BALANCE ABLESTAR STAGE AJ10-104-012. (U)
AUG 62 1V REED, J. R. ; SCHRINK, J. R. ;
REPT. NO. 111R1
CONTRACT: AF04 695 95

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*ROCKET MOTORS (LIQUID PROPELLANT), WEIGHT), FUEL SYSTEMS, LIQUID ROCKET PROPELLANTS, GUIDED MISSILE COMPONENTS, FAIRINGS, PROPELLANT TANKS, PRESSURE VESSELS, CENTER OF GRAVITY, PAYLOAD (U)
IDENTIFIERS: THOR, AJ-10 ENGINES (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-446 148
LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF
DISCOVERER COUNTDOWN MANUAL AGENA 1125/THOR 333,
VANDENBERG AIR FORCE BASE. (U)
APR 62 105P
REPT. NO. 445924 25 4

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE: IN COOPERATION WITH DOUGLAS AIRCRAFT CO.

DESCRIPTORS: (*MILITARY SATELLITES, CHECKOUT PROCEDURES), (*CHECKOUT PROCEDURES, INSTRUCTION MANUALS), CHECKOUT EQUIPMENT, LAUNCH VEHICLES (AEROSPACE), ROCKET MOTORS (LIQUID PROPELLANT), ELECTRONIC EQUIPMENT, ELECTRICAL EQUIPMENT, LIQUID ROCKET PROPELLANTS, PROPELLANT CONTROL, FUEL SYSTEMS, DESTRUCTORS, FLIGHT CONTROL SYSTEMS (U)
IDENTIFIERS: DISCOVERER, AGENA, THOR (U)

THE TASK LIST INCLUDES PRE-COUNTDOWN OPERATIONS AND COUNTDOWN INITIATION, PAYLOAD MATING, VEHICLE ERECTION AND PREPARATION, DESTRUCT CHECKS, ORBITAL STAGE ARM, CONNECT FIRST STAGE DESTRUCT SYSTEM, ORBITAL STAGE RF CHECKOUT, ORBITAL STAGE ELECTRONICS WARM-UP, BTL GUIDANCE POLARITY AND PHASING AND RANGE RF CHECKS, ORBITAL STAGE GUIDANCE AND FLIGHT CONTROL CHECKOUT, PAYLOAD CHECKOUT, COUNTDOWN EVALUATION, ORBITAL STAGE TEST PLUG REMOVAL AND FINAL BOOSTER PREPARATIONS, ORBITAL STAGE PROPELLANT TANKING, SECURE ORBITAL STAGE PROPELLANT TRANSFER SETS, ORBITAL STAGE PRESSURIZATION, COUNTDOWN EVALUATION, AND TERMINAL COUNTDOWN. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-445 778
AEROJET-GENERAL CORP AZUSA CALIF
ANALYSIS OF LATERAL CENTER-OF-GRAVITY DISPLACEMENT IN THE ABLESTAR STAGE. (U)
MAR 62 37P DE GROOT,L. D. ;

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*PROPELLANT TANKS, CENTER OF GRAVITY), GUIDED MISSILES =SURFACE-TO-SURFACE), STAGING, GUIDANCE, ERRORS, GIMBALS, PAYLOAD (U)
IDENTIFIERS: THOR (U)

THE EFFECT OF ABLESTAR LATERAL CENTER-OF-GRAVITY OFFSET ON PERFORMANCE OF THE ABLESTAR STAGE HAS BEEN EXAMINED AND A NEW SPECIFICATION ON LATERAL CENT R OF GRAVITY SUGGESTED. IT IS SHOWN THAT THE PRESENT SPECIFICATION CAN BE RELAXED TO ALLOW A RADIAL CENTER-OF-GRAVITY OFFSET FROM THE LONGITUDINAL REFERENCE LINE (LRL) OF NOT MORE THAN 0.5 IN. AT ANY TIME DURING POWERED FLIGHT. BASED ON PRESENT TANK TOLERANCES, IT IS SHOWN THAT THE PROPELLANT CENTER OF GRAVITY CAN BE OFFSET BY AS MUCH AS 0.38 IN. A FORMULA IS DERIVED WHICH GIVES A CONSERVATIVE LIMIT FOR THE ALLOWABLE MEASURED CENTER-OF-GRAVITY OFFSET OF THE DRY STAGE (INCLUDING PROPULSION SYSTEM, EQUIPMENT COMPARTMENT, AND PAYLOAD SUPPORT STRUCTURE). IN THE EVENT THAT THE DRY STAGE CENTER-OF-GRAVITY OFFSET FAILS TO FALL WITHIN THIS LIMIT, SEVERAL RECOURSES ARE POSSIBLE SHORT OF REJECTION; E.G., ALIGNING THE THRUST VECTOR TO FAVOR THE MEASURED CENTER-OF-GRAVITY OFFSET. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-445 614
AEROJET-GENERAL CORP AZUSA CALIF
FABRICATION AND LAUNCH OF ABLESTAR STAGES FOR PROJECT TRANSIT/ANNA. (U)
DESCRIPTIVE NOTE: LETTER PROGRESS REPT. NO. 17, MAY 62. 7P COGAN, J. P. , JR.:
REPT. NO. L5285 01 17
CONTRACT: AF04 695 17

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*SATELLITES (ARTIFICIAL), LAUNCHING), (*SCIENTIFIC SATELLITES, LAUNCHING), FAILURE (MECHANICS), BOOSTER MOTORS (U)
IDENTIFIERS: THOR, ANNA, TRANSIT, ABLESTAR (U)

FOLLOWING COMPLETION OF PRE-LAUNCH TEST OPERATIONS, ABLESTAR STAGE S/N-011, USED AS THE SECOND STAGE OF THE ANNA 1A THOR/ABLESTAR TEST VEHICLE, WAS LAUNCHED FROM CAPE CANAVERAL MISSILE TEST ANNEX AT 0706:34.15 EST ON 10 MAY 1962. DUE TO A MALFUNCTION WITHIN THE THOR BOOSTER, THE ABLESTAR PROGRAMMER ''START'' SIGNAL NORMALLY INITIATED BY BOOSTER MECO WAS NOT TRANSMITTED, PRECLUDING THE ABLESTAR STAGE SEQUENCE OF EVENTS, AND THE VEHICLE MISSION WAS ABORTED. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-445 495
LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF
COUNTDOWN MANUAL 1128/3386, PROGRAM 622A, VANDENBERG AIR FORCE BASE, COMPLEX 75-1, STAND 1, (U)
MAY 62 108P
REPT. NO. 445924 28 1

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE: IN COOPERATION WITH DOUGLAS AIRCRAFT CO., INC., SANTA MONICA, CALIF.

DESCRIPTORS: (*LAUNCH VEHICLES (AEROSPACE), CHECKOUT PROCEDURES), (*CHECKOUT PROCEDURES, INSTRUCTION MANUALS), CHECKOUT EQUIPMENT, SATELLITES (ARTIFICIAL), LAUNCHING, LAUNCHING SITES (U)
IDENTIFIERS: AGENA, THOR, COUNTDOWN, 622 PROGRAM (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-445 143
LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF
SEPARATION AND EJECTION SYSTEMS OF FLIGHT VEHICLES:
BIBLIOGRAPHY, (U)
47P ABBOTT,HELEN M. ;
REPT. NO. SB64 14 ,2 60 64 14
CONTRACT: NOW63 0050C

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*BIBLIOGRAPHIES, RELEASE MECHANISMS), (*RELEASE MECHANISMS, SPACECRAFT), EJECTION, SEPARATION, DECOYS, GUIDED MISSILE WARHEADS, STAGING, REENTRY VEHICLES, CARTRIDGES (PAD), EXPLOSIVES INITIATORS, FAIRINGS, SHAPED CHARGES, LAUNCH VEHICLES (AEROSPACE), GUIDED MISSILES (SURFACE-TOSURFACE) (U)
IDENTIFIERS: ATLAS, TITAN, MERCURY, DISCOVERER, MINUTEMAN, TIROS, MARINER, SCOUT, VANGUARD, POLARIS, THOR, X-20 SPACECRAFT, SKIRTS, REDSTONE, SERGEANT (U)

ONE HUNDRED FIFTY-FIVE REFERENCES WERE COMPILED TO PROVIDE A COVERAGE OF MATERIAL TO BE USED IN THE EVALUATION OF SEPARATION AND EJECTION SYSTEMS OF FLIGHT VEHICLES. THE REFERENCES ARE ARRANGED ALPHABETICALLY BY CORPORATE SOURCE. ABSTRACTS ARE GIVEN WHERE POSSIBLE, BUT ELIMINATED IN CASES THAT WOULD RESULT IN THE BIBLIOGRAPHY BECOMING CLASSIFIED. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-444 748
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF
AN INTRODUCTION TO THE THOR MISSILE FLIGHT CONTROLLER MODEL NO. DM-18A. (U)
JAN 61 35P
REPT. NO. SM38420
CONTRACT: AF04 647 805

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*AUTOMATIC PILOTS, DESIGN), (*GUIDED MISSILE COMPONENTS, AUTOMATIC PILOTS), (*ATTITUDE CONTROL SYSTEMS, GUIDED MISSILE COMPONENTS), FLIGHT CONTROL SYSTEMS, GUIDED MISSILE COMPUTERS, GYROSCOPES, COMPUTERS, NAVIGATION COMPUTERS, PUNCHED TAPE, POWER SUPPLIES, INERTIAL NAVIGATION, SYNCHROS (U)
IDENTIFIERS: THOR (U)

THE FLIGHT CONTROLLER IS THE AUTO PILOT USED TO CONTROL THE THOR MISSILE DURING POWERED FLIGHT. THIS CONTROL CONSISTS OF STABILIZING AND PROGRAMMING THE MISSILE ALONG THE DESIRED TRAJECTORY. THE FLIGHT CONTROLLER CONSISTS OF VARIOUS SUBASSEMBLIES, EACH PERFORMING A SPECIFIC FUNCTION ENABLING THE FLIGHT CONTROLLER TO PERFORM ITS MISSION. THE HIG GYROS ARE USED TO STABILIZE AND PROGRAM THE MISSILE IN EACH OF THREE AXIS (PITCH, YAW, AND ROLL). THE PROGRAMMER SUPPLIES SEQUENCED COMMANDS TO THE HIG GYROS AND TO OTHER PORTIONS OF THE FLIGHT CONTROLLER AND MISSILE. THIS SEQUENCE OF COMMANDS IS ACCURATELY CONTROLLED BY THE PRE-PUNCHED FILM USED IN THE TIMER. THE TIMER ACTIVATES CERTAIN CIRCUITS IN THE PROGRAMMER AS PRE-PUNCHED SLOTS IN THE FILM APPLY A GROUND TO PORTIONS OF THESE CIRCUITS. THE HIG GYROS DETECT A CHANGE IN MISSILE ATTITUDE AND INITIATE A COMMAND TO CORRECT THE ERROR. THIS SIGNAL IS AMPLIFIED AND CONVERTED TO A DC SIGNAL IN THE AC AMPLIFIER-DEMODULATOR. THIS DC SIGNAL IS ATTENUATED AND MIXED WITH OTHER COMMAND SIGNALS IN THE SHAPING NETWORKS. THE SIGNAL IS THEN AMPLIFIED IN THE DC AMPLIFIER AND APPLIED, THROUGH THE SHAPING NETWORKS, TO THE WINDINGS OF THE VALVE ACTUATORS. CURRENT FLOWING IN THESE WINDINGS CHANGES THE ENGINE POSITION AND THE LINE OF THRUST. THUS THE HIG GYROS CAN CONTROL THE ATTITUDE OF THE MISSILE. (AUTHOR) AD-444 748 (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-443 610
AEROJET-GENERAL CORP AZUSA CALIF
ABLESTAR STAGE, MODEL SPECIFICATION. (U)
MAR 62 1V
REPT. NO. 10079A

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*LAUNCH VEHICLES (AEROSPACE), SPECIFICATIONS), (*ORBITAL TRAJECTORIES, ROCKET PROPULSION), (*ROCKET MOTORS (LIQUID PROPELLANT), SPECIFICATIONS), (*SATELLITES (ARTIFICIAL), LAUNCH VEHICLES (AEROSPACE)), TEST METHODS, OPERATION, PERFORMANCE (ENGINEERING), STABILITY, MOMENTS, STAGIN(U)
IDENTIFIERS: THOR (U)

THE ABLESTAR STAGE IS A LIQUID-PROPELLANT, UPPER STAGE, LAUNCHING VEHICLE SYSTEM COMPRISED OF ALL THE NECESSARY ELEMENTS FOR PLACING A VARIETY OF PAYLOADS IN PREDETERMINED ORBITS ABOUT THE EARTH. IT IS USED IN CONJUNCTION WITH A BOOSTER VEHICLE AND EMPLOYS THE CAPABILITY OF RESTARTING IN SPACE SO THAT PRECISE CIRCULAR ORBITS MAY BE ACHIEVED. THE DOCUMENT CONTAINS THE MODEL SPECIFICATIONS FOR THE ABLESTAR STAGE AND EACH MAJOR SYSTEM OF THE ABLESTAR STAGE, WITH THE EXCEPTION OF THE PROPULSION SYSTEM. THE SPECIFICATIONS ARE NOT MODIFICATIONS OR DEVIATIONS TO ANY EXISTING MILITARY MODEL SPECIFICATION, AS NONE EXIST FOR AN UPPER STAGE RESEARCH VEHICLE. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-442 021
ROCKETDYNE CANOGA PARK CALIF
NUMERICAL INDEX OF R AND D REPORTS ISSUED THROUGH JUNE 1964 IN ACCORDANCE WITH AFBM EXHIBIT 58-1. (U)
99P
REPT. NO. R 5739
CONTRACT: AF04 694 328

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*INDEXES, REPORTS), (*REPORTS, INDEXES), (*ROCKET PROPELLANTS, INDEXES), (*ROCKET MOTORS, INDEXS), SCIENTIFIC RESEARCH, GUIDED MISSILES, GUIDED MISSILES (SURFACE-TOSURFACE) (U)
IDENTIFIERS: ATLAS, THOR (U)

LISTED IN THIS REVISED NUMERICAL INDEX ARE AEROPHYSICS LABORATORY REPORTS DATING FROM 10 AUGUST 1948 THROUGH 16 JUNE 1954, ROCKET ENGINE REPORTS FROM 30 SEPTEMBER 1954 THROUGH 3 FEBRUARY 1955, PROPULSION CENTER REPORTS FROM 18 JANUARY 1955 THROUGH 20 FEBRUARY 1956, AND ROCKETDYNE REPORTS FROM 18 JANUARY 1956 THROUGH 30 JUNE 1964. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-427 211
ROCKETDYNE CANOGA PARK CALIF
NUMERICAL INDEX OF R+D REPORTS ISSUED THROUGH DECEMBER 1963 IN ACCORDANCE WITH AFBM EXHIBIT 58-1. (U)
DEC 63 97P
REPT. NO. R5503
CONTRACT: AF04 694 328

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*INDEXES, ROCKET PROPULSION), (*ROCKET MOTORS (LIQUID PROPELLANTS), INDEXES), (*LIQUID ROCKET PROPELLANTS, INDEXES), (*GUIDED MISSILES (SURFACE TO SURFACE), INDEXES), BOOSTER MOTORS, DESIGN, FUEL SYSTEMS, CONTROL SYSTEMS (U)
IDENTIFIERS: (*INDEXES, ROCKET PROPULSION), (*ROCKET MOTORS(LIQUID PROPELLANT), INDEXES), (*LIQUID ROCKET PROPELLANTS, INDEXES), (*GUIDED MISSILES(SURFACE-TO-SURFACE), INDEXES), BOOSTER MOTORS, DESIGN, FUEL SYSTEMS, CONTROL SYSTEMS (U)

AEROPHYSICS LABORATORY REPORTS DATING FROM 10 AUGUST 1948 THROUGH 16 JUNE 1954, ROCKET ENGINE REPORTS FROM 30 SEPTEMBER 1954 THROUGH 3 FEBRUARY 1955, PROPULSION CENTER REPORTS FROM 18 JANUARY 1955 THROUGH 20 FEBRUARY 1956, AND ROCKETDYNE REPORTS FROM 18 JANUARY 1956 THROUGH 31 DECEMBER 1963 ARE LISTED IN THIS REVISED NUMERICAL INDEX. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-424 540
ROCKETDYNE CANOGA PARK CALIF
TEST RESULTS, HYPERGOLIC IGNITION SYSTEM FOR LR79-NA-9 THOR ENGINES. (U)
NOV 63 26P
REPT. NO. R5437
TASK: AF04 695 306

UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE:

DESCRIPTORS: (*ROCKET MOTORS (LIQUID PROPELLANT), IGNITION SYSTEMS), (*HYPERGOLIC ROCKET PROPELLANTS, IGNITION), GUIDED MISSILES (SURFACE-TO-SURFACE), RELIABILITY, FLUSH VALVES, CAPTIVE TESTS (U)
IDENTIFIERS: 1963, LR-79 ENGINES, THOR, PURGING (U)

PRESENTED ARE THE RESULTS OF A TEST PROGRAM TO EVALUATE THE LR79-NA-9 THOR ENGINE SYSTEM WITH A HYPERGOLIC IGNITION SYSTEM. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO, 015415

AD-420 182
INSTITUTE FOR DEFENSE ANALYSES ARLINGTON VA
SESSION OF WORKING PARTY ON SATELLITE COMMUNICATIONS EMCCC, SADTC - THE HAGUE, NETHERLANDS NOVEMBER 6 THROUGH 10, 1961, ACTIVE COMMUNICATION SATELLITES IN ORBITS HAVING HEIGHTS FROM 3,000 TO 8,000 NAUTICAL MILES, (U)

41 1V KAISER,J. ;

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*COMMUNICATION SATELLITES (ACTIVE), ORBITAL TRAJECTORIES), WEIGHT, VISIBILITY, STABILITY, POWER, RADIO TRANSMITTERS, ROCKET PROPULSION, PAYLOAD, POLAR ORBIT TRAJECTORIES, ELLIPTICAL ORBIT TRAJECTORIES, GUIDED MISSILES (SURFACE TO SURFACE), LOW-ORBIT TRAJECTORIES (U)
IDENTIFIERS: 1961, THOR (U)

INVESTIGATIONS WERE MADE OF THE ACTIVE REAL TIME COMMUNICATION SATELLITES OPERATING IN ORBITS AT AN ALTITUDE FROM 3,000 TO 8,000 NAUTICAL MILES ABOVE THE SURFACE. AN ATTEMPT IS MADE TO STUDY THE EFFECT OF CERTAIN IMPORTANT PARAMETERS AND TO SHOW HOW THEY WILL AFFECT SYSTEM DESIGN AND SYSTEM BEHAVIOR IN ANY SYSTEMS HAVING A MODERATE RANGE OF PARAMETERS AND BELIEVED TO BE OF MILITARY INTEREST, PRESENTED IS THE WEIGHT ESTIMATES, ESTIMATES OF ACHIEVABLE ORBITS, ESTIMATES OF MUTUAL VISIBILITY, ESTIMATES OF ORBIT STABILITY, ESTIMATES OF CHANNEL CAPACITY, ALONG WITH A DISCUSSION OF THEASSUMPTIONS ON WHICH THESE ESTIMATES WERE BASED. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-415 573
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF
ELECTROMAGNETIC SUSCEPTIBILITY MEASUREMENTS ON MINNEAPOLIS-HONEYWELL DEMODULATION AMPLIFIER. (U)
FEB 63 6P
REPT. NO. TM DSV3B EE L3400
MONITOR: IDEP 051.40.06.16-D7-01

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: (*POWER AMPLIFIERS, RADIO INTERFERENCE), VULNERABILITY, EXTREMELY LOW FREQUENCY, HIGH FREQUENCY, BROADBAND. (U)
IDENTIFIERS: 1963, IDEP, THOR. (U)

ELECTROMAGNETIC SUSCEPTIBILITY MEASUREMENTS ON A 400 CYCLE DEMODULAOR AMPLIFIER.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-414 614
NORTH AMERICAN AVIATION INC DOWNEY CALIF
THOR PROJECT. (U)
DESCRIPTIVE NOTE: MONTHLY PROGRESS REPT. NO. 4 FOR JULY 63.
AUG 63 20P

UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE:

DESCRIPTORS: (*GUIDED MISSILES (SURFACE TO SURFACE), EXPERIMENTAL DATA), (*ROCKET MOTORS, MALFUNCTIONS), GUIDED MISSILE COMPONENTS, OSCILLATION, DESIGN, LAUNCHING, SPECIFICATIONS, FLIGHT TESTING, PROPULSION, PRESSURE SWITCHES, BOOSTER MOTORS, LAUNCH VEHICLES (AEROSPACE) (U)
IDENTIFIERS: THOR, 1963 (U)

THE THOR PROJECT PROVIDES TECHNICAL ASSISTANCE TO ALL PROGRAMS UTILIZING THE LR79 ENGINE SYSTEM. THESE PROGRAMS INCLUDE DELTA AND AGENA. THE PROGRAM DIFFERENCES REQUIRE CONSTANT COGNIZANCE OF TEST PROGRAMS, TEST PLANS, ENGINE PERFORMANCE AND ACCEPTANCE HISTORY, ENGINE AND VEHICLE CONFIGURATION, TECHNICAL MANUALS AND DATA, AGE UTI LIZATION AND CAPABILITIES, MALFUNCTIONS AND COMPONENT FAILURES, FLIGHT PERFORMANCE AND ABNORMALITIES, FOR THE EFFECT ON ALL PROGRAMS. THIS REPORT IS THE FOURTH IN A SERIES OF MONTHLY REPORTS CONCERNING THE PROGRESS AND STATUS OF THOR. IT PERTAINS TO WORK PERFORMED DURING JULY 1963. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-413 785
ARNOLD ENGINEERING DEVELOPMENT CENTER ARNOLD AIR FORCE STATION TENN
BASE RECIRCULATION ON A 10.7-PERCENT-SCALE MODEL OF THE THORAD AFTERBODY AT TRAJECTORY MACH NUMBERS OF 0.33 TO 3.05. (U)
AUG 63 38P DAWSON,JOHN G.;HUTCHESON, LEX ;CHRISTENSON,R.J.;
CONTRACT: AF40 600 1000
MONITOR: AEDC TDR63 136

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: (*GUIDED MISSILES (SURFACE TO SURFACE), BASE FLOW), (*ROCKET MOTORS (SOLID PROPELLANT), BASE FLOW), HEATING, BOOSTER MOTORS, VERNIER ROCKET MOTORS, PRESSURE, EXHAUST GASES, SIMULATION, ROCKET MOTORS (LIQUID PROPLANT), INSTRUMENTATION, TRAJECTORIES, OXYGEN, LIQUEFIED GASES, TANK VENTS, TRANSONIC WIND TUNNELS, MODEL TESTS, ALKENES, (U)
IDENTIFIERS: 1963, THOR, THORAD, X-335 MOTORS. (U)

BASE RECIRCULATION DATA WERE OBTAINED ON 10.7 PERCENT-SCALE MODELS OF THE THORAD AND THOR AFTERBODIES AT TRAJECTORY MACH NUMBERS RANGING FROM 0.33 TO 3.05 TO DETERMINE THE EFFECTS OF FIRING THE THREE SOLID-PROPELLANT BOOSTERS OF THE THORAD. THOR FLIGHT TEST BASE HEATING DATA WERE SIMULATED USING GASEOUS ETHYLENE THROUGH THE TURBINE EXHAUST OF A THOR MODEL. THESE DATA WERE THEN USED AS A STANDARD WITH WHICH TO COMPARE THE THORAD MODEL DATA, WITH THE THREE SOLID-PROPELLANT BOOSTERS FIRING. THORAD MODEL AVERAGE BASE HEATING RATES AT SIMILAR MACH NUMBERS AND ALTITUDES. GASEOUS OXYGEN USED TO SIMULATE THE VENTING OF THE FLIGHT VEHICLE LIQUID OXYGEN TANKS HAD NO APPRECIABLE EFFECT ON THE BASE HEATING OF EITHER MODEL. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-412 682
ROCKETDYNE CANOGA PARK CALIF
JUL 63 79P
REPT. NO. R5214
CONTRACT: AF04 695 306

UNCLASSIFIED REPORT

DESCRIPTORS: (*ROCKET MOTORS (LIQUID PROPEL LANT), HANDBOOKS), VERNIER ROCKET MOTORS, SUSTAINER MOTORS, INSTALLATION, DESIGN, PER FORMANCE (ENGINEERING), LAUNCH VEHICLES (AERO SPACE), GUIDED MISSILES (SURFACE TO SURFACE), MOVABLE ROCKET MOTORS. (U)
IDENTIFIERS: LV-2 LAUNCH VEHICLES, LR-79 ENGINES, THOR, LR-101 ENGINES, 1963. (U)

THIS REPORT CONSISTS OF: (1) A DESCRIPTION OF THE LV-2A PROPULSION SYSTEM, COMPRISING THE YLR79-NA-13 MAIN ENGINE AND THE LR101-NA-11 VERNIER ENGINES, (2) INSTALLATION AND GEOMETRY INFORMATION, AND (3) PERFORMANCE DATA. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-411 239
ROCKETDYNE CANOGA PARK CALIF
THOR MB-3. (U)
DESCRIPTIVE NOTE: QUARTERLY REPT., 1 APR-30 JUNE 63.
JUL 63 14P
MONITOR: UNCLASSIFIED REPORT

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: (*ROCKET MOTORS (LIQUID PROPEL LANT), RELIABILITY), TESTS, MALFUNCTIONS, TUR BINES, PUMPS, VERNIER ROCKET MOTORS, CONTROL SYSTEMS, VALVES, FUEL SYSTEMS, LAUNCH VEHICLES (AEROSPACE), GUIDED MISSILE (SURFACE-TO SURFACE). (U)
IDENTIFIERS: 1963, THOR, MB-3 PROPULSION SYSTEM, TURBOPUMP. (U)

PRESENTED IS SUMMARY OF STATISTICAL COMPONENT RELIABILITY INFORMATION CONCERNING THE THOR MB-3 PROPULSION SYSTEM DURING THE PERIOD FROM 1 APRIL 1963 THROUGH 30 JUNE 1963 AND FOR COM PARATIVE PURPOSES, A SUMMARY OF INFORMATION FROM 1 JANUARY 1962 THROUGH 1 APRIL 1963. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-410 385
ROCKETDYNE CANOGA PARK CALIF
NUMERICAL INDEX OF R+D REPORTS ISSUED THROUGH JUNE 1963 IN ACCORDANCE WITH AFBM EXHIBIT 58-1. (U)
JUN 63 94P
REPT. NO. R5206
CONTRACT: AF04 694 328

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: (*BIBLIOGRAPHIES, ROCKET MOTORS (LIQUID PROPELLANT), (*ROCKET MOTORS (LIQUID PROPELLANT), INDEXES), REPORTS, LIQUID ROCKET PROPELLANTS, GUIDED MISSILES (SURFACE TO SURFACE), FLIGHT TESTING, TESTS, RESEARCH PROGRAM ADMINISTRATION. (U)
IDENTIFIERS: 1963, ATLASNOMAD, THOR. (U)

AEROPHYSICS LABORATORY REPORTS DATING FROM 10 AUGUST 1948 THROUGH 16 JUNE 1954, ROCKET ENGINE REPORTS FROM 30 SEPTEMBER 1954 THROUGH 3 FEBRUARY 1955, PROPULSION CENTER REPORTS FROM 18 JANUARY 1955 THROUGH 20 FEBRUARY 1956, AND ROCKETDYNE REPORTS FROM 18 JANUARY 1956 THROUGH 30 JUNE 1963 ARE LISTED IN THIS REVISED NUMERICAL INDEX. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-405 397
SPACE-GENERAL CORP EL MONTE CALIF
ABLESTAR STAGE LAUNCH CAPABILITY FROM VANDENBERG AIR FORCE BASE. (U)
DESCRIPTIVE NOTE: PROGRAM PROGRESS REPT. NO. 7,
FEB 63 13P GAVLIN,F.J.;
REPT. NO. L245 01 7

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *LAUNCH VEHICLES (AEROSPACE), *LAUNCH SITES, CHECKOUT EQUIPMENT, GROUND SUPPORT EQUIPMENT, CONSTRUCTION, DESIGN. (U)
IDENTIFIERS: THOR. (U)

THE OBJECTIVE OF THIS PROGRAM IS TO PROVIDE AN ABLESTAR LCAPABILITY FROM VANDENBERG AIR FORCE BASE, CALIFORNIA, BY PROVIDING THE NECESSARY DESIGN, ANALYSIS, FABRICATION, INSTALLATION, AND CHECKOUT OF REQUIRED AEROSPACE GROUND EQUIPMENT (AGE). (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-403 404
MARTIN CO BALTIMORE MD
QUALIFICATION AND FLIGHT CERTIFICATION TEST PROGRESS REPORT, MARCH 1963. (U)
MAR 63 26P
REPT. NO. CR63 104
CONTRACT: AF04 647 576

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDED MISSILE COMPONENTS, *GUIDED MISSILES (SURFACE-TO-SURFACE), MILITARY REQUIREMENTS, QUALITY CONTROL, TESTS, ACCEPTABILITY. (U)
IDENTIFIERS: TITAN. (U)

QUALIFICATION AND FLIGHT CERTIFICATION OF TITAN II COMPONENTS.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-325 999 17/8 14/2 9/6 16/2
16/4 17/7

GENERAL ELECTRIC CO SYRACUSE N Y
DOWN RANGE INSTRUMENTATION - FIRST APPROXIMATION (U)
MAY 56 140P
REPT. NO. R56SD70

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDED MISSILE TRAJECTORIES, *GUIDED MISSILES, *OPTICAL TRACKING, *RADAR TRACKING, AIRBORNE, ARMING DEVICES, BALLISTIC CAMERAS, DESIGN, DETECTION, ELECTRONIC EQUIPMENT, GUIDED MISSILE FUZES, INSTALLATION, INSTRUMENTATION, OPTICAL EQUIPMENT, RADAR EQUIPMENT, RECORDING SYSTEMS, RECOVERY, REENTRY VEHICLES, SHIPBORNE, SPECTROGRAPHIC ANALYSIS, SURFACE-TO-SURFACE, TELEMETER SYSTEMS, TELEMETERING DATA, TELEMETERING RECEIVERS, TRACKING, WATER ENTRY (U)
IDENTIFIERS: AN/FPS-16, AN/SPG-49, ATLAS, AZUSA, COTAR, SECOR, THOR (U)

THE FIRST APPROXIMATION IS PRESENTED OF THE DOWNRANGE INSTRUMENTATION REQUIRED IN CONNECTION WITH THE WS-315A IRBM AND WS-107A ICBM FLIGHT TEST PROGRAMS. A BASIC SYSTEM CONCEPT IS ESTABLISHED AND CONSIDERABLE PROGRESS WAS ACHIEVED IN CHOOSING SPECIFIC EQUIPMENTS AND EQUIPMENT DEPLOYMENT. THE SYSTEM DESCRIBED IS PROPOSED AS THE FIRST APPROXIMATION OF THE SYSTEM TO BE PLACED DOWN RANGE FOR THE SCHEDULED FLIGHT DATES. THIS PROPOSED SYSTEM WILL COVER THE DATA REQUIREMENT OF THE MUST REQUIRED, AND DESIRABLE DATA CATEGORIES FOR THE IMPACT POINTS AT ANTIGUA, ST. PAUL'S ROCK - NORONHA, AND ASCENSION ISLAND. THE EQUIPMENTS DESCRIBED HAVE SUFFICIENTLY SHORT PROCUREMENT TIME OR A BACK-UP EQUIPMENT IS RECOMMENDED. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-308 645
THOMPSON RAMO WOOLDRIDGE INC LOS ANGELES CALIF
INERTIAL GUIDANCE SCHEME FOR THE WS 315-A MISSILE (U)
FEB 56 38P LAYTON,T.W.;KLEINHESSELINK,G.;
SHULMAN,H.L.;
REPT. NO. GM 56 1618

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDANCE, *GUIDED MISSILES, INERTIAL GUIDANCE, MATHEMATICAL ANALYSIS, SURFACE-TO-SURFACE (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-308 321 16/4 21/8
AEROJET-GENERAL CORP SACRAMENTO CALIF
FEASIBILITY OF THE XLR95-AJ-1 ROCKET ENGINE FOR WS-315A (U)
MAR 56 1V FELDMAN,A.L.:
REPT. NO. LRP 102 S
CONTRACT: AF04 645 8
MONITOR: WDD 56-2819

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE: IN COOPERATION WITH RAMO-WOOLDRIDGE CORP., LOS ANGELES, CALIF.

DESCRIPTORS: (*GUIDED MISSILES), (*LIQUID ROCKET PROPELLANTS), ROCKET MOTORS(LIQUID PROPELLANT), ROCKET PROPULSION (U)
IDENTIFIERS: ATLAS, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-307 783 16/4 16/3 17/7 14/2
THOMPSON RAMO WOOLDRIDGE INC LOS ANGELES CALIF
OPERATIONAL RANGE SAFETY. WS315A (U)
DESCRIPTIVE NOTE: PRELIMINARY REPT.,
JUN 56 12P
REPT. NO. GM-TR-39, GM-02,2-301
MONITOR: AFBMD 56-7271

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDED MISSILES, OPERATION, RANGES (DISTANCE), SAFETY, SURFACE-TO-SURFACE (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-307 666 17/9 16/2 16/4
THOMPSON RAMO WOOLDRIDGE INC LOS ANGELES CALIF
EVALUATION OF AZUSA AND 37 MC DOVAP FOR USE AS
INSTRUMENTATION IN 315A MISSILE SYSTEM
FLIGHT TESTS. (U)
AUG 56 15P BEUTLER,F.J.;RAUCH,L.L.;
REPT. NO. GM TM 106GM 43 2 22
MONITOR: AFBMD 7-4122

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *DOPPLER SYSTEMS, *GUIDED MISSILE TRACKING SYSTEMS, *TRACKING, FLIGHT TESTING, GUIDED MISSILE TRAJECTORIES, INSTRUMENTATION (U)
IDENTIFIERS: AZUSA, DOVAP, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO, 015415

AD-301 169 16/4 17/7
THOMPSON RAMO WOOLDRIDGE INC LOS ANGELES CALIF
WS 315A ALL-INERTIAL GUIDANCE AND CONTROL SYSTEM STUDY (U)
AUG 56 1V COHEN,H.D.;KATZ,B.;
REPT. NO. GM TM 109
CONTRACT: AF18 600 1190
MONITOR: AFBMD 56-8652

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDANCE, *GUIDED MISSILES, INERTIAL GUIDANCE, MATHEMATICAL ANALYSIS, STABILITY, SURFACE-TO-SURFACE (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-295 159
AIR FORCE SPECIAL WEAPONS CENTER KIRTLAND AFB N MEX
FLIGHT TEST CRITERIA FOR RE-ENTERING NAP SYSTEM (U)
1V

UNCLASSIFIED REPORT

DESCRIPTORS: *POWER REACTORS, *SATELLITES (ARTIFICIAL), ATMOSPHERE ENTRY, BOOSTER MOTORS, COMBUSTION, COMPUTERS, COSTS, DECELERATION, DESIGN, DISPOSAL, DRAG, ELECTRIC POWER PRODUCTION, FLIGHT TESTING, GUIDED MISSILE LAUNCHERS, GUIDED MISSILES(SURFACE-TO-SURFACE), HEAT TRANSFER, INSTRUMENTATION, INTEGRAL EQUATIONS, LAUNCHING SITES, ORBITAL TRAJECTORIES, RADIATION HAZARDS, REACTOR FUEL ELEMENTS, REENTRY VEHICLES, RELIABILITY, SAFETY, THERMODYNAMICS (U)
IDENTIFIERS: AGENA, ATLAS, MINUTEMAN, SCOUT, THOR (U)

FLIGHT TEST CRITERIA FOR RE-ENTERING NUCLEAR AUXILIARY POWER SYSTEM.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-285 746
AEROJET-GENERAL CORP AZUSA CALIF
ENVIRONMENTAL TEST OF TWO (2) PROPELLANT FILL AND DRAIN VALVES VAL-AERO PART NUMBER 301415-2 AND -4 (U)
OCT 61 1V
REPT. NO. 2572
CONTRACT: AF04 647 754
MONITOR: IDEP 925.10.75.47-A7-01

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *CUT-OFF VALVES, CRYOGENICS, FUEL SYSTEMS, LIQUID ROCKET PROPELLANTS, VALVES (U)
IDENTIFIERS: THOR (U)

ENVIRONMENTAL TESTING OF PROPELLANT FILL AND DRAIN VALVES, CRYOGENIC, 100-1000 PSIG, POPPET, PRESSURE SHUT-OFF VALVES.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-278 763
ROCKETDYNE CANOGA PARK CALIF
EVALUATION OF THE WIANCKO CALIBRATION UNIT, MODEL 7004-12 (U)
OCT 60 1V HENDERSON,E.H.;
REPT. NO. TR-60-44
MONITOR: IDEP 427.56.50.00-G1-01

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: CALIBRATION, DIGITAL RECORDING SYSTEMS, ROCKET MOTORS, SIMULATION, TEST FACILITIES (U)
IDENTIFIERS: THOR (U)

AN EVALUATION WAS MADE OF THE WIANCKO SIMULATION CALIBRATOR, MODEL 7004-12, TO DETERMINE ITS SUITABILITY FOR USE WITH THE R10K, DIRECT INKING GRAPHIC RECORDER AND OSCILLOGRAPH RECORDER, TO PROVIDE A SIMULATED CALIBRATION FOR A MULTICHANNEL AUTOMATIC RECORDING DEVICE, LIKE THE R10K, IT IS NECESSARY THAT THE CALIBRATION BE PROVIDED SIMULTANEOUSLY ON ALL CHANNELS AND AS CLOSE TO THE TEST TIME AS POSSIBLE. BECAUSE OF EQUIPMENT LIMITATIONS, THIS IS NOT POSSIBLE WITH THE EXISTING WIANCKO CARRIER PRESSURE SYSTEMS. WITH THE ADDITION OF THE WIANCKO CALIBRATION UNIT, THIS FEATURE IS OBTAINED WITH AN IMPROVEMENT IN THE QUALITY OF THE SIMULATION. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-274 505
AEROSPACE CORP EL SEGUNDO CALIF
BIBLIOGRAPHY OF REPORTS (U)
JAN 62 IV TRIPOLI,BARBARA H.;
CONTRACT: AF04 647 930

UNCLASSIFIED REPORT

DESCRIPTORS: *BIBLIOGRAPHIES, *GUIDED MISSILES, AERODYNAMIC CHARACTERISTICS, BERYLLIUM COMPOUNDS, BOOSTER MOTORS, COUNTERMEASURES, ELECTROMAGNETIC WAVES, FLUID MECHANICS, MAGNETOHYDRODYNAMICS, OXIDES, PROPELLANTS, REPORTS, SPACECRAFT (U)
IDENTIFIERS: ATLAS, MERCURY PROJECT, MIDAS, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-273 564
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION WASHINGTON D C
AN EXPERIMENTAL TECHNIQUE FOR THE INVESTIGATION OF TIPOFF FORCES ASSOCIATED WITH STAGE SEPARATION OF MULTISTAGE ROCKET VEHICLES (U)
1V GUNGLE,ROBERT L.;BROSIER,WILLIAM S.; LEONARD,H. WAYNE;

UNCLASSIFIED REPORT

DESCRIPTORS: *SATELLITES (ARTIFICIAL), *SPACE PROBES, *STAGING, BOOSTER MOTORS, DESIGN, DIFFERENTIAL EQUATIONS, DYNAMICS, ERRORS, EXPERIMENTAL DATA, FLIGHT PATHS, INTEGRAL EQUATIONS, MATHEMATICAL ANALYSIS, ROCKET MOTORS, SEPARATION, SIMULATION, TEST FACILITIES (U)
IDENTIFIERS: SCOUT, THOR (U)

A TECHNIQUE IS PRESENTED WHEREBY TIPOFF DISTURBANCES WHICH MAY OCCUR DURING HIGH-ALTITUDE STAGE SEPARATION OF A MULTISTAGE ROCKET VEHICLE MAY BE READILY DETERMINED FROM GROUND FIRINGS UNDER LABORATORY CONDITIONS. METHODS ARE PRESENTED FOR THE EVALUATION BY DYNAMIC SIMULATION OF THE COMBINED DYNAMIC EFFECTS OF SEVERAL VARIABLES ARISING FROM THE PROXIMITY OF THE SEPARATED LOWER STAGE AND THE FIRING UPPER STAGE MOTOR. EXPRESSIONS GOVERNING MASS PARAMETERS ARE DERIVED AND PRESENTED IN TERMS OF RELATIVE TOTAL ACCELERATIONS OF THE TWO BODIES, AND A DISCUSSION RELATING GEOMETRIC PARAMETERS TO THE GENERAL SIMULATION PROBLEM IS GIVEN. APPROPRIATE EQUATIONS ARE DERIVED WHICH PERMIT THE CONVERSION OF OBSERVED DISPLACEMENTS TO TOTAL TIPOFF IMPULSE. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-272 746
ROCKETDYNE CANOGA PARK CALIF
EVALUATION OF A STATHAM MODEL PG401TC-1M-1700 PRESSURE TRANSDUCER (U)
1V SCHEPPNER,E.E.;ARAI,S.;
REPT. NO. TR-60-28
MONITOR: IDEP 851.20.50.80-G1-02

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDED MISSILES, *SATELLITES (ARTIFICIAL), *STRAIN GAGES, *TRANSDUCERS, ELECTRIC BRIDGES, ELECTRICAL IMPEDANCE, HYSTERESIS, PRESSURE, SURFACE-TO-SURFACE, VIBRATION (U)
IDENTIFIERS: ATLAS, SATURN, THOR (U)

TESTS WERE PERFORMED TO DETERMINE WHETHER THE PRESSURE TRANSDUCER IS SUITABLE FOR USE WITH THE IDIOT. THE TRANSDUCER IS OF THE UNBONDED STRAIN GAUGE TYPE, ALL 4 ARMS OF THE BRIDGE BEING ACTIVE, BRIDGE RESISTANCE IS ABOUT 1700 OHMS, AND THE UNIT IS TEMPERATURE COMPENSATED OVER THE INTERVAL FROM -65 TO +250 F. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-271 375
JOHNS HOPKINS UNIV SILVER SPRING MD APPLIED PHYSICS LAB
TASK R (U)
DEC 61 1V
REPT. NO. TG 331 11
CONTRACT: NORD7386

UNCLASSIFIED REPORT

DESCRIPTORS: *ROCKET MOTOR NOZZLES, *SOLID ROCKET PROPELLANTS, ACCELERATION TOLERANCE, BOUNDARY LAYER, CHEMICAL REACTIONS, COMBUSTION, COMBUSTION CHAMBER GASES, CONDENSATION REACTIONS, DISSOCIATION, EXHAUST FLAMES, EXHAUST GASES, FLAMES, GAS FLOW, HEAT TRANSFER, LAMINAR BOUNDARY LAYER, PROGRAMMING (COMPUTERS), REACTION KINETICS, RECOMBINATION REACTIONS, RESISTANCE (ELECTRICAL), ROCKET MOTORS, SEQUENCE SWITCHES, STAGING, STORAGE, TEMPERATURE, TEST EQUIPMENT, TEST METHODS, TESTS, THERMAL CONDUCTIVITY, THERMODYNAMICS, TURBULENT BOUNDARY LAYER, VIBRATION (U)
IDENTIFIERS: DELTA FUZES, THOR (U)

HIGH TEMPERATURE KINETICS IN LAMINAR FLAMES: WORK CONTINUED ON THE SCAVENGER PROBE SAMPLING TECHNIQUE FOR O-ATOMS IN A CH_4-O_2 FLAME. THERMAL CONDUCTIVITY OF GASES: TESTS OF THE EQUIPMENT BEING ASSEMBLED TO FURNISH KNOWN H_2O-O_2 MIXTURES FOR THERMAL CONDUCTIVITY MEASUREMENT USING THE LINE SOURCE TECHNIQUE ARE DESCRIBED. ROCKET NOZZLE FLUID DYNAMICS: BOUNDARY LAYER PRESSURE AND TEMPERATURE MEASUREMENTS ARE GIVEN FOR THE MACH 4.2 STATION, AND THEIR HEAT TRANSFER SIGNIFICANCE DISCUSSED. ROCKET NOZZLE CHEMICAL KINETICS: A NEW SET OF NUMERICAL SOLUTIONS FOR THE FLOW OF A COMPLEX PROPELLANT GAS IN THE EXPANING PORTION OF A NOZZLE ARE PRESENTED. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-271 326
DOUGLAS AIRCRAFT CO INC TULSA OKLA
QUALIFICATION TESTS - PAYLOAD SEPARATION TIMER - RAYMOND ENGINEERING CO. P/N 1485 (U)
JUN 60 1V MUNN, J.A.;
REPT. NO. TW-24591
MONITOR: IDEP 811.10.30.10-07-03

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *BOOSTER MOTORS, *TIME INTERVAL COUNTERS, ACCELERATION TOLERANCE, HIGH ALTITUDE, ICE, PROGRAMMING (COMPUTERS), SEQUENCE SWITCHES, STAGING, STORAGE, TEMPERATURE, VIBRATION (U)
IDENTIFIERS: DELTA FUZES, THOR, TIROS (U)

TESTS WERE CONDUCTED TO DETERMINE THE SUITABILITY OF A PAYLOAD SEPARATION TIMER UNDER SIMULATED ENVIRONMENTAL AND SERVICE CONDITIONS OF THE TYPE WHICH MAY BE ENCOUNTERED UNDER FLIGHT, TRANSPORTATION AND STORAGE RELATIVE TO ITS PROPOSED USE IN THE TIROS MISSILE. THE TEST ITEM WAS SUBJECTED TO ENVIRONMENTAL CONDITIONS OF VIBRATION, ACCELERATION, ALTITUDE, AND TEMPERATURE AND THE TESTS INDICATED THAT THE TIMER WAS ACCEPTABLE FOR ITS INTENDED PURPOSE. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-268 021
AEROSPACE CORP EL SEGUNDO CALIF
ABLESTAR ORBIT CASES PROJECT COMPOSITE I (U)
NOV 61 1V
CONTRACT: AF04 647 930

UNCLASSIFIED REPORT

DESCRIPTORS: *ORBITAL TRAJECTORIES, FLIGHT PATHS, GUIDED MISSILE TRACKING SYSTEMS, MATHEMATICAL PREDICTION, RADAR TRACKING, SATELLITES (ARTIFICIAL), TABLES (U)
IDENTIFIERS: THOR, TRANSIT (U)

THE ORBIT CASES FOR THE COMPOSITE I ABLESTAR STAGE ARE PUBLISHED TO PROVIDE INFORMATION TO THOSE AGENCIES CONCERNED WITH THE TRACKING AND ORBIT DETERMINATION REQUIREMENTS OF THE COMPOSITE I MISSION. THE REPORT CONSISTS OF PRINTOUTS PROGRAMMED AS A FUNCTION OF TIME, VIEW ANGLES AND TIMES FOR SELECTED DATA ACQUISITION STATIONSARE SHOWN. A KEY DEFINING THE PARAMETERS USED IN THE COMPUTATION IS INCLUDED IN THE INTRODUCTION. THE FOLLOWING DESIGNATIONS WILL BE USED BOTH IN THE COMPUTER PRINTOUTS ON THE TABS: COMPLETELY NOMINAL POWERED FLIGHT TRAJECTORY FOLLOWED BY ABLESTAR FUEL VENTING AFTER INJECTION. NOMINAL POWERED FLIGHT TRAJECTORY UP TO THE TIME OF SECO I, BUT WITH NO RESTART OF THE SECOND STAGE ENGINE AND NO FUEL VENTING. COMPLETELY NOMINAL POWERED FLIGHT TRAJECTORY, BUT WITH NO VENTING OF ABLESTAR FUEL AFTER INJECTION. ABLESTAR ENGINE CUTOFF AT THE END OF FIRST BURN (SECO I) BY FUEL DEPLETION. CASES 1, 3, AND 4 ARE PUBLISHED IN THIS DOCUMENT. CASE 2 IS OMITTED SINCE IT IS NOT OF USE IN THE COMPOSITE I MISSION. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-266 892
JET PROPULSION LAB PASADENA CALIF
ASTRONAUTICS INFORMATION, OPEN LITERATURE SURVEY, VOLUME IV, NO. 4 (ENTRIES 40, 729-41, 018) (U)
OCT 61 1V CARRINGER,E.M.;HOPPE,M.G.;NICHOLS, B.H.;
CONTRACT: NASW6

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *ASTRONAUTICS, *BIBLIOGRAPHIES, *SPACE FLIGHT, BIOLOGY, COMMUNICATION SYSTEMS, EXOSPHERE, EXTRATERRESTRIAL BASES, GROUND SUPPORT EQUIPMENT, IONOSPHERE, LUNAR PROBES, MAGNETIC FIELDS, MASERS, MATERIALS, NUCLEAR PROPULSION, POWER SUPPLIES, SATELLITE ATTITUDE, SATELLITES (ARTIFICIAL), SOLAR CELLS, SOLAR SAILS, SPACE NAVIGATION, SPACE PROBES, UPPER ATMOSPHERE, VAN ALLEN RADIATION BELT (U)
IDENTIFIERS: AGENA, APOLLO, CENTAUR, COURIER, DISCOVERER, EXPLORER, JUPITER, LUNIK, MERCURY PROJECT, RANGER SPACECRAFT, SATURN, SCOUT, THOR, TIROS, VOSTOK (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-264 956
JET PROPULSION LAB PASADENA CALIF
ASTRONAUTICS INFORMATION. OPEN LITERATURE SURVEY, VOLUME IV, NO. 3 (ENTRIES 40, 454-40, 728) (U)
SEP 61 1V CARRINGER,E.M.;HOPPE,M.G.;NICHOLS, B.H.;
CONTRACT: NASW6

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *ASTRONAUTICS, *BIBLIOGRAPHIES, *SPACE FLIGHT, BIOLOGY, BOOSTER MOTORS, CLOSED-CYCLE ECOLOGICAL SYSTEMS, COMETS, COMMUNICATION SYSTEMS, COSMIC RAYS, MAGNETIC FIELDS, MANNED, METEORITES, METEOROLOGY, ORBITAL TRAJECTORIES, RADAR TRACKING, SATELLITES (ARTIFICIAL), UPPER ATMOSPHERE, VAN ALLEN RADIATION BELT (U)
IDENTIFIERS: AGENA, APOLLO, DISCOVERER, ECHO, JUPITER, MERCURY PROJECT, PIONEER, SATURN, SCOUT, SNAP, SPUTNIK, THOR, TIROS, TRANSIT, VOSTOK (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-257 621
TRW SPACE TECHNOLOGY LABS LOS ANGELES CALIF
DIGITAL COMPUTER SYSTEMS STUDIES (U)
1v WINKLER,T.;
CONTRACT: AF04 647 619
MONITOR: AFBMD TN61 2

UNCLASSIFIED REPORT

DESCRIPTORS: *CIRCUITS, *DELAY LINES, *DIGITAL COMPUTERS, *GUIDANCE, *GUIDED MISSILE COMPUTERS, *GUIDED MISSILES, ANALOG-TO-DIGITAL CONVERTERS, COMPUTER STORAGE DEVICES, COMPUTERS, CONTAINERS, DATA PROCESSING SYSTEMS, DATA STORAGE SYSTEMS, DE-ICING SYSTEMS, DESIGN, DIGITAL SYSTEMS, FEEDBACK AMPLIFIERS, MAGNETIC CORES, MAGNETOSTRICTIVE ELEMENTS, PROGRAMMING (COMPUTERS), SURFACE-TO-SURFACE, SWITCHING CIRCUITS, TESTS, TRIGGER CIRCUITS (U)
IDENTIFIERS: ATLAS, MINUTEMAN, THOR, TITAN (U)

METHODS ARE BEING INVESTIGATED TO IMPROVE THE QUALITY AND RELIABILITY OF MISSILE GUIDANCE SYSTEMS FOR WS 107A-1, WS 107A-2, WS 315A, AND WS 133A. STUDY EFFORTS WERE DEVOTED TO THE FOLLOWING AREAS: (A) STORAGE MEDIUM EVALUATION, (B) STUDIES OF INPUT-OUTPUT CIRCUITS, (C) DESIGN OF CIRCUIT BUILDING BLOCKS TO SUPPORT THESE EFFORTS, AND (D) STUDIES OF MECHANICAL ASSEMBLY METHODS. IN ADDITION TO CONTINUING WORK ON CIRCUITS USING DELAY LINES AS A STORAGE MEDIUM, ATTENTION WAS GIVEN TO THREE TYPES OF MAGNETIC MEMORIES. THE VARIOUS COMPONENTS OF THE INPUT-OUTPUT CIRCUITS WERE ANALYZED, DESIGNED, AND TESTED. CIRCUIT BUILDING BLOCKS WERE DESIGNED AND SUBJECTED TO OPERATIONAL TESTS. A METHOD FOR PACKAGING THE VARIOUS COMPONENTS WAS DEVELOPED. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-242 722
ROCKETDYNE CANOGA PARK CALIF
SPECIFICATION, RECORDER, SIGNAL DATA MXK-15/E47T-1,
ROCKETDYNE MODEL NUMBER G3001 (U)
1V CRAIG,R.E.;

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: DATA, LIQUID ROCKET PROPELLANTS, RECORDING PAPER, RECORDING SYSTEMS, ROCKET MOTORS, SPECIFICATIONS, TEST EQUIPMENT, TEST FACILITIES, TESTS (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-242 588
LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF
WS-117L/TIROS STATION OPERATING PROCEDURES FOR SATELLITE TEST CENTER, SUNNYVALE AND HAWAII TRACKING STATION (U)
MAR 60 1V
REPT. NO. LMSD 446407
CONTRACT: AF04 647 347

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *INFRARED EQUIPMENT, *METEOROLOGICAL INSTRUMENTS, *SATELLITES (ARTIFICIAL), *TELEVISION COMMUNICATION SYSTEMS, *TRACKING, BOOSTER MOTORS, GUIDED MISSILE TRACKING SYSTEMS, MAINTENANCE, METEOROLOGY, OPERATION, PHOTOGRAPHIC EQUIPMENT, RECORDING SYSTEMS (U)
IDENTIFIERS: SAMOS, THOR, TIROS (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-229 024
AIR FORCE FLIGHT TEST CENTER EDWARDS AFB CALIF
CALMEC OXIDIZER VENT AND RELIEF VALVE PERFORMANCE AND ICING TESTS (U)

1V SCHAAL,WALTER A.;
MONITOR: AFFTC TN59 37 00000000

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDED MISSILES, *SAFETY VALVES, *VALVES, HUMIDITY, INSTRUMENTATION, OXIDIZERS, QUALITY CONTROL, SURFACE-TO-SURFACE, TEMPERATURE, TESTS (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-225 267
VITRO CORP OF AMERICA NEW YORK
A HISTORY OF INERTIAL GUIDANCE (U)
SEP 59 1V MUELLER,F.K.;
CONTRACT: DA30 0690RD2331

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: ACCELEROMETERS, HISTORY (U)
IDENTIFIERS: JUPITER, PERSHING, REDSTONE, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-222 599
GENERAL ELECTRIC CO PHILADELPHIA PA MISSILE AND SPACE DIV
GROUND SUPPORT EQUIPMENT TEST PLAN WS315A AND 107A-1 OPERATIONAL (U)
1v

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GROUND SUPPORT EQUIPMENT, *GUIDED MISSILES, CARGO VEHICLES, CLIMATOLOGY, HANDLING, MAINTENANCE, MAINTENANCE EQUIPMENT, NOSE CONES, SCHEDULING, SURFACE-TO-SURFACE, TEST EQUIPMENT, TEST SETS, TESTS, TRANSPORTATION (U)
IDENTIFIERS: ATLAS, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-222 596
ROCKETDYNE CANOGA PARK CALIF
MODIFICATION INSTRUCTION NUMBER THIRTY-TWO, ADDITION OF HYDRAULIC BLEED VALVE ASSEMBLIES TO FUEL HEAD SUPPRESSION VALVE ASSEMBLY OF MB-1 ENGINES (U)
1V

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: GUIDED MISSILES, HYDRAULIC VALVES, ROCKET MOTORS, SURFACE-TO-SURFACE (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-217 307
THOMPSON RAMO WOOLDRIDGE INC LOS ANGELES CALIF
QUICK LOOK DATA REVIEW FOR SLED TEST RUN NO. A103LA-6, DATED 12 SEPTEMBER 1956 (U)
DEC 56 1V BARR,G.M.;
REPT. NO. GM 43 9 69

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDED MISSILES, DATA, ROCKET PROPELLED SLEDS, SURFACE-TO-SURFACE, TEST EQUIPMENT, VIBRATION (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-217 304
THOMPSON RAMO WOOLDRIDGE INC LOS ANGELES CALIF
SLED ENVIRONMENT INVESTIGATION PLAN (U)
APR 56 1V MORRISON,S.C.;
REPT. NO. GM TN 10

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDANCE, *GUIDED MISSILES, INERTIAL GUIDANCE, ROCKET PROPELLED SLEDS, SURFACE-TO-SURFACE, TEST FACILITIES, VIBRATION (U)
IDENTIFIERS: ATLAS, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-157 821
SPERRY RAND CORP ST PAUL MINN UNIVAC DEFENSE SYSTEMS DIV
STRATEGIC AIR WEAPONS WS 107A-2 AND WS 315A (U)
1V

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *COMPUTERS, *GUIDED MISSILES, DESIGN, GUIDANCE, SURFACE-TO-SURFACE (M)
IDENTIFIERS: THOR, TITAN (M)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-100 831
JOHNS HOPKINS UNIV BALTIMORE MD INST FOR COOPERATIVE RESEARCH
FRAGMENTATION CHARACTERISTICS OF SMALL PROJECTILES. VI. 20MM, T-282E1 (MOX 2B) CASE HARDENED (U)
JUN 56 23P
REPT. NO. TR26
CONTRACT: DA36 034ORD1694
PROJ: TB3-0226

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *HIGH EXPLOSIVE AMMUNITION, *PROJECTILES, FRAGMENTATION, WARHEADS (U)
IDENTIFIERS: T-282 CARTRIDGES, 20-MM, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD- 53 289
JOHNS HOPKINS UNIV BALTIMORE MD BALLISTIC ANALYSIS LAB
FRAGMENTATION CHARACTERISTICS OF SMALL PROJECTILES, II 20MM, T-282 E1 (MOX-2B FILLER) (U)
DEC 54 1V
REPT. NO. TR18
CONTRACT: DA36 0340RD1694

UNCLASSIFIED REPORT
NO FOREIGN

DESCRIPTORS: *HIGH EXPLOSIVE AMMUNITION, FRAGMENTATION, FRAGMENTATION AMMUNITION, PROJECTILES (U)
IDENTIFIERS: T-282 CARTRIDGES, 20-MM, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-831 103L 13/9
ROCKETDYNE CANOGA PARK CALIF
RUN-IN OF GEAR SURFACES. (U)
OCT 65 2P
MONITOR: IDEP 511,20,00,00_G1-03

UNCLASSIFIED REPORT
DISTRIBUTION: USGO: OTHERS TO COMMANDER, SAMSO (SMSDI, IDEP OFFICE) LOS ANGELES AIR FORCE STATION, CALIF. 90045.

DESCRIPTORS: (*GEARS, PERFORMANCE(ENGINEERING)), GUIDED MISSILES(SURFACE-TO-SURFACE), HELICOPTERS, PRECISION FINISHING, CLEANING, OPERATION, WEAR RESISTANCE, LUBRICANTS, LAUNCH VEHICLES(AEROSPACE) (U)
IDENTIFIERS: ATLAS, THOR, H-1 AIRCRAFT, CGM-16 MISSILES, PGM-17 MISSILES (U)

VARIOUS LUBRICANTS SUCH AS MIL-L-25336, MIL-L-7808 AND KEROSENES OF RP-1 AND RJ-1 HAVE BEEN UNABLE TO STOP SCORING ON HIGHLY LOADED GEARING (4,000 + LBS/IN. FACE). BY A PROPER CLEANING AND VAPOR HONING AND CONTROLLED SEQUENCE OF RUNNING IN OF GEARS IN A BACK-TO-BACK GEAR STAND, BY STEPLOADING UP TO AND EXCEEDING FULL OPERATION LOADING IN A HIGHLY REACTIVE EXTREME PRESSURE ADDITIVE IT HAS BEEN POSSIBLE TO COMPLETELY ELIMINATE AND/OR REDUCE SCORING, EVEN WHEN LATER OPERATED IN A MINERAL, DIESTER, OR KEROSENE LUBRICANT. USING 'RUN-IN' PROCEDURES SIMILAR TO RA0210_619 BUT WITH THE EXTREME PRESSURE ADDITIVE PER SPEC RB0-140-006, IT HAS BEEN POSSIBLE TO PRACTICALLY ELIMINATE SCORING IN EVERY APPLICATION. THIS PROCEDURE OF CONTROLLED 'RUN-IN' IS PRESENTLY USED IN PRODUCTION TURBOPUMPS WHERE MIL-L-25336 IS THE LUBRICANT. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-831 101L 13/9 13/11 21/8.1
ROCKETDYNE CANOGA PARK CALIF
TURBOPUMP ASSEMBLY, GEARCASE RUN-IN SPECIFICATION. (U)
DESCRIPTIVE NOTE: FINAL SPECIFICATION,
JUN 66 18P ANDERSON,B. N. ;
REPT. NO. SPEC-RA0210-619
MONITOR: IDEP 511.20.00.00-G1-045

UNCLASSIFIED REPORT
DISTRIBUTION: USGO: OTHERS TO COMMANDER, SAMSO (SMSDI, IDEP OFFICE) LOS ANGELES AIR FORCE STATION, CALIF. 90045.
SUPPLEMENTARY NOTE: COMPLEMENT TO REPT. NO. IDEP-511.20.00.00-G1-03.

DESCRIPTORS: (*TURBOPUMPS, *GEARS), SPECIFICATIONS, GUIDED MISSILES(SURFACE-TO-SURFACE), OPERATION, BEARINGS, LUBRICATION, LEAKAGE(FLUID), WEAR RESISTANCE, LAUNCH VEHICLES(AEROSPACE), ROCKET MOTORS(LIQUID PROPELLANT) (U)
IDENTIFIERS: ATLAS, THOR (U)

THE PURPOSE OF THIS SPECIFICATION IS TO ESTABLISH PROCEDURES NECESSARY TO RUN-IN THE GEAR CASE FOR THE TURBOPUMP AT THE GEARCASE LEVEL OF THE TURBOPUMP ASSEMBLY. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-831 084L 13/11 13/4
ROCKETDYNE CANOGA PARK CALIF
MARK III TURBOPUMP ASSEMBLY: PRESERVATION AND PACKAGING. (U)
DESCRIPTIVE NOTE: FINAL SPECIFICATION, NOV 65 12P
REPT. NO. SPEC-RA0210-098
MONITOR: IDEP 511.20.00.00-G1-08S

UNCLASSIFIED REPORT
DISTRIBUTION: USGO: OTHERS TO COMMANDER, SAMSO (SMSDI, IDEP OFFICE) LOS ANGELES AIR FORCE STATION, CALIF. 90045.
SUPPLEMENTARY NOTE: COMPLEMENT TO REPT. NO. IDEP-428.00.00.00-G1-24S.

DESCRIPTORS: (*TURBOPUMPS, PACKAGING), LAUNCH VEHICLES(AEROSPACE), SPECIFICATIONS, PRESERVATION, TRANSPORTATION, CONTAINERS, CORROSION INHIBITION, DESICCANTS, HUMIDITY, TEMPERATURE, MAINTENANCE, CHECKOUT PROCEDURES, STORAGE, INSTALLATION, CLEANING, LUBRICATION (U)
IDENTIFIERS: MARK-3 TURBOPUMPS, THOR (U)

THE PURPOSE OF THIS SPECIFICATION IS TO ESTABLISH PROCEDURES FOR PRESERVING AND PACKAGING TURBOPUMP ASSEMBLIES. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-831 072L 13/11 21/8,1
ROCKETDYNE CANOGA PARK CALIF
H-1 TURBOPUMP: PRELIMINARY CHECKOUT. (U)
DESCRIPTIVE NOTE: FINAL SPECIFICATION,
FEB 63 25P
REPT. NO. SPEC-RA0210-420
MONITOR: IDEP 511.20.00.00-G1-06S

UNCLASSIFIED REPORT
DISTRIBUTION: USGO; OTHERS TO COMMANDER, SAMSO (SMSDI, IDEP OFFICE) LOS ANGELES AIR FORCE STATION, CALIF. 90045.
SUPPLEMENTARY NOTE: COMPLEMENT TO REPT. NO. IDEP-428.00.00.00-G1-24S.

DESCRIPTORS: (*TURBOPUMPS, CHECKOUT PROCEDURES), GUIDED MISSILES(SURFACE-TO-SURFACE), PUMPS, GEARS, LUBRICATION, SEALS, LEAKAGE(FLUID), LAUNCH VEHICLES(AEROSPACE), CALIBRATION, BEARINGS, PRESSURE, SPECIFICATIONS, ROCKET MOTORS(LIQUID PROPELLANT) (U)
IDENTIFIERS: ATLAS, THOR (U)

THE PURPOSE OF THIS SPECIFICATION IS TO ESTABLISH PROCEDURES FOR TESTING TURBOPUMP ASSEMBLIES 451800, 454105 AND 456405 PRIOR TO OPERATIONAL CHECKOUT. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-825 007L 22/4
BOEING CO SEATTLE WASH AEROSPACE GROUP
LAUNCH VEHICLE HISTORY. (U)
SEP 65 64P SCHWEITZER,JEROME D. ;ROSS,
JAMES E. ;BERGER,BONITA ;
REPT. NO. D2-24015-1

UNCLASSIFIED REPORT
DISTRIBUTION: USGO: OTHERS TO BOEING CO.,
ATTN: AEROSPACE GROUP. SEATTLE, WASH.
98124.
SUPPLEMENTARY NOTE: COMPLETE REVISION OF REPT. NO. D2-
24015-1-REV-B DATED 30 JUN 67, AD-818 574L.

DESCRIPTORS: (*LAUNCH VEHICLES(AEROSPACE),
LAUNCHING), HISTORY, STATISTICAL ANALYSIS,
FLIGHT TESTING, FAILURE(MECHANICS),
FAILURE(ELECTRONICS), RELIABILITY, ROCKET
PROPELLANTS, ROCKET MOTORS, ELECTRONIC EQUIPMENT,
ELECTRICAL EQUIPMENT, AIRFRAMES, ROCKET IGNITERS,
RETRO ROCKETS, INSTRUMENTATION, GUIDED
MISSILES(SURFACE-TO-SURFACE), GUIDED
MISSILES(UNDERWATER-TO-SURFACE), TABLES,
GRAPHICS, PERFORMANCE(ENGINEERING) (U)
IDENTIFIERS: SATURN(BOOSTER), SCOUT, THOR,
THOR-ABLE, THOR-AGENA, THOR DELTA, TITAN,
TITAN 1, TITAN 2, TITAN 3, POLARIS, BURNER
2, CENTAUR, ATLAS (U)

THIS DOCUMENT SUMMARIZES LAUNCHINGS CONDUCTED
DURING U. S. SPACE AND MISSILE PROGRAMS. ONLY
UNCLASSIFIED STATISTICAL DATA HAVE BEEN PRESENTED.
CLASSIFIED LAUNCH INFORMATION AND DESCRIPTIVE
INFORMATION REGARDING FAILURES ARE INCLUDED IN AN
ACCOMPANYING CONFIDENTIAL DOCUMENT (D2-24015-2).
THIS REPORT INCLUDES SUCCESS/FAILURE RECORDS AND
FAILURE CHARTS, AS WELL AS SUMMARIES OF THE FLIGHTS
AND FAILURES CORRELATED TO SYSTEMS. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-813 392 21/8,2
ARMY MISSILE COMMAND REDSTONE ARSENAL ALA TEST AND RELIABILITY EVALUATION LAB
STATIC TESTS OF THREE TX354-5 ROCKET MOTORS. (U)
MAY 66 26P LYNCH, CHARLES L. ;
REPT. NO. RT-TM-66-40

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF ARMY MISSILE COMMAND, ATTN: AMSMI-RTS, REDSTONE ARSENAL, ALA. 35809.

DESCRIPTORS: (*ROCKET MOTORS(SOLID PROPELLANT), CAPTIVE TESTS), ENVIRONMENTAL TESTS, CANTED NOZZLES, TEMPERATURE, INSTRUMENTATION, PYROGEN IGNITERS, SOLID ROCKET PROPELLANTS, COMBUSTION CHAMBER LINERS, VISUAL INSPECTION, CRACKS, CHECKOUT PROCEDURES, AERODYNAMIC CONFIGURATIONS, ROCKET MOTORS(LIQUID PROPELLANT), LAUNCH VEHICLES(AEROSPACE) (U)
IDENTIFIERS: TX-354 MOTORS, THOR, STRAP-ON ROCKET MOTORS (U)

THREE TX354-5 ROCKET MOTORS WERE STATIC TESTED. PRIOR TO FIRING, THE MOTORS WERE TEMPERATURE CONDITIONED FOR SIX DAYS. BALLISTIC AND MOTOR CASE STRAIN DATA WERE SUCCESSFULLY OBTAINED DURING THE TWO FIRINGS. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-808 891L 22/2 20/14
NAVAL RESEARCH LAB WASHINGTON D C
ATLAS OF LOFTI II A SATELLITE ORBIT MAPS AND QUICK-LOOK DATA. (U)
DESCRIPTIVE NOTE: FINAL REPT.,
OCT 66 534P BEARCE,L. S. ;CUSHING,R. E. ;KOHLER,E. E. ;LEIPHART,J. P. ;YOUNG, C. E. ;
REPT. NO. NRL-6455
PROJ: SF-019-02-02-7447

UNCLASSIFIED REPORT
DISTRIBUTION: USGO: OTHERS TO DIRECTOR, NAVAL RESEARCH LAB., WASHINGTON, D. C. 20390.

DESCRIPTORS: (*SCIENTIFIC SATELLITES, IONOSPHERIC PROPAGATION), (*MAPS, ORBITAL TRAJECTORIES), VERY LOW FREQUENCY, LOW FREQUENCY, RADIO WAVES, RADIO TRANSMISSION, PENETRATION, MEASUREMENT, TELEMETERING DATA, APOGEE, PERIGEE, TIME, ALTITUDE, REAL TIME, DATA TRANSMISSION SYSTEMS, LIFE EXPECTANCY, ELLIPTICAL ORBIT TRAJECTORIES, EPHEMERIDES (U)
IDENTIFIERS: LOFTI(LOW FREQUENCY TRANS-IONOSPHERIC), THOR, AGENA (U)

THE LOW FREQUENCY TRANS-IONOSPHERIC II A (LOFTI II A) EXPERIMENT WAS DESIGNED TO INVESTIGATE PENETRATION OF THE IONOSPHERE BY 10.2 AND 18.0 KILOCYCLES PER SECOND (KC/SEC) VERY-LOW-FREQUENCY (VLF) RADIO WAVES FROM NAVY TRANSMITTERS ON THE EARTH'S SURFACE. THE LOFTI II A INSTRUMENTED SATELLITE WAS LAUNCHED ON 15 JUNE 1963 FROM THE PACIFIC MISSILE RANGE (PMR). ITS LIFETIME WAS APPROXIMATELY 32 DAYS, DURING WHICH TIME IT COMPLETED 496 ORBITS AROUND THE EARTH. REAL-TIME DATA TELEMETERED FROM THE SATELLITE WAS RECEIVED AT NINE GROUND STATIONS DURING 390 OF THESE ORBITS; A TOTAL OF 716 PASSES OF THE SATELLITE WERE MONITORED, 517 OF WHICH PROVIDED DATA SUITABLE FOR REDUCTION. DATA MAPS PRESENTED IN THIS REPORT SHOW THE SUBORBITAL PATHS OF LOFTI II A FOR THE ORBITS MONITORED, THE DIRECTION OF TRAVEL, APOGEE, AND PERIGEE OF THE SATELLITE, TIMES AND ALTITUDES ABOVE THE EARTH DURING WHICH TELEMETRY WAS RECEIVED ARE GIVEN ON EACH MAP WITH NOTATION AS TO THE PARTICULAR TELEMETRY STATIONS WHICH ACQUIRED THE DATA. THE DURATION OF SOLAR ILLUMINATION OF THE IONOSPHERE IMMEDIATELY UNDER THE SATELLITE IS INDICATED FOR CORRELATION WITH PATH ATTENUATION AND TIME DELAY. GROUND TRANSMITTER AND TELEMETRY RECEIVING STATION LOCATIONS, VLF (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-806 283L 9/1
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF MISSILE AND SPACE SYSTEMS DIV
28 VOLT LINE POWER FILTER, QUALIFICATION TEST. (U)
DESCRIPTIVE NOTE: TECHNICAL MEMO.
MAR 66 70P
REPT. NO. DAC-TM-DSV3E-EE-R5470
MONITOR: IDEP 321.10.12.20-D7-01

UNCLASSIFIED REPORT
DISTRIBUTION: USGO: OTHERS TO HEADQUARTERS, SPACE SYSTEMS DIV., ATTN: IDEP OFFICE, SSSD, AIR FORCE UNIT POST OFFICE, LOS ANGELES, CALIF. 90045.
SUPPLEMENTARY NOTE: SUPERSEDES REPT. NO. IDEP-321.10.12.20-D7-01-P1.

DESCRIPTORS: (*ELECTRIC FILTERS, ACCEPTABILITY), POWER SUPPLIES, VIBRATION, ALTITUDE, TEMPERATURE, SHOCK(MECHANICS) (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-801 833 22/2 22/4
LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF
DISCOVERER. DETAILED TEST OBJECTIVES FOR AGENA VEHICLE NO. 1052, THOR BOOSTER NO. 218. (U)
AUG 59 136P
REPT. NO. LMSD-6155-11
CONTRACT: AF 04(647)-97, AF 04(647)-347

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF SPACE SYSTEMS DIV., LOS ANGELES AIR FORCE STATION, CALIF. 90045, ATTN: CODE SSSD.
SUPPLEMENTARY NOTE: INCLUDES REVISION DATED 7 JAN 60.

DESCRIPTORS: (*SATELLITES(ARTIFICIAL), *LAUNCH VEHICLES(AEROSPACE)), LAUNCHING, FLIGHT TESTING, SYSTEMS ENGINEERING, COMMAND + CONTROL SYSTEMS, GROUND SUPPORT EQUIPMENT, PAYLOAD, STAGING, SEPARATION, PERFORMANCE(ENGINEERING), SATELLITE TRACKING SYSTEMS (U)
IDENTIFIERS: DISCOVERER, AGENA, THOR, SCIENTIFIC SATELLITES (U)

THE INFORMATION PRESENTED IN THIS DOCUMENT DEFINES THE OVER-ALL PLANS FOR FLIGHT TESTING SATELLITE VEHICLE SERIAL NO. 1052, THIS DETAILED TEST OBJECTIVES DOCUMENT IS INTENDED TO BE AN AUTHORITATIVE PLANNING SOURCE, FOR USE BY THE FLIGHT TEST WORKING GROUP, SYSTEM TEST WORKING GROUP, AND ALL LAUNCH BASE, TRACKING STATIONS, AND RECOVERY FORCE PERSONNEL IN PLANNING FLIGHT TEST OPERATION PROCEDURES. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-801 831 22/2
LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF
DISCOVERER III PRELIMINARY SYSTEM TEST REPORT (5 DAY). (U)
JUN 59 58P
REPT. NO. LMSD-6149-4
CONTRACT: AF 04(647)-97

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF SPACE SYSTEMS DIV., LOS ANGELES AIR FORCE STATION, CALIF. 90045. ATTN: CODE SSSD.

DESCRIPTORS: (*SPACECRAFT, FLIGHT TESTING), LAUNCH VEHICLES(AEROSPACE), THRUST, RADAR TRACKING, PERFORMANCE(ENGINEERING), SYSTEMS ENGINEERING, GROUND SUPPORT EQUIPMENT, CHECKOUT PROCEDURES (U)
IDENTIFIERS: DISCOVERER, LIFT-OFF, THOR, SCIENTIFIC SATELLITES, RECOVERY, ORBITAL TRAJECTORIES (U)

PRELIMINARY SYSTEM TEST REPORT.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-801 807 22/4 9/1 17/2,1 17/7
BOEING CO SEATTLE WASH
CONTRACT END ITEM DETAIL SPECIFICATION (PRIME EQUIPMENT). PART I. PERFORMANCE/DESIGN AND PRODUCT CONFIRMATION REQUIREMENTS, LAUNCH CONTROL AND CHECKOUT EQUIPMENT FOR BURNER II SPACE BOOSTER SYSTEM. (U)
APR 65 40P
MONITOR: AFSC SPEC-CP-223541A-1

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF SPACE SYSTEMS DIV., LOS ANGELES AIR FORCE STATION, CALIF. 90045. ATTN: SSSIC.
SUPPLEMENTARY NOTE: SEE ALSO PART 2, AD-801 808.

DESCRIPTORS: (*LAUNCH VEHICLES(AEROSPACE), GROUND SUPPORT EQUIPMENT), SPECIFICATIONS, LAUNCHING SITES, CHECKOUT EQUIPMENT, COMMAND + CONTROL SYSTEMS, CONTROL PANELS, REMOTE CONTROL SYSTEMS, TELEMETER SYSTEMS, ELECTRICAL EQUIPMENT, EXPLOSIVES INITIATORS, UMBILICAL CORDS(AEROSPACE), ELECTRIC CONNECTORS, COMMAND GUIDANCE, CHECKOUT PROCEDURES, ELECTRONIC EQUIPMENT, PERFORMANCE(ENGINEERING), ASSEMBLING, POWER SUPPLIES, MONITORS, GYROSCOPES, MAINTAINABILITY, LIFE EXPECTANCY, SYSTEMS ENGINEERING, HUMAN ENGINEERING, QUALITY CONTROL, SAFETY, RADIO COMMUNICATION SYSTEMS (U)
IDENTIFIERS: THOR, AFSCM 375-1, BURNER 2, LCCE (LAUNCH CONTROL AND CHECKOUT EQUIPMENT), LCC (LAUNCH CONTROL CONSOLE) (U)

THIS PART OF THIS SPECIFICATION ESTABLISHES THE REQUIREMENTS FOR PERFORMANCE, DESIGN, TEST AND QUALIFICATION OF ONE MISSION-DESIGN-SERIES OF EQUIPMENT IDENTIFIED AS LAUNCH CONTROL AND CHECKOUT EQUIPMENT, CEI NUMBER 223541A. THIS CEI IS USED TO PROVIDE CHECKOUT OF THE ELECTRICAL AND ELECTRONIC SUBSYSTEMS OF A SMALL UPPER STAGE ASCENT VEHICLE AND SUPPORT, MONITORING AND SIMULATION OF THE LAUNCH COUNTDOWN. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-801 084 9/2
LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF
COMPUTER PROGRAM DESIGN SPECIFICATIONS, FLIGHT 2202
MILESTONE IV, 23 MARCH 1962, (U)
MAR 62 70P GRETHER,G. G. ;
REPT. NO. LMSC-A098288-REV-1
CONTRACT: AF 04(647)-788

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF SPACE SYSTEMS DIV., LOS ANGELES AIR FORCE STATION, CALIF. 90045. ATTN: SSOK.
SUPPLEMENTARY NOTE: SEE ALSO REPORT DATED SEP 61, AD-801 071.

DESCRIPTORS: (*PROGRAMMING(COMPUTERS), SPECIFICATIONS), DATA PROCESSING SYSTEMS, DESIGN, CHECKOUT PROCEDURES, ASCENT TRAJECTORIES, ATMOSPHERE ENTRY, ORBITAL TRAJECTORIES, SATELLITE TRACKING SYSTEMS, GUIDED MISSILE TRACKING SYSTEMS, MATHEMATICAL PREDICTION, IMPACT PREDICTION, PUNCHED TAPE, INPUT-OUTPUT DEVICES, PUNCHED CARDS, PITCH(MOTION), ROLL, YAW, DRAG, WIND, EPHEMERIDES, ITERATIVE METHODS, DESCENT TRAJECTORIES (U)
IDENTIFIERS: DISCOVERER, MIDAS, THOR, ATLAS (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-800 024 22/4 21/8.1
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF MISSILE AND SPACE SYSTEMS DIV
RELIABILITY TECHNIQUES UTILIZED IN CONVERTING THE THOR TACTICAL SYSTEM TO A RESEARCH AND DEVELOPMENT SPACE BOOSTER, (U)
NOV 65 12P NEWBY, MARVIN A. ; MAHR, ERWIN P. ;
REPT. NO. DAC PAPER-3536

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF SPACE SYSTEMS DIV., LOS ANGELES AIR FORCE STATION, CALIF. 90045.

DESCRIPTORS: (*BOOSTER MOTORS, RELIABILITY), (*LAUNCH VEHICLES(AEROSPACE), RELIABILITY), OPERATIONAL READINESS, QUALITY CONTROL, TEMPERATURE, SHOCK(MECHANICS), VIBRATION, ACCELERATION (U)
IDENTIFIERS: THOR (U)

THE TASK OF RENOVATING AND MODIFYING THE THOR BOOSTER TO A RESEARCH AND DEVELOPMENT SPACE BOOSTER WAS ACCOMPLISHED MORE QUICKLY AND AT A LOWER COST THAN PROCURING A NEW SPACE BOOSTER. THE MAJOR CONSIDERATIONS WERE THAT CHANGES AND COST WOULD BE HELD TO AN ABSOLUTE MINIMUM. HOWEVER, ANALYSIS OF THE REQUIRED CONFIGURATION SHOWED THAT THE ENTIRE VEHICLE AND ALSO SEVERAL OF ITS SUBSYSTEMS MIGHT SEE ENVIRONMENTS OF TEMPERATURE, SHOCK, VIBRATION AND SUSTAINED ACCELERATION MORE SEVERE THAN HAD BEEN ENCOUNTERED ON PREVIOUS THOR FLIGHT. A DISCUSSION IS PRESENTED OF THE ANALYSIS TECHNIQUES UTILIZED TO ASSURE THAT OPTIMUM VEHICLE FLIGHT READINESS WOULD BE ACHIEVED. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-608 029
TRW SPACE TECHNOLOGY LABS LOS ANGELES CALIF
THE METHODOLOGY OF CONTROL OF A VERY LARGE RESEARCH AND DEVELOPMENT PROGRAM. (U)
OCT 59 64P DUKE, W. M. ;

UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE: ADDRESS PRESENTED TO THE CONFERENCE ON RESEARCH AND DEVELOPMENT ADMINISTRATION, SAGAMORE ADIRONDACK CONFERENCE CENTER OF SYRACUSE UNIV., RAQUETTE LAKE, N. Y., 6 OCT 59. LEGIBILITY OF THIS DOCUMENT IS IN PART UNSATISFACTORY. REPRODUCTION HAS BEEN MADE FROM BEST AVAILABLE COPY.

DESCRIPTORS: (*RESEARCH PROGRAM ADMINISTRATION, GUIDED MISSILES (SURFACE-TO-SURFACE)), (*GUIDED MISSILES (SURFACE-TO-SURFACE), RESEARCH PROGRAM ADMINISTRATION), WEAPON SYSTEMS, ROCKET RESEARCH, SYSTEMS ENGINEERING, MANAGEMENT ENGINEERING, ORDNANCE (U)
IDENTIFIERS: ATLAS, MINUTEMAN, THOR, TITAN (U)

THE INITIATION AND IMPLEMENTATION OF THE AIR FORCE BALLISTIC MISSILE PROGRAM IS DISCUSSED. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-607 341
TRW SPACE TECHNOLOGY LABS LOS ANGELES CALIF
EXPERIMENTAL INVESTIGATION OF SLOSHING. (U)
DESCRIPTIVE NOTE: SEMI-ANNUAL REPT. FOR 1 JAN-30 JUN 59,
JUN 59 4P O'NEILL,J. P. ;
REPT. NO. STL/TR-59-0000-00713
CONTRACT: AF04 647 309

UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE:

DESCRIPTORS: (*PROPELLANT TANKS, SLOSHING), (*SLOSHING, DAMPING), GUIDED MISSILES, CONFIGURATION, MECHANICAL WAVES, NONLINEAR SYSTEMS, MEASUREMENT, RINGS, HEMISPHERICAL SHELLS (U)
IDENTIFIERS: THOR (U)

EXPERIMENTAL TECHNIQUES WERE DEVELOPED FOR MEASURING SLOSH DAMPING IN A VARIETY OF TANK AND BAFFLE CONFIGURATIONS. THE VARIOUS METHODS WERE COMPARED AND SHOWN TO BE IN SATISFACTORY AGREEMENT. THE ABLE-STAR DAMPING INVESTIGATION MADE USE OF ONE OF THE METHODS HAVING THE BROADEST APPLICATION POSSIBILITIES. A SYSTEMATIC VARIATION OF TANK SHAPE PARAMETERS IS CONTINUING IN SUPPORT OF BALLISTIC MISSILE PROGRAMS LIKE ATLAS, TITAN, AND THOR, AND IN PREPARATION FOR THE NEEDS OF FUTURE SPACE EXPLORATIONS SYSTEMS. NONLINEAR DAMPING EFFECTS WERE INVESTIGATED. WAVES SWEEPING ACROSS A DOMED TANK BOTTOM RESULTED IN PLUNGING FLOW WITH HIGH BUT ERRATIC DAMPING. WAVES SPLASHING AGAINST DAMPING RINGS WERE QUICKLY DAMPED, BUT A NEW SLOSH MODE PERSISTED WITH LOW DAMPING. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-490 809
TRW SPACE TECHNOLOGY LABS LOS ANGELES CALIF
INTERSTAGE-COMPARTMENT PRESSURES DURING STAGING, (U)
26P JONES, D. L. ;
REPT. NO. TR60 0000 09152

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*STAGING), (*PRESSURE), (*ROCKET MOTORS), FLUID FLOW, GAS FLOW, HYDRAULIC SYSTEMS, HIGH ALTITUDE, SIMULATION, FLIGHT TESTING, ROCKET MOTOR NOZZLES, COMBUSTION CHAMBERS, THEORY (U)
IDENTIFIERS: THOR (U)

THIS REPORT PRESENTS A GENERAL STUDY OF INTERSTAGE-COMPARTMENT PRESSURES AND FLOW CONDITIONS DURING STAGING. HYDRAULIC-ANALOGY TESTS WERE MADE TO DETERMINE GENERAL COMPARTMENT-FLOW CHARACTERISTICS. A SIMPLE THEORY FOR PREDICTING COMPARTMENT PRESSURES WAS THEN DERIVED AND COMPARED TO TEST RESULTS FROM HYDRAULIC-ANALOGY TESTS, HIGH-ALTITUDE-CHAMBER TESTS, AND FLIGHT TESTS. THE AGREEMENT BETWEEN THEORY AND TEST IS GENERALLY GOOD. TWO DISTINCT CONDITIONS OF FLOW ARE NOTED. THE CONCEPT OF A CRITICAL PORT AREA IS INTRODUCED TO DEFINE THE TRANSITION FROM ONE CONDITION OF FLOW TO THE OTHER. THE APPLICATION OF THE THEORY TO THE DESIGN OF INTERSTAGE COMPARTMENTS IS DISCUSSED. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-490 615
ROCKETDYNE CANOGA PARK CALIF
SPECIFICATION, PANEL PNEUMATIC PRESSURE GWK-2/E47T-1
ROCKETDYNE MODEL G3005, (U)
MAR 59 18P JONES, H. J. ;
REPT. NO. R-G3005AS
CONTRACT: AF04(647)-171

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: (*CONTROL PANELS, SPECIFICATIONS), (*PNEUMATIC SYSTEMS, *PRESSURE REGULATORS), GAS FLOW, NITROGEN, PRESSURE, ROCKET MOTORS(LIQUID PROPELLANT), TEST EQUIPMENT, LEAK DETECTORS (U)
IDENTIFIERS: THOR (U)

THE PNEUMATIC PRESSURE PANEL IS DESCRIBED. THE PANEL IS USED FOR REGULATING AN EXTERNAL PRESSURE SUPPLY OF GASEOUS NITROGEN TO A WORKING TEST PRESSURE COMPATIBLE WITH THE WS-315A ROCKET ENGINES AND COMPONENTS FOR LEAK AND FUNCTIONAL TESTING. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-485 312 21/8.1 20/4 20/1 16/4
22/4

MARTIN CO DENVER COLO

A STUDY OF SYSTEM COUPLED INSTABILITY ANALYSIS TECHNIQUES. PART I. (U)

DESCRIPTIVE NOTE: FINAL REPT. MAY 65-JUN 66.

JUL 66 147P BIKLE ,F. E. ;FIDLER ,L. E. ;ROHRS,J. B. ;

REPT. NO. CR-66-36-PT-1

CONTRACT: AF 04(611)-10795

PROJ: AF-6753

MONITOR: AFRPL TR-66-143-PT-1

UNCLASSIFIED REPORT

DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF AIR FORCE ROCKET PROPULSION LAB., EDWARDS, CALIF. 93523. ATTN: RPRPT/STINFO.

SUPPLEMENTARY NOTE: SEE ALSO PART 2. AD-485 313.

DESCRIPTORS: (*FLUID FLOW, OSCILLATION), (*ROCKET MOTORS(LIQUID PROPELLANT), STABILITY), CAVITATION, HYDRAULIC SYSTEMS, PNEUMATIC SYSTEMS, TRANSIENTS, THERMODYNAMICS, ENTHALPY, PUMPS, IMPELLERS, EQUATIONS OF MOTION, FLUID DYNAMIC PROPERTIES, MODEL THEORY, GASES, PROPELLANT TANKS, PROPELLANT CONTROL, PRESSURIZATION, RESPONSE, ACOUSTIC IMPEDANCE, TURBOPUMPS, RESONANT FREQUENCY, DYNAMICS (U)

IDENTIFIERS: POGO INSTABILITY, THOR, TITAN, ATLAS (U)

A STUDY OF SYSTEM COUPLED INSTABILITY ANALYSIS TECHNIQUES. PART 1 ANALYTICAL PROGRAM.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-474 582 21/8,1
MARTIN CO DENVER COLO
A STUDY OF SYSTEM COUPLED INSTABILITY ANALYSIS TECHNIQUES. (U)
DESCRIPTIVE NOTE: QUARTERLY TECHNICAL REPT. NO. 2, AUG-OCT 65.
NOV 65 93P BIKLE ,FRED E. ;FIDLER , LARRY E. ;ROHRS,JOHN B. ;
CONTRACT: AF04(611)-10795
PROJ: AF-6753
MONITOR: AFRPL TR-65-245

UNCLASSIFIED REPORT
DISTRIBUTION: NO FOREIGN WITHOUT APPROVAL OF AIR FORCE FLIGHT TEST CENTER (AFSC), EDWARDS AFB, CALIF. ATTN: AFRPL.

DESCRIPTORS: (*ROCKET MOTORS(LIQUID PROPELLANT), STABILITY), PRESSURIZATION, CONFIGURATION, MODEL TESTS, TEST METHODS, TURBOPUMPS, CAVITATION, FLOWMETERS, CALIBRATION, MATHEMATICAL MODELS, FUEL SYSTEMS (U)
IDENTIFIERS: POGO INSTABILITY, THOR, TITAN, ATLAS (U)

THIS REPORT IS CONCERNED WITH THE SUBJECT OF COUPLED STRUCTURAL/PROPULSION SYSTEM INSTABILITY GENERALLY REFERRED TO AS POGO. THE PRIME OBJECTIVE OF THE STUDY IS TO DETERMINE THE FEASIBILITY OF USING SMALL-SCALE TEST CONFIGURATIONS TO DEFINE THE PARAMETERS CRITICALLY AFFECTING STABILITY. THIS REPORT DEALS WITH BOTH THE LIQUID SYSTEM POGO EXPERIENCED ON THOR AND TITAN VEHICLES AS WELL AS THE GAS SYSTEM POGO EXPERIENCED ON ATLAS VEHICLES. THIS REPORT DISCUSSES SUB-SCALE TEST METHODS AND CONFIGURATIONS, AS WELL AS ANALYSIS OF PHYSICAL GENERATION OF CAVITATION COMPLIANCE IN TURBOPUMPS. PRELIMINARY TEST RESULTS INDICATE THAT INEXPENSIVE COMMERCIAL TURBOPUMPS CAN BE USED EFFECTIVELY TO STUDY CAVITATION PHENOMENON IN ROCKET-ENGINE PROPULSION SYSTEMS. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-469 601
MARTIN CO DENVER COLO
A STUDY OF SYSTEM COUPLED INSTABILITY ANALYSIS TECHNIQUES, PARAMETER IDENTIFICATION AND TEST SIMULATOR DESCRIPTION. (U)
DESCRIPTIVE NOTE: QUARTERLY TECHNICAL REPT. NO. 1, MAY-AUG 65,
AUG 65 52P BIKLE, FRED E. ;
CONTRACT: AF04 611 10795
PROJ: AF6753
MONITOR: RPL TR-65-166

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*ROCKET MOTORS(LIQUID PROPELLANT), STABILITY), AIRFRAMES, MODEL TESTS, TEST METHODS, FEASIBILITY STUDIES, SIMULATION, TEST EQUIPMENT, SENSITIVITY, FREQUENCY, GAS GENERATING SYSTEMS, TURBOPUMPS, CAVITATION, GUIDED MISSILES(SURFACE-TO-SURFACE), LAUNCH VEHICLES(AEROSPACE), MATHEMATICAL ANALYSIS, EQUATIONS, FUEL SYSTEMS, DYNAMICS (U)
IDENTIFIERS: POGO (INSTABILITY), THOR, TITAN, ATLAS, SATURN (BOOSTER) (U)

COUPLED STRUCTURAL/PROPULSION SYSTEM INSTABILITY GENERALLY REFERRED TO AS POGO IS DISCUSSED. THE PRIME OBJECTIVE OF THE STUDY IS TO DETERMINE THE FEASIBILITY OF USING SMALL SCALE TEST CONFIGURATIONS TO DEFINE THE PARAMETERS CRITICALLY AFFECTING SYSTEM STABILITY. THIS REPORT DEALS WITH BOTH THE LIQUID SYSTEM POGO EXPERIENCED ON THOR AND TITAN VEHICLES AS WELL AS THE GAS SYSTEM POGO EXPERIENCED ON ATLAS VEHICLES. BASIC EQUATIONS AND SYSTEM BLOCK DIAGRAM REPRESENTATIONS ARE DEVELOPED AND DISCUSSED. DESCRIPTION AND RESULTS OF THE PROCESS OF CRITICAL PARAMETER IDENTIFICATION ARE DISCUSSED IN DETAIL. DESCRIPTION OF THE LIQUID SYSTEM TEST SIMULATOR IS ALSO PRESENTED. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-463 996
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF MISSILE AND SPACE SYSTEMS DIV
ELECTROMAGNETIC INTERFERENCE MEASUREMENTS ON DSV-2S INVERTER, S/N R97NR DAC P/N 7689900-501. (U)
JAN 65 19P
REPT. NO. TM-DSV-2S-EE-R4882
MONITOR: IDEP 557.45.06.60.07-01

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*INVERTERS, POWER SUPPLIES), MEASUREMENT, INTERFERENCE, ELECTROMAGNETIC WAVES, ACCEPTABILITY, BROADBAND, TEST METHODS, TEST EQUIPMENT (U)
IDENTIFIERS: THOR, IDEP (U)

QUALIFICATION TESTS ON INVERTERS FOR USE AS POWER SUPPLY IN THOR.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-461 821
LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF
AGENA TANK MODAL TEST STRUCTURES STUDY. (U)
JUL 64 61P ALBERT,R. S. ;
REPT. NO. A666971 ,SS/788/5522
CONTRACT: AF04 695 191

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*LAUNCH VEHICLES (AEROSPACE), PROPELLANT TANKS), (*PROPELLANT TANKS, OSCILLATION), VIBRATION, FLIGHT TESTING, TEST METHODS, PRESSURE, LOADING (MECHANICS), EFFECTIVENESS, ANALYSIS, MODELS (SIMULATIONS) (U)
IDENTIFIERS: AGENA, THOR (U)

THIS STUDY PRESENTS THE RESULTS OF THE AGENA S-01B TANK MODAL TEST AND A COMPARISON OF THESE RESULTS WITH ANALYTICAL CALCULATIONS AND MEASURED FLIGHT DATA. THE SCOPE OF THE TEST, AS DEFINED IN THE TEST OBJECTIVES, WAS TO DETERMINE THE VALIDITY OF THE CURRENT TECHNIQUES USED TO DESCRIBE THE DYNAMIC BEHAVIOR OF THE AGENA PROPELLANT TANKS. THESE TECHNIQUES PREDICT DYNAMIC LOADS LOWER THAN THOSE DERIVED FROM FLIGHT DATA. IN ADDITION, IT WAS DESIRED TO HAVE TEST DATA AVAILABLE FOR CHECKING FLIGHT MEASUREMENTS AND, IN THE EVENT THE CURRENT ANALYSIS PROVES UNSUITABLE, FOR SUBSEQUENT DEVELOPMENT OF A NEW ANALYTICAL APPROACH. THE TEST PROGRAM, PERFORMED AS DESCRIBED IN THE TEST PROCEDURE, WAS SCHEDULED TO MEET THE TEST OBJECTIVES. THE TEST RESULTS INDICATE GOOD FREQUENCY AGREEMENT BETWEEN ANALYSIS AND TEST MEASUREMENTS FOR THE FIRST MODE FOR THE FULL FLIGHT CONDITION. HOWEVER, DIFFERENCES IN THE MODE SHAPES ARE SUCH THAT SIGNIFICANT ERROR EXISTS BETWEEN THE PRESSURE CALCULATIONS AND THE TEST MEASUREMENTS. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-460 911
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF
THOR LONGITUDINAL OSCILLATION STUDY. (U)
DESCRIPTIVE NOTE: FINAL REPT.,
MAR 64 121P DAVIS,W. F. ;KEETON,D. L. ;
LYNCH,T. F. ;
REPT. NO. SM-45009
CONTRACT: AF04 695 274

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*LAUNCH VEHICLES (AEROSPACE), OSCILLATION), STABILITY, VIBRATION, WEIGHT, MODEL TESTS, FUEL SYSTEMS, PAYLOAD, DESIGN, ACCELERATION, FREQUENCY, DEFLECTION, THRUST, CAVITATION NOISE, HIGH FREQUENCY, NOISE, DAMPING, STRUCTURAL PROPERTIES, FUNCTIONS, FLIGHT TESTING, INSTRUMENTATION, SIMULATION, PROGRAMMING (COMPUTERS), ANALOG COMPUTERS, DIGITAL COMPUTERS, EQUATIONS, TELEMETERING DATA, MATHEMATICAL ANALYSIS, GRAPHICS, PERFORMANCE (ENGINEERING) (U)
IDENTIFIERS: THOR, AGENA, SLV-4 LAUNCH VEHICLES, SLV-2 LAUNCH VEHICLES (U)

THIS REPORT PRESENTS THE RESULTS OF A STUDY PROGRAM INITIATED TO DEFINE AND ANALYTICALLY DESCRIBES THE LONGITUDINAL OSCILLATIONS MANIFESTED IN THE THOR-AGENA SPACE VEHICLE. THE METHOD CONSISTED OF DESCRIBING VEHICLE SUBSYSTEMS BY TRANSFER FUNCTIONS, THEN COMBINING THEM INTO A CLOSED LOOP SYSTEM. STANDARD CONTROL SYSTEM ANALYSIS TECHNIQUES WERE THEN USED TO PREDICT STABILITY AND TO DEFINE THE NATURE OF THE OSCILLATIONS. (AUTHOR) (U)

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DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-459 303
AEROJET-GENERAL CORP AZUSA CALIF
REVISED RELIABILITY ANALYSIS OF THE ABLESTAR STAGE. (U)
FEB 63 74P
REPT. NO. SGC-111R-6
MONITOR: IDEP 347.40.00.00-A7-18

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*GUIDED MISSILES (SURFACE-TO-SURFACE), PERFORMANCE (ENGINEERING)), AIR FORCE, RELIABILITY, DESIGN, FAILURE (MECHANICS), PROPULSION, TABLES, STRESSES (U)
IDENTIFIERS: IDEP, ABLESTAR, THOR, ENVIRONMENTAL STRESSES (U)

A REVISED ANALYSIS WAS MADE OF THE CURRENT RELIABILITY OF THE ABLESTAR STAGE BASED ON THE MODIFIED DESIGN PARAMETERS AND MORE RECENTLY AVAILABLE TIME-RELATED FAILURE DATA ON PROPULSION AND ELECTRONICS COMPONENT PARTS. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-458 118
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF
UNMATING AND DESTRUCT TEST, CONNECTOR. (U)
NOV 64 15P
REPT. NO. TM-DSV2S-ME-R4730
MONITOR: IDEP 201 20 82 34D7 01,

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*ELECTRIC CONNECTORS, ELECTRIC CABLES), FORCE (MECHANICS), ROTATION (U)
IDENTIFIERS: THOR, IDEP (U)

THE TESTS DESCRIBED IN THIS REPORT WERE CONDUCTED AS RELIABILITY VERIFICATION TESTS OF A CONNECTORPLUG, PART NUMBER 72-304818-32S, FOR USE ON UMBILICAL CABLES. TWO TYPES OF TESTS WERE PERFORMED ON ONE SPECIMEN: UNMATING FORCE VERSUS ANGLE OF APPLICATION TEST: AND UNMATING/DESTRUCT TEST. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-454 248
SPERRY RAND CORP ST PAUL MINN UNIVAC DEFENSE SYSTEMS DIV
STRATEGIC AIR WEAPONS SYSTEMS WS-107A-2 AND WS-315A. VOLUME II. (U)
DESCRIPTIVE NOTE: SEMIANNUAL TECHNICAL PROGRAM REPT. NO. 3, 1 JAN30 JUN 57.
JUN 57 1V
REPT. NO. PX102 3
CONTRACT: AF04 645 20
PROJ: 2067

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*GUIDED MISSILE COMPUTERS, CIRCUITS), TESTS, VOLTAGE, POWER AMPLIFIERS, PHOTOELECTRIC CELLS (SEMICONDUCTOR), TRANSISTORS, MAGNETIC TAPE, READING MACHINES, PULSE AMPLIFIERS, TIMING CIRCUITS, SWITCHING CIRCUITS, GATES (CIRCUITS) (U)
IDENTIFIERS: THOR, TITAN (U)

STRATEGIC AIR WEAPONS SYSTEMS, VOLUME II.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-454 062
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF
LIQUID OXYGEN TEMPERATURE INSTRUMENTATION MODEL DM-18, (U)
JUL 60 124P GALLAGHER,H. P. ;MALLETT,B. D. ;
REPT. NO. SM 36385
CONTRACT: AF04 645 65

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*TEMPERATURE SENSITIVE ELEMENTS, DESIGN), (*LIQUEFIED GASES, OXYGEN), MEASUREMENT, INSTRUMENTATION, CRYOSTATS, TRANSDUCERS, CALIBRATION, DENSITY, CRYOGENICS, DATA (U)
IDENTIFIERS: THOR (U)

THIS REPORT PRESENTS THE DESIGN CRITERIA USED BY THE DOUGLAS AIRCRAFT COMPANY, INC., TO DEVELOP AND EVALUATE A METHOD OF MEASURING LIQUID OXYGEN TEMPERATURES WITHIN A FULL-SCALE THOR MISSILE TANK. DESIGN OF SUCH A SYSTEM WAS DICTATED BY PREVIOUS EXPERIMENTATION IN ATTEMPTS TO DETERMINE THE RELATIONSHIP OF LIQUID OXYGEN TEMPERATURE CHANGES CAUSED BY ENVIRONMENTAL CHANGES AND CHANGES OF LIQUID OXYGEN DENSITY AS A RESULT OF SUCH TEMPERATURE CHANGES. EXPERIMENTS CONDUCTED IN A 3/8-SCALE MODEL TANK REVEALED THAT A SYSTEM CAPABLE OF AN ACCURACY OF = 0.25 F OVER THE TEMPERATURE RANGE OF -298 F THROUGH -288 F WAS REQUIRED IN ORDER TO ACCURATELY DETERMINE DENSITY CHANGES WITHIN LIQUID OXYGEN. DESIGN CRITERIA, REQUIRED TO PRODUCE AN ACCURATE METHOD OF MEASURING LIQUID OXYGEN TEMPERATURES, AND FACTORS WHICH COULD INTRODUCE EXCESSIVE ERROR THROUGHOUT THE ENTIRE SYSTEM ARE INCLUDED. A DIFFERENT CONCEPT OF TRANSDUCER CALIBRATION IN THE CRYOGENIC REGIONS, UTILIZING A CRYOSTAT OR TEST CHAMBER CAPABLE OF TEMPERATURE REGULATION TO = 0.02 F, ALSO IS CONTAINED IN THIS REPORT. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-452 757
SPACE-GENERAL CORP EL MONTE CALIF
ABLESTAR STAGE LAUNCH CAPABILITY FROM VANDENBERG AIR FORCE BASE. (U)
DESCRIPTIVE NOTE: LETTER PROGRAM PROGRESS REPT. NO. 4, FOR OCT 62,
NOV 62 17P GAVLIN,F. J. ;
REPT. NO. L245 01 4
CONTRACT: AF04 695 181

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*LAUNCHING SITES, GUIDED MISSILES (SURFACE-TO-SURFACE)), GROUND SUPPORT EQUIPMENT, INSTRUMENTATION, INSTALLATION, TELEMETER SYSTEMS, LIQUID ROCKET PROPELLANTS, HANDLING, CONSTRUCTION, SYSTEMS ENGINEERING (U)
IDENTIFIERS: THOR (U)

ABLESTAR STAGE LAUNCH CAPABILITY FROM VANDENBERG AIR FORCE BASE.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-452 215
ROCKETDYNE CANOGA PARK CALIF
IDENTIFICATION SPECIFICATION MISCELLANEOUS ITEMS OF IOC GSE FOR BASE SUPPORT FOR THE WEAPON SYSTEM WS-315A PROGRAM, (U)
MAR 59 55P WILLIAMS,B. J. ;
REPT. NO. R1566AS
CONTRACT: AF04 647 171

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*GUIDED MISSILES (SURFACE-TOSURFACE), GROUND SUPPORT EQUIPMENT), SPECIFICATIONS, MAINTENANCE VEHICLES, HOISTS, CHECKOUT EQUIPMENT, ROCKET CLOSURE CUPS, FASTENINGS, ROCKET MOTORS (LIQUID PROPELLANT), TRANSPORTATION, STORAGE, MAINTENANCE EQUIPMENT, PACKAGING, CLEANING, HANDLING (U)
IDENTIFIERS: THOR (U)

THIS SPECIFICATION IDENTIFIES 25 END ITEMS OF GROUND SUPPORT EQUIPMENT AVAILABLE AND TO BE SUPPLIED AS ROCKETDYNE FURNISHED EQUIPMENT WHICH IS REQUIRED TO SUPPORT THE WS-315A PROGRAM, (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-449 363
AEROJET-GENERAL CORP AZUSA CALIF
THOR/ABLESTAR STAGING ANALYSIB, (U)
9P DE GROOT,L. D. ;
REPT. NO. SR2252

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*ROCKET MOTORS (LIQUID PROPELLANT), STAGING), ANALOG COMPUTEJS, MATHEMATICAL MODELS, CENTER OF GRAVITY, SEPARATAON, THRUST VECTOR CONTROL SYSTEMS, EQUATIONS, MATHEMATICAL ANALYSIS, PROGRAMMING (COMPUTERS), GUIDED MISSILES (SURFACE-TOSURFACE) (U)
IDENTIFIERS: THOR (U)

AN ANALOG COMPUTER ANALYSIS HAS SHOWN THAT ADEQUATE CLEARANCE IS MAINTAINED BETWEEN THE THOR AND THE ABLESTAR ENGINE DURING THE STAGING SEQUENCE, EVEN WHEN ALL DISTURBING FACTORS ARE ADDED IN THE WORST WAY. IT IS ALSO SHOWN THAT BOTTOMING OF EITHER THE ABLESTAR GYRO OR THE ENGINE GIMBAL IS UNLIKEL. A STUDY OF THE EFFECT OF CENTER-OF-GRAVITY LATERAL OFFSET FROM THE ABLESTAR LONGITUDINAL REFERENCE LINE INDICATES THAT CONSIDERABLY MORE CENTER-OF-GRAVITY OFFSET CAN BE TOLERATED THAN PRESENT SPECIFICATIONS ALLOW. IT IS SHOWN THAT OFFSETS UP TO 1.0 INCHES WOULD NOT BE DELETERIOUS TO PROPER STAGING. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-449 346
ROCKETDYNE CANOGA PARK CALIF
NUMERICAL INDEX OF RESEARCH AND DEVELOPMENT REPORTS
ISSUED THROUGH MAY 1961. (U)
64P
REPT. NO. R3035
CONTRACT: AF04 647 724

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*BIBLIOGRAPHIES, ROCKET MOTORS (LIQUID PROPELLANT)), (*INDEXES, ROCKET MOTORS (LIQUID PROPELLANT)), (*ROCKET MOTORS (LIQUID PROPELLANT), BIBLIOGRAPHIES), PROPULSION, GUIDED MISSILES (SURFACE-TOSURFACE), LIQUID ROCKET PROPELLANTS, RELIABILITY, WEIGHT, LIQUID ROCKET OXIDIZERS, LIQUID ROCKET FUELS (U)
IDENTIFIERS: ATLAS, THOR, LR-79 ENGINES, LR-89 ENGINES (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-448 898
ROCKETDYNE CANOGA PARK CALIF
WS-315. INTERIM UNIT PROFICIENCY SYSTEM GUIDE FOR MB-3 PROPULSION SYSTEM, PART I, (EXPERIMENTAL). (U)
DEC 59 517P
REPT. NO. R1703 1
CONTRACT: AF04 647 171

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*ROCKET MOTORS (LIQUID PROPELLANT), CHECKOUT PROCEDURES), (*HANDBOOKS, ROCKET MOTORS (LIQUID PROPELLANT)), VERNIER ROCKET MOTORS, CHECKOUT EQUIPMENT, GROUND SUPPORT EQUIPMENT, TEST METHODS, MAINTENANCE, TABLES, SCHEDULING (U)
IDENTIFIERS: THOR, LR-79 ENGINES, LR-101 ENGINES, MB-3 PROPULSION SSYSTEMS (U)

THIS GUIDE CONTAINS INTERIM UNIT PROFICIENCY SYSTEM EXPERIMENTAL CHECKLISTS COVERING SERVICING, PREPARATION, CHECKOUT, MAINTENANCE, AND SECURING TASKS PERFORMED BY MISSILE ENGINE TECHNICIANS AND MECHANICS (AFSC'S 43371/51) ON THE WS-315A-1 PROPULSION SUBSYSTEM (SM-75 THOR), ENGINE MODELS XLR79-NA-9 MAIN ENGINE AND XLR101 NA-9 VERNIER ENGINES IN THE LAUNCH AREEA OPERATIONS. PART II OF THIS MANUAL CONTAINS CHECKLISTS FOR TROUBLESHOOTING TASKS. THE PROPOSED PROFICIENCY EXERCISES PRESENTED IN THIS PART OF THE MANUAL CAN GENERALLY BE CONDUCTED CONCURRENTLY WITH NORMALLY SCHEDULED OPERATIONS IN THE LAUNCH AREA. CONSEQUENTLY, NO SPECIAL EQUIPMENT SETUP IS REQUIRED TO PERFORM THE TASKS COVERED IN THE EXERCISES. IF IT IS DESIRED TO CONDUCT A PROFICIENCY EVALUATION AT A TIME OTHER THAN DURING SCHEDULED ACTIVITIES, ONLY NORMAL EQUIPMENT USAGE IS REQUIRED, ASSUMING THAT ALL OPERATIONS WILL PROCEED THROUGHOUT ON A GREEN LIGHT CONDITION IN WHICH NO MALFUNCTIONS ARE ENCOUNTERED. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-448 153
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF
HIG-4 GYRO ELASTIC RESTRAINT DRIFT EVALUATION. (U)
JUN 64 1V WHITTAKER, J. L. ;
REPT. NO. DSV2C EE R4526
MONITOR: IDEP 358.50.05.20-D7-01

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*GYROSCOPES, DRIFT), CAPACITORS (U)
IDENTIFIERS: IDEP, THOR (U)

THE PURPOSE OF THE TEST WAS TO PROVIDE TEST DATE TO DETERMINE AN OPTIMUN CAPACITOR VALUE FOR COMPENSATION OF ELASTIC RESTRAINT DRIFT. THE GYROS WERE POSITIONED WITH THE IMPUT AXIS PARALLEL TO THE TEST TABLE AXIS OF ROTATION. A TORQUING CURRENT SUFFICIENT TO CANCEL GYRO DRIFT AT NULL WAS APPLIED, THE TEST TABLE WAS DISPLACED 2 DEGREES AND THE GYRO WAS ALLOWED TO DRIFT FOR 5 MINUTES. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-447 986
AEROJET-GENERAL CORP AZUSA CALIF
FABRICATION AND LAUNCH OF ABLESTAR STAGES. (U)
DESCRIPTIVE NOTE: LETTER PROGRAM PROGRESS REPT. NO. 3,
JUL 62 1V GAVLIN,F. J. ;
REPT. NO. L5432 01 3
CONTRACT: AF04 695 95

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*LAUNCH VEHICLES (AEROSPACE), MANAGEMENT ENGINEERING), INSTRUMENTATION, ELECTRICAL EQUIPMENT, ELECTRONIC EQUIPMENT, GUIDANCE, ROCKET MOTORS (LIQUID PROPELLANT), TELEMETER SYSTEMS, STAGING, ARMING DEVICES, STRUCTURAL PARTS, HANDLING, LAUNCHING, WEIGHT, TESTS, DESIGN, RELIABILITY, PRODUCTION, SCHEDULING (U)
IDENTIFIERS: THOR (U)

MINOR STAGE DESIGN REVISIONS WERE MADE DURING THIS REPORT PERIOD. FOUR PROPULSION SYSTEM SPECIFICATIONS WERE RELEASED; SEVEN OTHERS ARE IN PROCESS TOWARD RELEASE. THE ELECTRONICS GROUP COMPLETED DESIGN OF TWO IMPROVEMENT MODIFICATIONS TO ABLESTAR STAGE S/N-012, SUGGESTED AN ADDITIONAL (NECESSARY) TEST BASED ON FAILURE APPRAISAL, AND ARE INVESTIGATING A PROGRAMMER FAILURE. RELIABILITY CHARTS ARE INCLUDED. FABRICATION AND PROCUREMENT FOR ABLESTAR STAGE SYSTEMS PROGRESSED SATISFACTORILY. TESTING IN ALL AREAS WAS SATISFACTORY FOR THIS REPORT PERIOD. WEIGHT AND BALANCE PROCEDURES AND DATA ARE INCLUDED. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-447 984
AEROJET-GENERAL CORP AZUSA CALIF
FABRICATION AND LAUNCH OF ABLESTAR STAGES. (U)
DESCRIPTIVE NOTE: LETTER PROGRESS REPT. NO. 4,
AUG 62 1V GAVLIN,F. J. ;
REPT. NO. L5432 01 4
CONTRACT: AF04 695 95

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*LAUNCH VEHICLES (AEROSPACE), STRUCTURAL PARTS), GUIDANCE, ELECTRONIC EQUIPMENT, STAGING, AIRFRAMES, WEIGHT, LAUNCHING, ROCKET MOTORS (LIQUID PROPELLANT), RESEARCH PROGRAM ADMINISTRATION, MANAGEMENT ENGINEERING, TEST METHODS, TEST EQUIPMENT, MANUFACTURING METHODS, DESIGN, ELECTRICAL EQUIPMENT (U)
IDENTIFIERS: THOR (U)

PROGRESS IS REPORTED ON A PROGRAM TO FABRICATE, ASSEMBLE, AND TEST THREE STAGES AND TO PROVIDE ENGINEERING SUPPORT AND SYSTEMS INTEGRATION THROUGH LAUNCH. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-446 023
SPACE-GENERAL CORP EL MONTE CALIF
ABLESTAR STAGE LAUNCH CAPABILITY FROM VANDENBERG AIR FORCE BASE. (U)
DESCRIPTIVE NOTE: PROGRAM PROGRESS REPT. NO. 5 FOR NOV 62,
DEC 62 17P GAVLIN,F. J. ;
REPT. NO. L24501 5
CONTRACT: AF04 695 181

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*LAUNCH VEHICLES (AEROSPACE), GROUND SUPPORT EQUIPMENT), LAUNCHING SITES, ELECTRONIC EQUIPMENT, LIQUID ROCKET PROPELLANTS, FUEL SYSTEMS, ELECTRICAL EQUIPMENT, FUEL TRUCKS (U)
IDENTIFIERS: THOR (U)

THE OBJECTIVE OF THIS PROGRAM IS TO ESTABLISH AN ABLESTAR LAUNCH CAPABILITY FROM VANDENBERG AIR FORCE BASE, CALIFORNIA, BY PROVIDING THE NECESSARY DESIGN, ANALYSIS, FABRICATION, INSTALLATION, AND CHECKOUT OF REQUIRED AGE. DESIGN DRAWINGS FOR ALL ELECTRONIC AGE AND PROPULSION AGE ARE APPROXIMATELY 90% COMPLETE. EVALUATION HAS BEEN MADE, AND RECOMMENDATIONS TRANSMITTED TO PROJECT, ON PMR DESIGN-DRAWINGS AND EQUIPMENT VALIDATION. THE STUDY OF DRAFTING PROCEDURES, BEGUN IN THE LAST REPORT PERIOD, HAS BEEN COMPLETED. THE STUDY OF SHEET-METAL FABRICATION HAS BEEN DISCONTINUED. FABRICATION OF STAGE AGE IS MOST SATISFACTORY, WITH ADVANCES ON THE ROCK AND ROLL FIXTURE, FORCE CONTROL CHECKOUT CONSOLE, MILLIPORE FILTER CART, NOSE FAIRING MATING FIXTURE, VEHICLE MATING FIXTURE, ORDNANCE TOOL KIT, ALIGNMENT EQUIPMENT, PORTABLE GANTRY ASSEMBLY, FLAG ASSEMBLY, HYDRAULIC ASSEMBLY, AND HYDROTEST FIXTURE. ELECTRONIC AGE WORK HAS PROGRESSED IN THE SYSTEM EVALUATION CENTER. PROPULSION SYSTEM AGE IS NEARING COMPLETION ON THE PROPELLANT TRAILERS AND THE DUAL HEAT EXCHANGER; THE ELECTROMECHANICAL CHECKOUT CONSOLE PANEL HAS BEEN STARTED, AND THE PRESSURIZATION CONSOLE IS 15% COMPLETE. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-445 615
AEROJET-GENERAL CORP AZUSA CALIF
FABRICATION AND LAUNCH OF ABLESTAR STAGES. (U)
DESCRIPTIVE NOTE: LETTER PROGRESS REPT. NO. 19, JULY 62.

AUG 62 2P GAVLIN,F. J. ;
REPT. NO. L5285 01 19
CONTRACT: AF04 695 17

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*SATELLITES (ARTIFICIAL), LAUNCHING), (*SCIENTIFIC SATELLITES, LAUNCHING), STAGING, FLIGHT TESTING (U)
IDENTIFIERS: THOR, ABLESTAR (U)

THE PROGRAM OBJECTIVE IS TO FABRICATE, ASSEMBLE, AND TEST THREE ABLESTAR STAGES AND TO PROVIDE ENGINEERING SUPPORT AND SYSTEMS INTEGRATION THROUGH LAUNCH. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-445 606
AEROJET-GENERAL CORP AZUSA CALIF
FABRICATION AND LAUNCH OF ABLESTAR STAGES FOR PROJECT TRANSIT/ANNA. (U)
DESCRIPTIVE NOTE: LETTER PROGRESS REPT. NO. 15, MAR 62, APR 62 12P COGAN, J. P. ,JR.;
REPT. NO. L5285 01 15
CONTRACT: AF04 695 17

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*SATELLITES (ARTIFICIAL), LAUNCH VEHICLES (AEROSPACE)), (*LAUNCH VEHICLES (AEROSPACE), STAGING), SCIENTIFIC SATELLITES, NAVIGATION SATELLITES, POTENTIOMETERS, SEALS (STOPPERS), TELEMETERING ANTENNAS, DESIGN, ELECTRIC CONNECTORS, COMBUSTION CHAMBERS (U)
IDENTIFIERS: THOR, ANNA, TRANSIT, ABLESTAR (U)

A POTENTIOMETER SEAL HAVING THE CAPABILITY OF PREVENTING RED FUMING NITRIC ACID FROM ENTERING AND CONTAMINATING THE INTERIOR OF THE POTENTIOMETER WHILE THE INSTRUMENT IS OPERATING UNDER FLIGHT CONDITIONS WAS DESIGNED FOR THE GIMBAL ACTUATION SYSTEM. A ROUGH DRAFT OF THE TELEMETRY ANTENNA PATTERN OPERATING ON THE NEW FREQUENCY, 244.8 MCS, HAS BEEN PREPARED. THE FINAL FORM OF THE ROUGH DRAFT WILL BE INCLUDED IN THE ACCEPTANCE TEST SPECIFICATION. THE CONTINUED EVALUATION OF THE HA7502 TRANSISTORS WAS TEMPORARILY INTERRUPTED PENDING RECEIPT OF SPECIAL INSTRUMENTATION REQUIRED FOR THE ANALYSIS. THE PREVIOUSLY REPORTED INVESTIGATION OF PROBLEMS ENCOUNTERED REGARDING BENDIX ELECTRICAL CONNECTORS CONTINUED THROUGH THIS REPORTING PERIOD AND IS INCLUDED IN THE ANALYSIS SECTION OF THIS REPORT. THE S/N A63 THRUST CHAMBER HAS BEEN COMPLETELY REWORKED AND ALL X-RAY REPORTS EVALUATED. THE REWORK OF THIS CHAMBER IS BEING CONDUCTED ON A CRASH BASIS TO INSURE COMPLETION IN TIME FOR THE SCHEDULED LAUNCH. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-445 305
LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF
COUNTDOWN MANUAL 1126/334 PROJECT 622A COMPLEX 75-3,
STAND 5, VANDENBERG AIR FORCE BASE. (U)
MAY 62 107P
REPT. NO. 445924 26 5

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*LAUNCH VEHICLES (AEROSPACE), CHECKOUT PROCEDURES), (*CHECKOUT PROCEDURES, INSTRUCTION MANUALS), GUIDED MISSILE COMPONENTS, RELIABILITY, OPERATION, SCHEDULING, MILITARY SATELLITES, LAUNCHING(U)
IDENTIFIERS: AGENA, THOR, DISCOVERER, COUNTDOWN (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-444 844
LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF
COUNTDOWN MANUAL 1127/335, PROJECT 622A, VANDENBERG AIR FORCE BASE. (U)
MAY 62 101P
REPT. NO. 445924 27 4

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*LAUNCH VEHICLES (AEROSPACE), CHECKOUT PROCEDURES), (*LAUNCHING SITES, HANDBOOKS), HANDLING, SCHEDULING (U)
IDENTIFIERS: AGENA, THOR, COUNTDOWN (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-443 733
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF
THE THOR HISTORY, (U)
MAY 62 84P RIPLEY, JAMES J. ;
REPT. NO. SM41860

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*GUIDED MISSILES (SURFACE-TOSURFACE), HISTORY), (*BOOSTER MOTORS, HISTORY), (*LAUNCH VEHICLES (AEROSPACE), HISTORY), SATELLITES (ARTIFICIAL), LAUNCHING, PAYLOAD, GUIDED MISSILE TRAJECTORIES (U)
IDENTIFIERS: THOR (U)

THIS HISTORY IS INTENDED AS A QUICK ORIENTATION SOURCE AND AS A READY-REFERENCE FOR REVIEW OF THE THOR AND ITS SYSTEMS. THE REPORT BRIEFLY STATES THE DEVELOPMENT OF THOR, SUMMARIZES AND CHRONICLES THOR MISSILE AND BOOSTER LAUNCHINGS, PROVIDES ILLUSTRATIONS AND DESCRIPTIONS OF THE VEHICLE SYSTEMS, RELATES THEIR GENEALOGY, AND EXPLAINS SOME OF THE PERFORMANCE CAPABILITIES OF THE THOR AND THOR-BASED VEHICLES USED. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-442 200
AVIDYNE RESEARCH INC BURLINGTON MASS
SIMPLIFIED ANALYTICAL METHODS FOR USE IN PRELIMINARY DESIGN OF VERTICALLY-RISING VEHICLES SUBJECTED TO WIND SHEAR LOADS. PART I. EVALUATION OF METHODS. (U)
MAY 64 118P HOBBS, N. P. ;CRISCIONE, E. S. ;AYVAZIAN, M. ;
CONTRACT: AF33 657 10185
PROJ: 1367
TASK: 136702
MONITOR: FDL TDR64 8 PT. 1

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE: REPORT ON STRUCTURAL DESIGN CRITERIA.

DESCRIPTORS: (*GUIDED MISSILES, WIND), (*WIND, DEFLECTION), LOAD DISTRIBUTION, DEFLECTION, STRUCTURES, MOMENTS, EQUATIONS, MOTION, PROGRAMMING (COMPUTERS), ERRORS, PITCH (MOTION), LAUNCHING SITES, VELOCITY, DESIGN, LOADING (MECHANICS) (U)
IDENTIFIERS: BENDING, ATLAS, MINUTEMAN, THOR (U)

FOUR SIMPLIFIED METHODS OF ANALYSIS OF WIND SHEAR LOADS ARE INVESTIGATED AND EVALUATED FOR USE IN PRELIMINARY DESIGN. THREE OF THE METHODS ARE NOT NEW: USE OF DISCRETE PROFILES FABRICATED FROM WIND STATISTICS, VAN DER MAAS' METHOD IN WHICH TWO PARAMETERS OF THE WIND, MAXIMUM WIND AND WIND INTEGRAL, ARE CORRELATED WITH THE LOADS ON A MISSILE; AND CLINGAN'S METHOD IN WHICH PERTURBATION EQUATIONS OF MOTION ARE SIMPLIFIED BY NEGLECTING ROTATIONAL VELOCITIES AND ACCELERATIONS. THE FOURTH METHOD HAS BEEN DEVELOPED BY THE AUTHORS AND IS BASED UPON THE USE OF AN INFLUENCE COEFFICIENT APPROACH. THE ERRORS ASSOCIATED WITH EACH OF THE FOUR METHODS ARE EVALUATED BY COMPARING THE RESULTS OF EACH METHOD WITH CORRESPONDING RESULTS FROM A STATISTICAL LOAD SURVEY. FURTHER, THE SIMPLIFIED METHODS ARE COMPARED WITH EACH OTHER BASED ON THE ACCURACY AND THE DIGITAL COMPUTER TIME REQUIRED BY EACH METHOD. FROM THESE COMPARISONS, CAUTIOUS APPLICATION OF THE INFLUENCE COEFFICIENT METHOD IS RECOMMENDED FOR PRELIMINARY DESIGN. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-440 412L
TECHNICAL OPERATIONS INC WASHINGTON D C
STAGE PARAMETER MANUAL. VOLUME I. OFFENSIVE ACTION TABLES. (U)

1V
REPT. NO. SM62 2 1 VOL L
CONTRACT: AF49 638 1179

UNCLASSIFIED REPORT
NOTICE: RELEASE ONLY TO DEPARTMENT OF DEFENSEAGENCIES IS AUTHORIZED. OTHER CERTIFIED JEQUES-TERS SHALL OBTAIN RELEASE APPROVAL FROM AIRBATTLE ANALYSIS CENTER (AFX PDK) HQ. USAF, WASHINGTON, D. C.
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*NUCLEAR WARFARE, SIMULATION), SIMULATORS, GUIDED MISSILES (SURFACE TO AIR), GUIDED MISSILES (AIR TO SURFACE), OPERATIONS RESEARCH, DIGITAL COMPUTERS, PROGRAMMING (COMPUTERS), MATHEMATICAL MODELS, INPUT-OUTPUT DEVICES, REAL TIME, ERRORS, DETECTION, GAME THEORY, DECOYS, TRANSPORT PLANES, PROBABILITY, REFUELLING IN FLIGHT, ELECTRONIC COUNTERMEASURES, GUIDED MISSILES (SURFACE TO SURFACE), TABLES, CIRCULAR ERROR PROBABLE, TANKERS, NUCLEAR BOMBS, AIR BURST, ABORT, DATA PROCESSING SYSTEMS (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-426 404
LOCKHEED MISSILES AND SPACE CO SUNNYVALE CALIF
MSVP BIBLIOGRAPHY, (U)
DEC 63 1V
REPT. NO. LMSC A602037 ,SP63 39
CONTRACT: AF04 695 129

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE: REPORT NO. LMSC A602031 SUPERSEDES LMSC448135A, DTD. 30 JULY 61.

DESCRIPTORS: (*BIBLIOGRAPHIES, SPACECRAFT), (*ABSTRACTS, SPACECRAFT), (*SPACECRAFT, BIBLIOGRAPHY), ASTRONOMICAL OBSERVATORIES, DOCUMENTATION, GROUND SUPPORT EQUIPMENT, LAUNCH VEHICLES (AEROSPACE), GUIDED MISSILES (SURFACE-TO-SURFACE), SATELLITES (ARTIFICIAL), LUNAR PROBES, MARS PROBES, SPACE PROBES, VENUS PROBES, MANNED SPACECRAFT, WIND TUNNELS, GUIDANCE, AIR FORCE, SYNCHRONOUS SATELLITES, INERTIAL GUIDANCE, COMMUNICATION SATELLITES (PASSIVE), LAUNCHING, PROPELLANTS, CHECKOUT PROCEDURES, SPACE BIOLOGY, SPACE FLIGHT, PERFORMANCE (ENGINEERING), SCIENTIFIC SATELLITIES, CONTROL SYSTEMS, PROPULSION, COMMUNICATION SATELLITES (ACTIVE), GLOBAL COMMUNICATION SYSTEMS (U)
IDENTIFIERS: 1963, AGENA, RANGER SPACECRAFT, MARINER, GEMINI, THOR, ECHO, SYNCOM, OAO, POGO (U)

UNCLASSIFIED

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-422 248
FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OHIO
CONTROL OF REACTION-THRUST MISSILES, (U)
AUG 63 309P KRYSENKO,G. D. ;
MONITOR: FTD TT62 908

UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE: TRANS. FROM VOENNOE IZDATEL'STVO MINISTERSTVA OBORONY SOYUZA SSR PP. 1-13, MOSKVA 1960.

DESCRIPTORS: (*GUIDED MISSILES, GUIDANCE), CONTROL SYSTEMS, DESIGN, AERODYNAMIC CONFIGURATIONS, BEAM RIDER TRAJECTORIES, INERTIAL GUIDANCE, COMMAND GUIDANCE, HEAT HOMING, MAGNETIC GUIDANCE, TELEVISION GUIDANCE, RADIO NAVIGATION, GUIDED MISSILES (SURFACE-TO-SURFACE), GUIDED MISSILES (SURFACE-TO-AIR), STAR TRACKERS, CELESTIAL NAVIGATION, RADAR HOMING, CELESTIAL GUIDANCE (U)
IDENTIFIERS: 1963, USSR, TERRIER, NIKE, CORPORAL, REDSTONE, THOR (U)

CONTENTS: BASIC ELEMENTS OF GUIDED MISSILES; AERODYNAMIC DESIGNS OF GUIDED MISSILES, THE EFFECT OF MISSILE SHAPE ON CONTROLLABILITY; ON-BOARD MISSILE CONTROL SYSTEM; CLASSIFICATION OF CONTROL AND GUIDANCE SYSTEMS; FLIGHT DYNAMICS OF GUIDED MISSILES, MECF6B OF HOMING MISSILES ONTO TARGET AND POSSIBLE FLIGHT TRAJECTORIES; HOMING GUIDANCE; INFRARED PASSIVE HOMING GUIDANCE, ACTIVE (RADAR) HOMING SYSTEM, SEMIACTIVE RADAR HOMING SYSTEM, EXTERNAL GUIDANCE SYSTEM; BEAM-RIDER GUIDANCE SYSTEM, COMMAND GUIDANCE SYSTEMS, THE TELEVISION GUIDANCE SYSTEM, RADIONAVIGATION GUIDANCE SYSTEM, AUTONOMOUS CONTROL SYSTEMS; MAGNETOMETRIC GUIDANCE SYSTEM, INERTIAL GUIDANCE SYSTEM, ASTRONAVIGATIONAL GUIDANCE SYSTEM, RADIOASTRONAVIGATIONAL GUIDANCE SYSTEMS, COMBINED GUIDANCE SYSTEMS; CONTROL SYSTEMS OF CERTAIN GUIDED MISSILES, STRUCTURE AND ORGANIZATION OF FIRING COMPLEXES; THE TWOSTAGE ANTIAIRCRAFT NIKE MISSILE FOR GROUND UNITS, THE SINGLE-STAGE ANTIAIRCRAFT ''OERLIKON'' MISSILE FOR GROUND UNITS, THE TERRIER, A TWOSTAGE ANTIAIRCRAFT MISSILE FOR NAVAL FORCES, GUIDED BALLISTIC MISSILES CORPORAL, REDSTONE, AND THOR. (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-417 170
ROCKETDYNE CANOGA PARK CALIF
(NO TITLE). (U)
DESCRIPTIVE NOTE: THOR INFORMAL MONTHLY RELIABILITY REPT. FOR AUG 63.
SEP 63 4P
REPT. NO. 63RC14494
CONTRACT: AF04 695 306
MONITOR: UNCLASSIFIED REPORT

UNCLASSIFIED REPORT

DESCRIPTORS: (*GUIDED MISSILES (SURFACE-TO SURFACE), ROCKET MOTORS (LIQUID PROPELLANT)), (*ROCKET MOTORS (LIQUID PROPELLANT), RELIABILITY), CAPTIVE TESTS, LAUNCHING, MALFUNCTIONS, TESTS. (U)
IDENTIFIERS: 1963, THOR, LR-79 ENGINES. (U)

THOR ENGINES LR79NA-11 AND YLR79-NA-13 RELIABILITY ESTIMATES ARE PRESENTED FOR THE PERIOD ENDING AUGUST 31, 1963. DURING THE MONTH OF AUGUST THERE WERE TEN VALID TESTS, ALL SUCCESSES. THERE WERE TWO LAUNCHES DURING THE MONTH, BOTH HAD SATISFACTORY PROPULSION OPERATION. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-415 278
ROCKETDYNE CANOGA PARK CALIF
(NO TITLE). (U)
DESCRIPTIVE NOTE: THOR INFORMAL MONTHLY RELIABILITY REPT. FOR JULY 63,
AUG 63 2P
REPT. NO. 63RC12983
CONTRACT: AF04 695 306

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: (*GUIDED MISSILES (SURFACE-TO SURFACE), ROCKET MOTORS), (*ROCKET MOTORS, RELIABILITY), LAUNCH VEHICLES (AEROSPACE), FLIGHT TESTING, PROPULSION, DATA, MALFUNCTION, VALVES, TORQUE, FUEL SEALS, BOOSTER MOTORS. (U)
IDENTIFIERS: THOR, 1963. (U)

MONTHLY RELIABILITY REPORT ON THOR ENGINES FOR JULY, 1963.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-414 321
NORTH AMERICAN AVIATION INC DOWNEY CALIF
(NO TITLE). (U)
DESCRIPTIVE NOTE: INFORMAL MONTHLY PROGRESS REPT. NO. 3 FOR JUN 63.
JUL 63 16P
REPT. NO. 63RC10609
CONTRACT: AF04 695 306

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*GUIDED MISSILES(SURFACE-TO-SURFACE), ROCKET MOTORS(LIQUID PROPELLANTS)), HYPERGOLIC ROCKET PROPELLANTS, ROCKET PROPULSION, ROCKET IGNITERS, ROCKET COMPOUNDS (U)
IDENTIFIERS: THOR, LR-79 ENGINES, 1963 (U)

THOR PROPULSION SYSTEM.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-413 210
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF
DM-19 ENGINE SERVO VALVE STATIC TESTS. (U)
JAN 63 64P
REPT. NO. TM-DM-19E-E-L3376
MONITOR: IDEP 925,60,84,75-D7-01

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: (*HYDRAULIC VALVES), HYDRAULIC FLUIDS, PRESSURE, ELECTRIC POTENTIAL, ELECTRIC CURRENTS, MEASUREMENT. (U)
IDENTIFIERS: IDEP, THOR, 1963, (U)

ESTABLISHMENT OF VALVE PERFORMANCE CHARACTERISTICS OF DM-19 ENGINE HYDRAULIC SERVO VALVE FOR THOR.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-411 374
ROCKETDYNE CANOGA PARK CALIF
THOR MB-3 QUARTERLY FAILURE ANALYSIS CORRECTIVE ACTION SUMMARY. (U)
DESCRIPTIVE NOTE: REPT. FOR 1 APR-19 JUNE 63. 66P

UNCLASSIFIED REPORT
NOFORN
SUPPLEMENTARY NOTE:

DESCRIPTORS: (*GUIDED MISSILES (SURFACE-TOSURFACE), PROPULSION), (*PROPULSION, RELIABILITY), LAUNCH VEHICLES (AEROSPACE), CORRECTION, FAILURE (MECHANICS), HANDLING, ANALYSIS, PRODUCTION (U)
IDENTIFIERS: THOR, 1963 (U)

A SUMMARY OF THOR MB-3 PROPULSION SYSTEM DISCREPANCY REPORTS IS PRESENTED. THE ASSOCIATED CORRECTIVE ACTION AFFECTING THOSE MB-3 SPACE BOOSTERS LAUNCHED DURING THE PERIOD FROM 1 APRIL 1963 THROUGH 19 JUNE 1963 IS GIVEN. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-411 168
ROCKETDYNE CANOGA PARK CALIF
THOR MB-3 QUARTERLY FLIGHT. (U)
DESCRIPTIVE NOTE: ANALYSIS SUMMARY, 1 APR-19 JUNE 63.
JUL 63 33P
REPT. NO. R5261 1P
CONTRACT: AF04 695 306

UNCLASSIFIED REPORT

DESCRIPTORS: (*ROCKET MOTORS (LIQUID PROPELLANT), BOOSTER MOTORS), (*GUIDED MISSILES (SURFACE-TO-SURFACE), FLIGHT), (*LAUNCH VEHICLES (AEROSPACE), LAUNCHING), VERNIER ROCKET MOTORS, CONFIGURATION, LAUNCH VEHICLES (AEROSPACE), PRESSURE, FUEL SYSTEMS, THRUST, ANALYSIS, TELEMETERING DATA. (U)
IDENTIFIERS: 1963, THOR, MB-3 PROPULSION SYSTEM, TX-33 MOTORS, DELTA, AGENA, LR-79 ENGINES, LR-101 ENGINES. (U)

A COMPOSITE ANALYSIS OF FIRST-STAGE PROPULSION SYSTEM OPERATION DURING ALL THOR SPACE BOOSTER FLIGHTS IS PRESENTED FOR THE PERIOD FROM 1 APRIL 1963 THROUGH 19 JUNE 1963. THE ATLANTIC MISSILE RANGE AND THE PACIFIC MISSILE RANGE WERE USED FOR THE LAUNCH ACTIVITY. CONFIGURATION OF EACH THOR VEHICLE LAUNCH DURING THE REPORT PERIOD IS PRESENTED AND A SUMMARY OF TELEMETERED PERFORM ANCE DATA IS INCLUDED. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-409 788
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF
SUMMARY-DOUGLAS MISSILE SERVO VALVE EXPERIENCE MODEL WS-138A, (U)
MAR 60 11P KOHLHEYER,R.C.;
REPT. NO. 36292

UNCLASSIFIED REPORT
NO AUTOMATIC RELEASE TO FOREIGN NATIONALS.

DESCRIPTORS: (*HYDRAULIC VALVES, SERVO MECHANISMS), (*GUIDED MISSILE COMPONENTS, GUIDED MISSILES (AIR TO SURFACE)), (*HYDRAULIC SERVOMECHANISMS, GUIDED MISSILE COMPONENTS), RELIABILITY, ELECTRICAL PROPERTIES, SENSITIVITY, CONTAMINATION, FILTERS (FLUID). (U)
IDENTIFIERS: NIKE ZEUS, SPARROW, THOR, SKYBOLT, 1960. (U)

IN THE PAST FIFTEEN YEARS OVER EIGHTY THOUSAND DOUGLAS-DESIGNED SERVO VALVES HAVE BEEN BUILT. DURING THIS PERIOD MANY PROBLEMS HAVE OCCURRED, SOME OF WHICH ARE OUTLINED IN THIS REPORT. SOLUTIONS HAVE BEEN ACHIEVED THROUGH EXTENSIVE TESTS, FLEXIBILITY OF DESIGN, AND THE CUMULATIVE EXPERIENCE OF RESPONSIBILITY FROM DESIGN TO FINAL MISSILE FIRINGS. THIS EXPERIENCE IS REFLECTED IN THE SUCCESS OF THE NIKE AND THOR PROGRAMS AND IN THE CURRENT DEVELOPMENT OF THE NIKE ZEUS VALVE. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-405 348
AEROJET-GENERAL CORP AZUSA CALIF
FABRICATION AND LAUNCH OF ABLESTAR STAGES. (U)
DESCRIPTIVE NOTE: LETTER PROGRESS REPT.,
FEB 63 1V GAVLIN,F.J.;
REPT. NO. L5432 01 10
CONTRACT: AF04 695 95

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *LAUNCH VEHICLES (AEROSPACE), STRUCTURAL PARTS, GUIDANCE, ELECTRICAL EQUIPMENT, ELECTRONIC EQUIPMENT, STAGING, AIR FRAMES, PRODUCTION, MANAGEMENT ENGINEERING, TEST METHODS, TEST EQUIPMENT, WEIGHT, LAUNCH ING, ROCKET MOTORS (LIQUID PROPELLANT), RESEARCH PROGRAM ADMINISTRATION, DESIGN, MANUFACTURING METHODS, PROCESSING. (U)
IDENTIFIERS: THOR, AJ-10 ENGINES. (U)

PROGRESS IS REPORTED ON A PROGRAM TO FABRICATE, ASSEMBLE, AND TEST THREE ABLESTAR STAGES, AND TO PROVIDE ENGINEERING SUPPORT AND SYSTEMS INTEGRA TION THROUGH LAUNCH. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-341 929 16/1 16/4.2
THOMPSON RAMO WOOLDRIDGE INC LOS ANGELES CALIF
REVISED TEST REQUIREMENTS FOR WS-315A AT
AFMTC (U)
MAY 56 1V
REPT. NO. GM TR9:
CONTRACT: AF18 600 1190

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: (*GUIDED MISSILES (SURFACE TO SURFACE), FLIGHT TESTING), GUIDANCE, AIRFRAMES, PROPULSION, NOSE CONES, AUTOMATIC PILOTS, GUIDED MISSIW WARHEADS, GROUND SUPPORT EQUIPMENT, LAUNCHING, RADIO HOMING, DATA. (U)
IDENTIFIERS: 1956 RR THE DEVELOPMENT AND OPERATIONAL PROGRAMS REQUIRED BY THESE SYSTEMS. THE RESULTS INDICATE THAT THE TOTAL PROGRAM TI SS AND COSTS FOR ALL SYSTEMS CONSIDERED ARE ROUGHLY COMPARABLE, EXCEPT FOR THE 4000 SECOND SPECIFIC IMPULSE NUCLEAR EXPISSION CASE, WHICH IS SIGNIF ICANTLY LESS COSTLY THAN THE OTHERS. THE DESIRABILITY OF THE NUCLEAR EXPLOSION SYSTEM EPPEARS TO DEPEND STRONGLY ON THE DEGREE TO WHICH ITS EQUIVALENT SPECIFIC IMPULSE CAN BE RAISED ABOVE THE REGION OF 2000 SECONDS. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-312 308 17/9 16/4 17/7
THOMPSON RAMO WOOLDRIDGE INC LOS ANGELES CALIF
GDOP VALUES FOR DOVAP COMPLEXES AT CAPE CANAVERAL AND IN THE BAHAMAS, AND APPLICATION TO BURNOUT POSITIONS OF THE WS-107A-1 AND WS-315-A (U)
JUL 56 3P MENCHER, A.G.;
REPT. NO. GM 36 1 39
MONITOR: WDD 7-5474

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *ELECTROMAGNETIC PROPERTIES, *GUIDED MISSILE TRACKING SYSTEMS, *GUIDED MISSILES, ERRORS, IONOSPHERE, PROPAGATION, SURFACE-TO-SURFACE (U)
IDENTIFIERS: ATLAS, BAHAMA ISLANDS, DOVAP, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-308 375 21/9 16/4
LITTLE (ARTHUR D) INC CAMBRIDGE MASS
ENGINEERING STUDIES OF AIRFRAME CRYOGENIC EQUIPMENT AND DESIGN OF MISSILE-FLUID SERVICING SYSTEMS FOR WS-315A (U)
DESCRIPTIVE NOTE: PROGRESS REPT. NO. 1, 28 APR-27 JUN 56.
JUN 56 27P
REPT. NO. C 59879
CONTRACT: AF04 645 34
MONITOR: WDD 56-7265

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDED MISSILES, HANDLING, LIQUID ROCKET PROPELLANTS, MAINTENANCE, OXYGEN, PROPELLANT TANKS, SURFACE-TO-SURFACE (U)
IDENTIFIERS: *GUIDED MISSILES(SURFACE-TO-SURFACE), AIRFRAMES, CRYOGENICS, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-307 787 16/4 16/2 17/7
THOMPSON RAMO WOOLDRIDGE INC LOS ANGELES CALIF
REFERENCE TRAJECTORY, WS315A; RADIO-INERTIAL (U)
APR 56 17P ANDRES, J.M.;
REPT. NO. GM 56 3288
MONITOR: AFBMD 56-6522

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDANCE, *GUIDED MISSILES, DETERMINATION, GUIDED MISSILE TRAJECTORIES, SURFACE-TO-SURFACE (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-307 746 16/4 17/7 16/3
THOMPSON RAMO WOOLDRIDGE INC LOS ANGELES CALIF
REQUIREMENTS ON GUIDANCE AND CONTROL SYSTEM FOR NOSE CONE TIE-IN (PRELIMINARY INFORMATION) (U)
MAY 56 2P GARBLIK,A.;JACOBI,W.J.;
REPT. NO. GM TM 74GM 41 3
MONITOR: WDD 56-6587

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDANCE, *GUIDED MISSILE FUZES, *GUIDED MISSILES, ARMING DEVICES, CONTROL SYSTEMS, NOSE CONES, SURFACE-TO-SURFACE (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-301 432
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF
PROJECT WS-315A, MISSILE SIZING REPORT (U)
FEB 56 31P DEMORET,R.B.;
REPT. NO. SM 27003
CONTRACT: AF04 645 65

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDANCE, *GUIDED MISSILES, *PROPULSION, DESIGN, INERTIAL GUIDANCE, SURFACE-TO-SURFACE (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-296 852
AEROSPACE MEDICAL RESEARCH LABS WRIGHT-PATTERSON AFB OHIO
ACOUSTIC NOISE AND VIBRATION STUDIES AT CAPE CANAVERAL MISSILE TEST ANNEX, ATLANTIC MISSILE RANGE, VOLUME I, ACOUSTIC NOISE (U)
DEC 62 1V COLE, JOHN N.;POWELL, ROBERT G.;HILLE, HARALD K.;
MONITOR: ASD TR61 608 VI

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *ACOUSTICS, *GUIDED MISSILES(SURFACE-TO-SURFACE), *ROCKET MOTOR NOISE, HAZARDS, LAUNCHING SITES, MATHEMATICAL PREDICTION, MEASUREMENT, STATISTICAL ANALYSIS (U)
IDENTIFIERS: ATLAS, JUPITER, MINUTEMAN, PERSHING, POLARIS, SATURN, SCOUT, THOR, TITAN (U)

ACOUSTIC EVALUATION OF MISSILE AND SPACE VEHICLE NOISE HAZARDS AND NUISANCE. MEASUREMENT LIMITED TO DISTANCE RANGING FROM 150 TO 96,000 FEET FROM LAUNCH SITES.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-293 526
DOUGLAS AIRCRAFT CO INC SANTA MONICA CALIF
EVALUATION OF GN2 FILTER ASSEMBLIES MODEL DM-1802-7 (U)
JAN 62 1V WALKER,D.R.;
REPT. NO. DEV-3533
MONITOR: IDEP 325,55,60,80-D7-01

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *FILTERS (FLUID), *WIRE SCREENS, NITROGE(U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-285 738
AEROJET-GENERAL CORP AZUSA CALIF
VIBRATION TEST OF ONE (1) 1-1/4 IN. POTTER FLOWMETER, MODEL NO. 313B, CLASS 2, SERIAL NO. AJ-1-1/4-447 (U)
MAY 61 1V
REPT. NO. 2312
CONTRACT: AF04 647 621
MONITOR: IDEP 427.43.60.00_A7-01

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *FLOWMETERS, TESTS, VIBRATION (U)
IDENTIFIERS: THOR (U)

A RANDOM AND SINUSOIDAL VIBRATION TEST OF A FLOWMETER.

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-277 143L
DEPUTY COMMANDER AEROSPACE SYSTEMS INGLEWOOD CALIF
DCAS WEAPON SYSTEMS SHREDOUT, VOLUME I (U)
DEC 62 1V LARSEN, M.L.;

UNCLASSIFIED REPORT
USGO

DESCRIPTORS: *GUIDED MISSILES, *MANAGEMENT ENGINEERING, DESIGN, RESEARCH PROGRAM ADMINISTRATION, SURFACE-TO-SURFACE (U)
IDENTIFIERS: ATLAS, MINUTEMAN, THOR, TITAN (U)

VOLUME I, IS A COMPILATION OF INFORMATION RELATIVE TO BALLISTIC MISSILE SYSTEMS, BALLISTIC MISSILE CONTRACTS AND AIR FORCE CONTRACTOR AREAS TO COGNIZANCE AND RESPONSIBILITY. THE REPORT IS ORGANIZED TO PROVIDE THE USER WITH THE FOLLOWING DATA: (1) CATEGORIES OF WEAPON SYSTEMS AND THE COGNIZANT CONTRACTOR RELATIONSHIPS, (2) THE IDENTIFICATION OF PROPER CHANNELS FOR THE ACQUISITION OF TECHNICAL INFORMATION CONTINGENT UPON LEVEL OF SECURITY CLEARANCE AND NEED TO-KNOW, (3) IDENTIFICATION OF CONTRACT NUMBER APPLICABLE TO CONTRACT SUBJECT AREAS AND AN INDICATION OF THE SCOPE OF THE WORK TO BE PERFORMED ON EACH CONTRACT, (4) IDENTIFICATION OF PRIME CONTRACTORS FOR MAJOR WEAPON SYSTEMS, AND (5) COMPILATION OF PERTINENT CONTRACT DATA RELATIVE TO SPECIFIC WEAPON SYSTEMS. WEAPON SYSTEMS DISCUSSED ARE: ATLAS, MINUTEMAN, TITAN, THOR, TACTICAL BALLISTIC MISSILE, AND MID-RANGE BALLISTIC MISSILE. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-273 916
DOUGLAS AIRCRAFT CO INC TULSA OKLA
VIBRATION QUALIFICATION TEST, DESPIN AND TUMBLE ROCKET MOTORS (U)
1V
REPT. NO. TU-24606
MONITOR: IDEP 565.60.00.00_D7-01

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *ROCKET MOTORS, *STABILIZATION SYSTEMS, GUIDED MISSILES, MILITARY REQUIREMENTS, ROLL, SPIN, TESTS, TUMBLING, VIBRATION (U)
IDENTIFIERS: THOR (U)

TESTS WERE MADE TO QUALIFY THE DELTA-ECHO THIRD STAGE DESPIN AND TUMBLE ROCKET MOTORS FOR VIBRATION AT 130 F, 20 F, AND AMBIENT TEMPERATURES. THE 16 TEST SPECIMENS WERE VIBRATED FOR 15 MINUTES WITH A ONE-PASS SWEEP TO THE LEVELS SHOWN BY DOUGLAS SPECIFICTION 7787296A FOR EACH OF THREE COORDINATE AXES, AS A MEANS OF INDCATING SATISFACTORY PERFORMANCE AFTER VIBRATION, THE TEST SPECIMENS WERE STATIC FIRED. A THRUST VERSUS TIME CURVE WAS RECORDED FOR EACH STATIC FIRING. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-272 747
ROCKETDYNE CANOGA PARK CALIF
EVALUATION OF A STATHAM MODEL PG271TC-1M-350 (0-1000 PSI) STRAIN GAUGE PRESSURE TRANSDUCER (U)
1V SCHEPPNER,E.E.;ARAI,S.;
REPT. NO. TR-60-22
MONITOR: IDEP 851,20,50,80-G1-03

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDED MISSILES, *STRAIN GAGES, *TRANSDUCERS, ELECTRICAL IMPEDANCE, HYSTERESIS, INSTRUMENTATION, INSULATING MATERIALS, PRESSURE, RESISTANCE (ELECTRICAL), SURFACE-TO-SURFACE, VIBRATIO(U)
IDENTIFIERS: ATLAS, THOR (U)

TESTS WERE CONDUCTED TO CHECK THE CHARACTERISTICS OF A PRESSURE TRANSDUCER. THE TRANSDUCER MET THE FOLLOWING REQUIREMENTS OF ROCKETDYNE SPEC. NO. NAS-27051B: ELECTRICAL RESISTANCE (350 / 50 OHMS), HYSTERESIS (0.3% F.S. MAX.), LINEARITY (0.2% F.S. MAX.), BALANCE (1.0% F.S. MAX.), INSULATION RESISTANCE (AT LEAST 1000 MEGOHMS), VIBRATION (LESS THAN 0.1% F.S./G), AND SENSITIVITY (.01% F.S./DEGREE F MAX.). (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-272 348
HARRY DIAMOND LABS WASHINGTON D C
ELECTROSTATIC CHARACTERISTICS OF A THOR NOSE CONE (U)

1V WHITTAKER,DENIS A.;

UNCLASSIFIED REPORT

DESCRIPTORS: *ELECTROSTATICS, *NOSE CONES, CAPACITANCE, DESIGN, ELECTROMETERS, FEASIBILITY STUDIES, GUIDED MISSILES, MEASUREMENT, REENTRY VEHICLES, SURFACE-TO-SURFACE (U)
IDENTIFIERS: THOR (U)

A FIELD TEST WAS CONDUCTED WITH SPECIALLY DESIGNED ELECTRIC FIELD METERS MOUNTED ON A MISSILE NOSE CONE. THE ELECTRIC FIELD STRENGTH, E, AT THE SURFACE OF A SUSPENDED THOR NOSE CONE WAS MEASURED FOR DIFFERENT VALUES OF APPLIED POTENTIAL, V. THE FREE-SPACE CAPACITANCE, C, OF THE THOR NOSE CONE WAS DETERMINED INDEPENDENTLY AND FOUND TO BE 98.7 X 10 TO THE MINUS 12TH POWER F. THE ELECTRIC CHARGE, Q, WAS THEN COMPUTED FROM Q = CV. THE CONVERSION FACTOR ALPHA BETWEEN THE CHARGE AND THE RESULTANT ELECTRIC FIELD WAS FOUND TO BE 89.9 X 10 TO THE MINUS 12TH POWER COUL/V/M WHERE Q = ALPHA E. THE ELECTRIC CHARGE ON A THOR NOSE CONE THROUGHOUT ITS FLIGHT CAN NOW BE DETERMINED BY THE USE OF THE ELECTRIC FIELD METERS DEVELOPED FOR THIS PURPOSE. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-271 328
DOUGLAS AIRCRAFT CO INC TULSA OKLA
QUALIFICATION TESTING OF RAYMOND TIMER P/N 1465 (U)
FEB 61 1V HAMMOND, JACK;
REPT. NO. TU-24602
CONTRACT: TU-24602
MONITOR: IDEP 811.10.30.10-D7-01

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDED MISSILES, *TIMING CIRCUITS, SURFACE-TO-SURFACE (U)
IDENTIFIERS: THOR (U)

A SEPARATION SEQUENCE TIMER WAS TESTED TO DETERMINE THE EFFECTS OF VIBRATION, SUSTAINED ACCELERATION, RADIAL ACCELERATION, TEMPERATURE, ALTITUDE, ICING, AND CLAMP-TYPE MOUNTING ON PERFORMANCE. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-269 737
TRW SPACE TECHNOLOGY LABS LOS ANGELES CALIF
DAMPING RATIOS FOR SLOSHING LIQUIDS IN A CYLINDRICAL TANK HAVING A HEMISPHERICALLY DOMED BOTTOM AND ROOF: APPLICATIONS TO THE ABLE-STAR PROPELLANT TANKS (U)
IV COOPER,R.M.;O'NEILL,J.P.;

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *LIQUID ROCKET PROPELLANTS, *PROPELLANT TANKS, CONFIGURATION, CYLINDRICAL BODIES, DAMPING, DYNAMICS, FREQUENCY, MEASUREMENT, MOTION, SLOSHING, TEST METHODS, TESTS (U)
IDENTIFIERS: THOR (U)

DATA AND THE ANALYSIS OF TESTS ON SLOSHING LIQUIDS IN CYLINDERS USING HEMISPHERICAL END CAPS THAT PROJECT UPWARDS ARE REPORTED ON A SERIES OF CONFIGURATIONS. MEASURED DAMPING RATIOS ARE CORRELATED WITH A DIMENSIONLESS LATERAL-SLOSH-FORCE COEFFICIENT TO MAKE THE DATA MORE APPLICABLE FOR ANY GEOMETRICALLY SIMILAR TANK FILLED WITH ANY LIQUID AND FOR ANY PREVAILING ACCELERATION. THREE CONFIGURATION CONDITIONS WERE INVESTIGATED AT VARIOUS QUIESCENT LIQUID LEVELS. FIRST-MODE SLOSH-FREQUENCY MEASUREMENTS WERE MADE. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-267 671
OGDEN AIR MATERIEL AREA HILL AFB UTAH
SHELF LIFE OF VERNIER IGNITER, SM 65D (ATLAS) (U)
NOV 61 1V HOLDEN, JOSEPH W.;
REPT. NO. TR61 46

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *RELIABILITY, *ROCKET IGNITERS, AGING (PHYSIOLOGY), CONTAINERS, GUIDED MISSILES, MILITARY REQUIREMENTS, ROCKET MOTORS, STORAGE, SURFACE-TO-SURFACE, TEMPERATURE, TESTS, VACUUM APPARATUS (U)
IDENTIFIERS: ATLAS, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-266 445
AEROSPACE CORP EL SEGUNDO CALIF
OPTIMUM PROPELLANT LOADING AND PROPELLANT UTILIZATION SYSTEM TECHNIQUES (A TUTORIAL REPORT) (U)
MAY 61 1V WHITCOMBE,DAVID W.;
CONTRACT: AF04 647 594

UNCLASSIFIED REPORT

DESCRIPTORS: *LIQUID ROCKET PROPELLANTS, *ROCKET OXIDIZERS, EQUATIONS, GUIDED MISSILES, LOADING, MATHEMATICAL ANALYSIS, MATHEMATICAL PREDICTION, MIXTURES, ROCKET FUELS, STATISTICAL ANALYSIS, SURFACE-TO-SURFACE (U)
IDENTIFIERS: ATLAS, THOR, TITAN (U)

THE REPORT DERIVES OPTIMUM FUEL OR MIXTURE RATIO BIASING TECHNIQUES COMMONLY EMPLOYED IN CURRENT BALLISTIC MISSILE PROGRAMS. THE MISSILE STAGES CAN USE CONVENTIONAL LOADING (E.G., TITAN AND THOR) OR THEY CAN USE PROPELLANT UTILIZATION (PU) SYSTEMS (E.G., ATLAS AND CENTAUR). A DESCRIPTION OF THE MECHANIZATION ERRORS LEADING TO UNBURNED PROPELLANT (OUTAGE) IS GIVEN FOR BOTH CASES. FORMULAE, DERIVED IN THE REPORT, ALLOW THE CALCULATION OF MEAN OUTAGE; THE MEAN SQUARE OUTAGE; THE OUTAGE VARIANCE; AS WELL AS THE PROBABILITY THAT THE OUTAGE IS LESS THAN SOME FIXED VALUE. THE ANALYSIS APPLIES DIRECTLY TO CONVENTIONALLY LOADED BALLISTIC MISSILES. IT IS ASSUMED THAT THE MISSILE STAGE IS LOADED IN ACCORDANCE WITH A LOADING MIXTURE RATIO. A MIXTURE RATIO BIAS IS CALCULATED THAT WILL MINIMIZE THE MEAN OUTAGE AND THE MEAN SQUARE OUTAGE AND MAXIMIZE THE PROBABILITY THAT THE OUTAGE IS LESS THAN SOME FIXED VALUE. AN IDENTIFICATION IS OBTAINED THAT EXTENDS THE BASIC LOADING FORMULAE TO STAGES EMPLOYING PU SYSTEMS. ADDITIONAL FORMULAE ARE GIVEN THAT ALLOW CALCULATION OF A FUEL OR OXIDIZER BIAS EQUIVALENT TO THE MIXTURE RATIO BIAS. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-262 138
TRW SPACE TECHNOLOGY LABS LOS ANGELES CALIF
A LABORATORY INVESTIGATION OF A DIGITAL AUTOPILOT (U)

1V SORENSON, A.A.;

CONTRACT: AF04 647 619
MONITOR: AFBMD TR61 73

UNCLASSIFIED REPORT

DESCRIPTORS: *AUTOMATIC PILOTS, *CONTROL SYSTEMS, *DIGITAL SYSTEMS, *GUIDED MISSILES, ANALOG-TO-DIGITAL CONVERTERS, CIRCUITS, CODING, DESIGN, GUIDANCE, GYROSCOPES, POWER SUPPLIES, RELIABILITY (U)
IDENTIFIERS: ATLAS, THOR (U)

THE PHILOSOPHY AND DESIGN IS PRESENTED OF A DIGITAL AUTOPILOT SYSTEM WHICH WAS DEVELOPED UNDER CONTROL SYSTEMS STUDIES, PROJECT PLAN 165-35. THE GENERAL DESIGN AND THE INTENDED PERFORMANCE CHARACTERISTICS OF THE SYSTEM ARE EXPLAINED. INCLUDED ARE DETAILED BLOCK DIAGRAMS. INDIVIDUAL SCHEMATICS OF THE VARIOUS TYPES OF CIRCUITS AS WELL AS SOME REMARKS ABOUT RELIABILITY. A CONTROL SYSTEM OF GREATER ACCURACY, LIGHTER WEIGHT, SMALLER SIZE, REDUCED POWER REQUIREMENTS, AND GREATER POTENTIAL RELIABILITY IS NEEDED. THIS PARTICULAR SYSTEM OFFERS ONE POSSIBLE SOLUTION TO THE SEARCH FOR SUCH A CONTROL SYSTEM. (AUTHOR) (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-248 303
ROCKETDYNE CANOGA PARK CALIF
MODEL SPECIFICATION LIQUID-PROPELLANT ROCKET ENGINE
MODEL XLR101-NA-9 VERNIER FOR THE WS-315A MISSILE (U)
IV

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDED MISSILES, *QUALITY CONTROL, *ROCKET MOTORS, *ROCKET PROPULSION, LIQUID ROCKET PROPELLANTS, SAMPLING (U)
IDENTIFIERS: LR-101 ENGINES, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-242 721
ROCKETDYNE CANOGA PARK CALIF
PRELIMINARY MODEL SPECIFICATION FOR SM-75 PROPULSION SYSTEM TRAINER: F. T. D. (FIELD TRAINING DETACHMENT) (U)
IV

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *TRAINING DEVICES, GUIDED MISSILES, MILITARY TRAINING, PROPULSION, ROCKET MOTORS, ROCKET PROPULSION, SPECIFICATIONS, SURFACE-TO-SURFACE, TRAINING (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-231 590
NAVAL NUCLEAR ORDNANCE EVALUATION UNIT ALBUQUERQUE N MEX
CALCULATING FRAGMENT PENETRATION AND VELOCITY DATA FOR USE IN VULNERABILITY STUDIES (U)
OCT 59 IV GIERE, ALBERT C.;
MONITOR: NAVWEPS 6621

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *ALUMINUM ALLOYS, *AMMUNITION DAMAGE, *ANTIAIRCRAFT AMMUNITION, *FRAGMENTATION AMMUNITION, *IONIZATION GAGES, *PROJECTILES, *STEEL, *TERMINAL BALLISTICS, *WEAPONS, MATHEMATICAL PREDICTION, PENETRATION, VULNERABILITY (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-228 788
NAVAL WEAPONS LAB DAHLGREN VA
THE WATER IMPACT TESTS OF THE MOD 6 AND MOD 7 DATA CAPSULE (U)
NOV 59 1V CULBERTSON,D.W.;
REPT. NO. 1681

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: HIGH-SPEED PHOTOGRAPHY, IMPACT SHOCK, PHOTOGRAPHIC ANALYSIS, SPACE CAPSULES, TEST EQUIPMENT, TEST FACILITIES, TEST METHODS, TESTS, WATER (U)
IDENTIFIERS: ATLAS, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-222 624L
TRW SPACE TECHNOLOGY LABS LOS ANGELES CALIF
INVESTIGATION OF IONOSPHERIC AND TROPOSPHERIC NOISE (U)

IV FARMER, D.J.;

UNCLASSIFIED REPORT
DOD ONLY

DESCRIPTORS: *IONOSPHERIC PROPAGATION, *RADIO INTERFERENCE, *RADIO TRANSMISSION, ATMOSPHERE, GUIDED MISSILES, IONOSPHERE, SURFACE-TO-SURFACE, TRACKING, WAVE TRANSMISSION (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-222 597
ROCKETDYNE CANOGA PARK CALIF
MODEL SPECIFICATION SLING, ROCKET ENGINE LIFTING HLU-10/E ROCKETDYNE MODEL NUMBER GS4003 (U)
1V

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GROUND SUPPORT EQUIPMENT, *HOISTS, *ROCKET MOTORS, GUIDED MISSILES, HANDLING, LIFT, MILITARY REQUIREMENTS, SURFACE-TO-SURFACE (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-222 581
GENERAL MOTORS CORP MILWAUKEE WIS AC SPARK PLUG DIV
PRELIMINARY QUALIFICATION TEST PLAN FOR THE WS-315A
INITIAL OPERATIONAL CAPABILITY INERTIAL GUIDANCE
SYSTEM EQUIPMENT, IN RESPONSE TO TECHNICAL DIRECTIVE
58-0307 (U)
IV

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GROUND SUPPORT EQUIPMENT, *GUIDED MISSILE
COMPUTERS, *INERTIAL GUIDANCE, CLIMATOLOGY, DISEASES,
QUALITY CONTROL, RENDEZVOUS SPACECRAFT, SCHEDULING,
SCHISTOSOMA, SURFACE-TO-SURFACE, TESTS (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-217 305
THOMPSON RAMO WOOLDRIDGE INC LOS ANGELES CALIF
QUICK LOOK DATA REVIEW FOR SLED TEST RUN NO. A103LA-5, DATED 7 SEPTEMBER 1956 (U)
SEP 56 1V BARR,G.M.;
REPT. NO. GM 43 9 68

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *GUIDED MISSILES, DATA, ROCKET PROPELLED SLEDS, SURFACE-TO-SURFACE, TEST EQUIPMENT, VIBRATION (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-210 626
ABERDEEN PROVING GROUND MD
ROAD VIBRATION AND MOBILITY TESTS OF THE NOSE CONE HANDLING BOX TRAILER (U)
SEP 58 1V HIOB,G.C.;
REPT. NO. ELR90
PROJ: GE 389

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: NOSE CONES, TRANSPORTATION, VIBRATION (U)
IDENTIFIERS: ATLAS, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD-115 391
NAVAL ORDNANCE TEST STATION CHINA LAKE CALIF
USAF PROJECTS WS-107A AND WS315A (U)
DESCRIPTIVE NOTE: QUARTERLY PROGRESS REPT, NO. 3, JUL-SEP 56,
NOV 56 48P CHANDLER,FRANK S.;BANKSTON,JESSE O.;
REPT. NO. 172
MONITOR: NOTS 1624

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: (*GUIDED MISSILES(SURFACE-TO-SURFACE)), GROUND SUPPORT EQUIPMENT, INERTIAL GUIDANCE, TELEMETER SYSTEMS, ROCKET-PROPELLED SLEDS (U)
IDENTIFIERS: SNORT VELOCITY MEASURING SYSTEM, THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD- 88 091
JOHNS HOPKINS UNIV BALTIMORE MD BALLISTIC ANALYSIS LAB
CHARACTERISTICS OF A THEORETICALLY DESIGNED FAMILY OF ROCKETS (U)
NOV 54 1V
REPT. NO. TR17
CONTRACT: DA36 034ORD1678

UNCLASSIFIED REPORT
NO FOREIGN

DESCRIPTORS: *ROCKETS, FIN-STABILIZED AMMUNITION, MATHEMATICAL ANALYSIS (U)
IDENTIFIERS: THOR (U)

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. 015415

AD- 37 251
JOHNS HOPKINS UNIV BALTIMORE MD INST FOR COOPERATIVE RESEARCH
A PHOTOELECTRIC ENGAGEMENT SIMULATOR AND AN ANALOG COMPUTER FOR COMPOUNDING AIRCRAFT KILL PROBABILITIES (U)
JUL 54 1V
REPT. NO. TR13
CONTRACT: DA36 034ORD375

UNCLASSIFIED REPORT
NOFORN

DESCRIPTORS: *AIRCRAFT, *ANALOG COMPUTERS, *FRAGMENTATION AMMUNITION, EFFECTIVENESS, PHOTOTUBES, VULNERABILITY, WARHEADS (M)
IDENTIFIERS: THOR (M)